Water Quality Data – Detected Regulated Contaminants in 2022: Sampling Dates: The State of New Hampshire allows water systems to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Thus some of the data presented, though representative, may be more than one year old.

UNH Surface Water Treatement Plant	Units	MCL	MCLG	Level Detected	Range	Violation Y/N	Source
Turbidity	NTU	TT	N/A	0.200 (highest) C.F.E.	0.200	No	Soil runoff
Fluoride	PPM	4	4	0.62 (average)	0.04-1.3	No	Water additive which promotes strong teeth
Chlorine	PPM	4 (MRDL)	(MRDLG)	1.00 (average)	0.60-1.65	No	Water additive used to control microbes
Barium	PPM	2	2	0.012 (2022)	N/A	No	Erosion of natural deposits
Total Organic Carbon	PPM	TT	N/A	2.00 (average)	1.4-3.4	No	Naturally present in the environment
Sodium	PPM	100-250(sMCL)		31 (2022)	N/A	No	Erosion of natural deposits; Water additive that provides a valuable treatment function
Copper	PPM	AL=1.3	1.3	None Detected (2022)	N/A	No	Corrosion of household plumbing systems and erosion of natural deposits
Nitrate	PPM	10	10	None Detected (2022)	N/A	No	Run off from fertilizer use; leaching from
Nitrite	PPM	1	1	None Detected (2022)	N/A	No	septic tanks, sewage; erosion of natural
Compliance Gross	pCi/L	15	0	0.2	N/A	No	Present in the environment
Uranium	ug/L	30	0	None Detected	N/A	No	
Radium 226	pCi/L	5	0	0.3	N/A	No	
Radium 228	pCi/L	5	0	0.7	N/A	No	
PFOS (Finish Water)	ng/L	15 (ppt)	1 (MDL)	2.12 (2021)	N/A	No	Voluntary sampling of all source waters
PFOA (Finish Water)	ng/L	12 (ppt)	1 (MDL)	None Detected (2021)	N/A	No	Voluntary sampling of all source waters
Town of Durham: Lee Well	**Units**	**MCL**	**MCLG**	**Level Detected**	**Range**	**Violation Y/N**	**Source**
Fluoride	PPM	4	4	0.65 (average)	0.23-1.21	No	Water additive that promotes strong teeth
Chlorine	PPM	4 (MRDL)	4	0.92 (average)	0.08-1.39	No	Water additive used to control microbes
Barium	PPM	2	2	0.011 (2022)	N/A	No	Erosion of natural deposits
Sodium	PPM	100-250(sMCL)		46 (2022)	N/A	No	Erosion of natural deposits; Water additive that provides a valuable treatment function
Copper	PPM	1.3 (AL)	1.3	0.0032 (2022)	N/A	No	Run off from fertilizer use; leaching from
Nitrate	PPM	10	10	1.10 (2022)	N/A	No	septic tanks, sewage; erosion of natural
Nitrite	PPM	1	1	None Detected (2022)	N/A	No	deposits
Compliance Gross	pCi/L	15	0	0.7 (2016)	N/A	No	Present in the environment
Uranium	ug/L	30	0	0.4 (2016)	N/A	No	
Radium 226	pCi/L	5	0	0.4 (2022)	N/A	No	
Radium 228	pCi/L	5	0	0.2 (2022)	N/A	No	
PFOS (Finish Water)	ng/L	15 (ppt)		None Detected (2020)	N/A	No	Voluntary sampling of all source waters
PFOA (Finish Water)	ng/L	12 (ppt)		1.76 (average) (2020)	0-3.28	No	Voluntary sampling of all source waters
Spruce Hole Well (Raw Water)	**Units**	**MCL**	**MCLG**	**Level Detected**	**Range**	**Violation Y/N**	**Source**
Barium	PPM	2	2	0.006 (2019)	N/A	No	Erosion of natural deposits
Compliance Gross	pCi/L	15	0	1.65 (2017)	0.4-3.0	No	Present in the environment
Uranium	ug/L	30	0	0.8 (2017)	0.5-1.0	No	
Radium 226	pCi/L	5	0	0.63 (2017)	0.5-0.8	No	
Radium 228	pCi/L	5	0	0.23 (2017)	0.0-0.7	No	
Glyphosate	ug/L	700	700	None Detected	N/A	No	Runoff from herbicide use
PFOS	ng/l	15 (ppt)		None Detected (2020)	N/A	No	Voluntary sampling of all source waters
PFOA	ng/l	12 (ppt)		None Detected (2020)	N/A	No	
Distribution System	**Units**	**MCL**	**MCLG**	**Level Detected**	**Range**	**Y/N**	**Source**
Copper	PPM	1.3 (AL)	1.3	0.176 (90th percentile)	0-0.457	No	Corrosion of household plumbing systems
Lead	PPB	15 (AL)	0	None Detected (90th percentile)	0-44	No	Corrosion of household plumbing systems
Trihalomethanes	PPB	80	N/A	48.8 (highest local running avg)	14.8-75.6	No	By-product of drinking water disinfection
Haloacetic Acids	PPB	60	N/A	16.5 (highest local running avg)	6.9-22.2	No	

ug/L: micrograms per Liter
PPM: parts per million.
PPB: parts per billion.
RDL: Reportable Detection Limit
N/A: not applicable.
NTU: nephelometric turbidity unit.
U: undetected
ng/L: nanogram/liter

Definitions/Abbreviations:

MCLG (Maximum Contaminant Level Goal) - The level of a containment in drinking water below which there is no known or expected risks to health. This allows for a margin of safety.

