

2015 Annual Drinking Water Quality Report
For
Townsend Water Department
Townsend, Massachusetts
MASSDEP PWSID # 2299000

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. We are committed to providing you with information because informed customers are our best allies.

I. PUBLIC WATER SYSTEM INFORMATION

Address: *540 Main Street, West Townsend, MA 01474*

Contact Person: *Paul Rafuse*

Telephone #: *978-597-2212*

Fax #: *978-597-5611*

Internet Address: *www.townsend.ma.us/Pages/TownsendMA_Water/index*

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 you, last year we made the following improvements to our system.

Because of a grant through the Energy Committee because of Townsend being designated a green community we were able to purchase and install Variable Frequency Drives (VFD's) at our Main St. & Cross St. pumping stations. VFD's are connected to the pumps motors allowing the pumps to start and ramp up gradually saving on wear and tear on the pumps as well as saving on energy costs. Also included with the grant we were able to purchase and install two new pump motors at our Main St. pump station.

Installation began on a Supervisory Control and Data Acquisition (SCADA) system at all our facilities. This system provides us with the ability to operate and monitor our facilities remotely allowing us to operate the system more efficiently saving energy and labor costs.

Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, you may attend our regular monthly meetings: The Board of Water Commissioners meet the second Monday of each month at 5:30 p.m. Meetings are held at the Water Department office located at 540 Main St. in West Townsend. Please feel free to attend and participate in these meetings.

2. YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Your water is provided by the following sources listed below:

Source Name	DEP Source ID#	Source Type	Location of Source
Main Street Well	2299000-01G	Groundwater	Main Street (West side of town)
Cross Street Well	2299000-02G	Groundwater	Off Cross Street
Harbor Trace Well	2299000-03G	Groundwater	Harbor Trace Road
Witch's Brook Well 1	2299000-04G	Groundwater	Ash Street
Witch's Brook Well 2	2299000-05G	Groundwater	Ash Street

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 treat the water with Sodium Hydroxide. This form of treatment controls the lead and copper content in the water and also makes the water less corrosive to household plumbing and fixtures. The water quality of our system is constantly monitored by us and the DEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required.

How Are These Sources Protected?

MassDEP has prepared a Source Water Assessment and Protection (SWAP) report for sources supplying the Townsend Water System. The SWAP report identifies the wellhead protection areas, assesses the susceptibility of public water supplies and notes the key issues pertaining to: 1) inappropriate activities in Zones I and II; 2) residential land uses; 3) transportation corridors; 4) oil or hazardous material contamination sites; and 5) comprehensive wellhead protection planning. The term Zone II refers to the land area that contributes water to a well under the most severe pumping and recharge conditions that can be realistically imagined, i.e., pumping a well at its full capacity for 180 days without rainfall. The SWAP report also ranks the overall susceptibility of the system to contamination and recommends future actions to protect the sources. DEP's ranking for the Townsend Water Department was moderate, noting the presence of at least one high threat land use within the water supply protection areas.

The Townsend Water Department has responded to the report's recommendations by monitoring the Zones I & II, educating residents in the form of informational flyers, cooperating with any agency while we continue to monitor stormwater drainage in and around the Zone IIs, and inspecting any remedial action in the area of our Zone IIs.

What is My System's Ranking?

A susceptibility ranking of moderate was assigned to this system using the information collected during the assessment by MassDEP.

Where Can I See The SWAP Report?

The complete SWAP report is available on the Town's website at www.townsend.ma.us, also at the Townsend Water Department, the Townsend Board of Health, and the DEP Central Regional Office in Worcester and online at <http://www.mass.gov/eea/docs/dep/water/drinking/swap/cero/2299000.pdf>. For more information, call Superintendent Paul Rafuse at 978-597-2212.

What Can Be Done To Improve Protection?

The SWAP report recommends:

Ways residents can help protect water sources are: 1) practicing good septic system maintenance; 2) supporting any water supply protection articles at future Town Meetings; 3) taking hazardous household chemicals to hazardous materials collection days; and 4) limiting pesticide and fertilizer use, etc.

3. 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 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).

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.

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)
pCi/l = picocuries per liter (a measure of radioactivity)

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.

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.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

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.

Variances and Exemptions – State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

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 = millirem 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)	September 2013	2	15	0	20	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	September 2013	0.18	1.3	1.3	20	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Regulated Contaminant	Date(s) Collected	Highest Result	Range Detected	MCL	MCLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants							
Nitrate (ppm)	4 Quarters	4.40	0.52-4.40	10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Barium (ppm)	6/26/2015	0.027	0.000-0.027	2	2	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Perchlorate (ppm)	9/25/2015	0.11	0.00-0.11	2	N/A	N	Rocket propellants, fireworks, munitions, flares, blasting agents

Radioactive Contaminants							
Radium 226 & 228 (pCi/L) (combined values) *	6/11/2013- 6/26/2014	1.3 1.5	ND-1.5	5	0	N	Erosion of natural deposits

* Testing for Radium 226 & 228 is not required every year or from every source. Results from 2013 are from our Cross St. Pumping Station Pumping Station and results from 2014 are from our Witch's Brook Pumping Station # 1.

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

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Sulfate (ppm)	12/10/2015	4.7-11.3	9.03	----	20	Natural sources
Iron (ppb)	3/16/2015 12/10/2015	ND-250	96.5	300	---	Naturally occurring, corrosion of cast iron pipes
Manganese* (ppb)	3/16/2015 12/10/2015	2-65	21	50	300*	Erosion of natural deposits

* US EPA and MassDEP have established a lifetime health advisory (HA) value of 300 ppb for manganese to protect against concerns of potential neurological effects.

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. We are proud to report that last year your drinking water met all applicable health standards regulated by the state and federal government.

7. EDUCATIONAL INFORMATION

Do I Need To Be Concerned About Certain Contaminants Detected In My Water?

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 Townsend Water Department 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. ADDITIONAL INFORMATION

Information on Mandatory Water Use Restrictions

It is important that customers comply with any water use restrictions implemented by the Water Department. Water withdrawals by public water suppliers are strictly regulated by the state Department of Environmental Protection (DEP) to maintain a balance of providing an adequate quantity of safe healthy drinking water for all customers, fire protection and, protecting wildlife and the environment. Water suppliers are required to meet a standard residential water use of 65 gallons per day per person. If not, the DEP will require that the water supplier enforce more stringent water restrictions. As required the Townsend Water Department implements a seasonal water restriction from May 1st – September 30th. We ask your cooperation in complying with these restrictions.

**WATER RESTRICTION
IN EFFECT MAY 1ST - SEPTEMBER 30TH
OUTDOOR WATER USE LIMITED TO:
ODD # ADDRESS – ODD #'D DAYS
EVEN # ADDRESS – EVEN #'D DAYS
NO OUTDOOR WATERING ANY DAY BETWEEN
9:00 AM – 5:00 PM**

**PER ORDER OF THE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
AND
TOWNSEND WATER DEPARTMENT**