

2023 Consumer Confidence Report

Dover Water Department

PWS ID# 0651010

Introduction

As a responsible public water system (PWS), our mission is to deliver the best-quality drinking water and reliable service at the lowest, sustainable cost. With aging infrastructure like Dover's, continuous improvements are necessary to maintain safe, quality drinking water.



In the past year, we completed the water main replacement on Central Avenue from Glenwood Avenue to Abby Sawyer Memorial Drive, upgrading it from a 6-inch cast iron main to a 16-inch ductile iron. We also began constructing the new water treatment plant to remove PFAS and other contaminants from the Pudding Hill aquifer. Once online, expected in 2024, it will allow us to reuse DPH-1 and Ireland wells again, which we voluntarily took offline. In the coming year, we will construct a new water tank to create redundancy and to allow the four-million-gallon tank on Garrison Hill to be cleaned.

These investments, along with ongoing operation and maintenance costs, are supported by revenue from user fees. The current fiscal year's water rate is \$6.41 per hundred cubic feet, equal to 748 gallons.

What is a Consumer Confidence Report?

The Consumer Confidence Report (CCR) details the quality of your drinking water, where it comes from, and how to get more information. This annual report documents all detected primary and secondary drinking water contaminants and 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 land's surface or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, which can pick up substances resulting from the presence of animals or human activity.



Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria that 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 stormwater 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 per- and polyfluoroalkyl substances, are synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production. It can also come from gas stations, urban stormwater runoff and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. 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 residents of Dover receive their drinking water from eight production wells. These wells provide access to four underground aquifers of high-quality water to supply the City of Dover and its multifaceted needs. The water is treated to remove iron and manganese, disinfected with chlorine, and fluoridated.

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 EPA'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 those with cancer undergoing chemotherapy, 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 and their caregivers should seek advice about drinking water from their healthcare 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

N.H. Department of Environmental Services prepared drinking water source assessment reports for all public water systems between 2000 and 2003 to assess each state's public water supply source's vulnerability. The reports include a map of each source water protection area, a list of potential and known contamination sources, and a summary of available protection options. The assessment results for Dover prepared on Sept. 26, 2007, are noted below and can be found at <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/dover.pdf>

Source Information	Summary of Susceptibility Ratings		
	High	Med	Low
GPW 1 Calderwood / Hoppers	1	3	8
GPW Cummings	3	5	4
GPW Hughes Well	2	3	7
GPW Ireland Well	2	6	4
GPW Campbell / Hoppers	1	3	8
GPW Smith Well	3	4	5

Note: Due to the time when the assessments were completed, some ratings may differ if updated to reflect current information.

The complete Assessment Report is available for review at Pierre R. Bouchard Public Works Facility at 271 Mast Road, Dover, NH. For more information, call **Michael Nadeau at 603-516-6450** or visit the [NHDES web-site](#).

How can I get involved?

For more information about your drinking water, contact **Michael Nadeau** at the **Community Services Department** at 603-516-6450. Currently, the Dover Utilities Commission meets in the Pierre R. Bouchard Public Works Facility, at 271 Mast Road, on the third Monday of each month at 6 p.m. Meetings are open to the public.

Violations and Other information: See the violation list on the next page.

Definitions

Ambient Groundwater Quality Standard or AGQS: The maximum concentration levels for contaminants in groundwater are established in state law RSA 485-C, the Groundwater Protection Act.

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

Level I Assessment: A study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system

Level II Assessment: A detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Maximum Contaminant Level or MCL: The highest level of a contaminant 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 health risk. 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 the addition of a disinfectant is necessary for the 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 health risk. 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.

Secondary Maximum Contaminant Levels or SMCL:

These are secondary drinking water guidelines established by the EPA to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, and odor. These contaminants are not considered a risk to human health at the SMCL.

Abbreviations

BDL: Below detection limit

mg/L: Milligrams per Liter

NA: Not applicable

ND: Not detectable at testing limits

NTU: Nephelometric turbidity unit

pCi/L: Picocuries per liter

ppb: Parts per billion

ppm: Parts per million

RAA: Running annual average

TTHM: Total trihalomethanes

ug/L: Micrograms per liter

UCMR: Unregulated contaminant monitoring rule

Drinking Water Contaminants:

Lead: If present, elevated lead levels 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 to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>.

