Calendar Year 2024
Drinking Water Quality Report
Andover, MA
Issued: June 2025

Massachusetts Department of Environmental Protection
Public Water Supply ID No. 3009000

Town of Andover
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Water & Sewer Division
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Dear Andover Water Customer,

We are pleased to share with you the Town of Andover's 2024 Annual Water Quality Report. This important publication—required by the Consumer Right-to-Know provisions of the Safe Drinking Water Act—provides you with clear, transparent information about the source and quality of your drinking water.

The report includes details about the origin of Andover's water supply, the treatment processes it undergoes, and the rigorous testing we perform to ensure it consistently meets or exceeds all federal and state drinking water standards. Our primary water source, Haggetts Pond, continues to provide high-quality drinking water thanks to the diligence of our water treatment professionals and continuous investment in our infrastructure.

Andover's certified water quality laboratory, along with our treatment and distribution staff, work around the clock to ensure the integrity of your water. Regular inspections, sampling, and system upgrades are part of our ongoing commitment to protecting public health and maintaining regulatory compliance.

In 2024, we continued to invest in critical improvements to our water treatment plant and distribution system. These efforts enhance reliability, support long-term sustainability, and prepare our system to meet future challenges. In addition to water quality information, this report offers conservation tips and resources for how you can help protect this vital community asset.

We encourage you to read through this report and reach out with any questions or feedback. Your partnership helps us continue delivering safe, clean, and dependable water to every household and business in Andover.

Sincerely,
Carlos L. Jaquez, P.E.
Director of Public Works

Inside this issue

Please share this information with all other people who drink this water, especially those who may not have received this notice directly (for example, people living in apartments, nursing homes, schools and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

About This Report

This consumer confidence report (CCR) is the twenty-seventh publication to be issued under the Environmental Protection Agency (EPA) regulations requiring annual notification to all consumers about local drinking water sources and water quality information. It is available to all consumers and delivered to the Andover Board of Health, the Massachusetts Department of Public Health (DPH), and the Massachusetts Department of Environmental Protection (MassDEP). Hard copies are available at the Memorial Hall Library, Town Hall, and the Municipal Services Facility. You may also obtain an electronic copy on the town's website at **https://andoverma.us/waterquality**. If you have any questions or comments about this report, you may contact the Water Treatment Plant at 978-623-8870, or by email at **dpw-treatment@andoverma.us**. We encourage public participation on issues concerning the town's drinking water. Meeting information for the Select Board, Planning Department and Board of Health can be found on the Town's website at **https://andoverma.us**. We welcome your interest in the Andover water system.

New

Water Restrictions

MassDEP passed revisions to the Water Management Act in January 2023 which require public water suppliers to restrict activities deemed to be non-essential outdoor water use, during times of declared drought.

There are outdoor water uses that will not be restricted, including water use for health and safety (i.e., fire-fighting and municipal pipe flushing, public facilities used for cooling such as splash pads and swimming pools); for the production of food, maintenance of livestock; functions essential to commercial operations of a business; irrigation of public parks and recreation fields, and more. Watch for public notices from the Andover Water Division in the near future.

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Did you know….

During 2024, Andover withdrew over 2.8 billion gallons of water from Haggetts Pond and the surrounding watershed which includes Fish Brook and the Merrimack River to produce high quality drinking water.

Andover Water Division provides drinking water to a neighbor community. North Reading purchased an average of 1.52 million gallons per day during Calendar Year 2024.

Sources of Andover's Drinking Water

Andover's Drinking Water comes from Haggetts Pond (PWS3009000-01S) and the surrounding 1,422 acres of watershed area. The pond is also supplemented with additional waters from Fish Brook (PWS3009000-02S) and the Merrimack River (PWS3009000-03S). The Merrimack River is the fourth largest watershed in New England, encompassing over 5,000 square miles, and 3,200,000 acres. A combination of the three surface water sources is used to produce up to 18 million gallons of drinking water per day and over 2.6 billion gallons of drinking water per year. Andover retains 14 million gallons of water storage in the distribution system. This storage helps maintain consistent water pressure throughout the 257 miles of underground pipes that deliver drinking water to homes and businesses.

Haggetts Pond—Your Drinking Water

How Are These Sources Protected?

MassDEP prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving Andover's water system. The purpose of the assessment was to determine the susceptibility of drinking water sources to potential contaminant sources (PCS) so that we can focus protection efforts. The results of the assessment are available in the SWAP report which is available online at **https://www.mass.gov/doc/northeast-region-source-water-assessment-protection-swap-program-reports/download.** Andover was assigned a high susceptibility ranking based on the presence of at least one high threat land use within the water supply protection areas. The high threat activities listed by DEP are those that typically use, produce, or store contaminants of concern, which if managed improperly, are potential sources of contamination. It is important to understand that a release may never occur from the potential source, and the actual risk may be lower than the relative threat ranking assigned to it. Additionally, all drinking water sources are protected under the National Pollutant Discharge Elimination System (NPDES) permit program enforced by the state and federal government. To learn more, visit: **https://www.epa.gov/npdes**.

Protecting Our Water Resources

Andover Water Division's Surface Water Protection Plan

Andover has been an industry leader making continual improvements to its water system. The Water Treatment Plant continues to maintain a comprehensive Surface Water Supply Protection Plan, which was reviewed and approved by MassDEP, and includes recommendations for watershed monitoring, treatment plant operations, local road salting practices, emergency response planning and preparedness, educational programs and inter-community cooperation on water supply issues. We strive to implement proactive measures to ensure that drinking water delivered to our customers meets all federal and state drinking water standards.

