



# Town of Wellesley

# Department of Public Works

## Drinking Water Consumer Awareness Report For the Year 2016 Wellesley Massachusetts

MASSDEP Public Water Supplier ID #3317000

The Wellesley Department of Public Works (DPW) is pleased to provide this consumer awareness report on the quality of your drinking water. It contains important information on chemicals measured in your drinking water. This report is a requirement of the Federal Safe Drinking Water Act (SDWA). The SDWA requires that all community water utilities provide to their customers an annual report on water quality and tap water related issues. This report covers the calendar year 2016, but also includes relevant data from other years. The analytical results provided in this report are conducted by independent certified laboratories. This annual report will enable the Wellesley DPW to inform consumers about the sources and quality of their drinking water, and about the decision-making process that affects their drinking water. Public participation opportunities are available at the monthly Board of Public Works meetings. For further information contact Water Superintendent, William Shaughnessy P.E., at (781) 235-7600 x 3350 and located at 20 Municipal Way.

### WELLESLEY'S WATER SOURCES

In the year 2016, sixty-one percent (61%) of our water came from our local well supplies and thirty-nine percent (39%) came from the Massachusetts Water Resources Authority (MWRA). A very small portion, less than half a percent, of our total water use is received from Natick to supply the area on the western shore of Morses Pond. The availability of both local and regional water supply sources provides diversity and reliability.

Wellesley's local water supplies consist of ten wells located within the Town. Four wells tap into the Waban Brook alluvial aquifer and six wells tap into the Rosemary Brook alluvial aquifer. The water pumped from the ten wells is treated at our three corrosion control and iron/manganese removal facilities. The groundwater wells are as follows:

- 3317000-04G Rosemary GP Well
- 3317000-05G Longfellow GP Well
- 3317000-08G T.F. Coughlin SW1 GP Supplemental Well
- 3317000-09G T.F. Coughlin SW3 GP Supplemental Well
- 3317000-02G Wellesley Ave. Dug Well
- 3317000-06G T.F. Coughlin GP Well #1
- 3317000-10G Morses Pond GP Well #1
- 3317000-11G Morses Pond GP Well #2
- 3317000-12G Morses Pond GP Well #3
- 3317000-13G Morses Pond GP Well #4

The MWRA is a regional utility that uses surface water supplies in central Massachusetts at the Quabbin and Wachusett Reservoirs and the Ware River. **The MWRA water quality report is the final page of this document and is available on their website.** The year 2016 results of all detected contaminants in MWRA water are included in this report. When reviewing the water quality data, it is important to keep in mind that a blending of the MWRA and our local waters will cause the differences in the two waters to moderate.

The diversity of our water supply sources provides for flexibility so that a reliable supply of water is available to serve your needs.

In addition to these active supply sources, the Wellesley water distribution system is also interconnected with four other public water suppliers for mutual emergency preparedness. These four other water suppliers are Natick, Needham, Weston, and Wellesley College.

## WATER SOURCE ISSUES

**The Massachusetts Department of Environmental Protection completed its Source Water Assessment Program (SWAP) Report for all of Wellesley's local water supply sources.**

Copies of this report are now available upon request to the Wellesley Water Division (see ADDITIONAL INFORMATION). The report is intended to be used as a planning tool to support local and state efforts to improve water supply protection. As for most suburban locations, the susceptibility of Wellesley's groundwater capture zones (i.e. Zone II's) is high. The assessment helps focus protection efforts on appropriate best management practices and drinking water source protection measures.

## WHAT YOU CAN DO TO PROTECT AND CONSERVE WATER

**We share the concern of many health and environmental officials that excessive lawn irrigation can deplete wetland environments and increase the potential of drawing contaminants to drinking water wells.** You can help by conserving water. Watering lawns less frequently and near dawn will contribute to both conservation and to a healthier lawn by encouraging deeper root growth and reducing fungal damage. A general rule of thumb is that a mature lawn needs less than one-inch of water per week, including rain. When constructing a new lawn, please consider the following:

