

2013 Drinking Water Quality Report



Welcome

This Drinking Water Quality Report marks the 15th year that the City has put together a report to its citizens, in compliance with the US Environmental Protection Agencies Consumer Confidence Rule (Code of Federal Regulations Title 40, Part 141). The Consumer Confidence Report Rule was promulgated by the US EPA to promote dialogue between consumers and their drinking water utilities, and encourage consumers to become more involved in the decisions that affect their health.

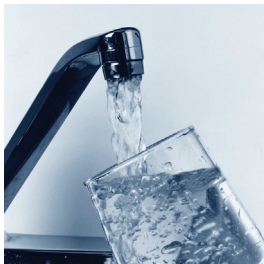
Drinking water and its importance in our lives has been highlighted over the course of the last two years, as this region of Texas suffers through an extended drought. We have all watched as the lack of rainfall in our area has led the depletion of our source water lakes (see the next page for more information) and the triggering of more restrictive levels of the City's Drought Plan in an effort to try and reduce how much water is taken out of the lakes. While the tremendous efforts of many of you have helped conserve that precious water resources and extend the life of the lakes, the City of Wichita Falls is on the vanguard of resources planning, in the event that the weather continues to be hot and dry. You will find on page 7 of this report an outline of the City's initiatives for 2 Wastewater Effluent Reuse projects. Both of these projects are intended to help extend the water resources for the citizens of Wichita Falls and surrounding communities in the region.

Additionally, the drought has made it ever increasingly difficult to produce a high quality drinking water due to the concentrating affects of less water in the lakes. I am pleased to say that the men and women within Public Utilities that treat and distribute your drinking water have continued to do an outstanding job at ensuring your drinking water meets all Federal and State regulations. Within the center section of this report, you can find a detailed summary of how well they have performed and the concentrations of any detected constituents, all of which were well below the regulatory limits set by the US Environmental Protection Agency and the Texas Commission on Environmental Quality.

This report is a testimony to the individuals within the City that are protecting your drinking water, and you the citizen who are doing everything that you can to conserve this vital resource. I would like to say "Thank you", to all of you and keep up the good work.

Sincerely,
Daniel K. Nix
Utilities Operations Manager

Superior Quality



Essential to a progressive community is a reliable and safe supply of drinking water. The City of Wichita Falls is committed to providing its citizens with that reliable supply of superior quality drinking water now and in the future. We are pleased to announce, once again, that your drinking water falls safely within all Federal and State drinking water health standards.

The Texas Commission on Environmental Quality (TCEQ) has inspected the City of Wichita Falls Water System and determined it is compliant with guidelines set forth by the TCEQ and the US Environmental Protection Agency. The City of Wichita Falls currently maintains a "SUPERIOR WATER SYSTEM" classification from the TCEQ, its highest classification. Ratings are based on continued compliance with Federal and State regulations governing drinking water and annual sanitary surveys conducted by a TCEQ Registered Sanitarian.

At Risk Populations

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; 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. You should seek advice about drinking water from your 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 (800) 426-4791.



Cover Photo: Cypress Water Treatment Plant



Sources

The City of Wichita Falls has previously only utilized 2 of its surface water reservoirs; Lake Arrowhead and Lake Kickapoo. While these 2 lakes have provided the citizens of Wichita Falls with a reliable source of drinking water for the last 60 years, it became necessary to evaluate the other reservoirs that were previously considered to be less-desirable, in an effort to extend the City's reliable supply for the next 50 years. 2009 marked the first full year of the City using Lake Kemp as a source of drinking water.

Lake Kickapoo

Lake Kickapoo is the first lake in the Little Wichita River watershed and has a drainage area of 275 square miles. Kickapoo was constructed in 1945, 18 miles southwest of Wichita Falls in Archer County. At its maximum capacity, Lake Kickapoo contains 106,000 acre feet (35 billion gallons) of water, which makes it the 56th largest fresh water reservoir (out of 119) in the State of Texas. It was named for the Kickapoo Indians and for Kickapoo Creek, which empties into the reservoir.

