City of Watauga 2016 Drinking Water Quality Report
Public Works Department (817) 514-5843

The City of Watauga is dedicated to providing safe and reliable drinking water to its customers. This report is a summary of the quality of the water the City of Watauga provides our customers. The analysis was made by using the data from the most recent U.S. Environmental Protection Agency (EPA) required tests and is presented in the following information. We hope this information helps you become more knowledgeable about what's in your drinking water.

Special Notice for the ELDERLY, INFANTS, CANCER PATIENTS, People with HIV/AIDS or Other Immune Problems:

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800) 426-4791.

City of Watauga Drinking Water Quality

The City of Watauga drinking water is regulated by the Texas Commission on Environmental Quality (TCEQ). The City did not list any water quality violations on the 2016 Water Quality Report because there were none. The City of Watauga has a Superior Water System rating as designated by TCEQ since 1999. Inspections on the water system are made by TCEQ. Water quality is monitored by the City's Utility Division on a monthly basis. For more information, call (817) 514-5843.

En Español

Este reporte incluye informacion importante sobre la agua para tomar. Si tiene preguntas o discusiones sobre este reporte en español, favor de llamar al tel. (817) 514-5838 para hablar con una persona bilingue en español.

Public Participation Opportunity

Date:	**July 6, 2017**
Time:	**1:00 p.m. – 4:00 p.m.**
Location:	**Public Works Department**
Phone:	**(817) 514-5843**

Where do we get our drinking water?

Our drinking water is obtained from surface water resources. The sources of our drinking water come from Fort Worth. They include Lake Bridgeport, Eagle Mountain Lake, Lake Worth, Lake Benbrook, Cedar Creek Reservoir and Richland-Chambers Reservoir. TCEQ will be reviewing all of Texas' drinking water sources. It is important to protect your drinking water by protecting your water source.

About the following pages

The pages that follow list all of the federally regulated or monitored constituents, which have been found in your drinking water. U.S. EPA requires water systems to test up to 97 constituents.

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 called secondary constituents and are regulated by the State of Texas, not EPA. These constituents are not causes for health concerns. Therefore, secondary constituents are not required to be reported in this document, but they may greatly affect the appearance and taste of your water.

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 Environmental Protection Agency's Safe Drinking Water Hotline (800) 426-4791.

Water Sources

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. It can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water before treatment includes: microbes, inorganic contaminants, and organic chemical contaminants.

Definitions and Abbreviations Used in Tables

The following definitions should help in understanding the abbreviations used in the charts.

Action Level - The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL – **Maximum Contaminant Level** - 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.

MRDL - **Maximum Residual Disinfectant Level** - 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.

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

NTU – Nephelometric Turbidity Units are used to measure water turbidity or clarity.

PCi/L - Picocuries per liter is a measure of radioactivity in water.

ppb – Parts per billion; equivalent to micrograms per liter. (mg/L)

ppm – Parts per million; equivalent to milligrams per liter. (mg/L)

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

MCLG – Maximum Contaminant Level Goal - 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.

ND - None Detected.

TCEQ Assessed Source Water

The Texas Commission on Environmental Quality conducted a source water assessment of our water supply lakes. The Fort Worth water system was determined to be susceptible to some contaminants, using criteria developed by TCEQ in its federally approved source water assessment program.

The City of Fort Worth uses surface water from Lake Worth, Eagle Mountain Lake, Lake Bridgeport, Richland Chambers Reservoir, Cedar Creek Reservoir, Lake Benbrook and the Clear Fork Trinity River. The Texas Commission on Environmental Quality (TCEQ) completed an assessment of the Fort Worth's source waters. TCEQ classified the risk to our source waters as highly susceptible to some contaminants, which means there are activities near the source water or watershed that make it very likely chemical con-stituents may come into contact with the source water. It does not mean that there are any health risks present.

The Trinity River Authority (TRA) uses surface water from Lake Arlington. A Source Water Susceptibility Assessment for your drinking water source is currently being updated by the Texas Commission on Environmental Quality (TCEQ). This information describes the susceptibility and types of constituents that may come into contact with your drinking water source based on hu-man activities and natural conditions.

