Acton Water District

SUMMER 2022

Water Words Notice

Greetings and thank you for your interest in the Acton Water District. We try to provide relevant information for our customers to better understand our operation and the quality of the water they receive. Do not hesitate to contact us with any questions you may have regarding water quality, or anything related to the District's operation. Our staff and officials are available to assist you in understanding all aspects of your water service.

Now in our third year of writing this newsletter in the shadow of COVID-19, we still contend with health concerns, masking, and extra caution in our interactions with customers and vendors. As a byproduct of the pandemic, acquisition of goods necessary to sustain life and our business, has become extremely difficult and expensive. Similar to individual households, we have seen the impacts on our operation by the cost of fuel impacting trucking and delivery of chemicals, increase in cost of electricity and natural gas, and ever increasing timelines to acquire goods and sometimes services. In the midst of all this turmoil, we continue to deliver the highest quality water that we possibly can. Due to the rising costs that we incur, no matter what the global circumstances, periodic rate increases are necessary for sustainability of the water supply. In November 2021, the Board of Water Commissioners approved a 5% increase to all rate tiers effective in the 2nd quarter 2022 billing cycle. Starting with your July 2022 water bill, you may notice some increase in what you pay for water on a quarterly basis. Water bills are sent to customers in January, April, July and October.

The Massachusetts Department of Environmental Protection (MassDEP) recently awarded the District for its water conservation efforts. Pictured left to right are State Representative Dan Sena, MassDEP Commissioner Marty Suuberg, District Staff Matthew Mostoller, Beth Secinaro, and Julie Hawkins, and MassDEP Engineer Margo Webber.

Since 2009, with the commissioning of the North Acton Water Treatment Plant, followed by South Acton, and most recently, Center Acton, our water quality has greatly improved. Filtration of iron and manganese from our well sources is one part of the equation. The pipes that comprise the 137-mile distribution system network that provide the conduit for water to customers' taps, are of varying age and condition. Some pipes in the system were installed in the years leading up to the District's incorporation in 1912. Over the decades, as the District expanded, the system grew in size. Different piping materials, metallic and non-metallic, were used to extend pipelines into neighborhoods desiring potable water service and fire protection. As mentioned previously, filtration of discoloring minerals at the source is relatively new (13 years in increments) compared to the age of the District (110 years). Over time, pumping unfiltered water into these pipes has caused an accumulation of mineral sediment from the precipitates of iron and manganese that we periodically remove by high-velocity flushing; a process with which most of you are familiar occurs in April and October each year.

Unfortunately, due to the historic build-up of this sediment, it remains present on interior pipe walls, and is released into the pipe volume when there's a hydraulic transient. Flushing is a controlled transient where operators know the origin and path

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

Acton Water District

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Greetings

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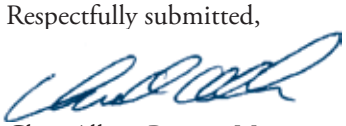
of water used to scour pipe walls at specific velocities for a specific amount of time until water clarity is visually verified. Water main breaks and fire hydrant use are significantly more traumatic, unpredictable, and uncontrolled, thus stirring up that historic sediment build-up causing discolored water in customers' service lines. With the consistent demineralization of source water at filtration plants, and periodic removal of historic mineral sediment by high-velocity flushing, it's our hope and belief that incidents of discoloration will be of less severity and duration in the future. Ideally, with consistent infrastructure improvements, they'll cease to occur altogether. Please see more about the water quality improvements related to the Central Acton Water treatment plant on page 3 of this newsletter.

