2024 Drinking Water Report

Town of Randolph, Massachusetts

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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 Randolph-Holbrook Joint 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 Randolph-Holbrook Joint Water System or water quality and other related information in the Town of Randolph, please contact Neil McCole, DPW Superintendent, at 781-961-0942. You may also attend the Town Council/ Town Manager meetings, which are held every second and fourth Monday of the month, at the Town Hall. For more information about the Town Council meetings, visit: http://www.townofrandolph.com.

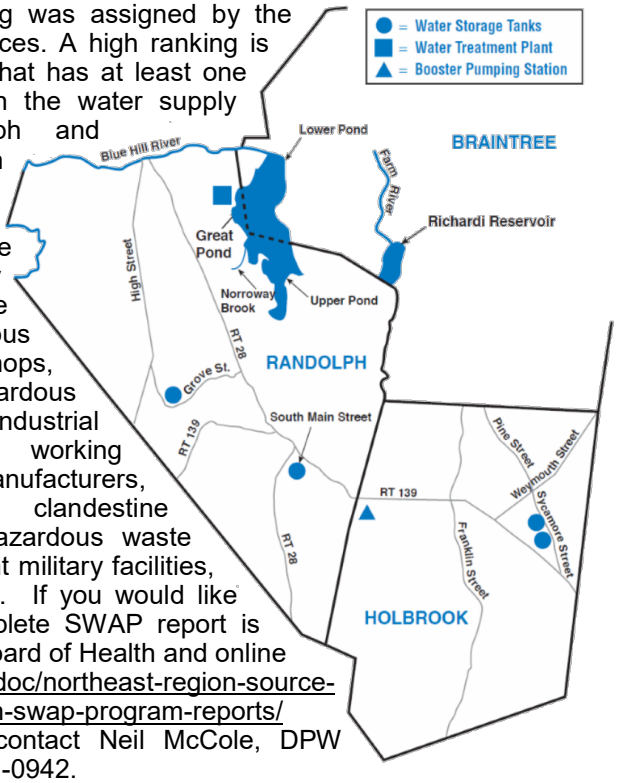
Randolph-Holbrook Joint Water System Information

The Towns of Randolph and Holbrook jointly manage and treat the water supply that each town uses for its drinking water. In 2024, the Randolph-Holbrook Joint Water System produced 1104 million gallons (MG) of finished water. The maximum amount of water pumped in one day was 3.8 million gallons (November 19, 2024). The annual average daily volume of water supplied from the Randolph-Holbrook water treatment plant was 2.7 MGD. In total, the Town of Randolph bought 839 million gallons of finished water from the water treatment plant.

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 Randolph Board of Health and online at https://www.mass.gov/doc/northeast-region-source-water-assessment-protection-swap-program-reports/download. You can also contact Neil McCole, DPW Superintendent, at (781) 961-0942.



Nonpoint Source Water Pollution

Stormwater pollution occurs when water runs over land or through the ground, picks up contaminants and deposits them in a waterbody or infiltrates to the groundwater. According to the EPA, nonpoint source pollution is, now, the leading source of water quality degradation. Water quality degradation can have harmful effects on drinking water supplies, recreation, fisheries, and wildlife For more information, go to the USEPA's website "How's My Waterway" to check out the condition of waters in your neighborhood http://mywaterway.epa.gov/.

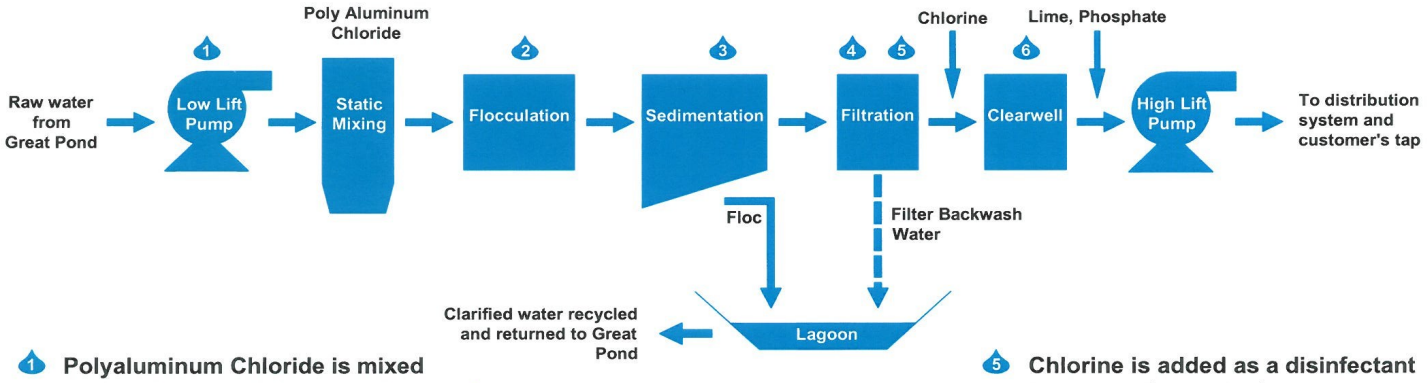
Ce rapport contient des informations importantes à propos de votre eau potable. Demander à quelqu'un de traduire ces informations pour vous ou discuter avec une personne qui comprend ces informations. (This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it.)

