



Town of Lincoln Water Department Annual Water Quality Report 2018

PWS I.D. # 3157000

Introduction

This report describes Lincoln's drinking water sources, treated water quality, and how we maintain the high quality of your water. This report is issued annually to you, the consumer, to keep you updated on your drinking water quality. The report also provides information on where your water comes from, how we treat it, and answers to questions you may have about Lincoln's water system. We are proud to report that the water provided by the Lincoln Water Department (LWD) meets or exceeds established water-quality standards set forth by the U.S. Environmental Protection Agency (USEPA) and the Massachusetts Department of Environmental Protection (Mass DEP).

How Can I Learn More?

The Water Department Administrative office is located at 77 Sandy Pond Road. Water Commission meetings are held on the 2nd Wednesday of each month at 4:00 P.M. in the Donaldson Room at Town Offices, 16 Lincoln Road. You can also visit our website at <http://www.lincolntown.org>.

New office hours effective January 1, 2019

- Monday thru Thursday 8:00am to 2:00pm
- Friday 8:00am to 4:00pm
- Closed for lunch daily from 12:00pm to 12:30pm

Water Rates

The Board of Water Commissioners is committed to providing safe, reliable and high quality water service for our customers. To meet this commitment, the Board has developed a long-term financial and capital improvement program to ensure there are adequate funds available to make necessary investments in infrastructure and personnel. This process carried out by the Water Commission in Fall 2018, resulted in a recognition by the Commission that the Department's needs could not be met with the rate structure that has been in effect since 2014.

A Public Hearing was held on Thursday January 10, 2019 to discuss an increase in the water rates and charges. Various scenarios to meet increased needs for both operating and capital costs were discussed by the Water Commission. The following rates and charges will become effective on any bill for usage after January 1, 2019. You will notice the increase on your water bill for the first quarter of calendar 2019.

New Quarterly Rates effective January 1, 2019

Tier One	0-20,000 gallons	\$5.08 Per 1000 gallons
Tier Two	20,001-40,000 gallons	\$10.71 Per 1000 gallons
Tier Three	40,001 gallons and over	\$25.03 Per 1000 gallons
Base Charge	per water meter	\$35.00

The Lincoln Water Department is totally funded from user fees; the increase in operating budget will have no impact on Lincoln property taxes. All funds collected will be reinvested in the LWD water system to improve system reliability and water quality.

If you have questions about the rate changes, please contact Customer Service at 781-259-8092 Monday through Friday, 8 a.m. to 2 p.m. or email the Water Superintendent, MaryBeth Wiser at wiserm@lincolntown.org.

Lincoln's Drinking Water – A Well-Protected Source

The Town of Lincoln is supplied by both surface water and groundwater well. Flint's Pond, also known as Sandy Pond, is the primary year-round supply. Tower Road Well is a supplemental source used during peak periods and when Flint's pond is off-line for servicing.

Since 1874, when the system was known as the Lincoln Water Works, the Town has recognized the need to protect its watershed. The watershed consists of 465 acres of land surrounding Flint's Pond, which is approximately 92 percent owned and/or controlled by the Town. The Town has in place a Watershed Protection Plan designed to limit access to the water and protect the land from any development that would endanger the water supply. One of the biggest threats to the Town's water supply is improperly maintained septic systems. You can help protect your drinking water quality by pumping out your septic system every two years. Never dump hazardous substances down septic or storm drains. Do not use septic system cleaners.

Source Water Assessment Program

The Source Water Assessment & Protection (SWAP) Program, 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. A susceptibility ranking of moderate for Flint's Pond and ranking of high for Tower Road well were assigned using the information collected during the assessment by Mass DEP. You can download a copy of the SWAP Report from www.mass.gov/eea/docs/dep/water/drinking/swap/nero/3157000.pdf or call LWD at (781) 259-8997.

Information About Your Drinking Water

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. However, some people may be more vulnerable to contaminants 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 about drinking water from their health care provider. More information about contaminants and potential health effects, including EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

The sources of drinking water generally include rivers, lakes, streams, ponds, reservoirs, springs and wells. Because water is the universal solvent, 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 as it travels over the surface of the land or through the ground. Contaminants that can be present include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from septic systems and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.
- **Radioactive contaminants**, which may be naturally occurring or be the result of oil and gas production and mining activities.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

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. LWD 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 want 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>.

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. **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.

