

ANNUAL WATER QUALITY REPORT

WATER TESTING
PERFORMED
IN 2014



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

Our Mission Continues

Once again we present our annual water quality report covering all testing performed between January 1 and December 31, 2014. Most notably, last year marked the 40th anniversary of the Safe Drinking Water Act (SDWA). This rule was created to protect public health by regulating the nation's drinking water supply. We celebrate this milestone as we continue to manage our water system with a mission to deliver the best-quality drinking water. By striving to meet the requirements of the SDWA, we are ensuring a future of healthy, clean drinking water for years to come.

In keeping with our mission, water system improvements have been made over recent years to keep pace with a growing community, increased demand, and an aging infrastructure. The regional interconnection project, completed in 2014, will allow East Lyme to meet peak demands during the summer months while providing system redundancy in the event of a water supply emergency. System-wide disinfection has been implemented to ensure safe drinking water, and water supply well upgrades have been made to provide a more reliable supply.

Going forward, there is an initiative to investigate filtration alternatives for Wells 1A and 2A to remove naturally occurring iron and manganese and further improve water quality. Implementation of a radio-based meter reading system is also being investigated. The system would provide efficient reading of the meters and provide better customer service.

Please remember that we are always available to assist you should you have any questions about your 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 beginning at 7:00 p.m. at the East Lyme Town Hall, 108 Pennsylvania Avenue, Niantic, Connecticut.

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 that 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

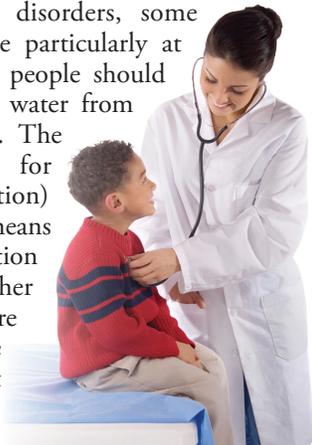
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but 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 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/safewater/lead.

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 includes 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 doctors.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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

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 by 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.



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.

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, which includes Well 2A, Well 3A, and Well 3B, 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. The source water assessments are available on the Connecticut Department of Public Health, Drinking Water Division's Web site at www.dph.state.ct.us/BRS/water/dwd.htm.

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.

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 in two separate aquifers. Our water supply is part of the Pattagansett and Bride Brook aquifers. With the completion of the regional interconnection between East Lyme and the New London Water Treatment Plant in 2014, East Lyme will be supplementing its supply during the summer months with water from New London's Lake Konomac Reservoir. To learn more about our watershed on the Internet, go to the U.S. EPA's Surf Your Watershed Web site at www.epa.gov/surf.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables show only those contaminants that were detected in the water. The State requires us to monitor for certain substances 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.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (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, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality.

REGULATED SUBSTANCES													
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	Distribution		Well 1A		Well 2A		Well 3A/3B		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Alpha Emitters (pCi/L)	2013	15	0	NA	NA	ND	NA	ND	NA	ND	NA	No	Erosion of natural deposits
Barium (ppm)	2014	2	2	NA	NA	0.031	NA	0.012	NA	0.015	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine ² (ppm)	2014	[4]	[4]	NA	NA	0.63	0.41–0.63	0.44	0.11–0.44	0.58	0.35–0.58	No	Water additive used to control microbes
Chromium (ppb)	2014	100	100	NA	NA	2	NA	2	NA	2	NA	No	Discharge from steel and pulp mills; Erosion of natural deposits
Combined Radium (pCi/L)	2014	5	0	NA	NA	1.13 ¹	NA	0.93 ¹	NA	1.40	0.11–1.40	No	Erosion of natural deposits
Fluoride ² (ppm)	2014	4	4	NA	NA	1.03	0.78–1.03	1.39	0.89–1.39	1.03	0.71–1.03	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2014	60	NA	2.0	ND–2.0	NA	NA	NA	NA	NA	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2014	10	10	NA	NA	0.80	NA	2.46	NA	0.65	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2014	80	NA	9.4	2.4–9.4	1.7	ND–1.7	ND	NA	11.8	ND–11.8	No	By-product of drinking water disinfection
Tetrachloroethylene (ppb)	2014	5	0	NA	NA	ND	NA	ND	NA	ND	NA	No	Discharge from factories and dry cleaners
Turbidity ³ (NTU)	2014	5	NA	1.03	ND–1.03	1.38	ND–1.38	0.6	ND–0.6	0.6	ND–0.6	No	Soil runoff