The assessment report consists of maps showing the assessment area, an inventory of known land use activities of concern and documentation of specific contaminants of concern. The report is available by contacting the Fort Worth Water Department office at 1000 Throckmorton Street in Fort Worth, Texas or the Trinity River Authority at 11201 Trinity Boulevard in Euless, Texas.

Further details about sources and source water assessments are available in Drinking Water Watch at: http://dww.tceq.state.tx.us/DWW/.

What's in the water?

The following charts list the contaminants that require monitoring or are regulated and were detected in Fort Worth and Watauga water. The data included is from calendar year 2016 unless otherwise indicated.

CITY OF WATAUGA 2016 DATA

Regulated at the Customer's Tap					
Contaminant	**90th percentile values**	**# of Sites exceeding Action Level**	**MCL**	**MCLG**	**Common Sources of Substance in Drinking Water**
Lead 5 (ppb)	0.000	0	Action Level=.015	N/A	Corrosion of household plumbing systems; erosion of natural deposits
Copper 5 (ppm)	0.49	0	Action Level=1.3	N/A	Corrosion of household plumbing systems; erosion of natural deposits

90th percentile value: 90% of the samples were at or below this value. EPA considers the 90th percentile value the same as an "average" value for other contaminants. Lead and copper are regulated by a treatment technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps. The test results shown above are from 2016. The next monitoring will occur in 2019.

Regulated in the Distribution System						
Contaminant	**Unit of Measure**	**Highest Allowed (MCL)**	**2016 Level**	**Range of Detections**	**Ideal Goal (MCLG)**	**Common Sources of Substance in Drinking Water**
Haloacetic Acids (HAA5)	ppb	60	15.2	5.5 to 15.2	N/A	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	ppb	80	14.7	6.0 to 14.7	N/A	By-product of drinking water disinfection
Total Coliforms	0% of positive samples	4% of monthly samples	Present in Less than 0% Of monthly Samples	0 to Less than 0%	0	Coliforms are naturally present in the environment as well as feces; fecal coliforms and E Coli only come from human and animal fecal waste
Nitrate	ppm	10	0.748	0.736 to 0.748	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

Maximum Residual Disinfection Level							
Year	**Constituent**	**Average Level**	**Range of Detection (low-high)**	**MRDL**	**MCLG**	**Units**	**Source**
2016	Chloramines	2.48	2.01 to 2.89	4	4	ppm	Disinfectant used to control microbes

Other explanations

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) maximum contaminant level (MCL) violation has occurred and/ or why total coliform bacteria were found on multiple occasions.

The City of Watauga did not have to perform a Level 1 or Level 2 assessment in the year 2016

"City of Watauga's Unregulated Contaminant Monitoring Rule (UCMR 3) Information"
Data gathering to determine if more regulation needed

Water utilities in the United States monitor for more than 100 contaminants and must meet 91 regulations for water safety and quality.

But should other contaminates be regulated? The 1996 Safe Drinking Water Act amendments require that once every five years EPA issue a new list of no more than 30 unregulated contaminants to be monitoring by public water systems. This monitoring provides a basis for future regulatory actions to protect public health.

The third Unregulated Contaminant Monitoring Rule includes assessment for 21 chemical contaminants, 7 hormones and two viruses. The virus testing did not impact the City of Watauga. This testing was limited to small groundwater systems that do not disinfect. UCMR benefits the environment and public health by providing EPA and other interested parties with scientifically valid data on the occurrence of these contaminants in drinking water.

Health information is necessary to know whether these contaminants pose a health risk. Public water systems will sample for these contaminants for four consecutive quarters from 2013 to 2015. City of Watauga's sampling occurred from February 2014 through November 2014.

UCMR 3					
Contaminant	**Unit of Measure**	**Range of Detections**	**2014 Level**	**MRL**	**Common Sources of Substances**
Vanadium	ppb	0.56 to 1.5	1.5	0.2	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
Molybdenum	ppb	1.6 to 1.9	1.9	1	Naturally-occurring element found in ores and present in plants, animals and bacterial; commonly used form molybdenum trioxide used as a chemical reagent
Strontium	ppb	264 to 314	314	0.3	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate class of cathode-ray tube televisions to block x-ray emissions
Chromium[1] Chromium-6	ppb ppb	<0.2 to 0.21 <0.03 - 0.0528	0.21 0.028	0.2	Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation.