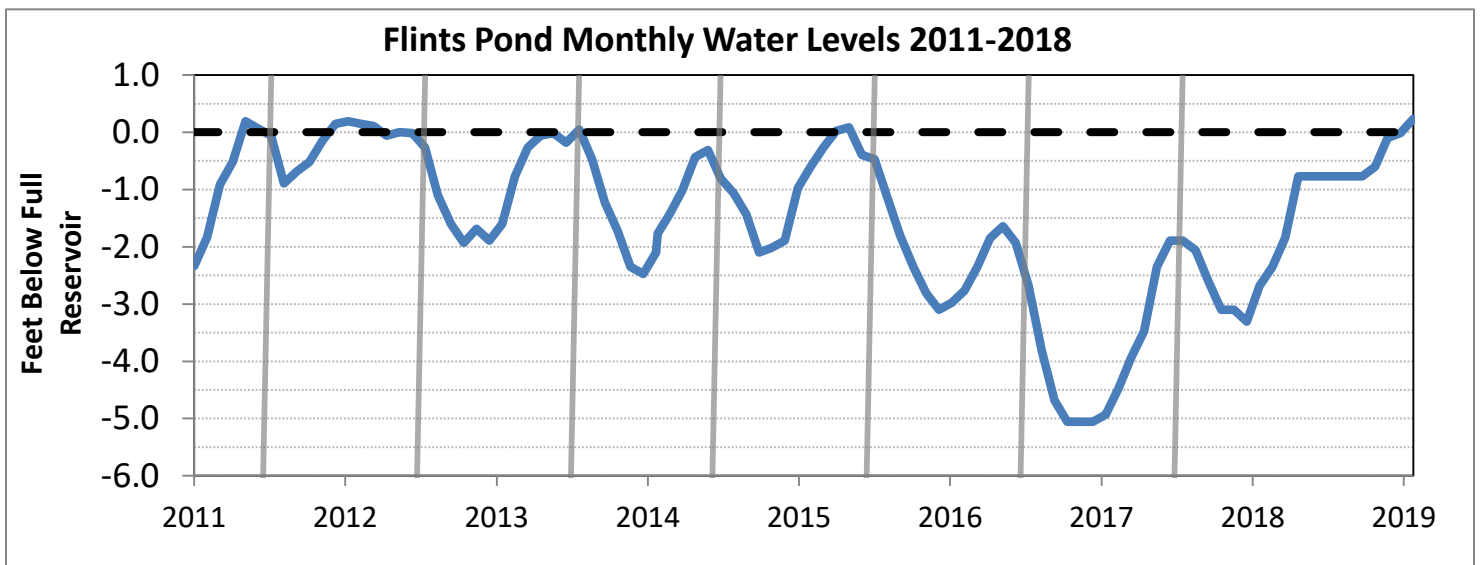
For Your Health

In order to ensure that tap water is safe to drink, Mass DEP and USEPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Regulated contaminants are those substances for which the USEPA has established drinking water standards to protect human health. Unregulated contaminants are those for which USEPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist USEPA in determining their occurrence in drinking water and whether future regulation is warranted.

Water Conservation

In spring of 2018 water level in Flint's Pond recovered by approximately two feet from its exceptionally low level the previous year. The Department maintained a one day per week lawn irrigation schedule for the early part of the season. The normal two days per week restriction was then reinstated as it was unlikely that the pond level would decrease significantly over the remainder of the year.



The DEP issued the Town's current water withdrawal permit in 2013. There are two major permit provisions with respect to water consumption: that we achieve the state-wide goal of 65 gallons per person per day residential use, and that our total annual withdrawal, including non-residential users and unaccounted for (lost) water not exceed 182 million gallons per year. We have only achieved the residential water use goal twice in the last eight years, one of which was the result of the mandatory watering ban. This, in addition to our unaccounted for water amounts, means we have yet to meet the total annual withdrawal limit.

The Department continued its aggressive efforts to reduce leaks in the mains and service lines in an effort to reach the DEP mandate of less than 10% unaccounted for or lost water. The leak detection program will continue annually as we attempt to reduce our water use by minimizing lost water. The LWD urges our customers to take advantage of our rebate programs and to strive to reduce their water consumption.

Rebate Program highlights:

Soil Moisture Sensor and Controller Upgrade Rebate Program: The Soil Moisture Sensor and Controller Upgrade grant program is designed to assist residents more effectively manage their irrigation system by offering \$30 towards the installation of a soil moisture sensor and \$40 towards an upgraded intelligent controller, if needed.

Water Sense Bathroom Faucet Rebate Program: A \$30 rebate toward the replacement of a 2.2 gallon per minute, or greater, faucet with a Water Sense-certified faucet.

High-Efficiency Toilet (HET) Rebate Program: The program consists of a \$75 rebate toward the replacement of one 3.0 gallon per flush (or greater) model toilet with a 1.28 gallon per flush, USEPA Water Sense-approved, high-efficiency toilet.

Super Efficient Clothes Washer Appliance Rebate Program: Rebate program consists of a \$ 200 rebate toward the replacement of a 23-gallon clothes washer.

For more information on the Water Sense Rebate Program contact Customer Service at 781-259-8997. Reserve and conserve by reducing, reusing and recycling.

Water Treatment

Depending on the source location, LWD adds a very low concentration of either potassium hydroxide or sodium hydroxide to the drinking water in order to increase the pH (reduce the acidity) of the water to reduce its natural corrosiveness. Chlorine is added as a disinfectant at the Flint's Pond facility and fluoride is added at both the treatment plant and the Tower Road well to aid in dental health and hygiene. Zinc orthophosphate is also added at both sites for corrosion control and to reduce levels of iron and manganese.