Contaminants That May Be Present in Drinking Water

The 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 human activity. Contaminants that may be present in source water include:

Microbial contaminants such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

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

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

Organic chemical contaminants including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants which can be naturally occurring or be the result of oil and gas production and mining activities.

Other Important Health Information

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

What US EPA Says About Contaminants and Health Risks

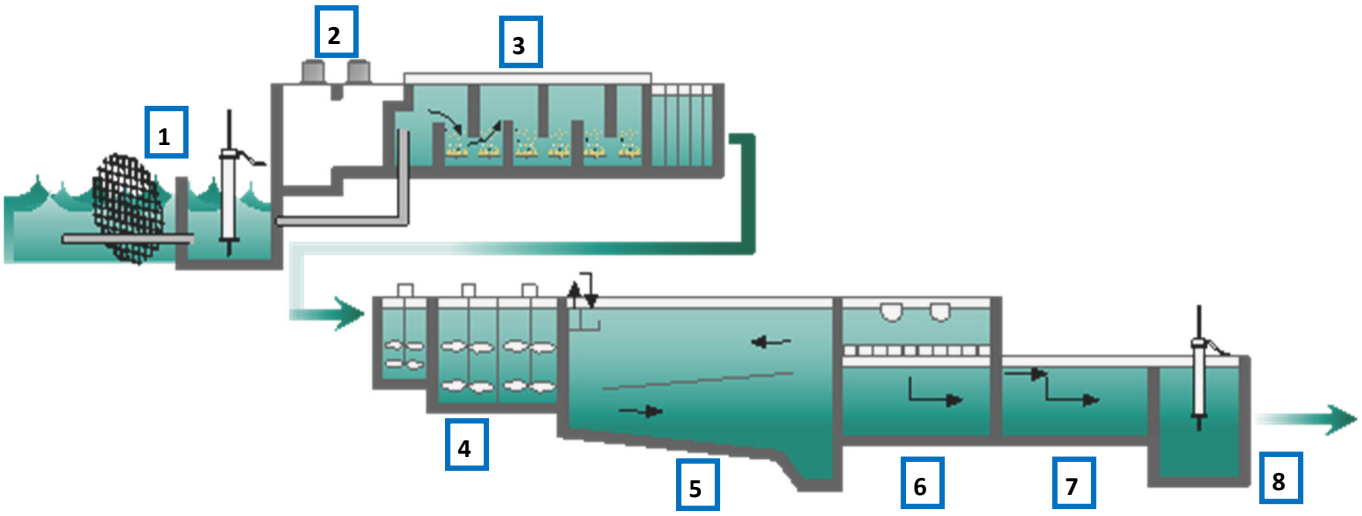
Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

In order to ensure that tap water is safe to drink, MassDEP and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public health (MassDPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health. In order for the water plant to service residents, it must follow these limits that are constantly monitored by MassDEP.

Water Treatment Process

We are proud of the exceptional quality of water that flows to your household or business daily. We treat it very carefully at our water treatment plant to enhance its quality. Source water transferred from Fish Brook and the Merrimack River into Haggetts Pond is drawn into the water treatment plant, which purifies millions of gallons of raw water daily. The water treatment plant process consists of a series of physical and chemical steps designed to produce a safe and consistent quality product. Fluoride is added to the finished water to about 0.7 ppm to prevent tooth decay and cavities. At this level it is safe, odorless, colorless and tasteless. Visit https://andoverma.us/water-sewer to view a virtual tour of the water treatment plant.

To ensure that we provide the highest quality of water available, your water system is operated by Massachusetts certified operators who oversee the routine operations of our system. The water quality of our system is constantly monitored by Water Division staff in our on-site laboratory, and by MassDEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required.



Water from Haggetts Pond travels through screens (1) and is then pumped to the ozone facility (2) where it is ozonated. This process removes tastes and odors, reduces organics and aids in disinfection (3). The water then flows to the rapid mix and flocculation basins (4) to mix with chemicals at different rates of speed. The chemicals attach to contaminants in the water, and the mixing causes the particles to cluster. The clustered particles settle in the slow-moving water in the sedimentation basins (5). The water is then filtered through granulated activated carbon to further remove tastes, odors, and fine particles (6). The filtered water is stored in a clearwell (7) at the plant, where it is further disinfected with chlorine. At the final stage, filtered water is pumped to the distribution system (8) where storage tanks provide water to meet the demands of the customers.

Source Water

Filtration

Storage

Water Quality Test Results for 2024

During the year, we have taken hundreds of water samples to determine the presence of any biological, inorganic, volatile organic or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The values reported in the tables are the highest level of each detected contaminant as well as the range of levels detected for each contaminant. While Andover maintains a certified water quality laboratory at the treatment plant, some of the analysis are performed by outside laboratories. The water quality information presented in the tables is from the most recent round of testing done in accordance with the regulations. All data shown was collected during calendar year 2024 unless otherwise noted.

