

Town *of* Billerica

Department of Public Works
Water Division PWS ID 3031000

Annual Water Quality Report
January 1, 2021–December 31, 2021

Town of Billerica

Department of Public Works
Water Division

WHO WE ARE AND HOW TO CONTACT US:

John McGovern, *Water Superintendent*

Gerard Garabedian, *Assistant Superintendent*

Water Quality Laboratory

Richard Raworth, *Laboratory Director*

Carolyn Capodilupo, *Laboratory Technician*

Water Distribution

Edward McLaughlin, *Distribution Supervisor*

Chris Zechner, *Distribution Foreman*

Jennifer McDonough, *Clerk*

270 Treble Cove Rd • West Billerica, MA 01862

Phone: 978-671-0957 • Fax: 978-215-2075

Town of Billerica Web Site:

www.town.billerica.ma.us

UNDERSTANDING THE LANGUAGE IN THIS REPORT

Throughout this report you will see the word “contaminant” used frequently. This DOES NOT mean the water is harmful; this term is used to describe the possibility of a contaminant being present in both source water and drinking water. Any substance detected in the drinking water is listed in the analysis table. **This report contains important information about your drinking water. Have someone translate it for you or speak with someone who understands it.**

BEST WISHES to Robert Lewis on his retirement after 38+ years of employment with the Town of Billerica in various Departments. Bob was the Maintenance & Operations Supervisor at the Water Treatment Facility. His dedication to the 24 hour operation of the Treatment Facility, hard work and team building efforts were very much appreciated. He will be missed.



Written and compiled by:

Carolyn Capodilupo

Design by: Christina Capobianco

Welcome

to the Annual Water Quality Report from the Billerica Water Division

What You Need to Know – System Maintenance, Repairs and Improvements

Each year the Water Division sends out our Annual Report. Within this report we update you on construction projects, upcoming projects, and issues we faced in the previous year. Resulting detects of the constant monitoring and analyses of your drinking water are noted in the tables in this report along with regulatory limits, source and health risks.

Covid-19 continues to affect our way of doing business. From supply chain issues to staffing gaps we had to become creative to continue our operations and meet all regulatory compliance.

We were subject to several regulatory changes which affect several areas of our operations including analyses, Lead and Copper sampling, and how our water restrictions are guided. One example of this is the addition of streamflow triggers in our water restriction protocols. As part of our renewed Water Withdrawal Permit in addition to calendar imposed water restrictions, streamflow levels at a designated USGS gage will trigger additional restrictions and time limits. See more on this on the Water Restriction insert page.

Our Laboratory conducts analyses on our source water, the water in our treatment process and within our water distribution system. Some of these samples are collected from businesses and private homes to get a representative sample from each area of Town. Our weekly microbiological sampling uses several businesses and Town owned buildings as well. We would like to thank each of the following businesses for their continued cooperation and support in allowing us to meet our regulatory compliance and safeguarding the quality of Billerica’s drinking water:

Airgas • Augusta Market
The Bridle Market • Courtyard Marriott
Jim’s Quick Shop
Middlesex Turnpike Mobil

Our Lead and Copper Study relies on Homeowners cooperating with us to collect samples from the taps in their home. Study protocols require us to use homes built within a specific timeline which narrows our pool of participants. Initial studies began in 1992 and were conducted twice each year from 60 households. Our Study results allowed us to go on reduced monitoring of 30 households once every three years. Some of these Homeowners have participated in our Study for over 30 years! We would not have been able to achieve success in this study without your help. We truly appreciate the cooperation and thank you for helping us to have a successful Lead and Copper Program!

Repair work on the Distribution system such as gates, valves and other failing equipment continued. Forty water main breaks were repaired on water mains with installation dates of 1913 to 1984, ranging in size from 1.25" to 12". 41 hydrants were replaced with new hydrants with the Town replacing 35 broken or failing hydrants and contractors installing six new hydrants.

