

GROTON UTILITIES

2009

ANNUAL WATER QUALITY REPORT



SERVICE




GROTON UTILITIES
At Your Service

Important Information About Your Drinking Water

Groton Utilities is proud to report that the water we supply **meets all established Federal and State drinking water standards**. During 2009, as in past years, we received NO violations for either water quality or reporting.

This 12th Annual Water Quality Report contains important information about the source and treatment of your water, lists the results of our 2009 testing, and includes some of the improvements we are making to enhance the quality of your drinking water. The Report also contains information about what you can do to conserve and protect your valuable water supply.

Pictured on the cover and throughout this report are Groton Utilities staff members at work, performing duties which assist us in our goal to provide the best quality water possible. A safe, clean, plentiful water supply doesn't just happen. Quality water takes a dedicated and professional staff, careful planning and insight, and the necessary resources to maintain and improve our water treatment plant and distribution system - the vast network of piping under the ground. For over 100 years, Groton Utilities has remained

"AT YOUR SERVICE."

Source Water

Groton Utilities' water is supplied by surface water from a series of five interconnected reservoirs covering a watershed of 15.6 miles, and also includes three wells. Four reservoirs – Morgan, Ledyard, Poheganut, and Smith Lake flow into Poquonnock, our terminal



reservoir. When full, all five reservoirs have a combined capacity of 2.5 billion gallons of water. Our staff includes reservoir patrol staff who, with local and state police, maintain a high level of security, monitor the watershed for potential sources of contamination, and routinely collect water samples for laboratory analysis. We also have a spill response team and trailer to assist emergency responders with any threat of contamination that could impact our watershed. Maintaining the security of our water supply is everyone's responsibility. Please advise us of any suspicious activity by calling us at (860) 446-4000.

Source Water Assessment

The State of Connecticut Department of Public Health has performed an assessment of our drinking water sources. It was found that Groton Utilities' drinking water sources have an overall low susceptibility to potential sources of contamination. The completed report is available for access on the Drinking Water Division's website: <http://www.ct.gov/dph/>. Click on Programs and Services, Drinking Water, and then on Source Protection /Planning.

How You Can Help to Protect Your Source Water Quality

- Don't flush medications or over-the-counter products down the toilet or sink. Put them in the trash (and not in the recycling bin). For information on safely disposing them in the trash, visit the CT DEP's website at <http://www.ct.gov/dep> and click on Pollution Prevention and then How to Dispose of Prescription Medicines.
- **Go Green** – Seek alternatives to caustic household cleaners, pesticides, paint removers, and other products containing toxic chemicals. See the CT DEP's website, and click on Pollution Prevention, Household Hazardous Waste, and then Household Alternatives for a Safer Environment. Alternative "recipes" (as well as other helpful tips) are given for many toxic products commonly used in the house and garden.
- Properly dispose of paints, motor oil, pesticides and other hazardous household waste by bringing it to a household hazardous waste collection site. Visit <http://www.cityofgroton.com/hazardous.asp> for information and the 2010 Regional Household Hazardous Waste Day Schedule.

Water Treatment

Our certified water treatment plant operators are responsible for producing water that meets all State and Federal drinking water requirements. In addition to routine plant operations, they also maintain and repair the numerous pumps and valves in the plant and the five pumping stations located in the distribution system. Cleaning sedimentation basins, maintaining on-line monitoring equipment and the operational readiness of the emergency generators, are just a few examples of duties routinely performed.

Our water plant was constructed in 1939 and has been periodically upgraded to meet regulatory requirements. The water is treated through a process called "conventional treatment" which consists of coagulation, flocculation, sedimentation and filtration. Chlorine dioxide may be added during the summer months to help remove iron and manganese. Lime and phosphate are added to inhibit corrosion of plumbing. Chlorine is added for disinfection and to maintain the quality of water as it travels throughout the piping network to your home. Fluoride is added to reduce the formation of cavities, as required by State of Connecticut Public Health regulations. In 2009, the water treatment plant produced an average of 5.6 million gallons a day and delivered water to approximately 44,000 customers in the City and Town of Groton, Noank, Groton Long Point, and parts of Ledyard and Montville.



Distribution Operations

Our certified water distribution operators are responsible for maintaining and servicing over 100 miles of water mains in Groton. One of their duties is fire hydrant maintenance, which ensures an adequate supply of water in the event of a fire. They also exercise valves, repair and replace mains to ensure an adequate supply of water to your home or business, and flush hydrants. Hydrants are flushed in the spring and summer months to maintain water quality and remove any rust or sediments which have accumulated throughout the year. **If discoloration occurs, run the cold water for 15 or 20 minutes until it clears. If it persists, call us at (860) 446-4000.**

Meter Services

Groton Utilities Meter Service Department services our ~ 6,000 residential water meters and our ~300 commercial and industrial water meters. Residential meters are replaced or overhauled every 7 years while industrial meters are serviced on an annual basis. Presently we have begun a pilot program to install 1,000 residential water meters capable of automated reading, termed AMR. The signal will be carried over a secure licensed radio frequency. To date 500 meters are installed. This section of the water division is also responsible for inspecting backflow devices located in some residences and commercial facilities. The inspection, required by law, ensures that our water maintains its high level of purity.

