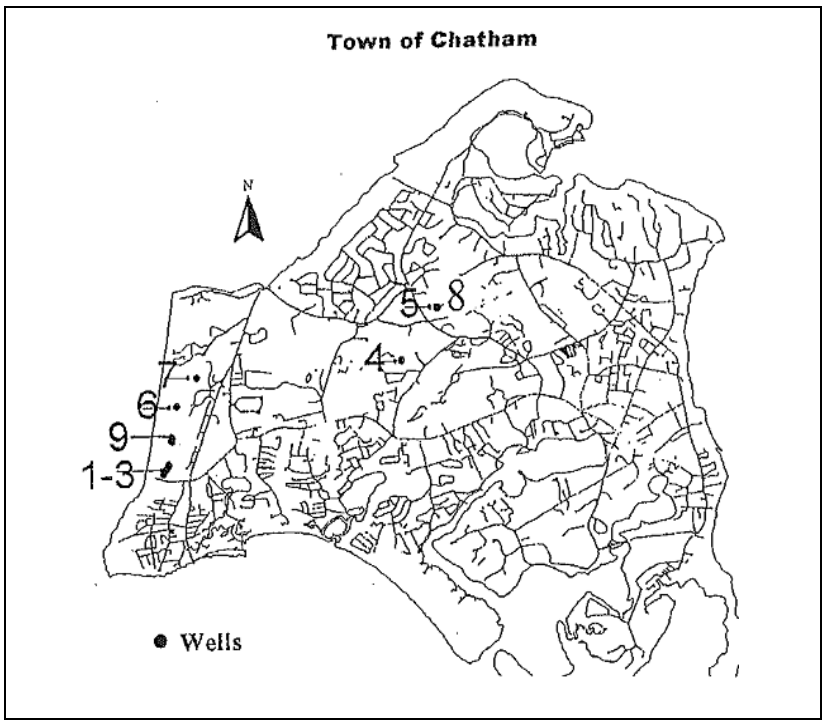
Chatham Department of Public Works Water Division
Annual Water Quality Report - Calendar Year 2022



The annual "Water Quality Report" is prepared by the Chatham Department of Public Works Water Division. The Safe Drinking Water Act (SDWA) requires that this report be prepared to inform you, our customers, of water quality test results performed on the water from our water supplies and in the distribution system. The Department and its contract operator, Weston & Sampson, are committed to providing the highest quality water to our customers.

The Department of Public Works Director and staff are available Monday through Friday, from 8:00 AM to 4:00 PM, to answer your questions and provide assistance at the address and telephone number listed below. The Water and Sewer Advisory Committee and Selectboard meetings are posted at the Town Hall, and at www.mytowngovernment.org/02633 and the public is welcome to attend. The Chatham Selectboard (as Water and Sewer Commissioners) and the Water and Sewer Advisory Committee meet at the Town Hall Annex, 261 George Ryder Road.

IMPORTANT INFORMATION

Chatham Department of Public Works Water Division
Address: **221 Crowell Road**
Chatham, Massachusetts 02633
Robert Faley, DPW Director
Phone Number: **(508) 945-5150**
Public Water System Identification Number: **(PWS ID#) 4055000**

Weston & Sampson (Contract Operator)
Address: **221 Crowell Road**
Chatham, Massachusetts 02633
Phone Number: **(508) 593-4766**
Contact Person: **Thomas W Barr**
Chief Water Facilities Operator

Sources Of Supply:

Chatham's water is supplied from nine (9) wells (groundwater sources) located within the boundaries of Chatham. These wells draw from the Monomoy Lens aquifer, one of six aquifers that make up the Cape Cod Sole Source Aquifer. The Department is in the process of replacing a water main interconnection with the Town of Harwich for use in an emergency. This interconnection is located on Route 28 and is currently under design.

A Source Water Assessment Program (SWAP) Report was prepared in 2003 for Chatham by the Department of Environmental Protection. This report evaluates the susceptibility of the water supply sources to contamination and gives recommendations for improvement in the protection of groundwater and other factors that affect the water system's water quality.

The report cites land uses in Chatham's wells' recharge areas (Zone II) as primarily a mixture of forest and residential land uses with small areas of commercial, light industrial and waste disposal land uses. The Town adopted the Water Resource Protection Zoning Bylaws in 1996 for the protection of the water within all its Zone II areas. This bylaw limits the type of new or expanded land uses that are permitted within the Zone II areas. The report offers recommendations for further action in each area. Some of the recommendations include public education in water source protection, handling and disposing of hazardous materials, and identifying potential sources of contamination. The Department remains active in the protection of our water supply by: restricting use within 400 feet of the wells; working with industrial users to inform them as to the potential hazards of improper discharge of chemicals; and the dissemination of water supply protection practices material through articles in our newsletters, informational brochures, and discussions at our annual open house.

