

Annual Drinking Water Quality Report for 2022
The Town of Wilna Water Dist. #1
414 State St. Carthage, NY
(Public Water Supply ID #2202334)

INTRODUCTION

To comply with State and Federal regulations, we will be issuing a report annually describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards. If you have any questions about this report or your drinking water, please contact Tyler Pominville at (315) 493-2210. We want you to be informed about your drinking water and all we do to provide our customers with safe potable water. If you want to learn more, please attend any of our regularly scheduled monthly Joint Water meetings. Your Village clerk's office can provide you with the location of each of these meetings as well as the date and time.

WHERE DOES OUR WATER COME FROM?

In general, 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 can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the number of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The Town of Wilna Water District #1 receives their water from the Village of Carthage. This water source is a clean and plentiful spring fed source known as the Indian River located in Belfort, New York. The Village's own 1,500 acres of uninhabited forest land that surrounds our drinking water supply. The water from this source flows into a manmade reservoir approximately two miles downstream. Once the water enters the reservoir a process of settling occurs before it enters the screen house. In the screen house the water passes through a fine screen prior to entering the 15 miles of transmission line. The water travels through the transmission pipe via gravity to the Village's Slow Sand Filtration Plant located on West Street Road. The filter plant is operated 365 days a year by employees from Carthage and West Carthage, who are New York State Licensed Operators. The Operators conduct water quality testing, routine plant maintenance, as well as record daily water consumption. It should be noted that the reservoir is drained and cleaned twice a year and the screens in the screen house are cleaned weekly. During 2022, our system did not experience any restriction of our water source.

At the water filtration plant, the raw water flows into three filter beds and passes through a sand aggregate prior to being treated. Once the water is filtered, it is disinfected with sodium hypochlorite (chlorine). Sodium hypochlorite kills bacteria that may be present in the water. The amount of sodium hypochlorite added to the water is continuously monitored at the plant to achieve the desired 1.4 mg/L concentration. The chlorine residual in the distribution system is measured at various locations at least four times each week.

Turbidity is a measure of the water's clarity and both the raw and filtered water turbidity is continuously monitored at the plant. Turbidity measurements are also collected throughout the distribution system at least four times each week.

Before entering the distribution system, hydrofluosilic acid, zinc orthophosphate and Caustic soda are added to the water. Hydrofluosilic acid adds fluoride to the water at a concentration of 0.80 mg/L and is monitored at the filter plant. Fluoride has been shown to reduce tooth decay and dental cavities. The New York State Department of Health also analyzes the fluoride concentration once per month. Zinc orthophosphate is added to provide a coating on the interior of the pipes to help reduce the solubility of lead and copper that may be present in the distribution plumbing. This is continuously monitored at the filter plant. The target zinc orthophosphate concentration is 1.0 mg/L. Caustic Soda is added to increase the pH level of the finished water to a target of 7.60. This level as determined by the Department of Health is most effective at preventing corrosion in the distribution system and the consumer's internal plumbing and appliances.

FACTS AND FIGURES

The Town of Wilna Water District #1 serves approximately 300 individuals through an estimated 95 service connections. This includes residents and businesses on Route 3, South James St, Boyd Road, Alexandria Road, Route 3 towards Fargo and Whispering Woods apartments on South Washington St. Last year the total amount of water that was delivered to Wilna Water District #1 was 3,253,052 gallons. This equates to a daily average of 8,912 gallons per day. The district is maintained by employees of the Village of Carthage Water Department through an Inter-Municipal Agreement. The Village of Carthage charges \$4.90 per 100 cubic feet (748 gallons).

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, and synthetic organic compounds. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, is more than one year old.

It should be noted that all drinking water, including bottled water, may be reasonably 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 EPA's Safe Water Drinking Hotline (800-426-4791) or the Jefferson County Health Department at 315-785-2277.