MCL (Maximum Contaminant Level) - 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.

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

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

Turbidity - A measure of the cloudiness of water. It is monitored because it is a good indicator of water quality and thus helps measure the effectiveness of the treatment process. High turbidity can hinder the effectiveness of disinfectants.

MRDLG (Maximum Residual Disinfectant Level Goal) - The level of a drinking water disinfectant below which there is no known or expected health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

pCi/L: picoCurie per Liter, a measurement of radioactivity in water. A picocurie is 10-12 curies and is the quantity of radioactive material producing 2.22 nuclear transformations per minute.

Source Assessment Report

NH Department of Environmental Services has prepared a report that identifies possible contamination sources (monitored on a regular basis) and rates them from low to high with high being the worst for susceptibility. Examples of these levels would be as follows: high level could be a gas station, junk yard, highway, or landfill, a medium level would be an analytical laboratory or maintenance garage, a low level would be commercial buildings such as hardware stores.

The main purpose of the report is to show us what vulnerabilities are within our source water and what we can do to minimize them. Lee Well has 2 at high, 1 at medium, and 9 at low. The Oyster has 1 at high, 5 at medium, and 5 at low. The Lamprey has 2 at high, 6 at medium, and 5 at low. *For more information, call the UNH Water Treatment Plant or visit NH DES's Drinking Water Source Assessment Program web site at www.des.state.nh.us/dwspp/.*

Unregulated Contaminant Monitoring Rule Results UCMR 4 (2018). UCMR5 (2023) testing underway (PFAS and Lithium).

Contaminant (unit)	Level Detected	Range
UNH Surface Water Treatment Plant		
Manganese 55 (PPB)	5.09 (avg)	2.27-7.91
Lee Well		
Manganese 55 (PPB)	157 (1 Detect)	157
Spruce Hole		
N/A	N/A	N/A
Source Water		
Oyster River		
Total Organic Carbon (PPM)	7.45 (avg)	6.9-8.0
Lamprey River		
Total Organic Carbon (PPM)	8.6 (avg.)	6.4-10.8
Distribution System		
Foss Farm		
Total HAA5 (PPB)	20.4 (avg)	8.8-32.0
Total HAA6 (PPB)	6.13 (1 Detect)	N/A
Total HAA9 (PPB)	23.5 (avg)	8.8-38.1
1,2,3-Trichloropropane (PPB)	100 (1 Detect)	N/A
Dichloroacetic Acid (PPB	6.67 (avg)	1.1-9.9
Trichloroacetic Acid (PPB)	18.9 (avg)	7.7-22.1
Wastewater Treatment Plant		
Total HAA5 (PPB)	25.5 (avg)	1.4-49.6
Total HAA6 (PPB)	6.62 (1 Detect)	N/A
Total HAA9 (PPB)	28.8 (avg)	1.4-56.2
1,2,3-Trichloropropane (PPB)	100 (1 Detect)	0.9-12.4
Dichloroacetic Acid (PPB)	6.67 (avg)	2.7-8.6
Trichloroacetic Acid (PPB)	18.9 (avg)	0.5-37.2
Health Services		
Total HAA5 (PPB)	36.2 (avg)	30.4-41.9
Total HAA6 (PPB)	6.02 (avg)	4.6-7.4
Total HAA9 (PPB)	42.2 (avg)	35.0-49.3
1,2,3-Trichloropropane (PPB)	100 (1 Detect)	N/A
Bromochloroacetic Acid (PPB)	1.72(avg)	0.7-2.7
Bromodichloroacetic Acid (PPB)	3.83 (avg)	3.4-4.1
Chlorodibromoacetic Acid (PPB)	0.465 (avg)	0.4-0.5
Dichloroacetic Acid (PPB)	11.30 (avg)	2.6-20.0
Trichloroacetic Acid (PPB)	24.85 (avg)	21.9-27.8
Gregg Hall		
Total HAA5 (PPB)	27.3 (avg)	7.6-27.0
Total HAA6 (PPB)	3.99 (avg)	0.8-7.2
Total HAA9 (PPB)	31.3 (avg)	8.4-54.2
1,2,3-Trichloropropane (PPB)	100 (1 Detect)	N/A
Bromochloroacetic Acid (PPB)	0.750 (avg)	0.7-0.8
Bromodichloroacetic Acid (PPB)	5.66 (1 Detect)	N/A
Chlorodibromoacetic Acid (PPB)	0.810 (1 Detect)	N/A
Dichloroacetic Acid (PPB)	6.40 (avg)	1.2-11.6
Trichloroacetic Acid (PPB)	20.9 (avg)	6.4-35.4

