

Annual Drinking Water Quality Report for 2016
Stockbridge Water District
P.O. Box 95, Munnsville, New York 13409
Public Water Supply ID# NY2602379

INTRODUCTION

To comply with State regulations, Stockbridge Water District, 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 tap water met all State drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. 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 Alex Stepanski, Town Supervisor, at 315-495-6752, or James Chamberlain, Water Superintendent at 315-264-3617. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled town board meetings. The meetings are held the first Monday of each month.

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. Our water system serves approximately 1093 individuals through 724 service connections. The Stockbridge Water District purchases 100% of its water from the City of Oneida.

WATER SUPPLY

The City of Oneida starts with a high quality surface water source from Glenmore Reservoir on Florence Creek, which is located twenty miles north of the City in the Town of Annsville, Oneida County. The dam impounds water from a 13.8 square mile watershed on the edge of the Tug Hill Plateau. The watershed is mainly forestlands with approximately half being State Reforestation. The 378-foot long and 45-foot high dam, constructed in 1926 in this rural location, provides water storage to buffer seasonal water demands as well as dry weather supply. The reservoir holds 299 million gallons of water. The City owns the 500-acre site on which the reservoir and dam are located. Last year, our system did not experience any restriction of our water source.

WATER TREATMENT

The City of Oneida reservoir and watershed receive regular inspections. While no contamination has been observed, treatment is required to ensure safe water is entering the distribution system. Situated one-half mile downstream from the dam is the City's Water Treatment Plant. This conventional flocculation/sedimentation facility with a production capacity of 4 million gallons a day (4 MGD) was completed in 1980. The plant includes a rapid mix basin, flocculation facilities, (2) contact basins, (4) dual media filters, and a clear-well tank. After the process of chemical addition, contact and filtration- microorganisms, including some that can cause disease (pathogens) may still be found in filtered water. Chlorination equipment is utilized to provide sufficient chlorine to kill any pathogens that may be present and to provide a chlorine residual in the water entering the distribution system. In order to inhibit corrosion of our distribution pipes we introduce zinc orthophosphate into the distribution system. This compound provides a thin protective coating to our pipes. Grade 1A and IIA operators operate the plant, 365 days a year. An onsite laboratory is utilized by personnel for chemical testing for daily operation of the plant.

At the Stockbridge Middle Road Pump Station, additional chlorine in the form of liquid sodium hypochlorite is added to the water to maintain sufficient chlorine to kill any pathogens that may be present and to provide a chlorine residual in the water entering the Stockbridge Water District distribution system.

SOURCE WATER ASSESSMENT

The New York State Department of Health (NYSDOH) has evaluated Glenmore Reservoir’s susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraph 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 the water delivered to consumers meets all applicable drinking water standards.

The assessment area for this drinking water source contains no discrete potential contaminant sources, and only the protozoa land covers contaminate prevalence ratings is greater than low. This rating is attributed to the percentage of pasture land cover used in the analysis, without regard for the actual percentage of such pasture land actively being used for agricultural livestock. This results in this reservoir being assigned a high susceptibility to protozoa, despite the relative absence of such land actually being used for livestock purposes within the watershed. However, the high mobility of microbial contaminants in all such reservoirs results in this drinking water intake being assigned medium – high susceptibility ratings for enteric bacteria and viruses. Furthermore, all open reservoirs are deemed highly susceptible to water quality problems caused by phosphorus additions.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we and the City of Oneida routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological 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 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 Madison County Health Department at 315-366-2526.

Table of Detected Contaminants-Source Water from Glenmore Reservoir							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Average/Maximum) (Range)	Unit Measurement	MCLG/MRDLG	Regulatory Limit (MCL, MRDL, MRDLG, TT or AL)	Likely Source of Contamination
Total Organic Carbon	No	Monthly	4.0 ² 2.7-6.5	mg/l	N/A	TT	Naturally present in the environment
Finished Water							
Turbidity (EP) ¹	No	9/21/2015	0.15	NTU	N/A	TT < 1.0 NTU	Soil Runoff
Turbidity (EP) ¹	No	9/2016	100 %	NTU	N/A	TT = 95% of samples < 0.3 NTU	Soil Runoff
Total Organic Carbon	No	Monthly	1.4 ² 1.0-2.0	mg/l	N/A	TT	Naturally present in the environment

Table of Detected Contaminants-Source Water from Glenmore Reservoir							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Average/Maximum) (Range)	Unit Measurement	MCLG/MRDLG	Regulatory Limit (MCL, MRDL, MRDLG, TT or AL)	Likely Source of Contamination
Inorganic Chemicals							
Nitrate	No	3/9/2016	0.16	mg/l	10	MCL = 10	Runoff from fertilizer use; Erosion of natural deposits.
pH	No	Continuous	6.8– 7.3	Std. Units	N/A	N/A	Naturally occurring
Calcium	No	3/9/2016	5.6	mg/l	N/A	N/A	Naturally occurring
Magnesium	No	3/9/2016	1.6	mg/l	N/A	N/A	Naturally occurring
Copper (EP)	No	3/9/2016	50	ug/l	1,300	AL = 1,300	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
Sodium	No	3/9/2016	3.7	mg/l	N/A	(see health effects)	Naturally occurring; Road salt.
Copper	No	6-8/15	220 ³ 25-360	ug/l	1,300	AL = 1,300	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
Lead	No	6-8/15	2.7 ⁴ ND- 5.7	ug/l	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits.
Chloride	No	3/9/2016	2.10	mg/l	N/A	MCL = 250	Naturally occurring or indicative of road salt contamination.
Zinc	No	3/9/2016	0.36	mg/l	N/A	MCL = 5	Naturally occurring; Mining waste.
Sulfate	No	3/9/2016	12.1	mg/l	N/A	MCL = 250	Naturally occurring
Barium	No	3/9/2016	4.9	ug/l	2,000	MCL = 2,000	Erosion of natural deposits.
Alkalinity as CaCO ₃	No	3/9/2016	13.5	mg/l	N/A	N/A	Naturally occurring
Hardness, Calcium as CaCO ₃	No	3/9/2016	14.0	mg/l	N/A	N/A	Naturally occurring
Total Hardness as CaCO ₃	No	3/9/2016	20.8	mg/l	N/A	N/A	Naturally occurring
Total Dissolved Solids	No	3/9/2016	25	mg/l	N/A	N/A	Naturally occurring
Disinfection By-Products							
Chlorine Residual	No	Continuous	1.1 ⁵ 0.8-1.6	mg/l	N/A	MRDL = 4	Water additive used to control microbes.

