



**UNIONCOUNTY**  
**WATER**

**2022**

# Water Quality Report

[unioncountync.gov/water](https://unioncountync.gov/water)

# 2022 Annual Drinking Water Quality Report

## Union County Water System

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

### Water System Number: 01-90-41

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about your source(s) of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

**If you have any questions about this report or concerning your water, please contact Junior Honeycutt at 704.289.7044. We want our valued customers to be informed about their water utility. To learn more, visit our website at [unioncountync.gov/water](http://unioncountync.gov/water).**

### WHAT EPA WANTS YOU TO KNOW

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 at 1.800.426.4791.

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, Immuno-compromised residents such as those with cancer undergoing chemotherapy, people who have undergone organ transplants, individuals 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/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).

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. Union County Water 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 two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you should consider having 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 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

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. Contaminants 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, and wildlife
- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or 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 byproducts 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 be the result of oil and gas production and mining activities

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

## WHEN YOU TURN ON YOUR TAP, CONSIDER THE SOURCE

The water that is used by Union County Water comes from two surface sources; the Catawba River located in Lancaster County, S.C. and the Pee Dee River located in eastern Anson County. During emergency situations, a small portion of our system may receive water from Charlotte Water.

## SOURCE WATER ASSESSMENT PROGRAM (SWAP) RESULTS

The North Carolina Department of Environmental Quality; 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 for Union County 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). The assessment findings are summarized in the table below:

### Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Pee Dee River	Moderate	September 2017
Catawba River	Moderate	Originally April 2003 (Reviewed Annually)

The complete SWAP Assessment report for the Anson County Water System may be viewed on the Web at:

[https://deq.nc.gov/about/divisions/water-resources/  
drinking-water/drinking-water-protection-program/source-  
water-assessment-program](https://deq.nc.gov/about/divisions/water-resources/drinking-water/drinking-water-protection-program/source-water-assessment-program)

Note that because SWAP results and reports are periodically updated by the PWS Section, the results available may differ from the results that were available at the time this report 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](mailto:swap@ncdenr.gov). Please indicate your system name, 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.

The complete SWAP Assessment for the Catawba River Water Treatment Plant can be obtained by contacting the Bureau of Water in Columbia, South Carolina at 803.898.4300 or online at [www.scdhec.gov](http://www.scdhec.gov).

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.

# Water Quality Data Tables of Detected Contaminants

We routinely monitor for more than 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that we detected in the last round of sampling for each particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2021. The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

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

## Important Drinking Water Definitions:

### NOT-APPLICABLE (N/A)

Information not applicable/not required for that particular water system or for that particular rule.

### NON-DETECTS (ND)

Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.

### PARTS PER MILLION (PPM) OR MILLIGRAMS PER LITER (mg/L)

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 (ug/L)

One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

### ACTION LEVEL (AL)

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

### TREATMENT TECHNIQUE (TT)

A required process intended to reduce the level of a contaminant in drinking water.

### MAXIMUM RESIDUAL DISINFECTION LEVEL (MRDL)

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

### MAXIMUM RESIDUAL DISINFECTION 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 contaminants.

### LOCATIONAL RUNNING ANNUAL AVERAGE (LRAA)

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 Byproducts Rule.

### 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.

# Tables of Detected Contaminants

## Microbiological Contaminants in the Distribution System - For systems that collect 40 or more samples per month

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCLEAN	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	0	0	TT*	Naturally present in the environment
E. coli (presence or absence)	N	0	0	Routine and repeat samples are total coliform-positive and is either E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli  Note: If either an original routine sample and/or its repeat samples(s) are E. coli positive, a Tier 1 violation exists.	Human and animal fecal waste

## LEAD AND COPPER CONTAMINANTS

Contaminant (units)	Sample Date	Your Water	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 <sup>th</sup> percentile) Union County		0.19	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 <sup>th</sup> percentile) Union County		0	3	0	AL=115	Corrosion of household plumbing systems; erosion of natural deposits

