

Annual Drinking Water Quality Report 2017

*Saratoga County Water Authority
260 Butler Road, Gansevoort, NY 12831
(Public Water Supply ID# NY4530222)*

INTRODUCTION

To comply with Part 5-1.72 of the New York State Sanitary Code (10 NYCRR), the Saratoga County Water Authority (SCWA) 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. Included are details about where the 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 us at (518) 761- 2058. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled Water Authority board meetings. The meetings are held monthly in the Board of Supervisor's meeting room at the Saratoga County Office Building located at 40 McMaster Street, Ballston Spa, NY 12020. For the next meeting date and time please go to our website: www.saratogacountywaterauthority.com.

WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The water source for the SCWA is the upper Hudson River. Water treatment consists of addition of a coagulant and filtration through 0.1-micron membrane filters and granular activated carbon filters. Caustic soda is added for pH adjustment and orthophosphates are added for corrosion control. Sodium hypochlorite is added for disinfection and to maintain a residual through the transmission system. There is a one 1 million-gallon water storage tank (clearwell) at the water plant. This tank provides contact time for proper disinfection of water and provides storage for our pumping and transmission system. Our water treatment plant has been in service since February of 2010.

Our drinking water is derived from a surface water source, the Hudson River. Hydrologic characteristics generally make rivers highly sensitive to existing and new sources of nitrate, phosphorus and microbial 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. Continued vigilance in compliance with water quality protection and pollution prevention programs as well as continued monitoring and enforcement will help to continue to protect our source water quality.

FACTS AND FIGURES

In 2017 our water system served eight customers; The Town of Moreau, the Wilton Water & Sewer Authority, the Town of Ballston, the Clifton Park Water Authority, the Town of Malta, the Village of Stillwater, the Town of Stillwater and the Luther Forest Technology Campus. The total water provided to our customers in 2017 was 1,943,041,076 gallons. The annual daily average water consumption was 5,350,000 gallons a day. Our highest monthly average daily flow was recorded during August 2017 at 6,132,000 gallons per day. In 2017, municipal water customers were charged \$2.242 per 1,000 gallons of water.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, color, pH, chlorine residual, turbidity, inorganic compounds, nitrate, nitrite, 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.

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. Saratoga County Water Authority 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 the 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 (1-800-426-4729) or at <http://epa.gov/safewater/lead>.

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) or the New York State Department of Health Glens Falls District Office at (518)793-3893.

Table of Detected Contaminants							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg/Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TI or AL)	Likely Source of Contamination
Microbiological Contaminants							
Total Coliform Bacteria	No	<i>Monthly</i>	None	<i>Monthly</i>	0	Systems with less than 40 samples per month- two or more samples positive for Total Coliform represents an <u>MCL</u> violation	Naturally present in the environment.
Turbidity (Highest Result -Entry Point)	No	7-21-2017	0.092	NTU	N/A	TT-1.0	Soil Runoff.
Transmission System	No	7-5-2017	0.28	NTU	N/A	TT-5.0	
Total Organic Carbon (TOC)	No	Raw Avg Treated Avg	4.30 1.65	mg/l	N/A	TT	Naturally present in the environment.
Inorganics							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg/Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TI or AL)	Likely Source of Contamination
Nitrate	No	2/28/2017	0.16	mg/l	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