Regulated Substances							
Parameter (units)	**Date(s) Collected**	**Maximum Amount Detected[1]**	**Range of Detection[2]**	**MCL**	**MCLG**	**Violation**	**Typical Source**
Fluoride (ppm)	daily	0.84	0—0.84	4	4	No	Water additive which promotes strong teeth.
Fluoride has a secondary contaminant level (SMCL) of 2 ppm to better protect human health.							
Barium (ppb)	1/11/2024	11	NA	200	200	No	Discharges of drilling wastes, discharges from metal refineries; erosion of natural deposits.
Bromate (ppb)	monthly	1.1[3]	<0.28—2.0	10	0	No	By-product of drinking water disinfection using ozone.
Nitrate (ppm)	1/11/2024	0.13	NA	10	10	No	Run-off from fertilizer use; Leaking septic tanks; Erosion of natural deposits.
Perchlorate (ppb)	7/11/2024	0.12	NA	2	N/A	No	Rocket propellants, fireworks, munitions, flares, blasting agents.
Turbidity[4] (ntu)	daily	0.41	0.02—0.41	TT = 1.0 max TT <0.3 (95% of time)	N/A	No	Soil run-off

In 2024, the Water Treatment Plant fluoride system was rehabilitated due to aging infrastructure. The rehabilitation consisted of two new bulk storage tanks, a new day tank, two new injection pumps, new fill and injection piping, electrical and instrumentation upgrades, and new room lighting. In 2025, the containment area will undergo concrete repairs, including an application of a chemical-resistant coating.

According to the Commonwealth's Department of Public Health, "Fluoride added to community drinking water at a concentration of 0.7 to 1.2 parts per million has repeatedly been shown to be a safe, inexpensive, and extremely effective method of preventing tooth decay." These upgrades will ensure a consistent and reliable delivery of fluoridated water to all water customers in Andover and North Reading.

Before

After

Water Quality Test Results for 2024, continued

Chlorine Disinfection

Chlorine is added to your drinking water for disinfection purposes. Chlorine residual is necessary to maintain disinfection throughout the distribution system. We are required to monitor the concentration of chlorine residuals entering the distribution system.

The use of chlorine and other disinfectants such as ozone reduces the risk of waterborne disease; however, they can also create compounds known as disinfection by-products (DBPs). The EPA regulates DBPs because they are a potential health risk. Total trihalomethanes (TTHMs) and Haloacetic acids (HAAs) are by-products of drinking water disinfection. They form when chlorine is added to the water that contains naturally occurring organic matter. These compounds are monitored quarterly by collecting samples at 4 separate locations within the distribution system.

Chlorine

Parameter (units)	Date(s) Collected	Maximum Amount Detected[1]	Range of Detection[2]	MRDL	MRDLG	Violation	Typical Source
Chlorine[5] (ppm)	40 times/ month	1.65	0.05—1.65	4	4	No	Water additive to control microbes.

Disinfection By-products

Parameter (units)	Date(s) Collected	Highest Quarterly Running Average[6]	Range of Detection[7]	MCL	MCLG	Violation	Typical Source
Haloacetic Acids (HAA5, ppb)	quarterly	11	3.4—12	60	N/A	No	By-product of drinking water disinfection.
Total Trihalomethanes (THMs, ppb)	quarterly	61	32—66	80	N/A	No	By-product of drinking water disinfection.

Parameter (units)	Date(s) Collected	Result or Range Detected[2]	ORSG	Violation	Typical Source
Bromodichloro-methane (ppb)	quarterly	4.2—17	none	No	Trihalomethane; by-product of drinking water chlorination.
Chlorodibromo-methane (ppb)	quarterly	3.0—8.6	none	No	
Bromoform	quarterly	0.49—0.88	none	No	
Chloroform (ppb)	quarterly	3.2—40	70	No	

Bacteria Indicator Contaminants

Parameter (units)	Date(s) Collected	Maximum Amount Detected[1]	Range of Detection[2]	MCL	MCLG	Violation	Typical Source
Heterotrophic Plate Count (cfu/mL)	weekly	TNTC	<1—TNTC	500	N/A	No	Heterotrophic plate count is an indicator method that measures a range of naturally-occurring bacteria in the environment.

Water Quality Test Results for 2024, continued

Total Organic Compounds (TOC) samples are collected and analyzed monthly from both the raw water and the Clear-well, just prior to the water entering the distribution system. The removal efficiency of organic compounds demonstrates the effectiveness of the treatment process.

Total Organic Carbon							
Parameter (units)	**Date(s) Collected**	**Maximum Amount Detected[1]**	**Range of Detection[2]**	**MCL**	**MCLG**	**Violation**	**Typical Source**
Total Organic Carbon (ppm)	monthly	2.391	0.961—2.391	TT = 35 - 45% removal	N/A	No	Naturally present in the environment

Gross Alpha Particle Activity samples are collected every nine years, as the state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Sampling was last conducted in January 2023. Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters and/or Radium-226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

Gross Alpha Particle Activity					
Parameter (units)	**Date(s) Collected**	**Result**	**MCL**	**Violation**	**Typical Source**
Gross Alpha (pCi/L)	1/5/2023	-0.555	15	No	Erosion of natural deposits
Radium-226 and Radium –228 (pCi/L)	1/5/2023	0.676	5	No	Erosion of natural deposits

Secondary contaminants are those substances that are not health threatening but may cause a variety of issues such as aesthetic effects—undesirable taste and odors; cosmetic effects; and technical effects—such as damage to water equipment or reduced effectiveness of treatment for other contaminants.

