2022 Annual Drinking Water Quality Report
Chatham County System

North System (03-19-126), **Asbury System** (40-19-010), **Southwest System** (03-19-050)

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

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 your sources of water, 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 Daniel Clevenger at Chatham County Water Treatment Plant (919)303-0055. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled Board of Commissioners Meetings (BOC). The BOC meetings are held the second Monday of each month at 6pm on the 2nd floor of the Historic Courthouse at 40 East Street in Pittsboro. Meetings are open to the public.**

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 microbial 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. Chatham County 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 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 can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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

B.Everett Jordan Reservoir (Jordan Lake) is a surface water supply developed and managed by the US Army Corps of Engineers and is part of the Cape Fear River basin. In addition, Chatham County North System (03-19-126) maintains water system interconnections with City of Durham and Chatham County Asbury System. Chatham County Asbury System (40-19-010) purchases water supply from City of Sanford. Chatham County Southwest System (03-19-050) purchases water supply from the City of Sanford and Town of Siler City.

Chatham County North System purchases treated water from City of Durham Water System, and their annual Water Quality Report can be viewed at: https://www.durhamnc.gov/3183/Water-Quality-Report

Chatham County Asbury System purchases treated water from City of Sanford Water System, and their annual Water Quality Report can be viewed at: https://sanfordnc.net/ArchiveCenter/ViewFile/Item/653

Chatham County Southwest System purchases treated water from City of Sanford Water System, and their annual Water Quality Report can be viewed at: https://sanfordnc.net/ArchiveCenter/ViewFile/Item/653

Chatham County Southwest System purchases treated water from Town of Siler City Water System, and their annual Water Quality Report can be viewed at: https://www.silercity.org/index.asp?SEC=11BDA92F-1B4A-414E-B993-831E2AC9DD1F

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environmental Quality (DEQ), 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 Chatham County 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 (PCSs)

Source System Name	Source Name	Susceptibility Rating	SWAP Report Date
Chatham County North System (03-19-126)	Jordan Lake Watershed	Higher	September 2020
Purchased Water Systems	**Source Name**	**Susceptibility Rating**	**SWAP Report Date**
Chatham County North System (03-19-126)	Lake Michie (City of Durham)	Higher	September 2020
	Little River Reservoir (City of Durham)	Higher	September 2020
Chatham County Asbury System (40-19-010)	Cape Fear River (City of Sanford)	Higher	September 2020
Chatham County Southwest System (03-19-050)	Rocky River (Town of Siler City)	Moderate	September 2020
	Cape Fear River (City of Sanford)	Higher	September 2020

The complete SWAP Assessment report for Chatham County may be viewed on the Web at: https://www.ncwater.org/?page=600 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 CCR was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, number, 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 919-707-9098.

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the system's potential to become contaminated by PCSs in the assessment area.

Water Quality Data Tables of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that we detected in the last round of sampling for each 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, 2022.** The EPA and the State allow 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.

Turbidity

System	Contaminant (units)	Treatment Technique (TT) Violation Y/N	Your Water	MCLG	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Chatham North	Turbidity (NTU) - Highest single turbidity measurement	No	.225 NTU	N/A	Turbidity > 1 NTU	Soil runoff
Chatham North	Turbidity (%) - Lowest monthly percentage (%) of samples meeting turbidity limits	No	100 %	N/A	Less than 95% of monthly turbidity measurements are ≤ 0.3 NTU.	

***** 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.

Inorganic Contaminants

System	Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Chatham North	Fluoride (ppm)	2022	No	.61	.12 - 1.46	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Lead and Copper Contaminants

System	Contaminant (units)	Sample Date	Your Water (90^{th} Percentile)	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination
Chatham Co North	Copper (ppm) (90^{th} percentile)	2021	.114	0/30	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Chatham Co North	Lead (ppb) (90^{th} percentile)	2021	0.0	0/30	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits
Chatham Co Asbury	Copper (ppm) (90^{th} percentile)	2022	.194	0/10	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Chatham Co Asbury	Lead (ppb) (90^{th} percentile)	2022	0.0	0/10	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits
Chatham Co. Southwest	Copper (ppm) (90^{th} percentile)	2020	0.0	0/10	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Chatham Co Southwest	Lead (ppb) (90^{th} percentile)	2020	0.0	0/10	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Total Organic Carbon (TOC)

System	Contaminant (units)	TT Violation Y/N	Your Water (Lowest RAA)	Range Monthly Removal Ratio Low - High	MCLG	Treatment Technique (TT) violation if:	Likely Source of Contamination
Chatham North	Total Organic Carbon (TOC) Removal Ratio (no units)	No	1.42	1.31 - 1.57	N/A	Removal Ration RAA <1.00 and alternative compliance criteria was not met	Naturally present in the environment

