

2024 Drinking Water Report

Town of Holbrook, Massachusetts

Published by:



Town of Holbrook
Public Works Dept.
50 North Franklin St.
Holbrook, MA 02343
781-767-1800

Town PWS ID# 4133000
Joint System PWS ID# 4244001

2024 Drinking Water Quality Report

This report contains important information about your water system for the 2024 calendar year. It describes the quality of the Holbrook Water System's drinking water, the sources, and programs that protect the high quality of our water supply.

This publication complies with federal law that requires water utilities to provide water quality information to customers each year.

While most of the content of this report is required by regulation, we also include information that responds to typical questions our customers ask about our water system.

If you are interested in learning more about the Holbrook Water System or water quality and other related information in the Town of Holbrook please contact the Holbrook Public Works Department at 781-767-1800. You may also inquire about drinking water issues at the posted meetings of the Select Board and Public Works Commissioners meetings. Meetings are held every other Wednesday at 7:00 pm at the Holbrook Town Hall in the Noel King Meeting Room. For more information regarding the meetings, please visit <https://www.holbrookma.gov/calendar>.

Holbrook Water System Information

The Town of Holbrook receives all of its water from the Randolph-Holbrook Joint Water System, through an interconnection off Water Street. In 2024, the Town of Holbrook purchased 203,641,138 gallons of finished water from the Joint Water System. The maximum amount of water received in one day was 922,000 gallons (May 22, 2024). The annual average daily volume of water supplied from the Randolph-Holbrook Joint Water System was 557,921 gallons per day. All of the water received from the Randolph-Holbrook Joint Water System is produced at the Great Pond Water Treatment Plant located in Randolph.

Source Water Assessment and Protection (SWAP) Program

The source water supply is derived from the Great Pond Reservoir System. The Source Water Assessment and Protection (SWAP) program assesses the susceptibility of public water supplies to contamination due to land uses and human activities. Randolph and Holbrook maintain and operate four public water supply sources: Lower Great Pond (4040000-01S), Upper Great Pond (4040000-04S), Richardi Reservoir (4040000-02S), and Farm River (4040000-03S).

A high susceptibility ranking was assigned by the DEP to the four water sources. A high ranking is given to any water supply that has at least one high threat land use within the water supply protection area. Randolph and Holbrook have 17 high threat land uses within the protection areas, including livestock operations, manure storage or spreading, body shops, gas stations, service stations/auto repair shops, bus and truck terminals, paint shops, photo processors, hazardous materials storage, industry/industrial parks, machine/machine working shops, pharmaceutical manufacturers, plastic manufacturers, clandestine dumping, large quantity hazardous waste generators, past and present military facilities, and transportation corridors. If you would like more information, the complete SWAP report is available at the Holbrook Board of Health and online at [3244001 Randolph-Holbrook.pub \(mass.gov\)](https://www.holbrookma.gov/3244001-Randolph-Holbrook.pub)

Holbrook Water System Projects

As a member of the Tri-Town Water System (Braintree, Randolph, Holbrook), the Town of Holbrook is anxiously awaiting the construction of the new state of the art drinking water treatment plant for the consistent production of high quality drinking water for the three member communities. The new facility will include several advanced water treatment processes including dissolved air flotation, ozonation, and granular activated carbon filtration media. Construction began in 2023 and is scheduled to be completed this coming winter (2025/2026). The project is being funded by a low interest loan under the Department of Environmental Protection State Revolving Fund loan program.

