

Town of Billerica Department of Public Works, Water Division

2008 Water Quality Report (January 1, 2008 – December 31, 2008)

Water Division Contact Information

John McGovern, Water Superintendent
Ralph McClellan, Asst. Superintendent
John Sullivan, Treatment Chemist
Paul Walsh, Distribution Supervisor

Department of Public Works

Abdul Alkhatib, DPW Director

Business Hours 8:30am – 3:30pm

Hours of Operation: 24 hours per day

365 days per year

Phone: 978-671-0957

FAX: 978-671-0911

Location:

270 Treble Cove Rd
Billerica, MA 01821

Welcome to the Annual Water Quality Report. We issue this report annually to update our customers about the quality of their drinking water and the issues that impact it.

We are proud to report that the Town of Billerica's drinking water was in compliance with all State and Federal drinking water regulations requirements. Our Laboratory personnel took part in several State and Federal water quality studies. These studies look at potential contaminants and help regulators set limits on what quantity of a contaminant poses a health risk. These studies remain ongoing and final results will be analyzed by State and Federal Agencies for possible regulatory changes.

Many tasks were performed in 2008 to maintain and improve our infrastructure. Our Water Distribution employees repaired 39 water main breaks with more than half occurring during frigid winter weather.

Our Leak Detection Program continues, approximately 115 miles of water mains were surveyed for leaks and 20 detected leaks were repaired. From the Boston and Chelmsford Roads intersection to the Sprague St & Boston Road intersection 875 feet of 12 inch ductile iron water main was installed to provide a "Loop" in the distribution system. A "Loop" is best described as connecting two or more dead end water mains to improve water flow and quality.

Inside this report you will find information on Source Water, Water Treatment Issues, Drinking Water Analysis, Water Conservation Practices, State and Federal Regulations, and much more.

We hope that after reading this report you will have a better understanding of where your drinking water comes from, what treatment is needed to make it safe to drink, what is in your drinking water, and how you can both protect our Source water and conserve our drinking water.

**To our non-English speaking customers:
This report contains important information regarding the quality of your drinking water.
Please have this report translated.**

Water Conservation Consumer Information

The Town of Billerica enacted Water Conservation Bylaws in 2006, to help protect our water source and to educate our customers about the importance of water conservation.

With a combination of plentiful precipitation and Water Ban limits the Town of Billerica reduced the amount of water that was withdrawn from the Concord River by – 142,663,772 gallons of water! This was not only a reduction in how much water was withdrawn from the river but also how much water was treated (a very expensive process), but most importantly we reduce how much water is wasted!

Below is an outline of the four stages of Water Conservation, full text of the By-Laws is available on the DPW web page located at www.billericadpw.org The Water Conservation link is on the Water Division web page.

Clip and save for future reference -----



Stage I – Effective May 1 – October 1 Annually Voluntary Water Conservation

Outside water usage limited to odd – even allocation program. Odd numbered street addresses may water on odd numbered calendar days and even numbered addresses may water on even numbered calendar days.

Stage II - Mandatory Water Conservation

Outside water usage limited to odd – even allocation program (described above).

	Residential	Commercial/Industrial
First Violation	Written Citation	Written Citation
Second Violation	\$50.00	\$100.00
Subsequent Violations	\$100.00	\$200.00

Stage III – Mandatory Water Conservation

Lawn sprinklers, irrigation systems, soakers and unattended hoses forbidden. Outside water usage restricted to use of hand held hose for no more than one (1) hour during off-peak hours as determined by the DPW Director.

	Residential	Commercial/Industrial
First Violation	Written Citation	Written Citation
Subsequent Violations	– termination of service plus costs of termination and restoration.	

Stage IV – Total Mandatory Water Conservation

All outside water use is forbidden.

	Residential	Commercial/Industrial
First Violation	Written Citation	Written Citation
Subsequent Violations	– termination of service plus costs of termination and restoration.	

Water Conservation Resources - More information on water conservation can be found at the following sites:

www.eartheasy.com www.xeriscape.com www.awwa.org/waterwiser/ www.epa.gov/safewater

You can help protect our water resources. If you witness suspicious activity report it to the Police by dialing 911. When reporting you should; state your name and location, the location of the activity, and the nature of the incident. You should also describe any vehicle involved (color, make, model, plate number), and people involved (how many, sex, race, color of hair, clothing, height and weight).