REGULATED SUBSTANCES

	Well 4A		Well 5		Well 6						
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2013	15	0	ND	NA	3.00	NA	ND	NA	No	Erosion of natural deposits
Barium (ppm)	2014	2	2	0.027	NA	0.008	NA	0.058	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine ² (ppm)	2014	[4]	[4]	0.56	0.25–0.56	0.53	0.21–0.53	0.48	0.23–0.48	No	Water additive used to control microbes
Chromium (ppb)	2014	100	100	4	NA	3	NA	4	NA	No	Discharge from steel and pulp mills; Erosion of natural deposits
Combined Radium (pCi/L)	2014	5	0	0.11 ¹	NA	0.81 ¹	NA	0.45 ¹	NA	No	Erosion of natural deposits
Fluoride ² (ppm)	2014	4	4	0.99	0.80–0.99	1.04	0.70–1.04	1.25	0.74–1.25	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2014	60	NA	NA	NA	NA	NA	NA	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2014	10	10	3.46	NA	1.44	NA	1.23	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2014	80	NA	7.2	ND–7.2	ND	NA	ND	NA	No	By-product of drinking water disinfection
Tetrachloroethylene (ppb)	2014	5	0	ND	NA	ND	NA	0.6	0.5–0.6	No	Discharge from factories and dry cleaners
Turbidity ³ (NTU)	2014	5	NA	0.4	ND–0.4	0.6	ND–0.6	0.5	ND–0.5	No	Soil runoff

Tap water samples were collected for lead and copper analysis 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)	2014	1.3	1.3	0.70	0/128	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2014	15	0	2	3/128	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

	Well 1A		Well 2A		Well 3A/3B		Well 4A		Well 5		Well 6						
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE										
Chloride (ppm)	2014	250	NA	49.8	NA	32.2	NA	38.4	NA	55.9	NA	50.5	NA	55.9	NA	No	Runoff/leaching from natural deposits
Sulfate (ppm)	2014	250	NA	12.0	NA	9.6	NA	10.9	NA	15.7	NA	12.0	NA	18.2	NA	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES

	Distribution		Well 1A		Well 2A		Well 3A/3B		Well 4A		Well 5		Well 6			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE												
Chlorate ⁴ (ppb)	2014	160	NA	NA	NA	120	NA	By-product of drinking water disinfection								
Chromium ⁴ (ppb)	2014	0.35	NA	NA	NA	0.33	NA	Erosion of natural deposits								
Chromium, Hexavalent ¹ (ppb)	2014	0.17	NA	NA	NA	0.26	NA	Erosion of natural deposits								
MTBE [Methyl-tert-Butyl Ether] (ppb)	2014	NA	NA	ND	NA	ND ¹	NA	ND	NA	ND	NA	ND ¹	NA	2.5	ND–2.5	Petroleum tanks above and below ground
Strontium ⁴ (ppb)	2014	128	NA	NA	NA	128	NA	Erosion of natural deposits								
Sodium* (ppm)	2014	NA	NA	34.7	27.9–34.7	29.0	20.2–29.0	30.0	20.0–30.0	41.0	26.5–41.0	15.4	8.6–15.4	37.0	21.6–37.0	Naturally occurring; road salt

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

¹ Sampled in 2013.

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 This substance included in UCMR3 testing program.

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that 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): SMCLs are established to regulate the aesthetics of drinking water like taste and odor.