"Your public water supply is fluoridated. According to the Center for Disease Control and Prevention, if your child under the age of 6 months is exclusively consuming infant formula reconstituted with **fluoridated water, there may be an increased chance of dental fluorosis. Consult your child's health care provider for more information."**

UNH Water Supply
28 Waterworks Road
Durham, NH 03824

Durham Public Works Department
100 Stone Quarry Drive
Durham, NH 03824

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UNH-DURHAM WATER SYSTEM- PWS ID # 0691010

2023 WATER QUALITY REPORT

The water that the UNH-Durham Water System provides to University and Durham buildings and residences meets or exceeds State and USEPA strict standards. This report has been created to inform you of the quality of drinking water delivered to you on a daily basis.

Town of Durham:
Richard Reine, Director of Public Works
April Talon, P.E., Town Engineer
Dwight Richard – DPW Chief Operator
Phone: 868-5578
Email: publicworks@ci.durham.nh.us

UNH Water Supply:
Michael Sullivan- Chief Operator
UNH / Durham Water System
Phone: 603-862-1390
Email: msullivan@woodardcurran.com

Adam Kohler
Director of Energy and Utilities
Phone: 603-862-1276
Email: adam.kohler@unh.edu

** If you are interested in learning more about the UNH-Durham Water System or in attending a future meeting, please contact the University or Public Works Department at the email or number listed above.*

Where Does Your Water Come From?

The UNH-Durham Water System is a jointly operated water system, meaning that both UNH and the Town of Durham contribute to the production of safe drinking water. Your water comes from combined sources provided by UNH and/or the Town at any given time. There are 1,300 water meters in the Town's System, which are read monthly and billed quarterly and over 200 UNH meter locations.

The University owns and operates the Surface Water Treatment Plant, which includes the Lamprey River Pump Station, and the portion of the water distribution system serving the University. The new Water Treatment Plant (WTP) became operational on March 11th, 2020 and replaced the Arthur Rollins Treatment Plant that was originally constructed in 1935. The raw water is supplied to the treatment plant from a reservoir on the Lamprey River and/or the Oyster River, and/or the Spruce Hole Well. The Spruce Hole site serves a dual purpose: (1) to convey river water from the Lamprey River to artificially recharge the underlying Spruce Hole Aquifer; and (2) to convey groundwater from the Spruce Hole Well to the UNH-Durham Water Plant for treatment. At the UNH Water Treatment Plant, treatment process chemicals are added to assist in removal of impurities through settling. The water is then filtered through layers of anthracite coal and sand. The final stage of treatment involves the addition of chlorine for disinfection, fluoride to minimize tooth decay, sodium hydroxide (caustic soda) for pH control, and blended phosphate to minimize corrosion of the piping system. The maximum capacity of the WTP is around 2 million gallons per day.

The Town of Durham owns and operates the Lee Well and Pump Station, Foss Farm and Beech Hill Storage Tanks, the Town reservoir behind the Wiswall Dam on the Lamprey River, Technology Drive and Madbury Road pressure stations and the portion of the distribution system serving the residents and businesses of the Town. The Town's portion of the water system is under direct control of the Durham Public Works Department. The Lee Well is a gravel packed well located on Angel Rd. in Lee, N.H. The Town of Durham owns the land on which the wellhead and pump house are sited. The well has an estimated safe yield of approximately 550,000 gallons per day. The well water is naturally filtered underground. Water pumped into the distribution system has chlorine added as a disinfectant, fluoride to minimize tooth decay, sodium hydroxide (caustic soda) for pH control, and blended phosphate to minimize corrosion of the piping system.

The Spruce Hole Land and Water Supply is jointly owned by UNH and Durham and was brought online in 2016 providing additional water capacity and redundancy to the UNH-Durham water system. The location of the Spruce Hole Well (the Town's Gravel Pit) was originally acquired by the Town of Durham in 1982 and it has been used as a gravel/borrow pit for Town use only. The UNH/Durham Water System was awarded the 2017 Source Water Sustainability Award for our efforts in Water Conservation and development of the Spruce Hole Well and Artificial Recharge Project.

Drinking Water Contaminants

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.

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 storm water 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 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.

-Lead– If present, elevated levels of lead can cause serious 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 UNH-Durham Water System is responsible for providing high quality drinking water, but 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 at http://www.epa.gov/safewater/lead.

Why are contaminants in my water? Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the US Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791) *Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care provider. 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 at 1-800-426-4791.*

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The US Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.