

# 2017 Annual Water Quality Report of the Gloversville Board of Water Commissioners

This report is a requirement of the EPA and is distributed each year.

**A note from the Gloversville Board of Water Commissioners: Commissioner James Isabella, President, Commissioner Stephen Mauro, Vice Pres., Commissioner Gary Antonucci and Commissioner Robert Shell and Commissioner James Robinson .** We are proud to distribute our Annual Water Quality Report (AWQR) to the citizens of Gloversville and the surrounding areas to whom we supply continuous, safe, sanitary and high quality pure water. **We are also proud to announce that we have supplied your water throughout the year without any infractions or violations of State or Federal water quality codes.**

## IMPORTANT WATER CONSERVATION AND CONSUMER COST REDUCTION INFORMATION:

Many times during the year we speak with unhappy customers whose water / sewer bills have gone up unexpectedly. In almost every case a leak called a "silent leak" in the toilet tank or a toilet handle that has to be "jiggled" is responsible. The silent leaks are caused by a worn out rubber flopper seal in the toilet tank or a faulty float shut off, also found in the tank. The most common float shut off is the long arm with the big ball at the end. The handle that needs to be jiggled can also be traced back to the flopper seal. Silent Leaks and a faulty flush handle can cost hundreds of dollars per year. All of these problems have an easy solution with parts available in most of the local hardware stores and also chain stores that carry hardware. Even if a plumber is needed, the job will most likely pay for itself within the next bill or two. We offer a free toilet tank dye test that will indicate if you are experiencing a Silent Leak or not. Please stop down and pick up your free test.

Another waste of money and water is a leaky or dripping faucet on your sinks, tub or outside hoses. The table to the right indicates how many gallons can be wasted due to a leak similar in size to the dots in the chart. It is certainly surprising that a leak that is as little as the first dot can waste 3,600 gallons per month and remember we bill every six months. This little leak, in itself, can cost as much as \$250 per year. If the hot water is leaking then the cost of fuel added in could actually double your cost.

Water Loss in Gallons

Leak this Size	Loss per Day	Loss per Month
•	120	3,600
••	360	10,800
•••	693	20,790
••••	1,200	36,000
•••••	1,920	57,600
••••••	3,096	92,880
•••••••	4,296	128,980

## Annual water usage and Financial Statement

The total amount of water delivered to the City during the year was 698,990,000 gallons; an average daily use of 1,915,041 gallons (based on 365 days in 2017). Of this amount, 104,918,947 gallons were used for manufacturing purposes, with an average daily use of 349,730 gallons (based on 300 working days in the year). The amount used for domestic and commercial consumption was 355,573,168 gallons, with an average daily use of 919,378 gallons (based on 365 days in 2017). During the year, the daily average use per capita for all public and domestic was 60.0 gallons based on a population of 15,300.

The remaining amount was consumed in uses such as, hydrant flushing, hydrant testing, street cleaning, sewer flushing, fire fighting, Fire Department training, ice skating rink, water leaks, industrial-commercial developments under construction and semi-annual testing of sprinkler systems by insurance carriers. City departments were furnished water for all purposes without charge. This includes City Hall, all Department of Public Works buildings, street and sewer flushing, Fire Department, Parks Department, and Transit System.

Annual revenues for the year 2017 were \$2,776,973.11 and the average consumer cost of 1000 gallons of water was \$2.85.

## State Inspection Findings:

1. All water entering the system from the filtration plant was of sanitary quality. There were no water quality violations throughout the year.

## System Description

The Gloversville Water Works water delivery system is comprised of 3 basic components.

- > Reservoirs and Watersheds
- > Treatment
- > Distribution and pure water storage.

<b>Reservoirs and Watersheds</b>	<b>Total untreated water in storage</b>	<b>935,000,000 Gallons</b>
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**Treatment Plant**

The treatment plant was built in 1939 and has been upgraded several times to maintain its capacity to treat and produce high quality potable water at the rate of 12 million gallons per day. Untreated water is allowed to flow to the treatment plant where it is treated and filtered. First, the water undergoes poly aluminum chloride coagulation to aid in the filtering process and is then treated with soda ash for pH control, sodium hexametaphosphate to protect the pipes and plumbing within the system, fluoride is added to protect teeth, and chlorine is added to sanitize the water before it enters the distribution system. The treatment plant operates the only State certified commercial bacteriological laboratory in Fulton, Montgomery, and Hamilton counties.

<b>Pure and Treated Water Storage</b>	<b>Total Pure water in storage</b>	<b>2,552,000 Gallons</b>
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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 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 storm water 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 storm water runoff, and residential uses.
- 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.

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 which must provide the same protection for public health.

