Groton Water Department

Consumer Confidence Report

Annual Report | Information on Service Provided and Water Delivered in 2008 | June 2009

Contact Information

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About this Report

The Groton Water Department is pleased to present its 2008 Consumer Confidence Report (CCR). This report is a snapshot of drinking water quality we provided to our customers in 2008. Included are details about where your drinking water comes from, what it contains, and how it compares to state and federal standards. Additionally, this report includes information on system upgrades and source protection that will ensure present and future demand is met. Please take a moment to review, and save this report for future reference.

Dedication to Service and System Improvements

In 2008, our water system technicians George Brackett and Stephen Collette were awarded the Massachusetts Water Works Association Pride Award. This award is presented to operators who make a difference in the water works profession. George and Steve have over 40 years of combined service to Groton's water consumers. To ensure high quality and efficiency, our technicians continuously train on the latest water works technology and treatment techniques.

During last winter's severe ice storm the Groton Water Department provided continuous water service and fire protection service to all of our customers.

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View of Baddacook Well from across Baddacook Pond

Opportunities for Public Participation

If you would like to participate in discussions regarding your drinking water quality, you may attend the Groton Water Commission meetings held every second and fourth Tuesday at 7:30 p.m. at the Groton Town Hall. Please confirm meeting location and time with our office, at 978-448-1122.

System Improvements (Continued)

Our successful implementation of the Emergency Response Plan and system improvements made over the last four years ensured that we were able to continue water service during that winter event. Our staff continuously works to improve, expand, and test our emergency operations and disaster preparedness though training with other Town of Groton Departments, as well as State and Federal Agencies.

Also during 2008, the Water Department staff conducted a leak detection survey that utilized an advanced system that listens for leaks in the quiet morning hours.

In fall of 2008 an initial trial project was implemented using Arkion Systems Galileo metering technology. This metering network is currently being used by the Groton Electric Light Department and would allow consumers to track their water consumption online much like their electric usage and receive email notifications about possible leaks. This technology would provide you a higher level of informational service about your water consumption.

To ensure that we provide the highest quality of water available, your water system is operated by Massachusetts certified operators. The water system also is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP) for its technical, financial, and managerial capacity to provide safe drinking water to you, our valued customers.

Where Does My Drinking Water Come From?

Source Name	Source Type	Location of Source
Baddacook Well	Groundwater	On south shore of Baddacook Pond
Whitney Well #1	Groundwater	On east shore of Whitney Pond
Whitney Well #2	Groundwater	On east shore of Whitney Pond

Presently, the water system has over 43.5 miles of water mains, 1,608 water service connections, 343 fire hydrants and three wells: Baddacook Well, Whitney Well #1, and Whitney Well #2. The Whitney Well #2 is considered a redundant back-up well for the main Whitney Pond Well #1. The system's original well at Baddacook Pond constructed in 1897, still remains in active service. The Chestnut Hill 1,000,000-gallon water storage tank was brought into service in December 2005.

Protecting Our Water Resources

The Massachusetts Department of Environmental Protection (MassDEP) has prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving this water system. The SWAP Report assesses the susceptibility of public water supplies to contamination due to land uses and activities in our well recharge areas.

What Is My System's Ranking?
A susceptibility ranking of moderate was assigned to our system using the information collected during the assessment by the DEP. In the report, DEP recommends:

We constantly monitor and remove all non water-system related activities immediately around our wells; not use or store pesticides, road salt, or fertilizers in a 400-foot radial buffer area around the wells (Zone I).

That we educate residents on ways they can help protect drinking water sources.

That we work with emergency response teams to ensure that they are aware of the stormwater drainage in our well recharge area (Zone II) and to cooperate responding to spills or accidents.

Where Can I See The SWAP Report?
The complete SWAP Report is available at the Water Department Office and online at www.grotonwater.org, under the "Helpful Links" section. For more information, call us at 978-448-1122.

Substances Found In Drinking 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 septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants - such as salts and metals, which can be naturally-occurring or result from stormwater runoff or domestic wastewater discharges, and farming.

Pesticides and herbicides - which may come from a variety of sources such as agriculture, 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, stormwater runoff, and septic systems.

Radioactive contaminants - which can be naturally occurring or be the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the Massachusetts Department of Environmental Protection 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).

