

A dynamic, high-speed photograph of water splashing against a light blue background. The water is captured in various stages of motion, with droplets and streams of water creating a sense of movement and freshness. The lighting highlights the clarity and texture of the water.

ANNUAL WATER QUALITY REPORT

Reporting Year 2021

Presented By
Town of Weaverville



We've Come a Long Way

Once again, we are proud to present our annual water quality report covering the period between January 1 and December 31, 2021. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at all hours—to deliver the highest-quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

Water Treatment Process

Our source (raw) water comes from a flowing river. Flowing river conditions can, and sometimes do, change dramatically during the treatment process. Certified treatment operators monitor, adjust chemical applications, and routinely test numerous sampling points throughout the treatment process. Water treatment plants and processes vary in design, depending on the source water supply to be treated. Our process consists of a unique Up Flow Clarification chamber prior to the conventionally designed treatment process.

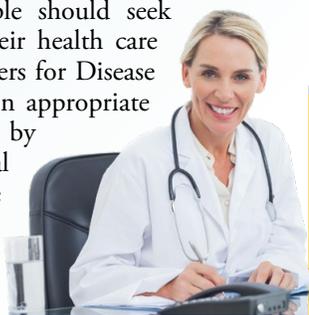
First, raw untreated water is pumped from our river water source. This water is tested to determine treatment application requirements. Coagulant chemical treatment is applied to the raw water prior to the Up Flow Process. Coagulant chemical treatment creates a chemical “snow” in the water, called “floc,” which settles naturally to produce a filtering effect on the water. Effluent from the Up Flow Process is evaluated, and any additional treatment application requirement is determined.

This further-treated water enters settling basins, where natural settling of the remaining floc particles results in cleaner pre-filtered water. The settled water is then filtered through engineered filtration beds to provide a high-quality water that is ready for final treatment. Final treatment includes mandated chlorine, corrosion inhibitor, and pH adjustments.

The Lawrence T. Sprinkle Jr. Water Treatment Facility does not add fluoride in its treatment process.

Important Health Information

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



Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

“When the well is dry, we know the worth of water.”

—Benjamin Franklin

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or 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 may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA’s Safe Drinking Water Hotline at (800) 426-4791.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Jared T. Duncan, Lawrence T. Sprinkle Jr. Water Treatment Facility Superintendent/ORC, at (828) 658-2417.

Source Water Assessment

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information, and a relative susceptibility rating of Higher, Moderate, or Lower.

The relative susceptibility rating of each source was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area). It is important to understand that a susceptibility rating of “higher” does not imply poor water quality, only the system’s potential to become contaminated by PCSs in the assessment area. The assessment findings are summarized in the table below:

SYSTEM NAME	CITY	PWS ID	SOURCE NAME (S)	SUSCEPTIBILITY RATING (S)	SWAP REPORT DATE
Town of Weaverville	Weaverville	01-11-025	Ivy River	Higher	September 2020
City of Asheville (Emergency Source)	Asheville	01-11-010	Bee Tree Reservoir, Mills River, North Fork Reservoir, French Broad	Moderate, Moderate, Higher, Higher	September 2020

The complete SWAP Assessment report may be viewed online at https://www.ncwater.org/SWAP_Reports/NC0111025_SWAP_Report-20200909.pdf and the Asheville Emergency Source report may be found at https://www.ncwater.org/SWAP_Reports/NC0111010_SWAP_Report-20200909.pdf.

Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this website may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report online, you may mail a written request for a printed copy to:

Source Water Assessment Program – Report Request
1634 Mail Service Center
Raleigh, NC 27699-1634

or email requests to swap@ncdenr.gov. Please indicate your system name and number and provide your name, mailing address, and phone number. If you have any questions about the SWAP report, please contact the Source Water Assessment staff by phone at (919) 707-9098.

Testing for *Cryptosporidium*

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Monitoring of source water indicates the presence of these organisms. Current test methods cannot determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.



