



Sevier County Water Authority Water Quality Report 2022

This report is designed to inform you of the water quality that the Sevier County Water Department delivers to you and your neighbors. We would like you to understand the efforts that we make to supply you and your family with safe and dependable drinking water.

Our water is safe. Numerous water quality tests performed in the distribution system in 2022 revealed that the water meets and exceeds all State and Federal drinking water quality standards and that all drinking water constituents that were tested were at safe levels. The tables in this report show summaries of the test results. This year, the Sevier County Water Department purchased water from Newport Utilities, the City of Gatlinburg, the City of Pigeon Forge, and the Sevierville Water Department. If you live in east Sevier County along **Jones Cove, Pearl Valley, Dixon Branch, Cedar Bluff, or Nun's Cove**, your water comes from Newport Utilities. If you live along **Bird's Creek**, your water comes from the City of Gatlinburg. If you live along **Sugarloaf, Goose Gap, Sharp Hollow, or Wears Valley**, your water comes from the City of Pigeon Forge. If you live near **Boyd's Creek, Allensville, Lane Hollow, Jayell, Flat Creek, Sims, or Thomas Cross**, your water comes from the Sevierville Water Department.

Our Water Sources

Our water is surface water drawn from the French Broad River, West Prong of the Little Pigeon River, and Douglas Lake. Our goal is to protect our water from contaminants, and we are working with the State to determine the vulnerability of our water sources to potential contamination. The Tennessee Department of Environment and Conservation (TDEC) has prepared a Source Water Assessment Program (SWAP) Report for the untreated water sources serving this water system. The SWAP Report assesses the susceptibility of untreated water sources to potential contamination. To ensure safe drinking water, all public water systems treat and routinely test their water. Water sources have been rated as *reasonably susceptible, moderately susceptible, or slightly susceptible* based on geologic factors and human activities in the vicinity of the water source. The French Broad River is rated reasonably susceptible and Douglas Lake and West Prong of the Little Pigeon River are rated moderately susceptible to potential contamination.

For an explanation of Tennessee's SWAP, the Source Water Assessment summaries susceptibility scorings, and the overall TDEC report to EPA go to <https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/source-water-assessment.html>

Information about Source 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. Types of contaminants that may be present in source water include the following:

- 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 may result from urban stormwater 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 stormwater 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 stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or can be the result of oil and gas production and mining activities.

Information about 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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (1-800-426-4791).

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

Regulations

The Tennessee State government and EPA require all water suppliers to sample, test, and report on water on a regular basis to ensure your safety. We have met all State and Federal requirements. Results of unregulated contaminants analysis are available upon request.

In order to ensure that tap water is safe to drink, EPA and TDEC prescribe regulations which limit the concentration of certain contaminants in water provided by public water systems. Our water suppliers' treatment processes are designed to reduce any such substances to levels well below any health concern. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

You Can Participate

The Sevier County Water Committee often meets on the first Thursday of the first full week each month at 3:00 p.m. at the Sevier County Courthouse, 125 Court Avenue, Room 100E. The meeting schedule is posted on the website. www.seviercountyttn.org. Please feel free to attend these public meetings.

Vulnerability to Contaminants

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 not only their drinking water, but food preparation, personal hygiene, and precautions in handling infants and pets from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and

other microbiological contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Lead

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. Sevier County Water Department 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

For more information about your drinking water or about Water Committee meetings, please call Brent Shults, Sevier County Water Interim Superintendent, at (865) 774-3852 or visit the website: <http://www.seviercountyttn.org/water-department.html>

Think before you flush!

Flushing unused or expired medicines can be harmful to your drinking water. Properly disposing of unused or expired medication helps protect you and the environment. Keep medications out of Tennessee's waterways by disposing in one of our permanent pharmaceutical take back bins. There are nearly 100 take back bins located across the state, to find a convenient location please visit: <http://tdeconline.tn.gov/rxtakeback/>

Water Quality Data

What do the charts mean?

