

LEWISTON WATER DIVISION

2018 Annual Water Quality Report

IS MY WATER SAFE?

We are pleased to present this year's Annual Water Quality Report. This report will provide you with information about the quality of your water for the year 2018. It is our goal to continuously produce adequate supplies of safe and affordable drinking water. We strive to apply the best available treatment systems and are committed to protecting our only water resource, Lake Auburn. Please take time to read this report. If you have any questions or concerns, feel free to contact us.

Lewiston Water Division monitors your drinking water according to the requirements of Federal and State rules and regulations. The information provided here shows the results of our monitoring from the period January 1, 2018 through December 31, 2018. Some substances will be reported with earlier dates if they were not tested for in 2018.

WHERE DOES MY WATER COME FROM?

Your drinking water comes from Lake Auburn. The source of Lewiston and Auburn's public drinking water since 1875, Lake Auburn is fed by a mostly forested watershed including Buckfield, Turner, Hebron, Minot and East Auburn. Due to the high quality of Lake Auburn's water the EPA has exempted the Auburn Water District and Lewiston Water Division from the requirement to filter the water prior to disinfection. This exemption reduces treatment costs while providing excellent, safe water to our consumers. To assure long-term protection of the water source, in 1993 the two Districts formed the Lake Auburn Watershed Protection Commission empowered to protect the lake and surrounding watershed. The most effective, safest and least expensive method for keeping Lake Auburn clean is to assure that water entering the lake is protected through a well managed watershed. For more information about watershed protection and how you can do your part visit: www.lakeauburnwater.org or call 207-784-6469.

A recent study of the watershed was completed indicating potential sources of contaminants to the lake. A copy of the report, called The Lake Auburn Diagnostic Study, is available at www.lakeauburnwater.org.

SOURCE WATER ASSESSMENT:

Sources of drinking water include rivers, lakes, ponds, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material and can pick up substances resulting from human or animal activity. The Maine Drinking Water Program (DWP) has evaluated all public water supplies as part of the Source Water Assessment Program (SWAP). The assessments included geology, hydrology, land uses, water testing information, and the extent of land ownership or protection by local ordinance to see how likely our drinking water source is to being contaminated by human activities in the future. Assessment results are available at town offices, public water suppliers, and the DWP. For more information about the SWAP, please contact the DWP at 207-287-2070.

ARE THERE CONTAMINANTS IN MY DRINKING WATER?

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or manmade. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.



LEAD AND COPPER RULE: LEAD PUBLIC EDUCATION

HEALTH EFFECTS OF LEAD

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones which may affect brain development.

SOURCES OF LEAD

Lead can be found in many places. Knowing where lead is can help limit your contact with it. Though most cases of lead poisoning in Maine were a result of lead paint dust, you can be exposed to lead through drinking and cooking with water that has lead. Lead can dissolve into water from lead solder or brass faucets, fittings, and valves. Lead can also come from jobs and hobbies that work with lead or lead paint as well as from things you buy such as toys and antiques.

STEPS YOU CAN TAKE TO PROTECT YOURSELF FROM LEAD IN DRINKING WATER

- 1) Run the water for at least 30 seconds or until it becomes noticeably colder before using it for drinking or cooking. The longer water sits in piping the more lead it may contain.
- 2) Do not drink or cook with water from the hot water faucet. Hot water can dissolve lead more quickly than cold water. If you need hot water, use water from the cold water faucet and heat it on the stove or in the microwave.
- 3) Do not use water from the hot water faucet to prepare baby formula.
- 4) Boiling the water does not reduce lead levels.
- 5) Consider using bottled water for drinking and cooking.
- 6) If you are concerned about lead, contact your health care provider or the Maine Childhood Lead Poisoning Prevention Program (866-292-3474). You can ask about having you or your child tested for lead.

HOW LEAD GOT INTO YOUR WATER

The most likely reason lead is in your water is because it dissolved from lead solder or out of brass plumbing materials such as faucets, fittings, and valves. The Lewiston Water Division is currently reviewing its corrosion control treatment to reduce lead leaching from our customer's plumbing. Lead has not been detected in water from Lake Auburn.

TO FIND OUT MORE

If you have questions, call us at the Lewiston Water Division or visit our website at lewistonmaine.gov. To learn other ways to protect yourself and your family from lead, visit EPA's website at <http://www.epa.gov/lead>.

