

Consumer Confidence Report

High and Low Estates

EPA # 0612140

2021

What is a Consumer Confidence Report?

The Consumer Confidence Report (CCR) details the quality of your drinking water, where it comes from, and where you can get more information. This annual report documents all detected primary and secondary drinking water parameters and compares them to their respective standards known as Maximum Contaminant Levels (MCLs).

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 storm water runoff, and residential uses.

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

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.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amounts 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.

What is the source of my drinking water? The sources of the Hi & Lo Estates water supply are one wells located between Taryn Road and Island Pond Road in Derry, NH. Well # 4 is located 334 feet northwest of the pump house. Treatment consist of greensand filtration to remove iron and manganese, ultraviolet light as a disinfectant and phosphate addition to aid in corrosion control and sequester iron and manganese. During the summer months, the well and the treatment described above are discontinued and water is supply by an interconnection with the Drew Woods system. The Drew Woods system obtains its water from four wells and an interconnection with the town of Derry which in turn purchases its water from the city of Manchester. Drew Woods treatment consists of aeration to reduce Radon levels, and phosphate addition to sequester iron and manganese. The water from Lake Massabesic located Auburn and East Manchester is treated at the Manchester Water Treatment Plant located at 1581 Lakeshore Road, Manchester, NH. The treatment consists of chloramines for disinfection, fluoride for preventing tooth decay, soda ash for corrosion control, phosphoric acid for corrosion control, granular active carbon for organic and particle removal, and ozone for organic removal and disinfection. Manchester's Consumer Confidence Report can be found at the following website:

<http://www.manchesternh.gov/website/Departments/WaterWorks/ConsumerConfidence/tabid/410/Default.aspx>

When well 4 was operating this spring, we had to get bulk water from Manchester.

	Bulk	Water	Delivery
Bulk Water Source	Dates of Delivery	Gallons	Reason for Delivery
Manchester Water	5/23/20	18,000	Well is not keeping up with demand
Manchester Water	5/24/20	6,000	Well is not keeping up with demand

Why are contaminants in my water? 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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Do I need to take special precautions? 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 at 1-800-426-4791.

Source Water Assessment Summary

DES prepared drinking water source assessment reports for all public water systems between 2000 and 2003 in an effort to assess the vulnerability of each of the state's public water supply sources. Included in the report is a map of each source water protection area, a list of potential and known contamination sources, and a summary of available protection options.

Source Name	Date	Low	Med	High
High & Low – Bedrock Well # 4- Located 334 feet northwest of the pump house	6/10/05	7	3	2
Drew Woods - Bedrock Well # 4 - Located 100' north of the pump house	3/18/02	7	4	1
Drew Woods - Bedrock Well # 5 - Located 275' northwest of the pump house	3/18/02	8	3	1
Drew Woods - Bedrock Well # 6 - Located 310' northwest of the pump house	3/18/02	9	2	1
Drew Woods - Bedrock Well # 7 - Located 437' northwest of the pump house	3/18/02	8	3	1
City of Manchester - Lake Massabesic	9/10/02	5	4	4

Note: This information is over 18 years old and includes information that was current at the time the report was completed. Therefore, some of the ratings might be different if updated to reflect current information. At the present time, DES has no plans to update this data.

The complete Assessment Report is available for review. For more information, call *Matt Day* at 800-553-5191 or visit the DES Drinking Water Source Assessment website at <https://www.des.nh.gov/climate-and-sustainability/conservation-mitigation-and-restoration/source-water-protection/assessment>

How can I get involved? For more information about your drinking water, please call our laboratory at 800-553-5191 or send an email to customer-service@pennichuck.com. Although we do not have specific dates for public participation events or meetings, feel free to contact us with any questions you may have.

Violations: We are pleased to announce there were no violations.

Drinking Water Contaminants

Radon: Radon is a radioactive gas that you cannot see, taste or smell. It can move up through the ground and into a home through cracks and holes in the foundation. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. It is a known human carcinogen. Breathing radon can lead to lung cancer. Drinking water containing radon may cause an increased risk of stomach cancer.

Sodium: Sodium sensitive individuals such as those experiencing hypertension, kidney failure, or congestive heart failure, who drink water containing sodium, should be aware of levels where exposures are being carefully controlled.

Fluoride: Your public water supply is fluoridated. According to the Centers for Disease Control and Prevention, if you 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.