- Provide 12 inches or more of organic soil to encourage deep rooting.
- Choose drought tolerant grass (high percentage of fine fescues) and plantings.
- Position the sprinkler heads to perform the most efficient watering.
- Consider drip irrigation where appropriate.
- Consider installation of a rain or soil moisture shut-off device that will automatically reduce unnecessary lawn watering.
- Be sure that your sprinkler system is equipped with the appropriate backflow prevention device. A pressure vacuum breaker is generally sufficient; however it must be located at least one foot above the highest sprinkler head.
- Be sure that the sprinkler system is designed for winterization without compressed air blowback into the house plumbing. (Many systems require an air compressor to dewater the system. A water shutoff valve should be located between the house plumbing and the backflow prevention device and an air-venting valve should be located strategically beyond the backflow prevention device.)

## WATER DISTRIBUTION SYSTEM

There are about 140 miles of street mains that distribute our water throughout the town. This distribution system also includes two large storage facilities that have a capacity of nearly six million gallons. Due to the configuration of the distribution mains and the storage facilities, water from any given supply source has the capability of reaching any point within the town.

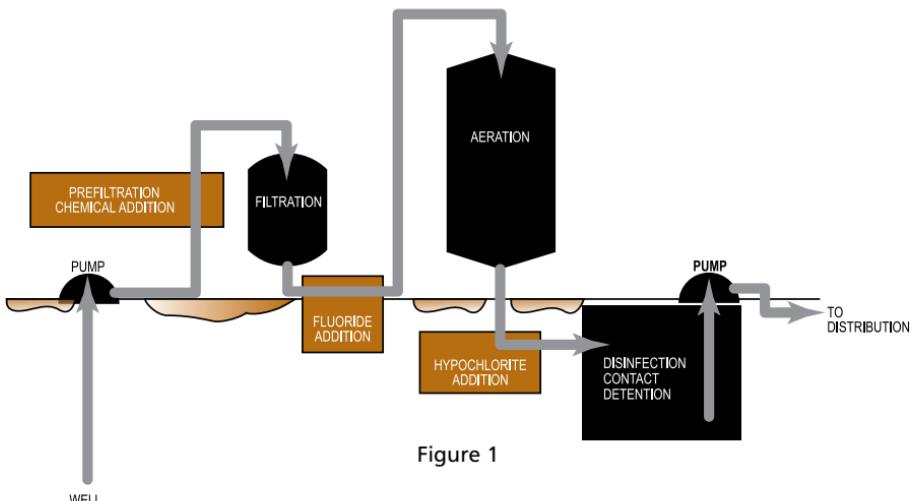


Figure 1

## WATER TREATMENT SYSTEM

Wellesley operates three water treatment facilities. The primary purpose of these facilities is to provide the regulatory approved treatment technique (TT) for corrosion control under the Safe Drinking Water Act's Lead and Copper Rule. These facilities provide the same treatment processes to all of our wells. Figure #1 illustrates the treatment processes at these facilities. The well water is oxidized and its pH is adjusted prior to filtration. The filter process removes the naturally occurring iron and manganese minerals in the raw water. The filtration units consist of anthracite, green sand and garnet sand. After filtration, the water cascades through a tray aerator, which removes naturally occurring carbon dioxide from the water. This aeration process removes the acidity from the water. The water is fluoridated and finally the water is disinfected with hypochlorite and detained in large holding tanks prior to being pumped into the distribution system.

## SYSTEM IMPROVEMENTS

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. Our water system was inspected in 2016 and improvements were made to our system based on that inspection. To ensure that we provide the highest quality of water available, your water system is operated by a Massachusetts certified operator who oversees the routine operations of our system. As part of our ongoing commitment to you, last year we made the following improvements to our system. In 2016, the Wellesley DPW performed the following system improvements:

- The water mains on Woodlawn Road and Brookside Road were cleaned and cement lined.
- The four Morses Pond Avenue wells were cleaned by acid treatment. The pumps from the wells were removed, cleaned, inspected, repaired and reinstalled.
- The four underground storage reservoirs that have a capacity of six million gallons were inspected by divers and found to be in good condition.
- The Rosemary well vertical turbine pump and motor was replaced with a submersible pump and motor.
- The SCADA communications provider for the water treatment plants was switched from Verizon to Comcast.

