



Fredonia Water Department

PWSID #KY0170146

Water Quality Report

January 1 through December 31, 2025

Fredonia's Water Service Line Inventory

Fredonia's drinking water does not contain lead and meets all Environmental Protection Agency (EPA) standards for lead under the Lead and Copper Rule. Lead is rarely found in source water. However, water can pick up lead particles in private service lines and fixtures containing lead (i.e. water pipes, faucets, and plumbing). Older homes (those typically built before 1950) may have lead or galvanized service lines on the customer's property that connect to Fredonia Water's lines. There are privately-owned lead and galvanized service lines that remain.

As part of the EPA's new Lead and Copper Rule Improvements (LCRI), all water systems are required to continue inventorying both the water utility's and customer's side of every water service line. This is from the main water line, up to the entry point of a building and does not include premise plumbing. As our staff work to inventory the utility's side, we are asking you, our customers, to help provide the information needed for the private side. You can do this by looking at the pipe material where it enters your house. It should be either plastic, copper, galvanized, or lead. If it is a darker metal, see if a strong magnet will stick. If it does, the metal is galvanized. If it does not, try to lightly scratch the metal with a penny. If it is soft and silver, it is lead. If it is shiny copper, the pipe is copper. You can also review any plumbing records, house inspection records, or any other work completed when having to shut off the water to your house. Please fill out the customer survey provided to you about your side of the service line. If you need assistance with this, please stop by the office or call 270-545-3925.

Public Education

Check your toilet for leaks. Place a few drops of food coloring in the tank and let it sit. If there is color in the bowl, without flushing, there is a leak. Fixing that leak can save up to 1,000 gallons a month.

Turning off the water while you brush your teeth, shave, or wash your hair can save up to 500 gallons a month.

Pet wastes, pesticides, lawn fertilizers, and leaky septic tanks can contaminate waterways, wells, and springs.

A cross connection is a point in a plumbing system where the potable water supply is connected to a non-potable source. Briefly, a cross connection exists whenever the drinking water system is or could be connected to any non-potable source (plumbing fixture, equipment used in any plumbing system). Pollutants or contaminants can enter the safe drinking water system through uncontrolled cross connections when backflow occurs.

Cross connections are installed each day in the United States because people are unaware of the problems they can create. Death, illness, contaminated food products, industrial and chemical products rendered useless are some of the consequences

of such connections. As a result, many hours and dollars are lost due to cross connections.

Drinking water systems

may become

Polluted

or

Contaminated

through uncontrolled

cross connections



American Water Works Association- Pacific Northwest Section Graphic

Introduction

We are pleased to present to you this calendar year 2025 Annual Water Quality Report. This report is to inform you about the quality water and services that we deliver each day. Our mission is to provide you with a safe and dependable supply of drinking water.

What Is the Source of My Drinking Water?

Eddyville Water Department provides all water to Fredonia Water Department. Their water is a mix of groundwater from wells and surface water from Lake Barkley in Lyon County as the source of raw water. Susceptibility of contamination of Eddyville's water supply ranges from low to high. Analysis indicates that there are thirty-one potential contaminant sites with the possibility of contaminating the water supply in the watershed. Sources of high potential impact include underground storage tank facilities, hazardous materials transfer and storage, three marinas and docks, landfills, and roads, bridges and highways, failing septic systems, small scale wastewater treatment facilities, and farm operations. The complete Source Water Assessment Plan is available for review during normal business hours at the Eddyville City Hall at 153 West Main Street.

Fredonia Water Department has utility easement access to all water department meters on private properties.

To understand the possible health effects described for many regulated contaminants in the tables above, a person would have to drink 2 liters of water every day at the MCL level, for a lifetime, to have a one-in-a-million chance of having the described health effect(s)



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How Can I Get Involved?

We want our valued customers to be informed about their water utility. You are invited to attend our monthly City Council meetings. Commission meetings, open to the public, are held on the third Monday of each month at 7 p.m. local time at City Hall located at 312 W. Cassidy Avenue, Fredonia, KY 42411. If you have any questions about this report or concerning your water utility, please contact Cody Kirby at (270) 545-3925. Office hours are Mondays through Fridays 8 a.m. to 4:00 p.m. Please report any suspicious activities or potential water leaks, by calling the office.

Do I Need to Take Special Precautions?

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 their drinking water from their health care providers. Environmental Protection Agency (EPA) and the 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)

Information About Lead: 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. Fredonia Water Department 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, 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 in your water and wish to have your water tested, contact Fredonia Water at 270-545-3925. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>

Why Are There Contaminants in My Water?

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 may be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

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 before we treat it 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 storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. Pesticides or herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential areas. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can, also, come from gas stations, urban storm water runoff, and septic systems. Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

Important Definitions: Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology. Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow Maximum Residual Disinfectant 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. Maximum Residual Disinfectant 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. Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water. mg/L or ppm: milligrams per liter or parts per million, ug/L or ppb: micrograms per liter or parts per billion, pCi/l: picocuries per liter, NTU: Nephelometric Turbidity Unit. Turbidity has no health effects; however, it can provide a medium for microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system. N/A: Not Applicable. Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system. Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.



