

Water Quality Report 2023: Drinking Water Analysis

Harnett County Regional WTP (PWS ID# 03-43-045)

Harnett Regional Water (HRW) is pleased to present the 2023 Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality and includes information regarding where your water is coming from, 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 provide you with this information, because informed customers are our best allies. If you have any questions about this report or your water supply, please contact Tracy Tant at 910-893-7575 ext. 3245. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of the regularly scheduled Harnett County Board of Commissioners meetings. They are held on the first and third Monday of each month at the Harnett County Resource Center and Library at 455 McKinney Parkway in Lillington, NC. The first meeting of the month is normally at 9:00 AM and the midmonth meeting normally begins at 6:00 PM.

What EPA Wants You to Know

Drinking water, including bottled water, may be expected to contain 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 (EPA) Safe Drinking Water Hotline (800-426-4791).

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 can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological 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. Harnett 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 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 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. Food and Drug Administration (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

The Water that is used by this system comes from the Cape Fear River, which is formed by the confluence of the Deep, and Haw River along the border between Chatham and Lee counties. We are a surface water treatment plant located at 310 West Duncan St. in Lillington NC.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environment Quality (NCDEQ), Public Water Supply (PWSS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessment was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs).

The relative susceptibility rating for Harnett Regional Water (HRW) was determined by combining the contaminant rating (number and locations of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of watershed and its delineated assessment area.) The assessment findings are summarized in the table below:

SWAP Result Summary		
Source Name	Susceptibility Rating	SWAP Report Date
CAPE FEAR RIVER	Moderate	9/10/2020
DUNN/CAPE FEAR RIVER	Higher	9/10/2020



Harnett Regional Water – Cape Fear River

The Complete SWAP Assessment report for Harnett Regional Water may be viewed on the website: <https://www.ncwater.org/?page=600> Note that because SWAP results and reports are periodically updated by the PWS section, the results may differ from the results on the CCR. To obtain 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 request to swap@deq.nc.gov. Please indicate System Name (Harnett Regional Water) PWSID (03-43-045), 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 systems' potential to become contaminated by PCS's in the assessment area.

Director's Corner

Additional Information

HRW experienced a very productive year in 2023. Harnett County continues to grow at an astounding pace with many new planned residential developments underway. HRW is busy planning to accommodate this growth to ensure our ability to provide our customers with outstanding water and sewer service well into the future. All of our existing residential and commercial water services now have new automated digital meters which do not require manual readings. All HRW customers have the ability to view and track water usage, receive notification of leaks, and learn tips to save money on their bills. This free service is part of our commitment to provide you with the best tools to manage your water use and bill. We encourage you to get started today by logging in to the WaterSmart portal with your mobile device or web browser. You can log on at <https://hrwc.watersmart.com>. There has been a lot of attention in the media lately concerning PFAS, which stands for per- and polyfluoroalkyl substances, which are a class of manmade chemicals present at low levels in most fresh water supplies, homes, offices, supermarkets-practically everywhere. These chemicals make consumer goods resistant to stains, grease, water, etc. and have been manufactured by companies for use in our consumer goods for years. The problem lies in that they are impossible to avoid and are called "forever chemicals" because they are nearly indestructible. These chemicals have recently been found to pose risks to our health. The United States Environmental Protection Agency (EPA) in association with the North Carolina Department of Environmental Quality (NCDEQ) has tasked public water systems to develop ways to reduce these chemicals to a safe level. HRW has begun a pilot project to do just that and is working towards implementing additional methods to ensure that these chemicals will be safely removed from our water supply.

We are very proud of our record of environmental compliance as evidenced by this water quality report. We did not have any water quality violations and produced excellent water for our customers as always. Contact us by email or phone to get your water treatment questions answered. HRW is very fortunate to have such a fine group of water treatment professionals who strive daily to provide only the best drinking water to all of our citizens. HRW will continue to serve the citizens of Harnett County and the surrounding region by supplying only the best of the most important commodity in the world, water.



We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The following tables list the contaminants detected in the last round of sampling. The presence of contaminants does not necessarily indicate that water poses a health risk. Unless otherwise noted, the data presented in these tables are from testing done January 1 through December 31, 2023. 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. In these tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

PPM – Parts per Million – One part per million corresponds to one minute in two years or a single penny in \$10,000.

PPB – Parts per Billion – One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

pCi/L - Picocuries per liter – Picocuries per liter is a measure of the radioactivity in water.

NTU – Nephelometric Turbidity Unit – Nephelometric turbidity is a measure of water clarity. Turbidity in excess of 5 NTU is just noticeable to average person

ND – Non-Detect – Laboratory analysis indicates that the contaminant is not present at level of detection set for the particular methodology used.

NA – Not Applicable – Information not applicable/not required for that particular water system or for that particular rule.

MCLG – Maximum Contaminant Level Goal – The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

MCL – Maximum Contaminant Level – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available Treatment technology.

SMCL – Secondary Maximum Contaminant Level

TT – Treatment Technique – is a required process intended to reduce the level of contaminant in drinking water.

