

# **WATER QUALITY REPORT FOR 2006**

## **PLEASE READ IMPORTANT INFORMATION INSIDE**

- Page 1**            **System Information**
- Page 2**            **Essential Language  
Treatment Information  
Source Water Protection**
- Page 3**            **Distribution Water Protection  
High Water Bill – Before You Call**
- Page 4**            **Water Conservation Tips**
- Page 5**            **Water Quality Reporting**

### **BOARD OF WATER COMMISSIONERS**

**James Viera, Chairman 2006  
William Ricker & Raymond Bateman**

### **FOR MORE INFORMATION PLEASE CALL THE WATER DEPARTMENT**

**Phone: (978) 352 – 5750**

**Fax : (978) 352 - 5706**

**E-mail – [gsmith@georgetownma.gov](mailto:gsmith@georgetownma.gov)**

**Office Hours – Monday through Friday  
9:00 to Noon & 12:30 to 4:30**

**For Emergencies after hours Call  
Police Communications  
(978) 352 - 5700**

G

eorgetown Water Department believes that the best way to assure safe and reliable drinking water is to provide you with accurate facts. This Consumer Confidence Report will provide you with information about your water and things that you can do to save water and money. It also has information about the system and how we monitor the water to ensure the quality as it reaches you.

### Where Does Your Water Come From?

There are three Wells supplying all of Georgetown's water customers. The William Marshall Well and the Ronald I. Marshall Well, both off of West Street and the Commissioners Well off of Bailey Lane. They are all shallow (50 to 80 feet deep) Gravel packed wells that draw from the Parker River Aquifer. With the completion of the Commissioners Loop Project in 2006, Commissioners well was connected to the treatment. Now the water from all three wells is pumped through the West Street Treatment Plant to reduce the Iron and Manganese, adjust the pH and chlorinate the water before it enters the system. The second leg of the Commissioners Loop connected Bailey Lane with the Filtered Water line on West street. Water that is not used as it is pumped fills the three storage tanks located off of Baldpate Road.

### Is My Drinking Water Safe?

YES! To protect your health, both the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) require us to continually perform water quality testing. We test for pH, Chlorination and Turbidity continuously and Iron & Manganese daily as the water leaves the Treatment Plant. We test all three wells, the treatment plant plus eight other points in the distribution system for the presence of Coliform Bacteria, pH and Chlorine monthly. Lead and Copper are tested at the three schools plus twenty homes throughout the distribution system annually. We sample the wells for sixty Volatile Organic Compounds (Pesticides, Industrial Solvents, Fuel components), twenty Secondary Compounds (including Heavy Metals, Sodium and Nitrate) and the distribution system for Trihalomethanes and Halo acetic Acids (Compounds of Chlorination) annually. Every three years the wells are analyzed for Nitrite, fourteen Inorganic Compounds (Including Sodium, Arsenic, Mercury and Cyanide) and Synthetic Organic Compounds. Should we detect any of these compounds above safe drinking water standards, the public would be notified and steps taken to eliminate the problem by treatment or removing the effected supply from service.

W

**we are committed to providing you with the best water quality available. We are proud to report that last year your drinking water met ALL applicable health & quality standards set by the state and federal agencies.**

All 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 in some cases, radioactive material and can pick up substances from the presence of animals or human activity. Contaminants that may be present in source water include:

**Microbial Contaminants** – such as viruses and bacteria, which may come from sewage treatment systems, agricultural livestock or wild life.

**Inorganic Contaminants** – such as salts and metals, which can occur naturally or as a result of storm water runoff, industrial or domestic discharges, oil and gas production, mining and farming or in the case of Sodium, from the water treatment process.

**Pesticides and herbicides** – which may come from a variety of sources such as agriculture, storm run off or residential use.

**Organic Chemicals** – including synthetic and volatile organic chemicals that are by-products of industry and petroleum production. These can also come from gas station and roadway runoff or waste water treatment systems.

**Radioactive contaminants** – which can occur naturally or be the result of petroleum production or mining operations

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and U.S. Environmental Protection Agency (EPA) set regulations for the amount of certain contaminants allowed in water for public use. The Food and Drug Administration (FDA) and the Massachusetts Department of Public Health (DPH) establish limits on contaminants in bottled water to provide the same public health protection for the consumer. All drinking water, including bottled water, may reasonably be expected to contain small amounts of some contaminants. The presence of contaminants does not necessarily mean that the water poses a health risk.