Our Leak Detection Program was conducted in two series of 115 miles each. The first series detected Sixteen (16) leaks with one being a water main leak, 11 hydrant leaks and four service line leaks. Estimated daily water leakage is 146,000 gallons per day. The second half of the Distribution system series detected Twelve leaks including one water main leak, three service line leaks and eight hydrant leaks. Estimated daily water leakage is 111,000 gallons per day. The Leak Detection Program is critical to maintaining our water system and reducing our water losses.

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, our water system is operated by a Massachusetts certified operator who oversees the routine operations of our system. As part of our ongoing commitment to you, last year we made the following improvements to our system:

Our Capital Upgrade Project continued with the new Ozone system and building being completed. All of the chemical holding tanks were replaced and new scales for the day tanks were installed. The HVAC system was upgraded and the SCADA and software programs are continuing with upgrades and modifications.

How Is My Water Treated To Make It Safe?

In 2021 the Billerica Water Division treated and delivered 1,722,475,000 gallons of water.

Because our drinking water source is surface water, we require

more treatment because we are directly exposed to the atmosphere and runoff from rain and melting snow. The Billerica Water Division uses a variety of treatment processes to remove contaminants from drinking water. Some of the methods used are described below:

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 to reduce lead and copper concentrations; we add fluoride to the water to aid in dental health and hygiene; and we oxidize the water to reduce levels of iron and manganese.

The water quality of our system is constantly monitored by us and MassDEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required.

For persons who have fish or reptiles whether in a fish bowl or aquarium, Chloramines, which are used as a disinfectant, must be removed from the water to avoid fish kill. Please consult with your pet supplier for instructions on de-chlorinating the water.

PFAS The Forever Chemical

PFAS are a family of chemicals used for nonstick, stain resistant and water proof coatings, and in numerous consumer products, industrial uses, and firefighting foams. Manufacturing of certain PFAS was discontinued in the U.S. decades ago, but they may still be used in imported products. PFAS are resilient and do not degrade easily. As a result, they are widely found in the environment as products are disposed of and PFAS leaches into the soil and water, finding its way to food and drinking water sources. PFAS is ubiquitous, and in the United States and other industrialized countries, most people have concentrations of these compounds in their blood. The good news is the levels have been dropping as the use of certain PFAS has been discontinued. A 2015–2016 Federal study found an 82% drop in PFOS and 70% drop in PFOA in the general population, according to the U.S. Center for Disease Control and Prevention. See the table below for local readings:

REGULATED PFAS CONTAMINANTS	HIGHEST RANGE DETECTED	AVERAGE MCL		POSSIBLE SOURCES
PFAS6 (ppt)	2.29 – 11.8	7.91	20	
UNREGULATED CONTAMINANTS				
Perfluorobutane sulfonic acid (PFBS) ppt	1.54 – 3.01	2.31		
Perfluorohexanoic acid (PFBS) ppt	3.5 – 5.62	4.61		Discharges and emissions from industrial and manufacturing sources associated with the 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 foams.

MassDEP recommends that consumers in a sensitive subgroup (pregnant or nursing women, infants, and people diagnosed by their health care provider to have a compromised immune system) are advised not to consume, drink, or cook with water when the level of PFAS6 is above 20 ppt. These individuals are advised to use alternate sources of water such as bottled water tested for PFAS6 or in home filtration systems certified to remove PFAS6 by independent testing groups.

What is Stormwater?

Stormwater is the runoff water from rain and snowmelt that contributes to pollution of our streams, ponds, wetlands, lakes, rivers, and oceans. Runoff from paved areas or other impervious surfaces such as rooftops and sidewalks can create large amounts of polluted stormwater. Stormwater pollutants include trash and litter, sand, bacteria, chemicals (including fertilizer and herbicides from lawns), and oil and gas from cars.

To prevent flooding, parking lots and streets often have storm drains to quickly move stormwater off the pavement. Since storm drains transport the stormwater directly to a nearby waterbody **without** treatment, any pollution that flows down a storm drain comes out in the closest wetland, stream, or pond.