Lake Arrowhead

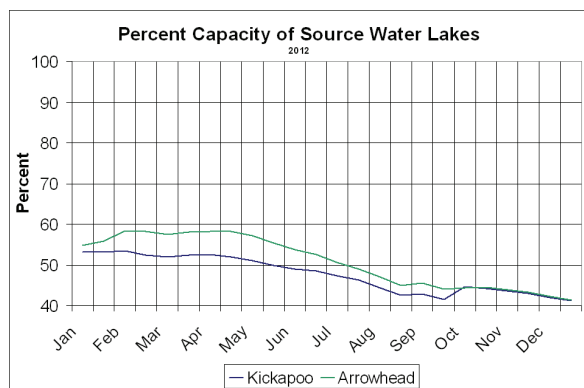
Lake Arrowhead is the last lake in the Little Wichita River watershed and has a drainage area of 832 square miles. Construction on Lake Arrowhead began in 1965, 15 miles southeast of Wichita Falls, primarily in Clay County. At its maximum capacity, Lake Arrowhead contains 228,000 acre feet (74 billion gallons) of water, which makes it the 36th largest fresh water reservoir (out of 119) in the State of Texas.

Lake Kemp

Lake Kemp is the largest lake in the Big Wichita River watershed and has a drainage area of 2,086 square miles. Construction of Lake Kemp was completed in 1924, 37 miles west of Wichita Falls. At its maximum capacity, Lake Kemp contains 245,308 acre feet (80 billion gallons) of water, which makes it the 35th largest fresh water reservoir (out of 119) in the State of Texas. It was named for Joseph A. Kemp, who sought its construction to alleviate flooding issues within Wichita Falls.

Lake Levels

"What are the lake levels?", is one of the most frequently asked questions about the City's source waters. Below is a graph of both Lake Kickapoo & Arrowhead levels through the calendar year of 2012. If you would like to know the current lake levels at anytime during the year, the City posts the current weeks lake levels on its website at <http://www.wichitafallstx.gov/index.aspx?NID=986>



Source Water Susceptibility Assessments

A Source Water Susceptibility Assessment for lakes Arrowhead, Kickapoo & Kemp are 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 our drinking water source based on human activities and natural conditions. The information contained in the assessment allows the City of Wichita Falls to focus its source water protection strategies. Some of this source water assessment information will be available later this year on Texas Drinking Water Watch at <http://dww.tceq.state.tx.us/DWWW/>. For more information on source water assessments and protection efforts at our system, please contact the City of Wichita Falls Public Works Department at 761-7477.

Source Water Monitoring

Constituent	Wichita Falls Water Results		EPA Regulations		Analysis Year
	Reportable Value	Range of Detection	Maximum Contaminant Level	Maximum Contaminant Level Goal	
Giardia; cysts Not Naturally Present in the Environment	0	0 - 0	Not Regulated	0	2012
Cryptosporidium; oocysts Not Naturally Present in the Environment	0	0 - 0	Not Regulated	0	2012

This table is providing you data on monitoring the City of Wichita Falls has undertaken to keep track of certain protozoans in its source waters. The City has tested its source water and drinking water for these parasites since 1994 and has never detected a single viable organism.

Cryptosporidium

Cryptosporidium is a microscopic parasite that can be found in the digestive tracts of animals. It is shed in the feces and when ingested by humans may result in diarrhea, cramps, fever, and other gastrointestinal symptoms.

People with healthy immune systems usually recover within a couple of weeks. However, individuals with weakened immune systems may be unable to clear the parasite from their intestines and suffer a chronic and debilitating illness known as cryptosporidiosis.

Making a Difference in Your Watershed

Do your part to protect drinking water sources. Individuals, citizen groups, and local communities can participate in many activities that help to protect their drinking water sources. Get information about drinking water and how it can be protected at the EPA Source Water Protection Web site. Find out more about how your drinking water is tested, treated and protected by readings your yearly Consumer Confidence Report. Check out the National Source Water Collaborative, a coalition of 19 national organizations with a shared recognition of the importance of protecting drinking water sources.

The EPA Source Water Protection Web site can be found at: water.epa.gov/infrastructure/drinkingwater/sourcewater/protection/index.cfm

2012



Water Quality Analysis

The following tables contain all of the chemical and microbiological constituents which have been found in your drinking water for the calendar year 2012.

The U.S. Environmental Protection Agency requires water systems to test up to 97 regulated constituents annually. Only nineteen (19) regulated constituents were detected in your water during 2012 and prior.

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 activities.

Contaminants that may be present in source waters include; microbial contaminants, inorganic contaminants, pesticides & herbicides, organic chemical contaminants and radioactive contaminants.

In order to ensure that tap water is safe to drink, the USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems, like the City of Wichita Falls.

Regulated Compounds

These compounds either occur naturally within the watersheds or are products of human activities.

Turbidity is a measure of the "cloudiness" of the water due to suspended material. The City of Wichita Falls monitors it because it is a good indicator of the effectiveness of our filtration systems. For the year 2012, 100% of the >4300 turbidity samples that were taken for regulatory compliance fell below the Treatment Technique of 0.3 NTU.

