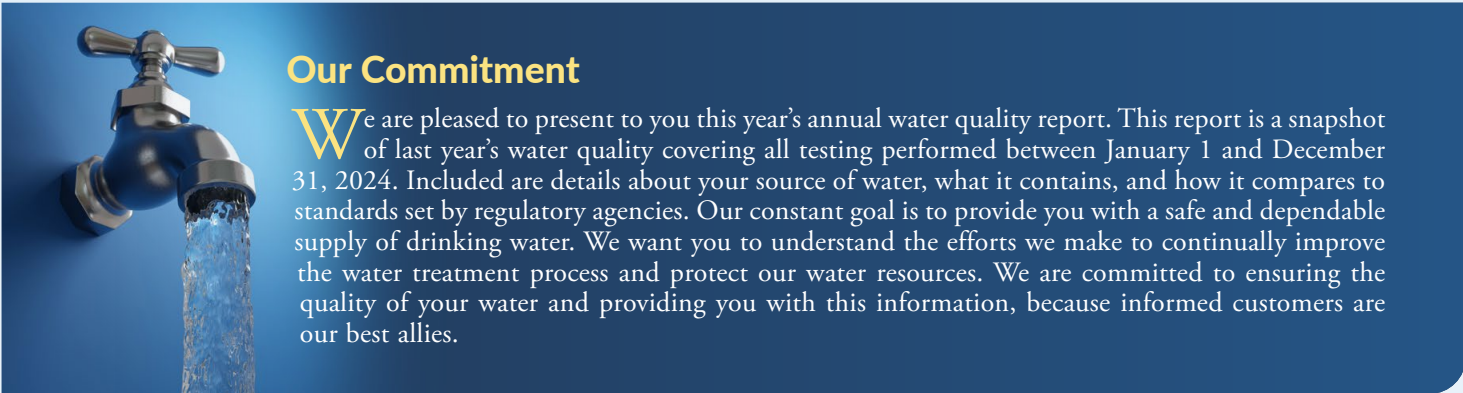


ANNUAL WATER QUALITY REPORT

Reporting Year 2024

Presented By
Barnstable Fire District

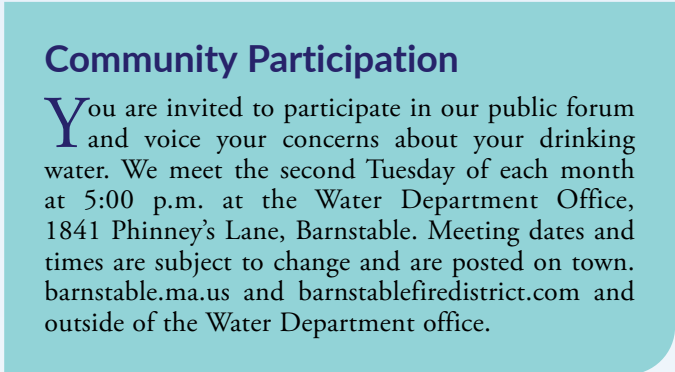


Our Commitment

We are pleased to present to you this year’s annual water quality report. This report is a snapshot of last year’s water quality covering all testing performed between January 1 and December 31, 2024. Included are details about your source of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and providing you with this information, because informed customers are our best allies.

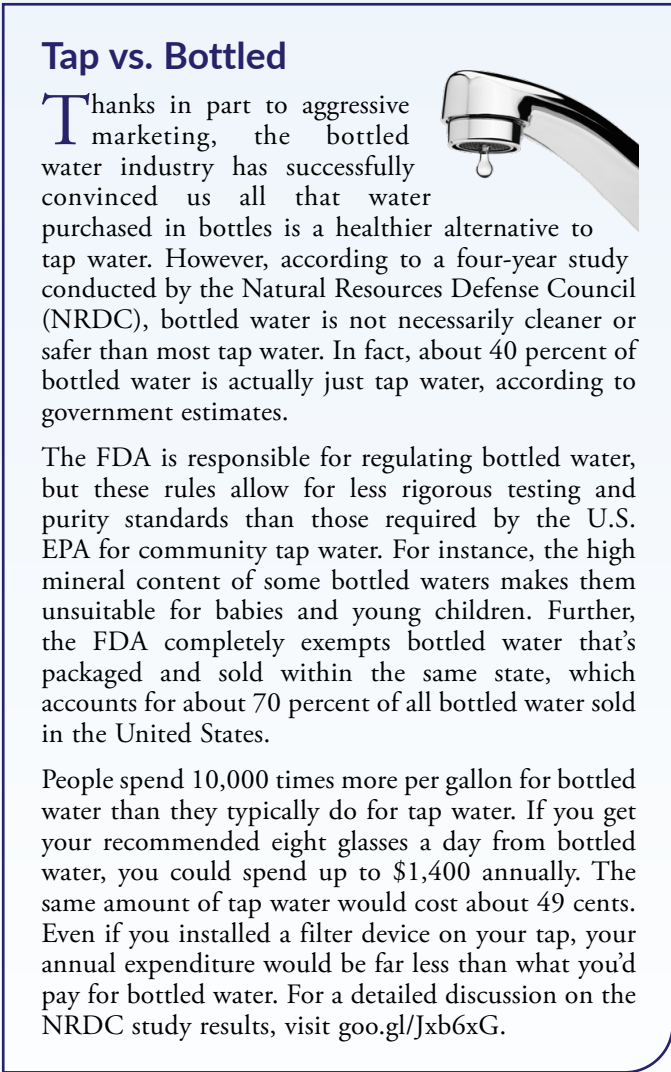
Where Does My Water Come From?