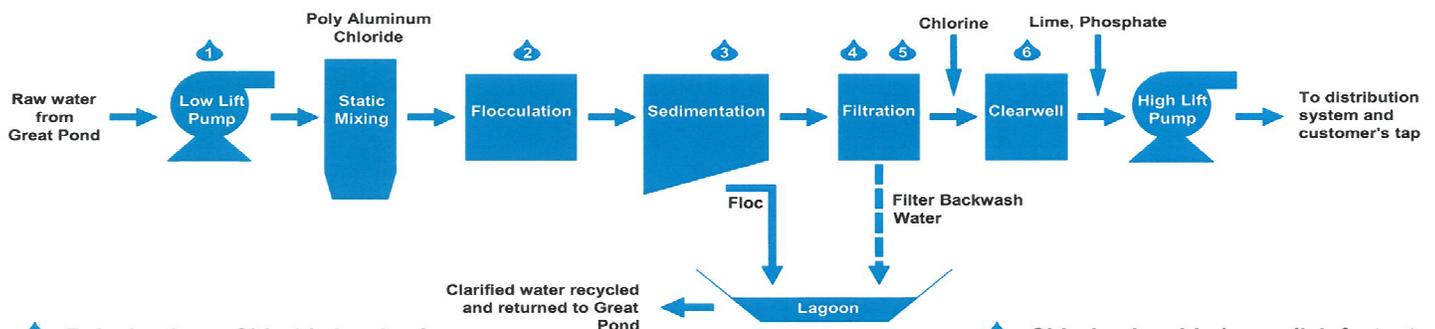
Protecting Your Raw Water Quality

According to the USEPA, the Cochato River and Lake Holbrook do not meet water quality standards. Besides the impacts from the Baird McGuire superfund site, the Cochato River is considered to be impaired due to excess bacteria and phosphorus levels. Lake Holbrook is on USEPA's list of being impaired due to high phosphorus levels. Please help protect our valuable waters by picking up your pet's waste, which is full of harmful bacteria and excess nutrients that can wash into the town's storm drains and eventually lead to streams and lakes. Deposit the waste in the trash, not the nearby catch basin, which is part of the storm drain system, and not a sewer. Also, use lawn fertilizer without phosphorus, which is usually in plentiful supply in our soils. For more information, go to the USEPA's website "How's My Waterway" to check out the condition of waters in your neighborhood <https://mywaterway.epa.gov/>

Lead Information

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 Holbrook Public Works Department 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 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. You can also use a filter certified 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 Robert McCue at 781-767-1800. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

Randolph-Holbrook Joint Water System's Drinking Water



- 1** Polyaluminum Chloride is mixed uniformly through the water to enable the flocculation process.
- 2** Flocculation is a treatment process that uses gentle stirring to bring suspended particles together so that they will form larger, more settleable clumps called floc.

- 3** Sedimentation is a treatment process that involves reducing the velocity of water in basins so that the suspended material, or floc, can settle to the bottom of the basin by gravity.
- 4** Filtration, through the use of granular activated carbon/sand filters, removes remaining particles suspended in the water and clarifies the water.

- 5** Chlorine is added as a disinfectant to ensure that water is pathogen-free before it enters the distribution system.
- 6** Lime is mixed uniformly to the water to adjust pH. Phosphate is mixed uniformly to control corrosion of lead and copper from household plumbing fixtures.

Water Quality

During the year 2024, hundreds of water samples were collected from the Holbrook water system and Joint Water Treatment Plan and tested for compliance with federal and state health standards. Federal and state regulators routinely monitor our compliance and testing protocols to assure that we deliver safe drinking water to our customers. A summary of contaminants detected in 2024 is provided in the table on the next page. The most recent results from the last five years are given for contaminants that are not required to be sampled annually, and not sampled in 2024. Not listed are other substances for which we tested, but were not detected during 2024.