Engineering Division Staff completing outfall investigations in Summer 2021.

Stormwater Management in Billerica

The EPA nationally regulates the discharge of stormwater runoff that is transported through municipal drainage systems into local waterbodies through the National Pollutant Discharge Elimination System (NPDES) stormwater program. Billerica implements a local Stormwater Management Program to comply with the NPDES stormwater program and to help reduce pollution in the Town's waterbodies.

Over the last two decades, Billerica has made significant strides towards reducing stormwater pollution in Town, including developing and executing a comprehensive plan to discover and eliminate possible sources of contamination to the drainage system, controlling discharge of sediment from construction sites through the Stormwater Management Bylaw and Regulations, and robust catch basin cleaning and street sweeping programs.

For more information about the Town of Billerica's Stormwater Management Program and tips for keeping our waters clean, please visit the Stormwater Management website at:

<https://www.town.billerica.ma.us/214/Stormwater-Management>

What Can Residents, Businesses, and Institutions Do to Help Reduce Stormwater Pollution?

There are numerous ways you can help limit stormwater pollution in your community. Grass clippings, brush, and tree trimmings may clog storm drains and cause flooding in streets. These items, as well as fertilizers and pesticides, contain nutrients like phosphorus and nitrogen, which can release nutrients into local waterbodies, causing algae to grow and harming water quality and aquatic life. When completing yard work, keep grass clippings and yard waste off of paved surfaces and out of the storm drains. Consider mulching or composting grass clippings. Always apply lawn chemicals sparingly, never prior to a rainstorm, and consider switching to slow-release and phosphorus-free fertilizers to help improve Billerica's waters. For more information about Billerica's yard waste collection program, visit the DPW website here:

<https://www.town.billerica.ma.us/196/Yard-Waste-Hazardous-Waste>

If you are having problems with your lawn, don't keep adding chemicals. Test your soil to see if the underlying problem can be diagnosed. Soil can be tested through UMass Extension.

What Should Industrial Facilities Do to Manage Stormwater?

Industrial facilities in Billerica are also responsible for reducing their stormwater pollution impact, usually under the EPA's Multi-Sector General Permit. Facilities should complete equipment maintenance inside to prevent oil and grease from washing into storm drains, minimize excess fertilizer and yard waste during site landscaping, and properly store chemicals to prevent spills and leaks from entering storm drains. Consider incorporating on-site infiltration practices to treat stormwater runoff from roofs or employee parking. Visit this link for more information about proper stormwater management practices at your facility:

<https://www.thinkbluemassachusetts.org/for-industry>.

With your help and support, we can build upon the Town's pollution prevention program to make the difference in keeping stormwater and local waterbodies clean.

Pump It!

Did you know you should have your septic tank pumped every 3-5 years? For more information visit EPA's website:

<https://www.epa.gov/septic>.

For those on septic systems, remember to properly maintain the system on a regular basis. Check out EPA's website to see how to care for your septic system: <https://www.epa.gov/septic>.



surprise
from the dog



don't
leave it



put the bag
on your hand



pick up
dog surprise



almost
done



throw
in the trash

HOW TO CLEAN UP AFTER YOUR DOG



Pick up after your pet!

Dog waste is full of harmful bacteria and excess nutrients which can cause significant health issues and lead to adverse effects on the environment when these pollutants are washed into local rivers and ponds during rainstorms. Billerica's General By-laws requires dog owners to remove pet waste from both public and private property or potentially be subject to fines (see Billerica's By-laws, Section 2 of Article VII—Animals for more information). Properly dispose of dog waste by flushing without the bag or putting the bagged waste in a trash can. Never throw dog waste down a storm drain.

Help Protect Our Local Waters: Scoop It, Bag It, Trash It!

All pet owners play a part in preventing water pollution in our rivers and streams. Please be responsible and pick up after your pets, both at home and on public land.



Where Does Our Drinking Water Come From?

