

TOWN OF SHARON

WATER QUALITY REPORT FOR 2010

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

To Our Customers

I am pleased to present you with this year's Annual Water Quality Report, providing you with information on where your water comes from, what we are doing to modernize our system, what is found in the water, what we do to ensure high-quality water for now and in the future, and tips on efficient use of water.

Providing high-quality drinking water for public health is the single most important aspect of our work. A significant component of this effort is protection of the natural resources that contribute to your water supply. Few are aware that the Water Department is the sixth largest individual landowner in the Town behind only the Conservation Commission, the Massachusetts Audubon Society, the State and Town and Trustees of Reservations.

In addition, as your water supplier, we continue to be called upon to identify and reduce excessive water use. The Town of Sharon Water Department (Public Water Supply No. 4266000) has long been an advocate of wise water use and has provided outreach and incentives to assist you in becoming more water-efficient. A continued grant has allowed us to coordinate our efforts with the Neponset River Watershed Association in order to further our education outreach with Sharon schools and other public groups.

The present mandatory summertime outdoor water use restrictions in place to comply with State residential water use restrictions, aggressive leak detection and repair and the appliance rebate program have together reduced residential consumption significantly over the past few years. For those of you making wise water choices a priority, we thank you for your efforts, and for those of you not yet practicing water conservation, now is a great time to start.

As many of you know, the Water Department has continued our aggressive program of replacing century old cast iron and break prone asbestos-cement water mains. We understand the frustration resulting from traffic delays and rough pavement that many have experienced and thank you for your continued patience.

I hope you take the opportunity to read through the information on the following pages. As always, we appreciate your feedback and input, so please contact us if you have any questions or comments regarding this Report of our water system.

Respectfully,

Eric R. Hooper, P.E.
Superintendent of Public Works
Town of Sharon

2010 PROJECT HIGHLIGHTS

Replacement of the asbestos-cement water main under Massapoag Avenue has continued with the section between the Community Center and Morse Street now completed. The section between Morse Street and the Massapoag Avenue tank is scheduled for replacement this summer.

Also scheduled for replacement this summer is the 1890's vintage cast iron water main under Pond Street between Billings Street and the Pond Street rotary.

While the Sharon Water Department did not win any additional conservation awards from the State in 2010, the State continues to recognize our outstanding performance and achievement in water conservation by awarding several grants for continuing our conservation education program.

SHARON'S WATER SYSTEM

Our water system includes six groundwater supply wells and pumping stations, four water storage tanks, and approximately 115 miles of water main. Our groundwater sources are of good quality and require minimal treatment. Our water is disinfected and treated for corrosion control to reduce the amounts of lead and copper in our water. Fluoride is added to our water to promote strong teeth and prevent tooth decay/cavities.

POTENTIAL SOURCES OF CONTAMINATION

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, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.

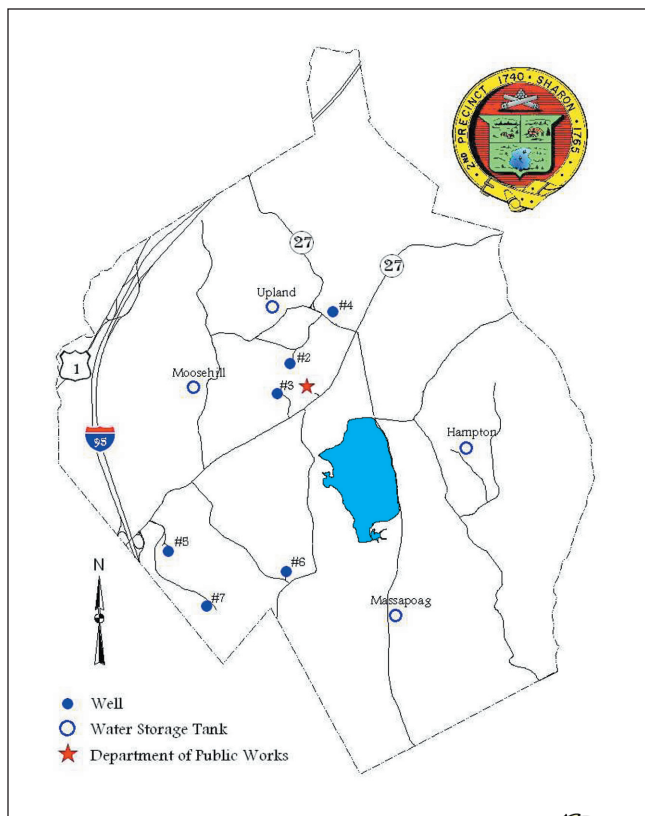
Pesticides and herbicides may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

Organic chemical contaminants include synthetic and volatile organic chemicals that 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 can be naturally occurring or be the result of oil and gas production, and mining activities.