## ABBREVIATIONS & DEFINITIONS

The following abbreviations may be useful in reading this report:

**ppm** = parts per million

**ppb** = parts per billion (A ppm is 1,000 ppb.)

**pCi/L** = picoCuries per Liter (A pCi/L is a measure of radioactivity.)

**NRS** = No Regulatory Standard

**ND** = Not Detected

### **In reading this report, it is important to distinguish between ppm and ppb.**

Due to the characteristics of the various chemicals, their concentrations have been reported in the more appropriate unit of measure.

The following definitions may be useful in understanding the data presented in this report:

#### **Safe Drinking Water Act (SDWA)**

The Federal Law that governs the regulation of public water suppliers and ensures that tap water meets public health standards.

#### **Maximum Contaminant Level (MCL)**

The highest allowable level or concentration of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

#### **Maximum Contaminant Level Goal (MCLG)**

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

#### **Action Level (AL)**

The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.

#### **90th Percentile**

Out of every 10 homes sampled, 9 were at or below this level.

#### **Treatment Technique (TT)**

A required treatment process intended to reduce the level of a contaminant in drinking water.

#### **Maximum Residual Disinfection Level (MRDL)**

The highest level of disinfectant (Chlorine, Chloramine, and Chlorine Dioxide) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

#### **Maximum Residual Disinfection Level**

##### **Goal (MRDLG)**

The level of a drinking water disinfectant (Chlorine, Chloramine, Chlorine Dioxide) below which there is no expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

#### **Department of Environmental Protection (DEP)**

The Massachusetts State regulatory agency responsible for the implementation of the SDWA.

#### **Massachusetts Office of Research and Standards Guidelines (ORSG)**

This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

#### **Secondary Maximum Contaminant Level (SMCL)**

These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

#### **Environmental Protection Agency (EPA)**

The Federal agency responsible for the development of SDWA regulations.

## WELLESLEY WATER QUALITY

There were over 1,300 chemical analyses performed by independent laboratories on our water during the year 2016. In addition, our own staff performed more than 6,900 chemical analyses to insure the proper operation of our treatment facilities. The categories of contaminants analyzed are: Microbiological, Lead and Copper, Other Inorganics, Volatile Organics, Disinfection By-Products, Radionuclides, and Unregulated Synthetic Organics. The following is a listing of all the water quality parameters that were detected in our water supplies for the year 2016.

## SAFE DRINKING WATER ACT MONITORING DETECTIONS

### **Disinfectant Residuals Monitoring: No Violations**

It is important to maintain a disinfection residual content throughout the distribution system. Wellesley uses sodium hypochlorite (chlorine) as its disinfectant. The MWRA uses chloramine as its disinfectant. We monitor for the disinfectants as Total Chlorine at the same sampling points as our bacteriological monitoring. Total Chlorine is a measure of both free chlorine and combined chlorine and thereby is a measure of both chlorination and chloramination.

The monitoring results for the year 2016 are as follows:

Disinfectant	Highest Level Detected	Range of Results	Highest Level Allowed (MRDL)	Ideal Goal (MRDLG)
Total Chlorine (ppm)	3.1	0.02-to-3.1	4.0	4.0

The results of this monitoring were in compliance with regulations as the Maximum Residual Disinfectant Level was not exceeded throughout the year.

### **Total Coliform Bacteria Monitoring: No Violations**

Total Coliform Bacteria are groupings of various bacteria that serve as a monitoring indicator of a potential health concern of microbial contamination. The MCL for Total Coliform is based on more than 5% positive sample measurements in the distribution system for any given month. The monitoring results for 2016 on our designated sampling points within the distribution system were as follows:

# of Samples Analyzed in 2016	=	472
# of Positive Samples in 2016	=	0
# of Positive E. Coli Samples in 2016	=	0
Highest # of Positives per Month	=	0
Highest Monthly % Positives in 2016	=	0%

Coliform are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present. The water samples were taken at designated distribution system sampling points (i.e., nine locations widely distributed throughout the Town that are monitored approximately four times per month). When there is a total coliform positive sample result, repeat samples must be collected and analyzed for total coliform and E. coli. E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

## **Lead and Copper Monitoring: No Violations**

The purpose of our corrosion control treatment facilities is to remove acidity from our water and thereby reduce its corrosiveness. The TT used in our water treatment facilities primarily includes the aeration of water to release the naturally derived carbonic acid in the well water. Lead and copper can become present in your drinking water when the water corrodes those elements from the household plumbing. The measurement of lead and copper in the daily “first draw” of tap water from selected households is used to monitor the effectiveness of our corrosion control treatment.

