

A close-up photograph of water being poured from a glass pitcher into a clear glass. The water is captured mid-pour, creating a dynamic splash and bubbles. The background is a blurred wooden surface.

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2018



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

Continuing Our Commitment

Once again we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, aging infrastructure, source water protection and water conservation while continuing to serve the needs of all of our water users.

Please remember that we are always available to assist you, should you have any questions or concerns about your drinking water.

We encourage you to share your thoughts with us on the information contained in this report. For more information about this report, or for any questions relating to your drinking water, please call Bradford C. Kargl, Municipal Utility Engineer, at (860) 739-6931.

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 p.m. at East Lyme Town Hall, 108 Pennsylvania Avenue, Niantic, Connecticut.

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.



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 is 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.

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.

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.

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

Our public water system recently violated drinking water monitoring or reporting requirements. As a supplier of public drinking water, we are required to monitor the quality of our water supply to ensure that it meets the current drinking water standards. Failure to conduct monitoring or report results of such monitoring to the DPH Drinking Water Section constitutes a violation. Although this incident was not an emergency, our customers 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 our drinking water meets health standards. We did not complete the monitoring or did not report the results for the requirement listed below:

Chlorine (WSF ID: 00600; Monitoring Period: September 1 – 30, 2018)

The following area was affected:

Pennsylvania Avenue and adjacent side streets, Niantic.

The following steps were taken to correct this violation:

Three repeat bacteriological samples were inadvertently not tested for chlorine residuals. Instruction was provided and protocols changed to ensure that the chlorine residuals are monitored and properly reported when repeat sampling is required.

We returned to compliance or resolved the situation by October 1, 2018. If you have any questions, please contact Brad Kargl at (860) 739-6931, ext. 1139, or by mail at 108 Pennsylvania Avenue, Niantic, CT 06357.

Please share this information with all 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.

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 at various locations throughout the town and access the Pattagansett and Bride Brook aquifers. The water from five of the wells is filtered to remove iron and manganese and then treated for pH adjustment, chlorine disinfection, and fluoridation. Two of the wells, 1A and 2A, are similarly treated but are not currently filtered. A sequestering agent is also added to the finished water of Wells 1A and 2A. The finished water is then delivered through an extensive distribution system including 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 including over 3 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 watersheds, visit the U.S. EPA's Surf Your Watershed website at www.epa.gov/surf.



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 East Lyme Water Department 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 includes Wells 2A, 3A, and 3B and received a low overall susceptibility rating. The remaining well fields, which include Gorton Pond (1A and 6), Dodge Pond (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 CTDPH website at www.ct.gov/dph/publicdrinkingwater. Go to Source Water Protection, then to Connecticut's SWAP Assessment Reports and Findings.

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 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows those substances that we are required to monitor that were detected between January 1 and December 31, 2018. Certain substances, however, are monitored less often 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. 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. The concentrations shown in the Amount Detected column represent the highest amounts detected for the range of concentrations found during monitoring.

We participated in the fourth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. If you would like more information on the U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2016, 2017, 2018	2	2	0.088	0.003–0.088	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine ¹ (ppm)	2018	[4]	[4]	1.00	0.37–1.00	No	Water additive used to control microbes
Chromium (ppb)	2016, 2017, 2018	100	100	4	2–4	No	Discharge from steel and pulp mills; Erosion of natural deposits
Combined Radium (pCi/L)	2016, 2017, 2018	5	0	0.51	ND–0.51	No	Erosion of natural deposits
Fluoride ² (ppm)	2018	4	4	0.89	0.67–0.89	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2018	60	NA	2	ND–2	No	By-product of drinking water disinfection
Heptachlor (ppt)	2016, 2018	400	0	88	ND–88	No	Residue of banned pesticide
Heptachlor Epoxide (ppt)	2016, 2018	200	0	44	ND–44	No	Breakdown of heptachlor
Nitrate (ppm)	2018	10	10	3.73	0.36–3.73	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite (ppm)	2018	1	1	0.03	ND–0.03	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	2016, 2017, 2018	50	50	7	ND–7	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [Total Trihalomethanes] (ppb)	2018	80	NA	14.9	5.2–14.9	No	By-product of drinking water disinfection
Turbidity ³ (NTU)	2018	TT	NA	2.44	ND–2.44	No	Soil runoff

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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2018	1.3	1.3	0.51	0/37	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2018	15	0	1	0/37	No	Lead service lines, corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium ⁴ (ppm)	2018	49.7	11.2–49.7	Naturally occurring; Road salt

UNREGULATED CONTAMINANT MONITORING RULE - PART 4 (UCMR4)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromochloroacetic Acid (ppb)	2018	1.5	ND–1.5	By-product of drinking water disinfection
Bromodichloroacetic Acid (ppb)	2018	1.0	ND–1.0	By-product of drinking water disinfection
Chlorodibromoacetic Acid (ppb)	2018	0.9	ND–0.9	By-product of drinking water disinfection
Dibromoacetic Acid (ppb)	2018	1.4	ND–1.4	By-product of drinking water disinfection
Dichloroacetic Acid (ppb)	2018	0.8	0.4–0.8	By-product of drinking water disinfection
HAA5 (ppb)	2018	2.8	0.4–2.8	By-product of drinking water disinfection
HAA6Br (ppb)	2018	4.8	ND–4.8	By-product of drinking water disinfection
HAA9 (ppb)	2018	6.2	0.4–6.2	By-product of drinking water disinfection
Manganese ⁵ (ppb)	2018	470	0.87–470	Leaching from natural deposits
Trichloroacetic Acid (ppb)	2018	0.6	ND–0.6	By-product of drinking water disinfection

¹ The values reported under Amount Detected are the highest monthly averages for the 12-month period for the East Lyme treated water sources. The highest monthly average for the water received from New London over approximately 5 months was 0.94 ppm.

² The values reported under Amount Detected are the highest monthly averages for the 12-month period.

³ 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.

⁴ Be advised that when the sodium concentration exceeds 28 ppm, people who have been placed on a sodium-restricted diet should inform their physicians.

⁵ The CTDPH has recently adopted an Action Level of 0.3 ppm (300 ppb) for manganese. Please visit the town website at www.eltownhall.com for more information.

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.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

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).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms 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.