



LEWISVILLE

Deep Roots. Broad Wings. Bright Future.

2018 Water Quality Report

This report is a summary of the quality of water that the City of Lewisville provides to our customers. The report contains information and data compiled throughout 2018 from the most recent U.S. Environmental Protection Agency (EPA) required tests. This report also includes information about what our drinking water contained, where it came from, how it was treated, and general sources of contamination. Lewisville's water system is a "Superior" rated water system, which is the highest rating of the Texas Commission on Environmental Quality.

All Drinking Water May Contain Contaminants

In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. When drinking water meets federal standards, there may not be any health-based benefits to purchasing bottled water or point of service devices. 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. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800.426.4791.

Special Notice

Certain populations may be more vulnerable to certain microbial contaminants in drinking water and should seek advice from their physician or health care provider. Infants, some elderly or immunocompromised persons, such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids, and those with HIV/AIDS or other immune system disorders can be particularly at risk from infections. Since 1998, the City of Lewisville has monitored for *Cryptosporidium*, a microbial parasite that may be commonly found in surface water and may come from animal and human feces in the watershed. *Cryptosporidium* has never been detected in either the untreated nor treated drinking water. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at 800.426.4791.

If you have questions about the quality of your water, would like information on source water protection and how you can become involved in the public participation process, please contact the Department of Public Services at 972.219.3504 or visit our website at cityoflewisville.com.

Este informe incluye información importante acerca de su agua potable. Si usted tiene preguntas sobre la calidad de agua, o quisiera más información sobre la protección del origen del agua, y quiere usted participar en el proceso público, por favor hable al Departamento de Servicios Públicos al 972.219.3504 o vaya a cityoflewisville.com.

Where Do We Get Our Water?

Our drinking water is pumped from Lake Lewisville, our surface water source, to our Water Treatment Plant for treatment prior to distribution to consumers. Treated drinking water is also purchased from Dallas Water Utilities.

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 and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water before treatment 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 storm water 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 storm water 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 storm water runoff, and septic systems; and
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor, or color of drinking water, please contact the City of Dallas, Water Utilities Department at 214.651.1441.

A Source Water Susceptibility Assessment for our drinking water source is currently being updated by the Texas Commission on Environmental Quality. This information describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information contained in the assessment allows us to focus our source water protection strategies. Further details about sources and source water assessments are available in Drinking Water Watch at <https://dww2.tceq.texas.gov/DWW/> or for more information about your water sources, refer to the Source Water Assessment Viewer at <https://www.tceq.texas.gov/gis/swaview>.

Important Information for Understanding the Water Quality Table

ACTION LEVEL: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

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

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

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

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

TTHM: Total Trihalomethanes

THAA: Total Haloacetic Acids

MIN: Minimum

MAX: Maximum

AVG: Average

Level 1 Assessment: A study of the water system to identify potential problems and determine, if possible, why total coliform bacteria were found.

Level 2 Assessment: A very detailed study of the water system to identify potential problems and determine, if possible, why an Escherichia coli (E. coli) MCL violation has occurred and/or why total coliform bacteria were found on multiple occasions.

pCi/L: Pico-curies per liter is a measure of radioactivity in water.

PPB: Parts per billion or micrograms per liter.

PPM: Parts per million or milligrams per liter.

Secondary Constituents

Many constituents such as calcium, sodium, or iron which are often found in drinking water, can cause taste, color, and odor problems. The taste and odor constituents are known as Secondary Constituents because they are not causes for health concerns. Secondary Constituents are regulated by the State of Texas, not the EPA. These constituents are reported in the table to the right to provide further information on your drinking water.

Constituent	Average Level
Aluminum	0.022 ppm
Bicarbonate	53.3 ppm
Chloride	34.6 ppm
Hardness	114.6 ppm
Manganese	1.00 ppb
Sodium	29.0 ppm
Sulfate	68.0 ppm
Total Alkalinity	55.2 ppm

Lead and Copper Reporting

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. This water supply 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 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 epa.gov/safewater/lead.