VIOLATIONS

VIOLATIONS	Date of violation	Explain violation	Length of violation	Action taken to resolve	Health Effects (Env-Dw 804-810)
Monitoring and Reporting (M/R)	1) 7/1/2022	1) The CCR was not distributed on time to consumers due to missing timeframe to be placed in with water/sewer bill.	1) 32 Days 8/2/2022	1) The CCR was placed in the next billing cycle water/sewer bills.	None
	2) 10/1/2021	2) Action was not taken to distribute lead and copper results to the consumers who were sampled.	2) 11 Days 10/12/2021	2) Results of Lead and Copper reports were delivered to the residents who were sampled.	None
	3) 5/17/2021	3) Water use report not filed.	3) 9 Months 2/28/2022	3) Completed Q1 2021 water use report	None

2023 Report (2022 Data)

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	2) 10/1/2021	2) Action was not taken to distribute lead and copper results to the consumers who were sampled.	2) 11 Days 10/12/2021	2) Results of Lead and Copper reports were delivered to the residents who were sampled.	None
	3) 5/17/2021	3) Water use report not filed	3) 9 Months 2/28/2022	3) Completed Q1 2021 water use report	None

*The value must be reported as whole number, see Env-Dw 811, Appendix B for conversions:

LEAD AND COPPER

Contaminant (Units)	Action Level (AL)	90 th percentile sample value *	Date	# of sites above AL	Violation Yes/No	Likely Source of Contamination	Health Effects of Contaminant
Copper (ppm)	1.3	0.294	8/17/2022	0	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience 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 doctor.
Lead (ppb)	15	0.001	8/17/2022	0	No	Corrosion of household plumbing systems, erosion of natural deposits	(15 ppb in more than 5%) Infants and young children are typically more vulnerable to lead in drinking water than the general population. Lead levels at your home may be higher than in other homes in the community due to materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. You may also flush your tap by turning it on for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791). (Above 15 ppb) Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

*If applicable, report the average, range, and date sampled if before the reporting year. Level detected must be reported as a whole number. See Env-Dw 811, Appendix B for conversions:

DETECTED WATER QUALITY RESULTS

Radioactive Contaminants

Contaminant (Units)	Level Detected*	Date	MCL	MCLG	Violation YES/NO	Likely Source of Contamination	Health Effects of Contaminant
Compliance Gross Alpha (pCi/L)	2.2 pCi/L (Lowell WTP) 3.1 pCi/L (French Cross WTP)	2-10-2021 7/25/2018	15	0	No	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Uranium (ug/L)	0.2 ug/L (French Cross WTP) 1 ug/L (DPH 1 well) 1 ug/L (Griffin WTP)	7-25-2018 4-19-2018 4/19/2018	30	0	No No No	Erosion of natural deposits	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
Combined Radium 226 + 228 (pCi/L)	0.6 pCi/L (Lowell WTP) 1.4 pCi/L (Hughes Well) 0.5 pCi/L (DPH-1 Well) 0.3 pCi/L (Ireland Well)	2-10-2021 9-1-2021 4/19/2018 1/23/2018	5	0	No No No No	Erosion of natural deposits	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

Inorganic Contaminants

Contaminant (Units)	Level Detected*	Date	MCL	MCLG	Violation YES/NO	Likely Source of Contamination	Health Effects of Contaminant
Barium (ppm)	0.0066-0.0191	7/10/2020-8/17/2022	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Chlorine (ppm)	0.13	2021	MRDL = 4	MRDL G= 4	No	Water additive used to control microbes	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Fluoride (ppm)	0.67-0.47	5/15/2018-8/17/2022	4.0	4.0	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.

Contaminant (Units)	Level Detected*	Date	MCL	MCLG	Violation YES/NO	Likely Source of Contamination	Health Effects of Contaminant
Nitrate (as Nitrogen) (ppm)	0.35 (Hughes Well)	8/17/2022	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	(5 ppm through 10ppm) Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your healthcare provider. (Above 10 ppm) Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
	0.21 (Lowell Ave WTP)	8/16/2022			No		
	0.11 (French Cross WTP)	8/16/2022			No		
	0.46 (Campbell/Calderwood Wells)	8/16/2022			No		
	0.92 (DPH-1 Well)	9/1/2021			No		
Nitrite (as Nitrogen) (ppm)	0.069 (Fenchcross WTP)	8/24/2021	1	1	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

Volatile Organic Contaminants

Contaminant (Units)	Level Detected*	Date	MCL	MCLG	Violation YES/NO	Likely Source of Contamination	Health Effects of Contaminant
Haloacetic Acids (HAA) (ppb)	0.0-2.1	2/15/2022-11/17/2022	60	N/A	No	By-product of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Methyl tertiary-butyl ether (MtBE) (ppb)	0.5 (Lowell Ave WTP)	10/18/2022	13	13	No	A gasoline additive	The New Hampshire Bureau of Health Risk Assessment considers MtBE a possible human carcinogen. Some people who drink water containing MtBE in excess of the MCL over many years could experience problems with their kidneys and may have an increased risk of getting cancer.
Total Trihalomethanes (TTHM) (Bromodichloromethane Bromoform Dibromochloromethane Chloroform) (ppb)	4.7-15.0	2/15/2022-11/17/2022	80	N/A	No	By-product of drinking water chlorination	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

*If applicable report average, range, and date sampled if prior to the reporting year. Level detected must be reported as whole number, see Env-Dw 811, Appendix B for conversions:

PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) CONTAMINANTS

Contaminant (Units)	Level Detected*	Date	MCL	MCLG	Violation YES/NO	Likely Source of Contamination	Health Effects of Contaminant
Perfluorohexane sulfonic acid (PFHxS) (ppt)	4.17 (DPH1) 3.22 (DPH1) 3.11 (DPH1) 5.39 (DPH1) 6.85 (DPH1) 7.37 (DPH1) 2.08 (DPH1) DPH1 is not in use	3/31/2022 4/29/2020 6/22/2021 7/9/2020 9/1/2021 11/16/2021 12/31/2020	18	0	No	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems	Some people who drink water containing perfluorohexane sulfonic acid (PFHxS) in excess of the MCL over many years could experience problems with their liver, endocrine system, or immune system, or may experience increased cholesterol levels. It may also lower a woman's chance of getting pregnant.
Perfluorononanoic acid (PFNA) (ppt)	None Detected		11	0	No	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems	Some people who drink water containing perfluorononanoic acid (PFNA) in excess of the MCL over many years could experience problems with their liver, endocrine system, or immune system, or may experience increased cholesterol levels.
Contaminant (Units)	Level Detected*	Date	MCL	MCLG	Violation YES/NO	Likely Source of Contamination	Health Effects of Contaminant
Perfluorooctane sulfonic acid (PFOS) (ppt)	2.71 (DPH1) 2.15 (DPH1) 2.69 (DPH1) 2.61 (DPH1) 2.15 (DPH1) 3.49 (DPH1) 4.08 (DPH1) 2.02 (DPH1) DPH1 is not in use	3/31/2022 2/25/2020 4/29/2020 7/9/2020 11/12/2019 9/1/2021 11/16/2021 12/31/2020	15	0	No	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems	Some people who drink water containing perfluorooctane sulfonic acid (PFOS) in excess of the MCL over many years could experience problems with their liver, endocrine system, or immune system, may experience increased cholesterol levels, and may have an increased risk of getting certain types of cancer. It may also lower a woman's chance of getting pregnant.

PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) CONTAMINANTS

Perfluorooctanoic acid (PFOA) (ppt)	6.13 (DPH1)	3/31/2022	12	0	No	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems	Some people who drink water containing perfluorooctanoic acid (PFOA) in excess of the MCL over many years could experience problems with their liver, endocrine system, or immune system, may experience increased cholesterol levels, and may have an increased risk of getting certain types of cancer. It may also lower a woman's chance of getting pregnant.
	2.95 (DPH1)	4/29/2020					
	4.92 (DPH1)	6/22/2021					
	6.55 (DPH1)	7/9/2020					
	7.57 (DPH1)	9/1/2021					
	9.52 (DPH1)	11/16/2021					
	5.06 (DPH1)	12/31/2020					
	3.98 (DPH1)	2/24/2021					
	<u>DPH1 is not in use</u>						
	1.98 (Lowell)	6/22/2021					
1.91 (Lowell)	8/25/2022						
2.00 (Lowell)	2/24/2022						
2.06 (CB/CD)	8/25/2022						
1.96 (CB/CD)	2/24/2022						
<p>Lowell=Lowell Ave Treatment Plant; CB=Campbell Well; CD=Calderwood Wells</p>							

SECONDARY CONTAMINANTS

Secondary MCLs (SMCL)	Level Detected	Date	Treatment technique (if any)	SMCL	50 % AGQS (Ambient groundwater quality standard)	AGQS (Ambient groundwater quality standard)	Specific contaminant criteria and reason for monitoring
Chloride (ppm)	20-320	5/15/2018-8/17/2022	N/A	250	N/A	N/A	Wastewater, road salt, water softeners, corrosion
Fluoride (ppm)	0.47-0.67	5/15/2018-8/17/2022	N/A	2	2	4	Your public water supply is fluoridated. According to the Centers for Disease Control and Prevention, if your child under 6 months is exclusively consuming infant formula reconstituted with fluoridated water, there may be an increased chance of dental fluorosis. Consult your child's healthcare provider for more information.
Iron (ppm)	0.146-0.233	7/10/2019-8/17/2022	N/A	0.3	N/A	N/A	Geological
Manganese (ppm)	0.2163 0.0190	7/10/2019-8/17/2022	N/A	0.05	0.15	0.3	Geological
Nickel	0.005 (DPH-1 well) 0.0051 (Lowell Ave WTP)	7/9/2020 4/3/2020	N/A	Not established; reporting is required for detections	0.005	0.01	Geological; electroplating, battery production, ceramics
PH (ppm)	6.86 7.79	5/15/2018-8/17/2022	N/A	6.5-8.5	N/A	N/A	Precipitation and geology
Sodium (ppm)	21.8-208	5/15/2018-8/17/2022	N/A	100-250	N/A	N/A	We are required to regularly sample for sodium
Sulfate (ppm)	9.2-35	5/15/2015-8/17/2022	N/A	250	250	500	Naturally occurring
Zinc (ppm)	0.113-0.327	5/15/2018-8/17/2022	N/A	5	N/A	N/A	Galvanized pipes