

TOWN OF SHARON

WATER QUALITY REPORT FOR 2018

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.

For those of you who are simply trying to make it through another busy day, happy to be one step ahead of your e-mail list, schlepping your children to dance class or academic enrichment programs, caring for older family members... I suspect you have not had too much opportunity to pay much attention to your municipal water service. With this understanding, the most important take away from this Annual Water Quality Report is the drinking water in Sharon continues to meet or exceed all State and Federal drinking water quality standards.

The Sharon Water Department (Public Water Supply No. 4266000) recognizes that the single most important aspect of our job is to deliver high-quality water for public health to the residents of Sharon. As a result, the most significant components of this effort are protection of the natural resources that contribute to your water supply and modernization of the distribution network that delivers this water to you.

We, like many New England municipal water suppliers, continue to receive questions concerning water quality, primarily because a continuous parade of potential contaminants from lead to personal care products to more recent organic compounds known as PFAS/PFOA continue to be very much in the news. Rest assured that we have been taking steps on multiple fronts to ensure that Sharon water is contaminant free to the extent possible. Lead and lead-containing components have been virtually eliminated system-wide, and if discovered, we continue to replace any we encounter during our water main upgrade program.

We remain committed to protection of the areas around our water supplies. Most Town residents remain unaware that over half of the Town is protected open space and that the Water Department is the sixth largest individual landowner in the Town behind only, in order of total land ownership, the Conservation Commission, the Massachusetts Audubon Society, the Commonwealth of Massachusetts, the Town of Sharon (which includes School Department property) and the Trustees of Reservations. The Conservation Commission and the Massachusetts Audubon Society, combined, own about a quarter of the land in Sharon. In fact, nearly 70% of the Town is either protected open space or has some level of wetlands protection.

At a time when increased connectivity and a never ending "breaking news" cycle is bringing us to the brink of information overload, it is increasingly difficult to find time to focus on anything that is not hyped as imminent. For those of you who have the time and interest to digest the information in this report, congratulations and happy reading! For those without the time at this instance, know that you can always access this report at a later time on the Town of Sharon website. As always, if you have any questions on any of the information provided within this report, please feel free to call our office at 781-784-1525.

Respectfully,

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

2018 PROJECT HIGHLIGHTS

Water main replacement in the Heights area was started following a series of breaks in January 2018 that disrupted the neighborhood nearly every night for weeks. Phase 1 including Lee Road, Essex Road, Suffolk Road, Webb Road and a portion of Middlesex Road was completed.

PROPOSED 2019 PROJECTS

Water main replacement in the Heights area will continue with mains in Norfolk Place, the remainder of Middlesex Road, and Worcester Road scheduled for replacement.

In addition, two significant system improvements are scheduled for the upcoming two-year period: the water storage tank off Massapoag Avenue will be replaced with construction tentatively expected to begin during the Fall of 2019 and completed by the Summer of 2020 and construction of an emergency pump station connection to the MWRA via Norwood at the Town line at Tiot Street. This project also includes a by-pass main in Tiot Street, Edgehill Road, and Norwood Street. Construction for this project is also tentatively scheduled to begin in the Fall of 2019.

SHARON'S WATER SYSTEM Our water system includes six groundwater supply wells and pumping stations, four water storage tanks, and approximately 120 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.