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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. Food and Drug Administration regulations establish limits for contaminants in bottled water that shall provide the same protection for public health. This water report includes monitoring reports from January to December 2025. In the absence of results for testing not required in 2025, the latest results have been provided.

In the tables below Chlorine, Copper, Lead, HAA5 and TTHM data are provided by Fredonia Water Dept. (PWSID: KY0170146). Fredonia also tests for Total Coliform Bacteria however because these were at undetectable levels, no results are included within the table. The remaining data are provided by the Eddyville Water Department (KY0720113) utilizing the key below.

A: Fredonia Water Department (KY0170146) and B: Eddyville Water Department (KY0720113)

Turbidity (NTU) TT* *Representative samples of filtered water	Allowable Levels			Highest Single Measurement	Lowest Monthly %	Violation	Likely Source
Turbidity is a measure of the clarity of water and not a contaminant	No more than 1 NTU; Less than 0.3 NTU in 95% monthly samples	-	-	B: 0.21	100	No	Soil runoff
Regulated Contaminants							
Inorganics							
Analyte	Highest Level Allowed (MCL)	EPA Goal (MCLG)	Our Range	Highest Detection	Date of Collection	Violation (Yes/No)	Source of Contaminant
Barium [1010] (ppm)	2	2	B: 0.027 to 0.027	0.027	Feb. 2025	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	B: 0.77 to 0.77	0.78	Feb. 2025	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	B: 0.537 to 0.537	0.537	Oct. 2025	No	Fertilizer runoff; leaching from septic tanks; sewage; erosion of natural deposits
Disinfectants, Disinfection Byproducts, and Precursors							
Total Organic Carbon (Measured as ppm but reported as a ratio)	TT**	N/A	B: 1.90 to 4.86 (Monthly ratios)	3.74 (Lowest average)	2025	No	Naturally present in environment
TTHM-Stage 2 (ppb) (Individual sites) [total trihalomethanes]	80	N/A	A: 19 to 51 (Range-individual sites)	39*** (Locational average)	2025	No	By-product of drinking water disinfection
HAA5-Stage 2 (ppb) (Individual sites) [haloacetic acids]	60	N/A	A: 7 to 26 (Range-individual sites)	22*** (Locational average)	2025	No	By-product of drinking water disinfection
Chlorine (ppm)	MRDL=4	MRDLG=4	A: 1.24 to 2.20	1.70 (System average)	2025	No	Water additive used to control microbes

* Greater than 95% of samples must be <0.3NTU and never more than 1NTU.

** Monthly ratio is the %TOC removal achieved to the %TOC removal required. Annual average of the monthly ratios must be 1.00 to meet the TT.

*** Highest locational running annual average for system.

To understand the possible health effects described for many regulated contaminants in the tables above, a person would have to drink 2 liters or a little over half a gallon of water every day at the MCL level, for a lifetime, to have a one-in-a-million chance of having the described health effect(s)



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Service Line Inventory Information:

To address lead in drinking water, EPA requires that all community water systems develop and maintain an inventory of service line materials. We have completed the Initial Service Line Inventory (SLI) and it is available for review at our office, Fredonia City Hall.

Lead Sample Results Availability of Information:

We are required to periodically sample water from customer taps to determine lead and copper levels. EPA sets the lead action level at 0.015 mg/L (15ppb). For a water system to be in compliance, at least 90% of tap water samples must have lead levels below this limit. This report contains the 90th percentile and range of our most recent sampling. The individual results for each location sampled can be reviewed at our office, Fredonia City Hall.

Health Effects of Lead:

Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

Household Plumbing Contaminants - Inorganics							
Analyte	Highest Level Allowed (MCL)	EPA Goal (MCLG)	Our Range	Highest Detection	Date of Collection	Violation (Yes/No)	Source of Contaminant
Copper [1022] (ppm) Sites exceeding AL = 0	AL= 1.3	1.3	A: 0 to 0.211	0.077 (90 th Percentile)	Sept. 2024	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead [1030] (ppb) Sites exceeding AL = 0	AL = 15	0	A: 0 to 4	0 (90 th Percentile)	Sept. 2024	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Secondaries contaminants do not have a direct effect on health and are being included to provide additional information on the quality of your drinking water. Eddyville Water Dept. (KY0720113)

Secondary Contaminant	Maximum Allowable Level	Report Level	Range of Detection	Date of Sampling
Chloride	250 mg/L	26.5 mg/L	26.5 to 26.5	Feb. 2025
Corrosivity	Non-corrosive	-0.424 Lang	-0.424 to -0.424	Feb. 2025
Fluoride	2.0 mg/L	0.78 mg/L	0.78 to 0.78	Feb. 2025
pH	6.5 to 8.5 SU	7.33 SU	7.33 to 7.33	Feb. 2025
Sulfate	250 mg/L	15.7 mg/L	15.7 to 15.7	Feb. 2025
TDS (Total Dissolved Solids)	500 mg/L	305 mg/L	305 to 305	Feb. 2025

Eddyville Water Dept. (KY0720113)

	Average	Range of Detection
Sodium (EPA guidance = 20mg/L)	9.2	9.21 to 9.21
Fluoride (added for dental health)	0.8	0.65 to 0.95