

2021 ANNUAL DRINKING WATER QUALITY REPORT



CITY OF GLOUCESTER
MASSDEP PWS ID # 3107000
GREG VERGA, MAYOR
MICHAEL HALE, DIRECTOR OF
PUBLIC WORKS



2021 ANNUAL DRINKING WATER QUALITY REPORT

The City of Gloucester Department of Public Works (DPW) presents the 2021 Consumer Confidence Report. This report provides a snapshot of the Gloucester drinking water system for the 2021 calendar year. In 2021, there were no state or federal drinking water violations.

Where Does Your Water Come From?

Your water is provided by the surface water sources listed below. Gloucester's drinking water system is comprised of three drinking water treatment plants, over 160 miles of water main, three water storage tanks, and one booster pump station. The water system is divided into an east

West Gloucester System:

- The West Gloucester Water Treatment Plant, located on Magnolia Avenue, is served by three surface water sources:
 - Dykes Pond (Source ID# 310700-04S)
 - Haskell Reservoir (Source ID# 310700-02S)
 - Wallace Pond Reservoir (Source ID# 310700-03S)

East Gloucester System:

- The Babson Water Treatment Plant, located on Poplar Street, is served by two surface water sources:
 - Babson Reservoir (Source ID# 310700-01S)
 - Goose Cove Reservoir (Source ID# 310700-07S)
- The Klondike Water Treatment Plant provides supplemental water supply and draws water from the Klondike Reservoir (Source ID# 310700-05S).

**City of Gloucester
MassDEP PWS ID
#3107000**

Mayor - Greg Verga

**Director of Public
Works – Michael Hale**

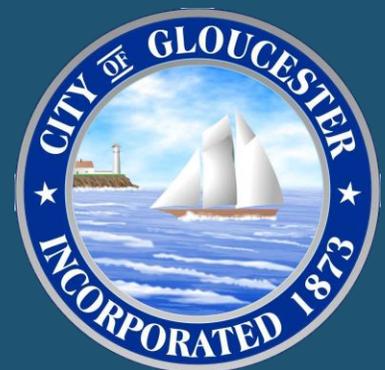
Contact Information

Ryan Marques, PE
City Engineer
rmarques@gloucester-ma.gov

Department of Public Works –
Engineering Division, 3 Pond
Rd., Gloucester, MA 01930

Phone: 978-325-5227

<https://gloucester-ma.gov/>



Water Treatment Process

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, we treat it to remove several contaminants.

- We add a disinfectant to protect you against microbial contaminants.
- We filter the water to remove small particles and organisms such as sediment, algae and bacteria.
- We chemically treat the water with a corrosion inhibitor to prevent lead pipes from leaching.
- We add fluoride to the water to aid in dental health and hygiene.
- We chemically treat the water to reduce levels of iron and manganese as well as calcium and magnesium

Source Water Assessment & Protection

MassDEP has prepared a Source Water Assessment & Protection (SWAP) Report for Gloucester's water system supply. The report identifies sources of potential contamination and assesses the susceptibility of the public water supply. The SWAP report is available online: <https://www.mass.gov/lists/source-water-assessment-and-protection-swap-program-documents>

Gloucester residents can help protect our water system by practicing responsible use, storage, and disposal of hazardous materials, practicing good septic system maintenance, and complying with local ordinances within our drinking water sources. Residents are also encouraged to report any suspicious or inappropriate activities to the local police department.

Questions can directed to the Water Compliance Office by phone 978-325-5680, fax 978-281-9724, e-mail (to dmartin@gloucester-ma.gov), or using the citizen request on the City's website <http://gloucester-ma.gov/>.

Cross Connection Information

A cross connection is a physical or potential connection between a potable water line and a non-potable water system in your home or business. Without proper protection, a cross connection can allow contaminants to enter your drinking water piping.

Examples of cross connections include a connection of a drinking water line to a boiler, air conditioning system, fire sprinkler, or irrigation system. The most common sources of cross connection in homes are outside water taps and garden hoses. A hose poses a risk when submerged in a swimming pool, when attached to a chemical sprayer, or when contaminated by fertilizers or chemicals.