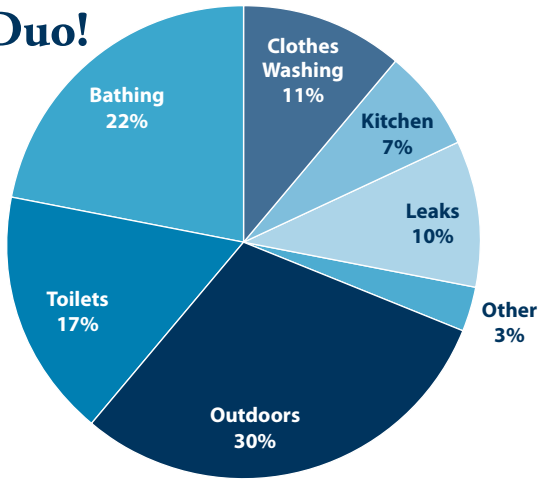
We greatly value your feedback, participation in our proceedings and engagement. Please contact us via phone, email, Twitter, web inquiry, or, if you subscribe, Water Smart with any questions or comments you may have, or suggestions you may wish to make. Thank you!

Respectfully submitted,



Chris Allen, *District Manager*

Conservation & Efficiency: A Water-Saving Dynamic Duo!



Illustrated here are the average residential end uses of water nationwide, with 30% of all water use occurring outdoors.

While we've all been told it's important to conserve water, what motivates us to do so varies from one person to the next. For some, saving money on their water and energy bill encourages them to take shorter showers, while others find reducing their impact on local water resources inspires them to plant native species and collect rainwater for their gardens. Here at the District, there are many reasons that water conservation and efficiency are important to us.

In Massachusetts, there are statewide policies that limit the amount of water public water systems can pump from their sources on a daily and annual basis. These policies also require outdoor water use restrictions during the growing season, as well as during times of drought conditions. To comply with these policies and to match our system resources, we implement, and update water use restrictions as needed to ensure we stay within the bounds of our allowable water withdrawals. We can also optimize source operation and conduct routine maintenance at our treatment plants when water usage remains within certain bounds, making efficiency an important tool for improved water quality. Additionally, reducing water waste is beneficial when it comes to balancing the human and environmental need for water in our community, especially during drought conditions.

Our customers play a major role in our conservation and efficiency success, and we appreciate the efforts made by all to use Acton's water resources wisely. There are a number of initiatives the District undertakes as well to improve efficiency. Every other year, we conduct a comprehensive leak detection survey of our distribution system to locate underground leaks that may otherwise have gone unnoticed. Since 2014, we have been conducting an annual comprehensive water audit to make sure our accounting of water is accurate and direct our resources to the most cost-effective water loss control measures. Operationally we recycle process water at all our treatment plants, calibrate our master meters semiannually, and repair leaks and breaks of water mains and services quickly. We require new and redevelopment projects to implement conservation measures, like installing high efficiency fixtures and appliances and using native, drought tolerant landscaping, to mitigate their impact on our water resources.

If you're looking for ways to reduce your water usage, check out the following resources the District offers:

- Free water-saving device giveaways, including showerheads, aerators, rain gauges, and more! Available at our office during normal business hours and events throughout the community.
- Rebates for high-efficiency toilets, clothes washers, faucets, and showerheads. Find the applications and additional information at *www.actonwater.com/rebates*
- On-site Efficiency Evaluations for residential customers who want to learn more about water-saving opportunities at their home. Email alex@actonwater.com to schedule yours!
- Our WaterSmart program gives you personalized water-saving tips, tells you where and when you use water most, and can even notify you of a potential leak. Sign up today at *acton.watersmart.com/index.phpwelcome* if you haven't already!
- Visit our website at *www.actonwater.com/conservation* for a wealth of information

P is for Progress (on PFAS)

We continue to manage our sources due to the impacts of Per- and Polyfluoroalkyl Substances (PFAS), thus reducing the quantity of water that is available for customer use. We are taking steps to remediate those impacts as those that attended our Annual District Meeting on April 13th can attest. The Warrant presented to voters for approval was very "PFAS-centric," with a clear and evident theme. We would like to thank those that attended for unanimously approving all articles allowing us to move forward with our PFAS action plan and make strides toward solving this contamination in our impacted groundwater wells, along with the typical Operations and Maintenance of the District. Although the specific source(s) from which PFAS emanate in and around Acton remain unclear, we are committed to removal at the point of treatment and entry to the distribution system. In the coming year, we'll be conducting testing of filtration technologies at two of our four water treatment plants with approved funding. Additionally, we'll be designing and constructing a Granular Activated Carbon (GAC) filtration system at the North Acton Water Treatment Plant to remove PFAS contamination there. Voters approved borrowing $1 million for that purpose. This, in addition to $450,000 from the Town of Acton's American Rescue Plan Act (ARPA) funding for design of this system will address the PFAS contamination at the North Acton facility for the six currently regulated compounds (PFAS6) in the Commonwealth of Massachusetts.

