

Water Quality Report 2014



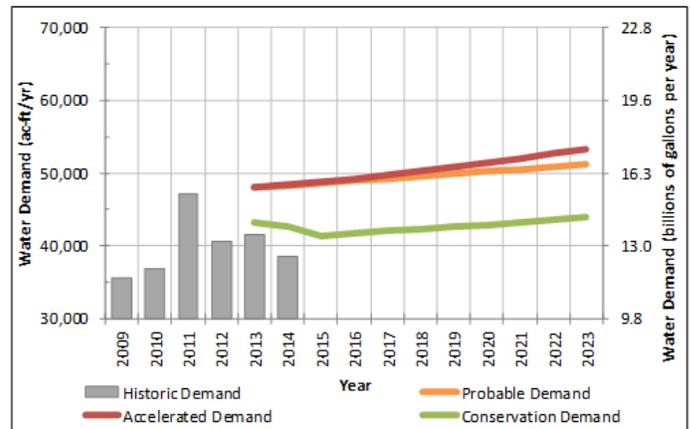
Strategic Water Supply Planning

HOW ARE WE DOING?

The 2013 Strategic Water Supply Plan created a “road map” for the City to use in developing and implementing water supply strategies over the next 100-year planning horizon. Even though the planning process is continuous, the City officially updates its Strategic Water Supply Plan every five years. The plan is available on-line at:

<http://www.ci.lubbock.tx.us/departamental-websites/departments/water-department/strategic-water-supply>

The Plan estimated that we would use between 14 to 16 billion gallons of water in 2014 depending on the water demand scenario. The City actually used 12.5 billion gallons of water which is less than 2013 and the estimated demand associated with more aggressive water conservation. We are making progress in stretching our water supplies and making every drop count.



WHAT IS THIS CHART?

This chart depicts three possible water demand scenarios (red, orange and green lines) for Lubbock over the next ten years. The scenarios differ by population growth rate and level of water conservation. The grey bars depict our actual water demand through 2014. Notice that in 2014 we used less water than projected for conservation (green line).

SUSTAINABILITY

The key to minimizing risk is to diversify your portfolio or not place all your “eggs into one basket”. Our goal is to create a blend of several types of water supplies including groundwater, surface water, conservation and reuse water.



Lubbock's Water Supply

Lubbock has a diversified water supply. Groundwater from the Ogallala Aquifer is supplied from the **Roberts County Well Field (RCWF)** and the **Bailey County Well Field (BCWF)** and accounts for 77% of Lubbock's water usage. Surface water is supplied by **Lake Alan Henry (LAH)** and **Lake Meredith (LM)** and accounts for 23% of the water usage.

Roberts County Well Field (RCWF)

The Canadian River Municipal Water Authority (CRMWA) manages the RCWF. RCWF is located approximately 150 miles to the northeast of Lubbock. In 2014, the water customers of Lubbock used 7.36 billion gallons of water from this well field.

Lake Alan Henry (LAH)

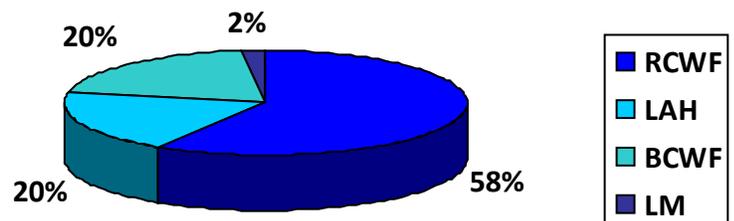
The City owned LAH, located approximately 65 miles southeast of Lubbock, has been in use since 2012. The lake is currently full. In 2014, the water customers of Lubbock used 2.58 billion gallons of water from LAH.

Lake Meredith (LM)

The CRMWA manages Lake Meredith. LM is approximately 160 miles north of Lubbock. In 2014, the water customers used 0.31 billion gallons of water from LM.

Bailey County Well Field (BCWF)

The City owned BCWF has been in use since the 1950s. BCWF is located approximately 75 miles northwest of Lubbock. In 2014, the water customers of Lubbock used 2.57 billion gallons of water from this well field.





Water Conservation

Water conservation should be practiced at all times, regardless of climatic conditions. The City's current conservation efforts include educating the public, implementing "waste of water" regulations, developing water rates that promote conservation, and irrigation inspections and consultations.

Every year from April 1 through September 30, the City implements the annual water conservation measures. These measures are outlined below.

ANNUAL WATER CONSERVATION MEASURES

- No watering is allowed from 10:00 a.m. to 6:00 p.m. on any day from April 1 to September 30.
- Irrigation must be applied without significant runoff.
- Irrigate less than 1.5 inches of water per week.
- Do not irrigate during precipitation or high wind events.