Total Chromium, the sum of chromium in all its valence states, is already regulated in drinking water. As part of UCMR 3, EPA requires testing for Total Chromium in the same samples used to test for Chromium 6, which is on the UCMR 3 list. The value differs from what is listed in the other table because of different sampling periods. The MCL for EPA's current total chromium regulation was determined based upon the health effects of Chromium 6.

UCMR 3 contaminants not detected

Chemicals

1,2,3-trichloropropane

1,3-butadiene

chloromethane (methyl chloride)

1,1-dichloroethane

bromomethane

chlorodifluoromethane (HCFC-22)

Bromochloromethane (Halon 1011)

1,4-dioxane

cobalt

perfluorooctanesulfonic acid (PFOS)

perfluorohexanesulfonic acid (PFHxS)

perfluoroheptanoic acid (PFHpA)

perfluorobutanesulfonic acid (PFBS)

Hormones

17-β-estradiol

17-α-ethynylestradiol

estriol

equilin

estrone

perfluorooctanoic acid (PFOA)

perfluorononanoic acid (PFNA)

chlorate

testosterone

4-androstene-3,17-dione

2016 Water loss Data

The City of Watauga had an estimated water loss of 31,249,307 gallons (4.20) % of water purchased). This loss is contributed to leaks, breaks, theft and inaccuracy of meters.

Trinity River Authority of Texas Tarrant County Water Supply Project – Regulated Contaminants

Inorganic Contaminants								
Year or Range	**Contaminant**	**Collection Date**	**Highest Single Sample**	**Range of levels Detected**	**MCL**	**MCLG**	**Unit of Measure**	**Source of Contaminant**
2016	Barium	3/1/2016	0.039	0.039-0.039	2	2	ppm	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits
2016	Fluoride	3/1/2016	0.69	0.69-0.69	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2016	Nitrate	3/1/2016	0.45	0.45-0.45	10	10	ppm	Runoff from fertilizer use; leaking from septic tanks, sewage, erosion of natural deposits
Year or Range	**Contaminant**	**Highest Single Sample**	**Range of Levels Detected**		**MCL**	**MCLG**	**Unit of Measure**	**Source of Contaminant**
2016	Bromate	12	<5 – 12		10*	0	ppb	By-product of drinking water ozonation

*Compliance is based on Running Average of monthly averages for Bromate at the end of each quarter, which was less than the 5 ppb for each quarter in 2016.

Turbidity is a measure of the cloudiness of water. It is a good indicator of the effectiveness of the filtration system.

Year	Contaminant	Highest Single Measurement	% of Samples ≤ 0.3 NTU	Range of Levels Detected	Units of Measure	Source of Contaminant
2016	Turbidity	0.19	100	0.11-0.19	NTU	Soil runoff

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Contaminant	Measure	MCL	2016 Level	Range of Detects	MCLG	Common Sources of Substance in Drinking Water
Barium **1**	ppm	2	0.06	0.05 to 0.06	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beta particles & Photon emitters **2**	pCi/L	50	5.6	4 to 5.6	N/A	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photon and beta radiation
Fluoride	ppm	4	0.50	0.23 to 0.50	4	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (measured as Nitrogen)	ppm	10	0.66	0.26 to 0.66	10	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits
Nitrite[3] (measured as Nitrogen)	ppm	1	0.03	0.01 to 0.03	1	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits
Bromate	ppb	10	5.50	0 to 10.4	0	By-product of drinking water disinfection
Alpha Particles	pCi/L	15	2	2-2	N/A	Erosion of natural deposits of certain materials that are radioactive and may emit forms of radiation known alpha radiation.
Cyanide	ppb	200	80.3	0 - 80.3	200	Discharge from plastic fertilizer factories; discharge from steel and metal factories.
Arsenic	ppb	10	1.40	0 to 1.40	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production waste.
Turbidity **1**	NTU	TT	0.36 Highest single result 99.7% Lowest monthly % of samples ≤0.3 NTU	N/A	N/A	Soil runoff
Contaminants	**High**	**Low**	**Average**	**MCL**	**MCLG**	**Common Sources of Substance in Drinking Water**
Total Organic Carbon	1	1	1	TT=% removal	N/A	Naturally occurring

Total Organic Carbon is used to determine disinfection by-product precursors. Fort Worth was in compliance with all monitoring and treatment technique requirements for disinfection by-product precursors.

