

ANNUAL WATER QUALITY REPORT



PREPARED BY CITY OF
CANANDAIGUA

2024

PWS#: NY3401150

INTRODUCTION

To comply with State regulations, the City of Canandaigua will be annually issuing a report 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. In the 2024 year, your tap water met all State drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level. We did incur a Monitoring Violation. This report provides an overview of all 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 concerning your drinking water, please contact Andrew Simmons, Chief Operator, at (585)396-5064. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled City board meetings. The meetings are held the third Monday of each month, beginning at 5:30pm at DPW conference room, 205 saltonstall Street, New York.

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, in some cases, radioactive material, 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 amount 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.

New York State has completed the Source Water Assessment for Canandaigua Lake and found a moderate susceptibility to contamination for this source of drinking water. The amount of agricultural lands in the assessment area results in elevated potential for protozoa, phosphorus, DBP precursors, and pesticides contamination. While there are some facilities present, permitted discharges do not likely represent an important threat to source water quality based on their density in the assessment area. However, it appears that the total amount of wastewater discharged to surface water in this assessment area is high enough to further raise the potential for contamination (particularly for protozoa). There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include: hazardous waste sites, chemical bulk storage, landfills, mines, RCRA and TRI.

Further information on the source water assessment of our community water supply is available on the U.S. Geological Survey (USGS) website at ny.water.usgs.gov.

WATER TREATMENT PROCESS

Raw water is drawn into the treatment plant through a 30-inch pipe from the lake using vacuum pumps. Sodium hypochlorite is added to this pipe for pre-chlorination. The water is then pumped to the process building where polyaluminum chloride is introduced as a coagulant. This coagulant causes dirt, clay, bacteria, and organic material to clump together, forming floc. The pretreated water flows into the flocculation basin, where large paddles slowly mix the water, allowing the floc particles to grow larger. From there, the water continues into sedimentation basins, where the weight of the floc causes it to settle out. The water then passes through rapid sand filters. These filters use a mixed media system consisting of anthracite coal, sand, and garnet gravel to remove any remaining particles. The filtered water flows into the clear well, where it receives a dose of chlorine to maintain a residual throughout the distribution system. Finally, from the clear well, the water is gravity-fed to high-lift pumps, which send it to storage tanks and the distribution system.

WE PROTECT THE SOURCE

Protecting our drinking water begins at its source. We collaborate with state scientists to conduct Source Water Assessments, sampling the lake to identify potential pollutants. The most recent assessment, completed in 2014, indicated a potential elevated risk for protozoa, phosphorus, DBP precursors, and pesticide contamination. We are committed to keeping the public informed about these findings. For more information about the assessment, please contact us at 585-396-5064 or asimmons@canandaiguanewyork.gov.



WHAT IS IN YOUR DRINKING WATER

SOURCE 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 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, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) 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 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 at 800-426-4791.

FINISHED WATER

We take more than 300 samples across our water system. We're looking for bacteria, metals, and chemicals to make sure the water continues to be safe to drink.

Bacteria

We look for bacteria regularly, as required by law, and there are 30 locations in the water system where we take samples for analysis. More thorough testing, evaluation, and action is required if bacteria are found in even a small percentage of tests.

Disinfection by-products (Trihalomethane (THM) or Haloacetic Acids (HAA))

Four times per year we look for byproducts of the disinfection process. When chlorine, the disinfectant we use to protect against the water of bacteria and viruses, starts to break down in the water, it can form new compounds. These compounds, trihalomethanes (THM) and haloacetic acid (HAA), have been known to cause cancer at high levels. The legal limit for drinking water is 80 parts per billion and 60 parts per billion respectively. We test for these compounds at four different locations in the water system.

Lead and Copper

We take water samples from 30 different homes in our system every three years to test them for lead and copper. More information about lead and copper can be found in the following pages. A new lead & copper regulation will require changes to the sampling program in the future.