Table of Detected Contaminants

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Average) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Microbiological Contaminants/Turbidity							
Total Coliform	NO	all samples were negative	Negative	N/A	0	2 or more positive samples/month (MCL)	Naturally present in the environment

Turbidity ¹	NO	9/27/17	1.95 NTU	NTU	N/A	< 5 NTU (TT)	Soil Runoff
Turbidity ¹	NO	2020	100 %	NTU	N/A	95 % of samples < 1.0 NTU (TT)	Soil Runoff

Inorganic Contaminant

Chloride	NO	6/24/03	3.13	mg/L	N/A	250 (MCL)	Naturally occurring or indicative of road salt contamination
Copper ²	NO	7/14/2020	90 th percentile ³ 0.180 mg/L Low - 0.008 High - 0.209 mg/L	mg/L	0	1.3 (mg/L)	Corrosion of household plumbing systems
Fluoride	NO	7/21/2015	0.578 mg/L	mg/L	N/A	2.2 (MCL)	Erosion of natural deposits. Water additive that promotes strong teeth. Discharge from fertilizer and aluminum factories.
Iron	NO	6/24/03	0.06mg/L	mg/L	N/A	300 (MCL)	Naturally occurring
Lead ²	NO	7/14/2020	90 th percentile ³ ND Low - ND High - 0.002 mg/L	mg/L	0	15 (AL)	Corrosion of household plumbing systems.
Nitrate	NO	9/26/22	0.26	mg/L	10	10 (MCL)	Runoff from fertilizer use; Leaching from septic tanks, sewage; erosion of natural deposits
Radiological Combined 226 / 228	No	Annual Running average 2017	0.637	pCi/L		5.0 pCi/L	Naturally occurring when ground water travels through rock formations.
Gross Alpha	No		0.716	pCi/L		15.0 pCi/L	
Sodium ⁴	NO	6/24/03	3.26	mg/L	N/A	N/A	Naturally occurring; road salt; water softeners; animal waste
Sulfate	NO	6/24/03	6.66	mg/L	N/A	250 (MCL)	Naturally occurring

Disinfection Byproducts

Total Trihalomethanes ⁵ (TTHMs)	NO	2022	<u>44.47</u> (34.30-78.00)	ug/L	N/A	80 ug/L	By-product of drinking water chlorination
Haloacetic Acids (HAA5's)	Yes	2022	<u>49.60</u> (20.7-116)	ug/L	N/A	60 ug/L	

The disinfection byproducts results are the average from the 4th quarter locational running annual average summary sheet, which is the number above the parenthesis. The numbers in the parenthesis are the lowest and highest result throughout the 4 quarters of sampling.

Definitions:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal (MCLG): 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.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggered 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.

Non - Detects (ND): Laboratory analysis indicates that the constituent is not present.

Nephelometric Turbidity Unit (NTU): a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Milligrams per liter (mg/L): Corresponds to one part of liquid in one million parts of liquid (parts per million -ppm).

Micograms per liter (ug/L): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

Picocuries per liter (pCi/l): A measure of the Radioactivity in water.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had a violation where we exceeded our MCL for Halocetic Acids. Please refer to "SYSTEM IMPROVMENTS "to learn what action we have taken to mitigate this issue.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS? YES

During 2022, The Town of Wilna Water District #1 water system was in compliance with all applicable State drinking water operating, monitoring and reporting requirements with the exception of the Disinfection Byproducts testing results.

