2022 Consumer Confidence Report

For

North Carver Water District (NCWD)

Carver, Massachusetts

PWS # 4052072

This report is a snapshot of the drinking water quality provided last year and is required of all water systems. It is updated & distributed annually and summarizes all the water quality testing done on your water supply in 2022, as well as the details about your water sources and distribution water system. Please take time to review this report and save it as a reference.

PUBLIC WATER SYSTEM INFORMATION

Water System Improvements

Your water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP), who inspects this system for its technical, financial, and managerial capacity to provide safe drinking water. Your water system is operated by *Small Water Systems Services, LLC (SWSS),* a Massachusetts Operations & Maintenance firm with licensed operators. In 2022, due to treatment failure related to the age of the equipment, it was decided to shut down the NCWD Water Treatment plant and connect to Middleborough water supply for the following repairs/upgrades:

- New filtration membranes were ordered and replaced in September.
- Both wells were jetted and cleaned in December.
- Plans to clean the aeration tank and mixing tank, clean chemical feed lines, repair tank level transducer for tank #2, replace process blower, and replace the wet ends on both well pumps will be done in early in 2023 in preparation to get the treatment plant back online.

Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, you may attend meetings or educational events as held by the North Carver Water District Board of Commissioners, who meet once a month. Notices of these meetings are posted at Town Hall and online at https://www.carverma.gov/north-carver-water-district-water-commissioners in accordance with Massachusetts open meeting laws.

YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Due to water quality issues and maintenance requirements, an arrangement was made to activate the interconnection with Middleborough Water Department (PWS#4182000). From June 24, 2022 through December 31, 2022, your water was supplied by Middleborough. Middleborough water comes from 13 groundwater sources. In order to meet State and Federal requirements for public drinking water, Middleborough treats its source water before supplying it to customers. All of the well supplies are treated for pH adjustment with potassium hydroxide, and sodium hypochlorite is added for disinfection purposes. Additionally, the East Grove Street Well is filtered through a slow sand filter and East Main Street #1, Satellite Wells #1A and #1B and #2 Well supplies are filtered through a biological filtration process for iron and manganese removal. Data included in this report which represents Middleborough water, is designated with an asterisk *.

From January 1, 2022 through June 23, 2022 your water was supplied by North Carver Water District (NCWD). There are 2 wells (01G and 02G) that supply water to the NCWD, which is comprised of commercial and residential properties, with approximately 96 service connections. In 2015, four 10,000-gallon storage tanks were installed to meet peak flow demands. The water passes through a treatment plant and discharges to a 12-inch pipe that extends west from the treatment plant to Route 58. The main continues north on 58 and ends at the Carver/Plympton town line. It also follows 58 south to the intersection of 58 and Plymouth St., where it follows Plymouth St. east to Green St., and then ends at the end of Lakeham Dr. The main also continues west up Plymouth St. and ends at the Carver/Middleborough town line with an interconnection for emergencies.

Is My Water Treated?

Yes. At the NCWD treatment plant, raw water is first treated with a sodium hydroxide (NaOH) solution to adjust the pH of the water to a set point of 7.8 +/- 0.2 to facilitate iron oxidation in the aeration tank. As flow exits the aeration tank, a potassium permanganate (KMnO4) solution is injected at a point upstream of a 6-inch in-line static mixer for the oxidation of manganese compounds in the oxidation tank. The chemically treated, aerated water is directed to a submerged ZeeWeed ultra filtration membrane system. Finally, the treated water flows through a UV unit for disinfection.

Corrosion Control through pH Adjustment:

Many drinking water sources in New England are naturally corrosive (i.e., they have a pH of less than 7.0). So, the water they supply tends to corrode and dissolve the metal piping it flows through. This not only damages pipes but can also add harmful metals, such as lead and copper, to the water. For this reason, it is beneficial to add chemicals that make the water neutral or slightly alkaline.

This is done by adding any one or a combination of several approved chemicals. The NCWD adds sodium hydroxide (NaOH) to its water. This adjusts the water to a non-corrosive pH. Testing throughout the water system has shown that this treatment has been effective at reducing lead and copper concentrations.

All chemicals used for coagulation are approved for water treatment by one or of the following organizations: National Sanitation Foundation (NSF), or Underwriters Laboratories (UL), both accredited by the American National Standards Institute (ANSI). Chemicals also have to meet performance standards established by the American Water Works Association (AWWA).

Iron & Manganese Removal (oxidation and filtration):

Iron and manganese are often present in groundwater at levels that can discolor the water or cause it to take on unpleasant odors or tastes. Even though the water may still be safe to drink, it is preferable that the iron and manganese be removed.