- **MCLG** - Maximum Contaminant Level Goal, or 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.
- **MCL** - Maximum Contaminant Level, or 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. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.
- **MRDL**: Maximum Residual Disinfectant Level or MRDL: 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.
- **MRDLG**: 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.
- **AL** - Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- **Below Detection Level (BDL)** - laboratory analysis indicates that the contaminant is not present at a level that can be detected.
- **Non-Detects (ND)** - laboratory analysis indicates that the contaminant is not present.
- **Parts per million (ppm) or Milligrams per liter (mg/l)** – explained as a relation to time and money as one part per million corresponds to one minute in two years or a single penny in \$10,000.
- **Parts per billion (ppb) or Micrograms per liter** - explained as a relation to time and money as one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- **Picocuries per liter (pCi/L)** - picocuries per liter is a measure of the radioactivity in water.
- **Millirems per year (mrem/yr)** - measure of radiation absorbed by the body.
- **Million Fibers per Liter (MFL)** - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.
- **Nephelometric Turbidity Unit (NTU)** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **RTCR** – Revised Total Coliform Rule. This rule went into effect on April 1, 2016, and replaces the MCL for total coliform with a Treatment Technique Trigger for a system assessment.
- **TT** - Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water.

Most Recent Water Quality Information

Sevier County Water Department (All Water Customers)

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (RTCR)	No	0	0	2022	CFU/mL	0	1 Positive Sample	Naturally present in the environment
TTHM [Total trihalomethanes]	No	58.3 avg.	38-99	2022	ppb	N/A	80	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	No	30.6 avg.	18-38	2022	ppb	N/A	60	By-product of drinking water disinfection.
Chlorine	No	1.17 avg.	0.33-2.56	2022	ppm	4	4	Water additive used to control microbes.
Lead	No	90 th % = 2.95 Avg = 2.95	ND-2.95	2021	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Copper	No	90 th % = 0.14 Avg = 0.047	0.0013-0.222	2021	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives



Newport Utilities Water Quality Report 2022

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (RTCR)	No	0		2022	CFU/mL	0	TT Trigger	Naturally present in the environment
Turbidity ¹	No	0.11	0.03 - 0.11	2022	NTU	n/a	TT	Soil runoff
Copper	No	90 th % = 0.0926		2021	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	No	0.543	0.50-0.57	2022	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead ²	No	90 th % = 1.0		2021	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Sodium	No	5.53		2022	ppm	N/A	N/A	Erosion of natural deposits; used in water treatment
TTHM ³ [Total trihalomethanes]	No	53	10.8-102	2022	ppb	N/A	80	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	No	21	7.4-32.7	2022	ppb	N/A	60	By-product of drinking water disinfection.
Total Organic Carbon ⁴	No	60% removal	60-67% removal	2022	ppm	TT	TT 35% removal	Naturally present in the environment.

Contaminant	Violation Yes/No	Level Found	Range of Detections	Date of Sample	Unit Measurement	MRDLG	MRDL	Likely Source of Contamination
Chlorine	No	1.9	0.6-2.4	2022	ppm	4	4	Water additive used to control microbes.

About the Data:

- 100% of our samples were below the turbidity limit. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration process.
- During the most recent round of 2021 lead and copper testing, 1 out of 30 households sampled contained concentrations exceeding the action level. The 1 household was resampled, and the test showed no detection of lead. The first sample high result was associated with interior domestic plumbing. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical and mental development. Children could show slight deficits in attention span and learning disabilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
- While your drinking water meets EPA's standard for trihalomethanes, it does contain low levels. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
- We met the Treatment Technique for Total Organic Carbon in 2022.

Cryptosporidium is a microbial parasite which is found in surface water throughout the U.S. Although *Cryptosporidium* can be removed by filtration, the most commonly used filtration methods cannot guarantee 100 percent removal. Monitoring of our source water indicated the presence of *cryptosporidium* in 3 out of 24 samples tested. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks. However, immuno-compromised people have more difficulty and are at greater risk of developing severe, life threatening illness. Immuno-compromised individuals are encouraged to consult their doctor regarding appropriate precautions to take to prevent infection. For more information on *Cryptosporidium*, contact the Safe Drinking Water Hotline (800 - 426-4791).



