

ANNUAL WATER QUALITY REPORT

Reporting Year 2025



Presented By
City of Charleston



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, 2025. Included are details about your source 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.

Where Does My Water Come From?

The water treatment plant draws water from the Charleston Side Channel Reservoir intake (01670) year-round, and when the Embarras River conditions are good, it pumps water from the river intake (01680) into the Side Channel Reservoir.



PFAS Sampling Initiative

In 2025 our public water system was sampled as part of the fifth round of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR5). Results from this sampling indicated per- and polyfluoroalkyl substances (PFAS) were detected in our drinking water below the health advisory level established by the Illinois EPA (IEPA). Follow-up monitoring is being conducted. For more information about PFAS health advisories, visit <https://www2.illinois.gov/epa/topics/water-quality/pfas/Pages/pfas-healthadvisory.aspx>.

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 can be particularly at risk from infections. These people should seek advice about drinking water from their health-care providers. U.S. Environmental Protection Agency (U.S. 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 (800-426-4791) or epa.gov/safewater.



Water Treatment Process

The treatment process consists of raw water drawn from the Side Channel Reservoir and sent to a head tank, which allows for contact time with alum and cationic polymer to prepare for the clarification process. The water then moves to a clarifier where hydrated lime is added. The combination of these substances causes small particles called floc to adhere to one another, making them heavy enough to settle into the clarifier, allowing cleaner, softened water to move to the next stage in treatment. Carbon dioxide is then added for pH adjustment, and the water is treated with ozone to eliminate taste- and odor-causing compounds. A polyphosphate is added as a corrosion inhibitor after the ozone contact tank, and the water is then finished in our granular activated carbon filters, removing the solids that were not eliminated in the clarifier. After filtration the water is treated with bleach for disinfection, and fluoride is added for dental protection. Water enters the clearwell tank for contact time with the bleach to remove pathogens and bacteria.



A final addition of bleach and ammonia is added to create monochloramines as a precaution against any bacteria. (We carefully monitor the amount of bleach, adding the lowest quantity necessary to protect the safety of your water without compromising taste.) Water is then pumped from the treatment plant to the elevated water towers in town.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet on the first and third Tuesday of every month at 6:30 p.m. in Council Chambers on the second floor of City Hall, 520 Jackson Avenue.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Trevor Stewart, Water Treatment Plant Superintendent, at (217) 345-2977.

Substances That Could Be in Water

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 occur naturally in the soil or groundwater 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 can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive Contaminants, which can occur naturally or be the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. 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 contaminants does not necessarily mean that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Safe Drinking Water Hotline (800-426-4791) or visiting epa.gov/safewater.

Source Water Assessment

A source water assessment has been completed for our system. The purpose of the assessment is to determine the susceptibility of each drinking water source to potential contaminant sources. The report includes background information and a relative susceptibility rating of higher, moderate, or lower. It is important to understand that a higher susceptibility rating does not imply poor water quality, only the system's potential to become contaminated within the assessment area. The assessment findings are summarized in the table below. Possible source water contaminants could consist of farmland runoff, landfill runoff, wastewater plant discharge, or leaking underground storage tanks. All are identified on the Source Water Assessment as potential sources of contamination.

SUSCEPTIBILITY OF SOURCES TO POTENTIAL CONTAMINANT SOURCES	
SOURCE NAME:	SUSCEPTIBILITY RATING:
Charleston Side Channel Reservoir	Lower
Embarras River	Moderate
SWAP REPORT DATE: 2011	

If you would like a copy of our assessment, please feel free to contact our office during regular business hours at the number provided in this report.

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. Charleston Water is responsible for providing high-quality drinking water and removing lead pipes but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, or doing laundry or a load of dishes. 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 and wish to have your water tested, contact Trevor or Dan at the Charleston water treatment plant at (217) 345-2977. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at epa.gov/safewater/lead.

To address lead in drinking water, public water systems were required to develop and maintain an inventory of service line materials by October 16, 2024. Developing an inventory and identifying the location of lead service lines (LSL) is the first step for beginning LSL replacement and protecting public health. The lead service inventory may be accessed on the City of Charleston website, charlestonillinois.org. Please contact us if you would like more information about the inventory or any lead sampling that has been done.



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data is included, along with the year in which the sample was taken.

Our water system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by the U.S. EPA. The purpose of monitoring for these contaminants is to help the U.S. EPA decide whether the contaminants should have a standard. As our customers, you have a right to know that this data is available. If you are interested in examining the results, please contact Trevor Stewart at (217) 345-2977 or 2600 McKinley Avenue, Charleston IL 61920.