Secondary Substances						
Parameter (units)	**Date(s) Collected**	**Result or Range Detected[2]**	**Average Detected**	**SMCL**	**ORSG or Health Advisory**	**Typical Source**
Manganese[8] (ppb)	1/11/2024 4/11/2024 6/11/2024 7/11/2024 8/15/2024 9/19/2024 10/2/2024 11/12/2024 12/5/2024	11 3.7 17 73 28 8.8 54.9 65.6 23.9	31.8	50	300*	Erosion of natural deposits

***** US EPA and MassDEP have established public health advisory levels for manganese to protect against concerns of potential neurological

Manganese is a naturally occurring mineral found in rocks, soil and 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 US EPA and MADEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese at 50 ug/L , or 50 ppb. In addition, MADEP'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 ug/L, the water may be discolored and taste bad.

Water Quality Test Results for 2024, continued

Over a lifetime, the EPA recommends that people drink water with manganese levels less than 300 ug/L and over the short term, EPA recommends that people limit their consumption of water with levels over 1000 ug/L, primarily due to concerns about possible neurological effects. Children up to 1 year of age should not be given water with manganese concentrations over 300 ug/L, nor should formula for infants be made with that water for longer than 10 days. 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 6 months of age to children up to 1 year of age to address concerns about children's susceptibility to manganese toxicity. See EPA Drinking Water Health Advisory for Manganese, and MADEP Office of Research and Standards Guideline (ORSG) for Manganese at **https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_magnese_dwreport_0.pdf** and **https://www.mass.gov/doc/massdep-office-of-research-and-standards-guideline-orsg-for-manganese/download**

Secondary Substances, continued

Parameter (units)	Date(s) Collected	Result or Range Detected[2]	Average Detected	SMCL	ORSG or Health Advisory	Typical Source
Alkalinity (mg/L, as CaCO3)	1/11/2024	25	-	none		
Aluminum (ppm)	1/11/2024	0.14	-	0.2	N/A	Residue from water treatment process; erosion of natural deposits.
Calcium	1/11/2024	10	-	none		
Chloride (ppm)	1/11/2024	76	-	250	N/A	Runoff and leaching from natural deposits.
Hardness (as CaCO3)	1/11/2024	32	-		N/A	
Magnesium (ppm)	1/11/2024	2.4	-			
pH**	monthly	8.4—9.3	8.9	6.5 - 8.5	N/A	Runoff and leaching from natural deposits; adjustment at water treatment plant for corrosion control.
Potassium (ppm)	1/11/2024	2.6	-		N/A	
Sodium[9] (ppm)	1/11/2024	54	-	20	N/A	Discharge from use and improper storage of sodium containing de-icing compounds or in water softening agents.
Sulfate (ppm)	1/11/2024	24	-	250	N/A	Runoff and leaching from natural deposits; industrial wastes.
Total Dissolved Solids (TDS) (ppm)	1/11/2024	200	-	500	N/A	Runoff and leaching from natural deposits.

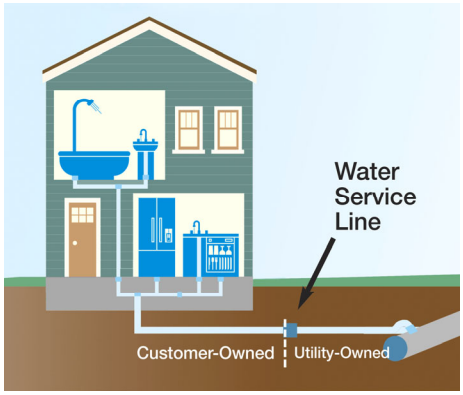
** The pH was measured at several locations in the distribution system. The pH of the water entering the distribution system is adjusted higher for corrosion control purposes.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. In 2024, Andover Water Division failed to test for mercury and cyanide, as part of the annual sampling effort for inorganic compounds (IOCs), and therefore cannot be sure of the quality of your drinking water during that time. We have since taken the required samples and the results showed we are meeting drinking water standards. Testing conducted in previous years have shown these contaminants are below the analytical detection limits. Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses).

Lead and Copper Test Results and Information

During 2024, Andover completed a lead and copper sampling program, collecting 32 samples between June and September from homes with a lead service line or lead solder. US EPA requires that 9 out of 10 homes tested (90th percentile) must have lead levels below the Action Levels, which are 15 ppb for lead and 1300 ppb for copper. The results are presented below.

Lead and Copper (Minimum of 30 sites during one monitoring period in 2024)						
Parameter (units)	**Monitoring Period**	**90th Percentile**	**Action Level**	**MCLG**	**# Sites Above Action Level**	**Possible Sources of Contamination**
Lead (ppb)	6/1/24 - 9/30/24	4.3	15	0	0	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives (copper).
Copper (ppb)	6/1/24 - 9/30/24	54	1300	1300	0	



Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Andover Water Division is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. In April 2022, the Town of Andover entered into a Voluntary Administrative Consent Order to fully remove lead service lines (LSLs) and investigate all the service lines of unknown material composition to determine whether or not a LSL was in use. The Water Division continues to fully remove known LSLs, and those that are discovered during routine maintenance or water main replacement work. Adjustments to the treatment process, which included increasing the pH of the water as it enters the distribution system, were implemented to improve corrosion control measures which limit the potential for lead to leach from lead lined services and lead solder. We are obligated to report our progress of removing and investigating LSLs, and monitor and report water quality parameters of water within the distribution system. We are pleased to report that 115 lead service lines were removed from the water distribution system in 2024; and the Water Division completed its investigation of service lines with unknown material composition. We are pleased to report that only 13 lead or galvanized requiring replacement service lines exist in town. If your home has a lead or galvanized requiring replacement service line, the homeowner is notified on a routine basis. Our goal is to remove all lead or galvanized water services in town.

