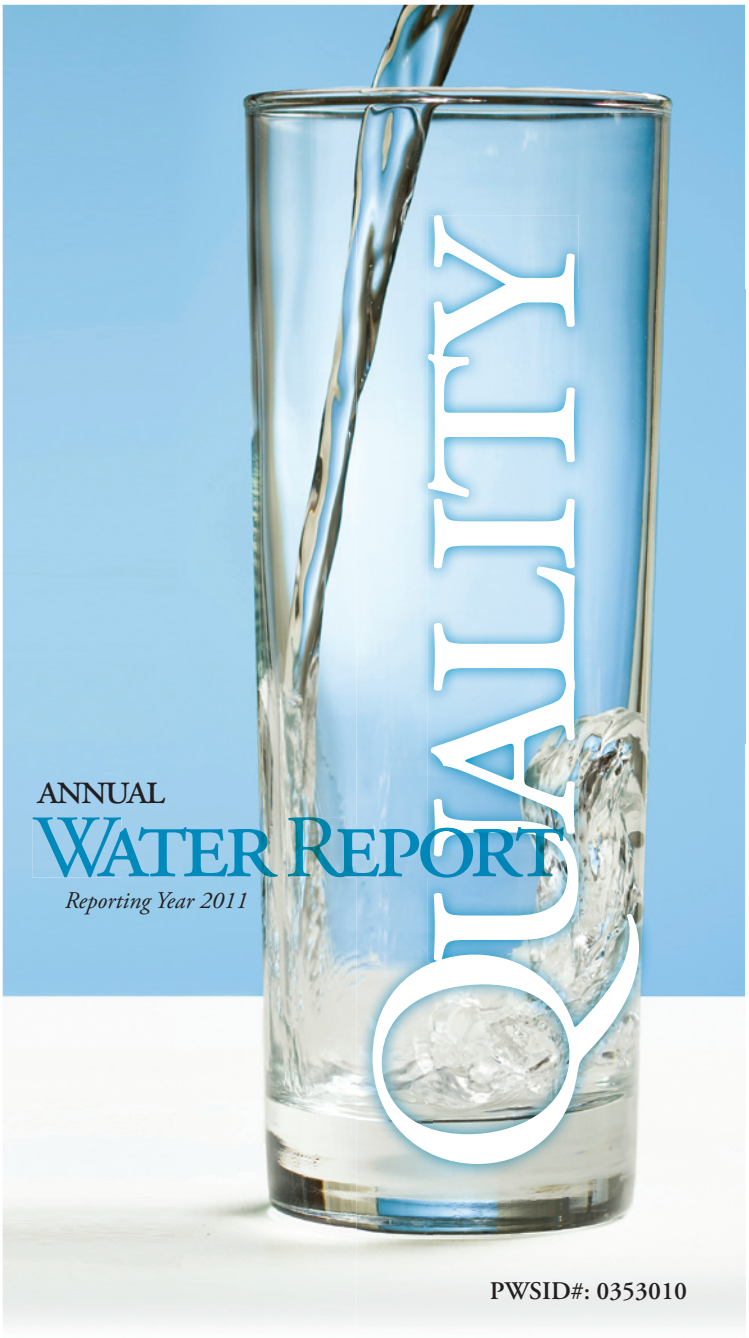

This report was prepared by:
City of Sanford
7441 Poplar Springs Church Road
Sanford, NC 27330

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

Quality First

Once again we are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2011. This report is developed to keep you informed about your water quality, including details on where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. As in years past, we are committed to delivering the highest quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water customers. Thank you for allowing us to continue providing you and your family with high-quality drinking water.

We encourage you to share your thoughts with us on the information contained in this report. Should you have any questions or concerns on the information contained in this report, please call Mr. Scott Christiansen, Water Treatment Plant Superintendent, at (919) 775-8307.

Community Participation

The City Council meets the first and third Tuesdays of each month at 7:00 p.m. in the Council Chambers at the Municipal Building at 225 East Weatherspoon Street in Sanford. The Law and Finance Committee of the Council meets on the Wednesday preceding each Council Meeting in the Council Chambers at 1:00 p.m. Special meetings may be called in accordance with G.S. 160A-71. Meetings are open to the public.

Where Does My Water Come From?