The percentage of total organic carbon (TOC) removal was measured each month, and the system met all TOC removal requirements set by the IEPA.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2025	2	2	0.021	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Bromate (ppb)	2025	10	0	1.4	NA	No	By-product of drinking water disinfection
Chloramines (ppm)	2025	[4]	[4]	2.3	1.6–3.4	No	Water additive used to control microbes
Fluoride (ppm)	2025	4	4	0.7	0.699–0.699	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA5] (ppb)	2025	60	NA	11	5.28–26	No	By-product of drinking water disinfection
Nitrate (ppm)	2025	10	10	1.0	0.64–0.64	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium (ppm)	2025	NS ¹	NA	0.018	NA	No	Erosion of naturally occurring deposits; Used in water softener regeneration
Total Trihalomethanes [TTHMs] (ppb)	2025	80	NA	21	10.89–32.3	No	By-product of drinking water disinfection
Turbidity ² (NTU)	2025	TT	NA	0.15	NA	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2025	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 community³

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	RANGE LOW-HIGH	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2025	1.3	1.3	0.18	0.003–0.22	0/74	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2025	15	0	3.0	ND–83	2/74	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES⁴

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Perfluoropentanoic Acid [PFPeA] (ppb)	2025	0.0032	NA	NA

¹Sodium is not currently regulated by the U.S. EPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1,000 or more.

²Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

³This table summarizes our most recent lead and copper tap sampling data. If you would like to review the complete lead tap sampling data, please consult Drinking Water Watch at water.epa.state.il.us/dww/index.jsp.

⁴An MCL for this contaminant has not been established by either state or federal regulations, nor has mandatory health effects language. The purpose of unregulated contaminant monitoring is to assist the U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.



About Our Reporting Violations

CONSUMER CONFIDENCE RULE

The Consumer Confidence Rule requires community water systems to prepare and provide to their customers annual Consumer Confidence Reports on the quality of the water delivered by the system.

VIOLATION TYPE	VIOLATION BEGIN	VIOLATION END	VIOLATION EXPLAINED
CCR ADEQUACY/ AVAILABILITY/CONTENT	07/01/2024	2025	We failed to provide to you, our drinking water customers, an annual report that adequately informed you about the quality of our drinking water and the risks from exposure to contaminants detected in our drinking water.
CCR ADEQUACY/ AVAILABILITY/CONTENT	07/01/2025	2025	We failed to provide to you, our drinking water customers, an annual report that adequately informed you about the quality of our drinking water and the risks from exposure to contaminants detected in our drinking water.

LEAD AND COPPER RULE

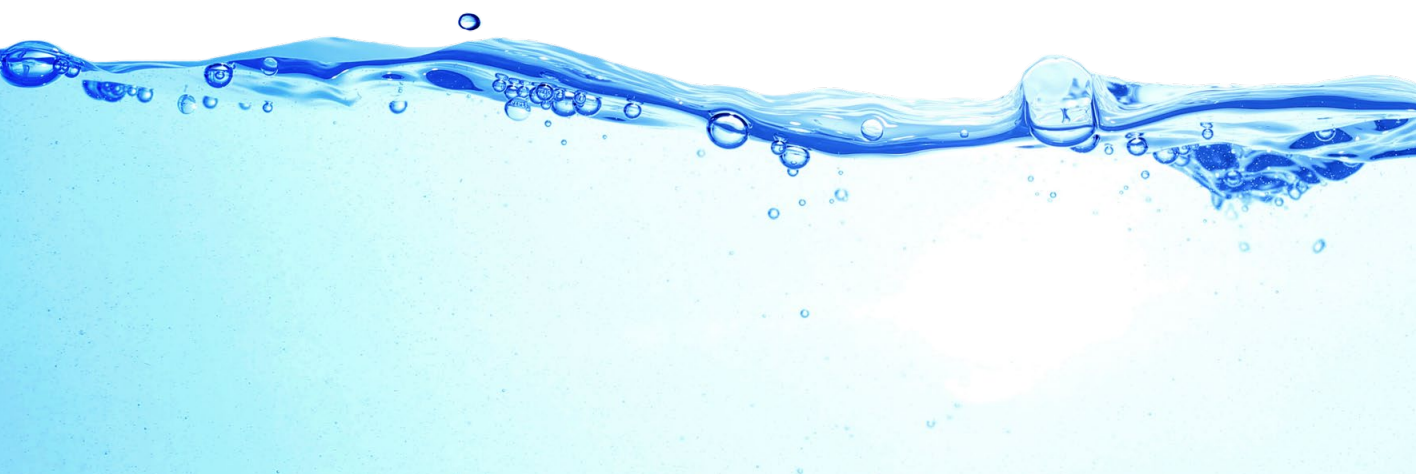
The Lead and Copper Rule protects public health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosivity. Lead and copper enter drinking water mainly from corrosion of plumbing materials.

VIOLATION TYPE	VIOLATION BEGIN	VIOLATION END	VIOLATION EXPLAINED
LSL INVENTORY-INITIAL	10/17/2024	04/15/2025	We failed to develop an approvable initial inventory of service lines connected to our distribution system by October 16, 2024.

PUBLIC NOTIFICATION RULE

The Public Notification Rule helps to ensure that consumers will always know if there is a problem with their drinking water. These notices immediately alert consumers if there is a serious problem with their drinking water (e.g., a boil water emergency).

VIOLATION TYPE	VIOLATION BEGIN	VIOLATION END	VIOLATION EXPLAINED
PUBLIC NOTICE RULE LINKED TO VIOLATION	09/01/2025	09/08/2025	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations.



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 that triggers treatment or other required actions by the water supply.

Herbicide: Any chemical(s) used to control undesirable vegetation.

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.

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.

NS: No standard.

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.

Pesticide: Generally, any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest.

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).

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