Also, you will notice that some of our data, though representative, are more than one year old. The State of Texas allows the City of Wichita Falls to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Constituent	Wichita Falls Water Results		EPA Regulations		Analysis Year
	Reportable Value	Range of Detection	Maximum Contaminant Level	Maximum Contaminant Level Goal	
Antimony; ppb Petroleum Refineries, Electronics, Solder	0.22	ND - 0.22	6	6	2011
Arsenic; ppb Natural Geology	1.6	0.3-1.6	10	N/A	2011
Barium; ppm Natural Geology; Drilling Waste	0.025	0.020 - 0.025	2	2	2011
Chromium; ppb Natural Geology, Steel & Pulp Mills	1.33	1.29 - 1.33	100	100	2011
Fluoride; ppm Water Additive; Natural Geology	0.85	0.68 - 0.85	4	4	2012
Nitrate; ppm Fertilizer Runoff; Septic Tanks; Animal Waste	0.14	0.09 - 0.14	10	10	2012
Nitrite; ppm Fertilizer Runoff; Septic Tanks; Animal Waste	0.06	0.06 - 0.06	1	1	2005
Selenium; ppb Natural Geology; Petroleum Refineries	3.0	<0.5 - 3.0	50	50	2011
Thallium; ppb Ore Processing, Electronics, Glass Factories	0.06	ND - 0.06	2	0.5	2011
Total Organic Carbon; ppm Naturally Present in the Environment	7.04	<1.0 - 7.04	TT	N/A	2012
Turbidity; NTU Soil Runoff	0.28	0.03 - 0.28	TT = 0.3	N/A	2012
Gross Beta Emitters; pCi/L Decay of Natural & Man-Made Deposits	10.2	5.5- 10.2	50	0	2011

Regulated Disinfectants

The City of Wichita Falls utilizes Chloramines (Total Chlorine) and Chlorine Dioxide to inactivate disease causing viruses and bacteria in your drinking water. Disinfectants are monitored to ensure that they adequately applied to the drinking water.

Constituent	Wichita Falls Water Results		EPA Regulations		Analysis Year
	Reportable Value	Range of Detection	MRDL	MRDLG	
Chlorine Dioxide; ppm Disinfectant	0.67	<0.01 - 0.67	0.80	0	2012
Chlorine (Total); ppm Disinfectant (MRDL for running annual avg.)	4.16	2.92 - 4.16	4.0	<4.0	2012

Definitions

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): 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.

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

Maximum Residual Disinfectant Level Goal (MRDLG): 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 contamination.

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

Action Level: The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow.



Units of Measure

Nephelometric Turbidity Unit (NTU): A measure of water's clarity. Turbidity in excess of 5 NTU is just noticeable to the average person.

Parts per Million (ppm): A measure of the concentration of a substance roughly equivalent to one packet of sugar in 250 gallons of Iced Tea.

Parts per Billion (ppb): A measure of the concentration of a substance roughly equivalent to one packet of sugar in an Olympic-size swimming pool.

PicoCuries per Liter (pCi/L): A measure of the radioactivity of the water.



Regulated within the Distribution System

There were 3 regulated Disinfection By-products that were detected in your drinking water in 2012.

Disinfectants are very active compounds that not only inactivate disease causing organisms, but also react with other naturally occurring compounds in the source waters to produce new compounds referred to as Disinfection By-Products, or DBP's.

The City of Wichita Falls takes great care in keeping the concentrations of these by-products below their regulated limits.

Constituent	Wichita Falls Water Results		EPA Regulations		Analysis Year
	Reportable Value	Range of Detection	Maximum Contaminant Level	Maximum Contaminant Level Goal	
Total Trihalomethane; ppb By-Product of Chlorination	44.8	6.4 - 44.8	80	0	2012
Haloacetic Acid 5; ppb By-Product of Chlorination	22.3	5.6 - 22.3	60	0	2012
Chlorite; ppm By-Product of Chlorine Dioxide	0.79	<0.10 - 0.79	1.0	0	2012

Lead and Copper

Lead and Copper are regulated at the consumers tap under the Lead and Copper Rule of 1991. This monitoring is conducted every 3 years, and the City has completed 6 cycles of monitoring.

The City of Wichita Falls has an effective program of corrosion control to keep these two metals from being leached out of your household plumbing.

Constituent	Wichita Falls Water Results		EPA Regulations		Analysis Year
	90th Percentile	Number of Sites exceeding the Action Level	Action Level	Maximum Contaminant Level Goal	
Lead; ppb Corrosion of Household Plumbing	2.2	0	15.0	0	2012
Copper; ppm Corrosion of Household Plumbing	0.095	0	1.3	1.3	2012

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>.