## DISINFECTANT RESIDUALS SUMMARY

	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range Low - High	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2021	N	1.8	0.94 – 2.13	4	4.0	Water additive used to control microbes
Chloramines (ppm)	2021	N	2.24	1.21 – 3.10	4	4.0	Water additive used to control microbes

**STAGE 2 DISINFECTION BYPRODUCT COMPLIANCE -**  
**Based upon Locational Running Annual Average (LRAA)**

Disinfection Byproduct	Year Sampled	MCL Violation Y/N	Your Water (highest LRAA)	Range Low - High	MCLG	MCL	Likely Source of Contamination
<b>THM (ppb)</b>					N/A	80	Byproduct of drinking water disinfection
<b>B01</b>	2021	N	49	9-80			
<b>B02</b>	2021	N	15	10-19			
<b>B03</b>	2021	N	50	34-54			
<b>B04</b>	2021	N	50	24-65			
<b>B05</b>	2021	N	13	12-13			
<b>B06</b>	2021	N	14	9-14			
<b>B07</b>	2021	N	27	20-30			
<b>B08</b>	2021	N	13	9-13			
<b>HAA5 (ppb)</b>					N/A	60	Byproduct of drinking water disinfection
<b>B01</b>	2021	N	48	9-98			
<b>B02</b>	2021	N	8	0-15			
<b>B03</b>	2021	N	35	22-45			
<b>B04</b>	2021	N	37	28-49			
<b>B05</b>	2021	N	11	8-12			
<b>B06</b>	2021	N	12	8-12			
<b>B07</b>	2021	N	38	26-55			
<b>B08</b>	2021	N	11	8-11			

For HAA5: Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

# Consumer Confidence Report

Wholesaler: Catawba River Water Supply Project SC#2920002



# Where does my water come from?

## THE SOURCE

Our water source is the Catawba River. Raw water is pumped from the Catawba River into a 23-acre pre-settling reservoir and then to a 90-acre reservoir for secondary raw water settling. The raw water is pumped from the larger reservoir to the water plant for treatment.

## HOW MY WATER IS TREATED

### The First Point of Treatment

Chlorine dioxide is added to the raw water to kill harmful bacteria and other water-borne diseases.

### Coagulation & Sedimentation

Aluminum sulfate and polymer are mixed in the water, which coagulates (forms a solid material around small particles in the raw water), causing them to settle and create a blanket near the bottom of the clarifiers. The blanket acts as a preliminary filter. Over 99% of contaminants are removed at this process stage. Carbon is also added to reduce taste and odor issues associated with algal growth.

### Filtration

Additional chlorine is added for pathogen control, then the water flows through filters of anthracite and sand to remove any remaining particles. Note CRWSP began using membrane technology as part of the filtration process in 2021 that does not require anthracite or sand filtration.

### Post-Filtration

Chloramines are added for final disinfection. Caustic soda is added to adjust PH, fluoride is added as a dental aid, and ortho-phosphate as a corrosion inhibitor. The water goes to large storage tanks (clearwells) for additional contact time with the chemicals added. Next it is pumped into the distribution lines as water demand requires.

At Catawba River Water Supply Project, we are committed to providing safe, high-quality water services to our community, while maintaining a standard of excellence in customer service and environmental conservation. To meet this commitment, we saw the need to construct a much larger reservoir to provide a 30-day supply of water reserve. The larger reservoir does not change the amount of water taken from the river, but it helps reduce its impact on users downstream. The project was completed in 2019. In 2020 CRWSP made numerous improvements to the facility. This included improvements to the existing treatment trains

to improve settleability of solids in the raw water, replacement of filter media, adding six million gallons per day of membrane filter technology. Some of these improvements were put into service in 2020. Others were put into place in 2021.

### Source Water Assessment and its Availability

We have learned through our monitoring and testing that some contaminants are present. Our raw water sources are most susceptible to contamination from runoff or environmental conditions. EPA has determined that your water is safe at these levels. Our Source Water Assessment Plan is available upon request. Please contact Catawba River Water Supply Project at 803.205.0041 to arrange to review this document.