QUALITY CONTROL

To ensure that tap water is safe to drink, the Department and Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination. The presence of contaminants does not necessarily indicate that water poses a health risk. Food and Drug Administration (FDA) and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791.)



HELP TO PROTECT OUR WATER SUPPLY!



The Department of Environmental Protection (DEP) has prepared a Source Water Assessment Program (SWAP) Report for our water supply sources.

The SWAP report assesses the susceptibility of public water supplies. A copy of the SWAP report is available at the Department of Public Works office. Our SWAP report has indicated that our groundwater is highly susceptible to contamination from residential activities adjacent to the wells; residential land uses; accidental spills from local roadways, Route 95 and the railroad; hazardous materials storage; existing contamination sites; and agricultural activities.

As a consumer, you have an impact on the quality of our water supply sources, and therefore, the quality of the water you drink. The land around our groundwater wells is mainly forested and residential with lesser amounts zoned as commercial. When rain falls or snow melts, the seemingly small amounts of chemicals and other pollutants around your property may be transferred by groundwater or overland flows to the wells.

DRINKING WATER AND PEOPLE WITH WEAKENED IMMUNE SYSTEMS

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 people, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Center for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

CROSS CONNECTIONS

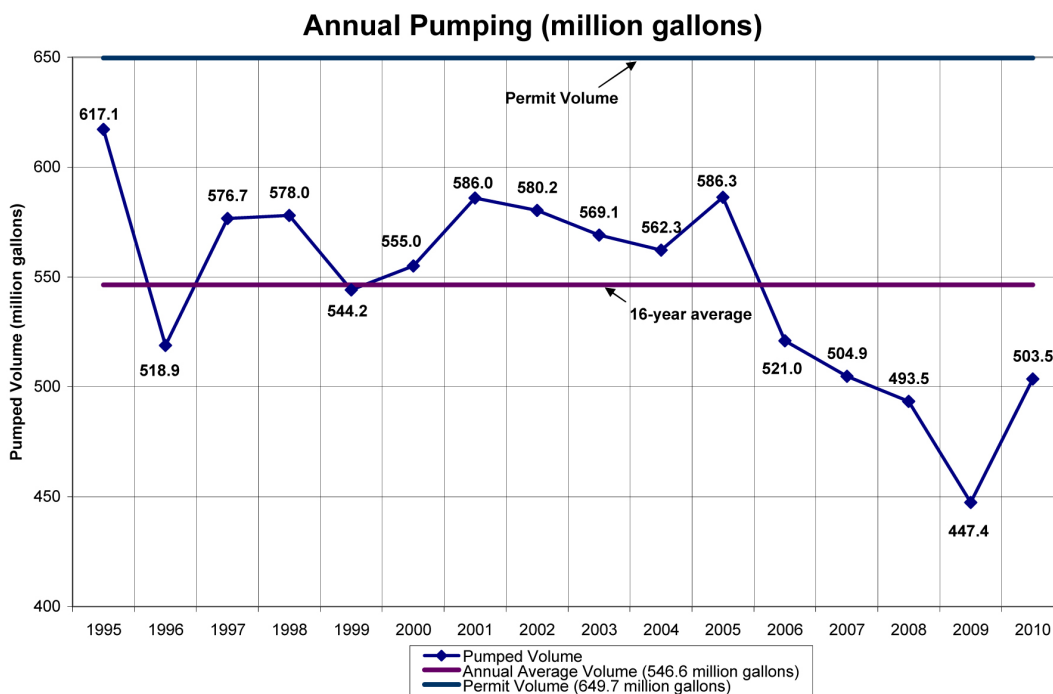
A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops (say because of 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 Sharon 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 Eric Hooper at the Sharon Department of Public Works at 781-784-1525.