As part of our PFAS response strategy, in addition to filtration in North Acton, we are activating the Assabet 3 well (formerly WR Grace 3), a groundwater well located in south Acton that the District received from WR Grace in the contamination settlement in 1987. This well was permitted in 2009 and has been idle since that time. Due to its lower PFAS concentration, we worked with our engineering consultant to design the connection of this well to the South Acton Water Treatment Plant (SAWTP). After a competitive bidding process, the contract for this project was awarded to N. Granese & Sons from Salem, MA in January of 2022. Unfortunately, due to supply chain disruptions and long lead times on materials and equipment, the project has been delayed, but we hope that it will be completed soon. Of the multiple wells that will supply the SAWTP, the addition of Assabet 3 will enable us to blend lower concentration sources with higher concentration sources to maintain compliance with the state's current Maximum Contaminant Level (MCL) of 20 parts per trillion (ppt) of PFAS6. During initial testing, PFAS levels in the Assabet 3 well were approximately 3 ppt. Other wells in that supply circuit have exhibited concentrations greater than 20 ppt, and thus have been relegated to lower capacity use. To maintain adequate quantity at compliant concentrations, the Assabet 3 project is critical to sustainability of supply from the SAWTP, and from the District overall, in both the short and long term.

Columns with filtration media are tested at the North Acton Water Treatment Plant for PFAS removal effectiveness.

Ongoing implementation of long-term solutions, tracking the potential for further regulation of PFAS compounds by the State and Federal government, and identifying funding opportunities to assist the ratepayers is of the utmost importance to the District. As time and resources allow, source identification may become a larger part of our response efforts. Implementing practical and economical solutions at our treatment plants has been the goal of our staff and elected officials. In the interim we have had success in limiting exposure since our initial sampling in 2020. Water served to customers since August of 2021 has complied with MassDEP's MCL. Bottled water rebates remain available for residential customers in the sensitive subgroup that wish to take extra steps to reduce PFAS exposure from consuming water. More information on PFAS, including the latest available data, is always available on our dedicated website at *www.actonwater.com/pfas*.

Water Use Restrictions

Our seasonal water use restrictions are in effect from May 1 to October 1 of each year. Additionally, lawn watering is limited to one day per week based on your address. You may look up your lawn watering day on our website at *https://www.actonwater.com/conservation/outdoor-water-restrictions*. 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. Other outdoor water uses, such as filling or topping off pools, car washing, power washing, and recreation are still restricted to the odd/even days by street number.

Filtration Comes to Acton Center

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

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After five years of planning and a year and a half of construction, the Central Acton Water Treatment Plant (CAWTP) began supplying drinking water to the distribution system on February 18, 2022! This facility, which can treat up to one million gallons of water per day, is designed to remove the naturally occurring iron and manganese from our Conant I and II sources. These minerals occur in the raw water at nuisance levels that result in aesthetic impacts, like discoloration and staining, in excess of Secondary Maximum Contaminant Levels (SMCL). Treated water from the Conant I Well had also exceeded the Massachusetts Office of Research and Standards Guideline (ORSG), which initially prompted the need to investigate treatment options for this supply.