Water Quality Table

Inorganic Contaminants									
Year	Contaminant	Unit	MCL	MCLG	Avg. Level	Min. Level	Max. Level	Major Sources	Violation
2018	Barium	ppm	2	2	0.027	0.014	0.038	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No
2018	Chromium	ppb	100	100	1	<1	1	Discharge from steel and pulp mills; erosion of natural deposits	No
2018	Fluoride	ppm	4	4	0.55	0.23	0.77	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	No
2018	Nitrate	ppm	10	10	0.61	0.33	1.16	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits	No
2018	Cyanide	ppb	200	200	26.8	<20	42.6	Discharge from plastic and fertilizer factories; discharge from steel/metal factories	No
Radioactive Contaminants									
2017	Beta Emitters	pCi/L*	50	0	4.83	<4	6.6	Decay of natural and man-made deposits	No
*50pCi/L=4 mrem/yr									
Organic Contaminants									
2018	Atrazine	ppb	3	3	0.16	0.1	0.2	Runoff from herbicide on row crops	No
2018	Simazine	ppb	4	4	0.16	0.11	0.27	Herbicide runoff	No
Disinfection Byproducts									
2018	TTHM's	ppb	80	No Goal	21.2**	6.42	38.3	By-product of drinking water chlorination	No
2018	THAA5's	ppb	60	No Goal	22.1**	10.9	27.2	By-product of drinking water chlorination	No
**LRAA - Locational Running Annual Average									
Microbiological Contaminants									
Year	Contaminant	Unit	Highest Monthly % of Positive Samples		MCLG	Action Level	Major Sources	Violation	
2018	Total Coliform	Found/Not Found	1.89%		0	≥5%	Naturally present in the environment	No	
Lead and Copper									
Year	Contaminant	Unit	90 th %	MCLG	Action Level	Sites Exceeding Action Level	Major Sources	Violation	
2018	Lead	ppb	2	0	15	0	Corrosion of household plumbing systems; erosion of natural deposits	No	
2018	Copper	ppm	0.54	1.3	1.3	0	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	No	

Drinking Water Treatment Process

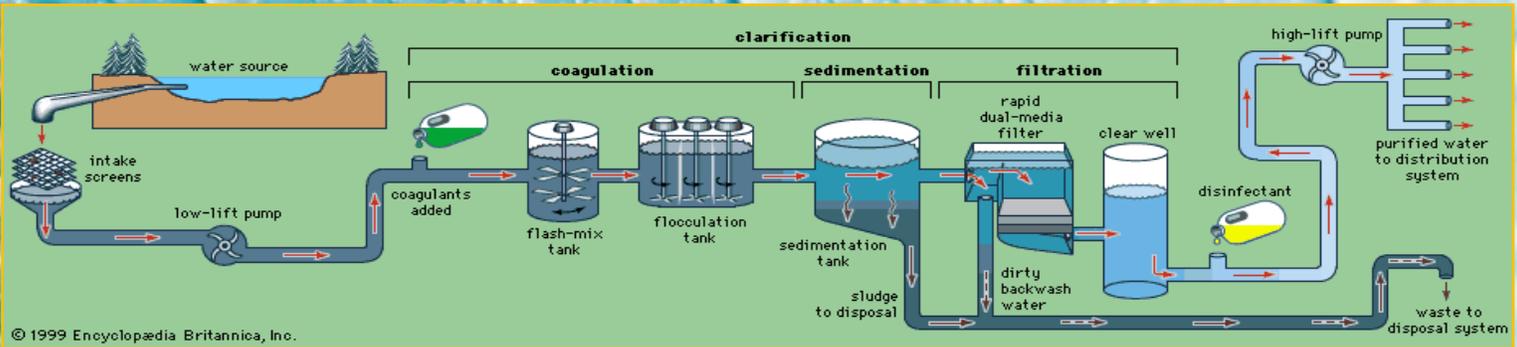
Drinking water purification is the process of removing contaminants from untreated water through a number of treatment steps to produce drinking water. Substances removed during the process may include particles of sand, minerals such as sulfur and iron, suspended particles of organic matter, microorganisms and viruses, and man made chemical pollutants.

Untreated water is treated through a series of purification steps. As the untreated water enters the treatment plant, chemicals such as chlorine and ammonia are added to the water. Seasonally, carbon may be added to assist in the control of taste and odor.

Coagulation and flocculation are the processes which remove turbidity or color from the water with the use of chemical coagulants, ferric sulfate and polymer. Lime is added to correct the pH of the water and particles in the water begin to form a floc that settles to the bottom of the clarifier tank and is removed.



Clarified water is separated from fine sediments in the water by filters that remove any remaining suspended particles in the water. Then, treated water is disinfected and stored in water storage tanks that allow time for the chemicals to mix throughout the water.



Drinking water is pumped into the distribution system through a series of pipe networks which distribute water to customers throughout the City. Elevated storage tanks provide additional storage and supply pressure to the distribution system. The City of Lewisville’s Water Production Plant is capable of producing twenty (20) million gallons of treated water daily. Both State and Federal regulations dictate the standards for drinking water quality. These standards require minimum and maximum set points for contaminants and the inclusion of control elements that ensure the production of safe drinking water.