The Town of Billerica uses water from the Concord River MassDEP Source ID# 10186 to provide our drinking water. The water that our system pumps and treats is known as surface water. The Watershed above our point of intake is over 400 square miles and lies in all or part of 27 cities and towns. Within that watershed area there are several land use types that have been identified as potential sources of contamination in the source water.

Agricultural Land Uses include: Fertilizer Storage or Use, Landscaping, Nurseries, and Pesticide Storage or Use.

Commercial Land Uses include: Airports, Service Stations, Bus & Truck Terminals, Dry Cleaners, Medical Facilities, Printing Shops, and Research Laboratories.

Industrial Land Uses include: Electronic Manufacturers, Hazardous Materials Storage, and Machine/Metal Working Shops.

Residential Land Uses include: Fuel Storage, Lawn Care and Gardens, and Septic Systems.

Miscellaneous Land Uses include: Above Ground Storage Tanks, Oil or Hazardous Material Sites, Large, Small and Very Small Hazardous Waste Generators, Industrial Waste-water Treatment Facilities and Transportation Corridors.

How Are These Sources Protected?

Mass DEP has prepared a Source Water Assessment Program (SWAP) for the water source (Concord River) serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

What is My System's Ranking?

A susceptibility ranking of high was assigned to this system using the information collected during the assessment by DEP. Susceptibility is a measure of a water supply's potential to become contaminated due to land uses and activities within its recharge area. A source's susceptibility to contamination does not imply poor water quality.

The SWAP Report for Billerica is available at

<https://www.mass.gov/service-details/the-source-water-assessment-protection-swap-program>

Residents can help protect our water source by:

- Practicing good septic system maintenance
- Limiting pesticide and fertilizer use
- Taking hazardous household chemicals to hazardous materials collection days

EPA Required Educational Information

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). 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.

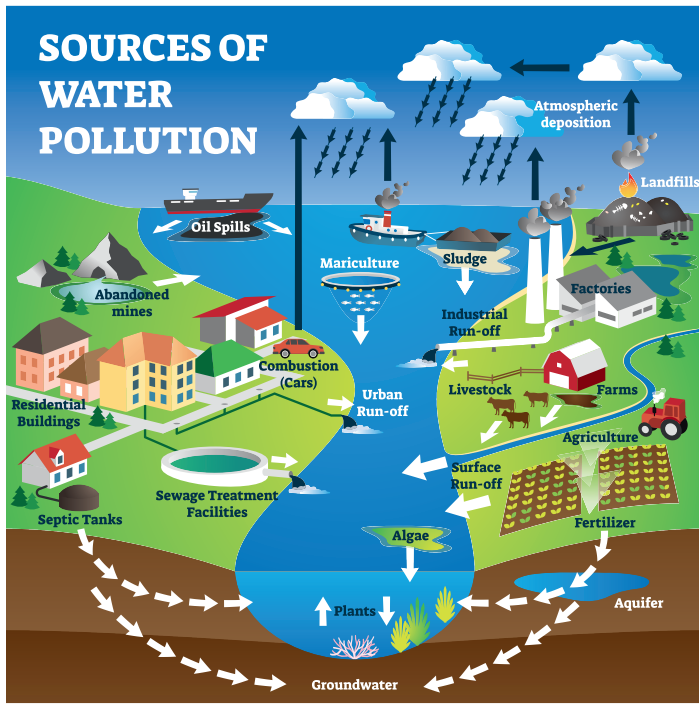
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and some 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. The Billerica Water Division 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>.

What Problems Can Occur?

Actual events of drinking water contamination are rare, and typically do not occur at levels likely to pose health concerns. However, as development in our modern society increases, there are growing numbers of activities that can contaminate our drinking water. Improperly disposed-of chemicals, animals and human wastes, wastes injected underground. And naturally occurring substances have the potential to contaminate drinking water. Likewise, drinking water that is not properly treated or disinfected, or that travels through an improperly maintained distribution system, may also pose a health risk. Greater vigilance by you, your water supplier, and your government can help prevent such events in your water supply.





Sources of Drinking Water Contamination

Sources of drinking water (both tap 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, can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, farming and mining.

