



ANNUAL WATER QUALITY REPORT

Reporting Year 2023



Presented By
City of Monroe

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



PWS ID#: 01-90-010



Our Commitment

We are pleased to present to you this year's annual water quality report. This report is a snapshot of last year's water quality covering all testing performed between January 1 and December 31, 2023. 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 providing you with this information because informed customers are our best allies.

Water Treatment Process

Water from the Monroe Lakes receives extensive treatment at the John Glenn Water Treatment Plant. First, chemicals are mixed with the raw water to force small suspended particles to clump together. Water then flows into settling basins, where solids are removed, and then filtered through carbon and sand beds to remove any remaining particles. Chlorine and ammonia are added to disinfect the water, ensuring that it is safe for consumption when it reaches the customer. Fluoride is added to our water to promote dental hygiene. Finally, we adjust the pH to reduce corrosion in the distribution piping system and in your home or business. Catawba River water receives similar treatment.

“When the well is dry, we know the worth of water.”

—Benjamin Franklin



Public Participation Opportunities


The city's Public Enterprise Committee is made up of city council members and city staff. This committee meets the first Tuesday of each month at 4:00 p.m. at City Hall, 300 West Crowell Street, to discuss water and environmental issues.

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. Environmental Protection Agency (EPA)/Centers for Disease Control and Prevention (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 at (800) 426-4791 or water.epa.gov/drink/hotline.



Tip Top Tap



The most common signs that your faucet or sink is affecting the quality of your drinking water are discolored water, sink or faucet stains, a buildup of particles, unusual odors or tastes, and a reduced flow of water. The solutions to these problems may be in your hands.

Kitchen Sink and Drain

Hand washing, soap scum buildup, and the handling of raw meats and vegetables can contaminate your sink. Clogged drains can lead to unclean sinks and backed up water in which bacteria (i.e., pink- and black-colored slime growth) can grow and contaminate the sink area and faucet, causing a rotten egg odor. Disinfect and clean the sink and drain area regularly. Also, flush regularly with hot water.

Faucets, Screens, and Aerators

Chemicals and bacteria can splash and accumulate on the faucet screen and aerator, which are located on the tip of faucets, and can collect particles like sediment and minerals resulting in a decreased flow from the faucet. Clean and disinfect the aerators or screens on a regular basis.

Check with your plumber if you find particles in the faucet screen as they could be pieces of plastic from the hot water heater dip tube. Faucet gaskets can break down and cause black, oily slime. If you find this slime, replace the faucet gasket with a higher-quality product. White scaling or hard deposits on faucets and showerheads may be caused by hard water or water with high levels of calcium carbonate. Clean these fixtures with vinegar or use water softening to reduce the calcium carbonate levels for the hot water system.

Water Filtration/Treatment Devices

A smell of rotten eggs can be a sign of bacteria on the filters or in the treatment system. The system can also become clogged over time so regular filter replacement is important. (Remember to replace your refrigerator filter!)

QUESTIONS? For more information about this report, or for any questions relating to your drinking water, please contact David Rankin, Water Treatment Plant Superintendent, at (704) 282-4668.

Lead in Home Plumbing

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 in your home. You can take responsibility by identifying and removing lead materials within your home plumbing. 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 two minutes before using water for drinking or cooking. You can also use a filter certified by an American National Standards Institute-accredited certifier to reduce lead in drinking water. 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 at epa.gov/safewater/lead.



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.

Source Water Assessment

The North Carolina Department of Environmental Quality (NCDEQ), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) has conducted assessments for 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 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 is 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). It is important to understand that a higher susceptibility rating does not imply poor water quality, only the system's potential to become contaminated by PCSs in the assessment area. The assessment findings are summarized in the table below:

SUSCEPTIBILITY OF SOURCES TO POTENTIAL CONTAMINANT SOURCES (PCS)		
SOURCE NAME	SUSCEPTIBILITY RATING	SWAP REPORT DATE
Monroe Lakes	Moderate	September 9, 2020
Catawba River	Moderate	April 2003 (reviewed annually)

The complete report may be viewed at ncwater.org/?page=600. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this website may differ from the results that were available at the time this Consumer Confidence Report 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 swap@ncdenr.gov. Please indicate your system name and number and your name, mailing address, and phone number. If you have any questions about the SWAP report, please contact the source water assessment staff at (919) 707-9098.

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 contaminants 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.

