



JOHNSON CITY
TENNESSEE

2021 WATER QUALITY REPORT

WHAT IS THE QUALITY OF MY WATER?

The Johnson City Water and Sewer Services Department is pleased to share this water quality report with you. It describes to you, our customer, the quality of your drinking water. This report covers January through December 2021. Johnson City's drinking water surpassed the strict regulations of both the State of Tennessee and the U.S. Environmental Protection Agency, which requires all water suppliers to provide reports like this every year to each customer.

WHAT IS THE SOURCE OF MY WATER?

The City of Johnson City relies on water from the Watauga River and Unicoi Springs. The Watauga and Unicoi plants treat water using filtration and disinfection to remove or reduce harmful contaminants in the source water. The Tennessee Department of Environment and Conservation has a Source Water Assessment available for review at: <https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/source-water-assessment.html>. The Source Water Assessment determined that the Watauga River is highly susceptible, while the Unicoi Springs are moderately susceptible. The City of Johnson City operates both water and sewer infrastructure inside the corporate limits of Johnson City and in portions of four counties outside the city limits. Each year, the Water and Sewer Services Department treats over 5.3 billion gallons of potable water and processes over 6.5 billion gallons of wastewater.

OUR FACILITIES INCLUDE:

2 drinking water treatment plants; 3 wastewater treatment plants; 105 water storage reservoirs, booster stations and pressure reducing valves; 100 wastewater lift stations; 1041 miles of water lines; and 780 miles of wastewater collection lines.

CROSS CONNECTION:

The Johnson City Water and Sewer Services Department routinely conducts inspections for cross connections between a customer's service and the public water supply to protect water quality. A cross connection is a direct arrangement of plumbing that allows the potable water supply to be connected to a line that contains a contaminant or non-potable water. Examples of cross connections are direct connections of customers' plumbing with lawn irrigation systems, fire protection systems, pools, saunas, hot tubs, decorative fountains, auxiliary intakes (i.e. wells, cisterns, ponds, etc.) or home water treatment systems. Installation of backflow preventers will separate these types of installments from drinking water supply lines. Submerged water hoses can also create a cross connection. Never submerge or connect a water hose with any substance that you wouldn't want drawn back into your plumbing in the event of pressure drop within the City's water supply lines. If you have any questions regarding cross connections, please contact the department at 423-975-2602.

WHERE CAN I GET MORE INFORMATION?

For more information about your drinking water and for opportunities to get more involved, please call Chief Water Plant Operator Michael Tolbert at 423-975-2646 or 423-975-2648; or write to: Johnson City Water & Sewer Services, P.O. Box 2466, Johnson City, TN 37605. You are welcomed and encouraged to attend City Commission meetings on the first and third Thursdays of each month at 6 p.m. in the Commission Chambers of the Municipal and Safety Building, 601 E. Main St. These meetings are also televised on Charter Communications Channel 192 and Comcast Cable Channel 17 and available via live stream at <http://www.johnsoncitytn.org/streaming/>.

WHY ARE THERE CONTAMINANTS IN MY 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's Safe Drinking Water Hotline [1-800-426-4791].

Generally, sources of drinking water (both tap water and bottled) include rivers, lakes, ponds, streams, natural springs and wells. As water travels over the surface of the land or under the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals and human activity.

Some people may be more vulnerable than the general population to contaminants in drinking water. Immunocompromised people such as those with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. EPA/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 [1-800-426-4791].

Contaminant	Unit	MCLG Health Goal	MCL EPA's Limits	Level Detected	Range Detected	Violation (Yes/No)	¹ Year Sampled	Potential Source of Contamination
Microbial Contaminants								
Total Coliform Bacteria	N/A	0	TT	0.00%	0	NO	2021	Naturally present in the environment
² Turbidity	NTU	N/A	TT	0.28	0.02-0.28	NO	2021	Soil runoff
³ Total Organic Carbon	ppm	N/A	TT	0.584	N/D-0.584	NO	2021	Naturally present in the environment
Inorganic Contaminants								
Copper	ppm	1.3	1.3 (action level)	0.177 (90th percentile)	0 of 52 samples above action level	NO	2020	Corrosion of household plumbing systems; erosion of natural deposits
Flouride	ppm	4	4	0.59 (average)	0.51-0.78	NO	2021	Erosion of natural deposits; water additive to promote strong teeth
Lead	ppb	0	15 (action level)	2.0 (90th percentile)	1 of 52 samples above action level	NO	2020	Corrosion of household plumbing systems; erosion of natural deposits
Byproduct of Drinking Water Chlorination/Disinfection								
Haloacetic Acids (HAA5)	ppb	N/A	60	20.93 (running annual average)	5.12-20.93	NO	2021	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHMs)	ppb	0	80	39.28 (running annual average)	9.41-39.28	NO	2021	Byproduct of drinking water disinfection
Unregulated Substances								
Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants								
Sodium	ppm	N/A	N/A	6.32 (average)	3.71-8.93	NO	2021	Naturally occurring
Disinfectant	Unit	MRDLG	MRDL	Level Detected	Range Detected	Violation (Yes/No)	¹ Year Sampled	Potential Source of Contamination
Chlorine	ppm	4	4	1.67 (running annual average)	0.90-2.50	NO	2021	Water additive used to control microbes

¹ The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not frequently change. Some of our data, though accurate, is more than one year old.

² Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of our filtration system. The EPA has two requirements: (1) That the maximum level found must be less than 5.0 NTU; (2) That the level must be under 0.3 NTU 95% of the time. 100% of our monthly samples were below the turbidity limit for 2021.

³ We met the treatment technique requirements for Total Organic Carbon in 2021.

DEFINITIONS:

90th Percentile: 90% of the samples are equal to or less than the number on the chart.

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

MCL or 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 technology.

MCLG or 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.

MRDLG or Maximum Residual Disinfectant Level Goal: 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.

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

NTU or Nephelometric Turbidity: A measure of clarity.

N/A: Not Applicable

ppb or parts per billion: Micrograms per liter (ug/l). One part per billion corresponds to one minute in 2,000 years, or a

single penny in \$10,000,000.

ppm or parts per million: Milligrams per liter (mg/l). One part per million corresponds to one minute in 2 years, or a single penny in \$10,000.

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

CONTAMINANTS THAT MAY BE PRESENT INCLUDE:

Microbial contaminants such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife

Inorganic contaminants such as salts and metals, can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming

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

Organic chemical contaminants including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic stations

Pesticides and herbicides may come from a variety of sources such as agricultural, urban stormwater runoff, and residential uses

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The City of Johnson City failed to sample for synthetic organic chemicals (SOC's) during the growing season period from April 01-June 30, 2021. The required SOC samples were collected in October 2021 and found to be non-detect for all parameters. The City of Johnson City also collected the required SOC samples in April 2022 and found to be non-detect for all parameters.

LEAD IN DRINKING WATER:

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. The City of Johnson City is responsible for providing high quality drinking water, but cannot control the materials used in plumbing components. If water has been sitting for several hours, 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. For more information on testing methods and steps you can take to minimize exposure, call 1-800-426-4791 or visit <http://www.epa.gov/safewater/lead>.

WATER SYSTEM SECURITY:

We realize that our customers are concerned about the security of their drinking water. We urge the public to report any suspicious activities at any utility facility, including treatment plants, pumping stations, tanks, fire hydrants, etc. to 423-461-1643 or 423-975-2648.



Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