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, it is treated with sodium hypochlorite (chlorine) as a preventative disinfectant to guard against microbial contaminants that might enter the distribution system through breaks or leaks. We also treat the water with low levels of potassium hydroxide. This raises the pH of the water to a level that is not corrosive to copper pipes or lead solder joints in household plumbing, thus reducing lead and copper concentrations in your home drinking water (see page 6 for copper and lead information).

The quality of water in our system is constantly monitored by the Water Department and by the MassDEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required. In 2008, over 800 tests were conducted on approximately 450 samples collected at various points in our distribution system.

Water pumped from the Baddacook Pond Well has naturally occurring minerals (iron and manganese) removed through a greensand filtration process. Water pumped from the Whitney Wells #1 and #2 are not filtered through this process, because of their lower concentrations of these minerals.

Fluoride is not added to your drinking water. (See page 5 for levels of naturally occurring fluoride.)

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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Action Level (AL) - The concentration of a contaminant that, 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) **pCi/l** = picocuries per liter (a measure of radioactivity)
ppb = parts per billion, or micrograms per liter (ug/l) **ND** = not detected

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.

Water Quality Testing Results

Does My Drinking Water Meet Current Health Standards?

We are proud to report that last year (2008) your drinking water met all applicable health standards regulated by the state and federal government.

The MassDEP has reduced our water system's monitoring requirements for volatile organic compounds (VOCs), inorganic contaminants, and synthetic organic contaminants for both Whitney Wells, because these sources are not at risk of contamination. The Groton Water Department, however, continues to monitor for VOCs in all of our wells. Samples collected on 4/9/07 revealed the presence of two regulated VOCs from the Baddacook Well. Though levels detected were far below the MCLs, MassDep increased monitoring requirements for the Baddacook Well, and subsequent sampling has not detected any regulated VOCs. The detection of two VOCs in sampling results on 4/9/07 could be attributed to the construction of the new iron and manganese removal plant located at the Baddacook Well facility.

Perchlorate sampling was conducted as required by MassDep in 2008 and was not detected in any of our sources.

Our total water hardness average is 52 ppm (slightly hard). This is a measurement of naturally occurring calcium and magnesium dissolved in the water.

Bacteria Sampling Results

Routine monthly sampling conducted at nine sampling points located throughout the distribution system have **not** detected the presence of coliform bacteria.

The water quality information presented in the following tables is from the most recent round of testing completed in accordance with MassDEP and EPA regulations. All data shown was collected during the last calendar year, unless otherwise noted in the tables.

Regulated Contaminants Detected

Regulated Contaminant	Date(s) Collected	Highest Detect	Range Detected	MCL	MCLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants							
Barium (ppm)	**5/3/06**	**0.049**	**0.007 - 0.049**	**2**	**2**	**N**	Erosion of natural deposits
Fluoride (ppm)	**5/3/06**	**0.09**	**0.06 - 0.09**	**4***	**4**	**N**	Erosion of natural deposits
Nitrate (ppm)	**5/3/06**	**0.80**	**0 - 0.80**	**10**	**10**	**N**	Runoff from fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits
Volatile Organic Contaminants							
Ethylbenzene (ppb)	**4/9/07**	**0.51**	**0 - 0.51**	**700**	**700**	**N**	Leaks and spills from gasoline and petroleum storage tanks
Xylenes (Total) (ppm)	**4/9/07**	**0.00139**	**0 - 0.00139**	**10**	**10**	**N**	Leaks and spills from gasoline and petroleum storage tanks
Radioactive Contaminants							
Gross Alpha (pCi/l) (minus uranium)	**3/12/04**	**3.1**	**0.8 - 3.1**	**15**	**0**	**N**	Erosion of natural deposits
Radium 226 & 228 (pCi/L) (combined values)	**3/4/03**	**0.7**	**0.0 - 0.7**	**5**	**0**	**N**	Erosion of natural deposits

*Fluoride also has a secondary contaminant level (SMCL) of 2 ppm. **(Groton Water Department does not add fluoride.)**

Disinfection Byproducts and Chlorine	Running Annual Average	Range Detected	MCL	MRDL	Possible Source(s) of Contamination
Total Trihalomethanes (TTHMs) (ppb)	**15**	**6.9 - 24.1**	**80**	**--**	Byproduct of drinking water chlorination
Total Haloacetic Acids (HAA5) (ppb)	**0**	**ND**	**60**	**--**	Byproduct of drinking water disinfection
Chlorine (ppm)	**0.08**	**0 - 0.98**	**--**	**4**	Water additive used to control microbes

Unregulated and Secondary Contaminants Detected

Unregulated contaminants are those for which there are no established drinking water standards. Monitoring of unregulated contaminants assists regulatory agencies in determining the occurrence of the contaminants in drinking water and helps to determine the need for future regulation.