WATER USAGE

The Annual Pumping graph shows the total volume of water pumped from the Town's six groundwater supply wells for each year from 1995 through 2010. The six wells are used to supply drinking water to meet the demands of the Town's water customers. The Town is permitted by the State to pump no more than 650 million gallons each year. During the sixteen year period, the annual average volume of water pumped was 547 million gallons, approximately 100 million gallons below the permitted volume. From 1995 through 2000, the pumped volume fluctuated above and below the sixteen year average. However, since 2001, due in part to incrementally more restrictive outdoor water use regulations and diligent efforts by the Water Department to prevent or locate and repair leaks, the pumped volume has steadily declined from 586 million gallons in 2001 to 447 million gallons in 2009. The year 2005 and this past year were exceptions due to significant leaks that proved difficult to locate using our acoustical leak detection equipment or were on private property.

Efficient water use helps to conserve our water supplies. Find out about your own water usage. Divide the number of gallons you consumed on your water bill by the number of days since your prior bill. Then divide by the number of people living in your home. Your gallons per capita daily (gpcd) water use should not exceed 65 gpcd. Lower use means lower water bills.



WATER QUALITY SUMMARY Listed below are 15 contaminants detected in Sharon's drinking water in 2010. Not listed are over 100 other contaminants for which we tested but did not detect. The complete list of contaminants that we test for is available at the Department of Public Works office and at the Sharon Public Library.

SAMPLES COLLECTED FROM OUR WATER SUPPLY

Substance (Contaminant)	Units	Highest Level Detected	Range of Detection	Highest Level Allowed (EPA's MCLs)	Ideal Goals (EPA's MCLGs)	Sources of Contaminant
PRIMARY CHEMICALS						
Fluoride ¹	ppm	1.20	0.90 - 1.20	4	4	Water additive which promotes strong teeth; Erosion of natural deposits
Nitrate	ppm	5.30	ND - 5.30	10	10	Runoff from fertilizer use; Leaching from septic tanks
Perchlorate ^{2,3}	ppb	0.34	0.06 - 0.34	2.0	N/A	Oxygen additive in solid fuel propellant for rockets, missiles, and fireworks
SECONDARY CHEMICALS						
Sulfate ^{2,4}	ppm	15.4	ND - 15.4	NR	NR	Naturally present in the environment
UNREGULATED CHEMICALS						
Bromodichloromethane ⁵	ppb	2.5	ND - 2.5	NR	NR	By-product of drinking water chlorination
Chloroform ⁵	ppb	4.7	ND - 4.7	NR	NR	By-product of drinking water chlorination
Chlorodibromomethane ⁵	ppb	0.7	ND - 0.7	NR	NR	By-product of drinking water chlorination
Sodium ^{5,6}	ppm	83.1	2.35 - 83.1	NR	NR	Naturally present in the environment
Turbidity ^{2,5,7}	NTU	1.0	ND - 1.0	NR	NR	Soil runoff; suspended material in water

SAMPLES COLLECTED FROM YOUR FAUCETS

Substance (Contaminant)	Units	Highest Running Annual Average	Range of Detection	Highest Level Allowed (EPA's MCLs)	Ideal Goals (EPA's MCLGs)	Sources of Contaminant
PRIMARY CHEMICALS						
Total Trihalomethanes	ppb	8.49	ND - 33.5	80	N/A	By-product of drinking water chlorination
Haloacetic Acids	ppb	2.32	ND - 12.9	60	N/A	By-product of drinking water chlorination
Chlorine	ppm	0.31	0.02 - 1.10	4 (MRDL)	4 (MRDLG)	Water additive used to control microbes
Total Coliform ⁸ (Highest Number of VIOLATION detections per month)						
		3	0 - 3	1	0	Naturally present in the environment
	Units	90th Percentile	Range of Detection	Action Level (EPA's MCLs)	Ideal Goals (EPA's MCLGs)	
Copper ^{2,9} (2 samples exceeded the action level)	ppm	0.90	0.03 - 1.88	1.3	1.3	Corrosion of household plumbing systems
Lead ^{2,9} (0 samples exceeded the action level)	ppb	7.0	ND - 12	15	0	Corrosion of household plumbing systems

DEFINITIONS

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 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 Disinfection Level (MRDL) – The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of disinfectants is necessary for control of microbial contaminants (ex. chlorine, chloramines, chlorine dioxide).

Maximum Residual Disinfection Level Goal (MRDLG) – The level of drinking water disinfectant below which there is no known expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Action Level – The concentration of a contaminant, which, if exceeded, triggers a treatment or other requirements that a water system must follow. The action level for lead and copper is the 90th percentile of all samples taken at one time.

ppm – One part per million; one part per million is equivalent to \$1 in \$1,000,000. **NR** – Not regulated.

ppb – One part per billion; one part per billion is equivalent to \$1 in \$1,000,000,000. **NTU** – Nephelometric turbidity units.