Sampling of our water source from February 2019 through January 2021 (end of test session) has shown the following:

CRYPTOSPORIDIUM	
LOW RANGE	HIGH RANGE
ND	0.1 oocyst/L
OUR EMERGENCY SOURCE, THE CITY OF ASHEVILLE, REPORTS THE FOLLOWING:	
LOW RANGE	HIGH RANGE
ND	0.2 oocyst/L

ND = below the laboratory detection limit

It is important to note that these results are from our raw water source only and not our treated drinking water supply. For more information, contact the U.S. EPA’s Safe Drinking Water Hotline at (800) 426-4791.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. Also, the water we deliver must meet specific health standards. Here, we show only those substances that were detected in our water. (A complete list of all our analytical results is available upon request.) Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2021	[4]	[4]	1.44	0.52–2.04	No	Water additive used to control microbes
Combined Radium (pCi/L)	2018	5	0	1.0	ND–1.0	No	Erosion of natural deposits
Fecal Indicators [enterococci or coliphage] (# positive samples)	2021	TT	NA	0	NA	No	Human and animal fecal waste
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2021	60	NA	20	9–34	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–Stage 2 ¹ (ppb)	2021	80	NA	40	17–70	No	By-product of drinking water disinfection
Total Coliform Bacteria (Positive samples)	2021	TT	NA	0	NA	No	Naturally present in the environment
Total Organic Carbon [TOC] ² (removal ratio)	2021	TT	NA	1.001	1.0–2.86	No	Naturally present in the environment
Turbidity ³ (NTU)	2021	TT = 1 NTU	NA	0.05	0.04–0.05	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2021	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.3	1.3	ND	0/20	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2020	15	0	ND	1/20	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
pH (units)	2021	6.5–8.5	NA	7.6	7.4–7.8	No	Naturally occurring

UNREGULATED SUBSTANCES⁴

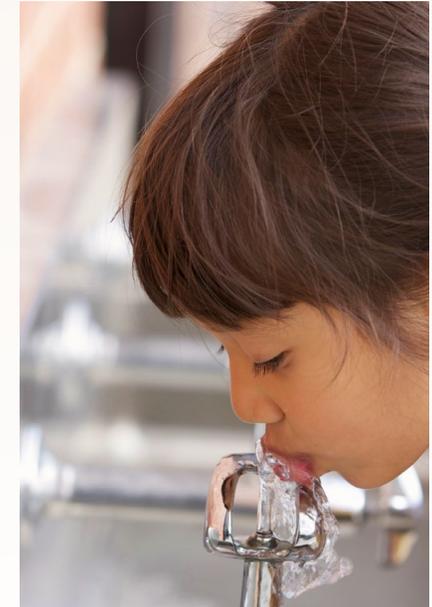
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2021	8.18	ND–8.18	Naturally occurring

¹ 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 system and may have an increased risk of getting cancer.

² Depending on the TOC in our source water, the system must have a certain percentage removal of TOC or achieve alternative compliance criteria. If we do not achieve that percentage removal, there is an alternative percentage removal. If we fail to meet the alternative percentage removal, we are in violation of a treatment technique.

³ 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. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU.

⁴ Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of monitoring unregulated contaminants is to assist the U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted.



Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

AL (Action Level):

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

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection By-Products Rule.

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.

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.

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 risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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

Where Does My Water Come From?

Our source water is the Ivy River, which has two forks that combine at the Highway 19/23 (new I-26) bridge. One fork originates in Madison County and the other in Buncombe County. Both forks have many feeder streams, and the watershed drainage area above our intake covers 112 square miles. The Town of Weaverville maintains connections with the City of Asheville and the Town of Mars Hill Water System for emergency supply. We are committed to ensuring the highest-quality drinking water and providing a safe and dependable supply.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 two 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

Table Talk

Get the most out of the Testing Results data table with this simple suggestion. In less than a minute, you will know all there is to know about your water:

For each substance listed, compare the value in the Amount Detected column against the value in the MCL (or AL, SMCL) column. If the Amount Detected value is smaller, your water meets the health and safety standards set for the substance.

Other Table Information Worth Noting

Verify that there were no violations of the state and/or federal standards in the Violation column. If there was a violation, you will see a detailed description of the event in this report.

If there is an ND or a less-than symbol (<), that means that the substance was not detected (i.e., below the detectable limits of the testing equipment).

The Range column displays the lowest and highest sample readings. If there is an NA showing, that means only a single sample was taken to test for the substance (assuming there is a reported value in the Amount Detected column).

If there is sufficient evidence to indicate from where the substance originates, it will be listed under Typical Source.