

ANNUAL WATER QUALITY REPORT

Reporting Year 2021



Presented By
**East Lyme Water and
Sewer Commission**

PWS ID#: CT0450011

East Lyme Water - Hard at Work Producing the Best-Quality Water

Once again, we are proud to present our annual water quality report covering the period between January 1 and December 31, 2021. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at all hours—to deliver the highest-quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

Last summer marked the completion of the Wells 1A and 6 upgrade project, which expanded the treatment capacity of the Well 6 water treatment facility and diverted Well 1A water to that facility for enhanced treatment and removal of iron and manganese. This \$5.59-million project has been an overwhelming success and has reduced the amount of iron and manganese in the distribution system and customer complaints about discolored water.

In 2022 East Lyme residents voted to use American Rescue Project funds to rehabilitate Well 5, which has the lowest level of sodium of all the wells in the system. The new Well 5A is scheduled to go into production in July 2022 and will further enhance the water quality and quantity delivered to East Lyme water customers.

Testing for *Cryptosporidium*

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100-percent removal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the fourth Tuesday of each month at 7:00 p.m. at the East Lyme Town Hall, 108 Pennsylvania Avenue, Niantic.

Source Water Assessment

The State of Connecticut Department of Public Health (DPH), in cooperation with the Department of Energy and Environmental Protection, completed source water assessments for all the East Lyme Water Department's public water supply sources. The sources were rated based on their environmental sensitivity, potential risk factors, and source protection needs. The rating does not necessarily imply poor water quality but indicates susceptibility to potential sources of contamination.

The Bride Lake well field, including Wells 2A, 3A, and 3B, received a low overall susceptibility rating. The remaining well fields, which include Gorton Pond (Wells 1A and 6), Dodge Pond (Well 4A), and Well 5 received moderate overall susceptibility ratings. New London's Lake Konomoc reservoir received a low susceptibility rating. The source water assessments are available on the DPH website at portal.ct.gov/DPH/Drinking-Water/DWS/Source-Water-Assessment-Program-SWAP-Reports.

Important Health Information

Sources of lead in drinking water include corrosion of household plumbing systems and erosion of natural deposits. 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.



Sources of copper in drinking water include corrosion of household plumbing systems, erosion of natural deposits, and leaching from wood preservatives. 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.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

QUESTIONS? For more information about this report, or for any questions relating to your drinking water, please call Ben North, Utilities Engineer, East Lyme Water Department at (860) 691-4104 or email us at watersewer@eltownhall.com.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

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

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

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

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

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

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or epa.gov/safewater/lead.

Where Does My Water Come From?

The Town of East Lyme customers depend on a water supply that comes from seven groundwater sources. Wells are located throughout the town in two separate aquifers, Pattagansett and Bride Brook. The water from six of the wells is filtered to remove iron and manganese and then treated for pH adjustment, chlorine disinfection, and fluoridation. Well 2A is the sole well in town that is similarly treated but not currently filtered; a project is planned to provide filtration for this source as well. A sequestering agent is added to the finished water of Well 2A to mitigate issues arising from iron and manganese in the unfiltered water.

The finished water from these wells is delivered through an extensive distribution system that includes two water storage tanks and 10 booster stations. During the summer months,

East Lyme's supply is supplemented with water from the City of New London through a distribution network that includes more than three miles of water main, an elevated water storage tank, and two pumping stations. New London's water comes from lakes and reservoirs in a protected watershed that is located in Waterford, Montville, and Salem. The principal reservoir is Lake Konomoc. The water is processed using coagulation, flocculation, sedimentation, and carbon filtration and then treated for pH adjustment, chlorine disinfection, fluoridation, and corrosion control. To learn more about our watershed online, visit U.S. EPA's How's My Waterway at epa.gov/waterdata/how-my-waterway.

“When the well is dry, we know the worth of water.”

—Benjamin Franklin

Water Conservation Tips

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and looking for ways to use less whenever you can. It's not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The water we deliver must meet specific health standards. Here, we only show substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. Please also understand that unless otherwise noted, the amount detected of a contaminant is the highest level detected in the entire set of samples taken throughout the year. Since the water in East Lyme is blended from seven wells, the contaminant levels will invariably be lower than the highest reported amount.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

During the summer of 2021, we did not monitor for the presence of volatile organic chemicals (VOCs) in the public drinking water system at two locations. Upon being notified of this violation by DPH, we immediately analyzed our water supply for VOCs. Results of the analysis have been received and properly recorded as required by state and federal law. We do not believe that missing this monitoring requirement had any impact on public health and safety. We have already taken steps to ensure that adequate monitoring and reporting will be performed in the future so that this oversight will not be repeated. The documentation for these missed sampling events is attached at the end of this report.

REGULATED SUBSTANCES ¹							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2020	2	2	0.089	0.008–0.089	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters (pCi/L)	2021	50 ²	0	28.7	ND–28.7	No	Decay of natural and human-made deposits
Chlorine (ppm)	2021	[4]	[4]	1.40	0.21–1.40	No	Water additive used to control microbes
Chromium (ppb)	2020	100	100	2	1–2	No	Discharge from steel and pulp mills; Erosion of natural deposits
Combined Radium (pCi/L)	2021	5	0	2.64	ND–2.64	No	Erosion of natural deposits
Fluoride (ppm)	2021	4	4	1.4	0.24–1.4	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2021	60	NA	5.2 ³	1.2–8.8	No	By-product of drinking water disinfection
Nitrate (ppm)	2021	10	10	3.73	0.28–3.73	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [total trihalomethanes]–Stage 2 (ppb)	2021	80	NA	16.5 ³	5.3–37.9	No	By-product of drinking water disinfection
Turbidity ⁴ (NTU)	2021	TT	NA	0.65	0.2–0.65	No	Soil runoff

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

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

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

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

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

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

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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

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

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2021	1.3	1.3	0.37	0/33	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2021	15	0	ND	0/33	No	Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

SECONDARY SUBSTANCES ¹

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2021	250	NA	86.5	19–86.5	No	Runoff/leaching from natural deposits; Road salt
Iron (ppb)	2021	300	NA	35	10–35	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2021	50	NA	495	1–495	No	Leaching from natural deposits
Sulfate (ppm)	2021	250	NA	19.9	7.3–19.9	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES ¹

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
HAA6Br (ppb)	2019	6.4	1.5–6.4	By-product of drinking water disinfection
HAA9 (ppb)	2019	8	1.5–8	By-product of drinking water disinfection
Sodium ² (ppm)	2021	42.9	12.4–42.9	Naturally occurring; Road salt

¹ Unless otherwise indicated, the value reported in the Amount Detected column is the highest amount detected during the year.

² The MCL for beta particles is 4 millirems per year. U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

³ The value reported in the Amount Detected column is the highest locational running annual average for the year.

⁴ Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality and the effectiveness of disinfectants.

⁵ When the sodium level exceeds 28 ppm, people who have been placed on a sodium-restricted diet should inform their physicians.

Source Water Protection

Level A aquifer mapping has been completed for all our water supply sources and approved by the state regulatory agencies. The mapping more accurately identifies the zone of influence for our water supply wells and is used to regulate land use activities that may affect water quality.



PUBLIC NOTIFICATION
Important Information About Your Drinking Water

MONITORING AND/OR REPORTING VIOLATION

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

Date: 6/10/2022
PWSID: CT0450011
To: The Customers/Residents of East Lyme Water & Sewer Commission
From: Ben North, Municipal Utilities Engineer

Our public water system recently violated drinking water monitoring and/or reporting requirements. As a supplier of public drinking water, we are required to monitor the water quality of our water supply to insure that it meets the current drinking water standards. Failure to conduct monitoring and/or report results of such monitoring to the State Department of Public Health Drinking Water Section constitutes a violation. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we did to correct this situation.

We are required to monitor your 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. We did not complete the monitoring or did not report the results for the requirement(s) listed below:

Organic Chemicals (WSF ID: 00705; Monitoring Period: January 1, 2021 - December 31, 2021)
Organic Chemicals (WSF ID: 00704; Monitoring Period: January 1, 2021 - December 31, 2021)

What is being done?

The following areas have been affected:

The western end of the East Lyme water distribution system, including portions of Giants Neck and West Main St. A small portion of downtown Niantic was also in the monitoring area that was not sampled.

The following steps are being taken to correct this violation:

A catch-up sampling event was performed in February 2022. No detectable VOCs were found. A monthly review of periodic sampling requirements and dates they have been performed has been implemented.

We expect to return to compliance or resolve the situation by February 2022
(date)

If you have any questions please contact Ben North, Utilities Engineer at 860-691-4108 or
(owner, operator or designee) (phone #)
by mail at 108 Pennsylvania Ave, Niantic, CT, 06357
(Street) (Town) (State) (Zip Code)

Please share this information with all the 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). You can do this by posting this notice in a public place or distributing copies by hand or mail.