

Annual Drinking Water Quality Report for 2019

Water Commissioners, Town of Waterford

127 Second Street, Waterford, NY 12188

(Public Water Supply Identification Number NY4500173)

INTRODUCTION

To comply with State regulations, the Water Commissioners of the Town of Waterford 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. Last year, your drinking water met all State drinking water health standards. This report is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to New York State standards. The Commissioners goal is and always has been, to provide to you a safe and dependable supply of drinking water. We continually monitor the water treatment process to protect our water resources.

On May 14, 2009 the Environmental Protection Agency (EPA) began its dredging of the Hudson River to remove the PCB's deposited there many years ago. The dredging project has had both short term and long-term impacts on the quality of water in the river. As a result, the Commissioners continue to purchase water from the City of Troy which obtains its water from the Tomhannock Reservoir and is unaffected by the dredging project. In 2018, the Commissioners also began purchasing water from the City of Cohoes as a redundant water source.

The Commissioners receive several inquiries each year regarding the ownership and maintenance of the water service that exists from the water main to an individual's home or business. The Commissioners long standing policy is that the Commissioners have ownership and maintenance responsibility for the water main and for the portion of the water service from the water main to the property line/curb stop of the property. The property owner is then responsible for the ownership and maintenance of the portion of the service from the property line/curb stop to the home or business.

The Commissioners have also received several inquiries requesting online bill pay services. We are currently evaluating the costs and upgrades required to provide this service. In the interim, please be aware that most banks offer online bill pay which allows customers to pay their water and sewer bills online without the need to write a check or come into the water office. We currently have many customers that use this service through their bank. For more information, please contact your financial institution.

The Commissioners are in year two of a multi-year project to upgrade all of the water meters in the system to an automated meter reading (AMR) system. The new system will allow the waterworks to reduce staff time reading meters and will reduce meter reading errors. In addition, the system will allow the meter readings to be digitally transferred into the billing system which will further reduce labor times and transcription errors. The long-term result will improve operational efficiencies and help us maintain water rates as low as possible.

If you have any questions concerning this report or concerning your drinking water please contact: *Water Commissioners of the Town of Waterford, PO Box 489, Waterford, NY 12188; Telephone (518) 237-0422*. We want our valued customers to be informed about their water service. If you want to learn more, please attend any of our regularly scheduled Water Board meetings. They are held on the 2nd Tuesday of each month, 6:30 PM at the Water Commissioners of the Town of Waterford, 127 Second Street, Waterford, NY 12188; *Telephone (518) 237-0422*.

FACTS AND FIGURES

The Water Commissioners of the Town of Waterford provide water through 3,000 service connections to a population of approximately 9,800 people. In 2019 Waterford Water Works purchased 182,000,000 gallons of water from the City of Troy and 146,000,000 gallons from the City of Cohoes. Approximately 328,700,000 gallons of water were recorded as metered usage by Waterford's customers. This discrepancy may be partially attributed to the fact that residential meters are read quarterly and the schedule for some areas of the Town does not match the same calendar year used to determine water purchased. Other water losses can typically be attributed to water usage of fire protection, flushing, and leaks. The Commissioners are in the process of evaluating options to decrease water losses in the system. In 2019, several leaks were found and repaired within the system. Our average daily demand was 898,640 gallons of water. Our highest monthly average daily flow was 1,108,000 gallons which occurred in July 2019. The current charge for water is \$4.86 per thousand gallons for residential and industrial customers. The minimum charge for water is \$38.07 per hundred cubic feet or 7,480 gallons which is billed quarterly.

WHERE DOES OUR WATER COME FROM?