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, storm water runoff and residential uses.

Organic Chemical Contaminants, include synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.

Radioactive Contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.



Code RED Emergency Notification System

The Town utilizes the Code RED system to notify customers of issues affecting their drinking water. To register for these notifications please follow these steps;

- Go to www.town.billerica.ma.us
- Click on Fire Department
- Click on Code RED in the right column
- Click on Register Here
- Complete the information on the screen to establish a Code RED account
- Click Continue
- Complete the name, address, and telephone number. To add another telephone to the registry click on Add Phone
- To add an email address for notifications click on Add email
- Verify your information and follow the screen prompts to complete and submit your information.

Why am I not notified when there is a water main break and my water gets shut off?

Notifications for water main breaks and scheduled disruptions that occur during normal business hours are conducted through the Code RED system. To register for Code RED notifications follow the instructions on the page 8 of this report. Please keep in mind that we have limited staff and they are focused on making the emergency repairs and restoring water service as promptly as possible.



Backflow/Cross Connection Program

For over 25 years Billerica has been protecting water consumers with its Backflow/Cross Connection Program.

A Cross connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping or equipment that allows the drinking water to come in contact with non-potable liquids, solids or gases (hazardous to humans) in the event of a backflow.

A backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler, is higher than the water pressure inside the water distribution line or when the pressure in the water system drops due to routine occurrences such as water main breaks, firefighting, or heavy water demand causing the water to flow backwards.

You can help prevent a cross connection by installing a hose bib vacuum breaker on every threaded water fixture. Buy appliances and equipment with a backflow preventer. Never attach a garden hose to a garden sprayer without the proper backflow preventer.

If you are the owner or manager of a property that is being used as a commercial, industrial or institutional facility you must have your property surveyed for cross connection. For more information or to schedule a cross connection survey please call the Water Division at 978-671-0957

Hydrants

We realize that fire hydrants do not have the same aesthetic appeal to the general public as they do the employees of the Water Division and Fire Department. Some people prefer to screen them from view. If you have a fire hydrant along the frontage of your property and use a fence or shrubs as a visual screen there are a few things to be aware of.

To safely and correctly operate a fire hydrant the operator must stand behind the hydrant and rotate a hydrant wrench on the top of the unit; for a firefighter in full gear this will require a minimum of three feet of clear space around the circumference of the hydrant.

The Fire Department uses two inch canvas hoses. When these are charged with water they become very stiff and inflexible. There should be three feet of clear space on both sides of the hydrant to allow the hoses to be positioned. The Town of Billerica has over two thousand fire hydrants! We all need to work together to keep these hydrants accessible and ready for use.

It is important to remember that hydrants are emergency equipment and time lost removing vehicles parked in front

of them, shoveling snow from around them or removing fences and shrub that hinders the use of them for firefighting can have catastrophic consequences.

Water Conservation and You, the Water Consumer

Water Conservation is something we all must practice and incorporate into our daily routines. Except for the air we breathe, water is the single most important element in our lives. It's too precious to waste. Everyone wants to help conserve water and save money. But what can the average water consumer do to help?

Here are some useful facts and simple suggestions that will help you save hundreds, even thousands, of gallons of water per month without any major inconvenience—both inside and outside of your home:

- 1. Check for leaks.** Check all your faucets and outdoor water spigots for leaks. Simply replacing a worn washer or “O” ring can stop a leak that wastes thousands of gallons of water.
- 2. Convert your toilets to low flush toilets.** These toilets use less water to operate and can save up to 20%. Check all your toilets for leaks. A simple way to do this is to add a few drops of food coloring to your toilet tank. If without flushing the color shows up in your toilet, you have a leak. Leaky toilets can waste up to 100 gallons of water a day—that's 30,000 gallons a year!
- 3. Reduce the length of your shower.** Also use a low-flow shower head to conserve water in the shower.
- 4. Only run your dishwasher when it's full.** It will use the same amount of water if it's ½ empty or full. Be sure to adjust the water level on your clothes washer to the size of the wash load to reduce wasting water. Use full loads whenever possible.
- 5. Reduce the size of lawn in your yard.** You can replace the lawn area with trees or drought resistant plants. Adjust your lawn mower to the highest setting. This will help your lawn to retain moisture. Don't over water your lawn. Most lawns only need one inch of water a week to encourage deep root growth.