SARATOGA COUNTY WATER AUTHORITY
ANNUAL DRINKING WATER QUALITY REPORT FOR 2017

Manganese	No	3-28-2017	3	ug/l	<i>NIA</i>	300	Naturally occurring; Indicative of landfill contamination
Sodium	No	3-28-2017	9.07	mg/l	<i>NIA</i>	270*	Naturally occurring; Road salt; Water softeners; Animal waste.
Chloride	No	3-28-2017	10.8	mg/l	<i>NIA</i>	250	Naturally occurring or indicative of road salt contamination.
Barium	No	3-28-2017	0.005	mg/l	2	2000	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Copper	No	8-22-2017	0.496 0.017-0.954	mg/l	<i>NIA</i>	1.3	Corrosion of household plumbing
Lead (GlobalFoundries Test Sites Only)	Yes	8-22-2017	0.0349 ¹ <.0010-0.108	mg/l	<i>NIA</i>	0.015	Corrosion of household plumbing systems; Erosion of natural deposits.
Disinfection Byproducts							
Haloacetic Acids - (mono-, di, and trichloroacetic acid, and mono- and di-bromoacetic acid) ^{2, 3, 4}	No	LRAA#1 Range #1 LRAA#2 Range #2 LRAA#3 Range #3 LRAA#4 Range #4	49.7 (19.5-104.6) 29.013 (12.4-54.6) 47.13 (16.5-97.8) 42.68 (16.0-98.3)	ug/l	<i>NIA</i>	60	By-product of drinking water chlorination needed to kill harmful organisms.
Trihalomethanes-(Chloroform, Bromodichloromethane, dibromochloromethane, and bromoform) ^{2, 3, 4}	No	LRAA#1 Range #1 LRAA#2 Range #2 LRAA#3 Range #3 LRAA#4 Range #4	53.08 (23.7-104) 36.08 (17.36-63.05) 46.43 (19.4-86.7) 48.39 (19.8-95.5)	ug/l	<i>NIA</i>	80	By product of drinking water chlorination needed to kill harmful organisms.

¹ The level presented represents the 90th percentile of the fourteen samples collected. The action level for lead was exceeded at three of the sites tested at GlobalFoundries. Follow-up tests were found within the limits.

² LRAA means Locational Running Annual Average. This is a calculation of all samples collected during the running 4 quarter sampling period and averaged for that specific location.

³ Some people who drink water containing Haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. Some people who drink water containing Trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

⁴ Location #1= LFTC Tank Out; Location #2= Wilton Connection; Location #3= LFTC Tank In; Location #4= Ballston Connection.

* Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.

Definitions:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

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.

Running Annual Average (RAA): The arithmetic average of the average results for each of four consecutive quarters. For disinfection byproducts the MCL and RAA are rounded to the nearest tenth when the results are given in micrograms per liter.

Locational Running Annual Average (LRAA): The average of all samples collected from that particular sampling location during each monitoring period over the Running Four Quarter Period.

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

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.

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

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 (parts per million - ppm).

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

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

Picograms per liter (pg/l): Corresponds to one part per of liquid to one quadrillion parts of liquid (ppq).

Picocuries per liter (pCi/l): A measure of the radioactivity in water.

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

Million Fibers per Liter (MFL): A measure of the presence of asbestos fibers that are longer than 10 micrometers.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table our system had one violation in 2017 for lead levels at the Global Foundries facility in the Saratoga Technology and Energy Park located in Malta, NY. Follow-up testing showed that all sites were below maximum contaminant levels.

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

We have learned through our monitoring and testing that some constituents have been detected; however, these compounds were detected at levels below New York State and federal requirements. These Maximum Contaminant Levels (MCLs) are set at very stringent levels. To understand the possible health effects for many regulated constituents, 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 prescribed health effect.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2017, our system failed to complete all of the required monthly testing for Cryptosporidium, Giardia, and e. coli in the raw water. Monthly sampling was inadvertently missed in October 2017 due to scheduling errors associated with recent laboratory changes. This testing is completed for monitoring purposes only in order to collect data on the Hudson River and did not impact water quality in the water system. The Saratoga County Water Authority was in compliance with all other applicable State drinking water operating, monitoring and reporting requirements.

INFORMATION ON CRYPTOSPORIDIUM

Cryptosporidium is a microbial pathogen found in surface water and groundwater under the influence of surface water. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. The Saratoga County Water Authority utilizes membrane filtration technology which removes these contaminants at higher rates than conventional water treatment technologies. During 2017, as part of our routine sampling, eleven samples were collected of untreated Hudson River source water and analyzed for Cryptosporidium oocysts. Of these samples, one showed one oocysts and ten showed no oocysts. Therefore, our testing indicates the presence of Cryptosporidium 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 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, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-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 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, eleven samples were collected of untreated Hudson River source water and analyzed for Giardia cysts. Of these samples, six samples showed a total of six cysts and five samples showed no cysts. 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. The Saratoga County Water Authority utilizes membrane filtration technology which removes these contaminants at higher rates than conventional water treatment technologies. 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?

Although our drinking water meets 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 HN/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 both of these necessities of life;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential firefighting needs are met.

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

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, and then check the meter after 15 minutes. If it moved, you have a leak.

CLOSING

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