Some people may be more vulnerable to drinking water contaminants than the general public. Persons with compromised immune systems such as those undergoing chemotherapy, organ transplantation or those having HIV/AIDS or other immune system disorder. These people and some elderly and some infants may also be at a higher risk of susceptibility to contaminants or infection. These people should seek advice from their health care providers. More information about contaminants or waterborne pathogens and their potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline (800) 426-4791 or the Centers for Disease Control on-line @ [www.cdc.gov](http://www.cdc.gov)

### **Why is our water brown?**

Iron and Manganese are present in our groundwater at levels that can cause discoloration. Our ground water like many drinking water sources in New England is slightly acidic (having a pH of less than 7.0). This dissolves the Iron and Manganese from the soil as the water passes through it. This acidity also causes the water to dissolve the copper pipes and the lead solder joints in your house into the water. The copper and lead are toxic to humans. To prevent the lead and copper from dissolving into your water the water is made less acidic by adding lime to raise the pH. The iron and manganese also come out of solution at the higher pH and cause discoloration. Now that the Commissioners Loop is completed, all of the water passes through the Treatment Plant before distribution. The Treatment Plant on West Street is designed to treat and filter out most of the iron and manganese from the water as it enters the distribution system. We remove about 100 tons of sludge from the treatment plant each year. The plant has been on line for five years removing about 99% of the Iron & Manganese but there is a small amount that still gets into the system. This is the reason that we flush out the system EVERY SPRING (April-May) and EVERY FALL.(October – November) The flushing method was modified for 2005 in an effort to more effectively remove the sediments that do accumulate. Based on recent flushing, this seems to be working.

After filtration the waters pH is raised, by adding lime, and disinfected by adding chlorine before it enters the distribution system. All water sources contain numerous microorganisms, some of which can make people sick. We take samples from twelve places in the system every month to check for Coliform Bacteria and Residual Chlorine to ensure that the Georgetown water is free of harmful organisms and safe to drink.

### **How do we protect our water resource?**

The people of Georgetown have had the foresight and actively continue to protect their natural resource by purchasing over 200 acres of undeveloped land under the control of the Water Department and the Town's Conservation Commission. Most of this land lies within the Aquifer Protection Zones around the supply wells. There is a Water Protection Bylaw in place to control the activities within the Zone II watershed area and another for Water Use Restrictions for water emergencies. Emergency water supply aid is available from Groveland, Rowley and Byfield water systems.

Department personnel also check on the land surrounding the wells from time to time to see that there is nothing happening that will adversely affect the ground water sources. The Water Department allows for passive recreational use of our land. Motorized vehicles are not permitted without authorization from the Water Department. When hiking or picnicking please take your trash, and even a little extra back home with you and report any dumping or other activities that might be detrimental to the ground water.

Over the years the Department has taken a number of steps to further safeguard the drinking water sources and supply. Daily inspection of the pumping stations and treatment facilities are required. We have an active Backflow Prevention program to assure that contaminants are not drawn back into the system from outside users. Twenty-four hour emergency coverage, licensed department employees are available within minutes to deal with the unexpected. Regular maintenance programs for cleaning the storage tanks, flushing the distribution system and exercising the gate valves and checking the system for leaks helps us to ensure that the distribution system is sound.

**Protecting the Water in the Distribution System**

The Water Department cleans and disinfects the water before it enters the distribution system. To make sure it stays that way we have an active BACKFLOW prevention program. Each new building has a Backflow device installed at the service entrance and Fire Sprinkler service to prevent any water that may become contaminated, from getting back into the distribution system. Any type of machinery that is connected directly to the potable water system with a potential to allow contaminants back into the drinking water, (i.e. boilers, dishwasher soap injectors, swimming pools or manufacturing equipment) must have a suitable backflow preventer. Depending on the type of device, these are tested once or twice each year. All irrigation systems and hose connections are required to have a backflow device to prevent contaminants from the lawn from coming back into the building. Each Irrigation system should be checked seasonally for proper backflow prevention to ensure the safety of the occupants of the building. For your safety and the protection of the entire system, all irrigation systems require a Permit from the Water Department.