The Waterford Waterworks purchases its water from the City of Troy and the City of Cohoes. We receive water from Troy that has been treated at the Troy Water Treatment Plant (TWTP). The water source for the city of Troy is the Tomhannock Reservoir, a man made reservoir 6 ½ miles northeast of the city. The reservoir is 5 ½ miles long and holds 12.3 billion gallons

when full. The quality of the water from the Tomhannock Reservoir is good to excellent. Water flows from the reservoir by gravity where seasonally potassium permanganate is added and then at the Melrose Chlorination Station the water is pre-disinfected with chlorine dioxide. The water then flows to the John P. Buckley Water Treatment Plant (WTP) a conventional water treatment plant utilizing coagulation, flocculation, sedimentation, filtration, chlorination and fluoridation processes. Water received from the City of Cohoes is obtained from the Mohawk River and treated at the City water filtration plant. The treatment process at Cohoes consists of potassium permanganate addition for taste and odor control; coagulation and flocculation using aluminum sulfate to cause small particles to stick together when the water is mixed, making larger heavier particles; sedimentation to allow the newly formed larger particles to settle out naturally; filtration to remove smaller particles by trapping them in sand filters; pH adjustment with caustic soda; addition of an orthophosphate for corrosion control; and chlorination for disinfection.

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 NYS Department of Health (DOH) and EPA prescribe regulations, which limit the amount of certain contaminants in water, provided by public water systems. The State Health Department's and the Federal Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

Water Commissioners of the Town of Waterford staff are responsible for testing the water in the distribution system. The water is tested monthly for Total Coliform bacteria (10 samples per month), quarterly for disinfection byproducts, and annually for lead and copper. Source water monitoring is completed by the City of Troy and the City of Cohoes. Both sources are tested for inorganic compounds, volatile organic compounds, synthetic organic compounds, nitrate, and radiologicals. The tables presented below summarize what was detected in your drinking water. The State allows some contaminants to be tested 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. For a listing of the parameters that were analyzed that were not detected along with the frequency of testing for compliance see the NYS Sanitary Code, Appendix A.

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 pose 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.

WHAT DOES THIS INFORMATION MEAN?

As you can see from the tables our system had no violations. We have learned through our monitoring and testing that some constituents have been detected; however, these compounds were detected below New York State requirements. MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL (maximum contaminant level) level for a lifetime to have a one-in-a-million chance of having the described health effect.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2019 our system was in compliance with applicable State drinking water operating, reporting, and monitoring requirements. An inspection completed by the NYS Department of Health on June 13, 2018 found no violations at the water works.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met all 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 (Center for Disease Control) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbiological pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

INFORMATION ON LEAD IN DRINKING WATER

The NYSDOH and EPA have established that elevated levels of lead can cause serious health problems, especially for pregnant women and young children. The primary source of lead in drinking water is from materials and components associated with service lines and home plumbing. The Waterworks is responsible for providing high quality drinking water,

but it cannot control the variety of materials used in plumbing components. Many homes built prior to 1988 used plumbing materials that may have contained lead. If you are concerned that your home may have lead within its plumbing components, 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 or at <http://www.epa.gov/safewater/lead>.

Because lead is a significant concern in drinking water, the Water Commissioners currently require property owners that are completing a significant renovation to a property to bring the water service line into the building up to current codes. All new construction, including significant building renovation, on existing or new lots are required to install a new water service unless the existing service meets current material standards of copper or hdpe and is properly sized. Any existing service that has lead material is required to be replaced.

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. Fluoride is added to your water by the Troy Water Department. 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 of 0.7 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that Troy monitor fluoride levels on a daily basis. During 2019 monitoring showed fluoride levels in your water were in the optimal range 100 % of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.

INFORMATION ON GIARDIA

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. During 2017-2018, as part of routine sampling completed by the City of Troy, twelve samples were collected of untreated Tomhannock Reservoir source water and analyzed for Giardia cysts. Of these samples, four samples showed a total of 10 cysts and eight samples showed no cysts. In addition, sampling was completed monthly from September 2016 through August 2018 by the City of Cohoes for water from the Mohawk River. Of the 24 samples tested, 1 was positive for Cryptosporidium and 1 was positive for Giardia. Therefore, our testing 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. 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 healthcare 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 daycare centers or other settings where hand washing practices are poor. Both the City of Troy and the City of Cohoes utilize conventional filtration technology which removes these contaminants as part of the treatment process.

WATER CONSERVATION TIPS

The Water Commissioners of the Town of Waterford encourage water conservation. There are a lot of things you can do to conserve water in your own home. Conservation tips include:

- ◆ Only run the dishwasher and clothes washer when there is a full load
- ◆ Use water saving showerheads and take shorter showers
- ◆ Install faucet aerators in the kitchen and the bathroom to reduce the flow from 4 to 2.5 gallons per minute
- ◆ Water gardens and lawn for only a couple of hours after sunset
- ◆ Check faucets, pipes and toilets for leaks and repair all leaks promptly. A leaking toilet can use over 125,000 extra gallons of water in one billing cycle adding more than \$500 to a residential water bill.