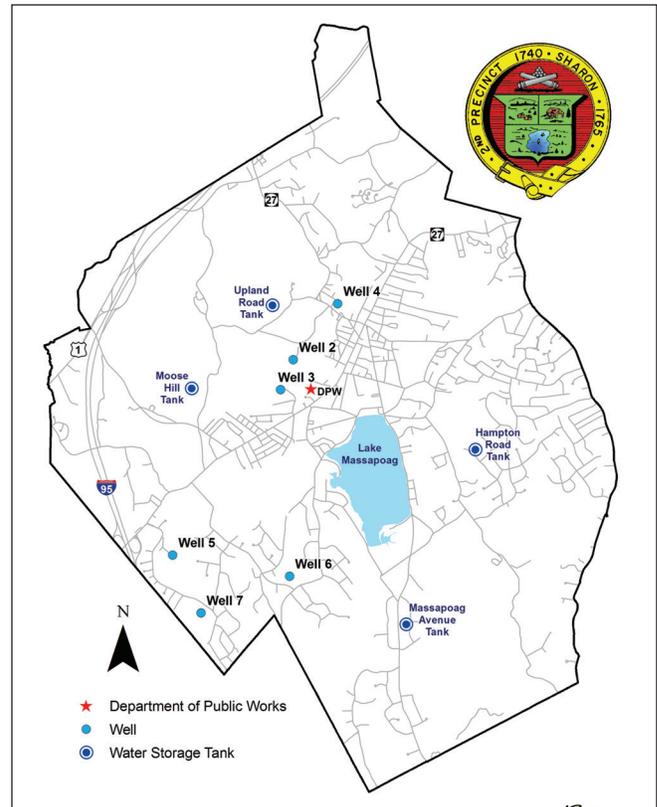
Inorganic contaminants, such as salts and metals, can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.

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 fewer 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

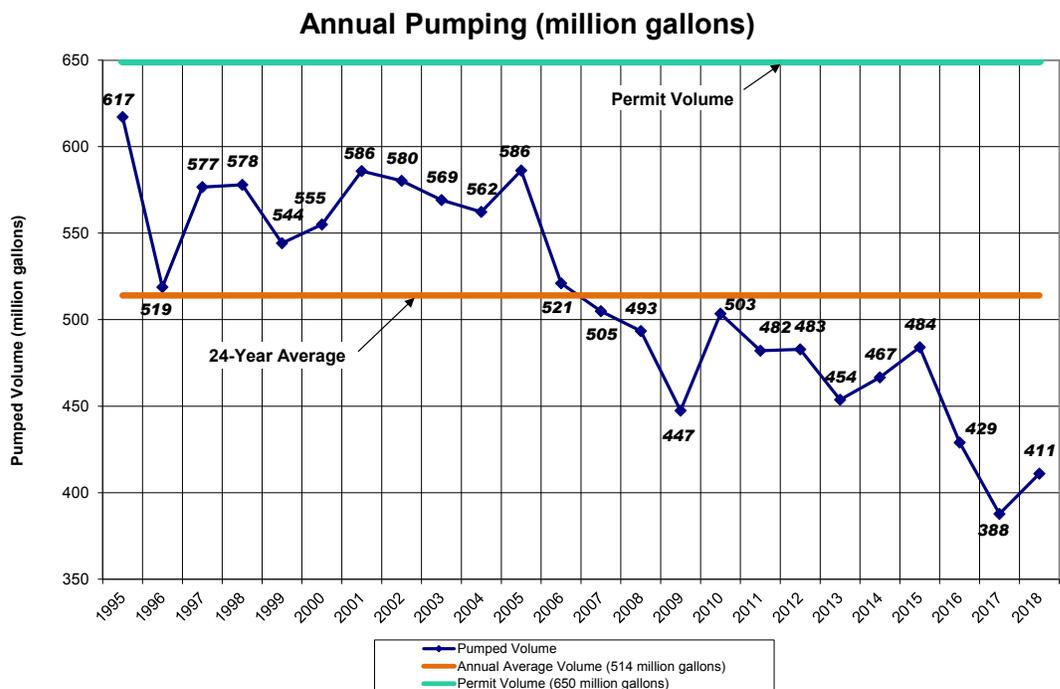
A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops (say because of 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 2018. 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 of water each year. During the 24-year period, the annual average volume of water pumped was 514 million gallons, 136 million gallons below the permitted volume. From 1995 through 2006, the pumped volume was above the 24-year average. However, since 2007, 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 been below the 24-year average. In 2018, our volume of water pumped was 411 million gallons.