Removal generally requires a two-step process of oxidation and filtration. Oxidation is accomplished by adding potassium permanganate to the water. This causes the iron and manganese to form tiny particles. Once this happens, the water passes through special filters consisting of material that is specifically designed to capture iron and manganese particles. Over time, filters start to clog and need to be cleaned using a high-flow backwash process.

How Are These Sources Protected?

In 2001, MassDEP prepared Source Water Assessment Program (SWAP) Reports for water supply sources serving consumers at that time. The SWAP Report assesses the environmental susceptibility of public drinking water sources. Since NCWD was developed after 2001, no SWAP report is available for this water system at this time. *SWSS* routinely monitors your wellhead for potential sources of contamination.

NCWD maintains high standards for source protection such as attempting to keep all non-water related activities out of the Zone I area; informing its residents of the proper use of a septic system; maintaining Drinking Water Protection Area signs on site and consistently surveying the source. Management is always open to additional measures of protection and conservation for your drinking water source.

What Can Be Done to Improve Protection?

Residents can help protect sources by:

- Practicing good septic system maintenance
- Supporting water supply protection initiatives at the next town meeting
- Taking hazardous household chemicals to hazardous materials collection days
- Contacting the water department or Board of Health to volunteer for monitoring or education outreach to schools
- Limiting pesticide and fertilizer use, etc

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 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 stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and 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 stormwater runoff, and septic systems.

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

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

All 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 (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 some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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. North Carver Water District 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 or at http://www.epa.gov/safewater/lead.

IMPORTANT DEFINITIONS

Maximum Contaminant Level (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 (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.

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

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

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

Unregulated Contaminants
Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

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.

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

Running Annual Average (RAA) – The average of four consecutive quarter of data.

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 expected risk to health.
MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

ppm = parts per million, or milligrams per liter (mg/l)
ppb = parts per billion, or micrograms per liter (ug/l)
ppt = parts per trillion, or nanograms per liter
pCi/l = picocuries per liter (a measure of radioactivity)
NTU = Nephelometric Turbidity Units
ND = Not Detected
N/A = Not Applicable
mrem/year = millirems/year (a measure of radiation absorbed by the body)

WATER QUALITY TESTING RESULTS

What Does This Data Represent?

The water quality information presented in the table 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. Volatile Organic Compounds were collected in quarter 1 of 2022 and nitrate in quarter 2 2022, and both were not detected. Gross Alpha, Radium 226/228 were collected in quarter 2 of 2020 and were not detected. Nitrite, perchlorate, and Synthetic Organic Contaminants (SOC) were collected in quarter 3 2020 and were not detected. After sampling PFAS in January of 2022, NCWD was granted a PFAS waiver as Massachusetts DEP determined the source was not at risk, and is now required to sample PFAS once every 3 years. PFAS was sampled again in August because of the Middleborough interconnection.

*Data which represents NCWD Distribution System Water Quality while interconnected to Middleborough (PWS#4182000) water, is designated with an asterisk *.*

Distribution System Characteristics within the North Carver Water District

Lead & Copper	Date(s) Collected	90TH percentile	Action Level (AL)	MCLG	# of sites sampled	# of sites above AL	Violation (Y/N)	Possible Source of Contamination
Lead (ppb)	8/26/21, 8/27/21, 8/31/21	1.5	15	0	5	0	N	Corrosion of household plumbing systems; Erosion of natural deposits
Lead * (ppb)	11/15/22, 12/14/22, 12/15/22	2.0	15	0	5	0	N	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	8/26/21, 8/27/21, 8/31/21	0.273	1.3	1.3	5	0	N	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Copper * (ppm)	11/15/22, 12/14/22, 12/15/22	0.264	1.3	1.3	5	0	N	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.

Bacteria	MCL/TT	MCLG	Value	Date	Violation (Y/N)	Possible Sources
Total Coliform Bacteria	TT	0	0	2022	N	Naturally present in the environment

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify any problems that were found during these assessments.

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
Inorganic Contaminants							
PFAS6 (ppt)	Quarter 1	ND	--	2	2	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
PFAS6 (ppt)*	Quarter 3	ND	--	2	2	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Barium (ppm)	8/11/20	0.0093	--	2	2	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate (ppm)	2022	ND	-	10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Disinfectants and Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)*	Quarters 3 & 4 in (2022)	33	26 - 33	80	N/A	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5)* (ppb)	Quarters 3 & 4 in (2022)	4.4	1.3 - 4.4	60	N/A	N	Byproduct of drinking water disinfection
Chlorine (ppm) (free)	Monthly during July - December (2022)	0.53	0.28 - 0.59	4	4	N	Water additive used to control microbes