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. Randolph 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 Town of Randolph. 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.

The Town of Randolph Water Department recently completed a town-wide Water Service Distribution Line inventory as part of the recent Lead and Copper Rule Revisions under the Safe Drinking Water Act and under the Lead and Copper Rule Revisions. More information is available at https://www.randolph-ma.gov/765/Water-Service-Lines.

Randolph-Holbrook Joint Water System's Drinking Water Treatment Process



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

The Randolph-Holbrook Joint Water system's water treatment processes are shown schematically above. During the year 2024, hundreds of water samples were collected from the system and tested for compliance with federal and state health standards. School water fountains have also been checked for compliance. 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.

The Towns of Randolph, Holbrook and Braintree have completed the design and permitting of a state of the art 12.5 MGD regional water treatment plant that is anticipated to be online by January 2026. This plant will provide improved water quality, reducing PFAS6 levels. PFAS6 is a group of 6 different contaminants that are regulated as a group. In previous years, PFAS6 exceeded the maximum contaminant level.

Until this treatment plant is online, PFAS free water is being made available for residents concerned about consuming water with PFAS, particularly the sensitive subgroups (pregnant or nursing women, infants and people diagnosed by their health care provider to have a compromised immune system) at BlueDrop Filling Stations. **This water is available for free at 6 Carlino Way behind the Department of Public Works Building and at St. Bernadette Church located at 1031 North Main Street.**

Fluoride has a secondary contaminant level (SMCL) of 2 ppm. Town of Randolph does not add fluoride to the water system. The Massachusetts Department of Public Health strongly supports community Fluoridation as a safe, cost effective, and proven practice that promotes good oral health within our communities. The ideal fluoride concentration in drinking water to help prevent tooth decay and support dental health is a concentration of 0.7 parts per million (ppm) consistently. The optimal average monthly fluoridation concentration range is 0.6 – 0.8 ppm.

2024 Treated Drinking Water Quality Data

Substance	90th Percentile	Range of Detected Levels	Action Level (AL)	Ideal Goal (MCLG)	# of Sites Sampled	# of Sites above AL	Source of Contamination
Regulated at the Customer's Tap							
$Copper_{23}$	0.33 ppm	ND – 22.7 ppm	1.3 ppm	1.3 ppm	30	1	Corrosion of household plumbing
$Lead_{23}$	7 ppb	ND – 68 ppb	15.0 ppb	0 ppb	30	1	Corrosion of household plumbing

Substance	Highest Detected	Range of Detected Levels	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Source of Contamination
Regulated for Source Water or After Treatment					
Alpha Emitters $(pCi/L)_{21}$	1.5 pCi/L	Single sample	15 pCi/L	0 pCi/L	Erosion of natural deposits
$Asbestos_{23}$	ND	ND	7 MFL	7 MFL	Decay of asbestos cement water mains; Erosion of natural deposits
Nitrate	0.12 ppm	Single sample	10 ppm	10 ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
PFAS6[2]	19.36 ppt	10.69 – 21.19 ppt	20	NA	Man-made chemicals
Perchlorate	ND	ND	2 ppb	NA	Rocket propellants, fireworks, munitions, flares, blasting agents
Radium $(pCi/L)_{21}$	0.61 pCi/L	Single sample	5 pCi/L	0 pCi/L	Natural sources
Total Organic Carbon[1] (TOC)	1.01	1.01 – 1.02	TT	NA	Naturally present in the environment
Turbidity[3]					
Daily Compliance	0.26 NTU	0.02 – 0.26 NTU	1 NTU	NA	Soil runoff
Monthly Compliance[4]	100% of monthly sample results <0.349 NTU	–	At least 95% of samples <0.349 NTU	NA	Soil runoff
Regulated in the Town's Distribution System					
Chlorine (total)	1.42 ppm[5]	1.10 – 1.65 ppm	4 ppm (MRDL)	4 ppm (MRDLG)	Water additive used to control microbes
Haloacetic Acid	41.2 ppb[5]	16.4 – 43.6 ppb	60 ppb	NA	By-product of drinking water chlorination
Total Trihalomethanes	74.3 ppb[5]	21.3 – 111 ppb	80 ppb	NA	By-product of drinking water chlorination
Total Coliform	1 positive sample in 2024	0 – 1 positive samples per month	Note 6	0 positive samples per month	Naturally present in the environment
Unregulated Contaminants[7]					
Acetone	5.4 ppb	Single sample	NR	6.3 ppm (ORSG)	Discharge from industrial production and use, in automobile exhaust, from landfills and natural sources
Bromodichloromethane	3.2 ppb	Single sample	NR	NR	By-product of drinking water chlorination
Chlorodibromomethane	1.2 ppb	Single sample	NR	NR	By-product of drinking water chlorination
Chloroform	3.2 ppb	Single sample	NR	70ppb (ORSG)	By-product of drinking water chlorination
Fluoride	ND	Single sample	4 ppm (SMCL = 2)	4 ppm	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Sodium[8]	94.9 ppm	Single sample	NR	20ppm (ORSG)	Discharge from the use and improper storage of sodium containing de-icing compounds or in water softening agents

