

Annual Drinking Water Quality Report for 2016
 For
 Whitinsville Water Company & Northbridge Water Department
 Whitinsville, Massachusetts
 MASSDEP PWSID # 2216000 & 2216006

This report is a snapshot of drinking water quality that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards.

I. PUBLIC WATER SYSTEM INFORMATION

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Water 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. 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 maintain and improve our infrastructure, last year we made the following improvements to our system: In 2016, we completed the installation of new water meters and reading system. This has greatly increased the speed and efficiency in which system meters are read. We plan to move to monthly billing in 2018. We also replaced approximately 3,300 feet of old 4" water mains on A,B,C,D, and Border Street with new 8" water mains. This has improved water quality and fire flows in this section of Town. Additionally, we purchased a new Service Truck which is used for water main break repairs and other system repairs. In 2017, we plan to replace approximately 3,000 feet of water main on Church Street from Leland Road to Plummers Corner.

2. YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Your water is provided by the following sources listed below:

Source Name	MassDEP Source ID#	Source Type	Location of Source
Whitin Wellfield	2216000-01G	Groundwater	Carr St., Northbridge
Sutton Wellfield	2216000-02G	Groundwater	Mendon Rd., Sutton

Is My Water Treated?

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, we provide the following treatment:

- *We add a disinfectant to protect you against microbial contaminants.*
- *We filter the water to remove small particles and organisms such as sediment, algae and bacteria.*
- *We chemically treat the water to reduce corrosiveness and reduce lead and copper concentrations.*

Our water system makes every effort to provide you with safe and pure drinking water. The water quality of our system is constantly monitored by us and MassDEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required. We continually meet numerous water quality standards set by the MassDEP. Results of some of these tests are noted below.

How Are These Sources Protected?

Whitinsville Water Company has unique water sources in that the company owns a series of reservoirs that are used to recharge the groundwater from where the wells withdraw the water from the ground. These reservoirs are extremely well protected as the company owns over a thousand acres of land dedicated to watershed protection. MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies. A copy of the report can be found at <http://www.mass.gov/eea/docs/dep/water/drinking/swap/cero/swap-cero.pdf>.

3. SUBSTANCES FOUND IN TAP WATER AND TESTED

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 stormwater 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 stormwater 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 stormwater 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. All 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. Whitinsville Water Company 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. Whitinsville Water Company regularly tests for lead in drinking water and all testing has met state and federal standards. 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>.

4. IMPORTANT DEFINITIONS

Maximum Contaminant Level (MCL) – 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.

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.

Maximum Residual Disinfectant Level (MRDL) -- The highest level of a disinfectant (chlorine, chloramines, chlorine dioxide) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) -- The level of a drinking water disinfectant (chlorine, chloramines, chlorine dioxide) below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

90th Percentile – Out of every 10 homes sampled, 9 were at or below this level.

- ppm = parts per million, or milligrams per liter (mg/l)
- ppb = parts per billion, or micrograms per liter (ug/l)
- ppt = parts per trillion, or nanograms per liter
- pCi/l = picocuries per liter (a measure of radioactivity)
- NTU = Nephelometric Turbidity Units
- ND = Not Detected
- N/A = Not Applicable
- mrem/year = milliremms per year (a measure of radiation absorbed by the body)

Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Massachusetts Office of Research and Standards Guideline (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.

5. WATER QUALITY TESTING RESULTS

What Does This Data Represent?

The water quality information presented in the table(s) is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table(s).

	Date(s) Collected	90 TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source of Contamination
Lead (ppb)	2015	1.9	15	0	60	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	2015	0.36	1.3	1.3	60	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

	Highest # Positive in a month	MCL	MCLG	Violation (Y/N)	Possible Source of Contamination
Total Coliform	0	1	0	N	Naturally present in the environment

Fecal Coliform or <i>E.coli</i>	0	*	0	N	Human and animal fecal waste
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* Compliance with the Fecal Coliform/E.coli MCL is determined upon additional repeat testing.

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants							
Barium (ppm)	May 2014	0.02	0-0.02	2	2	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate (ppm)	April 2016	0.58	0.1-0.58	10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Disinfectants and Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)	<i>Quarterly</i>	25.5	13-36	80	----	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	<i>Quarterly</i>	7.8	6.4-9.4	60	----	N	Byproduct of drinking water disinfection
Chlorine (ppm) (free)	<i>Monthly</i>	0.67	0.32-0.77	4	4	N	Water additive used to control microbes

Radioactive Contaminants							
Radium 226 & 228 (pCi/L) (combined values)	April 2016	0.5	0.5	5	0	N	Erosion of natural deposits
Gross Alpha (pCi/L)	April 2016	1.6	0.04-1.6	15	0	N	Erosion of natural deposits

Unregulated contaminants are those for which there are no established drinking water standards. Secondary Contaminants are non-health based standards.

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Inorganic Contaminants						
Sodium (ppm)	May 2016	7.1-32	19.55	----	20	Natural sources; runoff from use as salt on roadways; by-product of treatment process
Secondary Contaminants						
Iron (ppm)	2016	0- 0.1	0.04	0.3	---	Naturally occurring, corrosion of cast iron pipes
Manganese (ppm)	2016	0 -0.014	0.008	0.05	---	Erosion of natural deposits
Total Hardness (ppm)	April 2015	8.1-40	24.05	----	---	Erosion of natural deposits
Potassium (ppm)	April 2015	7.7-21	14.35	----	---	Naturally present in the environment

* The EPA has established a lifetime health advisory (HA) value of 0.3 mg/L for manganese to protect against concerns of potential neurological effects, and a one-day and 10-day HA of 1 mg/L for acute exposure.