CAPITAL IMPROVEMENTS

In 2019 the Water Commissioners of the Town of Waterford continued to make capital improvements to enhance the water treatment plant and distribution system. Recent on-going projects include continued construction of a water interconnection with the City of Cohoes and upgrades to water mains on Saratoga Avenue.

CLOSING

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit our customers. 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 at 518-237-0422.

WATERFORD WATERWORKS TABLE OF DETECTED CONTAMINANTS

Public Water Supply Identification Number NY4500173

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Turbidity in Distribution System	N	0.80	NTU	N/A	5.0 NTU	Iron Pipe, Tuberculation
Total Coliform	N	ND	N/A	0	TT = 2 or more positive samples ¹	Naturally present in the environment
Inorganic Contaminants						
Copper (samples from 5/20/2019)	N	0.09 ²	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Range of copper concentrations		0.01-0.18				
Lead (samples from 5/20/2019)	N	3 ³	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Range of lead concentrations		ND-16				
Disinfection Byproducts Stage 2 (3/5/2019 to 12/3/2019)						
Range of values for HAA5 Highest LRAA ⁴	N	Northside 36.3 (24-39) St Mary's 36.8 (33-40)	ppb	N/A	60	By-product of drinking water disinfection needed to kill harmful organisms
Range of values for TTHM Highest LRAA ⁴	N	Northside 47.5 (18-76) St Mary's 44.2 (20-72)	ppb	0	80	By-product of drinking water chlorination Needed to kill harmful organisms. TTHMs are formed when source water contains large Amounts of organic matter.

FOOTNOTES-

1. A treatment technique trigger occurs at systems collecting less than 40 samples per month when two or more samples are total coliform positive in one month
2. The level presented represents the 90th percentile of 42 test sites. The action level for copper was not exceeded at any of the 42 sites
3. The level presented represents the 90th percentile of 42 test sites. The action level for lead was exceeded at one of the 42 sites
4. The level presented represents the highest Locational Running Annual Average (LRAA) calculated for 2019 for each site followed by the range of the individual sample results. The locational running annual average is calculated each quarter by taking the average of the four most recent samples collected. The highest LRAA occurred during the 4th quarter for both sites for THMs, during the 3rd quarter for Northside HAA5s, and during the 4th quarter for St. Mary's HAA5s.

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.

90th Percentile Value- The values reported for lead and copper represent the 90th 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 90th 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

N/A-Not applicable

CITY OF TROY

TABLE OF DETECTED CONTAMINANTS

Contaminant	Violation Yes/No	Date or Frequency of Sample	Level Detected			Unit Measurement	MCLG MRDL G	Regulatory Limit (MCL, TT, MRDL, AL)	Likely Source of Contamination
			Value or Average	Range					
				Low	High				
Physical and Chemical Analytes									
pH	No	Daily	8.44	6.38	9.02	-	-	NDL	Adjusted at WTP
Temperature	No	Daily	12.3	3.0	23.0	° C	n/a	NDL	-
Color	No	Daily	0	0	2	color units	n/a	15	Naturally occurring
Turbidity	No	Daily	0.38	0.11	1.40	NTU	n/a	5	Soil runoff
Chlorine	No	Daily	0.81	0.58	1.27	mg/L	4	4.0	Added disinfectant
Chlorine Dioxide	No	Daily	0.013	0.00	0.19	mg/L	0.8	0.8	Added disinfectant
Fluoride	No	Daily	0.77	0.17	1.11	mg/L	n/a	2.2	Adjusted at WTP
Alkalinity, as CaCO ₃	No	Daily	41.5	20.4	48.8	mg/L	n/a	NDL	Naturally occurring
Hardness, as CaCO ₃	No	Weekly	NA	44.0	60.0	mg/L	n/a	NDL	Naturally occurring
Iron	No	Weekdays	0.02	0.00	0.05	mg/L	n/a	0.3	Naturally occurring
Manganese	No	Weekdays	0.001	0.00	0.04	mg/L	n/a	0.3	Naturally occurring
Inorganic Chemicals									
Barium	No	7/3/2019	0.0279	-	-	mg/L	2.0	2.0	Naturally occurring
Chloride	No	7/3/2019	25.8	-	-	mg/L	n/a	250.0	Naturally occurring or road salt
Sodium **	No	7/3/2019	12.7	-	-	mg/L	n/a	**	Naturally occurring
Sulfate	No	7/3/2019	20.2	-	-	mg/L	n/a	250.0	Naturally occurring
Radiological									
Gross Alpha Particles	No	3/11/2016	-0.840	1 sample every 6 years		pCi/l	0	15.0	Naturally occurring
Gross Beta Particles	No	3/11/2016	0.681			pCi/l	0	4.0	Naturally occurring
Radium 226	No	3/11/2016	0.456			pCi/l	0	5.0	Naturally occurring
Radium 228	No	3/11/2016	-0.144			pCi/l	0	5.0	Naturally occurring
Total Uranium	No	3/11/2016	0.167			ug/L	0	30.0	Naturally occurring

