

Annual Drinking Water Report for 2018

Glens Falls Water Supply

Public Water Supply ID# NY5600104

Introduction

The Glens Falls Water Department is issuing this annual report describing the quality of your drinking water. This report is intended to improve your understanding of drinking water and your 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 concerning your drinking water, please contact Mr. Steve Gurzler PE, Water and Sewer Superintendent, at 2 Shermantown Road, Glens Falls, New York, 12801 or call (518) 761-3850. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled Water and Sewer board meetings. The meetings are at the Waste Water Treatment Plant Conference Room at 6 PM on the first Monday of each month. The Waste Water Treatment Plant is located at 2 Shermantown Road, Glens Falls.

Sources of Drinking Water

In general, sources of drinking water (both tap 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; radioactive contaminants. In order to ensure that tap water is safe to drink, the New York State Department of Health and the EPA prescribe regulations which limit the amounts of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations also establish limits for contaminants in bottled water which must provide the same protection for public health.

Where does our water come from?

The City of Glens Falls water sources include four separate reservoir systems. There are three gravity-fed systems and a fourth system that is pumped to our filtration plant. At the filtration plant site, two 2.3 million-gallon water storage tanks store the treated water. The storage of water in these tanks is essential to the proper disinfection of water and to maintain the operating pressure in our distribution system. Our water treatment plant has been in service since November of 2003 and continues to be fully operational. Sodium permanganate treatment is added to the raw (untreated) water at the Halfway Brook pumping station and at the Upper Junction valve and control to reduce disinfection byproduct formation and to address seasonal taste and odor issues. The water treatment facility treats the water by adding a coagulant, filtering it through a dual sand process and lastly adding a disinfectant and a phosphate inhibitor (for corrosion control), prior to pumping to the storage tanks and into the distribution system. The City of Glens Falls has 2 interconnections with the Town of Queensbury for emergency use. We test the primary interconnection, located at our filtration plant, annually.

The NYS DOH has evaluated this water system's susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraphs 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 Public Water System (PWS). This PWS provides treatment and regular monitoring to ensure that the water delivered to consumers meets all applicable standards.

This assessment found Halfway Brook Reservoir to have an elevated susceptibility to contamination for this source of drinking water. The amount of residential land cover in the assessment area results in elevated potential for microbials, (the growth of microorganisms such as algae). No permitted wastewater discharges are found in the assessment area. There are no contamination threats associated with other discrete contaminant sources. The assessment areas for Wilkie, Keenan, and Butler reservoirs contain no discrete potential contaminant sources. 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. Finally, it should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination.

The State Health Department will use this information to direct future source water protection activities. These activities may include water quality monitoring, resource management, planning, and education programs. A copy of the assessment can be obtained by contacting us, as noted above.

Facts and Figures

Our water system serves about 14,000 people through approximately 5,200 service connections. The total water brought to the water plant in 2018 was 1,034,788.16 billion gallons. The total amount of water sold to our customers in 2018 was 765.7 million gallons this is an increase of 80.7 million gallons when compared to last year's demand. The total amount of water treated and delivered from the water plant was 830,182.36 million gallons of water. The Daily Average of consumed water through the distribution system was 2.274 million gallons a day. The peak water usage month was July. The City's water production averaged 2.781 million gallons per day for that month. The maximum day's production of 3.110 million gallons per day occurred on July 12, 2018. In 2018 water customers were charged \$1.381/100 cubic feet of water and a capital water charge of \$ 1.265 per \$1,000 of Assessed Value per year.

Are there contaminants in our drinking water?

As the State regulations require, we routinely test your drinking water for numerous contaminants. The contaminants tested for include: total coliform, color, pH, chlorine residual, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, disinfection byproducts, radiologicals, 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, are more than one-year old.

It should be noted that all drinking water, including bottled water, may be reasonably expected to contain at least some small amounts of 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) or the New York State Department of Health Glens Falls District Office at (518) 793-3893.

The following charts are a list of the compounds we analyzed for and detected in your drinking water.