Unregulated Contaminants	Date(s) Collected	Result	Average Detected	SMCL	ORSG	Possible Source
Sodium (ppm)	8/11/20	45	--	N/A	20	Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents

Secondary Contaminants	Date(s) Collected	Result	Average Detected	SMCL	ORSG	Possible Source
Chloride (ppm)	5/4/22	45	--	250	--	Runoff and leaching from natural deposits; seawater influence
Copper	5/4/22	0.082	--	1	--	Internal corrosion of plumbing; erosion of natural deposits.
Ph	5/4/22	7.5	--	6.5 – 8.5	--	Runoff and leaching of natural deposits; seawater influence.
Manganese (ppm)	5/4/22	43	--	50	300	Natural sources as well as discharges from industrial uses.
Manganese (ppm)*	9/20/22	9	--	50	300	Natural sources as well as discharges from industrial uses.
Sulfate (ppm)	5/4/22	4.1	--	250	N/A	Runoff and leaching of natural deposits; industrial wastes.
Total Dissolved Solids (TDS) (ppm)	5/4/22	134	--	500	N/A	Runoff and leaching of natural deposits; seawater influence.

Middleborough Water Department 2022 Water Quality (as reported in the Middleborough CCR)

Lead & Copper	Year Sampled	90TH percentile	Action Level (AL)	MCLG	# of sites sampled	# of sites above AL	Violation (Y/N)	Possible Source of Contamination
Lead (ppb)	2022	2	15	0	30	0	N	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	2022	0.22	1.3	1.3	30	0	N	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Tap water samples were collected for lead and copper analyses from sample sites throughout the Middleborough community.								

Regulated Contaminant	Year Sampled	Amount Detected	Range Low-High	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Total Trihalomethanes (TTHMs) (ppb)	2022	35.1	9.8-68.1	80	N/A	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	2022	11.4	3.1-24	60	N/A	N	Byproduct of drinking water disinfection
Nitrate (ppm)	2022	3.13	ND-3.13	10	10	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Perchlorate	2022	0.4	0.11-0.4	2	N/A	N	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives.
PFAS6 (ppt)	2022	--	3.11-19.89	20	N/A	N	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.

Unregulated Contaminants	Date(s) Collected	Result	Range Detected	SMCL	ORSG	Possible Source
Sodium (ppm)	2022	81.3	37.7-164	N/A	20	Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents
Acetone (ppm)	2022	0.01473	ND-0.0359	N/A	6.3	Discharge from industrial production and use, in automobile exhaust, from landfills and natural sources.

Secondary Contaminants	Date(s) Collected	Result	Range low-high	SMCL	ORSG	Possible Source
Aluminum (ppb)	2022	32.5	ND-110	200	N/A	Residue from water treatment process; erosion of natural deposits
Chloride (ppm)	2022	221.5	13.1-278	250	N/A	Runoff and leaching from natural deposits; seawater influence
Color (C.U.)	2022	3.75	ND-35	15	N/A	--
Iron (ppb)	2022	85.83	ND-700	300	N/A	Natural and industrial sources as well as aging and corroding distribution systems and household pipes.
Manganese (ppb)**	2022	110	ND-377	50	300	Natural sources as well as discharges from industrial uses.
Odor (Ton)	2022	2.58	1-4	3	N/A	Naturally occurring organic materials that form ions when in water; seawater influence.
pH (units)	2022	9	7.08-9	6.5-8.5	N/A	Runoff and leaching of natural deposits; seawater influence.
Silver (ppb)	2022	ND	ND	100	N/A	Naturally occurring.
Sulfate (ppm)	2022	13.32	9.08-21.8	250	N/A	Runoff and leaching of natural deposits; industrial wastes.
Total Dissolved Solids (TDS) (ppm)	2022	301.33	176-506	500	N/A	Runoff and leaching of natural deposits; seawater influence.
Zinc (ppm)	2022	0.02	ND-0.15	5	N/A	Leaching from natural deposits
**EPA has established a lifetime Health Advisory (HA) of 0.3 mg/L and an acute HA of 1.0 mg/L.						

COMPLIANCE WITH DRINKING WATER REGULATIONS

Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available. We are proud to report that last year your drinking water met all applicable primary health standards regulated by the state and federal government.

Health Effect Statements

Total Coliform - Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

Sodium - Some people who drink water containing sodium at high concentrations for many years could experience an increase in blood pressure.