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

MFL - Million Fibers per Liter - A measurement of the presence of asbestos fibers that are longer than 10 micrometers

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

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.

Step 1 TOC Removal Requirements

Misc. Water Characteristics Contaminants

Source Water TOC (Mg/L)	Source Water Alkalinity Mg/L as CaCO ₃ (in Percentages)		
	0-60	>60-120	>120
>2.0 – 4.0	35.0	25.0	15.0
>4.0 – 8.0	45.0	35.0	25.0
> 8.0	50.0	40.0	30.0

Contaminant (units)	Sample Date	Your Water	Secondary MCL
pH	1-9-23	7.90	6.5 to 8.5
Sulfate (ppm)	1-9-23	36.0	250
Sodium (ppm)	1-9-23	23.373	NA

Turbidity

Turbidity (NTU)	Treatment Technique (TT) Violation Y/N	Your Water	Treatment Technique (TT) Violation if :	Likely Source
Highest single measurement	N	.06	Turbidity > 1 NTU	Soil runoff
Lowest monthly percentage of samples meeting turbidity limits	N	100%	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

Microbiological Contaminants

Contaminant (units)	MCL	MCLG	Your Water	MCL Violation	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	> 5 % triggers level 1 assessment	N/A	1%	N	Naturally present in the environment
Fecal Coliform or E. coli (presence or absence)	Routine and repeat samples are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli Note: If either an original routine sample and/or its repeat samples(s) are E. coli positive, a Tier 1 violation exists.	0	0%	N	Human and Animal Fecal Waste

Regulated Inorganic Contaminants

Contaminant (units)	MCL	MCLG	Your Water	Range	Date of Sample	Violation	Likely Source of Contamination
Fluoride (ppm)	4	4	0.44	N/A	1/09/23	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories

Lead and Copper Contaminants

Contaminant [code] (units)	MCL	MCLG	Your Water	# of sites found above the AL	Date of Sample	Violation	Likely Source of Contamination
Copper (ppm) 90 th Percentile	AL=1.3	1.3	0.102	0	8/2022-9/2022	N	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) 90 th Percentile	AL=15	0	N/D	0	8/2022-9/2022	N	Corrosion of household plumbing systems, erosion of natural deposits

Disinfection Residuals Summary

Contaminant	YEAR	MRDL	MRDLG	Your Water LRAA	Range Individual Results	MRDL Violation	Likely Source of Contamination
Chlorine Dioxide (ppb)	2023	800	800	N/A	0 - 406	N	Water additive used to control microbes
Chloramines (ppm)	2023	4	4	2.79	1.0 - 4.40	N	Water additive used to control microbes
Chlorine (only month of March)(ppm)	2023	4	4	1.89	0.8 - 3.8	N	Water additive used to control microbes

Disinfection By-Product Precursors Contaminants

Contaminant (units)	TT Violation Y/N	Your Water Ratio	Range Ratio	MCLG	MCL	Likely Source of Contamination	Compliance Method
Total Organic Carbon (Ratio)	N	1.20	1.05 - 1.50	N/A	TT	Naturally present in the environment	Step 1

Contaminant	YEAR	MCL	MCLG	Your Water Highest LRAA	Range Individual Results	Violation	Likely Source of Contamination
TTHM (ppb)	2023	80	N/A	43.0		N	By-product of chlorination
TTHM (ppb) B01	2023	80	N/A		23.1 - 52.4	N	By-product of chlorination
TTHM (ppb) B02	2023	80	N/A		26.0 - 52.3	N	By-product of chlorination
TTHM (ppb) B03	2023	80	N/A		16.7 - 44.2	N	By-product of chlorination
TTHM (ppb) B04	2023	80	N/A		27.5 - 50.5	N	By-product of chlorination
TTHM (ppb) B05	2023	80	N/A		25.4 - 48.5	N	By-product of chlorination
TTHM (ppb) B06	2023	80	N/A		21.2 - 44.9	N	By-product of chlorination
TTHM (ppb) B07	2023	80	N/A		20.8 - 55.1	N	By-product of chlorination
TTHM (ppb) B08	2023	80	N/A		27.6 - 50.0	N	By-product of chlorination
HAA5 (ppb)	2023	60	N/A	28.5		N	By-product of chlorination
HAA5 (ppb) B01	2023	60	N/A		22.9 - 26.4	N	By-product of chlorination
HAA5 (ppb) B02	2023	60	N/A		19.2 - 25.5	N	By-product of chlorination
HAA5 (ppb) B03	2023	60	N/A		19.8 - 30.6	N	By-product of chlorination
HAA5 (ppb) B04	2023	60	N/A		26.6 - 31.9	N	By-product of chlorination
HAA5 (ppb) B05	2023	60	N/A		21.8 - 30.3	N	By-product of chlorination
HAA5 (ppb) B06	2023	60	N/A		19.8 - 26.9	N	By-product of chlorination
HAA5 (ppb) B07	2023	60	N/A		18.9 - 28.6	N	By-product of chlorination
HAA5 (ppb) B08	2023	60	N/A		21.3 - 28.0	N	By-product of chlorination
CHLORITE (ppm)	2023	1.0	0.8	0.51	0.22 - 0.60	N	By-product of drinking water disinfection