Disinfectant Residuals Summary

System		MRDL Violation Y/N	Your Water (Highest RAA)	Range Low High	MRDLG	MRDL	Likely Source of Contamination
Chatham Co North	Chlorine (ppm)	No	.47	.1 – 2.9	4	4.0	Water additive used to control microbes
Chatham Co North	Chloramines (ppm)	No	2.57	.8 – 3.7	4	4.0	Water additive used to control microbes
Chatham Co Asbury	Chlorine (ppm)	No	.30	.06 – 1.7	4	4.0	Water additive used to control microbes
Chatham Co Asbury	Chloramines (ppm)	No	1.82	.20 – 3.0	4	4.0	Water additive used to control microbes
Chatham Co Southwest	Chlorine (ppm)	No	.68	.06 – 2.4	4	4.0	Water additive used to control microbes
Chatham Co Southwest	Chloramines (ppm)	No	1.48	.20 – 3.1	4	4.0	Water additive used to control microbes

Stage 2 Disinfection Byproduct Compliance (LRAA)

System	Disinfection Byproduct	Year Sampled	MCL Violation Y/N	Your Water (Highest LRAA)	Range Low High	MCLG	MCL	Likely Source of Contamination
Chatham Co North	TTHM (ppb)	2022	No			N/A	80	Byproduct of drinking water disinfection
	Location B01			32	25 - 44			
	Location B02			32	25 - 42			
	Location B03			30	25 - 36			
	Location B04			33	28 - 42			
Chatham Co North	HAA5 (ppb)	2022	No			N/A	60	Byproduct of drinking water disinfection
	Location B01			8	4 - 12			
	Location B02			11	5 - 15			
	Location B03			14	6 - 14			
	Location B04			11	8 - 14			
Chatham Co Asbury	TTHM (ppb)	2022	No			N/A	80	Byproduct of drinking water disinfection

	Location B01			63	37 - 100			
	Location B02			65	31 - 112			
Chatham Co Asbury	HAA5 (ppb)	2022	No			N/A	60	Byproduct of drinking water disinfection
	Location B01			49	2 - 48			
	Location B02			35	10 - 38			
Chatham Co Southwest	TTHM (ppb)	2022	No			N/A	80	Byproduct of drinking water disinfection
	Location B01			59	35 - 92			
	Location B02			63	31 - 107			
Chatham Co Southwesst	HAA5 (ppb)	2022	No			N/A	60	Byproduct of drinking water disinfection
	Location B01			29	2 - 42			
	Location B02			38	7 - 40			

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.

The PWS Section requires monitoring for other misc. contaminants, some for which the EPA has set national secondary drinking water standards (SMCLs) because they may cause cosmetic effects or aesthetic effects (such as taste, odor, and/or color) in drinking water. The contaminants with SMCLs normally do not have any health effects and normally do not affect the safety of your water**.**

Other Miscellaneous Water Characteristics Contaminants

System	Contaminant (units)	Your Water	Range Low	Range High	SMCL
Chatham North	Iron (ppm)	.018	.001 - .090		0.3 mg/L
Chatham North	Manganese (ppm)	.004	.000 - .020		0.05 mg/L
Chatham North	Sodium (ppm)	33.2			N/A
Chatham North	Sulfate (ppm)	34			250 mg/L
Chatham North	pH	7.51	7.10 – 7.90		6.5 to 8.5
Chatham North	Total Hardness (ppm)	37	35 - 39		N/A
Chatham North	Total Calcium (ppm)	9.20	8.88 – 9.68		N/A
Chatham North	Total Magnesium (ppm)	3.38	3.20 – 3.59		N/A

Important Drinking Water Definitions:

- ***Not-Applicable (N/A)*** – Information not applicable/not required for that particular water system or for that particular rule.
- ***Non-Detects (ND)*** - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular 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.
- ***Parts per trillion (ppt) or Nanograms per liter (nanograms/L)*** - One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.
- ***Parts per quadrillion (ppq) or Picograms per liter (picograms/L)*** - One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.
- ***Picocuries per liter (pCi/L)*** - Picocuries per liter is a measure of the radioactivity in water.
- ***Million Fibers per Liter (MFL)*** - Million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.
- ***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.

- ***Variances and Exceptions*** – State or EPA permission not to meet an MCL or Treatment Technique under certain conditions.
- ***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 required process intended to reduce the level of a contaminant in drinking water.
- ***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 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.
- ***Locational Running Annual Average (LRAA)*** – 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.
- ***Running Annual Average (RAA)*** – The average of sample analytical results for samples taken during the previous four calendar quarters.
- ***Level 1 Assessment - A*** *Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.*
- ***Level 2 Assessment -*** *A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.*

- ***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.
