

ANNUAL WATER QUALITY REPORT

Reporting Year 2022



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#: 0190010



Our Mission Continues

The City of Monroe is pleased to present our annual Drinking Water Quality Report covering all testing performed between January 1 and December 31, 2022. 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 you. 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 our water users in our growing community. Included are details about your water source, what it contains, and how it compares to standards set by regulatory agencies.

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 we 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 two 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

Public Participation Opportunities

The city has a Public Enterprise Committee made up of citizens, 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, Monroe, 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. 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>.

City Lakes Now Classified by NCDEQ As Impaired

Lakes Twitty, Lee, and Monroe are listed on the 2018 North Carolina Department of Environmental and Natural Resources Impaired Water 303(d) list. This means that the raw water quality in the lakes does not meet certain parameters set by the state. These water quality parameters are mostly related to nutrient enrichment (nitrogen and phosphorus) in the water. While there are no immediate human health implications or concerns, the impaired water quality does increase the cost of water treatment, creates taste and odors in the treated water, and introduces future challenges for meeting treated water regulations. Nutrients may enter the lakes from rainwater runoff, including animal droppings, fertilizers, urban stormwater runoff, runoff from agricultural land, and septic tanks.

“Thousands have lived without love, not one without water.”

—W.H. Auden

Water Treatment Process

Water from Monroe lakes receive extensive treatment at the John Glenn Water Treatment Plant. First, chemicals are mixed with the raw water to force the small suspended particles to clump together. Water then flows into settling basins, where solids are removed, and filtered through carbon and sand beds to remove any remaining particles. Chlorine and ammonia are added to disinfect the water, ensuring 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 the plumbing in your home or business. Catawba River water receives similar treatment.

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.

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.



Safeguard Your Drinking Water

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

- Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain it to reduce leaching to water sources, or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use U.S. EPA's Adopt Your Watershed to locate groups in your community.
- Organize a storm drain stenciling project with others in your neighborhood. 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.

Think before You Flush!

Flushing unused or expired medicines can be harmful to your drinking water. Properly disposing of unused or expired medication helps protect you and the environment. Keep medications out of our waterways by disposing responsibly. To find a convenient drop-off location near you, please visit <https://bit.ly/3leRyXy>.

Where Does My Water Come From?

The water used by the City of Monroe comes from different 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.



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, 2022. 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
Atrazine (ppb)	2022	3	3	0.01	ND–0.04	No	Runoff from herbicide used on row crops
Chloramines (ppm)	2022	[4]	[4]	2.14	ND–3.2	No	Water additive used to control microbes
Chloramines [Union County] (ppm)	2022	NA	NA	2.7	1.4–2.7	No	Water additive used to control microbes
Chlorine (ppm)	2022	[4]	[4]	0.36	0.01–4.0	No	Water additive used to control microbes
Chlorine [Union County] (ppm)	2022	NA	NA	2.1	0.15–2.1	No	Water additive used to control microbes
Dinoseb (ppb)	2022	7	7	0.035	ND–0.14	No	Runoff from herbicide used on soybeans and vegetables
Fluoride (ppm)	2022	4	4	0.58	0.58–0.58	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	2022	10	10	ND	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite (ppm)	2022	1	1	ND	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Simazine (ppb)	2022	4	4	0.009	ND–0.38	No	Herbicide runoff
Total Coliform Bacteria (positive samples)	2022	TT	NA	0	NA	No	Naturally present in the environment
Total Organic Carbon [TOC] (removal ratio)	2022	TT ¹	NA	1.44	0.69–1.67	No	Naturally present in the environment
Turbidity (NTU)	2022	TT = 1 NTU	NA	0.32	NA	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2022	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)	2020	1.3	1.3	ND	0/	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2020	15	0	ND	0/	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
HAA5 [B01] (ppb)	2022	60	NA	32	27–44	No	By-product of drinking water disinfection
HAA5 [B02] (ppb)	2022	60	NA	21	8–48	No	By-product of drinking water disinfection
HAA5 [B03] (ppb)	2022	60	NA	29	25–38	No	By-product of drinking water disinfection
HAA5 [B04] (ppb)	2022	60	NA	28	13–43	No	By-product of drinking water disinfection
TTHM [B01] (ppb)	2022	80	NA	49	41–59	No	By-product of drinking water disinfection
TTHM [B02] (ppb)	2022	80	NA	47	16–56	No	By-product of drinking water disinfection
TTHM [B03] (ppb)	2022	80	NA	48	46–55	No	By-product of drinking water disinfection
TTHM [B04] (ppb)	2022	80	NA	47	21–56	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)	2022	6.5-8.5	NA	7.4	7.4–8.0	No	Naturally occurring

UNREGULATED SUBSTANCES²

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2022	39.9	39.9–39.9	NA

¹ Depending on the TOC in our source water, the system must have a certain percentage removal of TOC or achieve 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.

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.

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 (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): 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.

Source Water Assessment

The North Carolina Department of Environmental Quality (NCDEQ), 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 (PCS). 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 was determined by combining the contaminant rating (number and location of PCS 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 susceptibility rating of higher 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 SWAP report may be viewed 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 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 online, 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 and 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 at (919) 707-9098.