

Acton Water District
Water Words Notice

Summer 2020



To our Valued Customers and Community Members,

We hope that you, your families, and colleagues are doing well during this time of COVID-19, quarantine, and disruptions to daily life. The Acton Water District has been preparing for a pandemic on paper and in simulations for many years and was able to press into action during late March to keep our staff safe, healthy and able to continue to serve the community. Although some work has been delayed and processes have changed or take longer to deliver, we have largely been able to keep the water flowing with minimal inconvenience to our customers. Thank you for abiding by our lawn watering restriction as we move towards resuming normal operations.

For some of you this will be your first time receiving our Summer *WaterWords* Newsletter, which includes our Annual Consumer Confidence Report (CCR). You may find the latest summary of water quality data on our website at www.actonwater.com/ccr. For others, you will notice it is in a different format and will feature different information. In the mailing notifying you of the CCR, a Public Notice, as required by the Massachusetts Department of Environmental Protection, was sent to all postal patrons in Acton even though you may not receive water from the Acton Water District. If you have questions on the water being supplied to your home or business, please check our website at www.actonwater.com/pfas for contact information of other water suppliers from whom you may regularly consume water.

Respectfully submitted,

Chris Allen
District Manager

***Water Words Notice* is published twice a year for all customers of the Acton Water District**

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Report on Water Quality

Summer 2020 PWS 2002000

Acton Water District

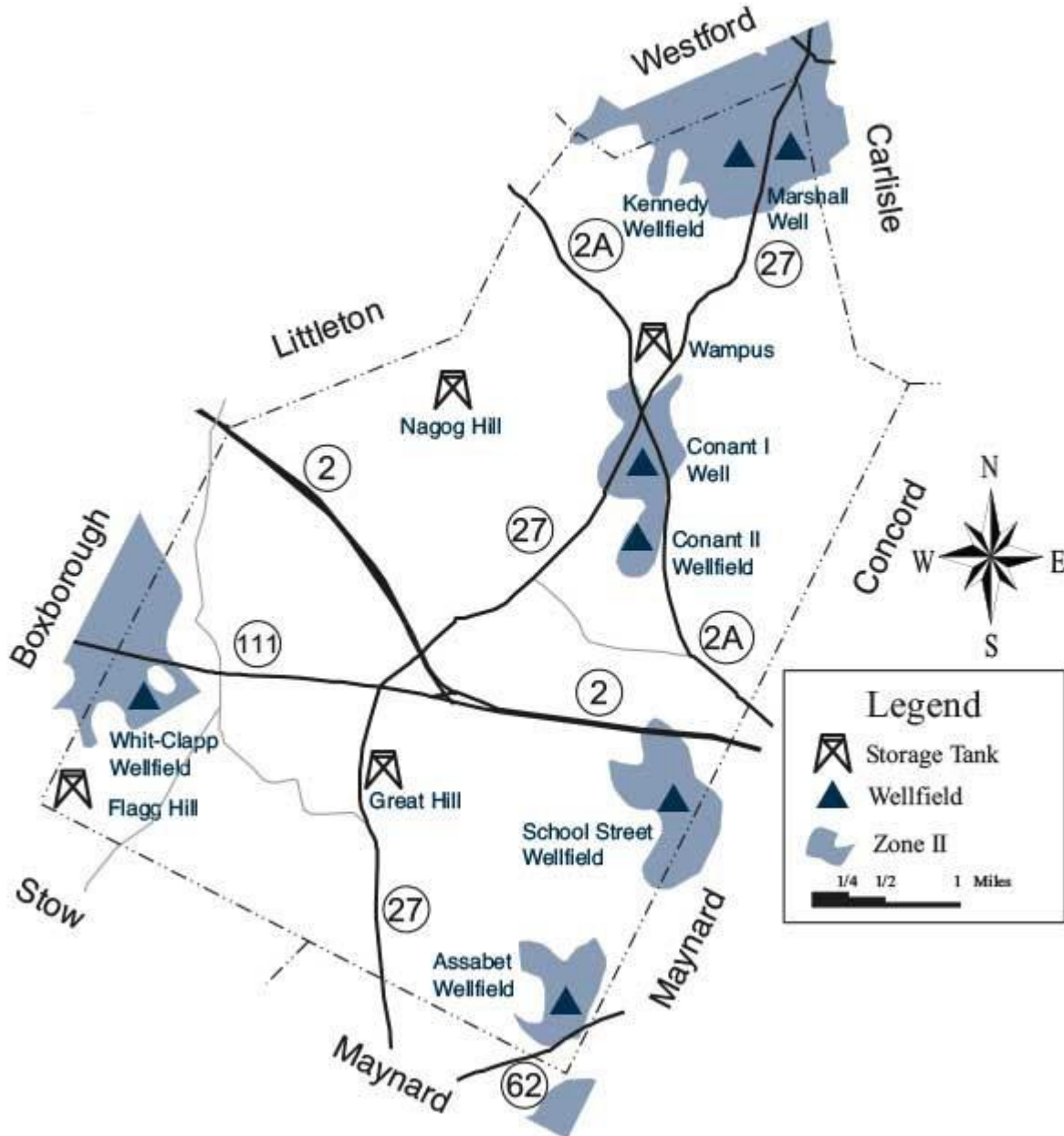
Testing for Your Drinking Water

In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (EPA) prescribes regulations that limit the amounts of certain contaminants in water provided by public water systems. In 2019, as in years past, water supplied by the Acton Water District (AWD) met EPA, state, and our own local drinking water health standards for chemicals regulated under the Safe Drinking Water Act (SDWA). This report is a snapshot of water quality in 2019. Included are details about where your water comes from, what it contains, how it is treated and distributed, and how it compares to standards set by the EPA.

The AWD works diligently to safeguard your water supplies by employing multiple barriers for protection, including source water protection, distribution system protection, ongoing monitoring, and treatment. Last year, we collected more than 650 samples and tested them for more than 100 different potential drinking water contaminants.

The Source of Your Drinking Water