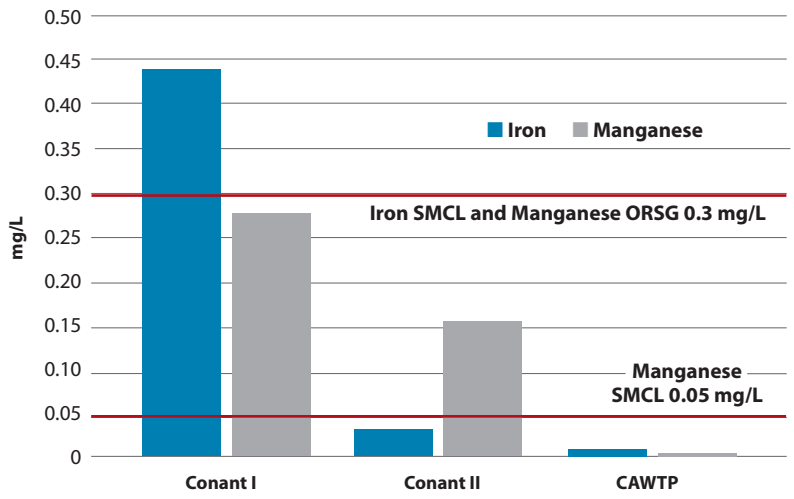
A single treatment plant was constructed for both sources based on similar water quality and their proximity to one another, reducing initial construction and ongoing operational costs associated with our treatment goals. In addition, two new wells are being pursued in this area that will be treated at the CAWTP in the future if they become permitted.

Combined raw water enters the CAWTP and is first treated with sodium hypochlorite (liquid bleach) to oxidize the iron and manganese and provide disinfection. Potassium hydroxide is then added to upwardly adjust the pH of the water before it enters one of three pressure-filtration vessels that contain GreensandPlus™. Inside the pressurized tank, the GreensandPlus™ media work to physically (via filtration) and chemically (via adsorption) remove the iron and manganese from the water before it heads to the aeration tower for VOC removal. Finally, sodium fluoride is injected for dental health. The treated water then travels through the clearwell before being pumped into the distribution system and ultimately to your home or business.

This facility not only improves water quality by greatly reducing iron and manganese levels, but it also helps ensure reliability of the District's supply. Without the Conant I and II sources, we would be unable to meet our projected maximum day demand. Now that this project is complete, more than 80% of our sources are fully filtered, an exciting milestone!

Newly installed pressure-filtration vessels in the Central Acton Water Treatment Plant located off of Post Office Square.

Conant Wells Iron and Manganese



Comparison of iron and manganese concentrations before construction of the new treatment plant and from the new treatment plant.