City of Gatlinburg Water System Water Quality Report 2022

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (RTCR)	No	0		2022	CFU/mL	0	1 positive	Naturally present in the environment
Turbidity ¹	No	0.30	0.04-0.28	2022	NTU	N/A	TT	Soil runoff
Asbestos	No	BDL	0	2020	MFL	0	7	Decay of asbestos cement water mains; erosion of natural deposits
Copper	No	90% = 0.045	ND-0.0383	2022	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	No	0.803 avg 4qtrs	0.73 to 0.87 ppm	2022	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	No	90%= 2.5	ND to 0.00325	06/11/2022	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	No	0.204	0	11/01/2022	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium	No	6.67		1/04/2022	ppm	N/A	N/A	Erosion of natural deposits; used in water treatment
TTHM ² [Total trihalomethanes]	No	38 avg	12-60	4 qtrs. 2022	ppb	N/A	80	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	No	30 avg	11-40	4 qtrs. 2022	ppb	N/A	60	By-product of drinking water disinfection.
TOC Total Organic Carbon ³	No	0.875	ND-0.501	2022	ppm	TT	TT	Naturally present in the environment.

Contaminant	Violation Yes/No	Level Found	Range of Detections	Date of Sample	Unit Measurement	MRDLG	MRDL	Likely Source of Contamination
Chlorine	No	2.0 avg	1.9 – 2.1	2022	ppm	4	4	Water additive used to control microbes.

About the Data:

Most of the data presented in this table is from testing done between January 1 and December 31, 2022. We monitor for some contaminants less than once per year, and for these contaminants the date of the last sample is shown in this table. The terms and abbreviations used in this report may be unfamiliar – we have provided definitions and explanations below.

1. **Turbidity** – To comply with the TT, 95% of turbidity samples must be less than 0.3 NTU. Our filter plant met this standard in 99.9% of samples taken during 2022.
2. **Trihalomethanes** – While our drinking water meets EPA standards for trihalomethanes, it does contain low levels. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of cancer.
3. **TOC** – Total Organic Carbon – During the calendar year 2022, our system was required to achieve a 35% reduction in TOC. We met the treatment technique for TOC.



City of Pigeon Forge Water System Water Quality Report 2022

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (RTCR) ¹	No	Present 2 samples		2022	CFU/mL	0	TT Trigger	Naturally present in the environment
Turbidity ²	No	0.09 0.02 avg	0.01 – 0.09	2022	NTU	N/A	TT	Soil runoff
Copper	No	90%= 0.135	0.0121 – 0.2280	9/03/20	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride ³	No	0.41 Avg	0.12 – 0.71	Daily 2022	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead ⁴	No	90%= ND	ND – 0.00304	9/03/20	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Sodium	No	14.8		1/24/22	ppm	N/A	N/A	Erosion of natural deposits; used in water treatment
TTHM ⁵ [Total trihalomethanes]	No	45.019 avg	33.9 - 62.2	4 qtrs. in 2022	ppb	N/A	80	By-product of drinking water chlorination
THAA Total Haloacetic Acids ⁶ (HAA5)	No	26.99 avg	19.4 - 33.0	4 qtrs. in 2022	ppb	N/A	60	By-product of drinking water disinfection.
Total Organic Carbon ⁷	No	38.0% Removal 1.08 avg	0.94 – 1.17	2022	ppm	N/A	TT	Naturally present in the environment.

Contaminant	Violation Yes/No	Level Found	Range of Detections	Date of Sample	Unit Measurement	MRDLG	MRDL	Likely Source of Contamination
Chlorine	No	2.80	1.00 – 2.80	2022	ppm	4	4	Water additive used to control microbes.

