Annual Drinking Water Quality Report for 2018

City of Watervliet

City Hall, Watervliet, NY 12189
Public Water Supply Identification Number NY0110127

INTRODUCTION

To comply with State regulations, the City of Watervliet 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. Our constant goal is and always has been, to provide to you a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and to protect our water resources. If you have any questions concerning this report or concerning your drinking water please contact: *Mr. Dave Dressel, Water Systems Supervisor, 222 Watervliet Shaker Road, Telephone (518) 785-7082.* 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 City Council meetings. They are held the 1st and 3rd Thursday each month, 7:00 PM at the *City Hall, Watervliet, NY 12189.*

WHERE DOES OUR WATER COME FROM?

The source of water for the City of Watervliet Water System is the Watervliet Reservoir, located in the Town of Guilderland. The reservoir has an impoundment area of 620 acres that captures water from a 112 square mile basin drained by the Norman's Kill, Bozen Kill and Black Creek. The reservoir has a capacity of 1.7 billion gallons of water.

Water from the reservoir flows to the Watervliet Water Treatment Plant. The treatment process consists of; pre-oxidation using sodium permanganate for iron and manganese removal, coagulation using poly aluminum chloride to cause small particles to stick together when the water is mixed, making larger heavier particles; sedimentation allows the newly formed larger particles to settle out naturally; filtration removes smaller particles by trapping them in sand filters; zinc ortho- phosphate for corrosion control ; and final post chlorination to protect against contamination from harmful bacteria and other organisms.

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 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.

FACTS AND FIGURES

The City provides water through approximately 2,500 residential services to a population of approximately 10,250 people. Our average daily demand is 2,262,000 gallons. Our single highest day was 2,807,000 gallons. The total water produced in 2018 was 825,815,000 gallons. Residential customers are billed at a flat rate of $358.00 annually. Commercial customers are metered and bill at a rate of $3.95 per 1000 gallons of water.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

In accordance with State regulations, the City of Watervliet routinely monitors your drinking water for numerous contaminants. We test your drinking water for inorganic contaminants, radiological contaminants, lead and copper, nitrate, volatile organic contaminants, and synthetic organic contaminants. In addition, we test 12 samples for coliform bacteria each month. The table presented on page 3 depicts which contaminants were detected in your drinking water. 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. Some of the data, though representative of the water quality, is more than one year old. For a listing of the parameters we analyzed that were not detected along with the frequency of testing for compliance with the NYS Sanitary Code, see 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 Albany County Health Department at (518) 447-4620.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the tables on page 3, our systems had no violations in 2018. We have learned through our monitoring and testing that some contaminants 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 contaminants, a person would have to drink 2 liters of water every day at the MCL 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 2018, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

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 microbiological pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

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 City of Watervliet 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 or at *http://www.epa.gov/safewater/lead*

WHAT IS THE SOURCE WATER ASSESSMENT PROGRAM (SWAP)?

To emphasize the protection of surface and ground water sources used for public drinking water, Congress amended the Safe Drinking Water Act (SDWA) in 1996. The amendments require that New York State Department of Health's Bureau of Public Water Supply Protection is responsible for ensuring that source water assessments are completed for all of New York's public water systems. A SWAP summary for our water supply is attached to this report

WATER CONSERVATION TIPS

The City of Watervliet encourages 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
- 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

CAPITAL IMPROVEMENTS

The following improvements were made to the water system in 2018.

- We replaced approximately 6,500 feet of water mains in various areas throughout the city.

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.

