

Meeting the Challenge

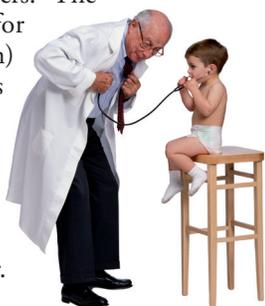
Once again we are proud to present our annual drinking water report, covering all drinking water testing performed between January 1 and December 31, 2015. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to your homes and businesses. 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 of our water users.

Please remember that we are always available to assist you, should you ever have any questions or concerns about your water.

For more information about this report, or for any questions relating to your drinking water, please call Rusty Campbell, Water Treatment Superintendent, at (704) 920-5337.

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>.



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 dissolves 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.

Where Does My Water Come From?

The City of Concord obtains water from five different sources. The City has two water treatment plants, which draw water from three surface water reservoirs. The Coddle Creek Water Treatment Plant draws water from Lake Don T. Howell. The Hillgrove Water Treatment Plant draws water from Lake Concord, Lake Fisher, and Lake Don T. Howell. The City of Concord also purchases water from the City of Kannapolis. For information on the quality of Kannapolis' water, contact Wilmer Melton, Director of Public Works, at (704) 920-4200. Plans are under way to ensure that we have an adequate water supply. Additionally, the City of Concord can purchase water from the City of Charlotte. For information on the quality of Charlotte's water, contact Charlotte-Mecklenburg Utilities at (704) 391-5144.

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 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 Concord and the City of Kannapolis 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:

The complete SWAP Report for the city of Concord may be viewed on the Web at http://www.ncwater.org/files/swap/SWAP_Reports/0113010_7_3_2015_85_11.pdf and the complete swap report for the City of Kannapolis may be viewed at http://www.ncwater.org/files/swap/SWAP_Reports/0180065_7_13_2015_85_11.pdf. Please note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this Web site may differ from the results that were available at the time this consumer confidence report was prepared. If you have any questions about the SWAP Report, please contact the Source Water Assessment staff by phone at (919) 715-2633.

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.

SUSCEPTIBILITY OF SOURCES TO PCSs		
SOURCE NAME	SUSCEPTIBILITY RATING	SWAP REPORT DATE
Lake Fisher/Coldwater Creek (Concord)	Moderate	July 3, 2015
Lake Concord/Coldwater Creek (Concord)	Moderate	July 3, 2015
Lake Don T. Howell (Concord and Kannapolis)	Moderate	July 3, 2015
Kannapolis Lake (Kannapolis)	Moderate	July 13, 2015
Second Creek/Back Creek (Kannapolis)	Moderate	July 13, 2015

Additional Testing

To comply with the Long Term 2 Enhanced Surface Water Treatment (LT2) Rule, the City of Concord began collecting monthly samples from its raw water sources in October 2015, for analysis of *Cryptosporidium* and *E. coli*. This sampling will continue for 24 months. Here are the results that were obtained in 2015:

Cryptosporidium: *Cryptosporidium* was detected in only one raw sample out of nine raw water samples. The detection was found at Lake Fisher, at a level of 0.089 oocysts/L.

E. coli: The following averages and ranges were obtained from analyses of the following City of Concord raw water sources (results shown are reported as MPN, colonies/100 mL of sample):

RAW WATER SOURCE	AVERAGE RESULT	RANGE
Lake Don T. Howell	23.1	2–60.9
Lake Fisher	129.1	2–379
Lake Concord	231.5	9.7–670

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 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/lead.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The Concord City Council meets the second Thursday of each month at 6 p.m., in the Council Chambers located at 35 Cabarrus Avenue W., Concord, NC.

Sampling Results

During the past year, we have taken hundreds of water samples 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 requires 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.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	City of Concord		Hillgrove WTP		Coddle Creek WTP		City of Kannapolis		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Atrazine (ppb)	2015	3	3	NA	NA	NA	NA	0.8	0–0.8	0.620	0–0.620	No	Runoff from herbicide used on row crops
Chlorine (ppm)	2015	[4]	[4]	0.92	0.20–2.05	NA	NA	NA	NA	0.90	0.20–1.94	No	Water additive used to control microbes
Fluoride (ppm)	2015	4	4	NA	NA	0.47	NA	0.41	NA	0 ¹	NA	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA]² (ppb)	2015	60	NA	57.6	26–75	NA	NA	NA	NA	43	23–52	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]³ (ppb)	2015	80	NA	71	35–103	NA	NA	NA	NA	60	19–93	No	By-product of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2015	5% of monthly samples are positive	0	3 ⁴	NA	NA	NA	NA	NA	2 ⁵	NA	No	Naturally present in the environment
Total Organic Carbon [TOC]⁶ (removal ratio)	2015	TT	NA	NA	NA	1.24	1.03–1.57	1.29	1.17–1.58	1.28	1.14–1.47	No	Naturally present in the environment
Turbidity⁷ (NTU)	2015	TT = 1 NTU	NA	NA	NA	0.17	0.03–0.17	0.25	0.04–0.25	0.261	0.024–0.261	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2015	TT = 95% of samples < 0.3 NTU	NA	NA	NA	100	NA	100	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	City of Concord				City of Kannapolis				VIOLATION	TYPICAL SOURCE
		AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES				
Copper (ppm)	2015	1.3	1.3	0.236	0/60	0.22	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits		
Lead (ppb)	2015	15	0	0	0/60	0	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits		

SECONDARY SUBSTANCES									
				Coddle Creek WTP		City of Kannapolis			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Iron (ppb)	2015	300	NA	NA	NA	20	NA	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2015	50	NA	18	NA	NA	NA	No	Leaching from natural deposits

UNREGULATED SUBSTANCES ⁸									
			Hillgrove WTP		Coddle Creek WTP		City of Kannapolis		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2015		19.64	NA	18.74	NA	20.9	NA	Naturally occurring
Sulfate (ppm)	2015		NA	NA	34.6	NA	18.6	NA	Naturally occurring

UNREGULATED CONTAMINANT MONITORING RULE PART 3 (UCMR3)									
		City of Concord		Hillgrove WTP		Coddle Creek WTP		City of Kannapolis	
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
1,4-dioxane (ppb)	2014	NA	NA	NA	NA	NA	NA	3.1	NA
Chlorate (ppb)	2015	113	NA	185	NA	68.2	NA	413 ⁹	NA ⁹
Chromium, Hexavalent (ppb)	2015	0.40	NA	0.21	NA	0.41	NA	0.083 ⁹	NA ⁹
Chromium, Total (ppb)	2015	0.42	NA	0.24	NA	0.69	NA	NA	NA
Strontium (ppb)	2015	129	NA	133	NA	128	NA	232 ⁹	NA ⁹
Vanadium (ppb)	2015	0.28	NA	0.44	NA	0.21	NA	0.49 ⁹	NA ⁹

¹ During the time period around the inorganic contaminant monitoring sweep Kannapolis was not feeding fluoride because of an engineering study that required fluoride not be fed. Therefore, we want to include the in-house fluoride sampling average throughout the year, which was 0.48 ppm.

² Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

³ 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.

⁴ Three samples out of 100 samples/month.

⁵ One sample out of 50 samples/month.

⁶ 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. Compliance Method: Step 1.

⁷ 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.

⁸ Unregulated contaminants are those for which U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted.

⁹ Sampled in 2014.

Definitions

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

LRAA (Locational Running Annual Average): 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.

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

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.

SMCL (Secondary Maximum Contaminant Level): SMCLs are established to regulate the aesthetics of drinking water like taste and odor.

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