The City of Sanford's customers are fortunate because they enjoy an abundant water supply from a single surface-water source, the Cape Fear River. The Deep River, Haw River, and Rocky River form the headwaters of the Cape Fear River Basin. The City of Sanford Water Treatment Plant serves the City of Sanford, Lee County, including Carolina Trace and the Town of Broadway, and sections of Chatham County, including Goldston-Gulf Sanitary District.

Violation Information

Date and Length of Violation: 1/1/2011 - 3/31/2011. Steps Taken to Correct Violation: Multiple actions have been taken to correct the Total Trihalomethanes violations, including scrutinizing operational parameters to ensure minimum chlorine dosage and maximum solids removal, calibrating process instrumentation, cleaning chlorine contact chambers, cleaning elevated storage tanks, increased distribution system flushing, and evaluating and enhancing treatment techniques.

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.

City of Sanford Public Access Channel

Please view the City of Sanford's Public Access Channel on Charter Cablevision Channel 11 for coverage of Council meetings, sewer and water construction activities, street closings, community announcements, and other information relevant to City activities.

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.

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 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 reports that include maps, background information, and a relative susceptibility rating of Higher, Moderate, or Lower.

The relative susceptibility rating of the water source for the City of Sanford 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 found that the Cape Fear River has a Higher susceptibility rating. It is important to note that a susceptibility rating of Higher does not imply poor water quality, but rather the system's potential to become contaminated by PCSs in the assessment area.

The complete SWAP report for the City of Sanford may be viewed on the Web at www.deh.enr.state.nc.us/pws/swap. To obtain a 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 a request to swap@ncmail.net. Please indicate your system name and public water supply identification number, as well as 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.

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.

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.

Information on the Internet

Visit the City of Sanford's Web Site (www.sanfordnc.net) for information on all City departments and departmental contacts. 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.deh.enr.state.nc.us) that provides complete and current information on water issues in North Carolina, including valuable information about our watershed.

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.

Should I be concerned about what I'm pouring down my drain?

If your home is served by a sewage system, your drain is an entrance to your wastewater disposal system and eventually to a drinking water source. Consider purchasing environmentally friendly home products whenever possible, and never pour hazardous materials (e.g., car engine oil) down the drain. Check with your health department for more information on proper disposal methods.

How long does it take a water supplier to produce one glass of drinking water?

It can take up to 45 minutes to produce a single glass of drinking water.

How much emergency water should I keep?

Typically, 1 gallon per person per day is recommended. For a family of four, that would be 12 gallons for 3 days. Humans can survive without food for 1 month, but can only survive 1 week without water.

Where does a water molecule spend most of its time on Earth?

In a 100-year period, a water molecule spends 98 years in the ocean, 20 months as ice, about 2 weeks in lakes and rivers, and less than a week in the atmosphere.

How many community water systems are there in the U.S.?

About 53,000 public water systems across the United States process 34 billion gallons of water per day for home and commercial use. Eighty-five percent of the population is served by these systems.

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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloramines[1] (ppm)	2011	[4]	[4]	2.28	ND–3.9	No	Water additive used to control microbes
Chlorine[2] (ppm)	2011	[4]	[4]	0.97	0.2–2.3	No	Water additive used to control microbes
Fluoride (ppm)	2011	4	4	0.68	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	23.97	15.3–32.6	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2011	80	NA	59.95	35–100.3	Yes	By-product of drinking water disinfection
Total Organic Carbon [TOC][3] (ppm)	2011	TT	NA	3.4	2.9–4.6	No	Naturally present in the environment
Turbidity[4] (NTU)	2011	TT = 1 NTU	NA	0.16	0.03–0.16	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2011	TT	NA	100	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 (ppm)	2010	1.3	1.3	0.058	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2010	15	0	3	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Manganese (ppb)	2011	50	NA	17	NA	No	Leaching from natural deposits
pH (Units)	2011	6.5–8.5	NA	7.5	NA	No	Measurement of acid or base neutralizing capacities of water
Sulfate (ppm)	2011	250	NA	36.8	NA	No	Runoff/leaching from natural deposits; Industrial wastes

[1] Running annual average of samples, Jan., Feb. and April-Dec.
[2] Average during chlorine disinfection during March.
[3] 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 the alternative % removal, we are in violation of a Treatment Technique.
[4] 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.

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.

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).

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