Manganese *- Manganese is a naturally occurring mineral found in rocks, soil, groundwater, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet but can have undesirable effects on certain sensitive populations at elevated concentrations. The United States Environmental Protection Agency (EPA) and MassDEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 ug/L (microgram per liter), or 50 parts per billion (ppb). In addition, MassDEP's Office of Research and Standards (ORS) has set a drinking water guideline for manganese (ORSG), which closely follows the EPA public health advisory for manganese.* ***Drinking water may naturally have manganese and, when concentrations are greater than 50 ppb, the water may be discolored and taste bad. Over a lifetime, the EPA recommends that people drink water with manganese levels less than 300 ppb and over the short term, EPA recommends that people limit their consumption of water with levels over 1000 ppb, primarily due to concerns about possible neurological effects. Children younger than one year old should not be given water with manganese concentrations over 300 ppb, nor should formula for infants be made with that water for more than a total of ten days throughout the year.*** *The ORSG differs from the EPA's health advisory because it expands the age group to which a lower manganese concentration applies from children less than six months of age to children up to one year of age to address concerns about children's susceptibility to manganese toxicity. See EPA Drinking Water Health Advisory for manganese at: https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_magnese_dwreport_0.pdf and MassDEP Office of Research and Standards (ORSG) for manganese http://www.mass.gov/eea/agencies/massdep/water/drinking/lead-and-other-contaminants-in-drinking-water.html#11*

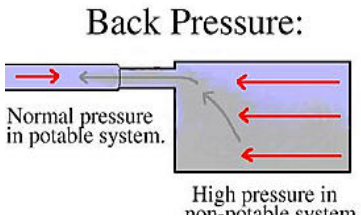
EDUCATIONAL INFORMATION

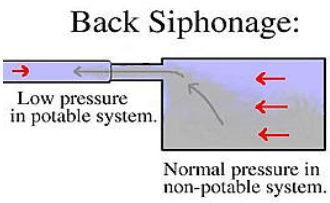
~ Cross-Connection Control and Backflow Prevention ~

The North Carver Water District makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is extracted via deep wells from underground aquifers, throughout the entire treatment and distribution system. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection? If so, how?

What is a cross-connection?
A cross-connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping arrangements or equipment that allows the drinking water to come in contact with non-potable liquids, solids, or gases (hazardous to humans) in event of a backflow.

What is a backflow?
Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (back pressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand causing the water to flow backward inside the water distribution system (back siphonage). Backflow is a problem that many people are unaware of, but that every water customer has a responsibility to help prevent.





What can I do to help prevent a cross-connection?
Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact, over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

- NEVER submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains, or chemicals.
- NEVER attach a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bibb vacuum breaker on any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with backflow preventers.
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

Small Water Systems Services, LLC (SWSS) is contracted on an annual basis to provide licensed water operator coverage for the water system serving North Carver Water District. It is our responsibility to maintain the system's compliance with all drinking water operation requirements. We monitor your drinking water, routinely evaluating the water quality entering your distribution system and inspecting the systems regularly. For more information, call *SWSS* at 978-486-1008.

ADDITIONAL INFORMATION

WHAT ARE PFAS AND WHY ARE THEY A PROBLEM?

Per- and polyfluoroalkyl substances (PFAS) are a family of chemicals used since the 1950s to manufacture stain-resistant, water-resistant, and non-stick products. PFAS are widely used in common consumer products as coatings, on food packaging, outdoor clothing, carpets, leather goods, ski and snowboard waxes, and more. Certain types of firefighting foam—historically used by the U.S. military, local fire departments, and airports to fight oil and gasoline fires—may contain PFAS.

PFAS in drinking water is an important emerging issue nationwide. Because PFAS are water soluble, over time PFAS from some firefighting foam, manufacturing sites, landfills, spills, air deposition from factories and other releases can seep into surface soils. From there, PFAS can leach into groundwater or surface water, and can contaminate drinking water. PFAS have also been found in rivers, lakes, fish, and wildlife.

Exposure can occur when someone uses certain products that contain PFAS, eats PFAS-contaminated food, or drinks PFAS-contaminated water. When ingested, some PFAS can build up in the body and, over time, these PFAS may increase to a level where health effects could occur.

On October 2, 2020, MassDEP published its PFAS public drinking water standard, of 20 nanograms per liter (ng/L) (or ppt) – individually or for the sum of the concentrations of six specific PFAS. These PFAS are perfluorooctane sulfonic acid (PFOS); perfluorooctanoic acid (PFOA); perfluorohexane sulfonic acid (PFHxS); perfluorononanoic acid (PFNA); perfluoroheptanoic acid (PFHpA); and perfluorodecanoic acid (PFDA). MassDEP abbreviates this set of six PFAS as "PFAS6." This drinking water standard is set to be protective against adverse health effects for all people consuming the water.

For more information, see the MassDEP webpage regarding PFAS at: www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas, or the EPA webpage at: www.epa.gov/pfas/pfas-explained.

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