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 12 contaminants detected in Sharon's drinking water in 2018. 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	0.84	0.57 - 0.84	4	4	Water additive which promotes strong teeth; Erosion of natural deposits
Nitrate	ppm	4.54	0.97 - 4.54	10	10	Runoff from fertilizer use; Leaching from septic tanks
Perchlorate ²	ppb	0.36	0.07 - 0.36	2.0	N/A	Oxygen additive in solid fuel propellant for rockets, missiles, and fireworks
SECONDARY CHEMICALS						
Manganese ³	ppb	110(Avg)	8 - 366	NR	NR	Erosion of natural deposits
Sulfate ⁴	ppm	14.8	7.47 - 14.8	NR	NR	Naturally present in the environment
UNREGULATED CHEMICALS						
Sodium ^{5,6}	ppm	115	32.2 - 115	NR	NR	Naturally present in the environment
Turbidity ^{5,7}	NTU	3.3	ND - 3.3	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	18.8 (SITE 1)	5.4 - 18.0	80	N/A	By-product of drinking water chlorination
Haloacetic Acids	ppb	2.1 (SITE 2)	ND - 4.3	60	N/A	By-product of drinking water chlorination
Chlorine	ppm	0.45	0.03 - 0.99	4 (MRDL)	4 (MRDLG)	Water additive used to control microbes
	Units	90th Percentile	Range of Detection	Action Level (EPA's MCLs)	Ideal Goals (EPA's MCLGs)	
Copper ⁸ (0 samples exceeded the action level)	ppm	0.08	0 - 0.19	1.3	1.3	Corrosion of household plumbing systems
Lead ⁸ (1 sample exceeded the action level)	ppb	6.0	0 - 48	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.

ND – Substance not detected in the sample. **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. **ppt** – One part per trillion; one part per trillion is equivalent to \$1 in \$1,000,000,000,000.

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. Fluoride has a secondary maximum contaminant level (SMCL) of 2 ppm to better protect human health.

² Massachusetts has set a maximum contaminant level of 2.0 ppb for perchlorate.

³ US EPA and DEP have established public health advisory levels (HAL) for manganese to protect against concerns of potential neurological effects and a one-day HAL of 1,000 ppb for acute exposure.

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 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.

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>.

MANGANESE is a naturally occurring mineral found in rocks, soil, groundwater, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet, but can have undesirable effects on certain sensitive populations at elevated concentrations. The United States Environmental Protection Agency (EPA) and MassDEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 ug/L (micrograms per liter), or 50 parts per billion. In addition, MassDEP's Office of Research and Standards (ORS) has set a drinking water guideline for manganese (ORSG), which closely follows the EPA public health advisory for manganese. Drinking water may naturally have manganese and, when concentrations are greater than 50 ppb, the water may be discolored and taste bad. Over a lifetime, the EPA recommends that people drink water with manganese levels less than 300 ppb and over the short term, EPA recommends that people limit their consumption of water with levels over 1000 ppb, primarily due to concerns about possible neurological effects. Children younger than one year old should not be given water with manganese concentrations over 300 ppb, nor should formula for infants be made with that water for more than a total of ten days throughout the year. The ORSG differs from the EPA's health advisory because it expands the age group to which a lower manganese concentration applies from children less than six months of age to children up to one year of age to address concerns about children's susceptibility to manganese toxicity. See EPA Drinking Water Health Advisory for manganese at: https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_magnese_dwreport_0.pdf and MassDEP Office of Research and Standards (ORSG) for manganese <https://www.mass.gov/files/documents/2016/08/nr/mangorsg.pdf>

SHARON WATER CONSERVATION PROGRAM

The Sharon Water Conservation Program is a collaboration between the Sharon Water Department and the **Neponset River Watershed Association (NepRWA)**. Rebates and educational programs continue to inspire residential water efficiency, which saves money and energy, improves the town's ecosystem, and maintains water independence.