To have your Irrigation System checked this summer please fill out the form below and return it to the Georgetown Water Department, 1 Moulton Street, Georgetown, MA 01833

**IRRIGATION SYSTEM INSPECTION REQUEST**

OWNER \_\_\_\_\_ Backflow Preventer TYPE \_\_\_\_\_  
MAKE \_\_\_\_\_ SIZE \_\_\_\_\_  
ADDRESS \_\_\_\_\_ LOCATION \_\_\_\_\_  
\_\_\_\_\_ Phone : \_\_\_\_\_

Irrigation System Information

Number of Sprinkler Heads \_\_\_\_\_ Number of Zones \_\_\_\_\_  
System Gallons Per Minute \_\_\_\_\_ Fertilizer Feed: Yes \_\_\_\_\_ No \_\_\_\_\_  
Office use: Permit # \_\_\_\_\_ Acct. # \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

**My Water Bill Is Never This High!**

If you think that your water bill is higher than it should be there are a few things to look for.

- 1) Check the meter reading on your meter as compared to the PRESENT READING on your bill. There are six digits on your meter. The reading should be higher than the one on your bill. If it is not call us. If it IS HIGHER, go on.
- 2) Check for changes in usage,(i.e. More people at home, bathing habits changing, a new pool or irrigation system etc.)
- 3) Check for leaks. Check for the obvious, ( leaking faucets, water heater or other plumbing dripping)
- 4) Check the toilets. Four out of five times these are the culprits. The water in the tank should be about 1-inch below the top of the overflow pipe. If not adjust the float. If it is put a little food coloring into the tank and check to see if it seeps into the bowl without flushing. If it does the flapper valve is leaking by and needs to be replaced

# Water Conservation Indoors and Out

Careful water use is not only important for maintaining a sufficient groundwater supply beneath the headwaters of the Parker River but can also help to maintain a healthy surface water flow for the vast wildlife populations that rely on the whole Parker River for their very existence. Conservation will also help the Water Department to avoid costly upgrades to the Wells or Water Treatment Facility. Minimizing non-essential water use also ensures that there will be enough water for the essentials, drinking, washing, cooking and fire protection. So PLEASE use water wisely ☺

## OUTDOOR WATER USE

### **Abide by local water use restrictions**

Local water suppliers know the limits of their system and will enact voluntary or mandatory restrictions accordingly. Always follow the advice or restrictions provided by your local water supplier.

### **Stop watering your lawn during drought conditions**

Most lawns can survive extended dry periods without watering – they will turn brown, but will revive once the rain returns. Organic fertilizers can help grow healthy lawns that will carry through dry periods more readily.

### **If you water your lawn, water only as necessary**

Frequent light watering can actually weaken your lawn by encouraging shallow roots that are less tolerant of dry spells. Your lawn needs only about ¼" of water once or twice a week. A good test is to walk across the lawn. If the grass springs back up the lawn does not need to be watered.

### **Timing is critical for lawn watering**

Watering between sunset and sunrise is most beneficial. Avoid watering mid-day to prevent high evaporation loss and sun-burned grass.

### **Use shutoff nozzles on hoses and automatic shut-off devices on irrigation systems**

Unattended hoses can waste 10 gallons or more each minute. Shutting off the nozzle saves this water. If you have an automatic irrigation system, install a rain detector to prevent watering during the rain.

### **Capture and reuse rain water**

Use cisterns or rain barrels to capture rain water from downspouts for use in your yard. A lid, mesh fabric or several drops of baby oil on the surface will prevent mosquitoes from breeding.

### **Keep mower blades sharp and high**

Sharp mower blades prevent damage to your lawn from tearing and beating the grass. Raising the blades to leave grass longer helps provide shade for the roots and prevent water loss through evaporation.

### **Plan your gardens for efficient water use**

Be aware of the various shade and moisture zones in your yard and plant accordingly. Use some of the many varieties of low water use and drought resistant plants that can survive and actually thrive in drier soils. Break up the soil and use mulch around plants aid in water penetration and to reduce evaporation. Remove weeds that are competing for the water that is available. Check out **XERISCAPING** on line for ideas

## INDOOR WATER USE

### **Water saving fixtures and appliances**

Low flow showers and faucets can save 2 - 5 gallons of water per minute. Low flow toilets save 5 - 7 gallons per flush. Low consumption washing machines can save 20 – 30 gallons per load. (They also spin faster leaving clothes drier going into the dryer, saving on drying costs) Dishwashers can save on water over conventional hand washing if you wait for full loads. This will also improve your septic system performance.