**The Catawba River Water Supply Project routinely monitors for constituents in your drinking water according to Federal and State laws. See water quality data reports for results of our monitoring for January-December 2021.**

**If you have any questions about this report, or to request a paper copy please contact:**

Randy Hawkins CASP,  
CATAWBA RIVER WATER SUPPLY PROJECT  
Phone: 803.205.0041  
Mail: PO Box 214, Van Wyck, SC 29744  
E-mail: rhawkins@crwtp.org

We want our valued customers to be informed about their water utility. If you want to learn more, please attend our Catawba River Water Supply Project Board Meetings. Visit our website at: [crwtp.org](http://crwtp.org)



## 2021 WATER QUALITY DATA TABLE

### Chemical and Radionuclide Constituents for Drink Water Purchased From: Catawba River Water Supply Project SC#2920002

Contaminant	Violation Yes/No	Range of Levels Detected	Highest Level Detected	Average Level Detected	Measurement Unit	MCL	MCLG
Fluoride	No	0.70-0.70	0.70	0.70	ppm	4.0	4.0
Nitrate (Measured as nitrogen)	No	0.91-0.91	1.0	1.0	ppm	10.0	10.0
Sodium	No	12-12	12	12	ppm	NA	NA

#### Typical Source of Contamination:

**Fluoride:** Erosion of natural deposits; water additive to promote strong teeth; discharge from fertilizer and aluminum factories

**Nitrate** (measured as nitrogen): Run off from fertilizer use; leakage from septic tanks, sewage, erosion of natural deposits. Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

**Sodium:** Erosion of natural deposits

Contaminant	Violation Yes/No	Highest Single Measurement Detected	Measurement Unit	Lowest Monthly Percentile	MCL	MCLG
Turbidity	No	0.15	NTU	100%	1.0	<0.30

**Turbidity** is a measurement of cloudiness in the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration. Likely source of turbidity contamination is soil runoff.

**Total Organic Carbon** The percentage of Total Organic carbon (TOC) removal was measured each month and the system met all TOC removal requirements set.

## ADDITIONAL MONITORING

### General Interest Table

Constituent/ Unit of Measurement	Highest Level Recommended	Range Detected	Highest Level Detected	Average Level
<b>PH</b> is a measurement of the degree in which water may be acidic or basic. Measured in standard units, on a scale of 0 (most acidic) to 14 (most basic) with 7 being neutral.	6.5-8.5s.u	6.94-7.34s.u.	7.34s.u.	7.10s.u.
<b>ALKALINITY</b> is an unregulated constituent measured (ppm) as calcium carbonate (CaCO <sub>3</sub> ) and refers to a water's buffering capacity the ability to keep the pH stable as acids.	No Standard	16-31ppm	31ppm	24ppm
<b>HARDNESS</b> denotes high mineral content, mainly calcium and magnesium (ppm) Drinking water is considered soft if less than 70 ppm or 4 grains per gallon.	No Standard	15-28ppm (0.88- 1.6gr/gal)	28ppm (1.6gr/gal)	22ppm (1.28gr/gal)
<b>SODIUM</b> is a necessary nutrient in the human body and is found naturally in eroded natural deposits and leaching. Measured in ppm. Note: Tap water may contain sodium over 20 ppm recommended for sodium-restricted diets.	No Standard	12ppm-12ppm	12ppm	12ppm
<b>WATER TEMPERATURE</b> in the distribution system measured in degrees Celsius.	No Standard	9.2-29.7 Celsius	29.7 Celsius	19.6 Celsius
<b>TOTAL DISSOLVED SOLIDS</b> measured as the dissolved minerals in the water. Measured thru conductivity in ppm.	No Standard	87-162ppm	162ppm	139ppm

**Compliance:** The Catawba River Water Supply Project did not incur any health-based violations for the calendar year. We met all required compliance monitoring.



**UNIONCOUNTY**