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 Andover Water Division is responsible for providing high quality drinking water, and removing lead pipes but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home and plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry, or a load of dishes. Iyou can also use a certified filter by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water, and wish to have your water tested, contact the Andover Water Division at **dpw-treatment@andoverma.us** or by phone at (978) 623-8870 . Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at **https://epa.us/safewater/lead.**

There is no safe level of lead in drinking water. Exposure to lead in drinking water can cause serious health effects in all age groups, especially pregnant people, infants (both formula-fed and breastfed), and young children. Some of the health effects to infants and children include decreases in IQ and attention span. Lead exposure can also result in new or worsened learning and behavior problems. The children of persons who are exposed to lead before or during pregnancy may be at increased risk of these harmful health effects. Adults have increased risks of heart disease, high blood pressure, kidney or nervous system problems. Contact your health provider for more information about your risks.

Per-and Polyfluoroalkyl Substances (PFAS) Test Results and Information

In 2020, MassDEP published its PFAS public drinking water standard called a Massachusetts Maximum Contamination Level (MMCL) of 20 nanograms per liter (ng/L, or parts per trillion, ppt) – individually or for the sum of the concentrations of six specific PFAS compounds. These six are: perfluorooctane sulfonic acid (PFOS); perfluorooctanoic acid (PFOA); perfluorohexane sulfonic acid (PFHxS); perfluorononanoic acid (PFNA); perfluoroheptanoic acid (PFHpA); and perfluorodecanoic acid (PFDA). MassDEP abbreviates this set of six as "PFAS6." The drinking water standard is set to be protective against adverse health effects for all people consuming the water.

Andover conducted quarterly sampling for PFAS in January, April, July, and October 2024. The results of the quarterly sampling are summarized in the table below. We are happy to report that concentrations of PFAS6 in your drinking water were below the Massachusetts Maximum Contaminant Level (MMCL), which is the highest level of contaminant allowed in drinking water by MassDEP, individually or for the sum of the concentrations of six specific PFAS compounds.

Parameter (units)	Date(s) Collected	Highest Quarterly Average	Range of Detection[2]	MMCL (ppt)	Violation	Possible Sources of Contamination
PFAS6 (ppt)	quarterly	3	2—5	20	No	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 PFAS, such as fire-fighting foams.
Unregulated PFAS Substances						
Parameter (units)	**Date(s) Collected**	**Average**	**Range of Detection[2]**	**ORSG**	**Violation**	**Possible Sources of Contamination**
Perfluorohexaconic acid (PFHxA, ppt)	quarterly	3	3—4	20	No	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 PFAS, such as fire-fighting foams.

Water treatment technologies have been tested and have demonstrated that PFAS can be removed from drinking water. One such technology is the use of activated carbon. As described on page 4 of this document, one of the final treatment stages at the Andover Water Treatment Plant is filtration through granular activated carbon filter beds.

Consuming water with levels of PFAS6 above the drinking water standard does not mean adverse affects will occur. The degree of risk depends on the level and duration of exposure. The drinking water standard assumes that individuals only drink contaminated water, which overestimates exposure. It also assumes that consumers are exposed to PFAS6 through other exposures as well. PFAS have been used in many consumer products, and most people have had exposure to them through the use of everyday products including: food packaging, non-stick cookware, cosmetics, stain resistant and water resistant coatings used on clothing, carpeting, and furniture.

Water Quality Testing Notes and Definitions

Table Notes:

[1] We are obligated to report the maximum value detected during the analyses of multiple samples of drinking water collected during the calendar year.

[2] The values listed are the overall range of results that were recorded during multiple tests of the drinking water conducted during the calendar year.

[3] The value reported for bromate is the average of the 12 monthly sample results.

[4] Turbidity is a measurement of the cloudiness of the water. It is a good indicator of the effectiveness of the filtration system.

[5] The concentration of chlorine added to the distribution system is continuously monitored. We report weekly measurements for chlorine residual concentrations within the distribution system.

[6] This is the highest average value calculated for all the locations where THMs and HAA5 were sampled during the calendar year.

[7] The values in this range are based on individual numbers rather than averages.

[8] EPA has established a lifetime health advisory (HA) value of 300 ppb for manganese to protect against concerns of potential neurological effects, and a one-day and 10-day HA of 1000 ppb for acute exposure.

[9] Sodium is naturally present in the environment and the raw water treated for drinking water is at levels above the MassDEP Guideline of 20 ppm. This value is strictly a guideline and does not imply that a value greater than 20 ppm imposes a risk. The water treatment process does not remove sodium from the water.

Definitions

Maximum Contaminant Level (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG's as feasible using the best available treatment technology. **Maximum Contaminant Level Goal (MCLG)** is 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 Residual Disinfectant Level (MRDL)** is the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant (i.e., chlorine, chloramines, chlorine dioxide) is necessary for control of microbial contaminants. **Maximum Residual Disinfectant Level Goal (MRDLG)** is the level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of disinfectants to control microbial contaminants. **Massachusetts Maximum Contaminant Level (MMCL)** is the highest level of contaminant allowed in drinking water by Massachusetts Department of Environmental Protection, individually or for the sum of the concentrations of six specific PFAS compounds. **Treatment Technique (TT)** is the required process intended to reduce the level of a contaminant in drinking water. **PPM** is parts per million, or milligrams per liter (mg/l). **PPB** is parts per billion, or micrograms per liter (ug/l). **PPT** is parts per trillion or nanograms per liter (ng/l). **NTU** is Nephelometric Turbidity Units. **NA** means Not Applicable. **Secondary Maximum Contaminant Level (SMCL)** are standards developed to protect aesthetic qualities of drinking water and are not health based. **Office of Research and Standards Guidelines (ORSG)** are concentrations of a chemical in drinking water at or below which adverse health affects are unlikely to occur after chronic exposure. If exceeded, potential further action may be needed. **pCi/L** is picocuries per liter (a measure of radioactivity). **Action Level (AL)** is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. **90th Percentile** means that out of 10 homes sampled, 9 were at or below the level. This number is compared to the Action Level to determine lead and copper compliance. **Unregulated Contaminants** are those for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted. **Running Annual Average (RAA)** is the average of four consecutive quarters of data.