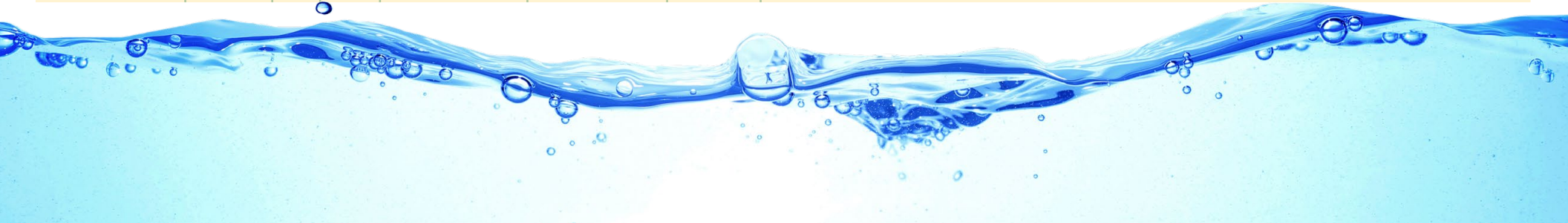
Unless otherwise noted, the data presented in this table is from testing done from January 1 through December 31, 2023. The U.S. EPA and the state allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than a year old.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Asbestos (MFL)	2022	7	7	ND	NA	No	Decay of asbestos cement water mains; erosion of natural deposits
Atrazine (ppb)	2023	3	3	0.78	0.27–1.61	No	Runoff from herbicide used on row crops
Chloramines (ppm)	2023	[4]	[4]	3.34	1.09–4.28	No	Water additive used to control microbes
Chlorine (ppm)	2023	[4]	[4]	3.79	1.89–4.32	No	Water additive used to control microbes
Dinoseb (ppb)	2023	7	7	ND	NA	No	Runoff from herbicide used on soybeans and vegetables
<i>E. coli</i> [at the groundwater source] (positive samples)	2023	NA	0	0	NA	No	Human and animal fecal waste in untreated groundwater
Fluoride (ppm)	2023	4	4	0.67	ND–0.67	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (ppm)	2023	10	10	ND	NA	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (ppm)	2023	1	1	ND	NA	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Simazine (ppb)	2023	4	4	0.43	ND–0.43	No	Herbicide runoff
Total Coliform Bacteria (positive samples)	2023	TT	NA	0	NA	No	Naturally present in the environment
Total Organic Carbon [TOC] (removal ratio)	2023	TT ¹	NA	1.39	1.39–1.73	No	Naturally present in the environment
Turbidity (NTU)	2023	TT = 1 NTU	NA	0.27	NA	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2023	TT = 95% of samples meet the limit	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 %ILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2023	1.3	1.3	ND	0/30	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2023	15	0	ND	0/30	No	Lead service lines; corrosion of household plumbing systems, including fittings and fixtures; erosion of natural deposits



OTHER REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloramines [Union County] (ppm)	2023	NA	NA	2.39	0.7–3.9	No	Water additive used to control microbes
Chlorine [Union County] (ppm)	2023	NA	NA	1.63	0.14–2.9	No	Water additive used to control microbes
HAA5 [B01] (ppb)	2023	60	NA	35	29–43	No	By-product of drinking water disinfection
HAA5 [B02] (ppb)	2023	60	NA	22	9–32	No	By-product of drinking water disinfection
HAA5 [B03] (ppb)	2023	60	NA	32	27–42	No	By-product of drinking water disinfection
HAA5 [B04] (ppb)	2023	60	NA	29	17–29	No	By-product of drinking water disinfection
TTHM [B01] (ppb)	2023	80	NA	58	47–68	No	By-product of drinking water disinfection
TTHM [B02] (ppb)	2023	80	NA	49	11–60	No	By-product of drinking water disinfection
TTHM [B03] (ppb)	2023	80	NA	57	43–67	No	By-product of drinking water disinfection
TTHM [B04] (ppb)	2023	80	NA	45	20–61	No	By-product of drinking water disinfection

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
pH (units)	2023	6.5-8.5	NA	7.5	NA	No	Naturally occurring

UNREGULATED SUBSTANCES²

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Perfluorobutanesulfonic Acid [PFBS] (ppt)	2023	3.9	3.1–4.7	NA
Perfluorobutanoic Acid [PFBA] (ppt)	2023	ND	ND–6.9	NA
Sodium (ppm)	2023	33.21	NA	NA

¹ Depending on the TOC in our source water, the system must have a certain percentage removal of TOC or alternative compliance criteria. If we do not achieve that percentage removal, there is an alternative percentage removal. If we fail to meet the alternative percentage removal, we are in violation of a treatment technique.

² 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.

Where Does My Water Come From?

The water used by the City of Monroe comes from two sources. The majority is from Monroe Lakes, with an intermittent supply from the Catawba River, located in Lancaster County, South Carolina.

The Monroe Lakes include Lake Twitty, Lake Lee, and Lake Monroe. Together, these lakes store over 2 billion gallons of water and can provide our customers with up to 11 million gallons of water per day. The Catawba River source can provide an additional 1.99 million gallons per day.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

HAA5: Sum of five haloacetic acids.

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.

MFL (million fibers per liter): A measure of the presence of asbestos fibers that are longer than 10 micrometers.

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 (µg/L) (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (mg/L) (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (ng/L) (parts per trillion): One part substance per trillion parts water (or nanograms 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): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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

TTHM: Total trihalomethanes.