ND – Substance not detected in the sample.

Notes:

¹ Fluoride occurs naturally in all water supplies in trace amounts. Fluoride is added to the Sharon water supply to adjust the fluoride level to about one ppm so that it is optimal for better oral health. At this level, it is safe, odorless, colorless, and tasteless.

² The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old. Samples for lead and copper were collected in September 2008. Samples for perchlorate were collected in 2008. Samples for sulfate and turbidity were collected in December 2008.

³ Massachusetts has set a maximum contaminant level of 2.0 ppb for perchlorate.

⁴ Massachusetts has set a secondary maximum contaminant level of 250 ppm for sulfate. This level was established to protect the aesthetic quality of drinking water and is not health based.

⁵ Unregulated contaminants are those for which the 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 regulations are warranted.

⁶ The Massachusetts Office of Research and Standards has set a guideline concentration of 20 ppm for sodium.

⁷ Turbidity is a measure of cloudiness of the water. We monitor it because it is a good indicator of water quality.

⁸ For a system which collects 20 routine samples per month, the system is in compliance with the MCL for total coliform if no more than 1 (5%) of the samples collected is total coliform positive in a given month. The total coliform violation occurred when 3 positive samples were detected near the Massapoag Water Storage Tank in November 2010.

⁹ Lead and copper compliance is based on the 90th percentile value, which is the highest level found in 9 out of every 10 homes sampled. This number is compared to the action level for each contaminant. The 90th percentile for lead and copper did not exceed the action level.

VIOLATION

Total Coliform Bacteria – In November 2010, the Town observed high total coliform bacteria in the distribution system near the Massapoag Storage Tank. The chlorine residual in the tank had dropped and allowed the total coliform bacteria to survive. A public notice was issued by the Town informing customers of the violation. After the violation, we increased the chlorine in the tank and flushed the water mains in the affected area. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria, including E. Coli, may be present. Additional samples were taken immediately and revealed E. Coli was not present, confirming the water did not pose a health risk to the public.

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 Sharon Department of Public Works 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>.

NITRATE Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

SHARON WATER CONSERVATION PROGRAM

The Water Department continues to partner with the **Neponset River Watershed Association (NepRWA)** and the **EPA WaterSense Program** to run a Water Conservation Program in Sharon.

Educational programs in the schools, rebates, and town events have inspired many to become more water efficient, thereby saving money and energy, improving our ecosystem, and maintaining our water independence. For more information go to www.sharonwater.com

FIX A LEAK WEEK

In March, the Water Department participated in the WaterSense "Fix a Leak Week" program, and reminded residents to check for water leaks around their homes. According to the WaterSense Program, an American home can waste, on average, more than **10,000**



gallons of water every year due to running toilets, dripping faucets, and other household leaks.

To check for leaks, analyze your water bill! If a family of four exceeds **12,000 gallons** per month over the winter, you may have a leak. You can also **check your water meter** before and after a two-hour period when no water is being used. If the meter changes, you probably have a leak.

Toilets often leak, wasting considerable water and money. To check for a leak, place a drop of food coloring in the toilet tank - **do not flush** - and wait a few minutes. If any color shows up in the bowl, you have a leak. A common reason why toilets will leak is a worn out toilet flapper. Flappers are inexpensive rubber parts that build up minerals or decay over time. These can be easily replaced by a handyman or plumber.

Leaky showerheads can often be fixed by making sure there is a tight connection between the showerhead and the pipe stem, and by using **pipe tape or Teflon tape** to secure it.

For more information on fixing leaks around your home, go to www.epa.gov/watersense



RAIN BARRELS

In May, the Water Department, in conjunction with SkyJuice New England, continued its spring tradition of selling discounted rain barrels to Sharon residents.

Sixty rain barrels were sold on a first come, first served basis.

A rain barrel **collects rain water run-off** from a roof and stores it for use during

dry weather. Harvested rainwater can be used to water plants or to wash lawn furniture, garden tools, and cars.

A one-inch rainfall on a 1,000 square foot roof yields **562 gallons** of water. Runoff from a **1/4 inch** of rain fall will easily fill a 60 gallon barrel.