Your water comes from wells that tap the water held in the ground beneath the town of Acton and neighboring communities. The Acton Water District has 22 different wells that withdraw water from seven wellfields located in various parts of town. Water from each well is pumped to treatment facilities located in each of the various wellfields, and then into the distribution system (a network of approximately 130 miles of water mains, four storage tanks, and more than 1,100 fire hydrants), where it blends together and is delivered to homes, businesses, schools, and other public users. The map on this page shows the various storage tanks, wellfields, and the critical protective radius (called Zone II) around each wellfield.



Protection for Your Drinking Water

The Acton Water District employs three important “barriers” to maintain the highest possible quality of drinking water:

- A protective area called Zone II surrounds each of Acton’s wells. Land use activities that could adversely affect water quality are restricted within the Zone II area.
- Each of Acton’s wells is treated in order to remove impurities and improve the taste of the water. Water treatment specifics are listed below.
- The system of pipes that delivers water to your home is protected by a program that works to minimize “cross connections” between potable (intended for human consumption) and non-potable water. An example of a cross connection is a point where a drinking water pipe might connect to a fire suppression system or to an outside irrigation system.

Why Are Impurities in Your Drinking Water?

As water travels through the ground it dissolves naturally occurring minerals. It can also pick up substances resulting from animal or human activity. Contaminants that may be present in source water include:

- **microbiological** contaminants (such as viruses and bacteria) that may come from septic systems, agriculture, and wildlife
- **inorganic** contaminants (such as salts and metals) that may be naturally occurring or result from stormwater runoff, wastewater discharge, mining, or farming
- **pesticides and herbicides**, which may come from a variety of sources, such as agriculture, stormwater runoff, and residential uses
- **organic chemical** contaminants, which are byproducts of industrial processes, and can also come from gas stations, urban stormwater runoff, and septic systems
- **radioactive** contaminants, which can occur naturally or be the result of oil and gas production or mining activities

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some impurities. The presence of an impurity does not necessarily indicate that the water poses a health risk. The Acton Water District has compiled information on drinking water and health in its drinking water resource center. Please feel free to visit or call us for information or call the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Treatment for Your Water

To meet local, state, and federal requirements, and to improve taste and appearance, the Acton Water District treats all of its water before it is supplied to customers. The table below shows the treatment provided at each wellfield.