Drought Restrictions

The City has a Drought Contingency Plan that is implemented when drought triggers are met. Currently, the City is in Stage 1 drought restrictions due to Lake Meredith bring lower than normal.

The City will remain in Stage 1 of the Drought Contingency Plan until the drought conditions improve for Lake Meredith.

STAGE 1 RESTRICTIONS

Landscape irrigation is allowed during two assigned days per week.

Irrigation schedules will be based on the last digit of the house address. Addresses ending in...

- 0, 3, 4, or 9 water on Monday & Thursday
- 1, 5, or 6 water on Tuesday & Friday
- 2, 7, or 8 water on Wednesday & Saturday

Hand watering (physically holding the hose), drip systems, and soaker hoses are allowed any day at any time.

A variance application for new landscape material is available on-line at water.ci.lubbock.tx.us/waterrestrictions.aspx.

Residents, city operations, and wholesale customers must adhere to these irrigation restrictions.



Get Water Smart!

Water is a finite natural resource. We want to be good stewards of the water we have. In the summer, over half of the water used in Lubbock is for outdoor landscaping. Consider some of the outdoor conservation tips and determine what will work for you. By implementing these tips, you can save water and keep your yard looking beautiful!

Water Loss

In the water loss audit submitted to the Texas Water Development Board for the time period of Jan. - Dec. 2014, our system lost an estimated 1,462,644,127 gallons of water out of 12,510,676,058 gallons that was used. This loss is 12% of our total water use. If you have any questions about the water loss audit please call (806) 775-2616

Water Education

The Water Education Department provides free lesson plans for teachers on water conservation, recycling, the water cycle, and natural resources. To inquire about these lesson plans or to schedule for an educator to come to your classroom or event, please call Mark Waggoner at (806) 775-2586.

Small changes in your yard care routine can make a BIG difference!

-  **Water your lawn in the morning and evening** when temperatures are cooler to minimize evaporation.
-  **Check outdoor faucets, sprinklers and hoses for leaks periodically.**
-  **Adjust sprinklers** so only your lawn is watered and NOT the house, sidewalk, or street.
-  **Use a broom** instead of a hose to clean your driveway & sidewalk.
-  **Don't water your yard on windy days** when most water blows away or evaporates.
-  **Add a layer of mulch** to your planting beds to minimize water evaporation.
-  **Water only when plants look like they need it.** Most plants die from over-watering, not under-watering.
-  **Use watering cans,** especially when watering patio plants. Hoses can waste water by getting more on patios than on the plants.
-  **Water your plants deeply, but less frequently,** to encourage deep root growth & drought tolerance.
-  **Use drip irrigation or soaker hoses** for trees and shrubs to reduce evaporation.



2014 Water Quality Data

THE BASICS

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, 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: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants.

Drinking water, including tap water and 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 1-800-426-4791.

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. Therefore, contaminants causing taste, color, or odor problems are called secondary constituents. Secondary constituents are regulated by the State of Texas, not the EPA. For more information concerning taste, odor or color of drinking water, please call the City of Lubbock's Water Department at 806-775-2588.

The City of Lubbock tests for nearly 100 different contaminants in our water system. A summary of the 2014 water quality results are reported in the following pages. The table below lists several terms and abbreviations that are used in the water industry and should help in understanding this report.

TERM	ABBREVIATION	DEFINITION
Action Level	AL	If a contaminant rises above this level, treatment is required
Maximum Contaminant Level	MCL	The highest contaminant level legally allowed
Maximum Contaminant Level Goal	MCLG	The contaminant level below which there is no known health risk
millirems per year	mrem/yr	Measure of radiation absorbed by the body
Maximum Residual Disinfectant Level	MRDL	The highest disinfectant level legally allowed
Maximum Residual Disinfectant Level Goal	MRDLG	The disinfectant level below which there is no known health risk
Nephelometric Turbidity Units	NTU	A measure of the cloudiness of the water
picocuries per liter	pCi/L	A measure of radioactivity
part per billion	ppb	One part per billion or micrograms per liter
part per million	ppm	One part per million or milligrams per liter
Range	none	The lowest and highest contaminant levels measured
Treatment Technique	TT	A process intended to reduce the level of a contaminant in drinking water

SPECIAL INFORMATION FOR PEOPLE WITH IMMUNE SYSTEM DEFICIENCIES

Certain people may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly or immuno-compromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids, and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. These individuals should seek advice about drinking water from their physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at 1-800-426-4791.

