Important Definitions

Maximum Contaminant Level (MCL): the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to MCLG's as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant (chlorine, chloramines, chlorine dioxide) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant (chlorine, chloramines, chlorine dioxide) below which there is no known of expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

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

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

Variance and Exemption: State or EPA permission not to meet an MCL or treatment technique under certain conditions.

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

ppb: parts per billion or micrograms per liter (ug/l)

PCi/l (picocuries per liter): a measure of radioactivity

NTU: Nephelometric Turbidity Units

ND: None Detected

N/A: Not Applicable

BDL: below detectable limit

mg/L: milligrams per liter

mrem/year (millirems per year): a measure of radiation absorbed by the body

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

Massachusetts Office of Research and Standards Guideline (ORSG): 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.

Turbidity: a measure of suspended matter. Turbidity is monitored because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. The .95 NTU shown is the highest level recorded during the year.

WATER QUALITY REPORT FOR THE YEAR OF 2023 EAST NORTHFIELD WATER COMPANY

Public Water System Information

The East Northfield Water Company's water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP) for NMH's technical, financial, and managerial capacity to provide safe drinking water. To ensure provision of the highest quality of water available, the water system is operated by a Massachusetts -certified operator who oversees the routine operations of the system.

East Northfield Water Company,
P.O. Box 152
Northfield, MA 01360
Registered public water supply No.1217001
Contact Person: William Pachalis
413-498-3455

East Northfield Water Company's Drinking Water Source

All water distributed by the East Northfield Water Co. (ENWC) comes from a surface water supply, the Grandin Reservoir (source ID # 1217001-01s) in East Northfield. The water flows from the reservoir to the treatment plant where it is disinfected with chlorine and Ultraviolet light to protect against microbial contaminants. The water is also chemically treated with sodium hydroxide to raises the pH and Zinc orthophosphate (a corrosion inhibitor) to reduce corrosiveness and minimize dissolving of metals (lead and copper) from household plumbing.

In November 1991 ENWC was granted a waiver from the EPA Surface Water Treatment Rule by the Massachusetts Department of Environmental Protection (DEP). The waiver gives the water system permission to continue using the Grandin Reservoir without the need to filter the water. The waiver was allowed due to the high quality of the source water and ENWC committing to construct a chlorine contact chamber to enhance disinfection. The new contact chamber was put into service in February 1995. Water quality data reports are submitted each month for review by DEP. An important part of the waiver requirements is that ENWC maintain a Watershed Resource Protection Plan to control activities that could be detrimental to water quality. Fortunately the entire watershed is undeveloped forest and under control of the water company. Please help protect our water resource by observing the restrictions posted at the gated entrance to ENWC property.

In 2002 the Massachusetts DEP performed a Source Water Assessment of the Grandin Reservoir looking at potential sources of contamination, and the vulnerability of the water supply. The reservoir is considered moderately vulnerable to contamination. The vulnerability rating of moderate is due to the reservoir being an open impoundment without any natural barrier to prevent contamination from reaching the water.

To view the Source Water Assessment, go to ;
http://www.mass.gov/eea/agencies/massdep/water/drinking/source-water-protection-for-drinking-water-supplies.html#7

Substances Found in Tap Water

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 materials and can pick up substances resulting from the presence of animals or from human activities. 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 the water poses a health risk. Types of contaminants may 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 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
- Lead , if present, are primarily from materials and components associated with services lines and home plumbing. The ENWC is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. When water has been sitting for several hours, the potential for lead exposure can be minimized by flushing the tap for 30 seconds to two minutes before using water for drinking or cooking. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Information on lead in drinking water, testing methods, and steps to take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

More information about contaminants and their potential health effects can be obtained by calling the Environmental Protection Agency (EPA) Safe Drinking Water Hotline (800-426-4791).

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 contaminates 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-contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when 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, know as backflow prevention devices are installed and maintained. For more information review the Cross-Connection Control Manual from the U.S. EPA's Web site http://water.epa.gov/infrastructure/drinkingwater/pws/crossconnectioncontrol/index.cfm. You can also call the Safe Drinking Water Hotline at (800) 426-4791.

The ENWC is responsible for providing high-quality drinking water and monitors the water for all of the above listed contaminants. To ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and the Massachusetts Department of Public Health regulations also establish limits for contaminants in bottled water thus providing the same protection for public health.

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 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 (800-426-4791).

DRINKING WATER VIOLATIONS

ENWC water filtration waiver has been revoked and we are working with MassDEP to find a solution ENWC has no other outstanding violations.

The Grandin Reservoir watershed lies primarily in Northfield, Massachusetts, but the northern part of the watershed extends into Winchester, New Hampshire, and the eastern part extends into Warwick, Massachusetts. Approximately 336 acres of the Grandin Reservoir watershed is owned by NMH, the remainder is owned by DCR. In 2016, NMH sold approximately 1,300 acres of forest located within and outside of the Grandin Reservoir watershed to The Trust for Public Land who immediately conveyed it to DCR, Northfield State Forest. The Grandin Reservoir watershed is inspected monthly by ENWC staff and annually by MassDEP and it is closed to the pubic. No violations occurred within the water shed this year.

Water Quality Testing Results

The water quality information presented in the table(s) is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)	Quarterly in 2023	running annual average 59.73	Range 0.0– 50.5	80	-----	NO	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	Quarterly in 2023	running annual average 10.8	Range 0.0– 58.9	60	-----	NO	Byproduct of drinking water disinfection
Chlorine (ppm) (free, total or combined)	Monthly in 2023	highest monthly average 0.34	Range of monthly averages 0.16–0.34	4	4	NO	Water additive used to control microbes

Lead and copper are reported as the "90th Percentile". Ten locations were sampled and 90% of the results for lead were 0.0039, well below the action level of 0.015 mg/L. Testing is required every 3 years

	Date(s) Collected	90TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source of Contamination
Lead (ppb)	8/31/2022	0.0011	15	0	10	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	8/31/2022	0.118	1.3	1.3	10	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Unregulated contaminants are those for which there are no established drinking water standards. The purpose of unregulated contaminant monitoring is to assist regulatory agencies in determining their occurrence in drinking water and whether future regulation is warranted.

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Violation (Y/N)	Possible Source
Inorganic Contaminants							
Sodium (ppm)	11/2/2023	6.42		----	20		Natural sources; runoff from use as salt on roadways; by-product of treatment process
Regulated Contaminant	**Date(s) Collected**	**Highest Result or Highest Running Average Detected**	**Range Detected**	**MCL or MRDL**	**MCLG or MRDLG**	**Violation (Y/N)**	**Possible Source(s) of Contamination**
PFAS6(PPT)	Quarterly in 2022	ND	0-0	20	N/A	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.

	TT	Highest Detected Daily Value	Violation (Y/N)	Possible Source of Contamination
Turbidity (NTU)	5	.50	NO	Soil runoff
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.				

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