Unregulated and Secondary Contaminants	Date(s) Collected	Range Detected	Average Detected	SMCL	ORSG	Possible Source(s)
Inorganic Contaminants						
Manganese (ppm)	**6/3/08**	**0 - 0.054**	**0.022**	**0.05**	**--**	Erosion of natural deposits
Sodium (ppm)	**5/3/06**	**12 - 20**	**13.6**	**--**	**20**	Natural sources; Runoff from use of salt on roadways
Sulfate (ppm)	**6/3/08**	**6.3 - 9.4**	**7.5**	**250**	**--**	Natural sources
Volatile Organic Contaminants (unregulated)						
Bromodichloromethane (ppb)	**6/3/08**	**0.6 - 1.7**	**1**	**--**	**--**	Byproduct of drinking water chlorination
Dibromodichloromethane (ppb)	**6/3/08**	**0 - 0.7**	**0.43**	**--**	**--**	Byproduct of drinking water chlorination
Chloroform (ppb)	**6/3/08**	**0 - 4.5**	**1.5**	**--**	**--**	Byproduct of drinking water chlorination

Lead and Copper Sampling Results

The purpose of lead and copper sampling is to protect public health by minimizing lead and copper in drinking water. Lead and copper primarily is introduced to drinking water through the corrosion of plumbing materials which contain lead and copper. By closely monitoring the pH of the drinking water we deliver to your home we minimize this corrosion, thus lowering these levels.

	Date Collected	90^{TH} Percentile	Action Level	MCLG	# of Sites Sampled	# of Sites Above Action Level	Possible Source(s) of Contamination
Lead (ppb)	7/3/08	13	15	0	43	4	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	7/3/08	1.2	1.3	1.3	43	2	Corrosion of household plumbing systems; Erosion of natural deposits

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

Lead: 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 Groton 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.

Copper*:* Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. **Flush your tap for 30 seconds to two minutes before using tap water**. Additional information is available from the Safe Drinking Water Hotline at 800-426-4791.

Mandatory Water Conservation Program: June 1 through September 30, 2009
New Additional Hours of Outdoor Water Use

The Board of Water Commissioners voted on January 27, 2009, to re-institute the mandatory Odd/Even Water Conservation Program for the upcoming summer months. Please note that this is an important conservation program for all of the consumers of the Groton Water Supply System. It promotes and protects sustainable present and future water resources for the Groton community.

The mandatory water conservation program has been modified to provide our valued customers additional evening hours of outdoor water use. These additional hours are a direct result of your successful efforts in managing consumption.

How to comply with an Odd/Even Water Conservation Program:

- **If your home address is an odd number,** you may use your outside water spigots and sprinklers for watering the grass, shrubs, plants, and gardens on **odd numbered calendar days** between the hours of **12:00 a.m. (midnight) to 9:00 a.m. and 6:00 p.m. to 9:00 p.m.**
- **If your home address is an even number,** you may use your outside water spigots and sprinklers for watering the grass, shrubs, plants, and gardens on **even numbered calendar days** between the hours of **12:00 a.m. (midnight) to 9:00 a.m. and 6:00 p.m. to 9:00 p.m.**
- **All irrigation systems must be retrofitted with a rain or moisture sensor**.
- **All outside watering on Mondays is prohibited to everyone**.

If you have any questions regarding the Water Conservation Program, please contact our offices, Monday through Friday 8:00 a.m. to 4:00 p.m. Please do not call the Police Department if you see someone who is not complying with the Conservation Program; call the Water Department. We must work together to conserve our resources.

Important Information About Cross-Connections

What is a Cross-Connection?

A cross-connection occurs whenever the drinking water supply is or could be in contact with a potential source of contamination. For example: plumbing or equipment allowing drinking water to come in contact with gases, solids, chemicals, stagnant water, or any non-potable liquid.