Examples of suspicious activity include:

- *People dumping or discharging material into the Concord River.*
- *Any unidentified truck or car parked or loitering near the river or the treatment plant for no apparent reason.*
- *Suspicious opening or tampering with manhole covers or fire hydrants. Only authorized Town of Billerica personnel should be working on these.*

*To take anything for granted, is in a real sense, to neglect it
And that is how most of us treat water.*

Robert Raikes, Water, Weather, and Prehistory

The Massachusetts Department of Environmental Protection (DEP) regulates how much water The Town of Billerica can withdraw from the Concord River, which is our water source. The Town of Billerica is permitted to withdraw 1,949,100,000 gallons of water from the Concord River per year. This is done to protect the integrity of the water source and viability of both our water supplies and natural resources. In 2008, The Billerica Water Division withdrew 1,609,163,328 gallons of water from the Concord River, our water source.

With a higher than normal annual rainfall (over 70 inches), and a Mandatory Stage II Water Ban in effect May 1, 2008 through September 30, 2008, The Billerica Water Division, was able to achieve a per capita per day of 62.78 gallons per person. This was below the 65 gallons per capita day goal required by the Massachusetts DEP. We would like to take this opportunity to thank all the residents who incorporated water conservation practices into their lives, and also those customers who complied with the Water Ban. Forty-eight citations were issued for Water Ban violations.

Why Should I Conserve Water?

We take our water supplies for granted, yet they are limited. There is no “new” water: whether our source water is a stream, river, lake, spring or well, we are using the same water the dinosaurs used millions of years ago.

The average American uses about 90 gallons of water each day in the home, and each American household uses approximately 107,000 gallons of water each year. For the most part, we use water treated to meet drinking water standards to flush toilets, water lawns and wash dishes, clothes, and cars. In fact, 50-70% of home water is used for watering lawns and gardens. Nearly 14% of the water a typical homeowner pays for is never even used – it leaks down the drain.

Water efficiency plays an important role in protecting water sources and improving water quality. By using water wisely, we can save money and help the environment. Using water saving techniques could save you hundreds of dollars each year, while also reducing the amount of pollutants entering our waterways.

Use Your WaterSense

By making just a few small changes to your daily routine, you can save a significant amount of water, which will help you save money and preserve water supplies for future generations. Water-efficient plumbing fixtures and irrigation systems provide performance and quality with the added benefit of water savings. The WaterSense label identifies high efficiency products.



Fix That Leak!

Challenge: Leaky faucets that drip at a rate of one drip per second can waste more than 3,000 gallons of water each year.

Solution: If you're unsure whether you have a leak, read your water meter before and after a two hour period when no water is used. If the meter does not read exactly the same, you probably have a leak.

Challenge: A leaky toilet can waste 200 gallons of water every day.

Solution: To verify if your toilet has a leak, place a drop of food coloring in the tank; if the color shows in the bowl without flushing, you have a leak.

Shower Power

Challenge: A full bath tub requires about 70 gallons of water, while taking a five minute shower uses 10 to 25 gallons.

Solution: If you take a bath, stopper the drain immediately and adjust the temperature as you fill the tub.

Turn It Off!!

Challenge: The average bathroom faucet flows at a rate of two gallons per minute.

Solution: Turning off the tap while brushing your teeth in the morning and at bedtime can save up to 8 gallons per day or 240 gallons a month!



Make It a Full Load

Challenge: The average washing machine uses about 41 gallons per load.

Solution: High-efficiency washing machines use less than 28 gallons of water per load. To achieve even greater savings, wash only full loads or adjust the load size selection on the washing machine.

WATER QUALITY SUMMARY – Public Water Supplier ID # 3031000

The following tables list all of the compounds detected in drinking water through the 2008 calendar year. Each year the Water Division is required by Federal and State regulations to conduct extensive water quality testing on drinking water. After the tables you will find abbreviation definitions and notes



Regulated Substances

Substance Unit of Measure	MCL (MRDL)	MCLG (MRDLG)	Highest Amount Detected	Range Detected Low - High	Typical Source
Chlorine (ppm)	4	4	2.3	0.7 2.3	Water additive used to control microbes
Fluoride (ppm)	4	4	1.3	.07 1.3	Erosion of natural deposits; water additive, which promotes strong teeth, discharge from fertilizer and aluminum factories.
Nitrate (ppm)	10	10	1.7	.38 1.7	Runoff from fertilizer use; leaching from septic tanks sewage, erosion of natural deposits.