In the year 2016, Wellesley did conduct lead and copper monitoring in ten schools, with first draw samples at a bubbler and a sink in each school. No results exceeded the AL for either lead or copper.

### **School Lead & Copper Monitoring in 2015**

	Highest Concentration, ppm	Range of Detection, ppm	Action Level, ppm
Total Lead	0.009	ND - 0.009	0.015
Total Copper	0.63	0.03 - 0.63	1.3

In the year 2015, Wellesley conducted a monitoring of 30 DEP designated homes for “first draw” analyses of lead and copper as an evaluation of its corrosion control treatment. The monitoring was conducted in June and July according to EPA protocol. The EPA Action Level (AL) is based on the 90th percentile of each sample period. In 2015, one site exceeded the AL. The results of this monitoring were as follows:

Corrosion Parameters	Year 2015
90% for Lead (AL=0.015 ppm)	0.005 ppm
90% for Copper (AL=1.3 ppm)	0.77 ppm

The results of this monitoring are in compliance with the regulations.

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. The Wellesley DPW is responsible for providing high quality water, but cannot control the variety of materials used in plumbing components. When 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 or at <http://www.epa.gov/safewater/lead>.

Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791) or the Wellesley DPW (781-235-7600 x3350).

## **Volatile Organic Monitoring: No Violations**

Volatile Organic Compounds (VOCs) are hydrocarbons. Many of them are used as solvents (e.g., Trichloroethylene) and/or fuel additives (e.g., Benzene, toluene and MtBE). A total of fifty-six (56) volatile organic compounds are monitored quarterly as water is pumped from each of the three treatment facilities.

Our quarterly monitoring at each of our three water treatment facilities during 2016 measured no volatile organic compounds except for trihalomethanes, which are discussed in the next section of this report.

## Disinfection By-Product Monitoring: No Violations

Total Trihalomethanes (TTHMs) and Total Haloacetic Acids (THAs) are disinfection by-products that are formed by the chlorination of drinking water. The chemical compounds that make up TTHMs are chloroform, bromoform, dichlorobromomethane, and dibromochloromethane. The chemical compounds that make up THAs are monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid. The regulation of TTHMs and THAs is based on the average concentration of four consecutive quarterly samples at each individual monitoring location. Wellesley has four DEP designated DBPR monitoring locations. The results of our quarterly monitoring of these disinfection by-products during 2016 were as follows:

Contaminants (units)	Highest* Running Annual Average	Range of Measurement	Highest Level Allowed (MCL)	Ideal Goal (MCLG)
TTHMs (ppb)	44.5	14.0-to-59.1	80	0
THAs (ppb)	11.2	2.7-to-11.4	60	0

The above listings for TTHMs and THAs follow the regulatory format, namely, the MCL applies to the highest running average of four consecutive quarters at the highest individual site. The Range of Measurement represents the lowest and highest individual measurements during the year 2016. The Highest Level Allowed is regulated based on the Running Annual Average.

## Inorganic Monitoring: No Violations

The inorganic contaminants monitored in drinking water are the cations and anions of minerals, which are dissolved in the water. Many of the inorganic chemicals are metals and cyanide, which we are not required to monitor each year. We were not required to monitor for inorganics in the year 2016. The following chemicals were monitored in the year 2014, as part of the SDWA Inorganic Chemical Monitoring Program, and not detected: Arsenic, Beryllium, Cadmium, Chromium, Cyanide, Mercury, Nickel, Selenium, and Thallium.