Your water is provided from five gravel-packed groundwater wells. Well 1 is located off Phinney’s Lane. Wells 3 and 4 are off Route 132. Wells 2 and 5 are off Breeds Hill Road. Combined, our treatment facilities provide roughly 200 million gallons of clean drinking water every year. In the event of an emergency, water may be supplied to our system through interconnections with COMM Water and Yarmouth Water. No water was utilized from those sources in 2024.



Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the second Tuesday of each month at 5:00 p.m. at the Water Department Office, 1841 Phinney’s Lane, Barnstable. Meeting dates and times are subject to change and are posted on town.barnstable.ma.us and barnstablefiredistrict.com and outside of the Water Department office.



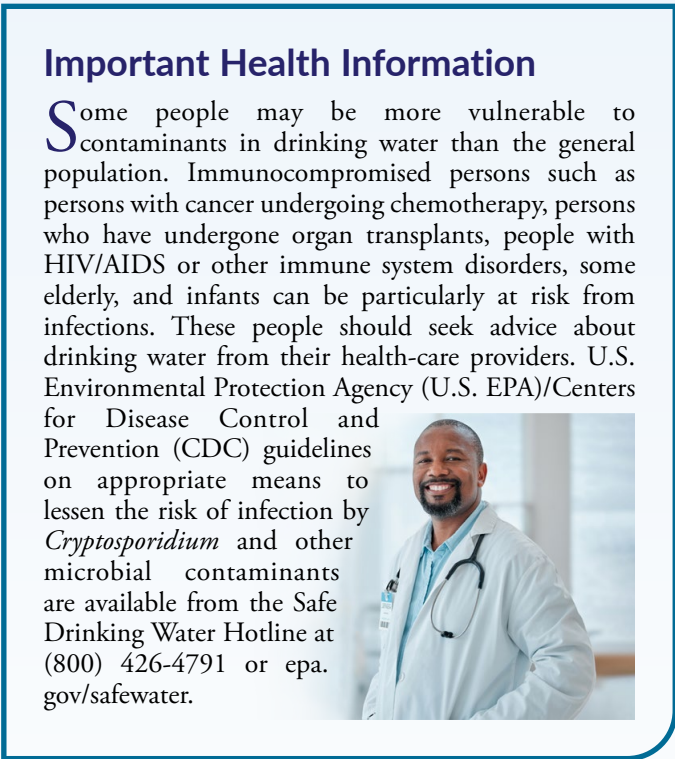
Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council (NRDC), bottled water is not necessarily cleaner or safer than most tap water. In fact, about 40 percent of bottled water is actually just tap water, according to government estimates.



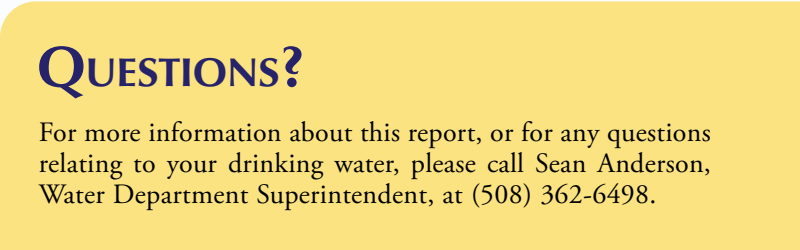
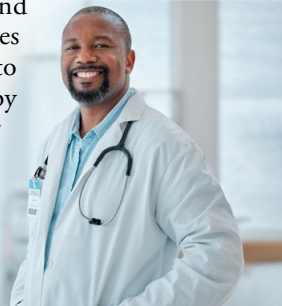
The FDA is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that’s packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you’d pay for bottled water. For a detailed discussion on the NRDC study results, visit goo.gl/Jxb6xG.