6. COMPLIANCE WITH DRINKING WATER REGS

Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available. Every year we conduct hundreds of water quality tests at the sources and in the system. We are pleased to report that there was not a single violation of state health standards for all the tests performed. Also, all tests were performed in the required time frames.

7. EDUCATIONAL INFORMATION

State Required Mandatory Language for all Public Water Systems

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. Whitinsville Water Company 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>.

8. WATER RESTRICTIONS

In accordance with the requirements of the Water Management Act Permit issued by the Massachusetts Department of Environmental Protection the Whitinsville Water Company has enacted Mandatory Water Use Restrictions from May 1st until September 30th between the hours of 9AM and 5PM. The restriction prohibits all non-essential outdoor water use during this timeframe.

Examples of "Nonessential" outdoor water uses include:

- * irrigation of lawns via sprinklers or automatic irrigation systems;
- * washing of vehicles, except in a commercial car wash or as necessary for operator safety; and
- * washing of exterior building surfaces, parking lots, driveways or sidewalks, except as necessary to apply surface treatments such as paint, preservatives, stucco, pavement or cement.

Examples of water uses that may be allowed:

- * irrigation to establish a new lawn and new plantings during the months of May and September;
- * irrigation of public parks and recreational fields by means of automatic sprinklers outside the hours of 9 a.m. to 5 p.m.; and
- * irrigation of lawns, gardens, flowers and ornamental plants by means of a hand-held hose.

Examples of water uses NOT subject to mandatory restrictions:

- * for health and safety reasons;
- * by regulation;
- * for the production of food and fiber;
- * for the maintenance of livestock; or
- * to meet the core functions of a business (for example, irrigation by golf courses as necessary to maintain tees, greens, and limited fairway watering, or irrigation by plant nurseries as necessary to maintain stock).

Violators of the water restrictions will be subject to enforcement, which may include termination of water service.

9. CROSS CONNECTION

One of the many activities water suppliers concern themselves with is preventing non potable materials from entering the water supply once the water is in the distribution system. Under certain conditions, it is possible for water to flow from inside a building back into the distribution system and contaminate the water supply. In an

effort to prevent such an event from occurring, certain devices are installed as part of the plumbing system which only allows water to flow into a building. These devices are known as “back flow preventers.” They are commonly referred to as “check valves.”

The WWC installs check valves on all new houses immediately after the meter. Homes constructed prior to the early 1980’s do not have check valves. Most commercial buildings, schools, fire sprinkler lines and offices have been surveyed and specific backflow devices have been installed where required. The more advanced back flow prevention devices are required to be tested by the WWC at least once per year to ensure proper operation.

Homeowners should be aware of the potential dangers associated with backflow occurrences for the safety of the occupants of the house as well as the neighbors. The following are actions which can be taken to reduce the possibility of contaminated water entering the water system:

- Install “hose bib” type backflow preventers on all outside faucets. They are inexpensive, easy to install and available at all plumbing stores.
- Do not leave a hose submerged in a pool or bucket of water.
- Never use mechanical equipment to add pressure to the water unless the proper back flow prevention devices are installed.
- All irrigation systems are required to have an Atmospheric Backflow Preventer.

10. WATER CONSERVATION

- ✓ Many lawns are over-watered. Over watering floods the air pores in the soil, depriving the roots of oxygen and leading to root rot. Over-watering also leads to shallow-rooted plants and the spread of fungal growth on the grass. Horticulturists recommend that lawns should get no more than 1 inch of water per week, including rainfall.
- ✓ DO NOT water in the middle of the day – more than fifty percent of irrigation water can be lost to evaporation in the heat of the day. Water your lawn in the early morning when more of the water will be absorbed by the roots, and the grass blades will dry more quickly.
- ✓ When re-seeding or establishing lawns, use grass seed that is drought and disease-resistant. It may cost a bit more, but will save you lots of time and money in the long run. Check with your local nursery for appropriate mixes.
- ✓ Minimize the size of your lawn – there are numerous water conserving landscaping alternatives.
- ✓ Mow your lawn no shorter than 2.5 inches to promote its vigor and to discourage weeds.
- ✓ Leave the cuttings on the lawn, they help retain moisture and provide valuable nutrients.
- ✓ Remember that lawns that go brown in the heat of summer are not dead, they are just dormant and will green up as soon as moister weather returns.
- ✓ Follow the Whitinsville Water Company’s lawn watering restrictions. This will reduce peak demand and help prevent a total watering ban.
- ✓ For more information regarding water conservation, please visit our website at <http://www.whitinsvillewater.com/conservation>.

11. WATER FACTS

Your tap water costs about 1 penny per gallon. The National Resource Defense Council conducted a four year study on bottled water and tap water and concluded that “*there is no assurance that just because water comes out of a bottle it is any cleaner or safer than water from the tap*”. The full report can be found here: <https://www.nrdc.org/sites/default/files/bottled-water-pure-drink-or-pure-hype-report.pdf>.