



ANNUAL WATER
QUALITY
REPORT
REPORTING YEAR 2018

Presented By
Dartmouth Water Division

Continuing Our Commitment

Once again we proudly present our annual water quality report. With a focus on customer service and efficient operations, we continue to strive for excellence through new water quality programs that will ensure reliable drinking water supplies for years to come. To maintain our commitment to you, we routinely collect and test water samples every step of the way, from the source waters right to your home or business, checking purity and identifying potential problems. We work with only state-certified laboratories that perform the required testing to maintain our quality assurance program. Staffed by highly trained scientists and technicians, these labs have the latest and most sophisticated instruments and can measure substances down to one part per billion! We are committed to providing you with this information about your water supply because customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.

We remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. Please visit our annual open house, held at the beginning of May, when we celebrate National Drinking Water Week.

Dartmouth Water is a division of the Department of Public Works under Director David T. Hickox. For more information about this report, or for any questions relating to your drinking water or this report, please call Steven M. Sullivan, Water and Sewer Superintendent, at (508) 999-0742.

Important Health Information

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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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 (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 www.epa.gov/safewater/lead.

Where Does My Water Come From?

Dartmouth's water is supplied from 14 groundwater, gravel-packed, or naturally developed wells and one pumping station. Wells A, B, C, F-1, and F-2 have a combined capacity of 1,555 gallons per minute (gpm). These wells are located in the area of 299 Chase Road. Wells D, E-1, and E-2 have a combined capacity of 1,550 gpm. These wells are located in the area of 687 Chase Road. Wells V-1, V-2, V-3, Panelli-1, Panelli-2, Panelli-3, and Panelli Well Field 4 have a combined capacity of 1,820 gpm. These wells are located in the area of 579 Old Westport Road. The Route Six well is inactive. A copy of the map where the wells are located is available at the Water Division office at 751 Allen Street.

Purchased water from the City of New Bedford is treated at the Quittacas Water Treatment Plant and comes from a surface supply comprised of five ponds. The principal storage area is the Little Quittacas Pond, located in the Town of Rochester. The other ponds are Great Quittacas, Pocksha, Assawomsett, and Long Pond, situated in the towns of Freetown, Lakeville, and Middleboro. Treatment consists of conventional filtration, disinfection, corrosion control, and fluoridation. Dartmouth pumps the water into our system from a facility located on Faunce Corner Road with a maximum rate of 4,000 gpm.

Community Participation

The Board of Public Works meets monthly. If you are interested in discussing water department issues with the board, please call the Department of Public Works at (508) 999-0740 and ask to be added to the agenda.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (U.S. EPA) prescribe regulations limiting 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, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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. Substances 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, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and which may also come from gas stations, urban stormwater runoff, and septic systems; Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Level 1 Assessment Update

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 assessment(s) to identify problems and to correct any problems that were found during these assessments.

During the past year, we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. In addition, we were required to take additional sampling corrective actions, and we completed one of these actions. The chlorine residual was raised at the 687 Chase Road water plant and flushing of the main downstream of the sample site on Smith Neck Road was conducted from November 9, 2018 to November 13, 2018 flowing approximately 100 gallons per minute.

Source Water Assessment Program

The Massachusetts Department of Environmental Protection (DEP) has prepared a Source Water Assessment Program (SWAP) report for the water supply sources serving this water system. The SWAP report recommends that Dartmouth establish a Wellhead Protection Committee and also commends Dartmouth for taking an active role in promoting source protection measures in the water supply protection areas. The SWAP report recommends that we continue to monitor Zone I and cease all activities not related to the water supply. The report also recommends that we educate residents on ways they can help in protecting drinking water sources and work with emergency response teams to ensure they are aware of the stormwater drainage in Zone II.

Residents can help protect sources by practicing good septic system maintenance, supporting water supply protection initiatives at town meetings, properly disposing of hazardous household chemicals during hazardous materials collection days, and limiting pesticide and fertilizer use. The complete SWAP report is available at the Water Division on Allen Street and online at <https://www.mass.gov/lists/source-water-assessment-and-protection-swap-program-documents>. For more information, call Steven Sullivan at (508) 999-0742.