Treatment Requirements

Year	Contaminant	Units	MRDL	MRDLG	Avg Level	Min Level	Max Level	Major Sources	Violation
2018	Chloramines	ppm	4	4	2.99	2.50	3.52	Water additive used to control microbes	No
Year	Contaminant	Units	Action Level	Highest Single Measure	Lowest Monthly % Samples Meeting Limits		Major Sources	Violation	
2018	Turbidity	NTU	0.3	0.13	100.0%		Soil runoff	No	
Year	Contaminant	Units	MCL	Avg	Range		Major Sources	Violation	
2018	TOC Removal	L/mg-m	≤2% Avg. SUVA	2.17	0.43 – 2.74		Total Organic Carbon is naturally present in the environment	No	

NTU: Nephelometric Turbidity Units. Turbidity has no health effects; however, it can interfere with disinfection and provide a medium for microbial growth. Turbidity is a measurement of the cloudiness of the water caused by suspended particles. It is monitored because it is a good indicator of water quality and the effectiveness of our filtration, and the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

TOC: Total Organic Carbon has no health effects; however, TOC provides a medium for the formation of disinfection by-products. These by-products include Trihalomethanes and Haloacetic acids. Drinking water containing these in excess of the ML may lead to adverse health effects, liver or kidney problems, or nervous system effects and may lead to an increased risk of cancer. The percentage of TOC removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violations section.

L/mg-m – Liters per milligram meter

Unregulated Contaminants

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and if future regulation is warranted. Any unregulated contaminants detected are reported in the table below. For additional information, call the Safe Drinking Water Hotline at 800.426.4791.

Year or Range	Contaminant	Avg Level	Min Level	Max Level	MCLG	Units	Source of Contamination
2018	Chloroform	9.7	2.85	26.7	70	ppb	By-product of drinking water disinfection
2018	Bromoform	<1	<1	<1	0	ppb	By-product of drinking water disinfection
2018	Bromodichloro-methane	4.8	2.08	8.26	0	ppb	By-product of drinking water disinfection
2018	Dibromochloro-methane	1.8	<1	4.41	60	ppb	By-product of drinking water disinfection

UCMR4 Unregulated Contaminants Monitoring Rule 4

The UCMR program was developed in coordination with the Contaminant Candidate List (CCL). The CCL is a list of contaminants that are not regulated by the National Primary Drinking Water Regulations, are known or anticipated to occur at public water systems and may warrant regulation under the Safe Drinking Water Act. Data collected through UCMR is stored in the National Contaminant Occurrence Database (NCOD) to support analysis and review of contaminant occurrence, to guide the CCL selection process and to support the Administrator's determination of whether to regulate a contaminant in the interest of protecting public health.

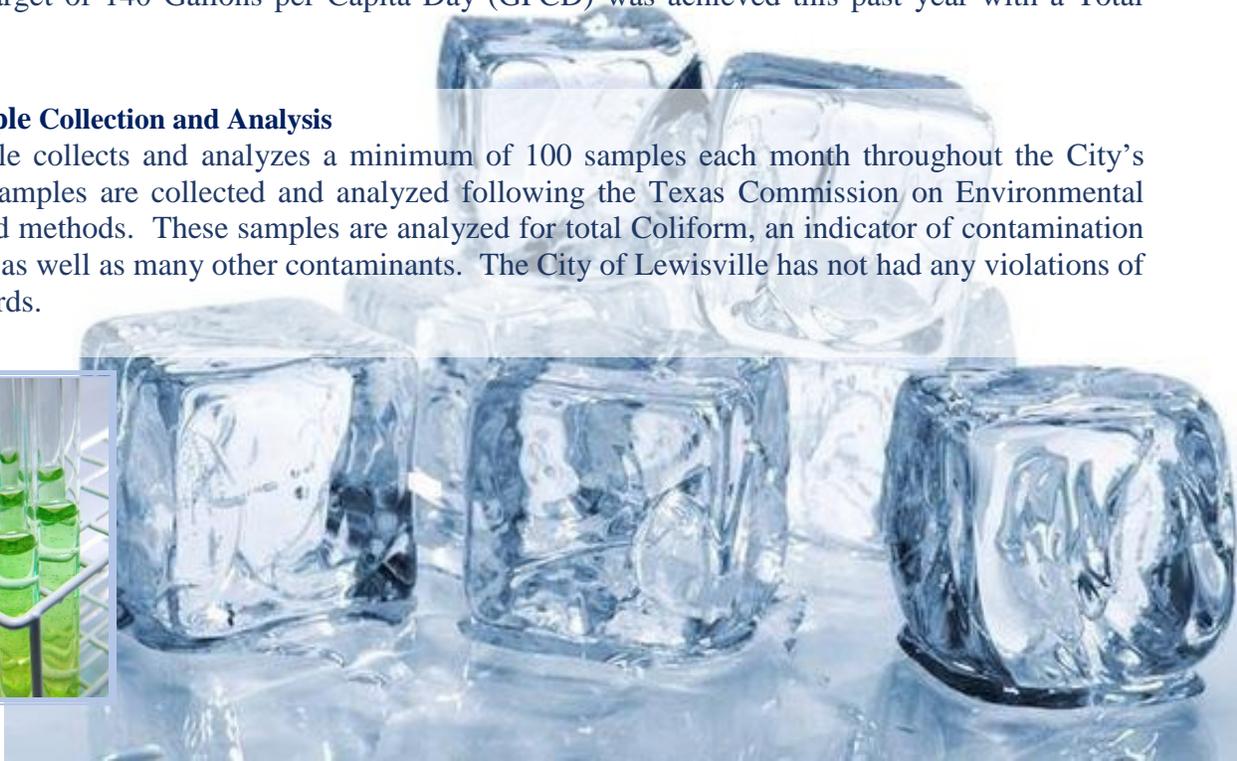
Year or Range	Contaminant	Avg Level	Min Level	Max Level	Units	Source of Contamination
2018	Cylindrospermopsin	ND*	ND*	ND*	ppb	Cyanobacteria found naturally in lakes, streams, ponds, and other surface waters.
2018	Anatoxin-a	ND*	ND*	ND*	ppb	Cyanobacteria found naturally in lakes, streams, ponds, and other surface waters.
2018	Total Microcystins	ND*	ND*	ND*	ppb	Cyanobacteria found naturally in lakes, streams, ponds, and other surface waters.