GRASS SEED PROGRAM

The Water Department has been encouraging residents to upgrade their lawns with **drought tolerant fescue grass seed**, and to that end, offered drought tolerant fescue grass seed to residents at a substantial discount in fall '10 and spring '11.

In addition to being drought tolerant, fescue grasses are insect-resistant and will survive in sunny or shady areas. They are easier to maintain than other grass types because they **require less water and fertilizer**. An added benefit is that fescues are slow growing grasses, so they require less frequent mowing. They can also tolerate the slightly acidic soils that are common in this area.



IN THE SCHOOLS

Third graders across the school district were visited in the spring by NepRWA Water Conservation Coordinator, Nancy Fyler.

Students learned about the town's water resources, infrastructure, personal usage, conservation, and pollution.



Appliance Upgrades

A majority of the Sharon Public Schools were retrofitted with water efficient toilets and faucet aerators.

SHARON ENERGY/WATER FAIR

In September, the Sharon Water Conservation Program, along with the Sharon Energy Advisory Committee, ran an Energy/Water Fair in the Sharon High School gymnasium. Over thirty exhibitors and six workshops supplied information about water efficient appliances, irrigation and landscaping, alternative energy, home efficiency, hybrid vehicles, and green products.



TOILET AND CLOTHES WASHER REBATES



HIGH EFFICIENCY TOILET (HET) REBATE

A rebate equal to **half the cost** of the toilet, up to **\$200**, not including installation or inspection, is offered for the purchase of High Efficiency Toilets (toilets that use 1.28 gallons per flush or less).

For a list of High Efficiency Toilets, go to:
http://www.epa.gov/watersense/pp/find_het.htm

PLEASE NOTE: Only High Efficiency Toilets on the state approved list are eligible for a rebate. Go to: http://license.reg.state.ma.us/public/pl_products/pb_pre_form.asp

To qualify for a rebate, a High Efficiency Toilet must:

- use 1.28 gallons or less per flush
- be installed by a plumber licensed in Massachusetts
- be on the list of toilets approved by the state
- be inspected by the Sharon Plumbing Inspector following installation
- LIMIT: 2 HET rebates per house

Please include all of the following information with your HET rebate application:

- Name, address, phone number
- Copy of bill of sale
- Model number and brand name of the toilet
- Copy of the plumbing permit
- Proof of inspection by the Sharon Plumbing Inspector

PLEASE NOTE: All rebate applications must be made within **90 days** of purchase and inspection. Rebates are subject to availability of funds on a first come, first served basis, and are issued in the form of a check. Please allow **4-5 weeks** for processing. **Toilets or clothes washers installed in newly constructed buildings are not eligible for rebates.** Call the Water Department **781-784-1525** prior to purchase to confirm eligibility.

You may apply for a rebate in person at the DPW, or you may mail your rebate information to:
Sharon Water Department, Box 517, 217R South Main St., Sharon, MA, 02067

CLOTHES WASHER REBATE

A rebate of **\$200** is offered for clothes washers of **3.0** cubic feet capacity or greater, or **\$150** for clothes washers of less than **3.0** cubic feet capacity.

To qualify for a rebate, a clothes washer must have an EnergyStar Water Factor of 6.0 or less.



For a list of EnergyStar clothes washers, go to:
http://www.energystar.gov/index.cfm?c=clotheswash.pr_clothes_washers

PLEASE NOTE: Some of the clothes washers on the EnergyStar list have a water factor **greater than 6.0 and do not qualify for a rebate.** Contact the Sharon Water Department in advance of purchase to confirm rebate eligibility.

Please include all of the following information with your clothes washer application:

- Name, address, phone number
- Copy of bill of sale
- Model number and brand name of the clothes washer
- Date the clothes washer was delivered

WHY CONSERVE?

Across the country, our growing population is putting stress on available water supplies. Americans now use an average of **100 gallons** of water each day - enough to fill **1,600 drinking glasses!** This increased demand has put additional stress on water supplies and distribution systems, threatening both human health and the environment.



Sharon's water supply system is self contained and entirely dependent on rainfall. Water is not imported from any other source.

Conserving water is the least expensive way to stretch our current supply to meet the needs of a growing population, and keep our Water Department costs down. It is also the simplest way to minimize environmental impact.

FREE WATER EFFICIENT APPLIANCES

Please visit the Water Department any time during regular hours to pick up **FREE** water efficient shower heads, faucet aerators, and toilet leak detection tablets.





FOR 2010

TOWN OF SHARON WATER QUALITY REPORT

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