2019 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 2019 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 https://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. Immunocompromised 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 on the web at **https://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 2019, 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 ***https://www.epa.gov/safewater/lead*** on the web.

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 2018 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 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	90TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source(s) of Contamination
Lead (mg/L)	8/6/19 8/13/19 8/14/19 9/9/19 9/10/19	0.002	0.015	0	38	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (mg/L)		0.086	1.3	1.3	38	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	—	0.203	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)	02/19/19 05/21/19 08/20/19 11/19/19	83	38 - 83	67	80	—	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	02/19/19 05/21/19 08/20/19 11/19/19	51	11 - 51	32	60	—	N	Byproduct of drinking water chlorination
Chlorine (ppm)	20 samples per month	1.3	0.2 - 1.2	0.8	4.0	—	N	Water additive used to control microbes
Inorganic Contaminants								
Barium (ppm)	04/23/19	0.01	0.01	0.01	2	—	N	Discharge from drilling fluids; erosion of natural deposits
Fluoride (ppm)	04/23/19	<0.2	<0.2	<0.2	4	2	N	Erosion of natural deposits discharge from fertilizer & aluminum factories

Unregulated & Secondary Contaminant**	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source(s) of Contamination
Inorganic Contaminants						
Sodium (ppm)	04/23/19	32.6***	—	—	20	Natural sources; runoff from use as salt on roadways; by-product of treatment process
Sulfate (ppm)	01/29/19	<5.0	—	250	—	Natural sources
Secondary Contaminants						
Iron (mg/l)	01/29/19	<0.05		0.3		
Manganese (ppm)	01/29/19	0.0055	0.0055	0.05	—	Erosion of natural deposits
Magnesium (mg/l)	01/29/19	1.06				
Calcium (ppm)	01/29/19	5.72	—	—	—	Erosion of natural deposits, road salt
Hardness (CaCO3)	01/29/19	18.7	—	—	—	Erosion of natural deposits
Potassium (ppm)	01/29/19	1.33	—	—	—	Erosion of natural deposits
Chloride (ppm)	01/29/19	36.2	—	250	—	Erosion of natural deposits, road salt
Odor (TON)	01/29/19	0	—	3	—	Erosion of natural deposits; Leaching from wood preservatives
PH	01/29/19	8.47	—	6.5-8.5		Corrosion control additives
Silver	01/29/19	<0.001	—	.10		Erosion of natural deposits
Color (CU)	01/29/19	0	—	15	—	Naturally occurring organic material
Total Dissolved Solids (ppm)	01/29/19	107	—	500	—	Erosion of natural deposits
Zinc (mg/L)	01/29/19	.0135		5		Erosion of natural deposits
Alkalinity	01/29/19	39.1	—	—	—	Erosion of natural deposits

***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. **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.

SWAP REPORT

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 and online at:

https://www.mass.gov/files/documents/2016/08/sk/2064000.pdf

COMPLIANCE WITH DRINKIING WATER REGULATIONS

- Each month we test 21 samples of our treated water for the presence of bacteria. Bacteria was not detected is any samples collected in 2019

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**

Water System Improvements

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.

The Harold P. Naughton Water Filtration Facility on West Boylston Street continued filtering our water throughout 2019 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.

2019 Annual Water System Cross-Connection Educational Statement
Clinton Water Department

The Clinton Water Department maintains a Cross Connection Control Program to protect our customers, and we publish this statement annually to educate our customers about the program.

A cross-connection is any actual or potential connection between the drinking water lines and potential sources of pollution or contamination, such as a piping arrangement or equipment that allows the drinking water to come in contact with non-potable liquids, solids or gases hazardous to humans in the event of a backflow event. Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of the water can occur when the pressure created by equipment, such as a boiler or air-conditioning system, is higher that the water pressure inside the water distribution line (back pressure). It can also occur when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand, causing the water to flow backward inside the water distribution system (back-siphonage).

Backflow is a problem that many water consumers are unaware of. It's a problem that each and every water customer has a responsibility to help prevent. Please visit the Clinton Water Department office to learn more about cross connections. To learn about other responsibilities of your water system visit the Mass DEP website at http://**www.mass.gov/eea/docs/dep/water/ccdefreg.pdf** or call the Water Department at 978-365-4110.

What can I do to help prevent a cross-connection? Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

- Never submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains or chemicals.
- Never attached a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bib vacuum breaker on any threaded water fixture. Installation of a hose bibb vacuum breaker is as easy as attaching a garden hose to a spigot. These devices are inexpensive and are available at most hardware stores and home-improvement centers.
- Buy appliances and equipment with a backflow preventer.
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections such as connections to fire protection systems, boilers or process water lines.

If you are the owner or manager of a property that is being used as a commercial, industrial or institutional facility you must have your property's plumbing system surveyed for cross-connection by the Water Department. If your property has not been surveyed for cross-connections, contact the water Department to schedule a survey. The Massachusetts Drinking Water Regulations, 310 CMR 22.00 requires all public water systems to have an approved and fully implemented Cross-connection Control Program (CCCP).

The Clinton Water Department is working diligently to protect the public health of its drinking water customers from the hazards caused by unprotected cross-connections through the implementation of its cross-connection survey program, elimination or proper protection of identified cross-connections, the registration of all cross-connections protected by reduced pressure backflow preventers (RPBPs) or double check valve assemblies (DCVAs), and the implementation of a testing program for all RPBPs and DCVAs.