Report on Water Quality

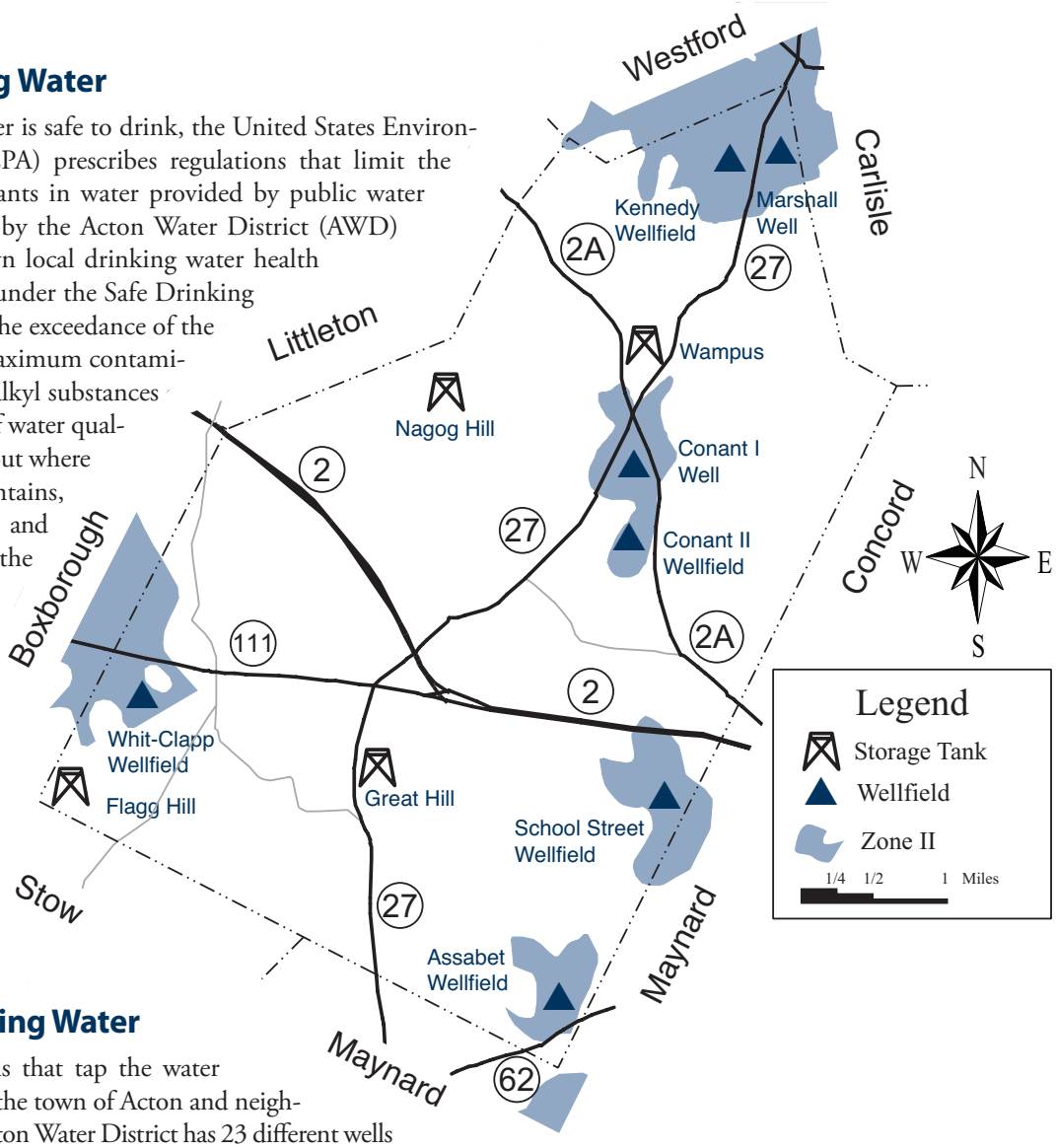
SUMMER 2022 PWS 2002000

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 2021, water supplied by the Acton Water District (AWD) met most EPA, state, and our own local drinking water health standards for chemicals regulated under the Safe Drinking Water Act (SDWA). Of note was the exceedance of the recently adopted Massachusetts maximum contaminant level for per- and polyfluoroalkyl substances (PFAS). This report is a snapshot of water quality in 2021. 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 23 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 over 135 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 on page 7.
- 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.

Water Quality Data Table

The data presented in the table below are from calendar year 2021 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.

