

2016 Consumer Confidence Report Data

FREDONIA WATERWORKS, PWS ID:

24601093

Letter from the Director

It is that time of year when we provide information about the quality of your drinking water, and I am pleased again to report that Fredonia's water has met or surpassed all Federal and State standards for health and safety. Please see the Water Quality Table on page 5 for the details. Last year we pumped 73,005,000 gallons from our wells. The average of the previous five years is 64,625,000. The increase in usage may be attributed to the new homes added to the Village, leaks, and potentially inaccurate meters at the well houses. The utility will test the well house meters this spring.

Water is a valuable resource. According to *thevalueofwater.org*

Water is life. It nourishes us. It cleans us and sustains us. Put simply, water is you.

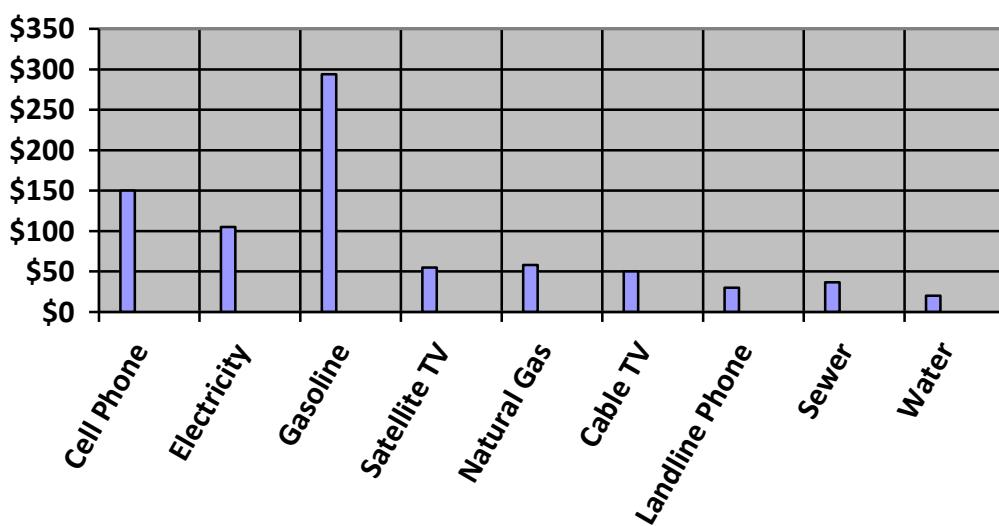
- The average American uses 176 gallons of water per day—that's 64,240 gallons a year! In Fredonia, the typical resident uses about 50 gallons per day.
- 40% of water in America is used to produce the food we eat and the beverages we drink.
- How is water used in your home? On average, 17% goes toward showering, 27% is used by the toilet, your faucet drains 15%, your clothes washer another 22%, miscellaneous needs take up 5%, and those pesky leaks steal another 14%.
- If drinking water and soda pop cost equally, your water bill would skyrocket more than 10,000%.
- 349 billion gallons of freshwater are withdrawn every day in the United States.
- 41 percent of that water (143 billion gallons) is used to produce thermoelectric power, another 37% goes to irrigation.
- 4% of US energy is used for transporting, treating, and pumping water.

- More than one-third of all counties in the lower 48 states will face higher risks of water shortages by mid-century as a result of global warming.

Water is the lifeblood of our economy. We rely on it for manufacturing, energy production, to transport materials across the globe, and more.

- One-fifth of the US economy would grind to a halt without a reliable and clean source of water.
- 46% of water consumed in America is used to produce the manufacturing products we buy.
- 1 to 3.68—the water jobs multiplier. Every job we create in the water sector helps add another 3.68 jobs in the national economy.
- 1 to 6—every \$1 spent on infrastructure improvements in the US generates \$6 in returns.

Typical monthly charges for a Fredonia resident are shown in the graph below. Village supplied water costs you less than $\frac{1}{2}$ penny per gallon.



This year we cleaned well number 2 (located at the old Village Hall) and rebuilt the pump to ensure reliable well and pump capacity.



Well Pump – Chemical Treatment

If you would like to know more about the information contained in this report, please contact Roger Strohm at (262) 692-9179.

Opportunity for input on decisions affecting your water quality

First and Third Thursday of every month at 7:00 PM at the Fredonia Government Center located at 242 Fredonia Avenue, Fredonia, WI

Health Information

The Village's water supply naturally contains Fluoride at about 0.5 mg/L. We do not add Fluoride to the drinking water. The U.S. Public Health Service recommends 0.7 mg/L of Fluoride in the community drinking water supply. You should discuss with your dentist and health care provider if you feel that you need additional fluoride.

The Village water supply also naturally contains Arsenic. The levels of arsenic in the water supply are about 1/3 of the amount allowed by the EPA. We do not treat for arsenic in the water supply. Removal of arsenic in the home can be accomplished by adding a filter or ion exchange system. If you choose to add one of these systems to your home, follow the manufacturer's recommendations for replacement of the filter. These filters can become home to bacterial growth causing taste and odor problems with your 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 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 systems 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 Environmental Protection Agency's safe drinking water hotline (800-426-4791). **Our water is supplied from the ground and does not contain many of the contaminants found in surface water sources.**

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
1	Groundwater	457	Active
2	Groundwater	360	Active

To obtain a summary of the source water assessment please contact, Roger Strohm at (262) 692-9179.

Educational Information

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.

- 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 that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
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
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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the

following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Microbiological Contaminants

Contaminant	MCL	MCLG	Count of Positives	Violation	Typical Source of Contaminant
Coliform (TCR)	presence of coliform bacteria in >=5% of monthly samples	0	0	No	Naturally present in the environment

Disinfection Byproducts

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2016)	Violation	Typical Source of Contaminant
HAA5 (ppb)	S-6	60	60	3	3		No	By-product of drinking water chlorination
TTHM (ppb)	S-6	80	0	14.2	14.2		No	By-product of drinking water chlorination

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2016)	Violation	Typical Source of Contaminant
ARSENIC (ppb)		10	n/a	3	2 - 3	5/27/2014	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
BARIUM (ppm)		2	2	0.093	0.030 - 0.093	5/27/2014	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE		4	4	0.5	0.4 -	5/27/2014	No	Erosion of natural

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2016)	Violation	Typical Source of Contaminant
(ppm)					0.5			deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NICKEL (ppb)		100		2.3000	0.7300 - 2.3000	5/27/2014	No	Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products.
SODIUM (ppm)		n/a	n/a	11.00	9.70 - 11.00	5/27/2014	No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2016)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.0300	0 of 10 results were above the action level.	9/6/2014	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	1 of 10 results were above the action level.	8/20/2014	No	Corrosion of household plumbing systems; Erosion of natural deposits

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2016)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	1.3	1.2 - 1.3	5/27/2014	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	1.9	1.6 - 1.9	5/27/2014	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.3	1.2 - 1.3	5/27/2014	No	Erosion of natural deposits

Health effects for any contaminants with MCL violations/Action Level Exceedances

Contaminant Health Effects

LEAD Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Additional Health Information

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. Fredonia Waterworks 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 (800-426-4791) or at www.epa.gov/safewater/lead.

Other Compliance

Violaton of the Terms of a Variance, Exemption, or Administrative or Judicial Order

None

Noncompliance with Recordkeeping and Compliance Data

None