The inorganic chemicals detected in 2014 and 2016 and their measurements were as follows:

Contaminants (units)	Highest Level Detected	Range of Detection	Highest Level Allowed (MCL)	Ideal Goal (MCLG)
2014 measurements				
Antimony (ppm)	0.0011	ND-to-0.0011	0.006	0.006
Barium (ppm)	0.065	0.034-to-0.065	2.0	2.0
2016 measurements				
Sodium (ppm)	125	65-to-125	NRS	NRS
Fluoride (ppm)	0.7	0.6-to-0.7	4.0	4.0
Perchlorate* (ppb)	0.186	0.056-to-0.186	2.0	NRS

Fluoride is added to our water supply for the purpose of preventing tooth decay. Fluoride is a naturally occurring element in our water supplies in trace amounts. In our system the fluoride level is adjusted to an optimal level averaging 0.7 parts per million (ppm or mg/l) to improve oral health in children. At this level, it is safe, odorless, colorless, and tasteless. The Office of Oral

Health lowered the optimal level of fluoride from 1.0 to 0.7 ppm.

Sodium is a leachate of road deicing salts, water treatment chemicals, and natural deposits. No regulatory standard (NRS) has been established for sodium. **A guideline for people with hypertension is to avoid consuming water with levels above 20 ppm. Therefore it should be noted that our water is in excess of this guideline.**

\*Perchlorate is a breakdown product of hypochlorite, and Wellesley uses hypochlorite (chlorine) as its water disinfectant.

## **Radionuclide Monitoring: No Violations**

Radionuclides are radioactive particles present in the water supply at the points of entry into the distribution system from our three water treatment facilities. Radionuclide monitoring includes Gross Alpha, Radium 226 and 228, and combined Radium. Radium 226 and 228 are naturally occurring radioactive minerals. We were not required to monitor for radionuclides in the year 2016. The results from 2014 are as follows:

Contaminants (units)	Highest Level Detected	Range of Detection	Highest Level Allowed (MCL)	Ideal Goal (MCLG)
Gross Alpha (pCi/L)	3.35	2.32-to-3.35	15.0	0.0
Radium-226 (pCi/L)	0.09	0.02-to-0.09	5.0	0.0
Radium-228 (pCi/L)	0.92	0.17-to-0.92	5.0	0.0
Combined Radium (pCi/L)	0.99	0.26-to-0.99	5.0	0.0

There is presently no regulatory standard (NRS) for radon in drinking water. Radon is a radioactive gas that occurs naturally in some ground waters. It has an ORSG of 10,000 pCi/L. Other sources of radon gas are from soils at the foundation of homes, and radon inhaled directly while smoking cigarettes. It poses a lung cancer risk when elevated levels of radon gas are released from water into the air (as occurs during showering, bathing, or washing dishes and clothes) and a stomach cancer risk when you drink water containing elevated levels of radon. Radon gas released from drinking water is a relatively small part of the total radon in air.

A proposed MCL for radon in drinking water of 300 pCi/L is under consideration by the EPA. For more information on radon you may call the EPA's SDWA Hotline at 1-800-426-4791.

## **Synthetic Organic Chemical Monitoring: No Violations**

We were not required to monitor for Synthetic Organic Contaminants (SOCs) in the year 2016. Synthetic Organic Contaminants (SOCs) generally represent pesticides, herbicides and polychlorinated biphenols (PCBs). There are a total of thirty-two (32) regulated chemicals and thirteen (13) unregulated chemicals included in the monitoring of Synthetic Organic Chemicals. In 2015, Wellesley monitored for SOCs during the first and third annual quarters. None of the SOCs were detected during these two monitoring rounds. Due to Wellesley's long term compliance with the Safe Drinking Water Act's Synthetic Organic Contaminants requirements, we are not required to monitor every year.

## **Nitrite / Nitrate / Sulfate SDWA Monitoring: No Violations**

The nitrogen-series compounds of nitrite was monitored in 2014 and nitrate in 2016. Sulfate was monitored in 2016. All were done under the SDWA and detections were as follows:

Contaminants (units)	Highest Level Detected	Range of Detection	Highest Level Allowed (MCL)	Ideal Goal (MCLG)
Nitrite (ppm)	ND	ND	1.0	1.0
Nitrate (ppm)	1.1	0.4-to-1.1	10.0	10.0
Sulfate (ppm)	15.4	12.2-to-15.4	NRS	NRS

Nitrite and Nitrate are formed from the breakdown of fertilizers, septic tank leachate, and natural decomposition. Samples for nitrate taken in 2016 show our water met drinking water standards.

