



# 2016 Annual Drinking Water Quality Report

## Consumer Confidence Report (CCR)

### Clear Lake City Water Authority

281-488-1164

[www.clcwa.org](http://www.clcwa.org)

Serving the Community Since 1963

Reporting Period: January 1, 2016 to December 31, 2016

## GENERAL INFORMATION

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

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.

For more information regarding this report contact:

**Clear Lake City Water Authority**  
Phone: 281-488-1164

## SOURCES OF DRINKING WATER

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 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.

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

## CLCWA WATER SOURCE

The source of drinking water used by the Clear Lake City Water Authority is approximately 93% purchased surface water and 7% groundwater wells. The Authority draws most of its drinking water from Houston's Southeast Surface Water Treatment Plant near Ellington. The raw surface water comes from the Trinity River through Lake Livingston. On occasion, the raw surface water may come from the San Jacinto River through Lake Houston. The Authority supplements surface water with ground water from their permitted wells during high demand in summer months. These are deep wells, producing water from the Gulf Coast Aquifer.

**Este reporte incluye información importante sobre el agua para tomar. Para mas asistencia en español, por favor de llamar al telefono, 281-488-1164.**

## SPECIAL NOTICE

In order to ensure that tap water is safe to drink, 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.

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; persons 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. You should seek advice about drinking water from your physician or health care providers. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

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. Clear Lake City Water Authority is 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 <http://www.epa.gov/safewater/lead>.

## SOURCE WATER ASSESSMENTS

A Source Water Assessment for your drinking water source(s) is currently being conducted by the TCEQ and should be provided to us this year. The report will describe 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 in this assessment will allow us to focus our source water protection strategies.

For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL: <http://www.tceq.texas.gov/gis/swaview>

Further details about sources and source water assessments are available in Drinking Water Watch at the following URL: <http://dww2.tceq.texas.gov/DWW/>

## PUBLIC PARTICIPATION OPPORTUNITIES

Board of Director's meetings are regularly scheduled at 7:00 p.m. on the second Thursday of each month at 900 Bay Area Boulevard. These meetings are subject to change and anyone interested in attending should verify the meeting date by calling 281-488-1164. Time is allotted at Board meetings for public questions and comments. Your attendance is welcome.

# Definitions

The following tables contain scientific terms and measures, some of which may require explanation.

## Maximum Contaminant Level Goal (MCLG):

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.

## Maximum Contaminant Level (MCL):

The highest permissible 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.

## Maximum Residual Disinfectant Level Goal (MRDLG):

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.

## Maximum Residual Disinfectant Level (MRDL):

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.

**AvG:** Regulatory compliance with some MCLs are based on running annual average of monthly samples.

**ppm:** Milligrams per liter or parts per million — or one ounce in 7,350 gallons of water.

**ppb:** Micrograms per liter or parts per billion — or one ounce in 7,350,000 gallons of water.

## Action Level Goal (ALG):

The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

## Action Level (AL):

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

**MFL:** Million fibers per liter (a measure of asbestos)

## Treatment Technique (TT):

A required process intended to reduce the level of a contaminant in drinking water.

**Level 1 Assessment:** A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

**Level 2 Assessment:** A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

**na:** Not applicable.

# Abbreviations

**mrem/year** Millirems per year (a measure of radiation absorbed by the body)

**NTU** Nephelometric Turbidity Units (a measure of turbidity)

**pCi/L** picocuries per liter (a measure of radioactivity)

**ppm** parts per million, or milligrams per liter (mg/L)

**ppb** parts per billion, or micrograms per liter (µg/L)

**ppt** parts per trillion, or nanograms per liter (ng/L)

# About The Following Tables

The following tables list all of the federally regulated or monitored contaminants which have been found in your drinking water. The U.S. EPA requires water systems to test up to 97 contaminants. If a contaminant was reported in a prior year's report, but is not detected in this year's samples, that contaminant has been removed from the list.