2014 Water Quality Data

SUBSTANCES REGULATED AT THE TREATMENT PLANT										
Contaminant	MCL	MCLG	Roberts County Well Field		Bailey County Well Field		Lake Alan Henry		Compliant	Sources of Contamination
			Contaminant Level	Range	Contaminant Level	Range	Contaminant Level	Range		
Alpha Emitters	15 pCi/L	0	4.7 pCi/L (2011)	na	4.0 pCi/L (2011)	na	4.1 pCi/L (2014)	3.0-11.5 pCi/L	Yes	Erosion of natural deposits
Antimony	6 ppb	6 ppb	none detected	na	none detected	na	00.298 ppb	na	Yes	Refineries; fire retardants; ceramics; electronics
Arsenic	10 ppb**	0	none detected	na	5.9 ppb (2011)	na	2.96 ppb (2014)	na	Yes	Erosion of natural deposits; runoff from orchards
Barium	2 ppm	2 ppm	0.075 ppm (2014)	na	0.104 ppm (2011)	na	0.230 ppm (2014)	na	Yes	Erosion of natural deposits
Beta/Photon Emitters	50 pCi/L*	0	8.4 pCi/L (2011)	na	6.2 pCi/L (2011)	na	none detected	4.2-8.9 pCi/L	Yes	Decay of natural and man-made deposits
Chromium	100 ppb	100 ppb	8.4 ppb (2014)	na	none detected (2011)	na	1.0 ppb (2014)	na	Yes	Erosion of natural deposits
Cyanide	200 ppb	200 ppb	106 ppb (2011)	na	84.4 ppb (2014)	na	131 ppb (2014)	na	Yes	Discharge from steel/metal, plastic and fertilizer factories
Fluoride	4 ppm	4 ppm	0.732 ppm (2014)	na	1.23 ppm (2014)	na	1.11 ppm (2014)	na	Yes	Erosion of natural deposits
Nitrate	10 ppm	10 ppm	1.35 ppm (2014)	na	1.25 ppm (2014)	na	0.098 ppm (2014)	0.094-0.098 ppm	Yes	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion
Selenium	50 ppb	50 ppb	none detected	na	3.4 ppb (2011)	na	2.09 ppb (2014)	na	Yes	Erosion of natural deposits
Turbidity	TT=5 NTU	0	0.15 NTU	0.05 – 0.15 NTU	na	na	0.06 NTU	0.02 – 0.06 NTU	Yes	Soil runoff. Turbidity is a measurement of the cloudiness of the water. It is a good indicator of the effectiveness of the filtration system
	TT= % of samples <0.3 NTU		100% less than 0.3 NTU		100% less than 0.3 NTU					
Uranium	30 ppb	0	na	na	na	na	11.6 ppb (2013)	na	Yes	Erosion of natural deposits

* The MCL for beta/photon emitters is 4 mrem/year. The USEPA considers 50 pCi/L to be the level of concern for beta/photon emitters.

** Running Annual Average

Please Note: The state allows us to monitor for some substances less than once per year because the concentrations of these substances do not change frequently. Therefore, some of our data, though representative, are more than one year old. The year data was collected is listed in parentheses under the contaminant level for each water source.

2014 Water Quality Data

ADDITIONAL MONITORING										
Contaminant	MCL	MCLG	Roberts County Well Field		Bailey County Well Field		Lake Alan Henry		Compliant	Sources of Contamination
			Contaminant Level	Range	Contaminant Level	Range	Contaminant Level	Range		
Aluminum	0.05 – 0.2 ppm [^]	na	0.09 ppm (2014)	na	none detected	na	0.01 ppm (2014)	na	na	Water Treatment Chemical
Chloride	300 ppm [^]	na	235 ppm (2014)	na	12 ppm (2014)	na	282 ppm (2014)	na	na	Naturally occurring
Total Dissolved Solids	1000 ppm [^]	na	730 ppm (2014)	na	317 ppm (2011)	na	839 ppm (2014)	na	na	Naturally occurring
Ammonia	Not Regulated	na	0.242 ppm (2014)	na	0.243 ppm (2014)	na	0.260 ppm (2014)	na	na	Water Treatment Chemical
Calcium	Not Regulated	na	53.9 ppm (2014)	na	52.9 ppm (2011)	na	30.0 ppm (2014)	na	na	Naturally occurring
Magnesium	Not Regulated	na	27.8 ppm (2014)	na	18.2 ppm (2011)	na	13.1 ppm (2011)	na	na	Naturally occurring
Sodium	Not Regulated	na	148 ppm (2014)	na	29.4 ppm (2011)	na	248 ppm (2014)	na	na	Naturally occurring
Iron	Not Regulated	na	none detected	na	0.023 ppm (2011)	na	none detected	na	na	Naturally occurring
Manganese	0.05 ppm [^]	na	0.00056 ppm (2014)	na	0.0017 ppm (2011)	na	none detected	na	na	Naturally occurring
Nickel	Not Regulated	na	0.00094 ppm (2014)	na	0.0014 ppm (2011)	na	0.00075 ppm (2014)	na	na	Erosion of natural deposits
pH	Greater than 7.0 [^]	na	7.9	na	7.3	na	8.2	na	na	Naturally occurring
Zinc	5 ppm [^]	na	none detected	na	0.0084 ppm (2011)	na	0.004 ppm (2014)	na	na	Naturally occurring
Hardness	Not Regulated	na	249 ppm (2014)	na	207 ppm (2011)	na	129 ppm (2014)	na	na	Naturally occurring
Conductance	Not Regulated	na	1340 micromhos/cm	na	524 micromhos/cm	na	1600 micromhos/cm	na	na	Naturally occurring
Total Alkalinity	Not Regulated	na	181 ppm (2014)	na	214 ppm (2014)	na	189 ppm (2014)	na	na	Naturally occurring
Sulfate	300 ppm [^]	na	91.7 ppm (2014)	na	29.2 ppm (2014)	na	132 ppm (2014)	na	na	Mineral and Nutrient