TESTING YOUR WATER

To find out how you can get your water tested for lead, contact A&L Laboratory, 207-784-5354. Your cost would be approximately \$25 per test.

LEAD IN PLUMBING MATERIALS

Some plumbing materials including solder and brass fixtures may contain lead. If you want to make changes to your plumbing, it is important to know that "lead-free" materials are allowed to have up to 0.2% lead (solder) or up to 8% lead (fixtures). Some newer products, including those labeled for sale in California and Vermont, may contain much lower levels of lead.

TABLE DEFINITIONS

In this table you will find terms and abbreviations you may not be familiar with. The following definitions are provided to help you understand the terms.

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

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health.

Running Annual Average (RAA): A 12 month rolling average of all monthly or quarterly samples at all locations. Calculation of the RAA may contain data from the previous year.

Locational Running Annual Average (LRAA): A 12 month rolling average of all monthly or quarterly samples at specific sampling locations. Calculation of the RAA may contain data from the previous year.

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

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 contaminants.

UNITS:

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

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

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

pos = positive samples

MFL = million fibers per liter

WHAT'S IN YOUR WATER?

This table provides Lewiston Water Division 2018 Water Quality sampling test results for the public water supply

Contaminant	Date	Results	Highest Level Allowed (MCL)	Maximum Contaminant Level Goal (MCLG)	Source
Microbiological Coliform (TCR) (1)	August 2018	1 pos	1 pos/mo or 5%	0 pos	Naturally present in the environment
Inorganics Barium	3/19/2018	0.0012 ppm	2 ppm	2 ppm	Discharge of drilling wastes. Discharge from metal refineries. Erosion of natural deposits
Flouride (3)	8/15/2018	0.77 ppm	4 ppm	4 ppm	Erosion of natural deposits. Water additive which promotes strong teeth. Discharge from fertilizer and aluminum factories.
Lead/Copper Copper 90th% Value (4)	6/1/2018 - 9/30/2018	0.133 ppm	AL = 1.3 ppm	1.3 ppm	Corrosion of household plumbing systems.
Lead 90th% Value (4)	6/1/2018 - 9/30/2018	5 ppb	AL = 15 ppb	0 ppb	Corrosion of household plumbing systems.
Disinfectants and Disinfection Byproducts					
MAIN STREET (SITE #30) Total Haloacetic Acids (HAA5) (9)	LRAA(2018)	19 ppb Range (13-23 ppb)	60 ppb	0 ppb	By-product of drinking water chlorination.
Total Trihalomethane (TTHM) (9)	LRAA(2018)	33 ppb Range (22-38 ppb)	80 ppb	0 ppb	By-product of drinking water chlorination.
MAIN STREET FIRE STATION (SITE #16) Total Haloacetic Acids (HAA5) (9)	LRAA(2018)	23 ppb Range (17-27 ppb)	60 ppb	0 ppb	By-product of drinking water chlorination.
Total Trihalomethane (TTHM) (9)	LRAA(2018)	33 ppb Range (23-39 ppb)	80 ppb	0 ppb	By-product of drinking water chlorination.
RANDALL (SITE #20) Total Haloacetic Acids (HAA5) (9)	LRAA(2018)	26 ppb Range (19-28 ppb)	60 ppb	0 ppb	By-product of drinking water chlorination.
Total Trihalomethane (TTHM) (9)	LRAA(2018)	32 ppb Range (23-38 ppb)	80 ppb	0 ppb	By-product of drinking water chlorination.
ST. MARY'S (SITE #11) Total Haloacetic Acids (HAA5) (9)	LRAA(2018)	24 ppb Range (18-29 ppb)	60 ppb	0 ppb	By-product of drinking water chlorination.
Total Trihalomethane (TTHM) (9)	LRAA(2018)	30 ppb Range (21-35 ppb)	80 ppb	0 ppb	By-product of drinking water chlorination.
Chlorine Residual Chlorine Residual	RAA	Range (3.45-2.30 ppm)	MRDL=4 ppm	MRDLG= 4 ppm	By-product of drinking water chlorination.
Turbidity Turbity	High Average	3.13 ntu	5 ntu	N/A	Soil runoff.
Secondary Contaminants CHLORIDE 14 PPM 3/19/2018 • IRON 0.012 PPM 3/19/2018 • MANGANESE 0.0028 PPM 3/19/2018 • SODIUM 14.8 PPM 3/19/2018 • SULFATE 6 PPM 3/19/2018 • ZINC 0.0025 PPM 3/19/2018 • MAGNESIUM 0.86 PPM 3/11/2015					

Violations: No Violations in 2018 • No Water Testing Waivers in 2018

Notes: 1) **Total Coliform Bacteria:** Reported as the highest monthly number of positive samples, for water systems that take less than 40 samples per month. 2) **E. Coli:** E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems. 3) **Fluoride:** For those systems that fluoridate, fluoride levels must be maintained between 0.5 to 1.2 ppm. The optimum level is 0.7 ppm. 4) **Lead/Copper:** Action levels (AL) are measured at consumer's tap. 90% of the tests must be equal to or below the action level. 5) **Nitrate:** Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health provider. 6) **Arsenic:** While your drinking water may meet EPA's standard for Arsenic, if it contains between 5 to 10 ppb you should know that the standard balances the current understanding of arsenic's possible health effects against the costs of removing it from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems. Quarterly compliance is based on running annual average. 7) **Gross Alpha:** Action level over 5 pCi/L requires testing for Radium 226 and 228. Action level over 15 pCi/L requires testing for Uranium. Compliance is based on Gross Alpha results minus Uranium results = Net Gross Alpha. 8) **Radon:** The State of Maine adopted a Maximum Exposure Guideline (MEG) for Radon in drinking water at 4000 pCi/L, effective 1/1/07. If Radon exceeds the MEG in water, treatment is recommended. It is also advisable to test indoor air for Radon. 9) **TTHM/HAA5:** Total Trihalomethanes and Haloacetic Acids (TTHM and HAA5) are formed as a by-product of drinking water chlorination. This chemical reaction occurs when chlorine combines with naturally occurring organic matter in water. Compliance is based on running annual average.

HEALTH 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.

Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and can also come from gas stations, urban runoff, and septic systems.

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

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water 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) or at the following link:

<https://www.epa.gov/ccr/forms/contact-us-about-consumer-confidence-reports>

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. Lewiston 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 the following link:

<http://www.epa.gov/safewater/lead>

DESCRIPTION OF WATER TREATMENT PROCESS

Water from Lake Auburn enters the treatment process through an intake pipe. The water flows through a coarse screen and drum strainer. This is followed by Ultraviolet Light Treatment inactivating targeted viruses that may be present in the water. Chlorine is added for disinfection, the alkalinity is raised and the pH is adjusted. Fluoride is added for dental health benefits. A corrosion inhibitor, Orthophosphate is added to prevent customer owned lead and copper plumbing materials from leaching into their drinking water. The chlorine is converted to chloramines by adding ammonia sulfate and finished water is delivered to the distribution system.

WE ALWAYS AIM TO DELIVER SAFE DRINKING WATER TO YOUR TAP

State Licensed operators run your water system. The drinking water quality is monitored 24 hours a day and analyzed 7 days a week. We conduct thousands of water tests each year to monitor water quality. In addition, we closely monitor the lake and contributing waters. Technology enables safety systems to ensure that treatment continues to operate correctly.

2018 EVENTS

In 2018 we experienced a record warm summer and Fall with lots of sunshine. It was an ideal environment for the formation of algae, and many lakes in Maine and across the country experienced algae blooms.

On September 11, the presence of a blue green algae called *Anabaena* prompted the Districts to apply a low dose of algaecide to the lake. Tests indicated that the application was effective, as algae counts in the application zone decreased significantly.

Later that Fall, another type of algae created aesthetic issues that prompted complaints from customers. With the arrival of colder weather and shorter days, the issue subsided.

During these two events, the water we delivered met all State Regulations, and was safe to drink.

PLANS FOR 2019

In July we plan to apply a low dose of alum to cover 2/3 of the lake. Alum is a coagulant, and will help to clear up the water. The application will have an added benefit of binding iron bound sediment which will inhibit the release of phosphorus, which is the primary food for algae.

The alum treatment is expected to improve water quality. We will continue to identify and eliminate sources of phosphorus that are entering the lake



LEWISTON PUBLIC WORKS WATER DIVISION

101 Adams Avenue
Lewiston ME 04240
207-513-3003

cityoflewiston@lewistonmaine.gov