

ANNUAL WATER QUALITY REPORT

Reporting Year 2021




Presented By
Town of Uxbridge
Water Department



We've Come a Long Way

We are proud to present our annual water quality report covering the period between January 1 and December 31, 2021. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at all hours—to deliver the highest-quality drinking water without interruption. Although the challenges ahead are many, we feel that by investing in customer outreach, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

Lead in Home Plumbing



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. We are responsible for providing high-quality drinking water, but we 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 at (800) 426-4791 or online at: www.epa.gov/safewater/lead.

Where Does My Water Come From?

The Town of Uxbridge customers receive their water from three groundwater sources containing a total of seven gravel-packed wells. The Blackstone Wellfield is located at the Water Division Office on Blackstone Street. The second source is the Bernat Wellfield, located on town-owned property on the east side of South Main Street. The Rosenfeld Well is located on Quaker Highway. All wellfields are replenished from various underground sources.

To learn more about our watershed on the internet, go to the U.S. EPA's Surf Your Watershed at: www.epa.gov/surf.


Source Water Assessment and Protection

The Massachusetts Department of Environmental Protection (DEP) completed an assessment of Uxbridge water sources and prepared a report that documents specific threats, such as underground storage tanks, auto repair shops, and transportation corridors. It also recommends actions we can take to protect our water supply. DEP has assessed our susceptibility as "high," based on the presence of at least one high-threat land use in our water supply protection areas. This Source Water Assessment and Protection (SWAP) report is available at the DEP's Central Office in Worcester or online at: <http://www.mass.gov/eea/docs/dep/water/drinking/swap/cero/2304000.pdf>

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet twice monthly at 6:30 p.m., at Town Hall, 21 South Main Street, Uxbridge, MA. Please check the town web site meeting details.

Important Health Information



Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791, or online at: <http://water.epa.gov/drink/hotline>.

WHO TO CONTACT

For more information about this report or for all general problems concerning leaks, meters, hydrants, or mains, call James Boliver at the Water Division at (508) 278-8631 (Monday through Friday, 7 a.m. to 3 p.m.) or email at: jboliver@uxbridge-ma.gov.

Emergency: For emergency service after business hours, please call the Uxbridge Police at (508) 278-7755.

Billing and Information: For billing, final readings, and other customer service questions, call the Department of Public Works (DPW) Office at (508) 278-8616.

This report will be posted in the Uxbridge Town Hall, on the Town's website (www.uxbridge-ma.gov) and at the Uxbridge Public Library. Extra copies will also be available in the DPW Office located at 147 Hecla Street.

What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used worldwide since the 1950s to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. During production and use, PFAS can migrate into the soil, water, and air. Most PFAS do not break down; they remain in the environment, ultimately finding their way into drinking water. Because of their widespread use and their persistence in the environment, PFAS are found all over the world at low levels. Some PFAS can build up in people and animals with repeated exposure over time.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them.

Some products that may contain PFAS include:

- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes
- Nonstick cookware
- Stain-resistant coatings used on carpets, upholstery, and other fabrics
- Water-resistant clothing
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Cleaning products
- Paints, varnishes, and sealants

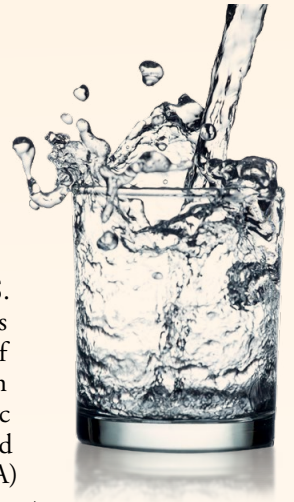
Even though recent efforts to remove PFAS have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772. For a more detailed discussion on PFAS, please visit: <https://www.atsdr.cdc.gov/pfas/index.html>.

How Is My Water Treated and Purified?