Substance (units)	Range of Detects	Level Allowed (MCL)	Goal (MCLG)	Typical Source	Exceeds MCL?
Regulated Substances (MCL has been established)					
Alpha Emitters (pCi/L)	0–3.2	15	0	Erosion of natural deposits.	No
Arsenic (ppb)	0–6	10	0	Erosion of natural deposits.	No
Barium (ppm)	0.012–0.102	2	2	Erosion of natural deposits.	No
Chlorine (ppm)	0.01–2.20 Highest RAA: 0.18	4 (MRDL)	4 (MRDLG)	Water additive used to control microbes.	No
Combined Radium (pCi/L)	0–1.1	5	0	Erosion of natural deposits.	No
Fluoride (ppm)*	0–1.0	4	4	Water additive which promotes strong teeth.	No
Haloacetic Acid (ppb)	0– 9.7 LRAA: 8.6	60	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant.	No
Nitrate (ppm)	0.09–1.85	10	10	Runoff from fertilizer use. Leaching from septic tanks, sewage. Erosion of natural deposits.	No
Perchlorate (ppb)	0–0.19	2	No MCLG	Rocket propellants, fireworks, munitions, flares, blasting agents.	No
PFAS6 (ppt)	0–30.5 Highest quarterly average: 24.5	20	No MCLG	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams.	Yes
Trihalomethanes (ppb)	17–64 LRAA: 43	80	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant.	No
Turbidity (Nephelometric Turbidity Unit)	0.01–0.29 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)					
1,4-dioxane (ppb)	0.12–0.18	No MCL	No MCLG	Chemical solvent, lab reagent, stabilizer, adhesive, may be found in cosmetics, detergents, and shampoo.	Unregulated contaminants have no established MCL
Aluminum (ppb)	0– 65	No MCL	No MCLG	Residue from water treatment process Erosion of natural deposits.	
Chloride (ppm)	77.8–178	No MCL	No MCLG	Runoff and leaching from natural deposits.	
Chloroform (ppb)	0–29.9	No MCL	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant.	
Chlorodibromomethane (ppb)	0–4.14	No MCL	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant.	
Bromodichloromethane (ppb)	0–6.9	No MCL	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant.	
Bromoform (ppb)	0–0.82	No MCL	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant.	
Iron (ppm)	0–1.17	No MCL	No MCLG	Erosion of natural deposits.	
Manganese (ppb)	0–358	No MCL	No MCLG	Erosion of natural deposits.	
Nickel (ppb)	0–4	No MCL	No MCLG	Erosion of natural deposits.	
Perfluorobutancesulfonic acid (PFBS) (ppt)	0–7.2 Average: 4.7	No MCL	No MCLG	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams.	
Perfluorohexanoic acid (PFHxA) (ppt)	0–8.9 Average: 4.7	No MCL	No MCLG		
Sodium (ppm)	43.8–89.9	No MCL	No MCLG	Erosion of natural deposits, road salting.	
Sulfate (ppm)	9.4–25.9	No MCL	No MCLG	Natural sources.	

Lead and Copper (60+ sites sampled semi-annually, May/June and November/December 2021)					
Substance (units)	90th percentile	Action Level	# sites (# sites above Action Level)	Typical Source	Exceeds AL?
Lead (ppb)	10.0	15	61 (3)	Corrosion of household plumbing systems. Erosion of natural deposits.	No
Copper (ppm)	0.669	1.3	61 (0)	Erosion of natural deposits. Leaching. Corrosion of household plumbing systems. From wood preservatives.	No

For terms and abbreviations, see page 7.

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

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.

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

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

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. 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. One Level 1 assessment was completed. In addition, we were required to take three corrective actions and we completed all three of these actions.

During the past year, one Level 2 assessment was required to be completed for our water system. A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E.coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions. One Level 2 assessment was completed. In addition, we were required to take four corrective actions and we completed all four of these actions.

1,4-DIOXANE: During 2021 we 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*.

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. We implemented the new adjusted dose at all of our treatment plants in 2015.

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.

PFAS6: Some people who drink water containing these PFAS in excess of the MCL may experience certain adverse effects. These could include effects on the liver, blood, immune system, thyroid, and fetal development. These PFAS may also elevate the risk of certain cancers. The AWD began monitoring for PFAS in January 2020, before MassDEP required it. Results presented in the regulated table above are acceptable samples from our treated water during the 2021 calendar year. Additional PFAS detects were reported in the unregulated table above. More information is available at *www.actonwater.com/pfas*.

SODIUM: Although sodium does not have a Maximum Contaminant Level, 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.

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).

Irrigation systems that are connected to the water system are required to have a backflow prevention device, such as the one shown here, to prevent cross connections.

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 Assistant District 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; meetings are open to the public. The beginning of each meeting is set aside for public 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.

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.

Good to the Last Drop!