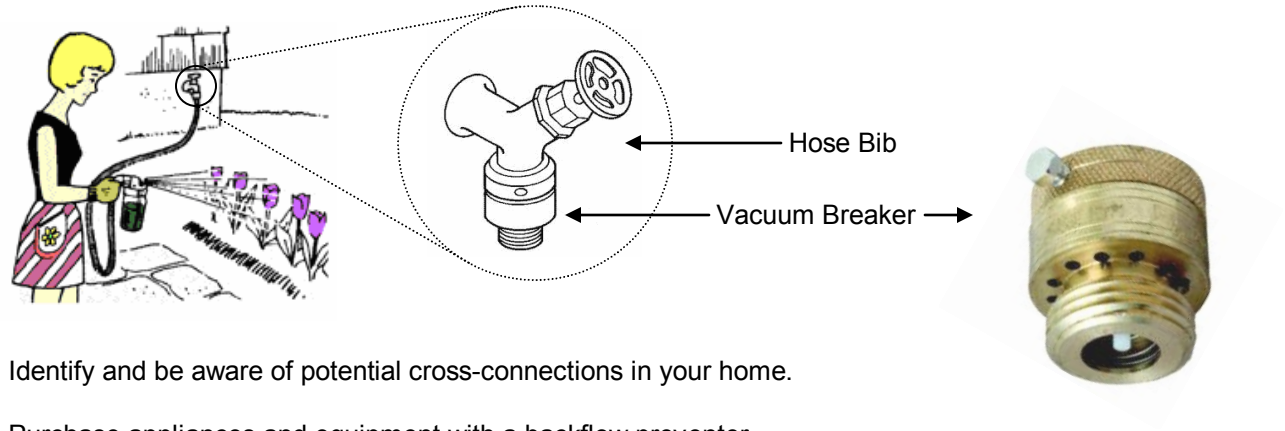
What is a Backflow?

Backflow is the undesired reverse of water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by a boiler/furnace is higher than the water distribution system pressure (backpressure). It also can occur when the water pressure in the distribution system drops due to water main breaks or heavy demand during fires, causing water to flow backward into the water distribution system (backsiphon).

What can I do to prevent a Cross-Connection?

Without the proper protection, something as simple as a garden hose has the potential to contaminate the drinking water in your house. In fact, over half of cross-connection incidents involve unprotected garden hoses. Here are some simple steps you can take to prevent such hazards:

- Never submerge a hose in soapy water buckets, pools, tubs, sinks, drains, or chemicals.
- Never attach a hose to a garden sprayer without the proper backflow preventer (vacuum breaker).
- Purchase and install a hose bib vacuum breaker in all threaded water fixtures. These inexpensive devices are available at your local hardware stores.



- Identify and be aware of potential cross-connections in your home.
- Purchase appliances and equipment with a backflow preventer.

For further information, please contact Steve Collette, Cross-Connection Control Coordinator at (978) 448-1122.

Direct Debit Payment Service Available

We are pleased to announce that a new automatic payment plan is available for our customers.

With your signed authorization form, the Water Department can directly debit your checking or savings account for the exact amount of your water/sewer bill each billing cycle. This will save you time and postage, and you will never need to worry about paying late fees.

Please contact the business office at 978-448-1122 to sign-up for Direct Debit, or find the sign-up form online at: www.grotonwater.org.

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Town Hall
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Annual Consumer Confidence Report

Free Water Conservation Kits Available

Water conservation kits are available at the Groton Water Department Office located in the Town Hall.

Kits include:

- Leak detection tablets that enable you to determine if toilets are constantly running.
- A modern, efficient showerhead that will give you a full force shower while saving you water.
- One kitchen faucet aerator (2.2 gallons per minute) and one bathroom faucet aerator (1.5 gallons per minute).
- An adjustable flush toilet flapper.
- Complete instructions for easy installation.

These kits are for Groton Water Department customers only.

Expanded Evening Hours
for the Mandatory Water Conservation Program
June 1 to September 30, 2009
(Details on page 6.)

Direct Debit Payment Service Available
Save time and postage.
(Details on page 7.)

If you have questions or concerns about any information presented in this report, please contact us.
Visit our website at www.grotonwater.org for more conservation information.