## Inorganic Contaminants

Collection Date	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Unit of Measure	Violation	Likely Source of Contaminant
2016	Arsenic	<2.0	<2.0 - <2.0	0	10	ppb	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
<i>This arsenic MCL became effective January 23, 2006. In the event of a violation, you will be notified.</i>								
2016	Barium	0.129	0.0376 - 0.129	2	2	ppm	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
2016	Fluoride	0.19	0.19 - 0.19	4	4	ppm	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
2016	Nitrate	0.58	0.01 - 0.58	10	10	ppm	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
2015	Nitrite	0.02	0 - 0.02	1	1	ppm	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

## Synthetic Organic Contaminants INCLUDING Pesticides AND Herbicides

Collection Date	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Unit of Measure	Violation	Likely Source of Contaminant
2016	Simazine	0.16	0.07 - 0.16	4	4	ppb	No	Herbicide runoff.
2016	Atrazine	0.24	0.1 - 0.24	3	3	ppb	No	Runoff from herbicide used on row crops.

## Radioactive Contaminants

Collection Date	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Unit of Measure	Violation	Likely Source of Contaminant
2011	Beta/photon emitters	4.4	4.0 - 4.4	0	50*	pCi/L	No	Decay of natural and man-made deposits.
2011	Combined Radium 226 & 228	1.0	1.0-1.0	0	5	pCi/L	No	Erosion of natural deposits.
2011	Gross Alpha	2.0	2.0 - 2.0	0	15	pCi/L	No	Erosion of natural deposits.

\*The MCL for beta particles is 4 mrem/year; however, there is no simple conversion from mrem/year to pCi/L. The EPA considers 50 pCi/L to be the level of concern for beta particles.

## Coliform Bacteria

Total Coliform Bacteria are used as indicators of microbial contamination of drinking water because testing of them is easy. While not disease-causing organisms themselves, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are harder than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption. Over 1,000 samples were submitted for testing last year. It is not unusual to have an occasional positive sample simply because of test sensitivity and/or human error in sampling techniques. Once the system is notified of a positive sample, the system operator immediately collects repeat samples from the original sample point and additional locations up and down stream of that location.

Max Contaminant Level Goal	Total Coliform Max Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	5% of Monthly Samples are positive	1.1		0	No	Naturally present in the environment.

## Revised Total Coliform Rule (RTCR)

E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems.

Violation Type	Violation Begin	Violation End	Violation Explanation
Monitoring, Routine, Minor (RTCR)	11/01/2016	11/30/2016	We failed to collect some of the required routine samples of our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated.

## DID YOU KNOW?

Pouring grease down sinks, disposals, toilets, or any other household drain can result in blocked sewer lines and costly repairs. It is a *myth* that hot water, soap, eggshells, coffee grounds, or other substances will keep the grease from sticking to the pipes.

## Maximum Residual Disinfectant Level

Collection Date	Disinfectant	Average Level Detected	Range of Levels Detected	MRDLG	MRDL	Unit of Measure	Violation	Likely Source of Chemical
2016	Chloramine Residual	2.125	0.2 - 4.0	4	4	ppm	No	Disinfectant used to control microbes.

## Disinfectants AND Disinfection By-products

Collection Date	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Unit of Measure	Violation	Likely Source of Contaminant
2016	Total Haloacetic Acids (HAA5)	47.7	7.9 - 47.7	na	60	ppb	No	By-product of drinking water disinfection.
2016	Total Trihalomethanes (TTHM)	50.8	16.8 - 50.8	na	80	ppb	No	By-product of drinking water disinfection.

## Unregulated Contaminants

There is no maximum contaminant level for these chemicals at the entry point to distribution. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Collection Date	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Unit of Measure	Likely Source of Contaminant
2016	Chloroform	38.6	<1.0 - 38.6	na	na	ppb	By-product of drinking water disinfection.
2016	Bromoform	1.7	<1.0 - 1.7	na	na	ppb	By-product of drinking water disinfection.
2016	Bromodichloromethane	9.7	<1.0 - 9.7	na	na	ppb	By-product of drinking water disinfection.
2016	Dibromochloromethane	4.5	<1.0 - 4.5	na	na	ppb	By-product of drinking water disinfection.