Contaminant	Annual Running Average	Range Detected Low - High	Typical Source
Total Trihalomethanes TTHMs (ppb)	80	39.7 10.8 94	By-product of drinking water disinfection
Haloacetic Acids HAA5s (ppb)	60	17.9 1.1 25	By-product of drinking water disinfection
Total Organic Carbon	TT Annual Average % Removed = 57%		Naturally present in the environment.

	Date(s) Collected	90th Percentile	Action Level	# of Sites Sampled	# of Sites Above Action Level	Typical Source
Lead (ppb)	6/07	2	15	30	0	Corrosion of household plumbing, erosion of natural deposits.
Copper (ppb)	6/07	45	1300	30	0	Corrosion of household plumbing, erosion of natural deposits; leaching from wood preservatives

90th Percentile: Out of every 10 homes, 9 were at or below this level.

Turbidity Daily Compliance (NTU)	TT	Lowest Monthly % of Samples	Highest Detected Daily Value	Monthly Compliance*	Typical Source
	1	100%	0.34	at least 95%	Soil runoff.

* Monthly turbidity compliance is related to 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.

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Unregulated Substances

	SMCL	ORSG	Amount Detected	Typical Source
Sodium (ppm)		20	85	Natural sources; runoff from roadway salt; by-product of treatment process.

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.

Sulfate (ppm)	250		60	Natural sources
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Unregulated Volatile Organics

	MCLG	Range Detected		Source(s) of Contaminant
		Lowest	Highest	
Chloroform (ppb)	0	1.7	43	By-product of drinking water chlorination.
Bromodichloromethane (ppb)	0	2.3	25	By-product of drinking water chlorination.
Chlorodibromomethane (ppb)	0	1.6	7.2	By-product of drinking water chlorination.
Bromoform (ppb)	0	ND	1.5	By-product of drinking water chlorination.

EPA has not established drinking water standards for Unregulated Contaminants and as such they do not have a MCL. The purpose of Unregulated Contaminant monitoring is to assist the EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Definitions and Notes

ppm = parts per million

ppb = parts per billion

NTU = Nephelometric Turbidity Units

ND = Not Detected

TT = Treatment Technique, a required process intended to reduce the level of a contaminant in drinking water.

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

ORSG = Massachusetts Office of Research and Standards Guideline. 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.

MCL = Maximum Contaminant Level, the highest level of contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible, using the best available treatment technology.

MCLG = Maximum Contaminant Level Goal, the level of a contaminant 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. The addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG = Maximum Residual Disinfectant Level Goal, the level of a disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of disinfection to control microbial contaminants.

SMCL = Secondary Maximum Contaminant Level, are standards developed to protect the aesthetic qualities of drinking water and are not health based.

Where Does Our Drinking Water Come From?

The Town of Billerica uses water from the Concord River 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/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 Wastewater Treatment Facilities and Transportation Corridors.

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 stormwater 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.

Source Water Assessment Report (SWAP)

What is SWAP? The Source Water Assessment and Protection Program (SWAP), established under the Federal Safe Drinking Water Act, requires every state to:

Inventory land uses within the recharge areas of all public water supply sources; assess the susceptibility of drinking water sources to contamination from these land uses; and publicize the results to provide support for improved protection.

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 <http://www.mass.gov/dep/water/drinking/swapreps.htm>

How Safe Is My Drinking Water?

Congress passed the Safe Drinking Water Act (SDWA) in 1974 to protect public health by regulating the nation's public drinking water supply and protecting sources of drinking water. SDWA is administered by the U.S. Environmental Protection Agency (EPA) and its state partners. EPA has established pollutant-specific minimum testing schedules for public water systems.