Sulfate is a product of natural decomposition. No regulatory standard (NRS) has been established for sulfate. One is currently under consideration by the EPA. The SMCL for sulfate is 250 ppm.

## **MONITORING OUTSIDE OF SAFE DRINKING WATER ACT GENERAL WATER CHARACTERISTICS**

The following characteristics describe Wellesley's 2016 local water supplies. They are not considered to have health impacts, but rather describe characteristics of the water, which may impact water-use appliances and soap lathering capabilities. It is important to note that the MWRA's water supplies are significantly softer than Wellesley's water and therefore have different characteristics.

Characteristic	Concentration Range (units)
pH	7.3-to-7.5
Total Dissolved Solids	380-to-410 (ppm)
Alkalinity	69-to-87 (ppm)
Calcium	30-to-42 (ppm)
Chloride	165-to-211 (ppm)
Hardness	110-to-140 (ppm)
Hardness	6.4-to-8.2 grains per gallon
Iron	ND (ppm)
Magnesium	7.9-to-9.8 (ppm)
Manganese	ND (ppm)
Potassium	18-to-36 (ppm)

The above characteristics are for Wellesley's supplies only. For comparison purposes, the pH of MWRA water is typically above 8 units; the MWRA's total dissolved solids are about a quarter of Wellesley's; its alkalinity is about half of Wellesley's; and its hardness is about a fifth of Wellesley's.

### **UNREGULATED CONTAMINANT MONITORING RULE 3 (UCMR 3)**

The UCMR program was developed in coordination with the Contaminant Candidate List (CCL). The CCL is a list of contaminants that are not regulated by the National Primary Drinking Water Regulations, are known or anticipated to occur at public water systems and may warrant regulation under the Safe Drinking Water Act.

The UCMR benefits the environment and public health by providing EPA and other interested parties with scientifically valid data on the occurrence of these contaminants in drinking water, permitting assessment of the population being exposed and the levels of exposure. This data set is one of the primary sources of occurrence and exposure information the Agency uses to develop regulatory decisions for emerging contaminants. The 21 contaminants monitored do not have a drinking water standard set by US Environmental Protection Agency.

We were not required to monitor for the UCMR program in the year 2016. The unregulated contaminants detected in 2014 and their measurements were as follows:

Contaminants (units)	Avg. Level Detected	Range of Detection	Typical Source
Chromium (total) (ppb)	0.21	ND-to-0.35	Erosion of natural deposits
Srtrontium (ppb)	180	35-to-229	Erosion of natural deposits
Chromium-6 (ppb)	0.08	ND-to-0.12	Erosion of natural deposits
Chlorate (ppb)	86	34-to-158	Byproduct of drinking water disinfection

For more information you may refer to the UCMR3 Data Summary at  
<http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/data.cfm>

## REGULATORY STATEMENT ON IMPORTANT

## INFORMATION ABOUT YOUR DRINKING WATER

### **Availability of Monitoring Data for Unregulated Contaminants for Wellesley Department of Public Works**

As required by US Environmental Protection Agency (EPA), our water system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a public health protection standard.

What should I do? You do not have to do anything but as our customers you have a right to know that these data are available.

You may share this information with other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, food establishments, medical facilities and businesses).

For more information: For information on the Unregulated Contaminant Monitoring Program, visit the MassDEP website (<http://www.mass.gov/eea/agencies/massdep/water/drinking/water-systems-ops.html>) and navigate to Unregulated Contaminant Monitoring Program.

If you want to speak with someone at the water department about the results, please contact William Shaughnessy at 781-235-7600.

### **Cross-Connection Control and Backflow Prevention**

#### **What Is a Cross Connection? What Can I Do about It?**

A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops (say because of fire hydrant use in the town) when the hose is connected to the fertilizer, the fertilizer may be sucked back into the drinking water pipes through the hose. Using an attachment on your hose called a backflow prevention device can prevent this problem.

