

# GROTON UTILITIES

## 2013

### Annual Water Quality Report



GROTON UTILITIES  
At Your Service



## Poquonnock Reservoir

### 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 2013, as in past years, we received **NO** violations for either water quality or reporting.

This **16th Annual Water Quality Report** contains important information about the source and treatment of your water, lists the results of our 2013 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.

#### **Greetings!**

*Thank you for reading our 2013 Water Quality report which details our water operations, including required water quality testing for the calendar year 2013. As with previous years we are in complete regulatory compliance. We work hard to deliver to you, our valued customers, the best product – pure tap water, and water for fire protection in the communities we serve.*

*Each year, we will be posting this report on our website instead of printing and mailing a copy to our customers. You will be notified via bill inserts of the specific web address and when the report is available. This more environmentally friendly method of delivery has recently been approved by the USEPA and the Connecticut Department of Public Health. Those who prefer that a paper copy be mailed can call (860 446-4080) or email [brownj@yurservice.com](mailto:brownj@yurservice.com).*

Richard Stevens  
Manager of Water, Groton Utilities

The graphic design for this Water Quality Report was done by Jesse Carbone – Carbone Graphics.

### 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 water supply. 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: [www.ct.gov/dph](http://www.ct.gov/dph). Click on Topics A-Z, Drinking Water, Source Protection/Planning and then Source Water Assessment Program/Reports.





### 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 DEEP's website at [www.ct.gov/deep](http://www.ct.gov/deep). Under Environmental Quality, 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. Go to the CT DEEP's website at [www.ct.gov/deep](http://www.ct.gov/deep). Click on Pollution Prevention; and then Reduce Toxic Products in the Home. 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 2014 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, and

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 termed "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 2013, the water treatment plant produced an average of 6.3 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, Montville, and Mystic.

### 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.**





*Pilot testing new treatment technologies*



*Pilot test of manganese contactors*

### **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 digitally, pertaining to the location, type, and age of all pipes, valves, and equipment in the distribution system.

Did you know that you should Call Before You Dig (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](http://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 con-

cerns that you may have. Office Hours of operation are: Monday through Wednesday and Friday from 8:00 AM to 5:30 PM; Thursday from 8:00 AM 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.

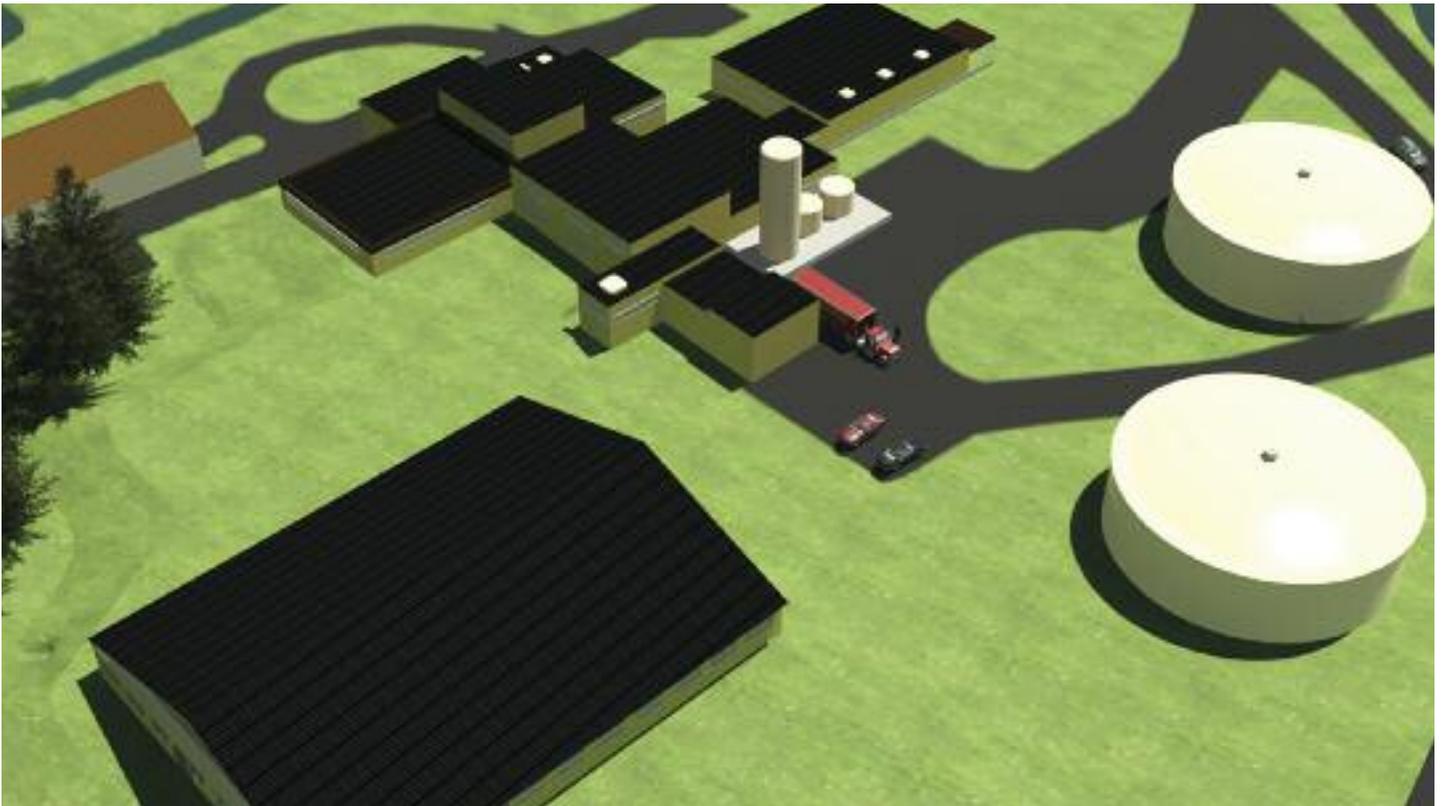
### **Water Quality/System Improvements**