<i>Treatment</i>	Conant I Well	Conant II Wellfield	Marshall Wellfield	School Street Wellfield	Assabet Wellfield	Kennedy Wellfield	Clapp/Whitcomb Wellfield
Aeration <i>VOC removal</i>		●	●	●	●	●	●
Chlorination <i>disinfection</i>	●	●	●	●	●	●	●
Fluoridation <i>tooth decay prevention</i>	●	●	●	●	●	●	●
pH Adjustment <i>corrosion control</i>	●		●	●	●	●	●
Carbon Filtration <i>taste/color control</i>							●
Membrane Filtration <i>mineral/color removal</i>			●	●	●	●	

Water Quality Data Table

The data presented in the table below are from calendar year 2019 unless otherwise noted. Only compounds that were detected in the water delivered to customers are reported in this table. Because water from all wellfields is blended within the distribution system, these data represent the range of water quality in all wellfields.

Terms and Abbreviations:

AL Action Level: The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

LRAA Locational Running Annual Average: The highest level of contaminant as determined by a running annual average of all the samples taken from a sampling point.

MCL Maximum Contaminant Level: 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.

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.

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 contaminants.

ppm: part per million by volume

ppb: part per billion by volume

90th Percentile: the concentration of a substance that falls at the top ninety percent of all values for that substance.

TT Treatment Technique: A required process intended to reduce the level of contaminant in drinking water.

UCMR4: Unregulated Contaminant Monitoring Rule 4

2019 Water Quality Data Table

Substance (units)	Range of Detects	Level Allowed (MCL)	Goal (MCLG)	Typical Source	Exceeds MCL?
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Regulated Substances (MCL has been established)

Arsenic (ppb)	0-5	10	0	Erosion of natural deposits	No
Chlorine (ppm)	0.0 -0.86 0.13:highest running annual average	4 (MRDL)	4 (MRDLG)	Water additive used to control microbes	No
Fluoride (ppm)	0-1.0	4	4	Water additive which promotes strong teeth	No
Haloacetic Acid (ppb)	12-90 LRAA:26-68	60	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant	No
Nitrate (ppm)	0-1.7	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	No
Perchlorate (ppb)	0-0.39	2	No MCLG	Rocket propellants, fireworks, munitions, flares, blasting agents	No
Trihalomethanes (ppb)	0-25 LRAA:1.9-12	80	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant	No
Turbidity (Nephelometric Turbidity Unit)	0.01-0.2 Lowest Monthly % Samples: 100	Maximum Day 1 NTU (TT)	95% of samples <0.3 NTU Monthly (TT)	A measure of the cloudiness of water. It is a good indicator of the effectiveness of our treatment processes.	No

Unregulated Substances (MCL has not been established)

Iron (ppm)	0-0.782	No MCL	No MCLG	Erosion of natural deposits	Unregulated contaminants have no established MCL
Manganese (ppb)	0-638	No MCL	No MCLG	Erosion of natural deposits	
Sodium (ppm)	20.5-115	No MCL	No MCLG	Erosion of natural deposits, road salting	
Sulfate (ppm)	8.4-41.8	No MCL	No MCLG	Natural Sources	
1,4-dioxane (ppb)	0-0.21	No MCL	No MCLG	Chemical solvent, lab reagent, stabilizer, adhesive, may be found in cosmetics, detergents, and shampoo	
Chloroform (ppb)	0-27.5	No MCL	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant	
Chlorodibromomethane (ppb)	0.51-4.35	No MCL	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant	
Bromodichloromethane (ppb)	0-10.1	No MCL	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant	
Bromoform (ppb)	0-2.11	No MCL	No MCLG	Formed when natural organic material present in the water reacts	

UCMR4 Results - May, August, November, December 2019

Substance (units)	Range of Detects	Average	Typical Source
HAA6Br	1.9-10.5	5.2	Byproduct of drinking water disinfection
HAA9	3-17.9	10.4	Byproduct of drinking water disinfection
Manganese (ppb)	0.81-1090	116.34	Erosion of natural deposits

Lead and Copper (30 sites sampled during August/September, 2019. Next sampling during Summer, 2022)

Substance (units)	90th percentile	# sites above Action Level	Action Level	Typical Source	Exceeds AL?
Lead (ppb)	4.00	0	15	Corrosion of household plumbing systems; Erosion of natural deposits	No
Copper (ppm)	0.398	0	1.3	Erosion of natural deposits; Leaching; Corrosion of household plumbing systems; from wood preservatives	No

Discussion of Data Table Detections

ARSENIC: Water systems, such as ours, with arsenic above 5 ppb (50 percent of the MCL), but at or below 10 ppb (the MCL) must include the following statement. While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

COLIFORM: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify any problems that were found during these assessments.