Table of Detected Contaminants							
Contaminant	Violation Yes/No	Date of Sample	Level Ave/ Max Range	Unit Measurement	MCLG	Regulatory Limit MCL, TT, AL	Likely Source of Contamination
2,4-D 2,4-Dichlorophenoxyacetic	No	1/23/2018 5/9/2018 8/7/2018 11/7/2018	Non-Detect Non-Detect Non-Detect Non-Detect	µg/l	N/A	50=MCL	Release to the environment by its application as a pesticide used to control broad leaf weeds in agriculture and for control of woody plants along roadsides, railways, and utility rights-of-way.
Sulfate	No	8/3/2017	5.3	mg/l	N/A	250=MCL	Naturally occurring
Barium	No	9/25/2018	0.006	mg/l	2	2 = MCL	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nickel	No	9/25/2018	0.0006	mg/l			
Manganese	No	9/25/2018	0.003	mg/l	0.3	0.3	Naturally occurring; indicative of landfill contamination
Chloride	No	8/3/2017	22.2	mg/l	N/A	250= MCL	Naturally occurring or indicative of road salts

Contaminant	Violation Yes/No	Date of Sample	Level Ave/ Max Range	Unit Measurement	MCLG	Regulatory Limit MCL, TT, AL	Likely Source of Contamination
Sodium	No	8/3/2017	13.7	mg/l	N/A	20 Mg/l not to be used by people on restricted sodium diets	Naturally occurring and sixth most abundant element in the earth's crust; the most abundant anion (negative charge) in the hydrosphere.
Copper ¹	No	8/3/2017	0.203	mg/l	1.3	1.3=AL	Corrosion of household plumbing system; Erosion of natural deposits
			Range (0.037-0.346)				
Lead ²	No	9/2017	0.0024	mg/l	0.015	0=AL	Corrosion of household plumbing systems; Erosion of natural deposits.
			Range (ND-0.0203)				
Nitrate	No	9/25/2018	0.47	mg/L	10	10=MCL	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Turbidity ³ Sample at Water Treatment Plant	No	Annual Ave	0.0465	NTU	>1	1-TT (WTP) Filters	Clear well pump change over caused momentary high reading
		Max. (9/27) @ Midnight	0.262				

Upper Junction							
Giardia	No	Date of Sample	Result	E.Coli Total Count	N/A	N/A	Soil Runoff
		2/27/2018	0	<1			
		3/27/2018	0	<1			
		4/24/2018	0	1			
		5/29/2018	0	<1			
		6/26/2018	0	<2.8			
		7/24/2018	0	20			
		8/28/2018	0	200			
		9/25/2018	0	67			
Cryptosporidium	No	Date of Sample	Result	E.Coli Total Count	N/A	N/A	Soil Runoff
		1/30/2018	0				
		2/27/2018	0				
		3/27/2018	0				
		4/24/2018	0				
		5/29/2018	0				
		6/26/2018	0				
		7/24/2018	0				
		8/28/2018	0				
		9/25/2018	0				
Halfway Brook							
Giardia	No	Date of Sample	Result	E.Coli Total Count	N/A	N/A	Soil Runoff
		1/30/2018	0.18	<1			
		2/27/2018	1.86	<1			
		3/27/2018	0	<1			
		4/24/2018	0	1			
		5/29/2018	0	<1			
		6/26/2018	0	31			
		7/24/2018	0	20			
		8/28/2018	0	400			
		9/25/2018	0	<1			

Cryptosporidium	No	Date of Sample	Result	E.Coli Total Count	N/A	N/A	Soil Runoff
		1/30/2018	0				
		2/27/2018	0				
		3/27/2018	0				
		4/24/2018	0				
		5/29/2018	0				
		6/26/2018	0				
		7/24/2018	0				
		8/28/2018	0				
		9/25/2018	0				