CITY OF WATERVLIET TABLE OF DETECTED CONTAMINANTS Public Water Supply Identification Number NY0110127						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Turbidity[1] (highest level detected 8/19/18)	N	0.256	NTU	N/A	TT=1 NTU	Soil runoff
	N	100%			TT= 95% samples < 0.3	
Inorganic Contaminants (Sample data from 10/26/18 unless otherwise noted)						
Barium	N	16.6	ppb	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chloride	N	57.2	ppm	N/A	250	Geology; Naturally occurring
Color	N	10	units	N/A	15	Natural color may be caused by decaying leaves, plants and soil organic matter; the presence of metals such as copper, iron and manganese
Copper (samples from 9/13/17-9/14/17) range	N	0.20[3] ND-0.43	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (samples from 9/13/17-9/14/17) range	N	2[4] ND-2	ppb	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits;
Manganese	N	3.6	ppb	N/A	300	Geology; Naturally occurring
Nickel	N	0.9	ppb	N/A	100	Naturally occurring
Odor	N	1	units	N/A	3	Natural sources
pH	N	7.42	units	N/A	6.5-8.5	
Sodium[5]	N	35.8	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	15.6	ppm	N/A	250	Naturally Occurring,
Zinc	N	14.2	ppb	N/A	5000	Galvanized pipe; corrosion inhibitor
Total Organic Carbon (monthly samples from 2018)						
Treated Water	N[6]	0.80-1.75	N/A	Compliance ratio >=0.37-1.47	TT	Organic material both natural and man made; Organic pollutants, decaying vegetation,
Stage 2 Disinfection Byproducts (quarterly samples from 2 sites on 1/9/18, 4/10/18, 7/10/18 & 10/16/18 unless otherwise noted)						
Chlorine (based on daily samples) Range of chlorine residual	N	0.81 0.44-1.38	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
Haloacetic Acids [HAA5] (average)[7] Range of values for HAA5	N	42.2 7.5-59	ppb	N/A	60	By-product of drinking water chlorination
TTHM[Total Trihalomethanes](average)[7] Range of values for Total Trihalomethanes	N	65.2 31.9-98.7	ppb	0	80	By-product of drinking water chlorination
Radiological Contaminants (samples from 4/14/15)						
Radium 228	N	0.97	pCi/L	0	5	Erosion of natural deposits

FOOTNOTES-

1. Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of our filtration system. Level detected represents the highest level detected. Our highest single turbidity measurement for the year occurred 8/9/18 (0.256 NTU). State regulations require that entry point turbidity must always be below 1.0NTU. The regulations also require that 95% of the turbidity samples collected have measurements below 0.3 NTU. We also measure turbidity in the distribution system 5 times a week with 0.202 NTU being the average.
3. The level presented represents the 90th percentile of 20 test sites. The action level for copper was not exceeded at any of the 20 sites tested.
4. The level presented represents the 90th percentile of 20 test sites. The action level for lead was not exceeded at any of the 20 sites tested.
5 Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets;
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. The removal or compliance ratio should be 1 or greater. Our compliance ratio for the 3rd and 4th quarters was less than 1 but the annual average was 1.06.
7. The average is based on a LRAA. The average shown represents the highest LRAA for 2018. The highest HAA5 and THM was in the 2nd quarter of 2018.

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.
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.
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 LRA is calculated by taking the average of the four most recent samples collected at each individual site.
N/A-Not applicable

Appendix A

New York State Sanitary Code Compliance Monitoring Requirements- Compounds Analyzed that were Below Limits of Detection

CITY OF WATERVLIET TEST RESULTS
Public Water Supply Identification Number NY5700119

CONTAMINANT	MONITORING FREQUENCY
Asbestos	N/A No Asbestos pipe
Antimony	Monitoring requirement is 1 sample annually Sample from 10/26/018 **Non-Detect**
Cadmium	
Chromium	
Cyanide	
Fluoride	
Mercury	
Nitrate	
Silver	
Thallium	
Arsenic	
Color	Monitoring requirement is at State discretion Sample from 10/26/18 **Non-Detect**
Iron	