Our water sources include, Jackson Summit Reservoir, Cameron Reservoir and Dixon Pond, all located in the Town of Mayfield, Rice Reservoir and Port Reservoir located in the Town of Johnstown and Lake Edward Reservoir located in the Town of Blecker.

**Analytical Results**

There were no water quality violations during the year 2017. Our water has been tested for **27 inorganic compounds, 54 volatile organic compounds, nitrate, nitrite, 50 synthetic compounds, 6 radiological elements, lead and copper, and disinfection by-products.** We also test our water daily for **pH, alkalinity, hardness, iron, color, and turbidity.** The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Therefore some of the data, though representative of the water quality, is more than one year old. The table below depicts the compounds that were detected but were not violations of State or Federal regulations and did not constitute a public health hazard.

**Contaminants:**

It should be noted that all drinking water, including bottled drinking 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 Drinking Water Hotline (800-426-4791).

**Non-Detected Contaminants**

Gloversville’s monitoring and testing detected some contaminants; all contaminants were below the maximum levels permitted by the State, known as the maximum contaminant levels (MCL). Many of the test results were **NON DETECTABLE.** The type/group (number of contaminants in each group) tested for were as follows: volatile organic compounds (52)+ MTBE, synthetic organic compounds (38), asbestos, color, The inorganic contaminants tested for and non detectable were, arsenic, cadmium, chromium, mercury, silver, selenium, antimony, beryllium, thallium, nickel and cyanide. Microbiological Contaminants (2) Total Coliform and E. coli. Radiological parameters (2) Radium 226, Radium 228 & Gross alpha

**Detected Contaminants:**

**We are required to report to the public anything that is detected in the water whether it is a violation of sanitary code or not. All of the following results were in compliance with state code. No violations of State code were experienced during 2017.**

**GLOVERSVILLE WATER WORKS TABLE OF DETECTED CONTAMINANTS**  
Public Water Supply Identification Number NY1700018

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants</b>						
Turbidity (sample from 4/7/17)	N	0.26 <sup>1</sup> 100%	NTU	N/A	TT=1.0 NTU TT= 95% samples < 0.3	Soil runoff
<b>Inorganic Contaminants (sample data from 6/5/17 unless otherwise noted)</b>						
Chloride	N	7.10	ppm	N/A	250	Geology; Naturally occurring
Copper (samples from 8/1/17-8/4/17)	N	0.25 <sup>2</sup>	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Range of copper concentrations		ND-0.44				
Fluoride	N	0.60	ppm	N/A	2.2	Water additive which promotes strong teeth
Lead (samples from 8/1/17-8/4/17)	N	3 <sup>3</sup>	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Range of lead concentrations		ND-31				
Manganese	N	13.3	ppb	N/A	300	Erosion of natural deposits
Nitrate	N	0.03	ppm	10	10	
pH	N	6.88	units		6.5-8.5	
Sodium <sup>4</sup>	N	4.61	ppm	N/A	N/A	Geology; Road Salt
<b>Stage 2 Disinfection Byproducts (quarterly samples from 2/17/17, 5/19/17, 8/18/17 &amp; 11/15/17)</b>						
Haloacetic Acids (HAA5) average <sup>5</sup> (range of values)	N	30.5 1.3-47.7	ppb	N/A	60	By-product of drinking water chlorination
TTHM[Total Trihalomethanes average <sup>5</sup> (range of values)	N	50.4 9.0-85.1	ppb	0	80	By-product of drinking water chlorination
Chlorine (continuous monitoring) average Range of chlorine residuals	N	1.10 0.76-1.51	ppm	MRDLG 4	MRDL 4	Used in the treatment and disinfection of drinking water
<b>Total Organic Carbon<sup>6</sup> (monthly samples for 2017)</b>						
Finished Water	N	1.3-2.0	ppm	N/A	TT	Organic material both natural and man made; decaying vegetation.
<b>Unregulated Contaminant Monitoring Rule 3 Detected Contaminants (samples from 1/14/13,4/2/13,7/15/13 &amp;10/1/13)</b>						
Strontium average Range of values	N	24.3 19.9-27.8	ppb	N/A	N/A	

**Footnotes-**

1. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Level detected represents the highest level detected. We also measure turbidity in the distribution system 5 times a week with 0.29 NTU being the average.
2. The level presented represents the 90<sup>th</sup> percentile of 30 test sites. The action level for copper was not exceeded at any of the 30 sites tested.
3. The level presented represents the 90<sup>th</sup> percentile of 30 test sites. The action level for lead was not exceeded at any of the 30 sites tested.
4. Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets
5. The average is based on a Locational Running Annual Average (LRAA). The average shown is the highest LRAA for the 4 sites monitored in 2017. The highest LRAA for the HAA5 was in the 3<sup>rd</sup> quarter of 2017 while the highest LRAAs for the TTHMs was in the 4<sup>th</sup> quarter of 2017.
6. The Interim Enhanced Surface Water Treatment Rule (IESWTR) requires monitoring of raw and finished water Total Organic Carbon (TOC). Depending on the raw water alkalinity value, proper water treatment should remove between 15% to 35% of the raw water TOC thus reducing the amount of disinfection byproducts produced.