Table of Detected Contaminants							
Contaminant	Violation Yes / No	Date of Sample	Level Average/ Max Range	Unit Measurement	MCLG	Regulatory Limit MCL, TT, AL	Likely Source of Contamination
Turbidity ^{3a} From Distribution system	No	Annual Ave. Max. (8/2/2018)	0.0465 2.15	NTU	N/A	5	Soil run-off
Turbidity ^{3b} From Distribution system, highest month average	No	April	0.159	NTU	N/A	5	Soil run-off
Radium 228	No	5/7/2013	0.62+/-0.66	pCi/L	0	5=MCL	Erosion of natural deposits

<u>Disinfection By-Products:</u>	Violation	Date of Sample		Unit	MCLG	Regulatory Limit	
	Yes/No			Measurement			
Trihalomethanes (Chloroform, bromodichloromethane, dibromochloromethane, and bromoform)	No	Quarterly	Pruyns Island	Ug/L	N/A	80 = MCL	Byproduct of drinking water chlorination needed to kill harmful organisms. TTHM's are formed when source water contains large amounts of organic matter.
			67.7 ⁽⁴⁾				
			(36.9-95.2) ⁵				
			Broad St				
51.3 ⁽⁴⁾							
(31.5-85.8)							
Peck Ave							
55.0 ⁽⁴⁾							
(29-89.9)							
Civic Center							
53.4 ⁽⁴⁾							
(28.6-88.8)							
Haloacetic Acids (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid)	No	Quarterly	Pruyns Island	Ug/l	N/A	60 = MCL	By-product of drinking water chlorination needed to kill harmful organisms in drinking water
			51.8 ⁽⁴⁾				
			(38-64.9) ⁵				
			Broad St				
58.5 ⁽⁴⁾							
(34-94)							
Peck Ave							
54.5 ⁽⁴⁾							
(38.4-72)							
Civic Center							
45.3 ⁽⁴⁾							
(32.2-64)							

UCMR3 Treatment Source and Distribution Samples for 2015

UCMR3	Entry	Distrib.	Entry	Distrib	Entry	Distrib	Entry	Distrib	Units
Parameter	1st Qtr	1st Qtr	2nd Qtr	2nd Qtr	3rd Qtr	3rd Qtr	4th Qtr	4th Qtr	
Date Collected	3/25/2015	3/25/2015	7/28/2015	7/28/2015	9/17/2015	9/17/2015	12/16/2015	12/16/2015	
Chromium	0.22	0.24	<0.067	0.28	<0.067	0.11j	<0.067		ug/l
Cobalt	<1.0	<0.33			<0.33	<0.33	<0.33		ug/l
Molybdenum	<1.0	<0.33			<0.33	<0.33	<0.33		ug/l
Strontium	21.5	27.8			95.6	106	16.4		ug/l
Vanadium	<0.20	0.076j			0.087j	0.18j	<0.067		ug/l
Chromium (Hexavalent)	ND	ND			0.043	0.1	0.027j	0.051	ug/l
Chlorate									ug/l
1, 4 Dioxane	<0.070								ug/l
1, 1-Dichloroethane	<0.030								ug/l
1, 1, 1-Trichloroethane	<0.030								ug/l
1, 2, 3-Trichloropropane	<0.030								ug/l
1, 3-Butadiene	<0.10								ug/l
Bromochloromethane	<0.060								ug/l
Bromoethane	<0.20								ug/l
Chlorodifluoromethane	<0.080								ug/l
Chloromethane	<0.20								ug/l
perfluorobutanesulfonic acid	<0.030				<0.030		<0.030		ug/l
perfluoroheptanoic acid	<0.0033				<0.0033		<0.0033		ug/l
perfluorohexanesulfonic acid	<0.010				<0.010		<0.010		ug/l
perfluorononanoic acid	<0.00067				<0.00067		<0.00067		ug/l
perfluorooctanesulfonic acid	<0.0013				<0.0013		<0.0013		ug/l
perfluorooctanoic acid	<0.00067				<0.00067		<0.00067		ug/l

Notes for the Table of Detected Contaminants:

- 1 – The copper level presented represents the 90th percentile of the 30 sites tested. A percentile is a value of 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 copper values detected at your water system. In this case, thirty samples were collected at your system and the 90th percentile value was the 0.203 mg/l value. The action level for copper was not exceeded at any of the sites tested in 2017.
- 2 – The level presented represents the 90th percentile of the thirty samples collected. The action level for lead was not exceeded at any site in 2017.
- 3 – 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. State regulations require that turbidity must always be below 1 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU
- 3a – Our highest single distribution system turbidity measurement for the year 2018 occurred on 8/2/2018 with a 2.15 NTU result. A violation occurs when the monthly average of the results of all distribution samples collected in any calendar month exceeds the MDL (5 NTU) rounded to the nearest whole number.
- 3b – Our highest monthly average for the distribution system in the calendar year 2018 occurred in the month of April with an average of 0.159 ntu.
- 4 – This level represents the highest locational running annual average (LRAA) calculated for each sample site during 2018.
- 5 – This represents the range of results for each sample site 2018.

DEFINITIONS:

Maximum Contaminant Level (MCL) –The highest level of a contaminant that is allowed in drinking water.

Maximum Contaminant Level Goal (MCLG)- The level of a contaminant in drinking water below which there is no known or expected risk to the 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.

Action Level (AL) - The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, such as increased monitoring, which a water system must follow.

Locational Running Annual Average (LRAA)- Stage 2 of the Disinfection By-Products rule requires quarterly sampling for TTHM and HAA5 at specific distribution locations. The LRAA is the “rolling annual average” (four successive quarters) of those specific sites within the distribution system.

Secondary Standards: Established standards that are based on aesthetics and are not based on health risk. These contaminants may cause color, taste or odor problems but will not cause illness.

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

UCMR3- Unregulated Contaminant Monitoring Rule. The EPA is tasked with issuing a new list of no more than 30 unregulated contaminants once every 5 years. Data are collected to serve as a primary source of occurrence and exposure information.

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.

Micrograms per liter (ug/l) - Corresponds to one part of liquid in one billion parts of liquid.

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

Disinfection By-Products-(DBP) A contaminant formed by the reaction of disinfection chemicals (such as chlorine) with other substances in the water being disinfected.

What does this information mean?

The table shows that some constituents have been detected; however, none of these results were above the Maximum Contaminant Level (MCL) or the Maximum Contaminant Level Goal (MCLC).

Town of Queensbury Water 2018 Table of Detected Contaminants

Table of Detected Contaminants							
Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measurement	MCLG	Regulatory Limit MCL	Likely Source of Contamination
<i>Table 4A - Combined Filter Effluent Turbidity (5 filters)</i>							
Turbidity ¹	No	11/19/18	0.17	NTU	N/A	TT=<1 NTU	Soil Runoff
Turbidity ¹	No	November 2018	100%	%	100%	TT=95% of samples <0.3 NTU	Soil Runoff
<i>Inorganic Contaminants</i>							
Copper	No	8/24/17	47.0 ³ 2.0-68.0	µg/l	1300 µg/l	AL – 1300 µg/l	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	No	8/24/17	9.0 ⁴ ND – 23.0	µg/l	0	AL-15 µg/l	Corrosion of household plumbing systems; Erosion of natural deposits
<i>Table 8B – Primary Inorganic Chemicals</i>							
Barium	No	2/8/18	0.005	mg/l	2.0 mg/l	2.0 mg/l	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
<i>Table 8D – Secondary Inorganic Chemicals</i>							
Sodium ²	No	5/2/18 8/1/18 11/2/18	22.1 14.9 25.0 ²	mg/l	N/A	N/A	Naturally occurring, road salt, animal waste, sodium carbonate
Chloride	No	3/1/17	5.4	mg/l	N/A	250 mg/l	Erosion of natural deposits, water disinfection by-product
Manganese	No	3/1/17	0.017	mg/l	N/A	0.3 mg/l	Erosion of natural deposits
Sulfate	No	3/1/17	22.9	mg/l	N/A	250 mg/l	Erosion of natural deposits, Runoff from fertilizer
<i>Table 8C - Nitrates</i>							
Nitrate	No	2/8/18	0.20	mg/l	10 mg/l	10.0 mg/l as Nitrogen	Erosion of natural deposits, Runoff from fertilizer

Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measurement	MCLG	Regulatory Limit MCL	Likely Source of Contamination
<i>Table 9A – Disinfection Byproducts</i>							
Total Trihalomethanes	No	Quarterly Samples 2/8/18, 5/2/18, 8/1/18, 11/7/18	53.7 – Highest running location annual average ⁶ 27.1 – 68.9 – Annual range	µg/l	N/A	80 µg/l	By-products of drinking water chlorination. THM's are formed when source water contains large amounts of organic matter.
Total Haloacetic Acids	No	Quarterly Samples 2/8/18, 5/2/18, 8/1/18, 11/7/18	24.8 – Highest running location annual average ⁶ 12.5 – 23.0 – Annual range	µg/l	N/A	60 µg/l	By-products of drinking water chlorination. HAA5's are formed when source water contains large amounts of organic matter.
Total Organic Carbon	No	Monthly	Annual Range ⁵ 1.6-2.1 Average – 1.76	mg/l	N/A	TT	Naturally present in the environment
<i>Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) ⁷</i>							
Giardia	No	Jan - Sept	Range 0-21 Average 5.6	Total Count	N/A	N/A	Soil Runoff
Cryptosporidium	No	Jan - Sept	0-1 Average 0.3	Total Count	N/A	N/A	Soil Runoff
<i>Unregulated Contaminant Monitoring Regulation 3 (UCMR3)⁸</i>							
Strontium	No	Quarterly Samples 2/13/15, 4/13/15, 7/16/15, 10/15/15	22 – 28 Annual Range	ug/L	N/A	N/A	Erosion of Natural Deposits
Chlorate	No	Quarterly Samples 2/13/15, 4/13/15, 7/16/15, 10/15/15	44-160 Annual Range	ug/L	N/A	N/A	Agriculture Runoff
Vanadium	No	Quarterly Samples 2/13/15, 4/13/15, 7/16/15, 10/15/15	0.2-0.5 Annual Range	ug/L	N/A	N/A	Erosion of Natural Deposits
Chromium (hexavalent)	No	Quarterly Samples 2/13/15, 4/13/15, 7/16/15, 10/15/15	ND-0.03 Annual Range	ug/L	N/A	N/A	Erosion of Natural Deposits

1 - Turbidity is a measure of the cloudiness of the water. We measure it because it is a good indicator of the effectiveness of our filtration system. Our highest combined filter effluent turbidity measurement for the year occurred on 11/19/2018 (0.17 NTU). State regulations require that combined filter effluent point turbidity must always be below 1.0 NTU. The regulations also require that 95% of the combined filter effluent point turbidity samples collected have measurements below 0.3 NTU. All levels recorded were well below the acceptable range allowed and did not constitute a treatment violation.

2 - Water containing more than 20 mg/l sodium should not be used for drinking by people on severely restricted diets. This represents 4.73 mg of sodium in one 8 fluid oz. glass of water.

3 – The level presented represents the 90th percentile of the 36 sites tested. 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 copper values detected at your water system. In this case, 36 samples were collected at your water system and the 90th percentile value was 47.0 µg/l. The action level for copper was not exceeded at any of the sites tested with the highest level being 68.0 µg/l.

4 – The level presented represents the 90th percentile of the 36 samples collected. The 90th percentile is equal to or greater than 90% of the lead values detected at your water system. In this case, 36 samples were collected at your water system and the 90th percentile value was 9.0 µg/L. Of the 30 samples taken 10 results were **NON-DETECTS**. The action level for lead was exceeded at two sites. These two residences were made aware of the lead levels in their drinking water. The highest level being 23.0 µg/l. ND (**NON-DETECTS**) is any sample less than 1.0 µg/L.

5 - Total Organic Carbon is not regulated, but its calculated removal and compliance ratio must equal or exceed performance requirements established by the US-EPA. All levels recorded were well below the acceptable range allowed and did not

constitute a treatment technique violation.

6 – Stage 2 of the Disinfection Byproduct Rule calculates the highest average at a single location-Locational Running Annual Average (LRAA).