Rebate Programs

Toilets: Residents are eligible for a rebate for half the cost of a toilet, **up to \$200**. The toilet being installed must be a WaterSense labeled model of 1.28 gpf or less.

Toilets must be installed by a licensed plumber and be inspected by the Sharon plumbing inspector. Rebates for existing homes only, not new construction.



Clothes Washers: Get **\$200** for installation of a clothes washer with an Energy Star water factor of 4.0 or less. Look for efficient clothes washers at energystar.gov

Rebate terms & conditions apply. Please call the Water Dept. at 781-784-1525 x2315, prior to purchase, to confirm eligibility. More info. can be found at sharonwater.com

In 2018, 41 toilet rebates and 49 clothes washer rebates were distributed.

Free Water Efficient Showerheads and Faucet Aerators

WaterSense labeled showerheads and faucet aerators are available to Sharon residents at the Water Department during regular business hours. (M—W 8am–5pm, Th. 8am–8pm, Fri. 8am–12:30pm)



Watersmart Software Program

The Sharon Water Department continues to offer WaterSmart, a free software program, to help with residential water conservation.

Using the portal, residents can:



- see exactly where home water use occurs, in gallons per day,
- use an interactive, customized recommendation library,
- check on water use at any time.

WaterSmart **does not** replace quarterly water bills and is not a mandatory requirement. Sharon residents can register for WaterSmart software at sharonwater.com

Drought Tolerant Grass Seed Program

The Water Dept. offered drought tolerant fescue grass seed to Sharon residents at **\$30 per 25lb bag with a two bag limit per household**.

27 bags of drought tolerant grass seed were sold in 2018.

Fescue grasses are insect resistant and will survive in sunny or shady areas. They **require less water and fertilizer** than other grass types, and are slow growing, which means less mowing.

Community Outreach

School Programs

Approximately 300 of Sharon's fifth grade students were visited by NepRWA staff and were taught about the town's water resources and infrastructure, conservation, and stormwater pollution.



Students were given brochures on water conservation and stormwater prevention, and were encouraged to share the information with their families and friends.



NepRWA staff also visited with Sharon High School art students to present information about stormwater runoff and to help create educational murals around the school property to bring awareness to stormwater issues.

Media

Water conservation newsletters were produced quarterly for residential water bills, and a town specific water conservation website sharonwater.com is updated as needed.

A postcard with messaging about water restrictions, irrigation registration, and smart watering was delivered townwide in May.

Outdoor Water Restrictions: May 1—Oct. 1

Water use, much like electricity, has peak hours that stress the system. Sharon's water use restrictions allow water tanks to refill after peak morning demand, ensuring fire fighting capability, and lessening environmental impact.

Lawn sprinklers, either underground or hose fed, must adhere to the following odd/even schedule:

- Odd Numbered Homes—Mon. & Thurs.—**6pm to 8pm only**
- Even Numbered Homes—Tues. & Fri.—**6pm to 8pm only**
- Residents may use one hand held hose, **fitted with a spray nozzle**, without restriction.



WORKING TO PREVENT STORMWATER POLLUTION

Stormwater pollution occurs when precipitation from rain and snowmelt flows over land or impervious surfaces (paved streets, parking lots, and rooftops), and does not percolate into the ground.

This “runoff” picks up **bacteria, chemicals, metals, nutrients, pet waste, and other contaminants** and flows into storm drains, which then discharges the untreated, polluted water into our local waterways.

Regional Stormwater Partner

The Sharon Water Department is a member of the **Neponset Stormwater Partnership**, which is managed by the Neponset River Watershed Association (NepRWA) and the Metropolitan Area Planning Council (MAPC).