2024 Treated Drinking Water Quality Data¹²

Substance	Highest Result of Monthly Levels	Range of Monthly Detected Levels	Highest Level Allowed (MCL)	Highest Quarterly Average	Violation	Possible Health Effects	Source of Contamination
Regulated for Source Water or After Treatment							
PFAS6	25.70 ppt	10.69– 25.70 ppt	20 ppt	20.23 ppt	No	May cause adverse effects on the liver, blood, immune system, thyroid, and fetal development. May also cause an increase risk of certain cancers.	Industrial waste; Disposal of products containing PFAS containing products, such as fire-fighting foams
Substance	Highest Result of Average Level	Range of Detected Levels	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Violation	Possible Health Effects	Source of Contamination
Total Organic Carbon ¹ (TOC)	5.40	2.60-5.40	TT	NA	No	TOC has no health effects. TOC provides a medium for the formation of THM and HAA5, which may cause adverse health effects, liver and kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer	Naturally present in the environment
Turbidity²							
Daily Compliance	0.55 NTU	NA	TT	NA	No	No health risks	Soil runoff
Monthly Compliance ³	100% of monthly sample results <0.35 NTU	–	At least 95% of samples <0.35 NTU	NA	No	No health risks	Soil runoff
Regulated in the Town's Distribution System							
Chlorine (total)	1.90 ppm ⁴	0.01 – 1.90 ppm ⁵	4 ppm (MRDL)	4 ppm (MRDLG)	No	May cause irritating effects to the eyes and nose. May cause stomach discomfort	Water additive used to control microbes
Haloacetic Acid	46.1 ppb ⁴	2.2 – 46.1 ppb ⁵	60 ppb ⁶	NA	No	After many years, may increase the risk of getting cancer	By-product of drinking water chlorination
Total Coliform	0 positive samples per month	0 positive samples per month	TT	NA	No	Coliform is used as an indicator for other potentially harmful waterborne pathogens	Human and animal Fecal waste; Naturally present in the environment
Total Trihalomethanes	115.0 ppb ⁴	1.5 - 115.0 ppb ⁵	80 ppb ⁶	NA	No	After many years, may cause liver, kidneys, or central nervous problems and an increase risk of getting cancer	By-product of drinking water chlorination
Regulated at the Customer's Tap							
Lead (2023) (30 Samples)	3 ppb ⁷	ND – 3 ppb (90th Percentile = 0.0023)	15.0 ppb (Action Level)	0 ppb	No	May cause delay of mental and physical development in infants. May cause kidney problems and high blood pressure	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (2023) (30 Samples)	0.33 ppm	0.04 – 0.33 ppm (90th Percentile = 0.206)	1.3 ppm (Action Level)	1.3 ppm	No	Copper in excess of the action level over a relatively short amount of time could cause gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Unregulated Contaminants⁸							
Potassium	1.22 ppm	Single sample	NA	NA	No		Naturally present in the environment
Sodium ⁹	94.9 ppm	Single sample	20 ppm (ORSG)	NA	No	After many years, may cause an increase in blood pressure	Naturally present in the environment
Chloroform	78.4 ppb	Single sample	70 ppb (OSRG)	NA	No	After many years, may cause liver and kidney problems and an increase risk of getting cancer	By-product of drinking water chlorination
Bromodichloromethane	27.5 ppb	Single sample	NA	NA	No	After many years, may cause liver and kidney problems	By-product of drinking water chlorination
Chlorodibromomethane	8 ppb	Single sample	NA	NA	No	After many years, may increase the risk of degenerative effects to the to the brain, effects on red blood cells, and nutritional and metabolic effects	By-product of drinking water chlorination

2024 Treated Drinking Water Quality Data (Continued)

Substance	Highest Detected Levels	Range of Detected Levels	Average	ORSG	Possible Health Effects	Source of Contamination
Perfluoro butane Sulfuric Acid (PFBS)	2.75 ppt	1.78 - 2.75 ppt	2.20 ppt	NA	May cause adverse effects on the liver, blood, immune system, thyroid, and fetal development. May also cause an increase risk of certain cancers.	Industrial waste; Disposal of products containing PFAS containing products, such as fire-fighting foams
Perfluorohexanoic Acid (PFHxA)	4.51 ppt	0.75 - 4.51 ppt	3.07 ppt	NA	May cause adverse effects on the liver, blood, immune system, thyroid, and fetal development. May also cause an increase risk of certain cancers.	Industrial waste; Disposal of products containing PFAS containing products, such as fire-fighting foams

Substance	Highest Detected Levels	Range of Detected Levels	SMCL	Ideal Goal (MCLG)		Noticeable Aesthetic Effects above the Secondary MCL	Source of Contamination
Secondary Contaminants							
Manganese	8 ppb	Single sample	50 ppb	NA	No	Colored water, unpleasant taste, stains on plumbing fixtures.	Naturally present in the environment
Aluminum	0.02 ppm	Single sample	0.05 ppm	NA	No	Colored water	Residue from water treatment process; Naturally present in the environment
Calcium	11.4 ppm	Single sample	NR	NA	No	Taste and deposition on plumbing fixtures	
Hardness	39.6 ppm	Single sample	NR	NA	No	Taste and deposition on plumbing fixtures	
Magnesium	2.7 ppm	Single sample	NR	NA	No	Taste and deposition on plumbing fixtures	
Odor	ND	Single sample	3 TON	NA	No	"Rotten-egg", musty or chemical smell	Naturally present in the environment
Sulfate	ND	Single sample	250 ppm	NR	No	Salty taste	Industrial waste; Naturally present in the environment
Total Dissolved Solids (TDS)	233 ppm	Single sample	500 ppm	NR	No	Hardness; deposits; colored water; staining; salty taste	Naturally present in the environment
Zinc	0.094 ppm	Single sample	5 ppm	NR	No	Metallic taste	Corrosion of household plumbing; Naturally present in the environment
Color	ND	Single sample	15 CU	NR	No	May produce a visible tint	Corrosion of household plumbing; Naturally present in the environment