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

Radiological Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Radium 228 (pCi/L)	10-12-21	N	1.1	0	5	Erosion of natural deposits

Synthetic Organic Chemical (SOC) Contaminant Including Pesticides and Herbicides

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range High-Low	MCLG	MCL	Likely Source of Contamination
Atrazine (ppb)	4-11-23	N	0.27	N/A	3	3	Runoff from herbicide used on row crops
Di(2-ethylhexyl) phthalate (ppb)	6-21-23	N	3.01	N/A	0	6	Discharge from rubber and chemical factories

Water Quality Table(s) For City of Dunn PWS# 03-43-010 :2023 (Purchased)

Turbidity

Turbidity (NTU)	Treatment Technique (TT) Violation Y/N	Your Water	Treatment Technique (TT) Violation if :	Likely Source
Highest single measurement	N	0.22-NTU	Turbidity > 1 NTU	Soil runoff
Lowest monthly percentage of samples meeting turbidity limits	N	100%	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

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Fluoride (ppm)	1/10/23	N	0.49	N/A		4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	7/19 to 8/22	0.14	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 th percentile)	7/19 to 8/22	ND	0	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Radiological Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Beta/Photon emitters (pCi/L)	10/01/18	N	4.4pCi/L	N/A		0	50 *	Decay of natural and man-made deposits

Total Organic Carbon (TOC)

Contaminant (units)	TT Violation Y/N	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low - High	MCLG	TT	Likely Source of Contamination	Compliance Method (Step 1 or ACC#)
Total Organic Carbon (removal ratio)(TOC)-TREATED	N	1.15	0.90 - 1.59	N/A	TT	Naturally present in the environment	Step 1

Stage 2 Disinfection Byproduct Compliance - Based upon Locational Running Annual Average (LRAA)

Disinfection Byproduct	Year Sampled	MCL Violation Y/N	Your Water (highest LRAA)	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
TTHM (ppb)								
Location								
B01	2023	N	46 ppb	30 - 48 ppb		N/A	80	Byproduct of drinking water disinfection
B02	2023	N	47 ppb	17 - 51 ppb		N/A	80	Byproduct of drinking water disinfection
B03	2023	N	42 ppb	17 - 45 ppb		N/A	80	Byproduct of drinking water disinfection
B04	2023	N	38 ppb	16 - 47 ppb		N/A	80	Byproduct of drinking water disinfection
HAA5 (ppb)								
Location								
B01	2023	N	32 ppb	15 - 34 ppb		N/A	60	Byproduct of drinking water disinfection
B02	2023	N	30 ppb	15 - 39 ppb		N/A	60	Byproduct of drinking water disinfection
B03	2023	N	35 ppb	15 - 35 ppb		N/A	60	Byproduct of drinking water disinfection
B04	2023	N	32 ppb	16 - 39 ppb		N/A	60	Byproduct of drinking water disinfection

Disinfectant Residuals Summary

Contaminant (units)	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range		MRDLG	MRDL	Likely Source of Contamination
				Low	High			
Chlorine (ppm)	2023	N	0.42 ppm	0.1 - 1.7 ppm		4	4.0	Water additive used to control microbes
Chloramines (ppm)	2023	N	2.30 ppm	1.0 - 3.4 ppm		4	4.0	Water additive used to control microbes

Nitrate/Nitrite Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Nitrate (as Nitrogen) ppm	1/10/23	N	ND	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Other Miscellaneous Water Characteristics Contaminants

Contaminant (units)	Sample Date	Your Water	Range		SMCL
			Low	High	
Manganese (ppm)	1/10/23	ND	N/A		0.05 mg/L
Sodium (ppm)	1/10/23	23.4	N/A		N/A
Sulfate (ppm)	1/10/23	34.2	N/A		250 mg/L
pH	1/10/23	7.3	N/A		6.5 to 8.5

UCMR5 sampling 2023 - Entry point (EP1)

Contaminant (ppb)	Sample Date	Your Water	Range	
			Low	High
perfluorobutanoic acid (PFBA)	2023	0.010	0.007 - 0.013 ppb	
perfluoropentanoic acid (PFPeA)	2023	0.013	0.008 - 0.022 ppb	
perfluorohexanoic acid (PFHxA)	2023	0.012	0.008 - 0.020 ppb	
perfluoroheptanoic acid (PFHpA)	2023	0.005	0.004 - 0.008 ppb	
perfluorooctanoic acid (PFOA)	2023	0.009	0.006 - 0.012 ppb	
perfluorobutanesulfonic acid (PFBS)	2023	0.008	0.005 - 0.014 ppb	
perfluorohexanesulfonic acid (PFHxS)	2023	0.004	0.003 - 0.005 ppb	
perfluorooctanesulfonic acid (PFOS)	2023	0.012	0.010 - 0.014 ppb	