This year we continued our work to design modifications to our 75 year old water treatment facility. Our design work takes into consideration federal, state, and local regulatory requirements, water quality enhancements, improved fire protection capabilities, new and emergent technologies, energy conservation, process control and automation, and worker and community safety. Design is forecasted to be complete by January of 2015, and construction will commence in 2015 as well. We are working very closely with State regulators on funding as we were ranked as the number one (No. 1) priority for drinking water treatment enhancement in the State.

### **Regional Water**

Groton Utilities continues to improve its services to ensure the best water quality and required quantity of water be delivered to our customers in Mystic, Ledyard, Noank, Groton Long Point, Montville, Mohegan Tribe, and available for other regional interconnected customers.





*Architectural rendition of water treatment plant upgrade*

### **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, environmental and other supervised activities. These groups include, but are not limited to Ledyard and Groton residents, the Audubon Society for its annual bird count, and local schools for research purposes. Groton Utilities is also a member of the Greater Mystic Chamber of Commerce and the Eastern Connecticut Chamber of Commerce.

### **Water Quality Testing**

Groton Utilities maintains a State-certified laboratory (CT License #PH-0409) where the majority of our water analyses are conducted. During the year, samples are collected from the source water before treatment, during the various stages in the treatment process, and throughout the distribution system. 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 2013. 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 60 contaminants that were tested for, but were not present in our water. You will also note that some of the results, though representative, were from samples collected prior to 2013. That is because the CT Department of Public Health allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.**

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.

Lead and copper in drinking water is primarily from materials and components associated with service lines and home plumbing. Groton Utilities 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 cold water tap for several minutes before using water for drinking, cooking, or preparing infant formula. (Don't use water from the hot water tap). Also, it is important to periodically clean the aerator or screen at the end of your faucets.** If you are concerned about lead or copper 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 (800) 426-4791 or at <http://water.epa.gov/drink/info/lead/index.cfm>.

## Unregulated Contaminant Monitoring Rule (UCMR3) Results

In October of 2013, Groton Utilities completed the first of 4 rounds of monitoring required for this new drinking water regulation. We were required to test for 21 different chemicals at our water treatment plant's Point of Entry (POE) to the distribution system, and 7 of these chemicals at a sample point in the distribution system. The purpose of this monitoring program is to assist the EPA in determining the occurrence of these contaminants in U.S water supplies so they can decide whether to regulate them.



Of the 21 chemicals tested, only two were detected – strontium and hexavalent chromium, which are naturally occurring in the environment. EPA has provided draft reference concentrations for many of these contaminants, which are based on health information. They are not action levels, nor do they mean that EPA intends to regulate the contaminants at this or any other level. The reference concentration for strontium is 4000 parts per billion (ppb). Our POE had 56 ppb, and the distribution system sample had 63 ppb. There is no evidence that drinking water with trace amounts of naturally occurring strontium is harmful. There is no reference concentration for hexavalent chromium. However, the California Health Department has proposed an MCL of 10 ppb. Our results are several hundred times less than that.