Public Spaces

Employees in Our Parks & Tree's Department conducted inspections and audits of the irrigation systems used for Public green spaces. Rain cups were used to measure how much water was being applied and repairs were made to optimize these systems. Moisture meters were also put into use to make certain the soil was being properly watered.

Water Quality Summary | Jan 1, 2021 – Dec 31, 2021 | Public Water Supplier ID #3031000

The water quality information presented in these tables is from the most recent round of testing done in accordance with the regulations. All results shown were from samples collected during the last calendar year unless otherwise noted in the tables. Only the detected contaminants are shown.

Regulated Contaminants

SUBSTANCE	MCL	HIGHEST RESULT DETECTED	RANGE DETECTED LOW—HIGH	TYPICAL SOURCE
Fluoride (ppm)	4*	0.9	0.5–0.9	Erosion of natural deposits
Nitrate (ppm)	10	0.679	0.488–0.679	Runoff from fertilizer use; leaching from septic tanks, sewage, natural deposits
Nitrite (ppm)	1	0.110	ND–0.110	Runoff from fertilizer use; leaching from septic tanks, sewage, natural deposits
Barium (ppm)	2	0.026	NA	Discharge from drilling wastes; discharge from metal refineries; erosion of natural deposits
Perchlorate (ppb)	2	0.140	0.140	Rocket propellants, fireworks, munitions, flares, blasting agents.

TURBIDITY DAILY COMPLIANCE (NTU)	TT	LOWEST % OF SAMPLES	HIGHEST DETECTED DAILY VALUE	MONTHLY COMPLIANCE	TYPICAL SOURCE
1	1.0	100%	0.21	At least 95%	Soil Runoff

*Fluoride also has a Secondary Maximum Contaminant Level (SMCL) of 2 ppm.

Lead and Copper

SUBSTANCE	DATE COLLECTED	90 TH PERCENTILE	ACTION LEVEL	MCLG ppb	NUMBER OF SITES SAMPLED	NUMBER OF SITES ABOVE ACTION LEVEL	TYPICAL SOURCE
Lead (ppb)	June 2019	2	15	0	30	0	Corrosion of household plumbing
Copper (ppb)	June 2019	25	1300	1300	30	0	Corrosion of household plumbing

90th Percentile: Out of every 10 homes, 9 were at or below this level. This number is compared to the Action Level to determine lead and copper compliance.

Disinfectants and Disinfection By-Products

SUBSTANCE	MCL	HIGHEST ANNUAL RUNNING AVERAGE	RANGE DETECTED LOW—HIGH	TYPICAL SOURCE
Chlorine (ppm)	4	1.7	0.18–2.70	Water additive to control microbes
Bromate (ppb)	10	5.1	0.9–4.0	By-product of drinking water chlorination
Total Organic Carbon	TT Annual Average % Removed = 73			Naturally present in the environment

Disinfection Byproducts. Disinfection of drinking water is one of the major public health advances of the 20th century. However, sometimes the disinfectants can react with naturally occurring materials in the water to form unintended byproducts, which may pose health risks. EPA recognizes the importance of removing microbial contaminants while simultaneously protecting the public from disinfection byproducts and has developed regulations to limit the presence of these byproducts. For more information, see <http://www.epa.gov/safewater/mbdp.html>

*Compliance for some contaminants is based on a Running Annual Average or a Running Quarterly Average. Some detects may show above the MCL but when averaged meet compliance.

