



# PIEDMONT TRIAD REGIONAL WATER AUTHORITY

## 2023 Annual Drinking Water Quality Report PWSID# NC3076010

We are pleased to present this year's Annual Drinking Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies. If you have any questions about this report or concerning your water, please contact Greg Flory, PTRWA Executive Director at (336) 498-5510. 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 meetings. They are held on the second Tuesday of the month at PTRWA.

### **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. Piedmont Triad Regional Water Authority 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.

In order 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.

### **Where Does My Water Come From?**

Piedmont Triad Regional Water Authority ('PTRWA') uses surface water from Randleman Regional Reservoir as its source of drinking water. Randleman Reservoir is a man-made reservoir at the confluence of Muddy Creek and the Deep River. The reservoir holds approximately 18.3 billion gallons of water and is capable of providing up to 48 million gallons of treated water a day. A 200-foot-wide buffer is maintained around the reservoir to protect and enhance water quality.

### **Description of the Water Treatment Process**

Your water is treated in a "treatment train" (a series of processes applied in a sequence) that includes coagulation, flocculation/sedimentation, filtration, and disinfection. Coagulation removes dirt and other particles suspended in the source water by adding chemicals (coagulants) to form tiny sticky particles called "floc," which attract the dirt particles. Flocculation (the formation of larger flocs from smaller flocs) and sedimentation (where the heavy particles settle naturally out of the water) occur in a combined basin called a SuperPulsator. The clear water then moves to the filtration process where the water passes through anthracite, sand, gravel, carbon and membrane filters that remove even smaller particles. Chlorine addition is the disinfection method used to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water before water is stored and distributed to our partners. Fluoride is also added to the water at this stage to establish a baseline fluoride residual that provides additional dental health benefits. A blended orthophosphate chemical is also added at this stage to control corrosion in the distribution system. As the water is sent to the distribution system, ammonia is added to create chloramines which help to maintain a stable disinfectant residual in the system while minimizing the production of disinfection by-products.

## Source Water Assessment and Its Availability

The North Carolina Department of Environmental Quality (DEQ), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducts assessments of all drinking water sources across North Carolina. The purpose of the assessments is to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessments 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 the Piedmont Triad Regional Water Authority intake 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:

SOURCE NAME	INHERENT VULNERABILITY RATING	CONTAMINANT RATING	SUSCEPTIBILITY RATING
Randleman Lake	Higher	Higher	Higher

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 potential contaminant sources in the assessment area.

The complete SWAP Assessment report for the Piedmont Triad Regional Water Authority 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 a 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](mailto:swap@ncdenr.gov). Please indicate the 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.

## Source Water Protection Tips

In North Carolina, stormwater runoff is the number one source of pollution to our surface water. Fertilizer and pesticide applications, automotive maintenance, littering, and improper disposal of pet waste are some of the ways we all contribute to water pollution.

As water from rain or melting snow flows over land, it collects harmful pollutants on its journey to the closest storm drain, drainage ditch or waterway. Though the amount of any particular pollutant might not seem like much, when multiplied by the size of a given community, it can have a major impact on the quality of our water. Proper disposal of waste and elimination of erosion are some of the best ways to protect your water source and ensure a safe environment.

Protection of drinking water is everyone's responsibility. You can help protect your drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides – they can contain hazardous chemicals that can reach your drinking water source.
- Pick up your pet's waste.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public wastewater system. It is recommended that septic tanks be pumped every 3 to 5 years.
- Dispose of chemicals, paint and other household products properly; take used motor oil and antifreeze to a recycling center.
- Volunteer in your community. Find a watershed protection organization in your community and volunteer to help.
- Organize a storm drain stenciling project with your local government or water supplier. Stencil a message next to the street drain reminding people "Dump No Waste - Drains to River" or "Protect Your Water." Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

## **Cryptosporidium**

Our system previously monitored for *Cryptosporidium* and measured levels of 0.091 and 0.095 *Cryptosporidium* oocysts/L in 2 of the 24 samples collected.

*Cryptosporidium* is a microbial pathogen found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

## **Additional Information on Lead in Drinking Water**

As a wholesale water supplier, without retail customers, PTRWA does not conduct distribution system lead and copper monitoring; this monitoring is performed by the individual water suppliers that PTRWA sells water to. The sampling is performed by each system by collecting samples from select residences in each of their water distribution systems. For detailed information on lead levels in your water system water users should contact the water system who they receive their water bill from.