## Turbidity

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate 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.

Collection Date	Contaminant	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Likely Source of Contaminant
2016	Turbidity	0.09	100.00	≤0.3	NTU	Soil runoff.

## Lead and Copper

Collection Date	Contaminant	MCLG	Action Level (AL)	The 90th Percentile	# of Sites Over AL	Unit of Measure	Violation	Likely Source of Contaminant
2016	Lead	0	15	2	0	ppb	No	Corrosion of household plumbing systems; erosion of natural deposits.
2016	Copper	1.3	1.3	0.672	0	ppm	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

## Lead and Copper Rule

The Lead and Copper Rule protects public health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosivity. Lead and copper enter drinking water mainly from corrosion of lead and copper containing plumbing materials.

Violation Type	Violation Begin	Violation End	Violation Explanation
Follow-up or Routine Tap M/R (LCR)	10/1/2015	2016	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated.
Follow-up or Routine Tap M/R (LCR)	10/1/2016	2016	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated.

## QUICK WATER SAVING TIPS:

- Consider high efficiency models when replacing appliances. Some washing machines can use 50-60% less electricity, 40-50% less water, and are more effective in cleaning action. Also, up to 30% more water is removed in the spinning, reducing the drying time and saving energy.
- Running water down the drain while it gets hot is a waste. Capture the cool water for plant watering, to refill pet water bowls or heat it on the stove or in a microwave.
- Take short showers rather than a bath. A four minute shower uses about 8 gallons of water, while a full bath uses about 50 gallons of water.
- Install reduced-flow showerheads that average 2.5 gallons a minute. The older types can average using 5-10 gallons per minute.
- Brushing teeth can take up to 2 gallons of water if the tap is left running during the brushing versus 1 pint to wet brush, turn off faucet, and rinse briefly.

## CLCWA Website

Clear Lake City Water Authority invites you to visit its website:

[www.clcwa.org](http://www.clcwa.org)

The Drinking Water Quality Report (Consumer Confidence Report) can directly be accessed at: <http://www.clcwa.org/ccr.htm>

For previous reporting years 2002 through 2016 it can be accessed at the Authority website: <http://www.clcwa.org/waterinfo.htm>

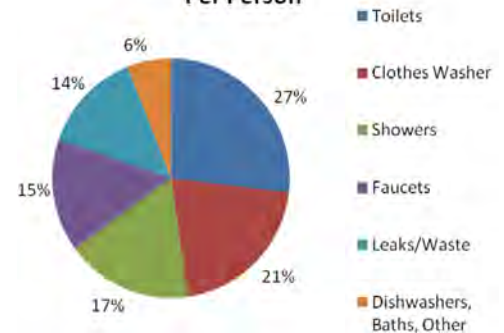
In addition, we have posted the Authority's Drought Contingency Plan for the Delivery of Water to Residential (Retail) Customers. This plan, approved by TCEQ, outlines the Authority's regulations and restrictions on the delivery and consumption of water during times of water shortage or other emergency

## Chromium-6

The EPA and Texas Commission on Environmental Quality (TCEQ) have not established a standard for chromium-6 and Houston does not test for it separate from testing for total chromium levels. However, it is important to note the results of testing showed the levels for total chromium are below the enforceable level established by the State of California for chromium-6 of 10 parts per billion.