About the Data:

Most of the data presented in this table is from testing done between January 1 and December 31, 2022. We monitor for some contaminants less than once per year, and for these contaminants, the date of the last sample is shown in this table.

Our water system was required to test for Cryptosporidium, a microbial parasite, for a period of twenty-four (24) months. Testing began in October of 2016 and ended in September of 2018. 1 sample tested positive for cryptosporidium in CY2018. Bin concentration highest mean of 0.008, classification of 1.

- Total Coliform Bacteria = 2 samples during 2022 were positive
- Turbidity = 0 samples during 2022 exceeded 0.3 NTU. We met the treatment technique for turbidity with 100% of monthly samples below the turbidity limit of 0.3 NTU. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Turbidity in excess of 5 NTU's (Nephelometric Turbidity Units) is just noticeable to the average person.
- Fluoride = Tracer study executed in September of 2007 to perform IDSE, in compliance with LT2SWTR.
- Lead = Infants and young children are typically more vulnerable to lead in drinking water than the general population. 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 Pigeon Forge Water Department 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 the 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 1-800-426-4791 or at <http://epa.gov/safewater/lead>. During the most recent round of lead and copper testing, 0 out of 30 households sampled contained concentrations exceeding the action level.
- TTHM = Years average 45.019 PPB. Range = 33.9 to 62.2 PPB. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
- THAA = Years average 26.99 PPB. Range = 19.4 to 33.0 PPB.
- TOC (Total Organic Carbon) = During calendar year 2022, our system was required to achieve a 35% reduction in TOC (Total Organic Carbon). Our annual average reduction for calendar year 2022 was 38.0%. With treated or source water TOC being <3.0mg/L, we met the Treatment Technique requirement for Total Organic Carbon in 2022.



City of Sevierville Water Department Water Quality Report 2022

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Turbidity	No	0.029	0.013-0.067	2022	NTU	N/A	< 0.3	Soil runoff
Copper	No	90 th % = 0.0512	ND-0.245	2020	ppm	< 1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	No	0.52 avg	0.04-1.11	2022	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	No	90 th % = 1.00	ND-5.75	2020	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	No	0.454	N/A	2022	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium	No	7.39	N/A	2022	ppm	N/A	N/A	Erosion of natural deposits; used in water treatment
TTHM [Total trihalomethanes]	No	59.40 (LRAA)	26.2 - 120.0	2022	ppb	N/A	80	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	No	51.30 (LRAA)	21.8 – 55.5	2022	ppb	N/A	60	By-product of drinking water disinfection.
Chlorine Dioxide	No	300 avg	70 - 770	2022	ppb	800	800	Disinfectant added to water to inactivate microorganisms, and as a sequestering agent for iron and manganese
Total Coliform	No	*0	N/A	2022	CFU/mL	0	5% positive samples	Naturally present in the environment
Chlorite	No	0.497	0.147-0.993	2022	ppm	0.8	1.0	By-product of drinking water chlorination using chlorine dioxide
Iron	No	0.005 avg	0.000-0.024	2022	ppm	0	0.3	Naturally present in the environment
Manganese	No	0.011	0.0-0.033	2022	ppm	0	0.05	Naturally present in the environment

Contaminant	Violation Yes/No	Level Found	Range of Detections	Date of Sample	Unit Measurement	MRDLG	MRDL	Likely Source of Contamination
Chlorine	No	1.6 avg	0.9 - 2.0	2022	ppm	<4	4	Water additive used to control microbes.

About the Data:

The data presented in this table is from testing done between January 1, 2022 and December 31, 2022. We monitor for some contaminants less than once per year and for those contaminants, the date of the last sample is shown in the table. We met the treatment technique for turbidity, which is an indicator of filtration effectiveness, in 2022 with 100% of the samples less than 0.3 NTU. Out of 440 sites sampled for total coliform and E. coli, we had 0 samples test positive in 2022. We also had 0 out of 30 households sampled during our most recent round of lead and copper testing that contained concentrations exceeding the action level.