CONTAMINANT	CONTAMINANT	MONITORING FREQUENCY
POC's (Volatile Organic Compounds)		
Benzene	Trans-1,3-Dichloropropene	Monitoring requirement is one sample anually 10/26/18 **Non-Detect**
Bromobenzene	Ethylbenzene	
Bromochloromethane	Hexachlorobutadiene	
Bromomethane	Isopropylbenzene	
N-Butylbenzene	p-Isopropyltoluene	
sec-Butylbenzene	Methylene Chloride	
Tert-Butylbenzene	n-Propylbenzene	
Carbon Tetrachloride	Styrene	
Chlorobenzene	1,1,1,2-Tetrachloroethane	
2-Chlorotoluene	1,1,2,2-Tetrachloroethane	
4-Chlorotoluene	Tetrachloroethene	
Dibromethane	Toluene	
1,2-Dichlorobenzene	1,2,3-Trichlorobenzene	
1,3-Dichlorobenzene	1,2,4-Trichlorobenzene	
1,4-Dichlorobenzene	1,1,1-Trichloroethane	
Dichlordifluoromethane	1,1,2-Trichloroethane	
1,1-Dichloroethane	Trichloroethene	
1,2-Dichloroethane	Trichlorofluoromethane	
1,1 Dichloroethene	1,2,3-Trichloropropane	
cis-1,2 Dichloroethene	1,2,4-Trimethylbenzene	
Trans-1,2-Dichloroethene	1,3,5-Trimethylbenzene	
1,2 Dichloropropane	m-Xylene	
1,3 Dichloropropane	o- Xylene	
2,2 Dichloropropane	p-Xylene	
1,1 Dichloropropene	Vinyl Chloride	
Cis-1,3-Dichloropropene	MTBE	
Total Coliform E. coli		Monitoring is 12 samples/ month **Non-Detect**
Radiological Parameters		
Gross Alpha Scan	Samples from 4/14/15	Monitoring is 1 sample every 6-9 years **Non-Detect**
Radium 226	Samples from 4/14/15	

Synthetic Organic Chemicals

Synthetic Organic Chemicals (Group I)	
Alachlor	Aldicarb
Aldicarb Sulfoxide	Aldicarb Sulfone
Atrazine	Carbofuran
Chlordane	Dibromochloropropane
2,4-D	Endrin
Ethylene Dibromide	Heptachlor
Lindane	Methoxyhlor
PCB's	Toxaphene
2,4,5-TP (Silvex)	

Synthetic Organic Chemicals (Group II)		
Aldrin	Benzo(a)pyrene	Monitoring requirement is 1 sample every 18 months; Sample from 10/11/17 **Non-Detect** *State waiver does not require monitoring these compounds
Butachlor	Carbaryl	
Dalapon	Di(2-ethylhexyl)adipate	
Di(2-ethylhexyl)pthalate	Dicamba	
Dieldrin	Dinoseb	
Diquat*	Endothall*	
Glyphosate*	Hexachlorobenzene	
Hexachlorocyclopentadiene	3-Hydroxycarbofuran	
Methomyl	Metolachlor	
Metribuzin	Oxamyl vydate	
Pichloram	Propachlor	
Simazine	2,3,7,8-TCDD (Dioxin)*	

Watervliet Reservoir
Source Water Assessment Summary
PWS ID Number NY0110127

The NYS DOH has completed a Source Water Assessment for the Watervliet Reservoir. The assessment is summarized below. The assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how likely contaminants could enter the reservoir. The susceptibility rating is an estimate of the potential for contamination. It does not mean that the water delivered to your home is or will become unsafe to drink. See section "Are there contaminants in our drinking water?" of this report, for information concerning low levels of contaminants in your water.

This assessment found the amount of agricultural lands in the assessment area results in a potential for protozoa contamination. Other facilities such as landfills and golf courses could release other contaminants, such as pesticides and phosphorous. It should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs sensitive to existing and new sources of phosphorus and microbial contamination

Watervliet's water treatment plant performs multi level treatment to insure you receive safe drinking water. Additionally, as this annual report shows your water is routinely monitored for a great number of potential contaminants.