



2016 Annual Water Quality Report

Clinton Water Department

PWS ID #2064000

Clinton, Massachusetts

Introduction

The Clinton Water Department is proud to present a summary of the quality of the water provided to you during 2016 and an update of Water Department activities that will improve the important services that we provide. This report details where our water comes from, how clean it is, and the threats our water testing and treatment are designed to eliminate. The Clinton Water Department is committed to providing you with the safest and most reliable water supply.

Call us for information about the water system. **Robert Sweatland is the Water Filtration Plant Primary Operator and he can be reached at 978-365-3030.** The Clinton Board of Selectmen are also the Water Commissioners and have the overall responsibility for the Town's water system.

En Español

Este documento contiene la información importante con respecto a la calidad del agua potable en Clinton y los efectos de salud causados por contaminantes potenciales en el agua.

Where Does Our Water Come From?

The Town of Clinton gets all of its drinking water from the Wachusett Reservoir. Under an 1898 agreement, the Town of Clinton receives 800 million gallons per year of water in exchange for flooding a large portion of the Town to create the Reservoir. The Town is responsible for treating and pumping the water. Public drinking water has been available in Clinton since 1882!

Is Our Water Treated?

Yes, our water is treated by; disinfection (to protect against bacteria), corrosion control (to reduce lead and copper), filtration (to remove small particles and organisms) and by chemical treatments (to monitor pH, alkalinity, and taste/odor). Filtration of our water began in January 2006 to remove potential harmful pathogens.

Are There Contaminants In Our Water?

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.

The 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 materials, and can pick-up substances resulting from the presence of animals or from human activity.

More information about contaminants and potential health effects can be obtained from the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at **1-800-426-4791** or visit www.epa.gov/safewater on the web.

Contaminants that may be present in source water before we treat it include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants or sewer pipes, 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 or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, 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.

Do I Need to Take Special Precautions?

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 and Centers For Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA Safe Drinking Water Hotline at **1-800-426-4791** or at www.epa.gov/safewater on the web.

For more local information visit the (MWRA) Massachusetts Water Resource Authority website at www.mwra.state.ma.us

Water Quality and Health Effects Statements

Lead and Copper – In 2016, the Clinton Water System passed all DEP required sampling for dissolved lead and copper. The DEP has reduced the sampling schedule for these contaminants from 60 samples per year to 30 samples collected every third year.

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 Clinton 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>.

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 Maximum Contaminant Level Goals (MCLG) 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.

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.

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)

NTU = Nephelometric Turbidity Units

These above can be used to read the water quality data table shown on the following page. The data tables list the contaminants that were detected during monitoring for the 2016 calendar year. The presence of the contaminants in the water does not necessarily indicate that the water poses a health risk. If you have any questions or need help reading the following tables please call the Clinton Water Department at **978-365-4110** or **978-365-3030**.

Cross Connections - 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 Clinton Water Department 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 Mr. Robert Sweatland at **978-365-3030**.



The Harold P. Naughton Water Filtration Facility

Water Quality Data Tables

	Date(s) Collected	90 th percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source(s) of Contamination	
Lead (ppb)	8/2/16	1.2	15	0	30	0	Corrosion of household plumbing systems; Erosion of natural deposits	
Copper (ppm)		0.056	1.3	1.3	30	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(s) of Contamination		
Total Coliform		0	1	0	N	Naturally present in the environment —		
Turbidity	TT	Lowest Monthly % of Samples	Highest Detected Daily Value	Violation (Y/N)	Possible Source(s) of Contamination			
Daily Compliance (NTU)	0.3	—	0.178	N	Soil runoff			
Monthly Compliance	At least 95%	100	—	N				
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.								
Monthly turbidity compliance is related to a specific treatment technique (TT). Our system filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations.								
Regulated Contaminant	Date(s) Collected	Highest Detect	Range Detected	Highest Average	MCL	MCLG	Violation (Y/N)	Possible Source(s) of Contamination
Disinfection By-Products								
Total Trihalomethanes (TTHMs) (ppb)	02/16/16 05/17/16 09/02/16 11/15/16	74.0	21 – 74	47.1	80	—	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	02/16/16 05/17/16 09/02/16 11/15/16	34.0	9.9 – 34	17.7	60	—	N	Byproduct of drinking water chlorination
Chlorine (ppm)	20 samples per month	1.4	0.4 - 1.4	0.702	4.0	—	N	Water additive used to control microbes
Inorganic Contaminants								
Barium (ppm)	05/10/16	0.01	0.009-0.01	0.009	2	—	N	Discharge from drilling fluids; erosion of natural deposits
Unregulated & Secondary Contaminant**	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source(s) of Contamination		
Inorganic Contaminants								
Sodium (ppm)	05/10/16	27***	—	—	20	Natural sources; runoff from use as salt on roadways; by-product of treatment process		
Sulfate (ppm)	02/16/16	5.17	—	250	—	Natural sources		
Secondary Contaminants								
Manganese (ppm)	02/16/16	0.005 - 0.01	0.005	—	—	Erosion of natural deposits		
Calcium (ppm)	02/17/16	4.2	—	—	—	Erosion of natural deposits, road salt.		
Hardness (CaCO ₃)	02/17/16	14.0	—	—	—	Erosion of natural deposits		
Potassium (ppm)	02/17/16	0.9	—	—	—	Erosion of natural deposits		
Chloride (ppm)	02/16/16	26.0	—	250	—	Erosion of natural deposits, road salt.		
Odor (TON)	02/16/16	2.0	—	3	—	Erosion of natural deposits; Leaching from wood preservatives		
Color (CU)	02/16/16	0	—	15	—	Naturally occurring organic material		
Total Dissolved Solids (ppm)	02/18/16	56	—	500	—	Erosion of natural deposits.		
Zinc (mg/L)	02/18/16	0.012	—	5	—	Erosion of natural deposits		
Alkalinity (ppm)	02/17/16	83.0	—	—	—	Erosion of natural deposits .		

**Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

***Sodium sensitive individuals such as those experiencing hypertension, kidney failure, or congestive heart failure, who drink water containing sodium should be aware of levels where exposures are being carefully controlled.

SWAP REPORT

Water System Improvements

The Department of Environmental Protection (DEP) has prepared a Source Water Assessment Program (SWAP) Report for the Wachusett Reservoir. The SWAP Report assesses the susceptibility of our public water supply.

Are there any threats to our water?

The SWAP Report notes the key issues of wildlife – birds and aquatic animals – agriculture, transportation corridors (stormwater, spills), transmission (utility) lines, and residential land uses as potential contamination sources in the water supply protection area for the Wachusett Reservoir watershed. The report commends the Clinton Water Department for taking an active role in promoting source protection measures in the Wachusett Reservoir Watershed. The Clinton Water Department has encouraged storm drain stenciling to warn residents against illegal dumping to storm drains within the watershed and proper disposal of waste oil at the DPW garage collection center for waste oil.

What is My System's Ranking?

Although land uses within the Wachusett Reservoir watershed cause the source to have a high susceptibility ranking, the Department of Conservation and Recreation's (DCR) successful source water protection programs have substantially reduced the risk of contamination.

What Can Be Done To Improve Protection?

The Clinton Water District Plans to:

- Implement projects to improve the control and quality of stormwater and reduce potential threats from spills.
- Stay aware of proposed new and expanding development within the watersheds.
- Provide technical assistance and educational programs for the public.

Where Can I See The SWAP Report?

The complete SWAP report is available at the Clinton Public Works Department located at 242 Church Street

COMPLIANCE WITH DRINKING WATER REGULATIONS

- Each month we test 21 samples of our treated water for the presence of bacteria. Bacteria was not detected in any samples collected in 2016.

For More Information

For more information please contact the Clinton Water Department at 978-365-4110 or 978-365-3030, email dpw@clintonma.gov or visit the Department of Public Works at the Clinton Town Hall, 242 Church Street in Clinton. Visit the town's official website: www.clintonma.gov

The Town of Clinton is continually making improvements to the water system. Completed and proposed improvements are summarized below.

Completed and On-Going Projects:

The replacement of old water mains is an on-going process. Few if any of the water quality problems that periodically occur are a result of clogged or old pipes. Most water quality problems are a result of the layout of the current water distribution system, as some areas are served by water mains that "dead-end", causing the water to stagnate in the pipes and become cloudy or rusty. Though some areas of Town do experience such problems with water aesthetics, these areas are limited to individual streets. Eventually, the water mains on these streets will be replaced and the "dead-ends" connected to other parts of the water system to eliminate stagnant water situations. In 2016 a new water main on Franklin Street was installed.

The Clinton Water Department began its Town-wide Water Meter Replacement project in the Spring of 2014 and most residential meters have been replaced to date. In addition to installing new water meters, new radio read units are being installed, which will allow us to read the water meters remotely with our drive-by system. This system will allow the department to read the meters more quickly and accurately.

The Harold P. Naughton Water Filtration Facility on West Boylston Street continued filtering our water throughout 2016 The facility includes equipment capable of filtering up to 5 million gallons of water per day. The facility is designed to remove potentially harmful bacteria and other pathogens that may be present in our drinking water.

In addition, the filtration equipment removes much of the naturally occurring organic material in the water. This organic matter tends to react with chlorine that is added to the water for disinfection, and results in most of the taste and odor problems we periodically experience.

The filtration facility has continued to pre-treat the raw water using potassium permanganate instead of chlorine. This change has reduced the levels of total trihalomethanes and haloacetic acids present in our drinking water and is keeping the water system in compliance with respect to these parameters.

This report was developed in association with:

NORTHEAST GEOSCIENCE INC.
97 WALNUT STREET
CLINTON MA 01510
www.nGeo.net