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 can be particularly at risk from infections. These people should seek advice about drinking water from their health-care providers. U.S. Environmental Protection Agency (U.S. EPA)/Centers for Disease Control and Prevention (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 (800) 426-4791 or epa.gov/safewater.



QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Sean Anderson, Water Department Superintendent, at (508) 362-6498.

Substances That Could Be in Water

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

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.

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. 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.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air-conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (back-siphonage).



Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection. For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, and toothbrush holders and on pets' water bowls is caused by the growth of the bacterium *Serratia marcescens*. *Serratia* is commonly isolated from soil, water, plants, insects, and vertebrates (including humans). The bacteria can be introduced into the house through any of these sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to clean and dry these surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence. *Serratia* will not survive in chlorinated drinking water.

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 is included, along with the year in which the sample was taken.

We participated in the fifth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR5) program by performing additional tests on our drinking water. UCMR5 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data is 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 Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2024	[4]	[4]	1.13	0.01–1.13	No	Water additive used to control microbes
Haloacetic Acids [HAAs] (ppb)	2024	60	NA	2.03	ND–2.03	No	By-product of drinking water disinfection
Nitrate (ppm)	2024	10	10	1.1	0.74–1.1	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (ppm)	2023	1	1	0.35	ND–0.35	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
PFAS6 (ppt)	2024	20	NA	12.9	ND–12.9	No	Discharges and emissions from industrial and manufacturing sources associated with the production or use of moisture- and oil-resistant coatings on fabrics and other materials; use and disposal of firefighting foams
TTHMs [total trihalomethanes] (ppb)	2024	80	NA	19	1.3–19	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	RANGE LOW-HIGH	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2024	1.3	1.3	0.088	ND–0.088	0/41	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2024	15	0	2.2	ND–4.6	0/41	No	Corrosion of household plumbing systems; erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2024	250	NA	87	30–87	No	Runoff/leaching from natural deposits
Iron (ppb)	2024	300	NA	540	ND–540	No	Leaching from natural deposits; industrial wastes
Manganese (ppb)	2024	50	NA	27	5.4–27	No	Leaching from natural deposits
Sulfate (ppm)	2024	250	NA	12	10–12	No	Runoff/leaching from natural deposits; industrial wastes

UNREGULATED SUBSTANCES ¹

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Chloroform (ppb)	2024	1.4	1.1–1.4	By-product of drinking water disinfection
Nickel (ppb)	2018	5.7	5.7–5.7	Naturally occurring
Sodium (ppm)	2024	50	19–50	Erosion of natural deposits
Sulfate (ppm)	2024	12.0	10–12	Erosion of natural deposits

¹Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Source Water Assessment

A source water assessment has been completed for our system. The purpose of the assessment is to determine the susceptibility of each drinking water source to potential contaminant sources. The report includes background information and a relative susceptibility rating of higher, moderate, or lower. It is important to understand that a susceptibility rating of higher does not imply poor water quality, only the system's potential to become contaminated within the assessment area. The assessment findings are summarized in the table below:

SOURCE NAME	SOURCE ID	SOURCE TYPE	LOCATION OF SOURCE
Well 1	4020000-01G	Groundwater	Phinney's Lane
Well 2	4020000-02G	Groundwater	Breeds Hill Road
Well 3	4020000-03G	Groundwater	Route 132
Well 4	4020000-04G	Groundwater	Route 132
Well 5	4020000-05G	Groundwater	Breeds Hill Road

A susceptibility ranking of high was assigned to this system using information collected during the assessment by DEP. This ranking was due to the absence of hydrogeologic barriers that can prevent contaminant migration. A source's susceptibility to contamination does not imply poor water quality. Actual water quality is best reflected by results of regular water tests.

The complete SWAP report is available at the Water Department Office and the Board of Health. Some of the information may be outdated. For more information, call Superintendent Sean Anderson or Assistant Superintendent Ronald Tivey at (508) 362-6498.

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.

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.

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

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

ppt (ng/L) (parts per trillion): One part substance per trillion parts water (or nanograms 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.

