

DRINKING WATER QUALITY REPORT

2022 WICHITA FALLS, TEXAS



CCR WELCOME



Dear Citizens of Wichita Falls,

Water is critical to our community. We learned that during the drought 7 years ago and more recently in February 2021 when we watched systems all over Texas go into Boil Water Notices due to winter storm Uri. While below freezing temperatures gripped Texas for over a week, the City of Wichita Falls Utilities staff worked tirelessly throughout the cold, wet and dark to keep your water system from failing. In the end, they pulled Wichita Falls through another major weather event, and then aided other utilities in re-establishing their systems for their customers.

The Wichita Falls Utilities staff are highly trained, State Certified employees that oversee the production and distribution of your drinking water. It is their efforts on a daily basis that make it my pleasure to once again present you with a summary of your drinking waters quality in the form of the 2022 Drinking Water Quality Report. This Report covers all of the great things that happened with your drinking water and water resources during the calendar year 2021.

Our water resources were replenished with adequate rainfall in 2021 and showed minimal decline. The City's award winning

Indirect Potable Reuse (IPR) project continued to operate well and by the end of 2021 had recovered and discharged 6.5 Billion gallons of water back to Lake Arrowhead since it began operation in 2018. However, drought conditions always loom on the horizon. As we advance into 2022 the lake levels are declining, precipitation is has been slight and drought conditions are creeping out of the west towards our watersheds. Therefore, we encourage the citizens of Wichita Falls to be mindful of their water usage and continue to conserve as they have over the last 11 years.

Within this report, we are able to demonstrate that the state of the art treatment process that the City of Wichita Falls utilizes, continues to produce a high quality drinking water that exceeds the Primary and Secondary Drinking Water Standards established by the US Environmental Protection Agency and enforced by the Texas Commission on Environmental Quality. Every drop of the 5 Billion gallons of drinking water produced in 2021 was safe to drink.

Funding continues to be spent on improving the water mains that deliver your drinking water to you through the Distribution system. The money that is programmed into the Utility budgets to replace aging infrastructure is paying off in an overall reduction on main leaks. We have seen the number of main leaks decline from 927 in 2017 to only 401 in 2021. This reduction helps save water and keeps the cost of your water affordable in the long run.

As you can see, the City of Wichita Falls continues to be dedicated to providing a high quality water and services to its customers. This Drinking Water Quality Report is a tool that we use to keep you appraised of your drinking water system, so you can continue to make wise decisions in your water use and help support our efforts in protecting the public's health and adequately maintaining your critical infrastructure. Please take a few minutes of your time to read through its contents and keep up the good work in being good stewards of your precious water resources.

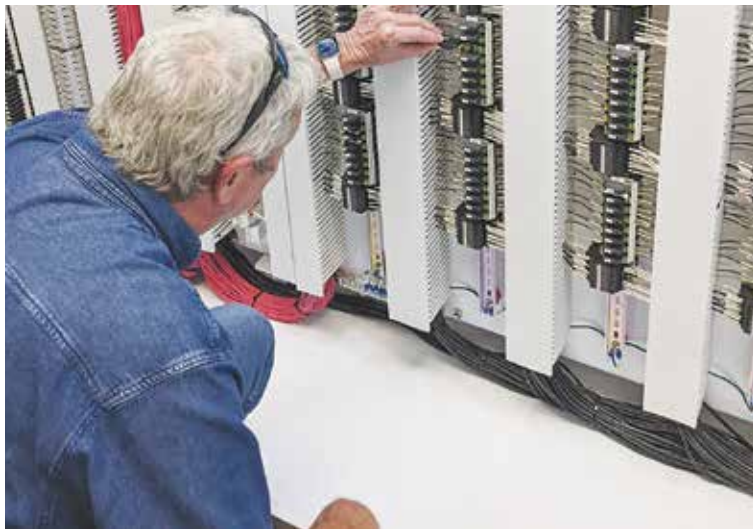
Sincerely,

Daniel K. Nix
Utilities Operations Manager
City of Wichita Falls

IPR UPDATE

Construction began on the indirect potable reuse (IPR) project in the fall of 2016. The treatment plant upgrades and pipeline were completed in January 2018. Plant upgrades at the newly renamed River Road Resource Recovery Facility include new supervisory control and data acquisition (SCADA) software, new treatment for nutrient removal, cloth filtration for final polishing and a pump station that has the ability to pump 16 million gallons of extremely high quality ef uent per day. Of course, this project is all a part of bolstering the water supply for the City of Wichita Falls and surrounding communities. Since 2018 over 6.5 billion gallons of high quality treated ef uent were pumped to Lake Arrowhead. That means just over 30% of the total raw water treated at the Cypress and Jasper Water Treatment Facilities was replaced in Lake Arrowhead using Indirect Potable Reuse from the River Road Resource Recovery Facility.