Our water system violated the Long Term 2 Enhanced Surface Water Treatment Rule on September 19, 2018. LWD received a Notice of Noncompliance (NON) for failure to collect and analyze samples in accordance with the Long Term 2 Enhanced Surface Water Treatment Rule. Even though these were not emergencies, our customers have a right to know what happened and what we did to correct these situations.

We are required to monitor the drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the months of March and May 2018 we did not test for E.coli in the raw water and therefore cannot be sure of the quality of our drinking water during that time. The testing was performed appropriately for all the other months with no issues detected, so it is unlikely that the water was contaminated.

What should I do? There is nothing you need to do at this time.

What is being done? To comply, LWD must collect the required samples within the time frame of two days after March 7, 2019 and May 2, 2019 and analyze them for E.coli in accordance with 310 CMR 22.26 (3)(c). The results shall be submitted to the Mass DEP no later than 10 days after the first of the month following the month the sample was taken.

For more information, please contact Customer Service at 781-259-8997. You can also email the Water Superintendent at wiserm@lincolntown.org

Please share this information with other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses).

Cross Connection Prevention

The purposes of this program are:

- To protect the public potable water supply from the possibility of contamination or pollution by isolating such contaminants or pollutants which could backflow or back-siphon into the public water system.

- To promote the elimination or control of existing cross connections, actual or potential between its customers potable water system, and non-potable systems.
- To provide for the maintenance of a continuing program of cross connection control which will effectively prevent the contamination or pollution of all potable water systems by cross connection. For information regarding our program please contact the Lincoln Water Department at 781-259-9887.

What you can do to help prevent a cross-connection: Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact, over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you, as a drinking water user, can take to prevent such hazards:

- Never submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains, or chemicals.
- Never attached a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bibb vacuum breaker on every threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with a backflow preventer.
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

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 which a water system must follow.

90th Percentile: 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.

Secondary Maximum Contaminant Level (SMCL): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

Unregulated Contaminants: 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.

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 quarters of data.

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): 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 contamination.

ppm: parts per million or milligrams per liter (mg/L)

ppb: parts per billion or micrograms per liter (µg/L)

pCi/L: picocuries per liter (a measure of radioactivity)

NTU: Nephelometric Turbidity Units

Lead and Copper: Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Water Quality Data

Data presented in this table is for testing completed during the 2018 calendar year. We monitor for some contaminants less than once per year, because the concentrations for those contaminants are not expected to vary significantly from year to year. In these cases, the most recent sample information and the year the sample was collected, are included in the table.

Regulated Contaminants

Substance	Sample Date	MCLG/ MRDLG	MC L/ MR DL	Highest Detected or Running Average	Range Detected	Violatio n	Possible Source(s) of Contamination and Health Language
Nitrate (ppm)	2018	10	10	0.69	ND-0.69	No	Runoff from fertilizer use; leaching from septic tanks; natural deposits
Turbidity (NTU)	2018	--	TT	0.25	0.02-0.25	No	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
TTHMs (ppb)	2018	--	80	79	41-79	No	By-product of drinking water chlorination.
HAA5s (ppb)	2018	--	60	28	1.0-28	No	By-product of drinking water chlorination.
Fluoride (ppm)	2018	4	4	1.10	0.20-1.10	No	Erosion of natural deposits; water additive that promotes strong teeth.
Chlorine - Total (ppm)	Monthly	4	4	1.27	0.00-1.27	No	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess

Unregulated Contaminants

Substance	Sample Date	SM CL	ORSG	Highest Detected	Range Detected	Violation	Possible Source(s) of Contamination and Health Language
Sodium (ppm)	2018	--	20	48.8	14.9-48.8	NA	Some people who drink water containing sodium at high concentrations for many years could experience an increase in blood pressure. Discharge from the use and improper storage of sodiumcontaining de-icing compounds or in water-softening agent
Bromodichloromethane (ug/l)	2018	-	-	4.2	0.0-4.2	No	Trihalomethane; by-product of drinking water chlorination. Some people who drink water containing bromodichloromethane at high concentrations for many years could experience liver and kidney problems..

Bacteria Sampling

Substance	Sample Date	MCLG	MCL/ AL	Highest Number Positive in Routine Monthly Samples	Violatio n	Possible Source(s) of Contamination
Total Coliform	2018	0	>1/mon.	2.0	No	Naturally present in the environment.
Fecal Coliform or E.coli	2018	0	**	0.0	No	Human or animal fecal waste.

Lead & Copper (Tap water was collected from homes in service area)

Substance	Sample Date	MCLG	MCL/ AL	No. of Sites Sampled	90th %	Sites above AL	Possible Source(s) of Contamination
Lead (ppb)	2017	0	15	20	2.0	0	Corrosion of household plumbing systems.
Copper (ppm)	2017	1.3	1.3	20	0.19	0	Corrosion of household plumbing..