

# ANNUAL WATER QUALITY REPORT

Reporting Year 2022



*Presented By*  
**Brewster Water Department**



## Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education, while continuing to serve the needs of all our water users. Please remember that we are always available should you ever have any questions or concerns about your water.

## Hazardous Waste Collection 2023

The tritown hazardous waste collection program, which includes the towns of Harwich and Chatham, will continue in 2023. The Saturday collection dates for this year are May 13, June 10, July 8, August 12, September 9, and October 14. Collections are from 9:00 a.m. to noon at the Harwich Transfer Station, 209 Queen Anne Road. There is no fee for residents and taxpayers of participating towns. Thanks to the Town of Harwich and Harwich Transfer Station staff for hosting this great activity! For more information, visit [www.loveyourlocalwater.org](http://www.loveyourlocalwater.org) or call Barnstable County Hazardous Materials Program, (508) 375-6699.

## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The Board of Water Commissioners meets the first Friday of each month at 11:00 a.m. at Town Hall, 2198 Main Street, Brewster.

## 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 two 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](http://www.epa.gov/safewater/lead).



## Source Water Description

The town has five groundwater wells pumping from the Monomoy Lens, one of the six groundwater lenses that make up the Cape Cod Sole Source Aquifer. Each of the well sites has a large town-owned tract of land surrounding it for water quality protection. Activity is restricted to passive recreation on town wellfield acreage.

Wells 1 and 2, located near Route 6 south of Freeman's Way, were constructed in 1971 and are about 76 feet deep. Well 3, near Route 6 north of Freeman's Way, was built in 1986 and is about 90 feet deep. Well 4, at the north edge of the Punkhorn Parklands off Run Hill Road, was built in 1991 and is about 101 feet deep. Well 6 (the fifth well site) is in the southern Punkhorn area and was built in 2012; it is approximately 121 feet deep. The town treats the water for corrosion control and to remove iron and manganese.

## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Paul Anderson, Water Superintendent, at (508) 896-5454.



## 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.

## A Note about Tetrachloroethylene

Detections occur where vinyl-lined water mains were installed in the 1970s. Vinyl-lined, asbestos cement pipe was used in a number of subdivisions until the compound was detected in 1979. Brewster, along with other Massachusetts towns with similar piping, flushes and monitors under a DEP-approved program to deal with the problem. There are 6.3 miles of the affected pipe in Brewster's 126-mile water distribution system. All locations have bleeders to control the level of the contaminant. The samples are taken after the last service on each street. This gives the worst-case scenario for contaminant concentration. The water entering most homes served by these pipes should be well below reported levels. For specific area sample results, please call the Brewster Water Department.

The following location is served by affected pipe and had detectable tetrachloroethylene, as noted in the data table: Heritage Loop.

The following streets had results below the laboratory detection limit: Ambergris Circle West, Ambergris Circle East, Damon Road, Woodstock Drive, Bog Pond Road, Bridle Path Road, Carriage Drive, Great Fields Road from Pine Bluff Road north to the end of the water main, Harmony Lane, Highridge Road, John Wings Lane, Linda Circle, Oakwood Road, Pleasant Court, Wagon Wheel Lane, Whiffletree Avenue, Wynn Way, Gages Way North, Puritan Drive, Stonehenge Drive, Nathan's Pasture Way.

## Source Water Assessment

A source water assessment was completed in Brewster in 2003 by DEP's Drinking Water Program. The susceptibility of the town's wells, as determined during the assessment, is as follows: Wells 1 through 3 were rated high, and Wells 4 and 6 were rated moderate. While these assessments are serious, the reason for the determination is the lack of underground or geological formations, such as a clay layer, that would create a hydrological barrier to possible contamination. This is not a new issue for a good part of Cape Cod due to its sand-and-gravel composition. It is important to understand that this susceptibility rating does not imply poor water quality, only the system's potential to become contaminated within the assessment area. The town has wellhead protection regulations and a groundwater protection district in place to oversee land use. If you would like a copy of our assessment, please feel free to contact our office during regular business hours at (508) 896-5454.

## 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 (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.

## 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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2020	2	2	0.0076	ND–0.0076	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2022	[4]	[4]	0.4	0.1–0.4	No	Water additive used to control microbes
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2022	60	NA	1.76	ND–1.76	No	By-product of drinking water disinfection
Nitrate (ppm)	2021	10	10	1.7	0.10–1.7	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite (ppm)	2020	1	1	0.21	0.12–0.21	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Perchlorate (ppb)	2022	2	NA	0.22	ND–0.22	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives
Tetrachloroethylene (ppb)	2022	5	0	0.79	0.54–0.79	No	Discharge from factories and dry cleaners
TTHMs [total trihalomethanes]–Stage 1 (ppb)	2022	80	NA	14.0	5.4–14.0	No	By-product of drinking water disinfection
Xylenes (ppm)	2022	10	10	0.0008	ND–0.0008	No	Discharge from petroleum factories; Discharge from chemical factories

### 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)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.3	1.3	0.15	0/31	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2020	15	0	2.9	0/31	No	Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

### SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Manganese (ppb)	2022	50 <sup>1</sup>	NA	58	7–58	No	Leaching from natural deposits
Sulfate (ppm)	2019	250	NA	15	6.8–15	No	Runoff/leaching from natural deposits; Industrial wastes

### UNREGULATED SUBSTANCES<sup>2</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromochloromethane (ppb)	2022	14	ND–14	By-product of drinking water chlorination
Bromoform (ppb)	2022	3.6	ND–3.6	By-product of drinking water chlorination
Chlorodibromomethane (ppb)	2022	12	ND–12	By-product of drinking water chlorination
Chloroform (ppb)	2022	14	ND–14	Naturally present in the environment
Sodium (ppm)	02/11/2020	21	11–21	Salt used in snow removal

### OTHER UNREGULATED SUBSTANCES<sup>2</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromide (ppb)	2018	42.9	23.8–42.9	NA
Bromochloroacetic Acid (ppb)	2018	0.46	0.31–0.46	NA
Dibromoacetic Acid (ppb)	2018	1.2	0.37–1.2	NA
Dichloroacetic Acid (ppb)	2018	0.63	0.49–0.63	NA

<sup>1</sup> Manganese is a naturally occurring mineral found in rocks, soil groundwater, and surface water. Manganese is necessary for proper nutrition and part of a healthy diet, but it can have undesirable effects on certain sensitive populations at elevated concentrations. U.S. EPA and DEP have established public health advisory levels for manganese to protect against concerns of potential neurological effects.

<sup>2</sup> Unregulated 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.