

**2016 Annual Drinking Water Quality Report**  
**BROAD RIVER WATER AUTHORITY**  
**Rutherford County, N.C.**  
PWS ID# 01-81-035

The Broad River Water Authority (BRWA) is pleased to present to you this year's Annual Drinking Water Quality Report. The BRWA consists of a local board of eight members. Two members are from Rutherford County and two members each from the towns of Rutherfordton, Spindale, and Ruth. **As of January 2017, these members were: Mickey Bland (Chairman), Doug Barrick(Vice-Chairman), Robin Ensley(Treasure), Don Baynard, Stan Clements, Mike Ellenburg, and Steve Garrison.** The water system is managed and operated by Maria Hunnicutt (General Manager), Reid Hammett, Distribution Superintendent and Brad Joyner (Water Plant Superintendent). Our mission statement is "Broad River Water Authority will strive to be the foremost influence of economic prosperity and quality of life in our service areas."

This report is a snapshot of last year's water quality. Included are details about where your water comes from, 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 and to providing you with this information, because informed customers are our best allies.

#### **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 (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, 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/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 (800-426-4791).

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 storm water 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 storm water 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 storm water runoff, and septic systems; and 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 this system is surface water from the Broad River. The Broad River originates in the Hickory Nut Gorge area, above Lake Lure, N.C., and flows southeast through Rutherford County.

## Source Water Assessment Program (SWAP) Results

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 the source for Broad River Water Authority 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 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
Broad River	Moderate	July 14, 2015

The complete SWAP Assessment report for the Broad River Water Authority may be viewed on the Web at: [http://www.newater.org/files/swap/SWAP\\_Reports/0181035\\_7\\_14\\_2015\\_85\\_11.pdf](http://www.newater.org/files/swap/SWAP_Reports/0181035_7_14_2015_85_11.pdf) To obtain a printed copy of this report, please mail a written request to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh NC 27699-1634, or email request to [swap@ncdenr.gov](mailto:swap@ncdenr.gov). Please indicate your system name, PWSID, 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.

It is important to understand that a susceptibility rating of “higher” does not imply poor water quality, only the systems’ potential to become contaminated by PCS’s in the assessment area

Protection of drinking water is everyone’s responsibility. You can help protect your community’s drinking water source(s) in several ways: (examples: dispose of chemicals properly; take used motor oil to a recycling center, volunteer in your community to participate in group efforts to protect your source, etc.).

## Special information from the EPA

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. Broad River Water Authority 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 from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

## What If I Have Any Questions Or Would Like to Become More Involved?

If you have any questions about this report or questions concerning your water quality, please contact Brad Boris at 828-287-7776. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled monthly Board meetings. They are normally held on the fourth Tuesday of the month. For time and location you may call 828-286-0640.

## Water Quality Data Table of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The table below lists all the drinking water contaminants that we detected in the last round of sampling for the 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, 2015.** The EPA or the State requires 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.

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

*Pico curie per liter (pCi/L)* - Pico curies per liter is a measure of the radioactivity in water.

*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.

*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 treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

*Maximum Residual Disinfection Level Goal* – The “Level” (MRDLG) 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.

*Maximum Residual Disinfection Level* – The “Highest Level” (MRDL) of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

*Maximum Contaminant Level* - The “Maximum Allowed” (MCL) is 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* - The “Goal”(MCLG) is 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.

**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.

Extra Note: MCL’s are set at very stringent levels. 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.

**Microbiological Contaminants**

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	0	0	1 positive sample / month*  Note: If either an original routine sample and/or its repeat samples(s) are fecal coliform or <i>E. coli</i> positive, a Tier 1 violation exists.	Naturally present in the environment
Fecal Coliform or <i>E. coli</i> (presence or absence)	N	0	0		Human and animal fecal waste

\* If a system collecting fewer than 40 samples per month has two or more positive samples in one month, the system has a MCL violation.

**Turbidity-Systems with population >10,000**

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU)	N	Avg. 0.06 Max. 0.12	N/A	TT = 1 NTU	Soil runoff
		100%	N/A	TT = percentage of samples < 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. The turbidity rule requires that 95% or more of the monthly samples must be below 0.3 NTU.

### Inorganics Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Fluoride (ppm)	February 2016	N	0.60	0.25	0.79	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Note: The Fluoride level is controlled at approximately .70 ppm with the annual average being 0.69 ppm.

### Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (ppm) (90 <sup>th</sup> percentile)	July-Sept 2014	0.09	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) (90 <sup>th</sup> percentile)	July-Sept 2014	ND	0	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

*Note: Next Lead & Copper Sampling Due 2017*

### Disinfection By-Product Precursors Contaminants

Contaminant (units)	Sample Date	MCL/TT Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Total Organic Carbon (ppm) (TOCs)-RAW	Monthly 2016	N	.99	<1.0	1.58	N/A	TT	Naturally present in the environment
Total Organic Carbon (ppm) (TOCs)-TREATED	Monthly 2016	N	ND	<1.0	ND	N/A	TT	Naturally present in the environment

Note: Depending on the TOC in our source water the system MUST have a certain % removal of TOC or must achieve alternative compliance criteria. If we do not achieve that % removal there is an "alternative % removal". If we fail to meet that, we are in violation of a Treatment Technique. Our water has a very low TOC content. Instead of using the % removal criteria we use an Alt 2 (alternative 2), treated water TOC <2.0 mg/l, as the method to comply with d/DBP treatment technique requirements.

### Disinfection By-Product Contaminants

Contaminant (units)	MCL/MRDL Violation Y/N	Your Water (AVG)	Range		MCLG	MCL	Likely Source of Contamination
			Low	High			
TTHM (ppb) [Total Trihalomethanes]	N	40	14	86	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids]	N	30	19	45	N/A	60	By-product of drinking water disinfection
Chlorine (ppm)	N	1.60	.20	1.90	MRDLG = 4	MRDL = 4	Water additive used to control microbes

***For TTHM: 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.***

***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.***

Secondary Contaminants, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic contaminants normally do not have any health effects and normally do not affect the safety of your water.

**Water Characteristics Contaminants**

Contaminant (units)	Sample Date	Your Water	Range Low/High	Secondary MCL
pH	Hourly	7.2	N/A	6.5 to 8.5

**Cryptosporidium**

*Our system monitored our source water for Cryptosporidium and found levels of*

Contaminant (units)	Sample Date	Your Water	Range Low High	MCL
Cryptosporidium (Oocysts/L)	Monthly Oct-Dec 2016	0.34	0.00 0.91	N/A

*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. Our monitoring of our source water indicates the presence of these organisms. Current test methods do not enable us to 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 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. Cryptosporidium must be ingested for it to cause disease, and it may be spread through means other than drinking water.*

**Este Informe contiene information muy importante.  
Traduscalo o hable con un amigo quien Lo entienda bien.**