**Glossary of Terms**

*Non-Detects (ND)* - laboratory analysis indicates that the constituent is not present.

*Parts per million (ppm) or Milligrams per liter (mg/l)* - one part per million corresponds to one minute in two years or a single penny in \$10,000.

*Parts per billion (ppb) or Micrograms per liter* - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

*Parts per trillion (ppt) or Nanograms per liter (nanograms/l)* - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000

*Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.

*Nephelometric Turbidity Unit (NTU)* - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

*90<sup>th</sup> Percentile Value*- The values reported for lead and copper represent the 90<sup>th</sup> percentile. 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 90<sup>th</sup> percentile is equal to or greater than 90% of the lead and copper values detected at your water system

*Action Level* - the concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements, which a water system must follow.

*Treatment Technique (TT)* - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

*Maximum Contaminant Level* - The "Maximum Allowed" (MCL) is 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.

*Maximum Contaminant Level Goal* The "Goal" (MCLG) is 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.

*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

*Locational Running Annual Average (LRAA)*: The LRAA is calculated by taking the average of the four most recent samples collected at each individual site

*N/A-Not applicable*

Unregulated Contaminant Monitoring 3 was conducted during 2013. This is a requirement of the 1996 Safe Drinking Water Act amendments. This monitoring provides a basis for future regulatory action to protect the public health. The number in parentheses refers to the number of analytes measured for a total of 21 analytes. The breakdown of analytes is as follows: volatile organic chemicals (7), synthetic organic compounds (1), metals (6), oxyhalide anion (1) and perfluorinated compounds (6). We have listed those compounds that were detected in the table of Detected Contaminants for Gloversville. There are no associated MCL's for these compounds at this time.

Giardia is a microbial pathogen present in varying concentrations in many surface waters and groundwater under the influence of surface water. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection. During 2017, as part of our routine sampling plan, 12 samples from our Raw Reservoir source water were collected and analyzed for Giardia cysts. Of these samples, two were presumed positive for Giardia, and one was confirmed positive. Therefore, our monitoring indicates the presence of Giardia in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ten additional filtered water samples were tested for Giardia cysts and none were detected. Ingestion of Giardia may cause giardiasis, an intestinal illness. People exposed to Giardia may experience mild or severe diarrhea, or in some instances no symptoms at all. Fever is rarely present. Occasionally, some individuals will have chronic diarrhea over several weeks or a month, with significant weight loss. Giardiasis can be treated with anti-parasitic medication. Individuals with weakened immune systems should consult with their health care providers about what steps would best reduce their risks of becoming infected with Giardiasis. Individuals who think that they may have been exposed to Giardiasis should contact their health care providers immediately. The Giardia parasite is passed in the feces of an infected person or animal and may contaminate water or food. Person to person transmission may also occur in day care centers or other settings where handwashing practices are poor.

Testing was performed by JH Consulting Group, PO Box 705, Newtonville, NY 12128 using NYS DOH certified labs #10248, 11216, 10350 and 10917

As you can see by the table, our system had no water quality violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels.

### **Information on Fluoride Addition**

Our system is one of many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.6 to 0.8 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires we monitor fluoride levels on a daily basis. During 2016, monitoring showed fluoride levels in your water were in the optimal range 100% of the time. None of the monitoring results showed fluoride levels that approach the 2.2 mg/l MCL for fluoride.

### **Information on Lead**

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. The Gloversville Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When the 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 your water for drinking and 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 or at <http://www.epa.gov/safewater/lead>.

### **Do I Need To Be Concerned About My Water?**

Although our drinking water met or exceeded state and federal regulations it should be noted that 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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

**Public Participation** We encourage the public to become informed about their drinking water. The Gloversville Board of Water Commissioners meets on the first and third Monday of each month, at 6:00 PM, unless otherwise noted, at their office at 67-73 South Main Street in Gloversville. The public is encouraged to attend.

For additional information concerning this report, please contact Christopher Satterlee, Superintendent, Gloversville Water Works, 773-4520, Email at: [csatterlee@gloversvillewater.com](mailto:csatterlee@gloversvillewater.com), Safe Drinking Water Hotline, 1 800-426-4791 or NYSDOH Herkimer District Office (315)866-6879.