Definitions and Abbreviations

90th Percentile: Out of every 10 homes sampled, 9 were at or below this level.

AL (Action Level): The concentration of a contaminant that, 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.

ORSG: Office of Research Standards Guideline

SMCL (Secondary Maximum Contaminant Level): Concentration limit for a contaminant which may have aesthetic effects such as taste, odor, and staining.

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

NA: Not applicable

ND: Not Detected

NTU: Nephelometric Turbidity Units

ppt (part per trillion): One part per trillion is the equivalent of \$1 in \$1,000,000,000,000

ppb (part per billion): One part per billion is the equivalent of \$1 in \$1,000,000,000

ppm (part per million): One part per million is the equivalent of \$1 in \$1,000,000

TON: Threshold Odor Number

V: Violation

<: Less than, **>:** Greater than

1st: A 2-digit subscript denotes the calendar year for the reported results.

Footnotes

- Compliance is determined as a running annual average of TOC removal ratio (actual percent removal to required percent removal of TOC). The lowest running annual average is indicated as the Highest Detected Value.
- Turbidity is a measure of the cloudiness of water. It is measured because it is a good indicator of water quality and the effectiveness of filtration. No turbidity samples exceeded the Max Daily NTU Limit.
- Monthly turbidity compliance is related to the specific Treatment Technique.
- The highest detected level is from a single quarterly sampling result from one site, not the running annual average of quarterly results from a sampling site.
- This range or value is based on the individual samples detected in Holbrook.
- The highest level allowed (MCL) for total trihalomethanes and haloacetic acids is based on the average of four quarterly samples.
- The level shown in 90th percentile value which is used to determine compliance with the Lead and Copper Rule and must be below the AL.
- Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in the drinking water and whether future regulation is warranted.
- The Massachusetts DEP Office of Research and Standards has set a guideline concentration of 20 ppm for sodium. Sodium-sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart disease, should be aware of the sodium levels where exposures are carefully controlled.
- EPA has established a lifetime Health Advisory (HA) for manganese at 300 ppb and an acute HA at 1,000 ppb.
- Fluoride has a secondary contaminant level (SMCL) of 2 ppm to better protect human health.
- For additional information, refer to the Randolph CCR at the following website: [Department of Public Works | Randolph, MA \(randolph-ma.gov\)](http://www.randolph-ma.gov/public-works/pfas)
- Additional information about PFAS levels can be found at the following Town of Holbrook website link: www.holbrookma.gov/public-works/pages/pfas.

Important Health Information

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.

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 (1-800-426-4791.)

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/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

In order to ensure that tap water is safe to drink, EPA and MassDEP prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. FDA

and Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health. This report provides you with information about the contaminants found naturally in your drinking water, at levels at which they are found, and the likely source of each contaminant. Common contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production, and mining activities.

Unregulated Contaminants Monitoring Rule (UCMR5)

Under the UCMR water systems are required by the USEPA to test for Unregulated Contaminants. Unregulated Contaminants are those for which USEPA has not established drinking water standards. The purpose of monitoring for Unregulated Contaminants is to assist USEPA in determining their occurrence in drinking water and whether future regulation is warranted. For more information about the UCMR, please visit the following USEPA website: <https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule-data-finder#data-finder>. Of the 30 Unregulated Contaminants monitored, only 5 were identified as noted below:

Substance	Result (ug/L)	Health-Based Ref Concentration (ug/L)
PFBA	0.0056	6
PFHxA	0.0044	3
PFOA	0.0062	NA
PFOS	0.0087	NA
PFPeA	0.0045	NA