New Bedford

The SWAP program assesses the susceptibility of public water supplies to potential contamination by microbiological pathogens and chemicals. A susceptibility ranking of high was assigned to the New Bedford Water Division using the information collected during the assessment by the Massachusetts DEP. The complete SWAP report is available at the Water Division Office, 1105 Shawmut Avenue, New Bedford. For more information, contact Charles Kennedy at (508) 763-2231.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES									
				Dartmouth Water Division		New Bedford Water			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2018	2	2	NA	NA	0.0086	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2018	[4]	[4]	0.20	0.11–0.34	1.72 ¹	1.07–2.32 ¹	No	Water additive used to control microbes
Combined Radium (pCi/L)	2016	5	0	0.95	0.82–1.13	1.2 ²	NA ²	No	Erosion of natural deposits
Haloacetic Acids [HAA] (ppb)	2018	60	NA	46.5	22–63	47	27–61	No	By-product of drinking water disinfection
Nitrate (ppm)	2018	10	10	0.56	0.48–0.68	0.0500	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Perchlorate (ppb)	2018	2	NA	0.23	ND–0.23	NA	NA	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives
Total Organic Carbon (ppm)	2018	TT	NA	NA	NA	2.73	2.48–3.04	No	Naturally present in the environment
TTHMs [Total Trihalomethanes]³ (ppb)	2018	80	NA	65.3	50–111	44	26–65	No	By-product of drinking water disinfection
Turbidity (NTU)	2018	TT	NA	NA	NA	0.19 ⁴	0.09–0.19 ⁴	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2018	TT = 95% of samples meet the limit	NA	NA	NA	100	NA	No	Soil runoff

SECONDARY SUBSTANCES (NEW BEDFORD WATER)							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2018	200	NA	332	NA	No	Erosion of natural deposits; Residual from some surface water treatment processes
Fluoride (ppm)	2018	2.0	NA	0.7 ⁵	0.5–0.9 ⁵	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Manganese (ppb)	2018	50	NA	39	NA	No	Leaching from natural deposits

UNREGULATED SUBSTANCES ⁶

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Dartmouth Water Division		New Bedford Water		TYPICAL SOURCE
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	
Bromodichloromethane (ppb)	2018	12.4	8.3–18	4.99	NA	By-product of drinking water disinfection
Chlorodibromomethane (ppb)	2018	0.75	0.6–0.9	NA	NA	By-product of drinking water disinfection
Chloroform (ppb)	2018	50.2	22–90.3	23.9	NA	By-product of drinking water disinfection
Dibromochloromethane (ppb)	2018	2.1	0.6–5.5	NA	NA	By-product of drinking water chlorination
Sodium ⁷ (ppm)	2017	44	27.5–53	25.9 ⁸	NA	By-product of corrosion control treatment

UNREGULATED CONTAMINANT MONITORING RULE - PART 4 (UCMR4) ⁶

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Dartmouth Water Division		New Bedford Water		TYPICAL SOURCE
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	
Bromochloroacetic Acid (ppb)	2018	NA	NA	3.55	2.66–4.42	By-product of drinking water chlorination
Bromodichloroacetic Acid (ppb)	2018	NA	NA	2.41	1.19–2.87	By-product of drinking water chlorination
Dibromoacetic Acid (ppb)	2018	1.2	ND–1.2	0.18	ND–0.405	By-product of drinking water chlorination
Dichloroacetic Acid (ppb)	2018	6.4	2.9–23.4	29.36	19.4–38.4	By-product of drinking water chlorination
Manganese (ppb)	2018	NA	NA	43.8	NA	Erosion of natural sources
Monobromoacetic Acid (ppb)	2018	NA	NA	1.08	ND–1.89	By-product of drinking water chlorination
Monochloroacetic Acid (ppb)	2018	3.7	3.4–3.9	2.16	ND–4.95	By-product of drinking water chlorination
Trichloroacetic Acid (ppb)	2018	18.1	5.8–55.4	12.81	10.6–15	By-product of drinking water chlorination

Definitions

90th %ile: Out of every 10 homes sampled, 9 were at or below this level. This number is compared to the Action Level to determine lead and copper compliance.

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

Level 1 Assessment: A Level 1 assessment is 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.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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

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

¹The New Bedford DPI Water Division commenced treatment of its filtered water with combined chlorine as of November 4, 2002. This is a combination of chlorine and ammonia. It is measured in terms of total chlorine.

²Sampled in 2015.

³Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system and may have an increased risk of getting cancer.

⁴Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

⁵The New Bedford DPI Water Division started treating the drinking water with fluoride as of January 8, 2007, as directed by the New Bedford Health Department. The optimum dosage is 0.7 ppm. At this level it is safe, odorless, colorless, and tasteless. There are over 3.9 million people in 140 Massachusetts water systems and 184 million people in the United States who receive the health and economic benefits of fluoridation.

⁶Unregulated contaminants are those for which the EPA has not established Drinking Water Standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining their occurrence in drinking water and whether future regulation is warranted.

⁷The Massachusetts DEP maintains a guideline level of 20 ppm for sodium.

⁸Sampled in 2018.