Clean Water is Important to All of Us

Did you know……

- ◊ More than 60% of water pollution comes from stormwater run-off which picks up pollutants like leaking oil from cars, fertilizers from yards and gardens, and failing septic tanks.
- ◊ If you use too much fertilizer or apply it at the wrong time, it can wash off your lawn or garden into storm drains and flow into a nearby storm drain that flows into streams and ponds.
- ◊ Fertilizer in streams and ponds make aquatic plants grow too, but contributes to extra algae which creates water quality problems.
- ◊ The Town of Andover has a Pesticide Use Policy managed by the Board of Health.

Here are additional helpful tips for reducing stormwater pollution:

- ◊ When washing your car or boat, park where the soap will run onto the grass, rather than onto the street and into a storm drain. And use organic or mild soaps and detergents.
- ◊ Never discharge pool or hot tub water directly into a storm drain.
- ◊ Use a neutralizing chemical to dechlorinate pool, hot tub, or spa water when discharging water to the ground. If unable to dechlorinate the water, have it collected by a pool maintenance company.
- ◊ Maintain your septic system—leaking systems release nutrients, bacteria and viruses into stormwater. Inspect your system every 3 years and pump your tank as necessary (every 3-5 years).

Stormwater Management

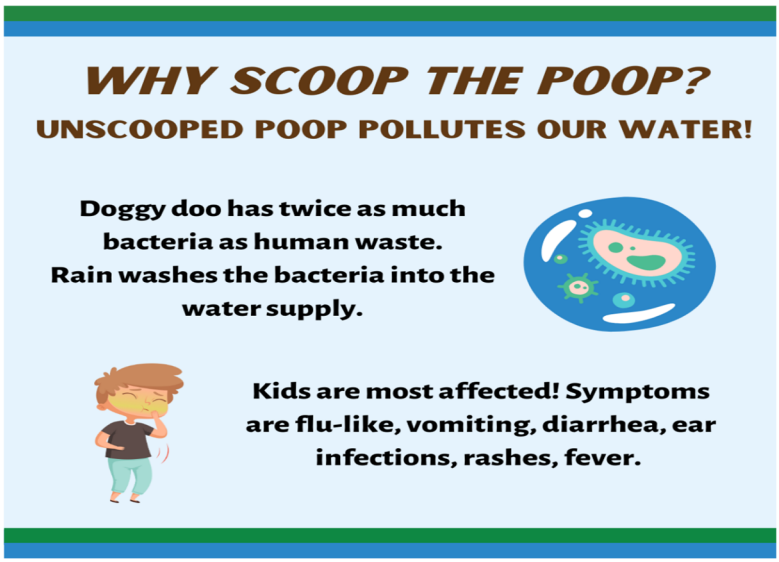
Where does stormwater pollution come from? Stormwater can pick up debris, chemicals, dirt and other pollutants and flow untreated directly into a stream, river, wetland or pond used for swimming, fishing, or for drinking water. Polluted stormwater runoff can have many adverse impacts on plants, animals and fish; and also affect your drinking water sources. Visit the Town's website for more information at **https://www.andoverma.us/stormwater**.
Issues and concerns can be addressed to the Town's Engineering Department at 978-623-8770.

Lawn Care: excess fertilizer and pesticides applied to lawns and gardens wash off and pollute streams. Use pesticides and fertilizers sparingly. Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.

Recycle or dispose properly of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil. Dispose of these products at a household hazardous waste collection event.

Auto Care: Washing your car can send detergents and other contaminants into catch basins that flow directly to water bodies. Use a commercial car wash or wash your car on the lawn so water infiltrates into the ground.

Pet Waste can be a major source of bacteria and excess nutrients in local waters. When walking your pet, remember to pick up the waste and dispose of it properly.



Water Conservation

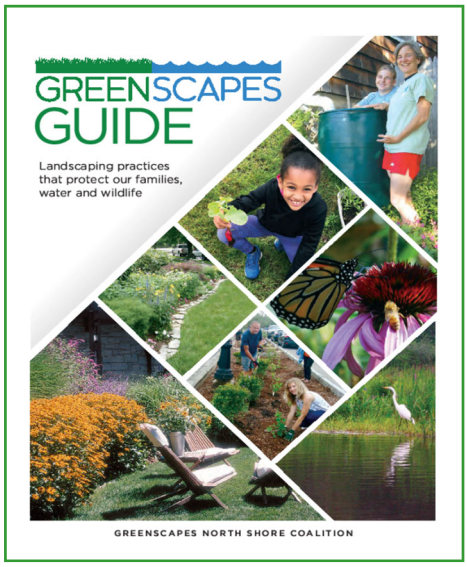
Water resources are vital for the functioning of our homes and our community. Andover residents and businesses use a significant amount of water for lawn irrigation during peak demand months; May to October of each year. By consuming less water, you help preserve our resources. More efficient water use begins with individuals.