The Wellesley Water and Sewer Division recommends the installation of backflow prevention devices, such as a low cost hose bib vacuum breaker, for all inside and outside hose connections. You can purchase this at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water system in your town. For additional information on cross connections and on the status of your water system's cross connection program, please contact William Shaughnessy at 781-235-7600.

### **REGULATORY STATEMENTS: Substances Found in Tap Water**

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants** such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants** such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.

- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **Organic chemical contaminants** including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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 (800-426-4791).

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 some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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. Wellesley DPW is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When 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 or at <http://www.epa.gov/safewater/lead>."

## ADDITIONAL INFORMATION

The Water Commission for the Town of Wellesley is the Board of Public Works, which is a three-member board elected by the voters of the Town. The Board meets at regularly scheduled and publicly posted meetings throughout the year. The public is welcome at these meetings.

For more information on the DEP Source Water Assessment Plan (SWAP) go to <http://www.mass.gov/eea/docs/dep/water/drinking/swap/hero/swap-hero.pdf>. For more information on your Wellesley tap water, its sources of supply and the water treatment and distribution systems call the Water Superintendent, William Shaughnessy, at (781) 235-7600 x 3350 and located at 20 Municipal Way. For more information on the MWRA water supply go to <http://www.mwra.com/wqr/2016/metro.pdf> .



# Massachusetts Water Resources Authority

(617) 242-5323  
[www.mwra.com](http://www.mwra.com)  
PWS ID# 6000000

100 First Avenue  
Boston, MA 02129

## INFORMATION ABOUT MWRA WATER

In cooperation with the Wellesley Water Department, the Massachusetts Water Resources Authority is pleased to send you this annual update on your drinking water quality. This report includes test results for 2016 and other important information about your tap water. The Massachusetts Water Resources Authority (MWRA) supplies wholesale water to local water departments in 48 cities and towns of greater Boston and MetroWest, and three in Western Massachusetts. MWRA supplies some water to Wellesley, but most of your water comes from local supplies described elsewhere in this report. MWRA 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, located between these two reservoirs, can also add to the supply at times. The reservoirs provide about 200 million gallons of high quality water to consumers each day.

## Water Test Results

### What does this table tell me? What is the bottom line?

EPA requires that we test for over 120 contaminants. MWRA found only those listed here. All of these levels were below EPA's Maximum Contaminant Levels (MCL).

Compound	Units	(MCL) Highest Level Allowed	(We Found) Detected Level -Average	Range of Detections	(MCLG) Ideal Goal	Violation	How it Gets in the Water
Barium	ppm	2	0.008	0.008 - 0.009	2	No	Common mineral in nature
mono-Chloramine	ppm	4 - MRDL	2.1	0.0 - 3.6	4-MRDLG	No	Water disinfectant
Fluoride	ppm	4	0.68	0.43 - 0.87	4	No	Additive for dental health
Nitrate^	ppm	10	0.04	0.01 - 0.04	10	No	Atmospheric deposition
Nitrite^	ppm	1	0.005	0 - 0.005	1	No	Byproduct of water disinfection
Total Trihalomethanes	ppb	80	12.6	3.2 - 15.6	ns	No	Byproduct of water disinfection
Haloacetic Acids - 5	ppb	60	10.3	0 - 13	ns	No	Byproduct of water disinfection
Total Coliform	%	5%	0.7% (Aug)	ND - 0.7%	0	No	Naturally Present in Environment
Combined Radium	pCi/L	5	1.76	ND - 1.76	0	No	Erosion of natural 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. **ppb** = parts per billion **ppm** = parts per million **nd** = no detect **ns** = no standard

<sup>^</sup> Averages are not used for Nitrate and Nitrite.

## More Information

If you would like to learn more about the water that MWRA supplies, about other MWRA activities and projects, about MWRA meetings that are open to the public, or for information on lead in tap water, please visit our website at [www.mwra.com](http://www.mwra.com). If you have any questions, please call 617-242-5323. Thanks for reading.