Secondary Contaminants

Substance	Highest Detected	Range of Detected Levels	SMCL	Health Advisory	Noticeable Aesthetic Effects above the Secondary MCL
Aluminum	20 ppb	Single sample	200 ppb	NR	Colored water
Chloride	111	Single sample	250 ppm	NR	Salty taste
Hardness	39.6 ppm	Single sample	NR	NR	Taste and deposition on plumbing fixtures
Manganese	8.0	Single sample	50 ppb	300 ppb[9]	Colored water, unpleasant taste, stains on plumbing fixtures.
Magnesium	2.70 ppm	Single sample	NR	NR	Taste and deposition on plumbing fixtures
Total Dissolved Solids	233 ppm	Single sample	500 ppm	NR	Hardness; deposits; colored water; staining; salty taste
Zinc	0.094 ppm	Single sample	5 ppm	NR	Metallic taste

Definitions and Abbreviations

90th Percentile: 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 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.

MFL: Million fibers per liter

NA: Not applicable

ND: Not Detected

NR: Not Regulated

NTU: Nephelometric Turbidity Units

ORSG (Office of Research and Standards Guideline): This is the concentration of a chemical in drinking water at or below which adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

pCi/L: picocuries per liter (a measure of radioactivity)

ppb: parts per billion or micrograms per liter (µg/L)

ppm: parts per million or milligrams per liter (mg/L)

ppt: parts per trillion or nanograms per liter (ng/L)

Running Annual Average (RAA): The average of four consecutive quarters of data.

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

TON: Threshold Odor Number

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

V: Violation

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

$_{23}$: A 2-digit subscript denotes the calendar year for the reported results from previous years.

Footnotes

1. 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.
2. Sources of PFAS, Per-and Polyfluoroalkyl Substances, include discharges and emissions from industrial and manufacturing sources associated with PFAS, such as moisture and oil resistant coatings on fabrics and other materials, and the use and disposal of products containing these PFAS, such as fire-fighting foams. 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. PFAS compliance is based on the highest quarterly average, which is reported in the "Highest Detected Value" column.
3. 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.
4. Monthly turbidity compliance is related to the specific Treatment Technique.
5. The highest detected level is based on a running annual average. The average is calculated by sample location for THM and HAA5. Compliance is based on these averages.
6. In 2024, one water sample tested positive for Coliform bacteria. We completed routine sampling requirements and collected three repeat samples for this positive sample found, all of which tested negative for Coliform bacteria and E.Coli. Therefore no violation occurred.
7. 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.
8. Some people who drink water containing sodium at high concentrations for many years could experience an increase in blood pressure.
9. US EPA and MassDEP have established public health advisory levels for manganese to protect against concerns of potential neurological effects and a one-day and 10-day HA of 1000 ppb for acute exposure.

Important Health Information

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 contaminants. 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 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, MassDEP and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. FDA and the 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, or farming.
- ***Pesticides and herbicides*** may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- ***Organic chemical contaminants***, include 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*** can be naturally occurring or be the result of oil and gas production, and mining activities

Unregulated PFAS Contaminants

PFAS6 is a group of 6 different contaminants that are regulated as a group. Other PFAS chemicals are unregulated. Two of the 12 unregulated PFAS contaminants were detected. The highest quarterly average is reported.

Substance	Highest Quarterly Average Detected	Range of Detected Levels	Highest Level Allowed (MCL)
Perfluorobutane sulfonic acid (PFBS)	2.41 ppt	1.78 - 2.75 ppt	NR
Perfluorohexanoic acid (PFHxA)	3.66 ppt	2.55 - 4.51 ppt	NR

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