The treatment process consists of a series of steps. First, raw water is drawn from our water sources and treated with potassium hydroxide. This chemical is used for pH adjustment and as a corrosion inhibitor (to protect distribution pipes and household plumbing). A polyphosphate is also added to sequester the iron and manganese that naturally occur in groundwater throughout New England. Sodium hypochlorite is then added as a disinfectant. All listed chemical treatments are conducted by trained licensed water operators. Finally, the water is pumped into the High Street underground reservoir and to the water tank on Richardson Street. The final destination from the storage tanks is your home or business. Uxbridge does not currently treat the water with fluoride.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (U.S. EPA) prescribe regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.



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 from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or 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 which may also come from gas stations, urban stormwater runoff, and septic systems;

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

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. And, the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2020	2	2	0.057	0.014–0.057	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2021	[4]	[4]	0.54	0.42–0.74	No	Water additive used to control microbes
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2021	60	NA	3.05	0–10.3	No	By-product of drinking water disinfection
Nitrate (ppm)	2021	10	10	0.921	0.54–1.36	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Perchlorate (ppb)	2021	2	NA	0.24	0.02–0.46	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives.
PFAS6 (ppt)	2021	20	NA	15	ND–20.6	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 these PFAS, such as fire-fighting foams
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2021	80	NA	14.25	4.7–34	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

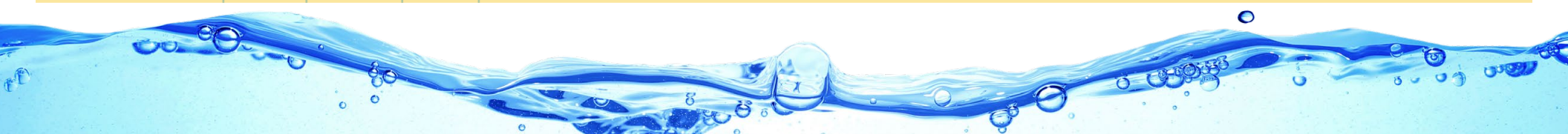
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2021	1.3	1.3	0.265	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2021	15	0	0	0/30	No	Lead services lines, corrosion of household plumbing systems including fittings and fixtures; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Manganese¹ (ppb)	2020	50	NA	68	ND–68	No	Leaching from natural deposits
Total Dissolved Solids [TDS] (ppm)	2019	500	NA	293	210–450	No	Runoff/leaching from natural deposits

UNREGULATED SUBSTANCES ²

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Chloroform (ppb)	2021	0.66	0–0.66	Chloroform enters the environment from chemical companies and paper mills. It is also found in drinking water to which chlorine has been added.
Sodium (ppm)	2020	50	24–50	Naturally occurring common element found in soil and water; Runoff from seasonal road treatment
Sulfate (ppm)	2019	10.06	10–13	Naturally occurring mineral found in soil and rock formations that contain groundwater



OTHER UNREGULATED SUBSTANCES²

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromide (ppb)	2019	48.85	28.7–66.5	Naturally occurring compound
Bromodichloroacetic Acid (ppb)	2021	0.87	0–0.87	Disinfection by-product
Chlorodibromoacetic Acid (ppb)	2021	0.86	0.65–1.07	Disinfection by-product
Dichloroacetic Acid (ppb)	2019	1.37	0.237–0.906	Disinfection by-product
HAA6Br (ppb)	2019	5.87	2.30–9.49	Disinfection by-product
HAA9 (ppb)	2019	8.13	2.54–16.1	Disinfection by-product
Monobromoacetic Acid (ppb)	2019	0.208	0.237–0.560	Disinfection by-product
Total Organic Carbon [TOC] (ppb)	2019	784.5	538–1710	Form of disinfection by-product

¹ Manganese is a naturally occurring mineral found in rocks, soil, ground and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet, but can have undesirable effects on certain populations at elevated concentrations. U.S. EPA and MADEP have established public health advisory levels for manganese to protect against concerns of potential neurological damage.

² Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining their occurrence in drinking water and whether future regulation is warranted.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air-conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

Definitions

90th %ile: Out of every 10 homes sampled, 9 were at or below this level. This number is compared to the Action Level to determine lead and copper compliance.

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

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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.