



ANNUAL  
WATER REPORT  
*Reporting Year 2011*

PWSID#: 03-92-050

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## Meeting the Challenge

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2011. Over the years, we have dedicated ourselves to providing drinking water that meets all state and federal standards. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts or concerns about the information in this report. After all, well-informed customers are our best allies.

For more information about this report, or for any questions relating to your drinking water, please call Amy Moore, Public Utilities Department, at (919) 577-1090.



## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The Holly Springs Town Council meets at 7 p.m. the first and third Tuesdays of every month. Meetings, which are open to the public, are held in the Council Chambers upstairs in Holly Springs Town Hall at 128 S. Main St.

## Where Does My Water Come From?

The Town of Holly Springs customers are fortunate because we enjoy an abundant water supply from the Cape Fear River. We obtain approximately 2 million gallons daily and have purchased up to 10 million gallons a day of capacity from the Harnett County Department of Public Utilities. Harnett County's Water Quality Report can be accessed at [www.harnett.org/](http://www.harnett.org/). In addition, we have a second source of water from the City of Raleigh, which draws water from Falls Lake. Water from the City of Raleigh is used only during water emergencies or maintenance events. More information on the City of Raleigh's water quality can be found at [www.raleigh-nc.org/](http://www.raleigh-nc.org/).

## 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 drinking water sources in North Carolina. The assessments determine the susceptibility of each drinking water source 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 Town of Holly Springs 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). According to the Source Water Assessment Plan assessment of March 2010, the Town's sources had a susceptibility rating of "Higher." The complete SWAP Assessment report may be viewed on the Web at <http://swap.deh.enr.state.nc.us/swap/>. Please note that because SWAP results and reports are periodically updated, the results available on this web site may differ from the results that were available at the time this CCR was prepared. For 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 your request to [swap@ncmail.net](mailto:swap@ncmail.net). Please indicate your system name and PWSID, and provide your name, mailing address, and phone number. If you have questions about the SWAP report, please contact the Source Water Assessment staff at (919) 715-2633.

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 PCSs in the assessment area.

## 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.

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; and 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.

## Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity to remove any sediment that may have become trapped in your service lines. If you need assistance with discolored water please contact our Public Works Department at (919) 552-5920.

## 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 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](http://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 or <http://water.epa.gov/drink/hotline>.

## Fact or Fiction

Tap water is cheaper than soda pop. *(Fact: You can refill an 8 oz. glass of tap water approximately 15,000 times for the same cost as a six-pack of soda pop. And, water has no sugar or caffeine.)*

Methods for the treatment and filtration of drinking water were developed only recently. *(Fiction: Ancient Egyptians treated water by siphoning water out of the top of huge jars after allowing the muddy water from the Nile River to settle. And, Hippocrates, known as the father of medicine, directed people in Greece to boil and strain water before drinking it.)*

A typical shower with a non-low-flow showerhead uses more water than a bath. *(Fiction: A typical shower uses less water than a bath.)*

Water freezes at 32 degrees Fahrenheit. *(Fiction: You can actually chill very pure water past its freezing point (at standard pressure) without it ever becoming solid.)*

The Pacific Ocean is the largest ocean on Earth. *(Fact: The Atlantic Ocean is the second largest and the Indian Ocean is the third largest.)*

A single tree will give off 70 gallons of water per day in evaporation. *(Fact)*



### Who uses the most water?

On a global average, most freshwater withdrawals—69 percent—are used for agriculture, while industry accounts for 23 percent and municipal use (drinking water, bathing and cleaning, and watering plants and grass) just 8 percent.

### How much water does a person use every day?

The average person in the U.S. uses 80 to 100 gallons of water each day. During medieval times a person used only 5 gallons per day.

## 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 tables below show only those contaminants that were detected in the water. The state allows us to monitor 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									
				Town of Holly Springs		Harnett County			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloramines (ppm)	2011	[4]	[4]	2.09	0.64–4.4	2.88	0.9–4.03	No	Water additive used to control microbes
Chlorine <sup>1</sup> (ppm)	2011	[4]	[4]	1.15	ND–2.2	1.59	0.07–3.39	No	Water additive used to control microbes
Chlorine Dioxide (ppb)	2011	[800]	[800]	NA	NA	37	ND–650	No	Water additive used to control microbes
Chlorite (ppm)	2011	1	0.8	NA	NA	0.251	0.188–0.411	No	By-product of drinking water disinfection
Fluoride (ppm)	2011	4	4	NA	NA	0.12	NA	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2011	60	NA	9.2	ND–15	18.8	15.1–24.4	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2011	80	NA	53	38–78	41.2	25–58	No	By-product of drinking water disinfection
Total Organic Carbon [TOC] <sup>2</sup> (removal ratio)	2011	TT	NA	NA	NA	1.17	1.03–1.26	No	Naturally present in the environment
Turbidity <sup>3</sup> (NTU)	2011	TT = 1 NTU	NA	NA	NA	NA	NA	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2011	TT = 95% of samples < 0.3 NTU	NA	NA	NA	100	NA	No	Soil runoff

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

				Town of Holly Springs		Harnett County			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2011	1.3	1.3	0.105	0/32	0.132	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

## SECONDARY SUBSTANCES (HARNETT COUNTY)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Manganese (ppb)	2011	50	NA	12	NA	No	Leaching from natural deposits
pH (Units)	2011	6.5–8.5	NA	7.4	NA	No	Naturally occurring

## UNREGULATED SUBSTANCES (HARNETT COUNTY)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
<b>Sodium</b> (ppm)	2011	41.2	NA	Leaching from natural deposits
<b>Sulfate</b> (ppm)	2011	51.1	NA	Leaching from natural deposits

<sup>1</sup> Only during March when free chlorine is used as primary disinfectant.

<sup>2</sup> Depending on the TOC in the source water, the system MUST have a certain % removal of TOC or must achieve alternative compliance criteria. If that % removal is not achieved, there is an alternative % removal. If a system fails to meet the alternative % removal, they are in violation of a Treatment Technique.

<sup>3</sup> Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU.

## Definitions

**AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that 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.

**MFL (million fibers per liter):** A measure of the presence of asbestos fibers that are longer than 10 micrometers.

**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.

**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.

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