

2011 Annual Drinking Water Quality Report

City of Brevard

PWS ID# NC0188010

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 from where your water comes, 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. **If you have any questions about this report or concerning your water, please contact the Water Plant staff at (828) 884-2770.**

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).

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 Brevard 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>.

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

Our source is Cathey's Creek. Cathey's Creek is a surface water source. Located just west of the City, Cathey's Creek protected watershed lies within the Pisgah National Forest.

Source Water Assessment Program (SWAP) Results

Our watershed lies within the boundaries of the Pisgah National Forest. Many small springs and feeder streams join to form Cathey's Creek. A trout farm and some private land holders are within the watershed. A Forest Service road and logging roads are within the watershed. With the exception of private holdings the public has access to this area.

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 for the City of Brevard 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 (PCSSs)

SWAP Report Date: Feb. 19, 2010 **Source Name: Cathey's Creek** **Susceptibility Rating: Moderate**

The complete SWAP Assessment report for the City of Brevard may be viewed on the Web at:

<http://www.deh.enr.state.nc.us/pws/swap> 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@ncmail.net. 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 919-715-2633.

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

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, 2011.** 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.

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 regulation is warranted.

Important Drinking Water Definitions

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

Non-Detects - Laboratory analysis indicates that the contaminant is not present at the level of detection set for that 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.

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 (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.

Maximum Residual Disinfection Level (MRDL) - 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

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.

Extra Note: MCLs 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	one monthly positive	Naturally present in the environment
E. coli (presence or absence)	N	0	0	a routine sample and repeat sample are total coliform positive, and one is also E. coli positive	Human and animal fecal waste

Turbidity

Contaminant (units)	MCL Violation Y/N	Range of Your Water	MCLG	MCL	Likely source of contamination
Turbidity (NTU)	N	Ave 0.10 Max 0.37 Min 0.02 99.90%	N/A	TT= 5 NTU TT= percentage of samples <0.3 NTU	Soil erosion, stormwater runoff

*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.

Lead and Copper

Contaminant (units)	Sample Date	Your Water	# sites above AL	MCLG	MCL	Likely source of contamination
Copper (mg/L) 90th percentile	June 09	0.01	0	1.3	AL=1.3	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
Lead (ppb) 90th percentile	June 09	<3	0	0	AL=15	Corrosion of household plumbing systems Erosion of natural deposits

Disinfection By-Products Precursors

Contaminant (units)	TT Violation Y/N	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low-High	MCLG	MCL	Likely source of contamination
Tot. Org. Carbon (removal ratio) (TOC) - Treated water	No	0	0	N/A	TT	naturally present in the environment

Our water system used ACC2 as the method to comply with d/DBP treatment technique requirements. This means that the Total Organic Carbon in the treated water is less than 2.0 mg/L. At these low levels of TOC it is not feasible to achieve a certain % removal as is required for waters which have higher levels of TOC.

Disinfectants and Disinfection By-Products

Substance (units)	MCL/MRDL Violation Y/N	Your Water (Average)	Range High-Low	MCLG	MCL	Likely source of contamination
TTHM (PPB) Total Trihalomethanes	N	58	58	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) Total Haloacetic Acids	N	44	44	N/A	60	By-product of drinking water disinfection
Chlorine (mg/L)	N	1.1	1.6-0.7	MRDLG 4	MRDL 4	Water additive used to control microbes

Testing for 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
Iron (ppm)	6/6/2011	ND	N/A	0.3
Manganese (ppm)	6/6/2011	ND	N/A	0.05
Nickel (ppm)	6/6/2011	ND	N/A	N/A
Sodium (ppm)	6/6/2011	21.4	N/A	N/A
pH	Daily	7.7	N/A	6.5-8.5