### UNREGULATED CONTAMINANT MONITORING RULE (UCMR3) RESULTS

Location	Point of Entry	Distribution
Sample Date	10/9/2013	10/9/2013
Chromium	ND<0.2 ppb	ND<0.2 ppb
Cobalt	ND<1 ppb	ND<1 ppb
Molybdenum	ND<1 ppb	ND<1 ppb
Strontium	56 ppb	63 ppb
Vanadium	ND<0.2 ppb	ND<0.2 ppb
1,4-Dioxane	ND<0.07 ppb	*
Chlorate	ND<20 ppb	ND<20 ppb
Hexavalent Chromium (dissolved)	0.033 ppb	0.058 ppb
Perfluoro octanesulfonic acid (PFOS)	ND<0.04 ppb	*
Perfluoro-1- butanesulfonic acid (PFBS)	ND<0.09 ppb	*
Perfluoro-1- hexanesulfonic acid (PFHxS)	ND<0.03 ppb	*
Perfluoroheptanoic acid (PFHpA)	ND<0.01 ppb	*
Perfluoro-n-nonanoic acid (PFNA)	ND<0.02 ppb	*
Perfluorooctanoic acid (PFOA)	ND<0.02 ppb	*
1,1-Dichloroethane	ND<0.03 ppb	*
1,2,3-Trichloropropane	ND<0.03 ppb	*
1,3-butadiene	ND<0.1 ppb	*
Bromochloromethane	ND<0.06 ppb	*
Bromomethane (Methyl Bromide)	ND<0.2 ppb	*
Chlorodifluoromethane	ND<0.08 ppb	*
Chloromethane (Methyl Chloride)	ND<0.2 ppb	*

ND< = Not detected, less than      ppb = parts per billion      \* Not required to test

EPA has provided a data summary, that will be updated periodically through 2016, when UCMR3 testing/reporting will be completed. Out of 994 Public Water Systems so far, 992 detected strontium and 912 out of 1026 systems detected hexavalent chromium. Monitoring results follow, and are also available by calling the Groton Utilities laboratory at (860) 446-4080.

### 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.

*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 10:00 AM 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](http://www.grotonutilities.com)*



# GROTON UTILITIES 2013 ANNUAL WATER QUALITY DATA

## Regulated Contaminants Highest Level Allowed Groton Water

Parameter	Units	MCL	MCLG	Highest Detected Level	Range (a)	Major Source	Meets Standards?
Barium	ppm	2	2	0.008	————	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	YES
Chloride	ppm	250	N/A	38	24 - 38	Stormwater runoff containing road salt, erosion of natural deposits	YES
Fluoride	ppm	4	4	1.31	0.12 - 1.31	Erosion of natural deposits; water additive which promotes strong teeth	YES
Radium 228 (b)	pCi/L	5	0	2.77	————	Erosion of natural deposits	YES
Nitrate	ppm	10	10	0.14	ND - 0.14	Runoff from fertilizer use, leachate from septic tanks; sewage, erosion of natural deposits	YES
Total Coliform Bacteria	P/A	Presence not to exceed 5% of monthly samples	0%	3.3%	0% - 3.3%	Naturally present in the environment	YES
Parameter	Units	TT	MCLG	Lowest RAA	Range	Major Source	
Total Organic Carbon	ppm	Removal ratio must be >=1	N/A	1.65	1.3 - 2.2	Naturally present in the environment	YES
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	0.36	99.4%	Soil runoff	YES
Parameter	Units	Action Level	MCLG	90th percentile (d)	# of sites above AL	Major Source	
Lead	ppb	15	0	2	0	Corrosion of household plumbing systems; erosion of natural deposits	YES
Copper	ppm	1.3	1.3	0.05	0	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	YES
Parameter	Units	MCL	MCLG	Highest RAA (e)	Range	Major Source	
Haloacetic Acids	ppb	60	N/A	20.3	9.7 - 32.4	By-product of drinking water disinfection	YES
Total Trihalomethanes	ppb	80	N/A	43.0	21.5 - 92.4	By-product of drinking water disinfection	YES
Parameter	Units	MRDL	MRDLG	Highest RAA	Range	Major Source	
Chlorine	ppm	4	4	1.21	0.12 - 1.97	Water additive used to control microbes	YES
Parameter	Units	MCL	MCLG	Highest Monthly Average	Range	Major Source	
Chlorite	ppm	1	0.8	0.13	0.02 - 0.14	By-product of chlorine dioxide, which is used to remove Manganese	YES

## Unregulated Contaminants (f)

Parameter	Units	MCL	MCLG	Average	Range	Major Source	Meets Standards?
Sodium	ppm	Notification level = 28	None	13.1	————	Stormwater runoff containing road salt, erosion of natural deposits	N/A
Sulfate	ppm	None	None	7	5 - 10	Naturally occurring	N/A

### Notes

Only detected contaminants are listed in this table. Analyses were performed in 2013 unless noted otherwise.

(a) A range of values is not presented for those parameters which were measured only once in 2013.

(b) Represents 2011 data. Next analysis is due in 2014.

(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) Of the 30 homes tested in 2012, 90% had lead levels below 2 ppb, and 90% had copper below 0.05 ppm; since these values are below their respective Action Levels, our system is in compliance. Next analysis is due in 2015.

(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.