## **Unregulated Contaminants**

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted. EPA has proposed draft regulations for several of the unregulated contaminants that were detected in our water. PTRWA has been monitoring these contaminants and studying what improvements will be required in our treatment process to remove these contaminants. Additional information on the health effects that are known about some of these contaminants can be found at [www.epa.gov/sdwa/drinking-water-health-advisories-pfoa-and-pfos](http://www.epa.gov/sdwa/drinking-water-health-advisories-pfoa-and-pfos) and <https://www.atsdr.cdc.gov/toxfaqs/tfacts187.pdf>. Additional information on the regulatory process and the regulations being proposed for some of these contaminants can be found at [www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas](http://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas). Further information on steps North Carolina is taking to address these contaminants can be found at [www.deq.nc.gov/news/key-issues/emerging-compounds/understanding-pfas](http://www.deq.nc.gov/news/key-issues/emerging-compounds/understanding-pfas).

## **Water Conservation Tips**

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 80 to 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference – try one today and soon it will become second nature:

- Take short showers - a 5-minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Visit [www.epa.gov/watersense](http://www.epa.gov/watersense) for more information.

## **Awards and Certificates**

In 2015, 2016, 2017, 2018, 2019, 2020, 2021 and 2022 the PTRWA water treatment facility received recognition as an optimized treatment facility under the North Carolina Division of Water Resources Area Wide Optimization Program. The award was achieved by consistently meeting target turbidity levels of 0.1 NTU, well below the regulatory limit of 0.3 NTU. By constantly meeting this low level of turbidity, the facility achieved significant water quality benefits.

## **Variance and Exemptions**

We are not currently operating under any formal variances or exemptions.

# Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the regulated drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA and/or the State of North Carolina require us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

<u>Contaminants</u>	<u>MCLG</u> or <u>MRDLG</u>	<u>MCL,</u> <u>TT, or</u> <u>MRDL</u>	<u>Your</u> <u>Water</u>	<u>Range</u>		<u>Sample</u> <u>Date</u>	<u>Violation</u>	<u>Typical Source</u>
				<u>Low</u>	<u>High</u>			
<b>Disinfectants &amp; Disinfectant By-Products</b>								
(The addition of a disinfectant is necessary for control of microbial contaminants)								
Chlorine (ppm)	4	4	2.88	2.62	3.15	2023	No	Water additive used to control microbes
Chloramine (ppm)	4	4	2.79	2.70	2.93	2023	No	Water additive used to control microbes
<b>Inorganic Contaminants</b>								
Fluoride (ppm)	4	4	0.71	0.66	0.76	2023	No	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes dental
<b>Turbidity</b>								
Contaminant (units)		Treatment Technique (TT) Violation Y/N	Your Water	MCLG		Treatment Technique (TT) Violation if:		Likely Source of Contamination
Turbidity (NTU) - Highest single turbidity measurement		N	0.04 NTU	N/A		Turbidity > 1 NTU		Soil runoff
Turbidity (%) - Lowest monthly percentage (%) of samples meeting turbidity limits		N	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.								

<b>Total Organic Carbon (TOC)</b>							
<u>Contaminants</u>	<u>TT Violation</u>	<u>Your Water</u> <u>(RAA Removal</u> <u>Ratio)</u>	<u>Range Monthly</u> <u>Removal Ratio</u>		<u>MCLG</u>	<u>TT</u>	<u>Typical Source</u>
			<u>Low</u>	<u>High</u>			
Total Organic Carbon (Removal Ratio) – Treated TOC	No	1.49	1.45	1.54	N/A	TT	Naturally present in the environment

**Unregulated Contaminants** – These samples are generally collected as one time sampling events for special purposes. – These results are for samples collected as the water enters the treatment plant, since the plant does not currently have treatment to remove the contaminants the levels are most likely indicative of the level leaving the treatment plant.

Contaminant (units)	Year	Your Water (Average if more than 1 sample)	Note
Perfluorooctanoic acid (PFOA) -ppt	2023	5.8	PTRWA is in the initial stages of beginning a construction project for the installation of advanced treatment. The goal of the advanced treatment project is to bring these emerging contaminants to below the currently proposed regulatory levels.
Perfluorooctanesulfonic acid (PFOS) - ppt	2023	11	
Perfluorobutanesulfonic acid (PFBS) - ppt	2023	4.1	
Perfluorohexanesulfonic acid (PFHxS) - ppt	2023	6.2	
Perfluoroheptanoic acid (PFHpA) -ppt	2023	3.9	
Perfluorohexanoic acid (PFHxA) - ppt	2023	9.6	
Perfluoropentanoic acid (PFPeA) - ppt	2023	12	
Perfluorobutanoic acid (PFBA) - ppt	2023	3.8	
1,4-Dioxane - ppb	2023	0.94	

**Unit Descriptions**

Term	Definition
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.
Nephelometric Turbidity Unit, 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.
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.
Not-Applicable, NA	NA: not applicable
Non-Detects, ND	ND: Not detected
Not-Required, NR	NR: Monitoring not required, but recommended.

**Important Drinking Water Definitions**

Term	Definition
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.
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.
Treatment Technique, TT	A required process intended to reduce the level of a contaminant in drinking water.
Action Level, AL	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
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.
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.

**For more information please**

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