Unregulated Substances

Unregulated contaminant monitoring helps the USEPA to determine where certain contaminants occur and whether it needs to regulate those contaminants in the future.

The USEPA and TCEQ monitor an additional 49 substances that are not regulated, and therefore do not have established MCL's or MCLG's.

There were 11 substances, which are by-products of disinfection, that were detected in your drinking water during 2012.

Constituent	Wichita Falls Water Results		EPA Regulations		Analysis Year
	Reportable Value	Range of Detection	Maximum Contaminant Level	Maximum Contaminant Level Goal	
Chloroform; ppb Disinfection By-Product	5.6	2.0 - 5.6	Not Regulated	0	2012
Bromodichloromethane; ppb Disinfection By-Product	8.7	2.3 - 8.7	Not Regulated	0	2012
Dibromochloromethane; ppb Disinfection By-Product	12.0	2.1 - 12.0	Not Regulated	60	2012
Bromoform; ppb Disinfection By-Product	19.0	<1.0 - 19.0	Not Regulated	0	2012
Dichloroacetic Acid; ppb Disinfection By-Product	8.9	4.3 - 8.9	Not Regulated	0	2012
Trichloroacetic Acid; ppb Disinfection By-Product	1.9	<1.0 - 1.9	Not Regulated	300	2012
Dibromoacetic Acid; ppb Disinfection By-Product	7.5	<1.0 - 7.5	Not Regulated	0	2012
Bromochloroacetic Acid; ppb Disinfection By-Product	9.0	3.9 - 9.0	Not Regulated	0	2012
Monochloroacetic Acid; ppb Chem. Syn. By-Product, Reducing Bacteria	3.3	<2.0 - 3.3	Not Regulated	0	2012
Monobromoacetic Acid; ppb Chem. Syn. By-Product, Reducing Bacteria	7.2	<1.0 - 7.2	Not Regulated	0	2012
Acetone; ppb Chem. Syn. By-Product, Reducing Bacteria	6.3	5.1 - 6.3	Not Regulated	0	2012



All Drinking Water May Contain Contaminants

When drinking water meets federal standards, there may not be any health based benefits to purchasing bottled water or point of use 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.



The KIDS H₂O ZONE

The Water Cycle

In this years Drinking Water Quality Report, we are going to discuss the water cycle, the different forms water takes and how it moves.

EVAPORATION:

Evaporation is when the sun heats up water in rivers, lakes and the ocean and turns it into water vapor or steam. The water vapor or steam then leaves the water body and rises into the air.

CONDENSATION:

Condensation is when the water vapor in the air gets cold and changes back into liquid, forming clouds.

PRECIPITATION:

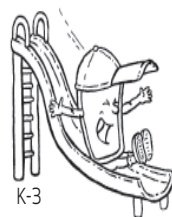
Precipitation occurs when so much water has condensed that the air cannot hold it anymore. The clouds get heavy and water falls back to the earth in the form of rain, hail, sleet or snow.

COLLECTION:

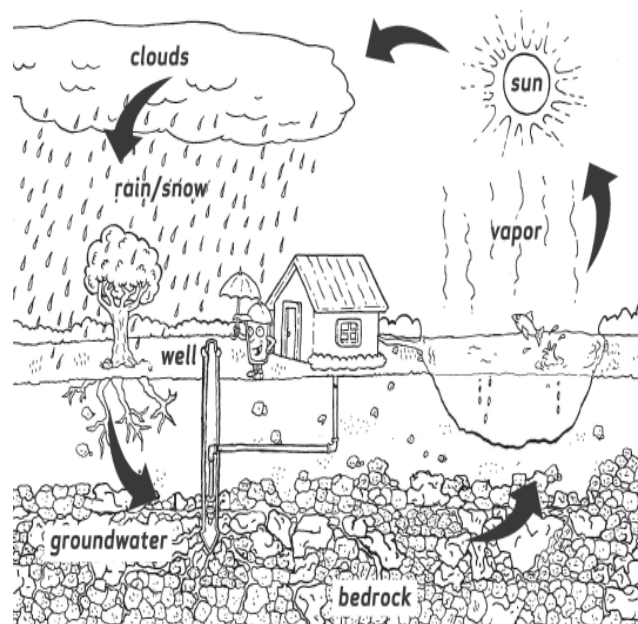
When water falls back to earth as precipitation, it may fall back in the oceans, lakes or rivers, or it may end up on land. When it ends up on land, it will either soak into the earth and become part of the ground water that plants and animals use to drink or it may run over the soil and collect in the oceans, lakes or rivers.