### **Chill water in the refrigerator**

Keeping a pitcher of water in the refrigerator in stead of letting the water run every time you want a drink can save 5 – 10 gallons each time

### **Shut off the water when it is not being used**

Not letting the water run while you brush your teeth, between rinses while doing dishes or while you are getting ready to shower can cut down on a considerable amount of water wasted.

FOR MORE WATER SAVING TIPS AND WATER RELATED EDUCATIONAL GAMES VISIT:

[www.wateruseitwisely.com](http://www.wateruseitwisely.com) or [www.uri.edu/ce/wq/has/html/has\\_waterconservation.html](http://www.uri.edu/ce/wq/has/html/has_waterconservation.html)  
[www.epa.gov/watrhome/you/intro.html](http://www.epa.gov/watrhome/you/intro.html)

# WATER QUALITY REPORTING

## DEFINITIONS YOU NEED TO KNOW

**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 are set to allow for a margin of safety.

**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 Residual Disinfectant Level Goal (MRDLG)** – The level of drinking water disinfectant (chlorine, chloramines, chlorinedioxide) 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.

**Maximum Residual Disinfectant Level (MRDL)** – The highest level of a disinfectant (chlorine, chloramines, chlorinedioxide) allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for the control of microbial contaminants.

**Action Level (AL)** – The concentration of a contaminant, which if exceeded, triggers treatment or other action required to eliminate the threat from a contaminant.

**90<sup>th</sup> Percentile** – Out of every 10 homes tested, 9 were at or below this level

**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 (a measure of how cloudy the water is)

**pH** - Potential of Hydrogen Ion activity ( a measure of how acid, pH below 7.0, or caustic ph above 7.0)

**ND** – Not Detected

**BDL** – Below Detectable Limits

**N/A** – Not Applicable

## TEST RESULTS for CALENDAR YEAR 2006

**Microscopic Particulates** - Giardia and Cryptosporidium for the Influence of Surface Water  
Marshall & Duffy Wells were sampled May 22nd-24th Relative Risk Factor was 0 for each

**Coliform Bacteria Sampling** – 144 samples (12 monthly) No Coliform were detected in the treated water

**Inorganic Contaminants** – The Treatment Plant and Commissioners Wells were Sampled June 21<sup>st</sup>  
None were detected near MCLs. **Sodium** at the Water Office was **20.3 mg/L** and at the Treatment Plant **19.3 mg/L** due to the use of Sodium hypochlorite for disinfection

**Volatile Organics Compounds (VOC)** - Samples from Commissioners Well and the Treatment Plant –  
Tested for 60 compounds None were detected near MCL or ACL

**Lead & Copper** -Samples were collected in AUGUST - MCL – Lead = 0.015 mg/L Copper = 1.30 mg/L  
The three schools were sampled – No MCL or AL exceeded for Lead or Copper  
21 homes were sampled – 90<sup>th</sup> Percentile Lead = 0.012, Copper = 0.27

**Nitrate & Nitrite Report** – Sampled from Commissioners Well and the Treatment Plant

<b>Nitrate</b>	MCL = 10 mg/L	Results @ Treatment Plant = 0.22 mg/L	Commissioners Well = 0.14 mg/L
<b>Nitrite</b>	MCL = 1 mg/L	Results @ Treatment Plant = ND	Commissioners Well = ND

Iron & Manganese - Sampled at::		Commissioners Well		Treatment Plant		Water Office
				Before Treatment	Treated	
Iron	MCL = 0.3 mg/L	Result =	0.07 mg/L	3.0 mg/l	0.03 mg/l	0.06 mg/L
Manganese	MCL = 0.05 mg/L	Result =	0.04 mg/L	2.0 mg/l	0.02 mg/l	0.03 mg/L

**Total Trihalomethane (Chlorine byproduct)** - MCL = 80 ug/L Result = 26.2 ug/L

**Total Haloacetic Acids (Chlorine byproduct)** - MCL = 60 ug/L Result = 10.0 ug/L