Lead: 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. This water system is responsible for high quality drinking water but cannot control the variety of materials used in your plumbing components. **When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing cold water from your tap for at least 30 seconds before using water for drinking or cooking. Do not use hot water for drinking and 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 or at <http://water.epa.gov/drink/info/lead/index.cfm>

Definitions

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

Maximum Contaminant Level or **MCL:** 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.

Maximum Contaminant Level Goal or **MCLG:** 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.

Maximum Residual Disinfectant Level or **MRDL:** 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.

Maximum Residual Disinfectant Level Goal or **MRDLG:** 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.

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

Turbidity: A measure of the cloudiness of the water. It is monitored by surface water systems 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.

Abbreviations

AGQS: Ambient groundwater quality standard

NA: Not Applicable

ND: Not Detectable at testing limits

pCi/L: picoCurie per Liter

ppb: parts per billion

ppm: parts per million

ppt: parts per trillion

RAA: Running Annual Average

2020 Data

LEAD & COPPER	Year Collected	90 th Percentile	Action Level	MCLG	# of Sites Sampled	# Sites Above Action Level	Violation Yes/No	Possible Source of Contaminant
Lead (ppb)	2018	ND	15	0	8	0	No	Corrosion of household plumbing systems, erosion of natural deposits; leaching from wood preservatives
Copper (ppm)	2018	0.223	1.3	1.3	8	0	No	

Tap water samples were collected for lead and copper analysis from sample sites throughout the community
 90th Percentile – Out of every 10 homes sampled, 9 were at or below this level.

(Unit of Measure)	Year Sampled	MCL	MCLG	Average Amount Detected	Range Low-High	Violation Yes/No	Typical Source of Contaminant
Total Organic Carbon ₃ (ppm)	2020	TT	NA	1.71	1.36 – 2.51	No	Naturally present in the environment
Turbidity (NTU) ²	2020	TT=<1 NTU	NA	0.09	0.02 - 0.09	No	Soil Runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2020	TT=95% of samples meet the limit	NA	100 %	NA	No	Soil Runoff
Inorganic Contaminants							
Arsenic (ppm)	2020	10	10	RAA 1.08	ND-1.5	No	Erosion of natural deposits; runoff from orchards; run from glass and electronics production waste
Barium (ppm)	2020	2	2	0.0111	0.0096-0.0125	No	Discharge of drilling wastes; discharge from metal refineries; erosion or the natural deposits
Fluoride (ppm)	2020	4	4	0.7	0.61 – 0.74	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Per- and Polyfluoroalkyl Substances (PFAS) Contaminants							
Perfluorooctanoic acid (PFOA)(ppt)	2020	12	0	4.87	4.58-5.39	No	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems
Perfluorohexane sulfonic acid (PFHxS)(ppt)	2020	18	0	2.175	0-2.18	No	
Radiological							
Beta/Photon Emitters ¹ (pCi/L)	2017	50	0	1.7	NA	No	Decay of natural and man-made deposits.
Combined Radium (pCi/L)	2017	5	0	0.2	NA	No	Erosion of natural deposits

Disinfectant and Disinfection By-Products	Year Sampled	MCL	MCLG	Average Amount Detected	Range Low-High	Violation Yes/No	Typical Source of Contaminant
Chlorine Total (ppm)	2020	4-MRDL	4-MRDLG	0.11	ND – 0.27	No	Water additive used to control microbes.
Chloramines (ppm)	2020	4-MRDL	4-MRDLG	0.26	ND - >0.5	No	Water additive used to control microbes.
Total Trihalomethanes (ppb)	2020	80	0	2.3	N/A	No	By-product of drinking water chlorination.
Haloacetic Acids – Stage 2 (ppb)	2020	60	0	ND	N/A	No	By-product of drinking water chlorination.

1-The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.
2-Turbidity is a measure of the cloudiness of the water. It is monitored by surface water systems 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.
3- The value reported under Amount Detected for TOC is the lowest ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of > 1 indicates that the water system is in compliance with TOC removal requirements.