ND* = Not Detected

The City of Lewisville is also working to conserve and save water. Our total water loss for 2018 was 11%, or 612,904,175 gallons, based on required system evaluation conducted for calendar year 2018. The City's Conservation Plan Target of 140 Gallons per Capita Day (GPCD) was achieved this past year with a Total GPCD of 140.

Bacteriological Sample Collection and Analysis

The City of Lewisville collects and analyzes a minimum of 100 samples each month throughout the City's water system. The samples are collected and analyzed following the Texas Commission on Environmental Quality guidelines and methods. These samples are analyzed for total Coliform, an indicator of contamination in the drinking water, as well as many other contaminants. The City of Lewisville has not had any violations of drinking water standards.



EVERY DROP COUNTS!



Be Water Conscious

Year-Round Outdoor Watering Restrictions

May 1 - Sept. 30: No watering between 10 a.m. - 6 p.m. for ALL users

STAGE 1: Water Watch

- Even # addresses water Tuesday & Saturday (Addresses ending in 0, 2, 4, 6, 8 or no number)
- Odd # addresses water Wednesday & Sunday (Addresses ending in 1, 3, 5, 7, 9)
- Commercial/Multi-Family water Monday & Thursday
- Drip irrigation, hand-watering & soaker hoses may water any day at any time

STAGE 2: Water Emergency

- Even # addresses water Tuesday only
- Odd # addresses water Wednesday only
- Commercial/Multi-Family water Thursday only
- Foundations may be watered with a soaker or handheld hose on the same day as landscape watering

STAGE 3: Water Crisis

- All landscape watering is prohibited

Willie Water Says: "EVERY..."

Dispose of organic waste by composting instead of using the garbage disposal.

Roots need shade! Keep grass 2-3 inches tall. Taller grass blades hold moisture and slow down evaporation.

Optimize water usage by using high efficiency appliances. Only run the appliance with full loads, including laundry and the dishwasher.

Point out leaks and get them fixed quickly. A single leak can represent thousands of gallons of water lost.

Covering your pool will reduce evaporation and require less filling. Fill manually and do not overfill.

Only water landscape early in the morning or after sunset to minimize evaporation.

Use a drip irrigation system for bedded plants, tree, and shrubs.

Native plants are more suited to the climate and require less water, fertilizer, and pesticides.

Turn off the water when brushing teeth or shaving. Hundreds of gallons can be lost when the water is left running.

SAVE WATER! The planet only has the same amount of water as millions of years ago. By conserving, we are ensuring future generation's water quality.



For additional water conservation information visit the City of Lewisville's website at cityoflewisville.com.

Conserve Water

MAKE EVERY DROP COUNT!

cityoflewisville.com



FOR CURRENT STAGE & WATERING RESTRICTIONS

CALL 972.219.3716



LEWISVILLE
Keep Parks Beautiful • Fight Crime
Public Services