During the past year, we were required to conduct one Level 1 assessment. In addition, we were required to take two corrective actions and we completed both of these actions. A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

FLUORIDE: The Acton Board of Health voted in 1970 to adjust the fluoride level in drinking water to prevent tooth decay/cavities. On June 8, 2015, the Acton BOH voted to adopt the Centers for Disease Control's recommended adjusted fluoride dose to 0.7 mg/L. AWD implemented the new adjusted dose at all of its treatment plants in 2015.

SODIUM: Although sodium does not have a Maximum Contaminant Level, the MassDEP does have a guideline of 20 parts per million (ppm) for sensitive individuals, such as those on very salt-restricted diets. The AWD notifies the Acton Board of Health of sodium results, and results of the most recent sodium tests are posted at various locations in town. Sodium levels in drinking water vary considerably from well to well and month to month. For the most accurate data on sodium levels at your home, an individual tap sample would be necessary.

LEAD AND COPPER: 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 AWD 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 (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

MANGANESE: Manganese is a nutrient that is part of a healthful diet. Drinking water may naturally have manganese and, when concentrations are greater than 50 parts per billion (ppb), the water may be discolored and taste bad. Over a lifetime, EPA recommends that people drink water with manganese levels of less than 300 ppb; over the short term, EPA recommends that people limit their consumption of water with levels of more than 1,000 ppb, primarily due to concerns about possible neurological effects. Children up to one year of age should not be given water with manganese concentrations greater than 300 ppb, nor should formula for infants be made with that water for longer than 10 days. As we continue to implement filtration for manganese removal, sources with higher concentrations are relied upon less to meet our water demand.

1,4-DIOXANE: During 2019 the AWD collected samples for this compound in the raw and treated waters of the Assabet and School Street wells. This sampling was conducted due to the presence of this compound at the WR Grace and Nuclear Metals, Inc. Superfund sites near our South Acton wells. 1,4-dioxane is not a regulated contaminant, and the MassDEP has not established an MCL. The AWD is following the potential regulation of this contaminant and the effect it may have on our water system. Some people who drink water containing 1,4-dioxane at high concentrations for many years could experience chronic kidney and liver effects and liver cancer. More information is available at www.actonwater.com/water-quality/14-dioxane

UNREGULATED CONTAMINANT MONITORING RULE 4: In accordance with provisions in the Safe Drinking Water Act (SDWA), public water suppliers are required to monitor for up to 30 unregulated contaminants on a five-year cycle. Unregulated contaminants are those that don't yet have a drinking water standard set by the EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. During 2019, we sampled for 28 compounds and only had detections in treated water of manganese and haloacetic acids.

VOLUNTARY MONITORING: In addition to the monitoring required by the Safe Drinking Water Act, the AWD voluntarily conducts hundreds of additional tests each year to ensure high-quality water. For more information on our voluntary monitoring, please contact us.

VULNERABILITY: Some people may be particularly vulnerable to impurities in drinking water. 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, and some elderly people and infants can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Source Water Assessment and Protection Report Available

The Source Water Assessment and Protection (SWAP) program requires states to assess the susceptibility of public water supplies to potential contamination. The Massachusetts Department of Environmental Protection (MassDEP) has completed its assessment on each of the Zone II areas for the Acton Water District's wells. A susceptibility ranking of "high" was assigned to each Zone II using the information compiled by MassDEP. Copies of the SWAP report are available at the Acton Water District office or on the website: www.ActonWater.com.

The AWD has long recognized the susceptibility of its sources, and has worked closely with the town and state to maximize the protection of all of its Zone IIs. For more information, please call Matthew Mostoller, AWD Environmental Manager, at 978-263-9107.

