

ANNUAL
WATER
QUALITY
REPORT

Water testing performed in 2008



PWSID#: NC 01-11-025

This report was prepared by:
Town of Weaverville
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Continuing Our Commitment

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2008. This report is to inform you about water quality and services delivered to you each and every day. We are committed to providing our customers with the absolute highest quality drinking water. Our goal is to continually evaluate and improve the treatment and distribution of your drinking water. Over the years, we have dedicated ourselves to producing drinking water that meets or exceeds all state and federal drinking water standards. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation and community education while continuing to serve the needs of all our water users.

For more information about this report, or for any questions relating to your drinking water, please call Anthony Laughter, Water Treatment Operations Superintendent, at (828)658-2417

Public Meetings

Questions regarding water quality should be directed to the Ivy River Water Treatment staff at 828-658-2417. Questions regarding billing should be directed to Town Hall Administration at 828-645-7116. Water taps, water leaks and questions about water distribution should be directed to Town of Weaverville Public Works Department at 828-645-0606. Information regarding Town Council meetings and other Town of Weaverville events should be directed to Town Hall Administration at 828-645-7116.

Source Water Description

The Town of Weaverville's Water Treatment Facility has the treatment capacity of 1.5 Million Gallons in a 24 hour period. Our water source 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 over 120 square miles. We are committed to ensuring the highest quality drinking water and providing a safe and dependable supply. The Town of Weaverville maintains connection with Asheville-Buncombe-Henderson Regional Water Authority for emergency supply.

Substances That Could Be in Water

To ensure that tap water is safe to drink, 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.

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 can acquire 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.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.

Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.

Turn off the tap when brushing your teeth.

Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.

Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.

Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Source Water Assessment Program (SWAP)

SWAP is assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources. NC Department of Environment and Natural Resources conducted assessments of water sources across North Carolina. Assessment ratings of "Higher, Moderated, or Lower" were assigned to each source. It is important to know that a "Higher" rating does not imply bad water quality. It is a gauge of the water source potential to become contaminated. Complete SWAP reports for all systems may be viewed on the Web at : <http://www.en.enr.state.nc.us/pws/swap>. Use the Town of Weaverville Water System ID # 01-11-025 to view our report and other related information available to the general public through North Carolina Department of Environment and Natural Resources (NCDENR) web site.

According to the Source Water Assessment Plan, the Ivy River source had a susceptibility rating of "Higher". Our Asheville emergency supply was assigned a rating of "Moderate" for the Mills River source and a rating of "Lower" for the North Fork source.

What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders and on pets' water bowls is caused by the growth of the bacterium *Serratia marcescens*. *Serratia* is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence.

Serratia will not survive in chlorinated drinking water.

Lead and Drinking Water

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 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 www.epa.gov/safewater/lead.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 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.

Water Treatment Process

The treatment process consists of a series of steps. First, raw water is pumped from our water source. This raw water is tested to determine treatment requirements. Chemical treatment is added to the raw water. Particals in the source water have a natural charge. Chemical treatment creates chemical "snow" called "Floc". This floc has a charge and attracts the particals in the source water. As the Floc gets larger it settles naturally, leaving cleaner pre-filtered "settled water". The settled water is then filtered through engineered filtration beds to provide the quality of water ready for final treatment. Final treatment includes mandated Chlorine, Corrosion Inhibitor, and pH adjustment.

Naturally Occurring Bacteria

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us: in our food; on our skin; in our bodies; and, in the air, soil, and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease. Throughout the year, we tested many water samples for coliform bacteria. In that time, none of the samples came back positive for the bacteria.

Information on the Internet

The U.S. EPA Office of Water (www.epa.gov/watrhome) and the Centers for Disease Control and Prevention (www.cdc.gov) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the North Carolina Department of Environment and Natural Resources has a Web site (www.ehn.state.nc.us) that provides complete and current information on water issues in North Carolina, including valuable information about our watershed.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state allows us to monitor for certain substances less 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)	2008	[4]	[4]	1.96	.3–2.3	No	Water additive used to control microbes
Haloacetic Acids [HAA] (ppb)	2008	60	NA	33	19–55	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]	2008	80	NA	32	10–83	No	By-product of drinking water chlorination
Total Organic Carbon [TOC] (ppm)	2008	TT	NA	1.85 RAA	0–100 % Removal Rate	No	Naturally present in the environment RAA = Running Annual Average
Turbidity ¹ (NTU)	2008	TT = 1 NTU	NA	.19	.04–.19	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2008	TT = 1 NTU	NA	0	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%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper ² (ppm)	2008	1.3	1.3	0.06	0/40	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead ³ (ppb)	2008	15	0	0	0/40	No	Corrosion of household plumbing systems; Erosion of natural deposits
OTHER REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Radium 228 (pCi/L)	08/05/2008	2	0	1.16	<1.0–1.16	No	Erosion of natural deposits
SECONDARY SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
pH (Units)	2008	6.5- 8.5	NA	7.9	7.3–8.3	No	Naturally occurring adjusted by treatment additive
UNREGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE			
Sodium (ppm)	08/05/2008	11.5	10.2–11.5	Naturally occurring and through treatment additives			

¹Footnote for Town of Weaverville: 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.

²Footnote for Town of Weaverville: Highest test site 0.09 mg/l on 08/25/08

³Footnote for Town of Weaverville: Highest test site 14 ppb (ug/l) 08/29/08

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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.

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).

RAA (Running Annual Average): The average of the previous 12 months or 4 quarters of testing results.

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