Did you know that?

All of our operators have the highest grade of certification possible, as required by the CT Department of Public Health. They are also required to take continuing education courses to maintain their certification.





Project Management

Our project managers' responsibilities include overseeing new main construction and repair, as well as water treatment plant modifications. They also maintain all records pertaining to the location, type, and age of all pipes and valves in the distribution system.

Did you know that you should Call Before You Dig (1-800-922-4455) at least two full working days prior to any home improvement project requiring digging? You will get your underground utilities marked out for free, avoiding possible physical harm, fines, and repair costs for any damaged utility line. Visit their website at www.cbyd.com for more information.

Customer Service

Our customer service representatives are dedicated to provide you with personalized customer service. Call them at (860) 446-4000 or stop in at the office, located at 295 Meridian Street. Whether by telephone or in person, they will assist you with your service needs, answer questions, and respond to problems or concerns that you may have. Hours of operation are: Monday through Wednesday and Friday from 8:00 AM to 5:30 PM; Thursday from 8:00AM to 7:00 PM and Saturday from 8:00 AM to noon. The office is closed on holidays. Emergency or after hour calls are also answered at (860) 446-4000.

Water Quality/System Improvements

Groton Utilities Staff has identified areas of our water main distribution system that need replacement. Replacement is dictated by the age of piping, frequency of water main breaks, pressure and flow considerations and the "type" of piping. Accordingly, a Bond Fund is forecasted for the future to secure funding for the infrastructure replacement.

Our Water Treatment Plant infrastructure and processes have been studied with recommendations from professional engineers and regulators for upgrade and replacement. Proposed new processes have been "pilot tested". Accordingly, a Bond Fund is forecasted for the future to secure funding for the aging infrastructure replacement.

Regional Water

The Center Groton booster pump station was completed which supplies water to Route 117 in Ledyard and Ledyard Center. The 3 pumps are each capable of pumping 300 gallons per minute. The Town of Ledyard contributed funds to help offset the cost of the pump station.

Community Involvement

Groton Utilities conducts water plant tours to educate students and the public about our operations, water conservation, and source water protection. Additionally, classroom presentations, mentoring, job shadowing, and internship opportunities are made available. We also conduct escorted tours in the watershed for various groups for educational, conservation and other supervised activities. These groups have included Ledyard and Groton residents, the Audubon Society for its annual bird count, and local colleges for research purposes. Groton Utilities is also a member of the Greater Mystic Chamber of Commerce and the Eastern Connecticut Chamber of Commerce.

Water Analysis

Groton Utilities maintains a State-certified laboratory (CT License #PH-0409) where the majority of our water analyses are conducted. During 2009, over 30,000 water quality tests were run on over 5,000 samples collected. Samples are collected from the source water before treatment, during the various stages in the treatment process, and throughout the distribution system. During the year, tests for bacteria, physical qualities, various organic and inorganic compounds, and pesticides and herbicides are conducted.

To ensure that tap water is safe to drink, EPA prescribes limits on the amounts of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The table on the last page of this report lists only the contaminants that were found in our drinking water in 2009. All levels found were less than the maximum level allowed by the EPA and CT Department of Public Health. The table does not list the more than 90 contaminants that were tested for, but were not present in our water.

Any water quality concerns, questions or requests for more information can be phoned in directly to our lab at (860) 446-4135 during normal business hours. Emergency or after hour calls are answered at (860) 446-4000.

Sources of Drinking Water Contaminants

The sources of drinking water (both tap 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 radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Listed below are some examples of such contaminants:

- Microbiological contaminants such as viruses and bacteria;
- Inorganic contaminants, such as salts and metals;
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses;
- Organic chemicals from industrial or petroleum use; and
- Radioactive contaminants.

Health Effects Information

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 infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.*



EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800) 426-4791.

Important Information about Lead and Copper in Drinking Water

Due to watershed protection measures and an active program to control corrosion in water pipes, our water system has remained in compliance with drinking water regulations. However, it is possible that lead or copper levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink water containing lead in excess of the action level over many years could develop kidney problems or high blood pressure.







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.





Groton Utilities has been working proactively with the DEP to assess the impacts of these proposed regulations. We have a strong commitment to the environment, and recognize the need to balance source water protection, water community needs and environmental protection. Groton Utilities has had discussions with the DEP and attended informational meetings and a public hearing. The regulations are yet to be finalized. We will continue to be proactive in regulatory compliance.

Water Conservation Tips

-  Fix leaky faucets, showerheads and toilets.
-  Consider replacing your 5-gallon per flush toilet with an efficient 1.6 gallon unit.
-  Install low-flow showerheads and faucet aerators (and remember to periodically remove and clean faucet aerators because they can trap debris).
-  Take shorter showers.
-  Consider replacing your old washing machine with a high-efficiency Energy Star labeled model, which uses up to 50% less water and electricity.
-  Don't over-water your lawn or garden – use a timer and water early in the morning or at night to avoid excess evaporation.

