



# ANNUAL WATER QUALITY REPORT

Reporting Year 2023



*Presented By*  
**Stoughton Water  
Department**



PWS ID#: 4285000



## 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, 2023. Included are details about your sources of water, what it contains, and how it compares to standards set by regulatory agencies.

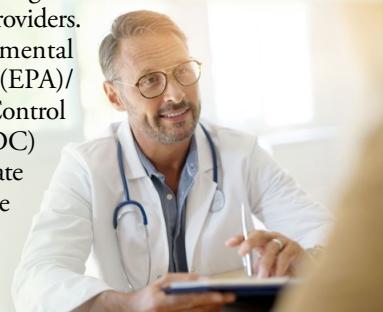
Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and providing you with this information because informed customers are our best allies.

## Important Health Information

Nitrate in drinking water at levels above 10 parts per million (ppm) is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

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. Environmental Protection Agency (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 [water.epa.gov/drink/hotline](http://water.epa.gov/drink/hotline).



## Violation Information

During the first three quarters of 2023, one of the five sample locations at Muddy Pond water treatment plant that provide drinking water to customers in Stoughton violated a newly promulgated drinking water standard for the sum of six per- and polyfluoroalkyl substances (PFAS6). We are working with our consulting engineers to design and install treatment to remove PFAS6 at the Muddy Pond treatment plant.

Some people who drink water containing PFAS in excess of the MCL may experience certain adverse effects. These could include effects on the liver, blood, immune system, thyroid, and fetal development. These PFAS may also elevate the risk of certain cancers.

## Department Accomplishments and Upcoming Activities

- Remain compliant with the DEP Ground Water Rule and three-year sampling plan.
- Bid and construct Muddy Pond per- and polyfluoroalkyl substances (PFAS) water treatment plant.
- Fund Pratt's Court upgrades and PFAS treatment through the Drinking Water State Revolving Fund/Clean Water Trust program for design and permitting.
- Construct two miles of water main to replace 100-year-old unlined cast iron and asbestos-cement.
- Installed up to 4,700 replacement water meters; on schedule to complete the remaining 4,400 in 2024.
- Install advanced building security at all water stations in 2024.
- Complete lead service line inventory in 2024.

## Where Does My Water Come From?

Stoughton's water system includes nine groundwater supply wells with pumping stations, a connection to the Massachusetts Water Resources Authority (MWRA; on Island Street), four water storage tanks, and approximately 151 miles of water main. In addition, Stoughton maintains an emergency pump station to obtain water from the Town of Canton and three emergency interconnections with the Towns of Easton, Brockton, and Sharon. About 97 percent of your drinking water is from Stoughton's own water resources, and the remaining 3 percent is from the MWRA supply.

## ANY QUESTIONS?

Want to know more about the Stoughton water supply system? Interested in participating in the decision-making process? Please contact Phil McNulty, P.E., at Stoughton Water & Sewer Department, (781) 344-2112, with any questions, comments, or concerns. We are located at 1748 Central Street.

## 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. 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.

## 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 (backsiphonage).

“When the well is dry, we know the worth of water.”

—Benjamin Franklin

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.



## 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).

## Violation Information

In 2023 our copper tap water sampling schedule changed from 120 to 30 samples per year. During August and September, five sites were at or above the 90th percentile. As a result of our exceedance, we are in violation of the maximum contaminant level. Our schedule will return to 120 samples per year, along with sampling and reporting distribution sites and point of entry monthly and quarterly. We will also adjust pH to maintain a higher residual in the system.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short period of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.



## What Are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used worldwide since the 1950s to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. During production and use, PFAS can migrate into the soil, water, and air. Most PFAS do not break down; they remain in the environment, ultimately finding their way into drinking water. Because of their widespread use and their persistence in the environment, PFAS are found all over the world at low levels. Some PFAS can build up in people and animals with repeated exposure over time.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them.

Some products that may contain PFAS include:

- Some grease-resistant paper, fast food containers/ wrappers, microwave popcorn bags, pizza boxes
- Nonstick cookware
- Stain-resistant coatings used on carpets, upholstery, and other fabrics
- Water-resistant clothing
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Cleaning products
- Paints, varnishes, and sealants

Even though recent efforts to remove PFAS have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772. For a more detailed discussion on PFAS, please visit <http://bit.ly/3Z5AMm8>.

## 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.

**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).

**ppt (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.

**TON (Threshold Odor Number):** A measure of odor in 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 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)	2023	2	2	0.01	ND–0.01	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	
Combined Radium (pCi/L)	2023	5	0	0.82	0.49–0.82 <sup>2</sup>	No	Erosion of natural deposits	
Fluoride (ppm)	2023	4	4	0.8	ND–0.8 <sup>3</sup>	No	Water additive which promotes strong teeth	
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2023	60	NA	34.9	4.8–34.9 <sup>4</sup>	No	By-product of drinking water disinfection	
Nitrate (ppm)	2023	10	10	5.38	ND–5.38 <sup>5</sup>	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	
Perchlorate (ppb)	2023	2	NA	1.90	0.16–1.90	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives	
PFAS6 (ppt)	2023	20	NA	22.7	8.1–22.7	Yes	Discharges and emissions from industrial and manufacturing sources associated with moisture- and oil-resistant coatings on fabrics and other materials; Use and disposal of products containing these PFAS, such as firefighting foams	
TTHMs [total trihalomethanes]–Stage 1 (ppb)	2023	80	NA	40.3	5.95–40.3 <sup>6</sup>	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)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE	
Copper (ppm)	2023	1.3	1.3	1.37	3/31	Yes	Corrosion of household plumbing systems; Erosion of natural deposits	
Lead (ppb)	2023	15	0	5	3/31	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	
Aluminum (ppb)	2023	200	NA	11	ND–11	No	Erosion of natural deposits; Residual from some surface water treatment processes	
Chloride (ppm)	2023	250	NA	94.3	50.9–94.3	No	Runoff/leaching from natural deposits	
Copper (ppm)	2023	1.0	NA	0.27	ND–0.27	No	Corrosion of household plumbing systems; Erosion of natural deposits	
Manganese (ppb)	2023	50	NA	20	ND–20	No	Leaching from natural deposits	
Odor (TON)	2023	3	NA	4	2–4	No	Naturally occurring organic materials	
pH (units)	2023	6.5–8.5	NA	7.4	7.0–7.4	No	Naturally occurring	
Sulfate (ppm)	2023	250	NA	12.4	9.27–12.4	No	Runoff/leaching from natural deposits; Industrial wastes	
Total Dissolved Solids [TDS] (ppm)	2023	500	NA	264	43–264	No	Runoff/leaching from natural deposits	
Zinc (ppm)	2023	5	NA	0.15	0.011–0.15	No	Runoff/leaching from natural deposits; Industrial wastes	

<sup>1</sup> Stoughton results were all ND.

<sup>2</sup> MWRA amount detected was 0.82 pCi/L; Stoughton result was 0.49 pCi/L.

<sup>3</sup> MWRA range was ND - 0.8 ppm; Stoughton range was ND - 0.32 ppm.

<sup>4</sup> MWRA range was 4.8 - 34.9 ppb; Stoughton range was 14.2 - 30.7 ppb.

<sup>5</sup> MWRA range was ND - 0.62 ppm; Stoughton range was 0.17 - 5.38 ppm.

<sup>6</sup> MWRA range was 5.95 - 7.6 ppb; Stoughton range was 29.9 - 40.3 ppb.