## WATER CONSERVATION

Average Daily Water Usage Per Person



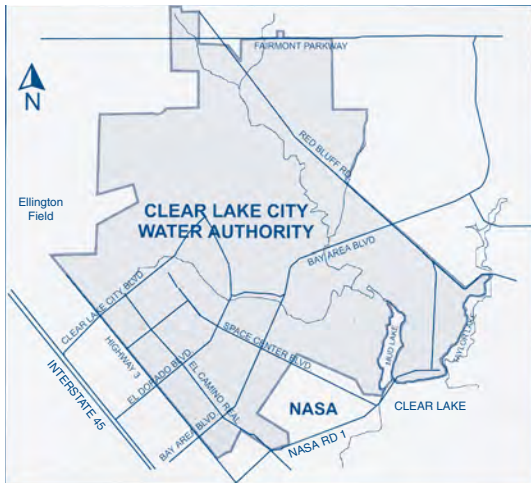
- Run dishwasher only when full and use the shortest cycle necessary.
- Don't let water run continuously while washing dishes.
- Scrape dishes rather than rinse.
- Run the washing machine only when full and use the lowest, coolest water setting possible.
- A leaky toilet tank can waste lots of water. Put a little food coloring into the tank; if the color trickles into the bowl, repair the leak.
- Check your sprinkler system often for leaks and broken sprinkler heads.
- Water the yard early in the morning or in the evening to give the grass time to absorb as much as possible rather than evaporate in the heat of the mid-day.



**CLEAR LAKE CITY WATER AUTHORITY**  
 900 Bay Area Boulevard  
 Houston, Texas 77058-2691

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## 2016 ANNUAL DRINKING WATER QUALITY REPORT Consumer Confidence Report (CCR)



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### NEW BILL PAYMENT OPTIONS AVAILABLE!!!

CLCWA partnered with First Billing Services to provide credit card/debit card and E-Check payment options to our customers. Please visit our website at [www.clcwa.org](http://www.clcwa.org).

### STORM WATER *Dumping into storm drains is not just wrong, it's illegal.*

Storm water or rain water flows into the storm drains and storm inlets that you see along streets and at street corners or into roadside ditches.

Unlike the water that flows inside your home, which goes to the sewer treatment facilities, the storm drain system is completely separate. Water in the storm drains receives no treatment or filtering process. This means that any pollution that gets washed into the storm drain goes directly to our creeks, rivers, bayous, and streams, ultimately ending up in Galveston Bay.

Examples of common storm water pollution come from construction debris, material stockpiles, automotive fluids, erosion, paints, pesticides, litter, or any other industrial and household materials. Pet waste contributes to pollution that can contaminate streams and bays and harm shellfish beds.

A storm drain system's purpose is to prevent flooding of streets and roadways by quickly and efficiently transferring rainwater into waterways. After the water has filled up the waterways, then the streets are designed to handle the overflow. Also one can try and prevent flood damage to property by eliminating grass clippings, leaves, pine needles, trash, and debris in the storm drains that can cause slow drainage or flooding. Deposit of refuse into the Authority's storm sewer system or drainage ditches is punishable by a fine of not more than \$200 for each such violation.

Used oil can be taken to CLCWA's oil recycling drop-off point located at 17507 El Camino Real. Please leave the used oil in a sealed container (to prevent spills) outside the gate in the visibly marked concrete box. Please do not drop off any other chemicals including paints, antifreeze, hazardous liquids, or other items that need disposal. CLCWA is only able to recycle oil at this time.

**The choice is clear and you can do your part.** We all have a part to play in keeping our drainage system and our waterways clean. By understanding the problems and by being good neighbors, we can decrease storm water pollution. Please help clean up our waterways to ensure a brighter future for us all. For more information please see:

[www.clcwa.org/stormwater.htm](http://www.clcwa.org/stormwater.htm)

### WATER LOSS

In the Water Loss Audit submitted to the Texas Water Development Board for the period of January 1 – December 31, 2016, our system lost an estimated 301,914,977 gallons due to system maintenance, major main breaks and leaks. This equates to 10.7% of our system input for 2016.



### DON'T FLUSH TROUBLE – THE TOILET IS NOT A TRASH CAN!

The label might say "flushable", but disposable wipes and other products are clogging sewer lines and damaging pumps and other equipment. Not only are these problems expensive to fix, they can also cause raw sewage overflows into homes, businesses, and local waterways. This includes things like cleaning wipes, baby wipes, diapers, personal hygiene products, condoms, facial wipes, hair, grease, kitty litter, syringes, cigarette butts, and rags. Remember, your sinks and tubs also drain to the sanitary sewer system. **So, think trash, not toilets!**