Unregulated Contaminants

Contaminant	Unit	Range of Detections	2016 Level	MCL	MCLG	Common Sources of Substance in Drinking Water
Chloral Hydrate	ppb	0.53 to 0.93	0.93	Not Regulated	None	By-product of drinking water disinfection
Bromoform	ppb	1.02 to 1.61	1.61	Not Regulated	None	By-product of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
Bromodichloromethane	ppb	2.33 to 20	20	Not Regulated	None	
Chloroform	ppb	2.11 to 24.2	24.2	Not Regulated	70	
Dibromochloromethane	ppb	1.84 to 9.44	9.44	Not Regulated	60	
Dichloroacetic Acid	ppb	5.5 to 21.7	21.7	Not Regulated	None	By-product of drinking water disinfection; not regulated individually; included in Haloacetic acids
Trichloroacetic Acid	ppb	1.0 to 6.2	6.2	Not Regulated	20	
Monobromoacetic Acid	ppb	0 to 2.2	2.2	Not Regulated	None	
Dibromoacetic Acid	ppb	0 to 5.1	5.1	Not Regulated	None	

Microorganism testing shows low detections in raw water

Tarrant Regional Water District monitors the raw water at all intake sites for Cryptosporidium, Giardia Lamblia and viruses. The source is human and animal fecal waste in the watershed. The 2016 sampling showed low level detections of Cryptosporidium, Giardia Lamblia and viruses that are common in surface water. The table below indicates when detections were found in each raw water source.

Cryptosporidium and Giardia Lamblia monitoring is done monthly. Virus monitoring is performed four times a year in January, March, July and September. Viruses are treated through disinfection processes. Cryptosporidium and Giardia Lamblia are removed through a combination of disinfection and / or filtration.

Intake Location	Cryptosporidium	Giardia Lamblia	Adenovirus	Enterovirsus	Astrovirus	Rotavirus
Richland Chambers Reservoir	**Not detected**	**Not detected**	**Not detected**	**Not detected**	**Not detected**	**Not detected**
Cedar Creek Lake	**Not detected**	**Not detected**	**Not detected**	**Not detected**	**Not detected**	**Not detected**
Lake Benbrook	**Not detected**	**August**	**January**	**Not detected**	**Not detected**	**Not detected**
Eagle Mountain Lake	**Not detected**	**Not detected**	**Not detected**	**Not detected**	**Not detected**	**Not detected**
Lake Worth	**Not detected**	**June**	**January, September**	**Not detected**	**Not detected**	**Not detected**
Clearfork of Trinity River	**June, August**	**May, June, August, September, November**	**January, March**	**Not detected**	**Not detected**	**Not detected**

TCEQ accesses raw water supplies for susceptibility

Fort Worth uses surface water from Lake Worth, Eagle Mountain Lake, Lake Bridgeport, Richland Chambers Reservoir, Cedar Creek Reservoir, Lake Benbrook and the Clear Fork Trinity River.

Fort Worth owns Lake Worth. The U.S. Army Corps of Engineers is responsible for Benbrook Lake. The other four lakes are owned and operated by Tarrant Regional Water District.
The Texas Commission on Environmental Quality completed an assessment of Fort Worth's source waters. TCEQ classified the risk to our source waters as high for most contaminants.

High susceptibility means there are activities near the source water a or watershed make it very likely that chemical constituents may come into contact with the source water. It does not mean that there are any health risks present.
Tarrant Regional Water District, from which Fort Worth purchases its water, received the assessment reports.

For more information on source water assessments and protection efforts at our system, contact Stacy Walters at 817-392-8203.
Further details about the source-water assessments are available at *dww2.tceq.texas.gov/DWW/JSP/SWAP.jsp?tinwsys_is_number=5802&tinwsys_st_code=TX&wsnumber=TX2200012%20%20%20&DWWState=TX.*