

ANNUAL WATER QUALITY REPORT

Reporting Year 2022



Presented By
Easton Water Division



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.

Source Water Assessment and Protection

The Source Water Assessment and Protection (SWAP) program assesses the susceptibility of public water supplies to potential contamination by microbiological pathogens and chemicals. A susceptibility ranking of high was assigned to this system using the information collected during the assessment by DEP. 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 complete SWAP report is available at the Water Division Office, 417 Bay Road. For more information, call Rich Tierney, Operations Manager, at (508) 230-0850.

“Thousands have lived without love, not one without water.”
—W.H. Auden

Water Treatment Process

We use calcium hydroxide -- lime -- for our corrosion control and pH adjustment. Sodium hypochlorite is added for the disinfection process to protect the water as it travels throughout the system. We also use an ultraviolet treatment at all of our wells for the destruction of bacteria and viruses.

New treatment facilities are in the process of being built, and there is a new greensand filter plant on Red Mill Road to remove iron and manganese. There are three new granulated carbon filters for the removal of a group of per- and polyfluoroalkyl substances called

PFAS6 at Gary Lane Well 1 and two facilities on Washington Street Wells 2 and 4.

Where Does My Water Come From?

Easton's water is a groundwater supply consisting of six gravel-packed wells and one wellfield. The wells are located throughout the town and pump between 325 and 1,000 gallons per minute. Easton's water is distributed to your home through a network of water mains more than 170 miles long and ranging in diameter from 4 to 16 inches. Currently, we have 7,705 active services connected to our system.

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>.



Level 1 Assessment Update

Coliforms are bacteria that are naturally present in the environment and used as an indicator that other, potentially harmful, water-borne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct an assessment to identify and correct any problems.

During the past year, we were required to conduct one Level 1 Assessment. One Level 1 assessment was completed on April 13, 2022. No sanitary defects were identified in the assessment.

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).

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.



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.

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.



QUESTIONS? For more information about this report, or for any questions relating to your drinking water, please call Rich Tierney, Operations Manager, at (508) 230-0850, or email rtierney@easton.ma.us.

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.

On March 24, 2022, we had a total coliform positive sample (raw water sample); no repeat samples were taken within 24 hours.

The operator collected the raw water sample in the finished water sample bottle. (Thus our Violation)

We also failed to post the Tier 3 Public Notice before March 30, 2023.

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
1,1,1-Trichloroethane (ppb)	2021	200	200	ND	NA	No	Discharge from metal degreasing sites and other factories
Alpha Emitters (pCi/L)	2021	15	0	0.965	ND-0.965	No	Erosion of natural deposits
Combined Radium (pCi/L)	2021	5	0	0.403	ND-0.403	No	Erosion of natural deposits
Fluoride (ppm)	2019	4	4	0.16	0.16-0.16	No	Water additive which promotes strong teeth
Haloacetic Acids [HAAs]-Stage 2 (ppb)	2022	60	NA	15.8	ND-15.8	No	By-product of drinking water disinfection
Nitrate (ppm)	2022	10	10	1.8	1.2-1.8	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Perchlorate (ppb)	2022	2	NA	ND	NA	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives
TTHMs [total trihalomethanes]-Stage 2 (ppb)	2022	80	NA	25.1	ND-25.1	No	By-product of drinking water disinfection
Turbidity ¹ (NTU)	2022	TT	NA	1.08	ND-1.08	No	Soil runoff

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	0.26	0/60	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2020	15	0	3	0/60	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
Aluminum (ppb)	2022	200	NA	163	4-163	No	Erosion of natural deposits; Residual from some surface water treatment processes
Chloride (ppm)	2022	250	NA	78.7	16.4-78.7	No	Runoff/leaching from natural deposits
Iron (ppb)	2022	300	NA	330	ND-330	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2022	50 ²	NA	78	ND-78	No	Leaching from natural deposits
pH (units)	2022	6.5-8.5	NA	7.91	6.91-7.91	No	Corrosion control
Sulfate (ppm)	2022	250	NA	12.2	5.8-12.2	No	Runoff/leaching from natural deposits; Industrial wastes
Zinc (ppm)	2022	5	NA	0.017	ND-0.017	No	Runoff/leaching from natural deposits; Industrial wastes

¹Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality and the effectiveness of disinfectants.

²Manganese 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 Massachusetts DEP have established public health advisory levels for manganese to protect against concerns of potential neurological effects.

³Unregulated 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.

UNREGULATED SUBSTANCES³

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2021	ND	NA	NA
Chlorodibromomethane (ppb)	2021	1.01	ND-1.01	NA
Chloroform (ppb)	2021	0.64	ND-0.64	NA
Perfluoroheptanoic Acid [PFHpA] (ppt)	2022	6.12	ND-6.12	NA
Perfluorohexanesulfonic Acid [PFHXS] (ppt)	2022	12.6	ND-12.6	NA
Perfluorooctanesulfonic Acid [PFOS] (ppt)	2022	28.4	ND-28.4	NA
Perfluorooctanoic Acid [PFOA] (ppt)	2022	15.2	ND-15.2	NA
Sodium (ppm)	2018	61.9	53.9-61.9	NA

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

DRINKING WATER NOTICE

Total Coliform Bacteria/ Revised Total Coliform Rule (RTCR) Monitoring & Notification Requirements Not Met for:

PWS ID#: 4088000 PWS Name: Easton Water Division Enforcement #: 00014977

We violated a reporting requirement of the drinking water regulations. Even though this was not an emergency, as our customers, you have a right to know what happened and what we are did to correct this situation.

We are required to monitor your drinking water for specific man-made and naturally occurring contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the monitoring period of March 2022, we did not complete all monitoring for total coliform bacteria. Due to a miscommunication with the laboratory, we failed to collect repeat samples within the required timeframe following a total coliform positive, E. coli absent routine finished water (after treatment) sample collected on March 24, 2022, at our treatment plant. This constituted a Revised Total Coliform Rule (RTCR) Treatment Technique Trigger (TTT). Therefore, we cannot be sure of the quality of our drinking water during that time. Upon awareness of the error, two samples were collected at the treatment plant on March 29, 2022 (one raw water sample from the source and one finished water sample after treatment). Both samples were total coliform absent and E. coli absent.

However, we failed to Notify the Massachusetts Department of Environmental Protection (MassDEP) of the TTT within the required timeframe, which is a reporting violation, and we failed to provide public notice of this reporting violation within 365 days.

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 found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify any problems that were found during these assessments.

During the past year, we were required to conduct one Level 1 assessment. One Level 1 Assessment was completed and submitted on April 13, 2022, within the required timeframe. In addition, we were required to take corrective action to address the cause for the TTT. No sanitary defects were identified in the assessment. We completed the following corrective action: we created a Standard Operating Procedure for Bacteriological Testing and Procedures which was provided to our staff and our laboratory to ensure that proper actions are taken on all detections in the future.

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.

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

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.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.