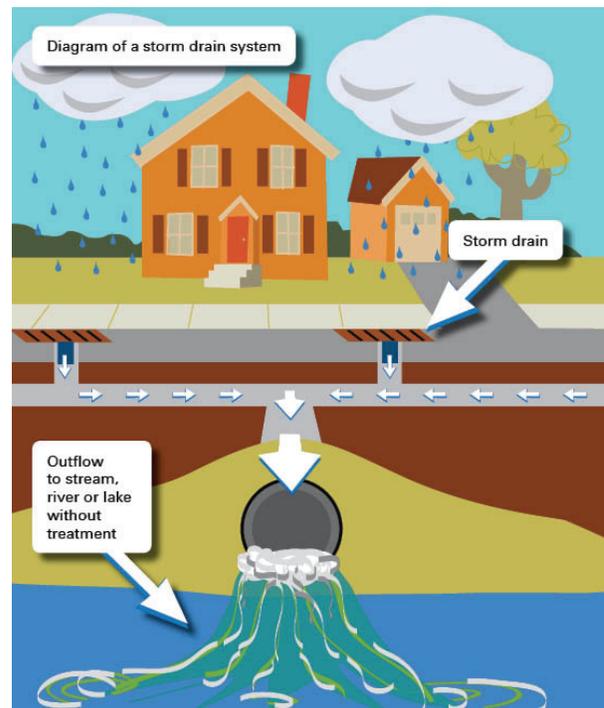
The Partnership aims to reduce the cost and increase the effectiveness of stormwater management programs through regional cooperation and resource sharing. Outreach to the community is implemented through newsletters, mailers and public school programs.

Polluted runoff creates an unhealthy situation for recreation and wildlife—and can impact our drinking water quality!

Please take these steps around your home and business to help prevent polluted runoff in Sharon.

- Keep storm drains clear of debris and yard waste.
- Use organic fertilizers and pesticides, and never use more than what is recommended on the package. Sweep up all spills.
- Redirect downspouts away from pavement and onto grassy areas, where runoff from your roof can soak into the ground.
- Use pervious materials such as bricks, pavers and stones in landscape designs, which allows water to flow into the ground.
- Plant rain gardens to help filter and soak up water.
- Make sure that sprinklers and irrigation heads are watering lawns and gardens—not sidewalks, driveways, or the street.
- Wash your car near the lawn. Let soap run off into the grass, rather than down the street and into a storm drain.
- Store hazardous materials properly and dispose of them through the local Household Hazardous Waste Program.
- Never dump anything down the storm drain.

Learn more at YourCleanWater.org



Pick Up After Your Dog

Dog waste pollutes our water and makes us sick. Unlike other contaminants, such as fertilizer and motor oil, dog waste carries parasites and bacteria—heartworm, hookworm, roundworm, tapeworm, parvovirus, giardia, salmonella, and E. coli—which can be transmitted to humans and make them sick.

When dog waste decomposes, it releases nutrients which causes excessive growth of algae and weeds—and is a major contributor to local water pollution.



Please be a responsible pet owner and neighbor.

Always pick up your dog’s waste and dispose of it in a trash can!

No Pets Allowed on Sharon Beaches from April 15—Oct. 15
To protect the water of Lake Massapoag from contamination, the Sharon Board of Health prohibits dogs, horses and other pets from Veteran’s Memorial Beach and the Community Center Beach from April 15 thru Oct. 15.

Dogs, horses and other pets are not allowed to swim in beach water at any time during the year.

Dogs may walk on the designated path on Memorial Beach from Oct. 15th to April 15th, but must be kept on a leash at all times. Persons walking dogs must carry with them a device to remove and dispose of dog waste in a trash can.



Town of Sharon
Department of Public Works
OFFICIAL NOTICE

PRESORTED STD.
U.S. POSTAGE
PAID
SHARON, MA
PERMIT NO. 13

POSTAL PATRON
SHARON, MA 02067

A photograph of a water fountain with water spraying upwards, set against a dark background. The fountain's rim is covered in water droplets.

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FOR 2018

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER