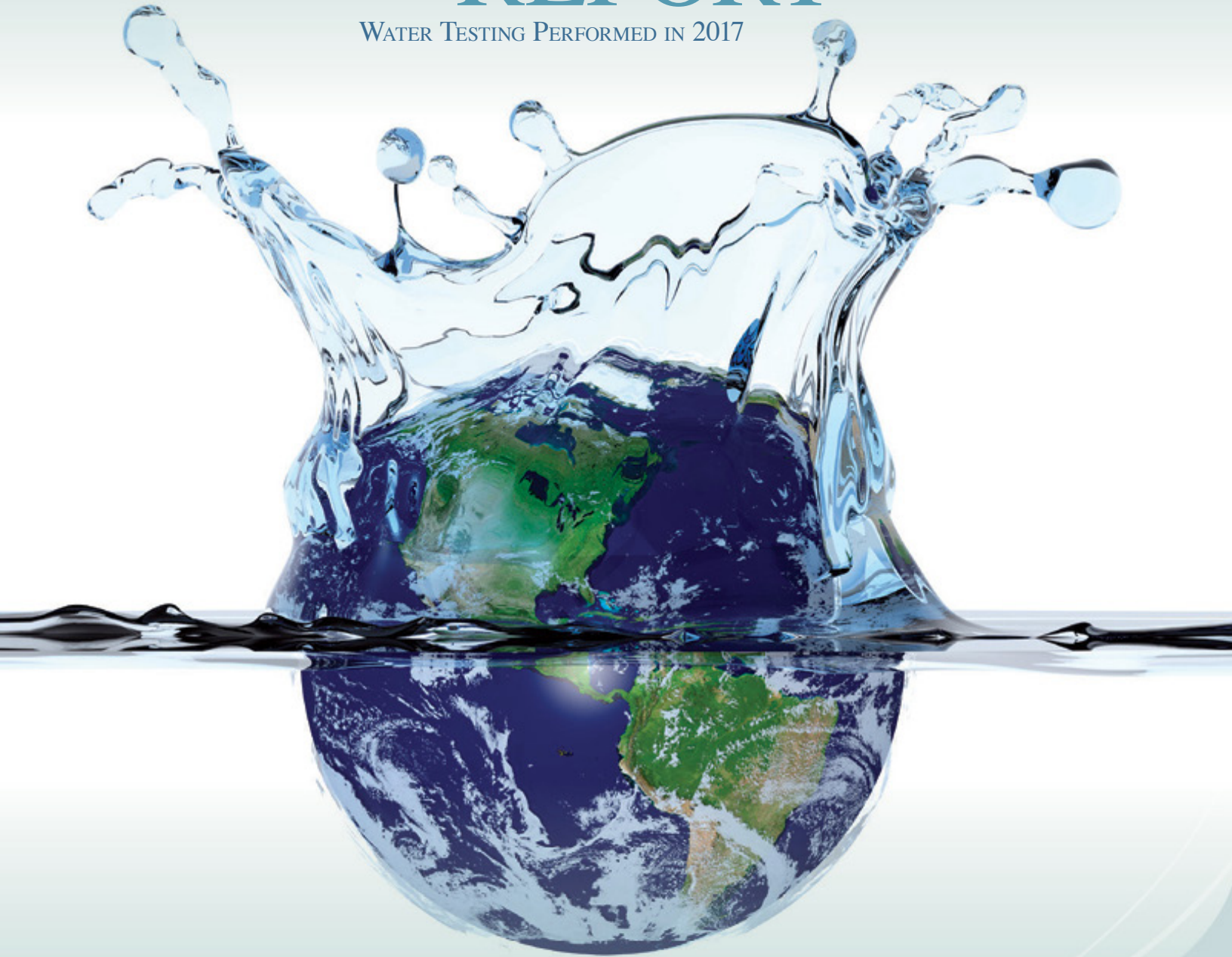


ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017



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, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all our water users.

We are currently in the design phase of a project to upgrade the treatment systems at our Well 1A and Well 6 facilities to remove naturally occurring iron and manganese from the ground water and improve overall water quality. Iron and manganese can affect the aesthetic quality of the water and cause discoloration concerns. The design is expected to be completed this summer followed by the start of construction in early 2019. The project is estimated to cost \$3.5 million and is eligible for funding from the Connecticut Department of Public Health Drinking Water State Revolving Fund (DWSRF) in the form of a loan paid over 20 years at an interest rate of 2%.

We are also working on the implementation of a radio-based meter reading system that would provide more efficient meter reading capability and improve customer service. This project is also eligible for funding under the DWSRF program. Once completed, billing is expected to be conducted on a quarterly basis rather than biannually.

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. After all, well-informed customers are our best allies.



Important Health Information

Sources of lead in drinking water includes corrosion of household plumbing system 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 includes corrosion of household plumbing system, 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 Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

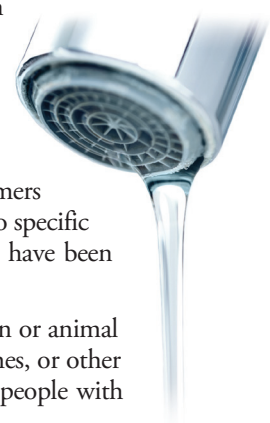
During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

Source Water Sampling

On September 19, 2017, we were informed that a routine raw water bacteria sample collected from Well 6 (Source ID 1962) on September 18, 2017, was positive for E. Coli. The raw water is prior to chlorine disinfection, treatment, and entry into the distribution system. We did not detect any coliform or E. Coli positive routine samples collected from the treated water in distribution. As required by the Ground Water Rule, we collected five follow-up samples from Well 6 and three samples from distribution, which were tested for fecal contamination. None of the follow-up samples tested positive for total coliform or fecal indicators. In response, public notification was provided to our customers within 24 hours of learning of this positive sample via Reverse 911 and a website posting. There were no specific deficiencies identified that were attributable to the positive sample and no further positive detections have been found.

Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.



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.

Water treatment is a complex, time-consuming process.

Source Water Protection

Level A aquifer mapping has been completed for all of our water supply sources and has been 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.

Source Water Assessment

The State of Connecticut Department of Public Health (DPH) in cooperation with the Department of Environmental Protection (DEP) completed source water assessments for all of 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 includes Well 2A, Well 3A, and Well 3B and received a low overall susceptibility rating. The remaining well fields, which include the Gorton Pond well field (Well 1A and Well 6), the Dodge Pond well field (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 CTDPH's website at www.ct.gov/dph/publicdrinkingwater. Once on the website, go to Source Water Protection, then to Connecticut's SWAP Assessment Reports and Findings.

QUESTIONS?

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 beginning at 7:00 p.m. at the East Lyme Town Hall, 108 Pennsylvania Avenue, Niantic, Connecticut.

Where Does My Water Come From?

The Town of East Lyme customers depend on a water supply that comes from seven ground water sources. Wells are at various locations throughout the town in two separate aquifers, which include the Pattagansett and Bride Brook aquifers. The water from five of the wells are filtered to remove iron and manganese, and then treated for pH adjustment, chlorine disinfection, and fluoridation. Two of the wells, 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 ten 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 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 the watersheds on the Internet, go to the U.S. EPA's Surf Your Watershed website at www.epa.gov/surf.

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 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 www.epa.gov/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 only those substances that were detected between January 1 and December 31, 2017. 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.

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 3rd stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2014, 2016, and 2017	2	2	0.058	0.003–0.058	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine ¹ (ppm)	2017	[4]	[4]	0.97	0.25–0.97	No	Water additive used to control microbes
Chromium (ppb)	2014, 2016, and 2017	100	100	4	2–4	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride ² (ppm)	2017	4	4	0.91	0.48–0.91	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2017	60	NA	7	ND–7	No	By-product of drinking water disinfection
Nitrate (ppm)	2017	10	10	3.91	0.11–3.91	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite (ppm)	2017	1	1	0.24	ND–0.24	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2017	80	NA	26.5	5.5–26.5	No	By-product of drinking water disinfection
Turbidity ³ (NTU)	2017	5 NTU	NA	1.95	ND–1.95	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% TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2017	1.3	1.3	0.42	0/37	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2017	15	0	1.00	0/37	No	Corrosion of household plumbing systems; Erosion of natural deposits
SECONDARY SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2014, 2016, and 2017	250	NA	70.3	17.9–70.3	No	Runoff/leaching from natural deposits
Sulfate (ppm)	2014, 2016, and 2017	250	NA	18.2	9.6–18.2	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED CONTAMINANT MONITORING RULE - PART 3 (UCMR3)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Chlorate (ppb)	2015	710	180–710	By-product of drinking water disinfection
Chromium, Hexavalent (ppb)	2015	0.25	0.07–0.25	Erosion of natural deposits
Chromium (ppb)	2015	0.40	0.35–0.40	Erosion of natural deposits
Strontium (ppb)	2015	131	63–131	Erosion of natural deposits

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium* (ppm)	2017	46.2	10.2–46.2	Naturally occurring; Road salt
MTBE [Methyl-tert-Butyl Ether] (ppb)	2017	2.5	ND–2.5	Petroleum tanks above and below ground

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

¹The values reported under Amount Detected are the highest monthly averages for the 12-month period for the East Lyme treated water sources. When receiving water from New London during the summer months, approximately a three-month period, the highest monthly average is 1.16 ppm.

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

³Turbidity 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.

Definitions

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.

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): SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor.

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