If a problem is detected, immediate retesting requirements go into effect along with strict instructions about how the system informs the public. Until the system can reliably demonstrate that it is free of problems, the retesting is continued. A network of government agencies monitor tap water suppliers and enforce drinking water standards to ensure the safety of public water supplies. These agencies include EPA, Mass. Dept. of Environmental Protection (DEP), Massachusetts Department of Public Health (DPH), and local public health departments.

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.

How Does Water Get To My Faucet?

An underground network of 225 miles of pipes, also known as the Distribution System, delivers drinking water to the 12,362 service lines in our water system. Drinking water must meet required health standards when it leaves the treatment plant. After treated water leaves the plant, it is monitored within the distribution system to identify and remedy any problems such as water main breaks, pressure variations, or growth of microorganisms.

How Is My Water Treated To Make It Safe?

In 2008 the Billerica Water Division treated and delivered 1,805,416,056 gallons of water.

Because our drinking water source is a 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;

Flocculation :

This step removes dirt and other particles suspended in the water. Alum is added to the water to form tiny sticky particles called “floc”, this attracts the dirt particles.

Sedimentation:

The flocculated particles then settle out of the water, to the bottom of the settling basins.

Filtration:

The water is then passed through filters to remove any remaining particles from the water. Filtration clarifies the water and enhances the effectiveness of disinfection.

Disinfection:

To eliminate disease carrying organisms, it is necessary to disinfect the water. Our water is disinfected using Chloramines before it enters the distribution system to ensure that dangerous microbial contaminants are killed.

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

Disinfection Byproducts

Disinfection of drinking water is one of the major public health advances of the 20th century. However, sometimes the disinfectants themselves 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 www.epa.gov/safewater/mdbp.html

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination. 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 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 infants can be particularly at risk from infections. These people should seek advice from their health care providers. EPA/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 (1-800-426-4791).

Should I drink Bottled Water?

Surveys show that 35% of bottled water drinkers think it is safer than tap water.

Tap water is safe to drink and inexpensive. Public water suppliers must meet stringent State and Federal drinking water regulations. Bottled water costs more than \$1.50 per bottle. That is 1,900 times the amount of tap water!



This is bad news for your:

Wallet – the average person spends \$400 a year on bottled water.

Health- Plastic water bottles have been found to contain Bisphenol (BPA) which can leach into the water and has been found to cause cancer.

The Environment – In 2004 water bottle usage was at 28,000,000,000 a year with 86% of the bottles ending up in the garbage!

It also requires 17,000,000 barrels of oil to produce the bottles and 2,500,000 tons of carbon dioxide are produced from the manufacturing of the bottles.

Visit these sites for more information:

<http://www.earth911.com/>

<http://www.filterforgood.com>

<http://www.webmd.com>

Understanding the Language in this Report

Throughout this report you will see the word contaminant used frequently. This DOES NOT mean the water is contaminated; 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 tables.

TIPS FOR REDUCING STORMWATER POLLUTION

The Town of Billerica performs many activities that are critical to keeping stormwater clean. Street sweepers pick up sand and winter debris so that it will not be washed into storm drains. Storm drains have catch basins, some with sumps to trap heavy particles and hoods to trap oils, that must be cleaned out regularly by the public works department to keep the storm drains clear.

Whatever flows down a storm drain will come out in a nearby water body. Tips for taking care of storm drains include:

- *Never put anything down a storm drain, including pet waste, motor oil, paint, litter, leaves, or sand*
- *Don't block storm drains with refuse or debris.*



Cleaning up stormwater pollution is a task that the whole community can take part in. There are many things that residents can do to improve stormwater quality. Lawns can contribute stormwater pollutants through fertilizers, pesticides, and herbicides.

Steps that homeowners can take to reduce stormwater pollution from lawns include:

- *Use fertilizer, pesticides, and herbicides sparingly*
- *Try using organic lawn care methods*
- *Mow 2 to 3 inches high to encourage dense growth and deter weeds*
- *Mulch lawn clippings and leaves*
- *Do not over-water your lawn*
- *Reduce lawn size by planting rock gardens, shrubs and trees*
- *Replant bare areas to stop erosion*
- *Maintain native vegetation along streams and lakefronts.*

Cars can pollute stormwater with gas, oil, antifreeze, metals, and detergents. Steps that car owners can take to reduce stormwater pollution from cars include:

- **Keep your car well maintained to prevent fluid leaks**
- **Recycle motor oil, antifreeze, tires, and batteries**
- **Use a commercial carwash or wash your car on the lawn, instead of the driveway, using small amounts of low-phosphate detergents.**

Other tips to help clean up stormwater include:

- *Pick up after pets and dispose of droppings in the toilet or trash*
- *Aim roof downspouts away from paved surfaces or into a rain barrel*
- *Dispose of paint, oil, and other household chemicals at a Billerica's Annual Household Hazardous Waste Drop-Off day*
- *Don't litter – instead recycle paper, cardboard, cans, plastic and glass*
- *Start stream teams to help care for neighborhood streams*
- *Coordinate neighborhood storm drain stenciling activities*
- *Support community efforts to keep stormwater clean.*



Keeping stormwater clean is a community-wide effort. Cleaning up pollutants on the land and taking good care of storm drains results in cleaner stormwater, and cleaner stormwater means cleaner water for drinking, swimming, fishing, boating and wildlife.

For further information please visit the Town of Billerica Department of Public Works homepage at <http://www.billericadpw.org> and follow the link to Stormwater Management.

New Stormwater By-law: Keeping Pollution Out of the Storm Drain

What's the difference between the sanitary sewer system and the storm sewer system?

The **sanitary sewer** system is a network of pipes that carries **wastewater** from the toilets, sinks, bathtubs/showers in your house to the treatment plant, where the wastewater is cleaned before entering the Concord River.

The storm sewer system, or more commonly known as the **storm drain**, is a network of roadside ditches, gutters, and underground pipes that collect **stormwater** (water from rain and melting snow that flows over the ground) and carry it away from our streets, parking lots, and yards. Water enters the storm drain system through catch basin grates and exits through outfalls.



Stormwater enters the storm drain through this catch basin grate.



Stormwater leaves the storm drain through an outfall.

Where does water in the storm drain system go?

Stormwater carried by the storm drain system **directly enters water bodies throughout Town, including the Concord River, the Shawsheen River, Nuttings Lake, and Winning Pond.** Sometimes stormwater flows into wooded or wetland areas of Billerica.

Remember – stormwater is not treated at the wastewater treatment plant. Any pollution that is washed into the storm drain ends up in Billerica's lakes and streams!

New By-law Governing Discharges to the Municipal Storm Drain in Billerica

In October of 2007, Billerica adopted a by-law which makes it illegal to put pollution such as pet waste, water from laundry, motor oil, antifreeze, other chemicals, paint, leaves, soapy water, and litter/trash into the storm drain or into waterbodies. This by-law helps the Town protect the health and safety of our residents, provide cleaner water for drinking and recreation, and preserve the aesthetic value of the community.

Most everyday activities are still allowed by the by-law.

These activities include landscaping irrigation, lawn watering, individual residential car washing, and draining dechlorinated swimming pools. It is even alright for your sump pump to discharge uncontaminated groundwater to the storm drain (but not to the sanitary sewer).

If you suspect someone is putting pollution into the storm drain system or into water bodies, call the Billerica Board of Health at 978-671-0931.

What's going on at the Water Division?



Billerica Water Division Booth at the Health & Recreation Fair

Visit our Drinking Water Professionals!

Staff members from the Billerica Water Division visit the community twice a year with information booths. In the spring, they are at the Annual Health & Recreation Fair, held in April, at the Marshall Middle School. In the fall, they are at Yankee Doodle Weekend held in September, behind the Billerica High School. They are there to answer your questions and concerns about Billerica's Drinking Water.

There are also educational handouts as well as Water Conservation kits for inside and outdoor water use.

Our staff also continues to conduct tours of the Treatment Facility for school students and various civic groups

Protecting our Water Supply

The Water Division was able to purchase two large portable pumps to be used for interconnections with the Towns of Burlington, East Chelmsford, Tewksbury and Bedford. This will allow us to receive water from our neighboring towns or to supply them with water during a water emergency.



What is a Cross Connection?

A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops (say because of fire hydrant use in town) when the hose is connected to the fertilizer, the fertilizer may be sucked back into the drinking water pipes through the hose. Using an attachment on your hose called a backflow prevention device can prevent this problem.