The 1st, 2nd, and 3rd Quarter sampling of our Disinfection Byproducts exceeded the maximum containment levels for Haloactic Acids. The sample collected experienced higher than normal results. The staff has taken additional methods to reduce the levels in the short term.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens 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 from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ♦ *Saving water saves energy and some of the costs associated with both of these necessities of life;*
- ♦ *Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and*
- ♦ *Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.*

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- ♦ *Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.*
- ♦ *Turn off the tap when brushing your teeth.*
- ♦ *Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.*
- ♦ *Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.*
- ♦ *Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, then check the meter, record the consumption number then wait 15 minutes, If it changed (increased), you have a leak.*

SYSTEM IMPROVEMENTS

Water System Maintenance: Village employees from both Carthage and West Carthage operate the joint water system cooperatively, while operating their respective distribution systems. Each village has employees that are New York State Licensed operators, which share the day-to-day operations of the filter plant including weekends and holidays. These operators are always attending training seminars and required classroom studies to learn ways to improve the quality of water they deliver to you, the consumer. This past summer the Water Department personnel cleaned the raw water reservoir in June and again in September. This weeklong process allows us to remove organic matter that has settled in the reservoir throughout the year. By cleaning it twice a year we feel that it greatly reduced the organics that may have been contributing to the elevated levels of Disinfection By-Products (DBP). The water filtration operators also adjusted the chlorine dosage which also has a direct correlation to DBP. An automatic flushing valve was purchased and installed on the water main on West end Avenue where our DBP samples are collected. This procedure allowed for fresh water to flow to the customers regularly and also helped improve the overall quality of your drinking water.

The business of providing the public with water of excellent quality is a full-time task. The next time you pour a glass of water, wash a load of clothes, or just water your garden take a minute and consider what it takes to receive this service. When you open your faucet, you only see the end results, clean potable water that meets and exceeds the requirements established by the D.O.H. and the E.P.A. What you don't see is the many hours of hard work and dedication that the employees of both villages have put into keeping the water flowing to you. Systems of this magnitude do not operate without problems and these problems don't always occur during normal working hours. Many times, the water dept. employees are working late at night in less than favorable conditions repairing a problem so that the service to you, the customer, is maintained. All too often we take for granted the little things in life. Our abundant water source is the life blood of our community and needs to be protected and appreciated.

Thank you for allowing us to continue to provide you and your family with quality drinking water. We ask all our customers to help us protect our water sources. Should you have any questions about the information in this report or want to learn more about the service we provide please feel free to contact Tyler Pominville at (315) 493-2210 or the New York State Department of Health at (315) 785-2277.

This report was compiled with the assistance of the New York State Rural Water Association and the New York State Department of Health.

¹ Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement of 0.97 NTU occurred on Sept. 13th. State regulations require that turbidity must always be below 5.0 NTU. The regulations require that 95% of the turbidity samples collected have measurements less than or equal to 1.0 NTU. All of our test results in 2022 were less than 1.0 NTU. Our daily average measurement for this year was 0.15NTU.

² During 2020, twenty samples were collected from our distribution system and analyzed for lead and copper. The number presented represents the lowest and highest levels detected. (The Department of Health requires these samples to be collected every 3 years.)

³ The level presented represents the 90th percentile of the 20 sites tested for lead and copper in the distribution system. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the values detected in your water system. In this case, 20 samples were collected in the system and the 90th percentile value was the 18th highest value. The action levels for lead and copper were not exceeded in any of the samples collected.

⁴ Water containing more than 20 mg/L of sodium should not be used for drinking by people on very restricted sodium diets. Water containing more than 270 mg/L of sodium should not be used for drinking by people on moderately restricted sodium diets.

⁵ Stage 2 DBP Rule sampling began in 2013. Stage 2 average represents the highest locational running average of all the sites sampled for THM's and/or HAA5's. Data is collected quarterly and averaged to calculate the Annual Running Average. Stage 2 sample ranges represents the array of results from all collected samples. Please see the attached letter from EPA.

The NYS DOH has evaluated this PWS's susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraph(s) below. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for this PWS. This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

The assessment area for this drinking water source contains no discrete potential contaminant sources, and none of the land cover contaminant prevalence ratings are greater than low. However, the high mobility of microbial contaminants in reservoirs results in this drinking water intake having medium-high susceptibility ratings for protozoa and enteric bacteria and viruses.

The Twin villages are committed to source water protection of the 1500 acre watershed. A copy of the assessment can be obtained by contacting the supplier of water.