New Regulations

Groton Utilities continued to comply with new drinking water regulations by completing the Initial Distribution System Evaluation Report, as part of the Stage 2 Disinfection By-Products Rule. The report included disinfection by-product results of our year-long monitoring program conducted in 2008-2009 and recommendations for four new monitoring sites based on the required protocol specified in the rule. All results met CT Department of Public Health and USEPA drinking water standards.

The Connecticut Department of Environmental Protection (DEP) is updating their regulations requiring minimum stream flow of watercourses, including dams, in Connecticut. These minimum stream flow regulations have not been updated for 30+ years.

There is a strong commitment by Groton Utilities, the local community, state regulators, and public health professionals to protect Connecticut's drinking water supplies and inform consumers about water quality issues.

For more information, call us at (860) 446-4000. We provide 24 hour a day service and emergency response.

The Utility Commission, our policy-making body, meets regularly at 5:00 PM on the 4th Wednesday of each month in Council Chambers at 295 Meridian Street, Groton.

Learn more about the Groton Utilities water system at: www.grotonutilities.com

GROTON UTILITIES 2009 ANNUAL WATER QUALITY DATA

Notes
Only detected contaminants are listed in this table.
(a) A range of values is not presented for those parameters which were measured only once in 2009.
(b) Represents 2008 results. Next analysis due in 2011.
(c) Turbidity is a measure of the cloudiness of water and is a good indicator of the effectiveness of our filtration system. Turbidity cannot exceed 1 NTU.
(d) 90% of homes tested had levels below the number indicated; this value should be below the Action Level, in order for our system to be in compliance. Next analysis is due in 2012.
(e) Highest Running Annual Average (RAA) of samples taken in the distribution system. Values in the range are individual sample results.
(f) EPA has not established drinking water standards for unregulated contaminants. We are required to monitor for them to assist the EPA in determining their occurrence and whether future regulation is warranted.

Key to Table

AL = Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
MCL = Maximum Contaminant Level: the highest level of a contaminant that is allowed in drinking water.
MCLG = Maximum Contaminant Level Goal: 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. (MCLs are set as close to the MCLGs as feasible using best available technology.)
MRDL = Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG = Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant 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 contamination.
N/A = Not Applicable
ND = Not Detected
NTU = Nephelometric Turbidity Units
< = Less than
> = Greater than
ppm = parts per million
ppb = parts per billion
pCi/L = picoCuries per liter
P/A = presence / absence
TT = Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Regulated Contaminants Highest Level Allowed Groton Water

Parameter	Units	MCL	MCLG	Highest Detected Level	Range (a)	Major Source	Violation
Barium	ppm	2	2	0.008	—	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No
Chloride	ppm	250	N/A	33	22-33	Stormwater runoff containing road salt, erosion of natural deposits	No
Fluoride	ppm	4	4	1.29	0.47-1.29	Erosion of natural deposits; water additive which promotes strong teeth	No
Radium 228 (b)	pCi/L	5	0	1.84	—	Erosion of natural deposits	No
Nitrate	ppm	10	10	0.15	ND-0.15	Runoff from fertilizer use, leachate from septic tanks; sewage, erosion of natural deposits	No
Parameter	Units	TT	MCLG	Lowest RAA	Range of Results	Major Source	
Total Organic Carbon	ppm	Removal ratio must be >=1	N/A	1.6	1.4-1.9	Naturally present in the environment	No
Parameter	Units	TT	MCLG	Highest Detected Level	Lowest % of samples meeting limit	Major Source	
Turbidity (c)	NTU	95% of samples must be <=0.3 NTU	N/A	0.30	100%	Soil runoff	No
Parameter	Units	Action Level	MCLG	90th percentile (d)	# of sites above AL	Major Source	
Lead	ppb	15	0	4	1	Corrosion of household plumbing systems; erosion of natural deposits	No
Copper	ppm	1.3	1.3	0.08	0	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	No
Parameter	Units	MCL	MCLG	Highest RAA (e)	Range of Results	Major Source	
Haloacetic Acids (HAA5)	ppb	60	N/A	20.1	5.9-35.2	By-product of drinking water disinfection	No
Total Trihalomethanes	ppb	80	N/A	32.9	8.2-63.5	By-product of drinking water chlorination	No
Parameter	Units	MRDL	MRDLG	Highest RAA	Range	Major Source	
Chlorine	ppm	4	4	1.11	ND-1.89	Water additive used to control microbes	No
Parameter	Units	MCL	MCLG	Highest Monthly Average	Range	Major Source	
Chlorite	ppm	1	0.8	0.13	0.04-0.14	By-product of chlorine dioxide, which is used to remove Manganese	No

Unregulated Contaminants (f)

Parameter	Units	MCL	MCLG	Highest Detected Level	Range	Major Source	Violation
Sodium	ppm	Notification level = 28	None	12	—	Stormwater runoff containing road salt, erosion of natural deposits	No
Sulfate	ppm	None	None	10	6-10	Naturally occurring	No



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