DISINFECTION CONTAMINANTS	DATES COLLECTED	HIGHEST RESULT OR AVERAGE	RANGE DETECTED	MCL	TYPICAL SOURCE
Total Trihalomethanes TTHMs ppb	Quarterly	59	13–59	80	By-product of drinking water disinfection
Haloacetic Acids HAA5s ppb	Quarterly	20	4.5–20	60	By-product of drinking water disinfection

Water Quality Summary | Jan 1, 2021 – Dec 31, 2021 | Public Water Supplier ID #3031000

The water quality information presented in these tables is from the most recent round of testing done in accordance with the regulations. All results shown were from samples collected during the last calendar year unless otherwise noted in the tables. Only the detected contaminants are shown.

***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 further regulation is warranted.**

Unregulated and Secondary Contaminants

SUBSTANCE	SMCL	ORSG	LOWEST DETECTED	HIGHEST DETECTED	TYPICAL SOURCE
Sulfate (ppm)	250	NA	39	52	Runoff and leaching from natural deposits; industrial wastes
Manganese* (ppb)	50	300*	21	36	Erosion of natural deposits
Aluminum (ppm)	NA	200	0.013	0.014	Residue from water treatment process; erosion of natural deposits
Chloride (ppm)	NA	250	70	163	Runoff from road de-icing; leaching from natural deposits
Sodium** (ppm)	NA	20	62	101	Discharge from the use and improper storage of sodium containing de-icing compounds or in water softening agents
Total Dissolved Solids (TDS) (ppm)	500	–	160	392	–

*EPA has established a lifetime health advisory (HA) value of 300ppb for manganese to protect against concerns of potential neurological effects, and a one-day and ten-day HA of 1000ppb for acute exposure.

**Sodium-sensitive individuals such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the sodium levels where exposures are being carefully controlled.

Unregulated Volatile Organics*

SUBSTANCE	ORSG	LOWEST DETECTED	HIGHEST DETECTED	TYPICAL SOURCE
Chloroform (ppb)	70	1.5	13.9	By-product of drinking water chlorination
Bromodichloromethane (ppb)	none	3.2	14.8	By-product of drinking water chlorination
Bromoform (ppb)	none	ND	11.2	By-product of drinking water chlorination
Dibromochloromethane (ppb)	none	3.0	19.9	By-product of drinking water chlorination
Chloromethane (ppb)	2.69 to 269	ND	2.9	Discharge from industrial uses

Unregulated Inorganic Contaminants

SUBSTANCE	ORSG	RESULT	TYPICAL SOURCE
Nickel (ppb)	100	12	Discharge from domestic wastewater, landfills, and mining, and smelting operations.

DEFINITIONS AND NOTES:

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

MCL – Maximum Contaminant Level The highest level of a contaminant that is allowed in drinking water.

NA Not Applicable

ND Not Detected

NTU Nephelometric Turbidity Units

ORSG Massachusetts Office of Research and Standards Guidelines 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.

ppb parts per billion

ppm parts per million

SMCL – Secondary Maximum Contaminant Level These standards are developed to protect the 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.

POSTAL CUSTOMER

Track your Household's Water Use!

Billerica has a useful tool for Water Conservation. The online program is called Eye On Water. This program is linked to your water meter data and provides you with consumption information for your household.

The Leak Alert function notifies you when a leak is suspected. When flowing water is detected every hour for 24 hours, the amount is displayed in the Leaks section of your personal dashboard. This can also be linked for text alerts.

In the At a Glance section it will post real time water use data in—Minute/Hour/Day/Week/Month/Year format—and will also graph your usage in each category. You can see how much water is being used within your household at any hour of the day! This is a great tool to catch those family members who take long showers or to track how much water your irrigation system uses.

You can also check your usage and see if you are within the recommended 65 gallons (8.69 cubic feet) per day per person consumption.

Here is an example of what that looks like for a Family of Four (Water and Sewer are billed in cubic feet so the conversion numbers are included):

65 gallons (8.9cf) per day x 4 people =
260 gallons (34.76cf) per day

260 gallons (34.76cf) per day x 30 days (month) =
7800 gallons (1,043cf) per month