UNREGULATED AND OTHER SUBSTANCES				
(Unit of Measure)	Year Collected	Average Amount Detected	Range Low-High	Typical Sources
Alkalinity (ppm)	2020	21.5	20 - 29	Naturally occurring and/or added for pH adjustment.
Aluminum (ppb)	2020	31	ND-43	Erosion of natural deposits; Residual from some surface water treatment processes
Ammonia, as Nitrogen (ppm)	2020	0.31	0.22 – 0.59	By-product of drinking water disinfection.
Ammonia, Free (ppm)	2020	0.02	ND – 0.11	By-product of drinking water disinfection.
Calcium (ppm)	2020	4.8	4.44 – 4.72	Erosion of natural deposits
Color (units)	2020	0	0-1	Naturally occurring organic materials
Magnesium (ppm)	2020	1.14	0.97 – 1.05	Erosion of natural deposits
Phosphate (ppm)	2020	0.47	0.42 – 0.51	Corrosion control additive
Silica (ppm)	2020	2.92	1.93 – 3.85	Naturally present in the environment

Secondary Contaminants					
Secondary MCLs (SMCL)	Level Detected	Date	Treatment technique (if any)	AL (Action Level), SMCL or AGQS (Ambient groundwater quality standard)	Specific contaminant criteria and reason for monitoring
Chloride (ppm)	Average 51.5	2020	N/A	250	Wastewater, road salt, water softeners, corrosion
Fluoride (ppm)	Average 0.7	2020	Fluorosilicic acid	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Total Hardness (ppm)	ND-0.0016	2020	N/A	N/A	A measure of dissolved minerals, primarily calcium and magnesium
Iron (ppm)	ND -0.016	2020	Phosphates	0.30	Geological
Manganese (ppb)	5 – 41.9	2020	N/A	50	Geological
pH (SU)	Average 7.71	2020	Soda Ash	6.5-8.5	Precipitation and geology
Sodium (ppm)	Average 41.5	2020	N/A	100-250	Road salt, septic systems (salt from water softeners) We are required to regularly sample for sodium
Sulfate (ppm)	18	2020	N/A	250	Naturally occurring
Zinc (ppm)	0.001-0.0051	2020	N/A	5	Galvanized pipes

Manchester Water Works participated in the 4th stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4, benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminants monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800)426-4791.

Bromochloroacetic Acid (ppb)	2018	1.1	0.682-1.680	Used as a food additive (antioxidant)
Butylated Hydroxyl Anisole (ppb)	2018	0.0297	NA	Used as a food additive (antioxidant)
o-Toluidine (ppb)	2018	0.00693	NA	Used in the production of dyes, rubber, pharmaceutical, and pesticides
Quinoline (ppb)	2018	0.0198	NA	Used as a pharmaceutical (antimalarial) and Flavoring agent; Produced as a chemical intermediate; Component of coal

Winter well for Hi & Low

Inorganic Contaminants	Year Sampled	MCL	MCLG	Average Amount Detected	Range Low-High	Violation Yes/No	Typical Source of Contaminant
Barium (ppm)	2018	2	2	0.0371	N/A	No	Discharge of drilling wastes; discharge from metal refineries; erosion or the natural deposits
Per- and Polyfluoroalkyl Substances (PFAS) Contaminants							
Perfluorooctanoic acid (PFOA)(ppt)	2019	12	0	10.9	N/A	No	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems
Perfluorooctane sulfonic acid (PFOS)(ppt)	2019	15	0	4.83	N/A	No	
Perfluorohexane sulfonic acid (PFHxS)(ppt)	2019	18	0	3.10	N/A	No	
Radiological							
Uranium (ppb)	2020	30	0	2.4	N/A	No	Erosion of natural deposits

Secondary Contaminants

Secondary MCLs (SMCL)	Level Detected	Date	Treatment technique (if any)	AL (Action Level), SMCL or AGQS (Ambient groundwater quality standard)	Specific contaminant criteria and reason for monitoring
Chloride (ppm)	69	2018	N/A	250	Wastewater, road salt, water softeners, corrosion
Fluoride (ppm)	0.28	2018	N/A	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Iron (ppm)	0.28	2018	N/A	0.3	Geological
Hardness (ppm)	168	2018	N/A	N/A	Geological
Manganese (ppb)	104	2018	N/A	50	Geological
Nickel (ppm)	0.0016	2018	N/A	N/A	Geological; electroplating, battery production, ceramics
pH (SU)	7.54	2018	N/A	6.5-8.5	Precipitation and geology
Radon (pCi/L)	2628	2020	N/A	Advisory Level 2000	Radon is a radioactive gas that you can't see, taste or smell. It can move up through the ground and into a home through cracks and holes in the foundation. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. It is a known human carcinogen. Breathing radon can lead to lung cancer. Drinking water containing radon may cause an increased risk of stomach cancer.
Sodium (ppm)	19.3	2018	N/A	100-250	Road salt, septic systems (salt from water softeners) We are required to regularly sample for sodium
Sulfate (ppm)	41	2018	N/A	250	Naturally occurring
Zinc (ppm)	0.0308	2018	N/A	5	Galvanized pipes