The cycle repeats itself over and over, water may move from one area to another, but the cycle never stops.

Can you spot all of the parts of the water cycle in the picture?



Thirstin's Water Cycle Adventure



Office of Water (4606M) • EPA 816-F-04-018 • 06/2004 • www.epa.gov/safewater

WATER TRIVIA: Did you know?

Water is the only substance found on earth naturally in three forms: solid, liquid and gas.



If you want to Learn More:

Check out the EPA website. It has lots of fun activities for kids and links to other sites regarding water.

<http://www.epa.gov/safewater/kids/index.html>





Augmenting our Water Supplies

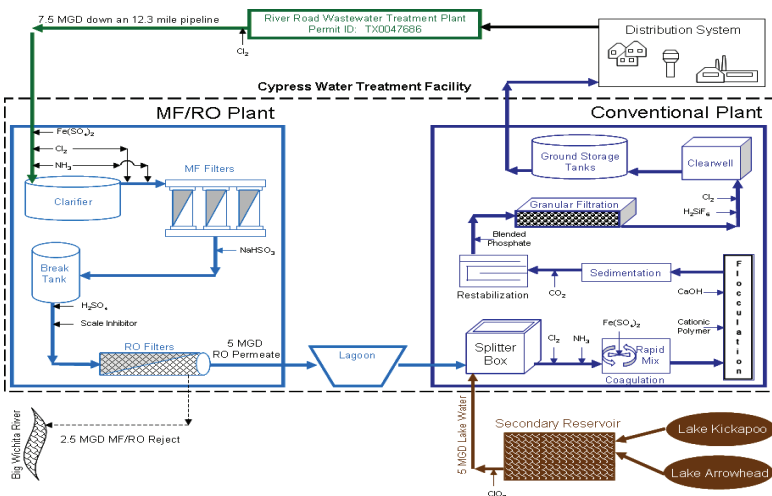
The City of Wichita Falls is in the process of developing two projects that would utilize the highly treated, effluent water from the River Road Wastewater Treatment Plant. Currently, that very pure water is discharged into the Big Wichita River, where it flows down stream for other municipalities to use as a portion of their drinking water supply. The City of Wichita Falls wants to hold on to that resource and keep it available for the citizens of Wichita Falls to utilize.

Emergency Direct Potable Reuse Project

The City of Wichita Falls has put together a proposal for the Texas Commission on Environmental Quality to review and approve that would allow the City to utilize this effluent as a source water for further purification.

The Wastewater Treatment Plant treats the water to a level that meets 97% of all the drinking water standards. That high quality water would be transferred down a pipeline to the Cypress Water Treatment Plant, where it would be purified with the latest in technology, the City's Microfiltration/Reverse Osmosis Plant. This facility will bring the water to a standard that is higher than the current drinking water standards. At that point, the water will be blended with water from Lakes Arrowhead/Kickapoo and treated a third time through the newly constructed Purification Plant at Cypress.

Taking advantage of this previously wasted resource will offset 50% of the water that would normally be withdrawn from the source lakes, thereby helping extend their usefulness until we can come out of this drought.



Permanent Indirect Potable Reuse Project

The City of Wichita Falls is also putting together a long-term, permanent project that would “bank” the high quality effluent, by discharging it into Lake Arrowhead. Doing this will help keep the water in the region for us to use, rather than letting it flow downstream in the Big Wichita River for someone else to use. This project will take several years to permit with the Texas Commission on Environmental Quality and then construct, so it would not be able to help us through the current drought. However, it would be available within the next 4 to 5 years to help stave off the affects of any future droughts.

To learn more about what’s going on elsewhere with similar projects and other information, check out these resources:

Thirst Slide Presentation: <http://www.apolloideas.com/thirst>

It’s Perfectly Clear Video: <http://www.youtube.com/watch?v=vdtZz-wWIDo>

Downstream Video: <http://www.youtube.com/watch?v=GVM-d-zOxJs>



To learn more about your Water Treatment Process,
visit our website at:

<http://www.wichitafallstx.gov/index.aspx?NID=22>
or call us at 691-1153.

En Espanol

Esta reporte contiene informacion importante acerca de su agua potable. Procure que alguien le traduzca este reporte, o hable con alguien que lo entienda y se lo explique. Para obtener una copia de esta informacion en Espanol, por favor marque 761-7401.



Blue Skies. Golden Opportunities.

City of Wichita Falls

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