Backflow prevention devices can be installed to prevent contamination in your home. You can purchase this at a hardware store or plumbing supply store.

Gloucester DPW inspects and tests backflow preventers at our industrial, commercial, and institutional facilities to ensure compliance.

For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.



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 plants, 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, and 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 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, the Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit 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 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 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 (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 Water Hotline (800-426-4791).

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. Gloucester 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 Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

IMPORTANT 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 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.

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

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 monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Massachusetts 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.

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 quarter of data.

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 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 expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

ppm = parts per million, or milligrams per liter (mg/l)

ppb = parts per billion, or micrograms per liter (ug/l)

pCi/l = picocuries per liter (a measure of radioactivity)

NTU = Nephelometric Turbidity Units

ND = Not Detected

N/A = Not Applicable



WATER QUALITY TESTING RESULTS

The water quality information presented in the table is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table.

Turbidity	TT	Lowest Monthly % of Samples	Highest Detected Daily Value	Violation (Y/N)	Possible Source of Contamination
Daily Compliance (NTU)	5	-----	0.4	N	Soil runoff
Monthly Compliance*	At least 95%	99	-----	N	
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.					
*Monthly turbidity compliance is related to a specific treatment technique (TT). Our system filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations.					

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants							
Barium (ppm)	3/3/21 9/28/21	0.011	0.007-0.077	2	2	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cyanide (ppb)	3/3/21 9/28/21	82	ND-82	200	200	N	Discharge from metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm) ■	3/3/21 9/28/21	0.66	0.61-0.66	4	4	N	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
■ Fluoride also has a secondary contaminant level (SMCL) of 2 ppm.							
Nitrate (ppm)	3/3/21 9/28/21	0.07	0.06-0.07	10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate (ppb)	3/3/21 9/28/21	0.06	<0.05-0.06	2	N/A	N	Rocket propellants, fireworks, munitions, flares, blasting agents
Volatile Organic Compounds							
(WG indicates sample was taken at the West Gloucester WTP and B indicates the sample was taken at the Babson WTP)							
Xylenes (ppm)	9/28/2021 (WG)	1.5	1.5	10	10	N	Leaks and spills from gasoline and petroleum storage tanks; discharge from petroleum factories; discharge from chemical factories

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Radioactive Contaminants							
(WG indicates sample was taken at the West Gloucester WTP and B indicates the sample was taken at the Babson WTP)							
Radium 226 & 228 (pCi/L) (combined values)	8/1/17 (WG) 1/14/20 (B)	1.01 0.77	1.01 0.77	5	0	N	Erosion of natural deposits
Disinfectants and Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)	Quarterly in 2021	46.4	25.3-69.8	80	N/A	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	Quarterly in 2021	35.4	14.6-47.6	60	N/A	N	Byproduct of drinking water disinfection
Chlorine (ppm) (free, total or combined)	Monthly in 2021	2.1	1.2-2.1	4	4	N	Water additive used to control microbes

Unregulated and Secondary Contaminants

Unregulated contaminants are those for which there are no established drinking water standards. The purpose of unregulated contaminant monitoring is to assist regulatory agencies in determining their occurrence in drinking water and whether future regulation is warranted.

Unregulated Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
(WG indicates sample was taken at the West Gloucester WTP and B indicates the sample was taken at the Babson WTP)						
Bromodichloromethane	8/3/21 B 9/28/21 WG	7.7-8.3	8.0	N/A	N/A	Trihalomethane; by-product of drinking water chlorination
Chloroform (ppb)	8/3/21 B 9/28/21 WG	18-23	20.5	N/A	70	By-product of drinking water chlorination (In non-chlorinated sources it may be naturally occurring)
Perfluorohexanoic acid (PFHxA)	4/14/21 B 10/19/21 WG	0.363 J ND	N/A	N/A	N/A	Manmade chemical; used in products to make them stain, grease, heat and water resistant

Results Designated as J: Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Manganese* (ppb)	3/10/21	53	-	50	Health Advisory of 300	Natural sources as well as discharges from industrial uses

* EPA has established a lifetime Health Advisory (HA) for manganese of 0.3 mg/L (300 ppb) and an acute HA at 1.0 mg/L (1,000 ppb)