The full report is available for viewing at the Department of Public Works Water Division and the report is available at: http://www.town.chatham.ma.us/Public_Documents/chathamma_watersewer/swap.pdf. For more information regarding the Source Water Assessment and Protection Report, call the Department of Public Works Water Division at 508-945-5150.

Well Name	South Chatham Well 1	South Chatham Well 2	South Chatham Well 3	Indian Hill Well 4	Training Field Road Well 5	Tirrell's Way Well 6	Eben's Way Well 7	Training Field Road Well 8	Town Forest Well 9
DEP ID Number	4055000-1G	4055000-2G	4055000-3G	4055000-4G	4055000-5G	4055000-6G	4055000-7G	4055000-8G	4055000-9G
Location	2756 Main St. South Chatham	2756 Main St. South Chatham	2756 Main St. South Chatham	54 Indian Hill Road	128 Training Field Road	150 Tirrell's Way	65 Eben's Way	128 Training Field Road	2756 Main St. South Chatham

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 facilities, 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 agricultural, 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, DEP and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and the 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 the 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 (1-800-426-4791).

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 WaterHotline at (1-800-426-4791).

Water Sampling Test Results:

How To Read The Table:

Our water is regularly tested to ensure that it meets all federal and state requirements. The water quality information presented in the tables below are from the most recent round of testing done in accordance with Federal and State regulations. All data shown was the results of our monitoring for the period of January 1st to December 31st, 2022, unless noted. Some of our data in the tables are more than one year old, since certain chemical contaminants are monitored less than once a year. Our sampling frequency complies with EPA and State drinking water regulations. The table only lists the levels of contaminants that were actually detected in the water. Testing that was completed but did not register a value for the substance is not shown.

The Massachusetts Department of Environmental Protection has reduced the monitoring requirements for Synthetic Organic Contaminants (SOC) and Inorganic Contaminants (IOC) because the sources are not at risk of contamination.

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 (see below) 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.
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 the 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 or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
Action Level (AL) – The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
90th Percentile – Out of every 10 homes, 9 were at or below this level.
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.
Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.
Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.
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 quarters of data.
ppm = parts per million or milligrams per liter (mg/l)
ppb = parts per billion or micrograms per liter (ug/l)
ppt = parts per trillion per lite (ng/l)
pCi/l = picoCuries per liter (a measure of radioactivity)
N/D = Not Detected
N/A = Not Applicable

Inorganic Contaminants								
Contaminant	**Date Collected**	**Highest Detect Value**	**Range Detected**	**Average Detect**	**MCL**	**MCLG**	**Violation (Y/N)**	**Possible Source of Contamination**
Nitrate	1/18/2022 5/2/2022 6/28/2022	1.2 ppm	0.34 – 1.2 ppm	0.67 ppm	10 ppm	10 ppm	NO	Runoff from fertilizer; Leaching from septic tanks; sewage; erosion of natural deposits; and atmosphere

Lead and Copper Date Tested – 5/19/2022 – 5/26/2022 and 9/20/2022 – 9/30/2022							
Contaminant	**90th Percentile**	**Action Level**	**MCLG**	**Number Of Sites Sampled**	**Number Of Sites Above Action Level**	**Violation (Y/N)**	**Possible Source of Contamination**
Lead	0 ppb	15 ppb	0 ppb	120	0	NO	Corrosion of household plumbing systems
Copper	0.071 ppm	1.3 ppm	1.3 ppm	120	0	NO	Corrosion of household plumbing systems

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. The Department 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 EPA's Safe Drinking Water Hotline (1-800-426-4791) or at http://www.epa.gov/safewater/lead.

Microbiological Contaminants						
Contaminant	**Date**	**MCL/TT**	**Value**	**MCLG**	**Violation (Y/N)**	**Possible Sources of Contamination**
Total Coliform	9/13/2022	TT	Positive	0	No	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 sampled one site that was positive for total coliform indicating the need to look for potential problems in the water treatment or distribution system. Repeat samples taken from the original site and upstream and downstream sample sites were free of bacteria.						

Radioactive Contaminants							
Contaminant	**Date Collected**	**Average Detect**	**Range Detected**	**MCL**	**MCLG**	**Violation**	**Possible Source of Contamination**
Radium–226-228	1/26/2021	0.10 pCi/L	ND – 0.246 pCi/L	5 pCi/L	0 pCi/L	NO	Erosion of Natural Deposits

Disinfectants/Disinfection Byproducts							
Contaminant	**Date Collected**	**Highest Detect Level**	**Range Detected**	**MCL**	**MCLG**	**Violation (Y/N)**	**Major Sources**
Trihalomethanes (TTHM)	11/14/2022	29 ppb	22-29 ppb	80 ppb	N/A	NO	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	11/14/2022	10.8 ppb	8.89 – 10.8 ppb	60 ppb	N/A	NO	By-product of drinking water chlorination
				MRDL	**MRDLG**		
Chlorine	Monthly 1/1/2022 – 12/31/2022	1.82 ppm	0.0-1.82 ppm	4.0 ppm	4.0 ppm	N/A	Water additive used to control microbes