**CITY OF COHOES
TABLE OF DETECTED CONTAMINANTS**

CITY OF COHOES TABLE OF DETECTED CONTAMINANTS Public Water Supply Identification Number NY01000192						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Turbidity (Highest turbidity sample from 12/10/19)	N	0.227 ¹	NTU	N/A	TT=1.0 NTU	Soil runoff
Turbidity		100%			TT= 95% samples < 0.3	
Inorganic Contaminants (Sample data from 10/22/18 unless otherwise noted)						
Barium	N	23.9	ppb	2000	2000	Discharge of drilling wastes; erosion of natural deposits
Chloride	N	38.4	ppm	N/A	250	Geology; Naturally occurring
Color	N	5	units	N/A	15	Decaying leaves plants and organic matter; metals such as copper, iron and manganese
Manganese	N	19.8	ppb	N/A	300	Erosion of natural deposits
Nickel	N	3.6	ppb	N/A	N/A	Discharge from steel/metal factories
Nitrate (as Nitrogen)	N	0.496	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Odor	N	1	units	N/A	3	Natural sources
pH	N	7.38	units	N/A	6.5-8.5	
Sodium ²	N	23.4	ppm	N/A	N/A	Naturally Occurring, Road salt
Sulfate	N	14.6	ppm	N/A	250	Naturally Occurring
Zinc	N	51.7	ppb	N/A	5000	Naturally Occurring; corrosion inhibitor
Radiological Contaminants (samples from 3/24/15)						
Gross Alpha	N	2.79	pCi/L	0	15	Erosion of natural deposits
Radium 228	N	0.54	pCi/L	0	5	Erosion of natural deposits
Chlorine (average) Range of chlorine residual	N	1.18	ppm	MRDLG	MRDL	Used in the treatment and disinfection of drinking water
		0.30-2.22		N/A	4	
Total Organic Carbon Compliance Ratio	N	1.33-1.98	-	Compliance ratio >=1	TT ³	Organic material both natural and manmade; Organic pollutants, decaying vegetation,
Unregulated Contaminant Monitoring 4 (Quarterly samples collected 1/10/18, 4/23/18, 7/23/18 10/22/18) HAA9, HAA6 Bromide & TOC samples collected same as DBP's above						
Manganese	N	3.25-791	ppb	N/A	300	Naturally occurring
HAA9	N/A	22.3-54.9	ppb	N/A	N/A	
HAA6	N/A	3.85-9.5	ppb	N/A	N/A	
Bromide (Raw Water)	N/A	ND-23.2	ppb	N/A	N/A	
Total Organic Carbon (Raw Water)	N/A	3.2-4.8	ppm	N/A	N/A	
FOOTNOTES-						
<ol style="list-style-type: none"> 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. The regulations require 95% of the turbidity samples collected have measurements below 0.3 NTU. We met the standard 100% of the time. We also collect a distribution turbidity sample 5 times a week. Our average distribution turbidity for 2019 was 0.15 NTU. Water containing more than 20 ppm should not be consumed by persons on severely restricted sodium diets. 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. The removal or compliance ratio should be 1 or greater for each quarter. 						