FACTS AND FIGURES

In 2024, the Canandaigua Water Treatment Plant withdrew 1.514 billion gallons of water from Canandaigua Lake, its sole source. After treatment, 1.438 billion gallons were distributed, with the remaining 76 million gallons used internally for processes like backwashing and plant operations. Of the distributed water, 322 million gallons were metered and sold to the 11,000 residents of the City of Canandaigua at a rate of \$4.73 per 1000 gallons. An additional 1.051 billion gallons were sold and metered to the Towns of Canandaigua, Farmington, and Hopewell. While approximately 97.32% of the water produced by the city was billed directly to customers, the remaining 2.68% represents water used for firefighting, hydrant flushing, distribution leaks, and inaccurate meters awaiting replacement, accounting for the balance of water not directly billed.

Detected Contaminants							
Contaminant	Violation	Date of Sample	Level Detected	Unit Measurement	Regulatory Limit (MCL/AL)	MCLG	Likely Source of Contamination
Microbiological Contaminants							
Total Coliform ¹	No	Monthly	1	N/A	2	N/A	Naturally present in the environment
Turbidity ²	No	2024	0.13 Max	NTU	TT = <1 NTU	N/A	Soil run-off
Turbidity ²	No	2024	100% ≤0.3	NTU	TT = 95% <0.3 NTU	N/A	Soil run-off
Distribution Turbidity ³	No	Daily	1.7	NTU	MCL > 5NTU	N/A	Soil run-off
Inorganic Contaminants							
Lead ⁴	No	Jun-23	1.33 Range = <1-1.9	ug/L	15 (AL)	0	Corrosion fo household plumbing systems: Erosion of natural deposits
Copper ⁵	No	Jun-23	0.031 Range = 0.0013-0.041	mg/L	1.3 (AL)	1.3	Corrosion of plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Barium	No	Apr-24	0.024	mg/L	2.0 (MCL)	2	Discharge of drilling wastes, metal refineries; erosion of natural deposits
Chromium	No	Apr-24	1.4	ug/L	100 (MCL)	100	Erosion of natural deposits; Dishcharge from stainless steel factories
Fluoride	No	2024	AVG 0.75	mg/L	2.2 (MCL)	N/A	Erosion of natural deposits; water additive; discharge from aluminum and Fertilizer Factories
Nickel	No	Feb-24	<0.4	ug/L	100 (MCL)	100	Erosion of natural deposits; discharge from stainless steel factories
Nitrate	No	Feb-24	0.29	mg/L	10 (MCL)	10	Runoff from fertilizer use; leaching from septic tanks, erosion of natural deposits
Stage 2 Disinfection Byproducts							
Contaminant	Violation	Date of Sample	Level Detected	Unit Measurement	Regulatory Limit (MCL/AL)	MCLG	Likely Source of Contamination
Haloacetic Acids	No	2024	22.96 AVG 21-31 Range	ug/L	60 (MCL)	N/A	Byproducts of drinking water chlorination
Trihalomethanes	No	2024	55.36 AVG 30-79.7 Range	ug/L	80 (MCL)	N/A	Byproducts of drinking water chlorination
Synthetic Organic Compounds including herbicides and pesticides							
Contaminant	Violation	Date of Sample	Level Detected	Unit Measurement	Regulatory Limit (MCL/AL)	MCLG	Likely Source of Contamination
Perfluorooctanesulfonic Acid (PFOS)	No	Apr-24	<1.9	ng/L	10 (MCL)	N/A	Fire fighting foam; water repellent, industrial process
Perfluorooctano-ic acid (PFOA)	No	Apr-24	<1.9	ng/L	10 (MCL)	N/A	Fire fighting foam; water repellent, industrial process
1,4 Dioxane	No	2024	<0.07	ug/L	1 (MCL)	N/A	Used in cleaners, degreasers, and household products

Synthetic Organic Compounds including herbicides and pesticides (Continued)							
2,4-D	No	Sep-24	1.5	ug/L	50 (MCL)	N/A	Used to control broadleaf weeds in Agriculture; Residential use
Dalapon	No	Sep-24	0.19	ug/L	200 (MCL)		Used to control grasses in Agriculture; Residential use