[^] Highest Locational Running Annual Average

2014 Water Quality Data

REGULATED IN THE DISTRIBUTION SYSTEM

Contaminant	Average	Range	MCL	MCLG	Compliant	Sources of Contamination
Chloramines	2.7 ppm ** (2014)	0.7-3.8 ppm	MDRL = 4 ppm	MDRLG = 4 ppb	Yes	Disinfectant used to control microbes
Total Trihalomethanes	32.2 ppb^	3.2-37.4 ppb	80 ppb	na	Yes	By-product of drinking water chlorination
Haloacetic Acids	10.8 ppb^	1.4-13.8 ppb	60 ppb	na	Yes	By-product of drinking water chlorination
Contaminant	Highest Monthly Percentage	Range	MCL	MCLG	Compliant	Sources of Contamination
Total Coliform	0.65%	na	Presence of coliform bacteria in 5% or more of the monthly samples	na	Yes	Naturally present in the environment
Fecal Coliform or E. Coli	0	na		na	Yes	Human or animal fecal waste

REGULATED IN CUSTOMER'S TAP

Contaminant	90th Percentile Value	Range	MCL	MCLG	Compliant	Sources of Contamination
Lead (Lead at customer tap)	2.02 ppb (2012) All sites were below the AL of 15 ppb	0-4.52 ppb	15 ppb AL	0 ppb	Yes	Corrosion of household plumbing systems; erosion of natural deposits
Copper	0.113 ppb (2012) All sites were below the AL of 1.3 ppb	0.012-0.288 ppb	1.3 ppb AL	1.3 ppm	Yes	Corrosion of household plumbing systems; erosion of natural deposits

The state allows us to monitor for some substances less than once per year because the concentrations of these substances do not change frequently.

Some of our data, though representative, are more than one year old.

*The MCL for beta/photon emitters is 4 mrem/yr (a measure of radiation absorbed by the body). The USEPA considers 50 pCi/L to be the level of concern for beta/photon emitters.

**Running Annual Average

^Highest Locational Running Annual Average

^^Secondary Constituent Levels set by the Texas Commission of Environmental Quality

ALL DATA IN THIS TABLE WERE COLLECTED IN 2014 UNLESS OTHERWISE DESIGNATED IN PARENTHESES.

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 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 <http://www.epa.gov.safewater/lead>.

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Turbidity is a measure of the amount of suspended particles in water. We monitor turbidity because it is an indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.



Water Quality Report 2014

Where to find additional information about your water

The Texas Commission on Environmental Quality publishes a Source Water Susceptibility Assessment for drinking water sources. 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 protection strategies. This source water assessment information is available on Texas Drinking Water Watch at <http://dww.tceq.state.tx.us/DWW/>. For more information on source water assessments and protection efforts at our system, please contact us.

Water Quality Contact Information

- ☐ **Safe Drinking Water Hotline**
→ 800-426-4791

- ☐ **City of Lubbock Water Treatment Lab**
→ 806-775-2614
Weekdays 7:30 a.m. to 4:30 p.m.

- Lubbock Water Utilities Department**
 - ☐ General Questions
→ 806-775-2592
 - ☐ Education and Backflow Compliance
→ 806-775-3596

Website: <http://water.mylubbock.us>