Per- and Polyfluoroalkyl Contaminants (PFAS6)							
Regulated Contaminant	**Dates Collected**	**Highest Detect Value**	**Range Detected**	**Quarterly Average**	**MCL**	**Violation**	**Possible Source Of Contamination**
PFAS6 PFOS, PFOA PFNA, PFHxS, PFHPa, PFDA	Monthly 1/5/2022 to 10/13/2022	ND	ND	ND	20 ppt	NO	Discharges and emissions from industrial And manufacturing sources associated with the production or use of 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 foam.

The Chatham Water Division installed a temporary Granular Activated Carbon pressure vessel to remove PFAS6 from Well 5 after it was detected in 2021 in both wells 5 & 8 prior to pumping the water back into the system. Until the final treatment plant is completed Well 8 will remain offline except in an emergency. Some people who drink water containing PFAS6 in excess of the MCL may experience certain adverse effects. These could include effects on the liver, blood, immune system, thyroid and fetal development. PFAS6 may also elevate the risk of certain cancers.

Unregulated Contaminants	**Date(s) Collected**	**Result or Range Detected**	**Average Detected**	**SMCL**	**ORSG**	**Possible Source**
Chloroform	5/16/2022	.70 – 2.00 ppb	1.3 ppb	N/A	70 ppb	By-product of drinking water chlorination
Bromodichloromethane	5/16/2022	2.21 ppb	2.21.ppb	N/A	N/A	Trihalomethane; by-product of Drinking water chlorination
Chlorodibromomethane	5/16/2022	2.15 ppb	2.15 ppb	N/A	N/A	Trihalomethane; by-product of Drinking water chlorination
Manganese	2/1/2022	0 – 77 ppb	26 ppb	50 ppb	300 ppb	Erosion of natural deposits
Sodium	1/18/2022	16 ppm	16 ppm	N/A	20 ppm	Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents

Manganese is a naturally occurring mineral found in rocks, soil, groundwater, and surface water. US Environmental Protection Agency (EPA) and MassDEP have established public health advisory levels for manganese to protect against Concerns of potential neurological effects and a one-day and 10-day health advisory of 1000 ppb for acute exposure.

This report shows our water quality and what it means. The Department's water division routinely monitors for contaminants in your drinking water according to Federal and State laws. We have learned through our monitoring and testing that some constituents have been detected, however, EPA has determined that your water meets all federal and state requirements at these levels.

Additional Information:

Potassium hydroxide is added to the water to elevate the pH of the water to reduce plumbing corrosion. Polyphosphate is added at the South Chatham Treatment Plant and Wells 5 & 8 for the sequestering of iron and manganese. Polyphosphate is added at the Water Treatment Plant on Moron Road for corrosion control.

Sodium hypochlorite is added at the South Chatham Treatment Plant and Wells 4, 5 & 8 for disinfection purposes. Sodium hypochlorite is added at the Water Treatment Plant to aid in the removal of iron and manganese in the filtration process. On July 5, 2018, the Water Treatment Plant located at 375 Morton Road became operational. The pressure filters remove iron and manganese from wells 6, 7 & 9 using a greensand media.

Indian Hill Well # 4 was put online on November 1, 2021 with approval from DEP to supplement the towns pumping capacity due to the detection of PFAS6 which resulted in the shutting down of Wells 5 & 8. The station was retrofitted to include the addition and monitoring of pH adjustment with Potassium Hydroxide and disinfection with Sodium Hypochlorite.

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

Water conservation tips are provided to our customers through the website at https://www.chatham-ma.gov/303/Water-Sewer-Division.

The Consumer Confidence Report is available on line at the following URL: https://www.chatham-ma.gov/DocumentCenter/View/5534/2022-Consumer-Confidence-Water-Quality-Report-PDF- In an effort to reduce costs and waste, anyone preferring a paper copy of the report should call the Department at 508-945-5150 to request a copy be mailed to your home. As always, the report is available for viewing at the DPW building, town hall, town annex and Eldredge Public Library.

Cross Connections

A cross connection is a connection between a drinking water pipe and a polluted source of water. The Chatham Department of Public Works Water Division recommends the installation of backflow prevention devices, such as a hose bib vacuum breaker, for all inside and outside hose connections. You can purchase these from your local hardware or plumbing supply store. This is a great way for you to protect the water in your home as well as, the drinking water system in Chatham. For additional information on cross connections and the status of your water systems cross connection program, please contact Lynn A Carr at the Chatham Department of Public Works Water Division, 221 Crowell Road or call 508-945-5150.