7- The Long Term 2 Enhanced Surface Water Treatment Rule was implemented by the US-EPA to monitor drinking water sources. Specifically, Giardia and Cryptosporidium which are highly resistant to traditional water treatment practices. Our system is required to test monthly for two years, starting October 2016. Please note that these results are prior to any water treatment. For more information, please review the US-EPA website.

8- In 2015, we were required to collect and analyze drinking water samples under the Unregulated Contaminant Monitoring Regulation 3 (UCMR3). The contaminants currently do not have a maximum contaminant level but are being tested for future regulations. More information can be found the EPA website under UCMR3.

INFORMATION ON LEAD

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. *The City of Glens Falls* 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 (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no MCL violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2017, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements, except that we failed to collect samples for 2,4-D from source water during the fourth quarter. The sampling was required after 2,4-D was detected in a sample collected 8/2/17. The results are shown in the table above. Samples collected 1/23/18 showed no detect.

INFORMATION ON CRYPTOSPORIDIUM

Cryptosporidium is a microbial pathogen found in surface water and ground water under the influence of surface water. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Ingestion of Cryptosporidium may cause cryptosporidiosis a gastrointestinal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome disease within a few weeks. However, immune-compromised people are at greater risk of developing life-threatening illness. We encourage immune-compromised individuals to consult their health care provider regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

INFORMATION ON GIARDIA

Giardia is a microbial pathogen present in varying concentrations in many surface waters and ground water under the influence of surface water. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection. 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 hand washing practices are poor.

Do I Need to Take Special Precautions?

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 treating your water, both of these items directly affect your water rates.
- Saving water reduces the cost of energy required to pump water and the need to construct costly new sources, pumping systems and water towers;
- 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 you are brushing your teeth.

- c. 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.
- d. 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.
- e. Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, read the meter number, you then check the meter after 15 minutes, if it moved, you have a leak.
- f. When watering your lawn or garden, consider using a rain gauge or empty soup cans to measure how much water you are applying and make sure you aren't wasting water by over-watering.

Cross Connection Control

The Water Department has increased monitoring for cross connections between possible sources of contamination and the public water supply. Cross-connections may constitute a serious public health hazard. There are numerous, well documented cases across the country where cross connections have been responsible for contamination of drinking water or have resulted in the spread of disease. Cross connections are permanent or temporary physical connections created by users between potable drinking water and anything which can pollute or contaminate the water supply. We are currently focusing on the larger water users, and users where we feel a higher risk of cross connections may exist. More information is available at www.cityofglensfalls.com on the Water & Sewer Department page.

System Improvements

With the full operation of the water filtration plant, there is a reduced risk of Giardia and Cryptosporidium in our drinking water; filtration has reduced the disinfection byproducts as well. In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make further improvements to the water system, and the cost of these improvements may be reflected in water rates. Recent improvements include installation of new water mains on Bay Street (2009) and Broad Street (2012). These improvements, and others like them, strengthen the water supply system and provide a greater potential for providing adequate water flow and pressure in the case of a fire.

In 2015, the City of Glens Falls began testing and operation of the interconnect between the City and the Town of Queensbury. Several tests were conducted in the fourth quarter of 2015 and the interconnect and chlorine booster station were found to be functional and ready for future use.

In 2016, the City of Glens Falls installed a new balancing valve at the water storage tank site. This allowed for both storage tanks to be drained, cleaned and inspected so that a detailed plan for rehabilitation and painting of the tanks can be prepared.

In 2017 the City completed a computer model of the water system which will help to identify problem areas and improve water flow for firefighting.

In 2018 the water supply distribution system was scanned for leaks. No major leaks were found but the City Crews are continuing to address the leaks that were detected.

Current projects include preparation of the rehabilitation plan and painting of the water storage tanks, water filtration plant optimization study, GPS mapping of the water system, and continue to upgrade older fire hydrants.

Closing

Thank you for allowing us to provide you and your family with quality drinking water this year. Please call our office if you have any questions or comments.

This *Annual Water Quality Report* was prepared by City of Glens Falls and DCK Services LLC