Do You Want to Become More Involved?

The Board of Water Commissioners meetings are typically scheduled on the second and fourth Mondays of each month at 7:00 pm; all citizens of Acton are welcome to attend. The beginning of each meeting is set aside for citizen comments that may not be on the agenda for discussion. If you wish to attend, please call us to confirm the next meeting date. The Acton Water District Annual Meeting is held on the third Wednesday of March. All interested persons are welcome to attend.

For more information, additional copies, or to comment on this report, please contact:

Acton Water District

Attn: Matthew Mostoller

PO Box 953, 693 Massachusetts Ave., Acton, MA 01720

Phone: 978-263-9107 Fax: 978-264-0148 Email: mmostoller@ActonWater.com

Do you know about Cross Connections?

A cross connection is any actual or potential connection between a distribution pipe of potable water supplied by the public water system and any waste pipe, soil pipe, sewer, drain or other unapproved source. If not properly protected or eliminated, a cross connection can cause health problems and spread disease.

There are two methods by which contamination can enter the drinking water, backpressure and backsiphonage. Backpressure occurs when the pressure in the property exceeds the drinking water pressure. This can be caused by air conditioning units, boiler systems, and other pressure-building devices connected to the drinking water system. Backsiphonage occurs when the drinking water pressure drops off and the resulting vacuum sucks the water from the building. This can be caused routinely by a fire department's use of water due to a fire, water main breaks, and other heavy water demand.

Most cross connections are prevented by installing backflow devices. A hose bibb vacuum breaker, sold at any hardware store, prevents the typical garden hose cross connection. Backflow devices come in all different types to protect even the most dangerous liquids from being able to contaminate the drinking water. To our knowledge, there has never been a cross connection incident in Acton, but there have been several in the state of Massachusetts and even more nationally.

Everyone should be aware of and do their part to prevent drinking water from becoming contaminated by cross connections. By surveying all industrial, commercial, and institutional facilities for cross connections, the Acton Water District ensures that the water supplied — down to the last free-flowing tap in every home and office — is of the highest quality. All residential homes with irrigation systems are required to have backflow protection. Learn more about cross connections by contacting Charlie Rouleau, our Cross Connection Coordinator, at 978-263-9107.

Seasonal Outdoor Water Use

Our seasonal water use restrictions are in effect from May 1 to October 1 of each year. The consistent application of these restrictions helps us to prudently manage our water supply and educate consumers to be mindful of water use before they are asked to further conserve water use during an emergency. On May 31st, we had to ask customers to refrain from using our water on new and established lawns due to increased demand for water and the delayed completion of major maintenance activities at two of our treatment plants due to COVID-19. Although some of that work is wrapping up, environmental conditions and weather are pushing the need to continue this restriction until meaningful changes in both weather patterns and customer use can be observed.

Typically, our seasonal restriction allows the following and we ask customers to continue abiding by the non-lawn watering aspects of this program. For example, during the lawn watering ban you may not apply our water to any grass until further notice but may wash your car on the days of the week associated with your address. Customers with even-numbered addresses may use water outdoors on Tuesday, Thursday, and Saturday while odd-numbered addresses may use water outdoors on Wednesday, Friday, and Sunday. No lawn watering is allowed between the hours of 7am and 7pm, and no outdoor water use of any kind is allowed on Mondays. The restrictions apply to both new and established lawns. The seasonal outdoor water use restriction applies not only to automatic and manual irrigation, but also, to *any* outdoor water use. Examples include filling or topping off pools, car washing, power washing, and recreation.

What was it?



We had one correct answer to our Winter 2020 What is it? photo. Congratulations to Daniel Roberts for his correct guess and thank you to the other customers who took a chance at responding! Pictured above is the temporary pump discharge of a bedrock well we are investigating in Acton Center. A valve to control flow, pressure gauge, sampling tap, and water level gauge are also pictured. This is one of three bedrock wells that was installed during the winter of 2019 and is being tested as a potential new source of supply for the Acton Water District. At the recent Annual District meeting, additional funds were approved by voters to help move this project forward through additional testing and hopefully regulatory approval processes.