RESOURCE



The Resource Recovery division has 39 employees that perform various duties in operations, maintenance, and the laboratory at the Resource Recovery Treatment Facility. The treatment facility uses a process to remove contaminants from wastewater, utilizing biological matter and bacteria to break down waste matter and convert it into a high-quality effluent that can be returned to the water cycle. The treated effluent is further treated by filtration before being pumped to Lake Arrowhead for reuse in the Indirect Potable Reuse Project. Once returned to the water cycle, the effluent creates an acceptable impact on the environment or is reused for various purposes (called water reclamation).

Plant Operators ensure the effluent meets, or exceeds State and Federal Standards. This is accomplished by making process control adjustments based upon laboratory test results and visual observations. The plant is staffed 24 hours per day / 7 days a week.

Plant Mechanics are responsible for keeping the equipment operational throughout the wastewater collection system and the treatment process. This includes hundreds of pumps and motors and inspection and repair of 53 sewage pump lift stations throughout the City.



RECOVERY

What can be found in a FRESHWATER HABITAT?

p	l	a	n	t	l	i	f	e	s	k	c	o	r	a	z	m
x	r	p	m	a	r	s	h	b	i	r	d	s	f	l	x	o
c	i	s	e	i	l	i	l	r	e	t	t	a	w	l	x	l
a	v	n	p	x	b	g	e	e	s	e	l	m	a	i	e	l
t	e	a	v	l	z	x	c	a	i	r	s	z	t	g	e	u
t	r	k	r	p	a	b	u	g	s	e	u	f	e	a	r	s
a	d	e	l	h	j	n	x	l	k	p	n	y	r	t	t	k
i	o	s	t	i	k	i	k	a	s	r	e	t	t	o	w	s
l	l	w	u	q	o	m	n	t	x	r	c	v	b	r	o	x
s	p	f	r	o	g	s	k	s	o	w	e	u	i	s	l	s
q	h	q	t	d	u	c	k	s	e	n	r	v	t	b	l	m
w	i	x	l	z	q	i	n	s	e	c	t	s	a	n	i	r
e	n	s	e	b	o	r	c	i	m	x	t	z	r	e	w	o
r	f	i	s	h	e	e	r	t	n	e	p	s	q	z	b	w
d	i	v	i	n	g	b	e	l	l	s	p	i	d	e	r	x

plankton • plant life • rocks • snakes • soil • aspen tree • insects • cattails • frogs • mollusks • willow tree
 • water lilies • otters • beavers • microbes • diving bell spider • worms • algae • water marsh birds • river
 dolphin • fish • ducks • geese • sun • air • bugs

WOW! DID YOU KNOW?

The largest freshwater habitat in the world is the Everglades, a 1.5 million acre wetlands in southern Florida. The Amazon River in South America begins in the Andes Mountains and goes 4,000 miles to the Atlantic Ocean; it flows through six countries, including Peru and Ecuador.

Fish living in freshwater habitats have plenty of company. Snails, worms, turtles, frogs, marsh birds, mollusks, alligators, beavers, otters, snakes, and many types of insects live there too. Some unusual animals, like the river dolphin and the diving bell spider, are freshwater creatures. Plants such as algae, cattails, water lilies, and aspen and willow trees help keep the water clean by using their root systems to filter pollution and excess nutrients from the water.

So whether you're a hungry turtle, a pollutant-sucking plant, or a thirsty human who also likes to play in the water, freshwater habitats are vital ecosystems for our planet!

- National Geographic Kids

SOURCES

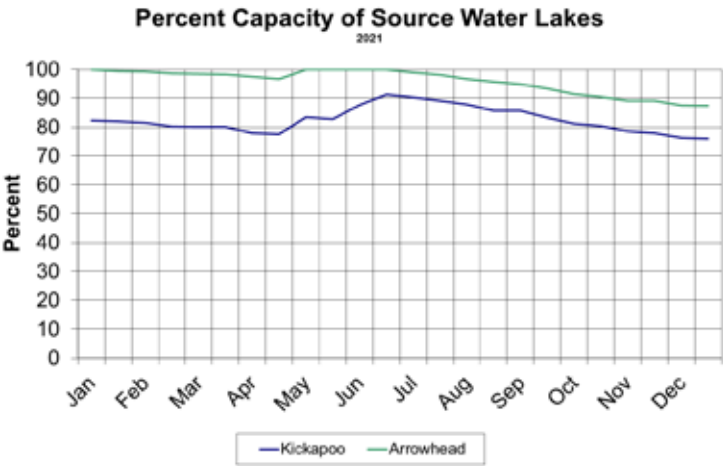
The City of Wichita Falls has previously only utilized two of its surface water reservoirs; Lake Arrowhead and Lake Kickapoo. While these two lakes have provided the citizens of Wichita Falls with a reliable source of drinking water for the last 60 years, the addition of Lake Kemp became possible in 2008 with new, advanced treatment technologies. In 2018, the addition of the indirect potable reuse project further bolstered the City's supply for years to come.