The Billerica Water Division recommends the installation of backflow prevention devices, such as a low cost hose bib vacuum breaker, for all inside and outside hose connections. You can purchase this at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water system in your town. For additional information on cross connections please contact the Water Division at 978-671-0957.

Lead in Drinking Water



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 (you can collect this flushed water for use on plants). 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>

Is there Fluoride in my Drinking Water?

Yes, the Billerica Water Division adds Fluoride to the drinking water to assist in promoting good dental health.



How long has the Town of Billerica supplied drinking water?

The Town of Billerica became a public water supplier in 1899 when its first wells went online. This was at the 250 Boston Rd location.

We have been supplying drinking water ever since. Of course many things have changed over the years. We no longer use wells as our source water. In 1955 our first Water Treatment Plant was built and we began to withdraw water from the Concord River.

The Water Treatment plant had a maximum capacity of 3.5 million gallons a day (MGD). In 1967 that plant was expanded to 7 MGD. As the Town's growth continued the plant was expanded in 1976 with a maximum capacity of 14 MGD.

In May 2006 a new Water Treatment Facility was built at 270 Treble Cove Rd.



This new facility was built with energy efficient equipment and updated technology. This plant is also equipped with an emergency generator – something that was lacking at the old plant. This has enabled us to continue operating and supplying drinking water during times of extended power loss.

As we combine new technology with even stricter Federal and State drinking water regulations our water quality continues to meet and or exceed these standards.

Over the years water suppliers have faced many issues some resulting from new limits arising from extensive research. One such issue we faced was in 1998. We were in violation of the Total Trihalomethane (TTHM) Maximum Contaminant Level. TTHMs are a by product of drinking water disinfection. The most effective and common method of disinfection is using chlorine. However, chlorine can react with naturally occurring minerals in water and produce byproducts. Studies have shown that chronic lifetime exposure to these Byproducts at very high levels can have serious health effects.

As a result of this violation the Town of Billerica Water Division changed our method of disinfection.

Chloramines, a combination of chlorine and ammonia became our new method of disinfecting the drinking water. This method allows us a very high rate of disinfection with less chlorine used.

Since this new method was implemented our drinking water quality has consistently met all standards.

For many years the residents of Billerica had events of brownish, rusty water. This was a result of high levels of Iron and Manganese (naturally occurring minerals present in the water).

In 1997, we began ozonating the drinking water. This method of adding ozone to the water allowed us to oxidize the minerals in the water coming into the plant from the river.

Presently water customers only get discolored water in the event of high volume flow in the distribution system, because of a fire in town, or because of water main disruptions such as a water main break or flushing program



*Men work on earth at many things;
Some till the soil, a few are kings;
But the noblest job beneath the sun
is making Running Water run.*

John L. Ford - Water & Wastewater Engineering

FREQUENTLY ASKED QUESTIONS

Is my drinking water safe to drink?

Billerica's drinking water is fully in compliance with all State and Federal drinking water regulations and standards. If an issue should occur that impacted the water quality or in the case of a water emergency, that information would be well publicized in a public notification. The Water Division uses the Lowell Sun and the Billerica Minuteman newspapers as well as Billerica Access Television to notify the public about any issues involving the quality and safety of the drinking water supply.

Why is my water brown colored sometimes?

Brown discolored water is generally a combination of Iron and Manganese (minerals that are naturally present in the water), these minerals become oxidized when they are mixed with chlorine (which is added to the water for disinfection). This can result in discolored laundry and plumbing fixtures. Brown water can also occur when there has been a fire, a water main break or other hydraulic disruption in the water distribution system. The Water Division has a rust reducing product for use in the laundry. This product is available at the Water Treatment Facility at 270 Treble Cove Rd. and also at the Water Billing Office at the Billerica Town Hall located at 365 Boston Rd.



Do you know how often you turn me on?

If only the water faucet could talk to us. It might remind us how often we turn to it for safe water to drink, to wash, to prepare our food, and to provide us with everyday quality of life we enjoy. It might remind us that drinking tap water keeps us hydrated and healthy.

Tap water is safe, reliable, and there for us 24/7, without fail.

Only Tap Water Delivers:

Public Health Protection
Fire Protection
Support for the Economy
Quality of Life

Only Tap Water Delivers



MADE IN THE USA