Since the early 2000's, the District has qualified for reduced lead and copper monitoring. Samples have been collected from 30 homes and two schools/child-care facilities in town once every three years to confirm the effectiveness of our corrosion control efforts. Aeration, primarily used for VOC removal, is often sufficient in raising the pH of our naturally corrosive water supplies from slightly acidic to neutral. As needed, further upward pH adjustment is achieved by adding potassium hydroxide. Upwardly adjusting the pH reduces the potential for metals like lead and copper to leach from building pipes and plumbing fixtures into the water carried through them.

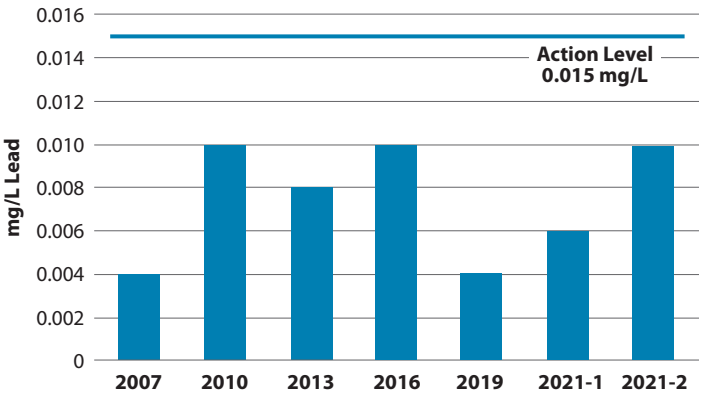
In July 2020, the District broke ground on the Central Acton Water Treatment Plant to improve water quality by filtering out naturally occurring iron and manganese at our Conant I and II wells. In October 2020, the Assabet 2 Well was reactivated to help restore some of the lost capacity at the South Acton Water Treatment Plant due to PFAS impacts. These system improvements triggered a return to semi-annual lead and copper monitoring at 60 homes and two schools/childcare facilities beginning in 2021. We anticipate this will continue through 2023 and possibly beyond as the District pursues additional water quality and capacity improvements.

Lead levels in more than 95% of the residential samples collected in 2021 were below the Action Level (AL). All AL exceedances were reported to homeowners immediately, follow-up sampling was conducted, and in most cases, the repeat sampling indicated low levels. Often, replacing old household plumbing fixtures that contained lead results in improved water quality. There were no AL exceedances for any of the samples collected in schools/childcare facilities as part of the 2021 program.

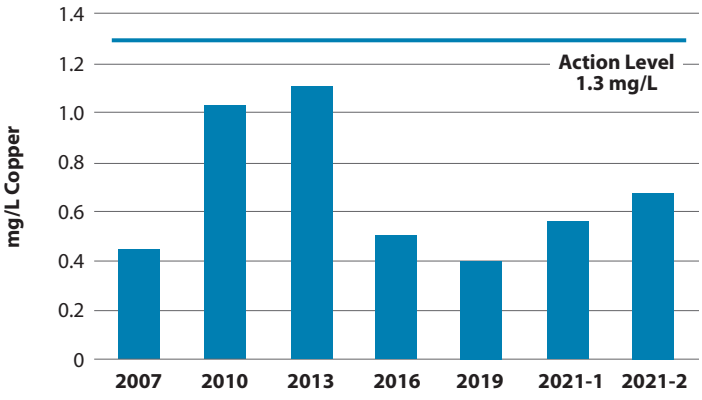
When your water has been sitting for several hours, like first thing in the morning or upon returning home from work, you can minimize your lead exposure by flushing your tap for two minutes or until the water becomes noticeably colder before using it for drinking, cooking, or preparing baby formula. Always use cold water for these activities, as lead dissolves faster in hot water than it does in cold. It's also important to note that boiling water does not decrease the level of lead; rather, it increases it. Additionally, the aerators on the end of your faucets should be removed at least every six months to rinse out any debris that may include particulate lead.

Of the more than 6,400 water service lines in our system, copper (shown above) and plastic are the most commonly used materials.

Lead Levels



Copper Levels



Lead and copper compliance data demonstrate effective corrosion control practices at our treatment plants, which reduce leaching of metals from building pipes and plumbing fixtures.