SOURCE WATER SUSCEPTIBILITY ASSESSMENTS

A Source Water Susceptibility Assessment for lakes Arrowhead, Kickapoo & Kemp 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 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://dww2.tceq.texas.gov/DWW/>. 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.

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 2021. If you would like to know the current lake levels at any time during the year, the city posts the current lake levels on its web site at www.wichitafallstx.gov/986/Lake-Levels.



NOTE: This graphic only includes data for calendar year 2021, and does not include the most recent increases from rainfall.

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.

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. (NOTE: The table below 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.)

The EPA Source Water Protection Web site can be found at: www.epa.gov/sourcewaterprotection

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	2021
Cryptosporidium; oocysts Not naturally present in the environment	0	0 - 0	Not Regulated	0	2021

2021 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 2021. The U.S. Environmental Protection Agency requires water systems to test up to 97 regulated constituents annually. Only sixteen (16) regulated constituents were detected in your water during 2021 and prior.

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.

DEFINITIONS

- Maximum Contaminant Level (MCL): 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.
- 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 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. MRDLGs 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.

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 2021, 96% 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	
Barium; ppm Natural Geology; Drilling Waste	0.042	0.036 - 0.042	2	2	2021
Cyanide; ppb Steel Plants, Wastewater Facilities	100	31.2 - 100	200	200	2021
Fluoride; ppm Water Additive; Natural Geology	0.7	0.674 - 0.729	4	4	2021
Nitrate; ppm Fertilizer Runoff; Septic Tanks; Animal Waste	0.0962	0.0741 - 0.0962	10	10	2021
Nitrite; ppm Fertilizer Runoff; Septic Tanks; Animal Waste	0.07	<0.0008 - 0.065	1	1	2015
Total Organic Carbon; ppm Naturally Present in the Environment	8.02	<0.10 - 8.02	TT	N/A	2021
Turbidity; NTU - Highest Single Measurement		0.95	TT = 1 NTU	N/A	2021
Turbidity; NTU - Lowest Monthly % Meeting Limit		96%	TT = 0.3 NTU	N/A	2021
Combined Radium 226/228; pCi/L Decay of Natural & Man-Made Deposits	1	1 - 1	5	0	2011
Gross Beta Emitters; pCi/L Decay of Natural & Man-Made Deposits	9.5	9.5 - 9.5	50	0	2021

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 are 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	0.38	<0.10 - 0.38	0.8	0	2021
Chlorine (Total); ppm Disinfectant (MRDL for running annual average)	3.8	3.1 - 3.8	4	<4.0	2021

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Wichita Falls Water Loss

According to the Texas Water Development Board, "the Total Water Loss Control Program considers water loss from an environmental stewardship perspective, reviews public utility revenue loss, and promotes the protection of public health by eliminating the threat of sanitary defects associated with leaking or broken pipes."

In the water loss audit submitted to the Texas Water Development Board for the time period of Jan-Dec 2021, the City of Wichita Falls lost an estimated 6.5% of water treated. The goal of maintaining water loss less than 15% was far exceeded.

Puzzle Answers

p	l	a	n	t	l	i	f	e	s	k	e	r	a	z	m
x	r	p	m	a	r	s	h	b	i	r	d	s	f	x	o
d	i	s	e	i	l	i	r	e	t	t	a	w	x		
a	v	n	p	x	b	g	e	e	s	e	l	m	a	e	
t	e	a	v	l	z	x	c	a	i	r	s	z	t	g	e
t	r	k	r	p	a	b	u	s	e	u	f	e	a	r	s
a	d	e	h	j	n	x	k	p	n	y	r	t	t	k	
i	o	s	t	k	i	k	a	s	r	e	t	t	e	w	s
l	w	u	q	o	m	n	t	x	r	c	v	b	r	o	x
s	p	f	r	e	g	k	s	o	w	e	u	i	s	i	s
q	h	q	t	d	u	e	k	s	e	n	r	v	t	b	l
w	i	x	z	q	i	n	s	e	c	t	s	a	n	i	r
e	n	e	b	o	r	e	i	m	x	t	z	r	e	w	o
r	f	i	s	h	e	e	r	t	n	e	p	s	q	z	b
d	i	v	i	n	g	b	e	l	e	p	i	d	e	r	x





Blue Skies. Golden Opportunities.

City of Wichita Falls

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