Disinfectant							
Contaminant	Violation	Date of Sample	Level Detected	Unit Measurement	Regulatory Limit (MCL/AL)	MCLG	Likely Source of Contamination
Chlorine Residual	No	Daily	1.0 AVG 0.73 1.29 Range	mg/L	4	N/A	Water Additive used to control microbes

Radiological							
Contaminant	Violation	Date of Sample	Level Detected	Unit Measurement	Regulatory Limit (MCL/AL)	MCLG	Likely Source of Contamination
Gross Alpha (pCi/L)	No	Feb-22	1.0 +/- 1.4	pCi/L	15	0	Erosion of natural deposits
Gross Beta (pCi/L)	No	Feb-22	1.6 +/- 0.9	pCi/L		0	Erosion of natural deposits
Radium 226 (pCi/L)	No	Feb-22	-0.15 +/- 0.3	pCi/L	5	0	Erosion of natural deposits
Radium 228 (pCi/L)	No	Feb-22	0.32 +/- 0.4	pCi/L	5	0	Erosion of natural deposits
Uranium (ppb)	No	Feb-22	0.32	pCi/L	30	0	Erosion of natural deposits

¹Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria may be present.

²Turbidity is a measure of the cloudiness of the water, and is monitored as an indicator of the effectiveness of our filtration system. State regulations require that turbidity must always be below 1 NTU. The turbidity rule requires that 95% or more of monthly samples be below 0.3 NTUs. Measured in lab.

³ Distribution Turbidity is a measurement of the cloudiness of the water found in the distribution system. We monitor distribution turbidity because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

⁴ The level presented is the 90th percentile of the (30) sites tested. The action level for lead was not exceeded at the 30 sites tested.

⁵The level presented is the 90th percentile of the 30 sites tested. A percentile is a value on a scale of 100 that indicates the percent measurements that is equal to or below it. This means in our system copper levels in 27 sites are below the 90th percentile value and 3 sites are above the 90th percentile. The action level for copper was not exceeded at any of the sites tested.

WHAT DOES THIS INFORMATION MEAN

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below New York State requirements. It should be noted that maximum value of 1.9 ug/L was detected for lead. We are required to provide the following information on lead in drinking water:

From the EPA

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. The City of Canandaigua is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water and wish to have your water tested, contact The Canandaigua Water plant at 585-396-5064. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <https://www.epa.gov/safewater/lead>.

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).

None of the monitoring results showed fluoride at levels that approach the 2.2 mg/L MCL for fluoride. To ensure that the fluoride supplement in your water provides optimal dental protection, monitoring fluoride levels on a daily basis to make sure fluoride is maintained at a target level of 0.7 mg/L.

TABLE DEFINITIONS

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Amount Detected: This column represents an average of sample result data collected during the reporting year. In some cases, it may represent a single sample if only one sample was collected.

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 possible.

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.

N/A: Not applicable

ND: Not detectable at testing limits.

Nephelometric Turbidity Units (NTU): Measure of the clarity, or turbidity, of water.

Parts per Billion: One part of liquid in one billion parts of liquid (or microgram per liter).

Parts per Million: One part of liquid in one million parts of liquid (or milligram per liter).

Range (Low – High): This column represents a range of individual sample results, from lowest to highest, that were collected during the reporting year.

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

Nanograms per liter (ng/l): Corresponds to one part of liquid to one trillion parts of liquid (parts per trillion - ppt).

Picocuries per Liter (pCi/L): Picocuries per liter is a measure of radioactivity in water.

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 contamination.

Millirems per year (mrem/yr): A measure of radiation absorbed by the body.

INFORMATION ON FLUORIDE ADDITION

Our system is one of the many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at a properly controlled level. During 2024, monitoring showed that fluoride levels measured in the plant's laboratory were an average of 0.75 mg/L.