MassDEP has implemented new regulations which will require public water suppliers to implement restrictions on non-essential water use during droughts. Drought declarations will be made by the Massachusetts' Secretary of Energy and Environmental Affairs, and will be made for a region, county or watershed. The non-essential water use restrictions are summarized as follows:

- **Level 1 (Mild Drought):** All non-essential outdoor water uses are restricted to no more than one day per week, before 9 a.m. and after 5 p.m., except that watering of ornamental and flower gardens with drip irrigation, hand-held hose or watering cans may be permitted.
- **Level 2 (Significant Drought):** All non-essential water uses are banned, except that watering of ornamental and flower gardens with drip irrigation, hand-held hose or watering cans may be permitted.
- **Level 3 (Critical Drought) or Level 4 (Drought Emergency):** All non-essential outdoor water uses are banned.

Restrictions on non-essential water use shall remain in place until the drought level is changed by the Secretary.

Look for public outreach by the Andover Water Division during the spring and summer. You can also monitor the drought status at: mass.gov/ma-drought-management. The Water Division continuously monitors the water demand and levels in our storage tanks and reservoirs to ensure we provide high quality water and fire protection.



Andover is a sponsor of Greenscapes North Shore. Check out their website at: https://greenscapes.org, where you will find the Greenscapes Guide and other valuable information on water-smart landscaping and lawn care practices to help promote water conservation and the protection of our natural resources.

Please do your part!

Limit lawn watering, especially during a drought. Lawns naturally go dormant during dry conditions, and will revive when conditions improve.

Minimize landscape water needs through water-smart landscaping principles. Maintain healthy soils; choose native and low-maintenance plants; use mulch to reduce evaporation.

Minimize outdoor water use. Cover swimming pools when not in use to prevent evaporation; sweep driveways, walks and patios with a broom rather than hosing them off.

Andover is a sponsor of US EPA's WaterSense Program. As a partner we are committed to promoting indoor and outdoor water efficiency: from conserving water resources to promoting WaterSense certified products. For more information, visit: https://www.epa.gov/watersense

EPA WaterSense PARTNER

Look for the WaterSense label to find water-efficient products that meet EPA's criteria for efficiency and performance. The products and services are certified to use at least 20 percent less water, save energy and perform as well or better than regular models. You can find WaterSense products at your local retailer, including: toilets, showerheads, bathroom faucets, spray sprinkler bodies and irrigation controllers.

Cross Connections

Andover Water Division makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works hard to protect the quality of the water delivered to our customers from the withdrawal point from Haggetts Pond throughout the entire treatment and distribution system. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross connection?

A cross connection occurs whenever there is a potential or actual connection between the public water supply and a source of contamination or pollution.

Backflow is the flow of water or other liquids, mixtures, or substances into the water distribution piping from any source. This can occur when there is **backpressure**— the reversal of normal flow due to an increase in the downstream pressure above that of the supply line; or when there is **backsiphonage**— the reversal of normal flow in the water piping caused by a negative pressure in the supply line.

Examples of backflow conditions include: a sudden decrease in the water supply line pressure due to a water main break or nearby firefighting use of hydrant. **The most common form of a cross connection is the use of a garden hose** as it can be easily connected to the potable water supply and used for a variety of dangerous applications. For example, garden hoses are often left submerged in swimming pools, attached to chemical sprayers for fertilizer or herbicides, or left laying on the ground which can be contaminated with garden chemicals.

Here are a few recommendations to protect the potable water supply.

◊ Use a Hose Bibb Vacuum Breaker—install one on every sill cock at your home.

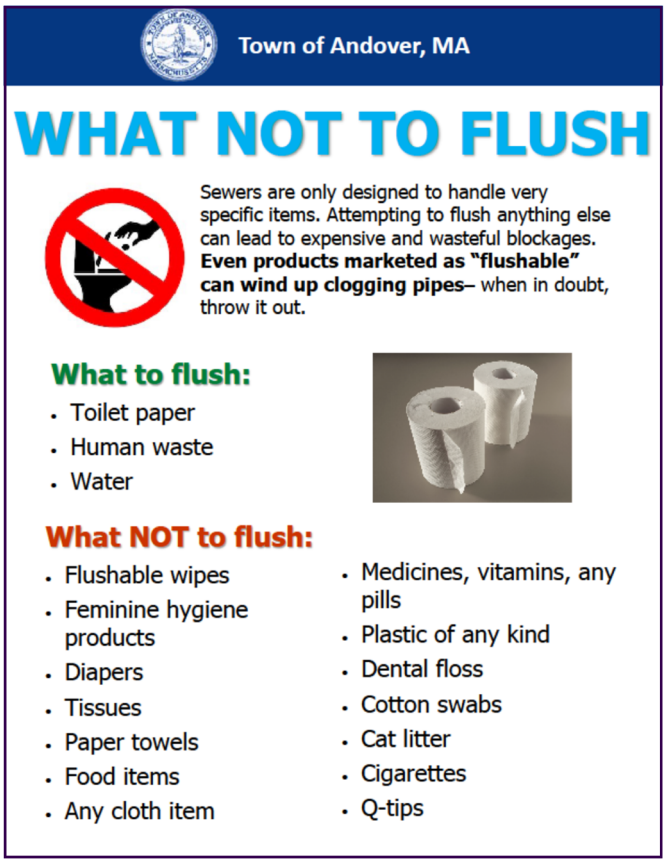
◊ When filling your pool, place the hose outlet at least 2 inches above the water surface to create an air gap.