For more information please visit the Department of Public Works at
Clinton Town Hall
242 Church Street
Clinton, MA 01510
Call us at 978-365-4110 or email: dpw@clintonma.gov

CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION

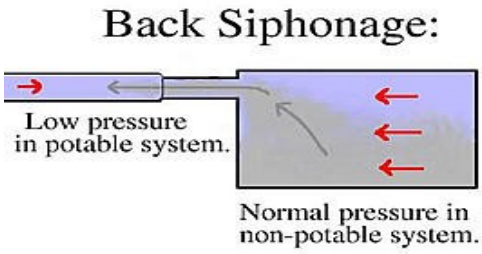
The Town of Clinton makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is withdrawn from the Wachusett Reservoir throughout the entire treatment and distribution system. However, what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection? If so, how?

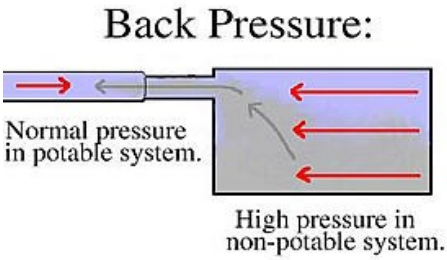
What is a Cross-Connection?

A cross-connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping arrangements or equipment that allows the drinking water to come in contact with non-potable liquids, solids or gases (hazardous to humans) in event of a backflow.

What is a Backflow?

Backflow is the undesired ***reverse*** of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by a piece of equipment or a system such as a boiler or air-conditioner is higher than the water pressure inside the water distribution line (backpressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand causing the water to flow backward inside the water distribution system (back-siphonage). Backflow is a problem that many water consumers are unaware of, a problem that each and every water customer has a responsibility to help prevent.





Please Practice Water Conservation

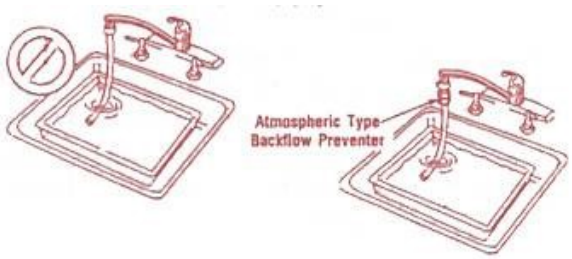
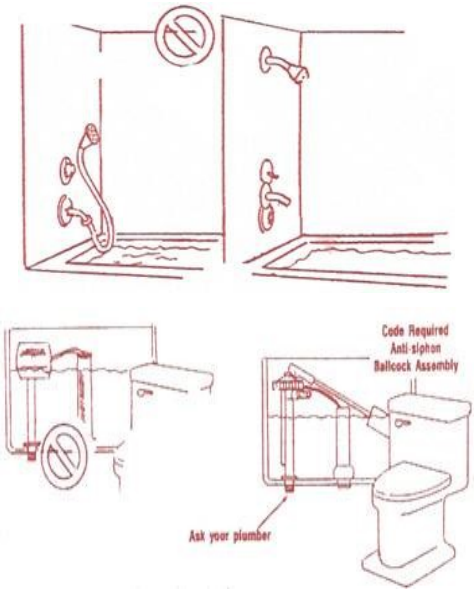
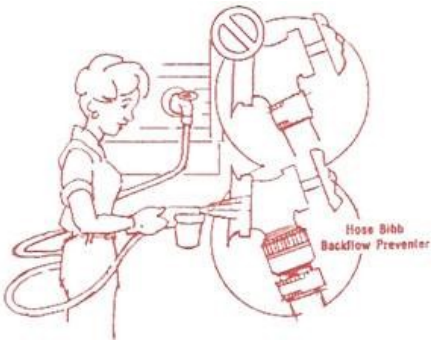
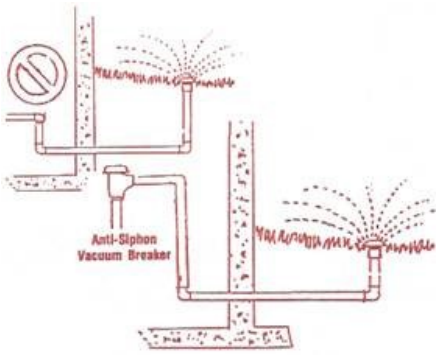
This chart shows how the Town of Clinton's Cross Connection Control Program is being implemented

Cross-connection Survey Information:

Type of Facilities	Total # Facilities Served	# Facilities Surveyed for Cross-connection	# Facilities Remaining to be Surveyed for Cross-connection	# Facilities Surveyed for the First Time in 2019	# Facilities Re-surveyed in 2019
Commercial	149	149	0	0	0
Industrial	70	70	0	0	0
Institutional	33	33	0	0	0
Municipal	28	28	0	0	0

Backflow Prevention Devices and Assemblies Testing Information:

Type of Backflow Preventer	# Devices or Assemblies	Test Frequency	Total # of Routine Tests	# Test Failures	# Re-tests
RPBP	122	Semi-annual*	213	1	1
DCVA	70	Annual*	75	0	0
PVB (if applicable)	10	Annual **	10	0	0

*Required frequency ** Recommended

Some Examples of Where Cross Connections Occur