LOOK OUT FOR SPECIAL POPULATIONS

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 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 Safe Drinking Water Hotline at 800-426-4791



SAFELY CONNECT OUTDOOR HOSES

A factor that can influence water quality in your home are connections to your water outside your home. The outdoor spigot connection to a hose provides a potential way for pollutants to enter your plumbing. If you use the hose to spray chemicals on your yard by connecting the nozzle to a spray bottle, or if you have a sprinkler system connected, there is the potential for chemicals from the bottle or the lawn to be accidentally sucked back into your internal plumbing. To prevent this from happening, we recommend (and in some states it is the law) that you have a device installed to prevent that from happening.



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 money;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new plant capacity, 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 firefighting needs are met.

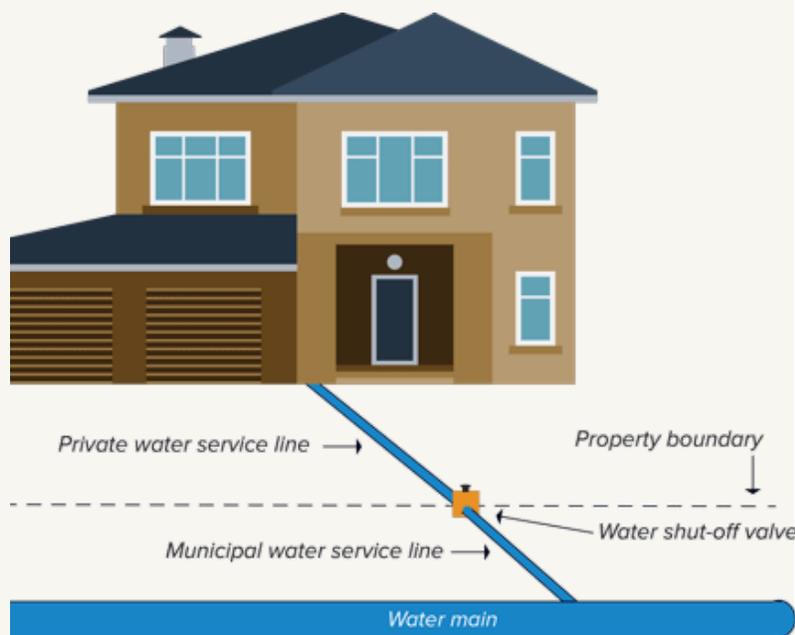
You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- 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 after 15 minutes. If it moved, you have a leak.

INFORMATION ON LEAD SERVICE LINE INVENTORY

A Lead Service Line (LSL) is defined as any portion of pipe that is made of lead which connects the water main to the building inlet. An LSL may be owned by the water system, owned by the property owner, or both. The inventory includes both potable and non-potable SLs within a system. In accordance with the federal Lead and Copper Rule Revisions (LCRR) our system has prepared a lead service line inventory and have made it publicly accessible by linking the states LSLI to the cities website under City Water Service lines. Follow this link:

<https://canandaiguanewyork.gov/433/City-Water-Service-Lines>



2024 IN REVIEW

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

In 2024, Our water system violated one drinking water monitoring rule. Even though this was not an emergency, as our customers, you have a right to know what happened and what we did to correct the situation. Our July samples for Total Organic Carbon were lost in the mail. This resulted in a missed monthly sample and a monitoring violation.

What should I do?

There is nothing you need to do at this time. You may continue to drink the water. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What is being done?

The water plant updated its mailing protocol to check back with the Lab we are using to determine if the samples have been received.

SYSTEM IMPROVEMENTS

In 2024, the Canandaigua Water Treatment Plant will install disinfection byproduct remediation systems in water storage tanks 2 and 3. GHD Engineering, in conjunction with the City of Canandaigua, has conducted a pilot study demonstrating the effectiveness of dissolved air flotation (DAF) and the use of deeper and alternate filter media. GHD Engineering will design these systems for installation over a five-year period.

QUESTIONS AND ADDITIONAL INFORMATION

For any water quality questions call the Canandaigua Water treatment plant at (585) 396-5064 or the New York DOH at our local office in Geneva at (315) 789-3030



CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.