Protecting Your Sewer System

The Town of Andover sewer system is comprised of a sewer collection piping system which is directed to Greater Lawrence Sanitary District. In some areas of town not serviced by the municipal sewer system, homes have a private septic system. The "What Not to Flush" Advisory applies to all homes, whether they are served by the municipal or private sewer systems.

Additionally, fats, oils and grease (FOG) which come from common food and cooking waste from garbage disposals should not be disposed of via your household drains. Over time, grease cools and hardens in the sewer disposal lines and cause a build-up, and eventually block the piping leading to raw sewerage overflow. Examples of FOG:

◊ Butter, Shortening, Lard, Cooking Oils
◊ Food Scraps
◊ Sauces, Salad Dressings
◊ Dairy Products
◊ Coffee Grinds
◊ Meat
◊ Baking Goods



Did you know…

- ◊ Andover Water Division has 10,000 service connections.
- ◊ There are 3 separate pressure zones within the distribution system.
- ◊ There are 257 miles of water mains throughout town.
- ◊ There are 2,400 hydrants.

Improvements to the Water System

- ◊ During 2024, in collaboration with the Engineering Division, the Water & Sewer Division continued the water main replacement program primarily targeting unlined and mains with a history of breaks. This effort is highly dependent upon communication and coordination within DPW, other Town departments, as well as residents and businesses.
- ◊ Approximately 12,000 feet of water main was installed in 2024, and nearly 5,000 feet of unlined cast iron water main was removed as part of our parallel main removal initiative.
- ◊ In 2024, the installation of a new 20 inch Transmission Main continued on Argilla Road. This project is the first of a multi-phased plan aimed to establish redundancy in the distribution system. This transmission main project is the first of its kind in decades.
- ◊ Water Main Flushing continued in 2024. The Central Low area of Town was completed in 2024. Unidirectional flushing (UDF) has been the technique adopted by the Town, and is designed to bring water through the distribution system in a controlled fashion at velocities sufficient to provide a scouring action within the piping.

A 20" gate valve and hydrant tee installed on the new transmission main on Argilla Road.

Accomplishments in 2024

WATER DISTRIBUTION	
Hydrants Repaired	17
Hydrants Replaced	33
Hydrants Inspected & Serviced	84
Hydrants Flushed	373
Water Main Breaks Repaired	24
House Service Leaks Repaired	7
House Services Renewed	13
New Water Meter Accounts/Installations	47
Old Water Meters Replaced (Town)	375
Water Shut Offs/Turn On	92
Water Main Construction (ft)	11964
Parallel Water Main Removal (ft)	4890
Lead Service Line (LSL) Removal	115

As part of the federal Lead and Copper Rule Revisions (40CFR Parts 141 and 142, January 2021), water systems across the U.S. are required to create an inventory of their water service materials and identify any lead or lead-containing services. **You may view the Town's full inventory at 5 Campanelli Drive, Andover, MA 01810**.

Protect Haggetts Pond
Your Drinking Water Reservoir

Haggetts Pond is one of Andover's most iconic natural features; with its beautiful shorelines, calm waters, and surrounding forest, the pond attracts hundreds of Andover residents each year in search of accessible mobility trails, or a quiet spot for bird-watching. Please be reminded that Haggetts Pond also serves as the Town's primary drinking water reservoir; the entirety of the Town's drinking water passes through the pond, and there is no backup source available. As such, it is imperative that we all do our part in ensuring that Haggetts Pond remains clean and free of contamination. With that in mind, a number of restrictions are currently in place to ensure the pond remains available for shared use, without negatively impacting water quality.

Permissible Activities

Passive Recreation: Walking, wheel chair use, jogging, biking, etc. on established trails

Fishing: from Shoreline or Rowboat **only** *(Must have valid town registration)*

Boating: Rowboats **only**. Absolutely **No motors of any kind**. No electric or gas-powered motors.

Boats must be registered. Registrations are available at the Town Treasurer's Office located at 36 Bartlet Street, during normal business hours, and only after obtaining a MA State Fishing License.

Restricted Activities

No Swimming, Bathing, or Wading

No dogs or other animals may enter the water

No Hip-waders shall be worn—Fish from the shoreline or a rowboat

No Ice Fishing
No Ice Skating
No Canoes
No Kayaks
No Windsurfers
No Paddleboards
No Sailboats
No Kitesurfing/kiteboarding

Storage of Boats

Storage of boats is only allowed with a valid town registration. Any boats not properly registered shall be considered abandoned and disposed of accordingly.

Town of Andover
Department of Public Works
Carlos Jaquez
Director

Water & Sewer Division
(978) 623-8700

Water Treatment Plant
397 Lowell Street
Andover, MA 01810
(978) 623-8870
dpw-treatment@andoverma.us

Brian Peña
Superintendent

Karen Martin
Laboratory Director/
Environmental Coordinator

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Water Distribution and Sewer Collection
Municipal Services Facility
5 Campanelli Drive
(978) 623-8860
dpw-watersewer@andoverma.us

Jeffrey Crane
Superintendent

Water Billing Question?
Call (978) 623-8906

Need an Irrigation Meter?
Call (978) 623-8700
Monday-Friday
8:00 am—3:30 pm