In the table above, you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

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

Entry Point (EP) - A representative sampling location after the last point of treatment but before the first consumer connection

Haloacetic Acids (HAA5): mono-, di-, and trichloroacetic acid, and mono- and dibromoacetic acid

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

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.

Milligrams per liter (mg/l) – corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

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.

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

Parts per billion (ppb) or Micrograms per liter (ug/l) - one part per billion corresponds to one part of liquid in one billion parts of liquid.

Total Trihalomethanes (TTHMs) – chloroform, bromodichloromethane, dibromochloromethane and bromoform

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

Notes:

1 – Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement for the year occurred on 9/21/2016 (0.15 NTU). State regulations require that turbidity must always be below 5 NTU which were met during the year. The regulations require that 95% of the turbidity samples collected have measurements below 0.5 NTU. Although September was the month with the lowest quality water leaving the plant (0.10 NTU monthly average), all samples were within the acceptable range allowed and did not constitute a treatment technique violation.

2 – This level represents the annual average and range of values calculated from sample results.

3 – The level presented represents the 90th percentile of the 30 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, thirty samples were collected at your water system and the 90th percentile value was the twenty seventh highest value (220 ug/l). The action level for copper was not exceeded at any of the sites tested.

4 – The level presented represents the 90th percentile of the 30 sites tested. The action level for lead was not exceeded at any of the sites tested.

5 – This level represents the annual average calculated from the Clearwell outlet.

Unregulated Contaminant Monitoring Rule (UCMR3) Table of Detected Contaminants - Source Water						
Unregulated contaminants are those that don't yet have a drinking water standard set by US Environmental Protection Agency. The purpose of monitoring for these contaminants is to help US EPA decide whether the contaminants should have a standard.						
Contaminant	Date of Sample	Level Detected (Average)/(Range)	Unit Measurement	MRL	Use or Environmental Source	Health Effects
Chromium (total) EPO01	Quarterly 2015	0.21 <0.2-0.23	ug/l	0.2	See chromium-6 for use or source information; though the amount measured when analyzing for "total chromium" is the sum of chromium in all of its valence states, the MCL for EPA's current total chromium regulation was determined based upon the health effects of chromium-6	See chromium-6 for health effects information
Chromium (total) DBPMAX		0.22 <0.2-0.28				
Chromium-6 EPO01	Quarterly 2015	<0.03 <0.03-<0.03	ug/l	0.03	Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation	Reference Dose (RfD): – 0.005 mg/kg/day (IRIS, 1998) (basis for MCL) – 0.003 mg/kg/day (IRIS, 2005) (basis for HRL) – Draft RfD: 0.0009 mg/kg/day associated with intestinal lesions (IRIS, Draft 75 FR 60454) Draft Slope Factor: 0.5 (mg/kg/day)-1 (IRIS, Draft 75 FR 5)

Chromium-6 DBPMAX0.096
0.079-0.11

Contaminant	Date of Sample	Level Detected (Average)/(Range)	Unit Measurement	MRL	Use or Environmental Source	Health Effects
Strontium EPO01	Quarterly 2015	17.8 14.2-24.1	ug/l	0.3	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions	Reference Dose (RfD): 0.6 mg/kg/day associated with rachitic bone (rickets) (IRIS) EPA Cancer Class: D – not classifiable as to human carcinogenicity
Strontium DBPMAX		32.0 27.9-39.2				
Vanadium EPO01	Quarterly 2015	0.44 0.26-0.58	ug/l	0.2	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst	Associated with altered kidney function indicated by increased blood urea and mild tissue changes
Vanadium DBPMAX		0.54 0.27-0.74				

Chlorate EP001	Quarterly 2015	<20 <20-<20	ug/l	20	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide	Reference Dose (RfD): 0.03 mg/kg/day associated with enlarged thyroid and mineralization (Office of Pesticide Programs)
Chlorate DBPMAX		129 75-190				

In the table above, you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Entry Point (EP001) - A representative sampling location after the last point of treatment but before the first consumer connection

DBPMAX - Maximum residence time in the distribution system

MRL - Minimum Reporting Level

Table of Detected Contaminants-Stockbridge Water District							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Average/ Maximum) (Range)	Unit Measurement	MCLG/ MRDLG	Regulatory Limit (MCL, MRDL, MRDLG, TT or AL)	Likely Source of Contamination
Microbiological Contaminants - Sample Monthly							
Chlorine Residual	No	Daily / Monthly	0.5 ⁽¹⁾ (range = 0.1 – 1.3)	mg/l	N/A	MRDL = 4 ⁽²⁾	Water additive used to control microbes.
Disinfection By products - Stage 2							
Stage 2 - Total Trihalomethanes (TTHMs) ³ (Stockbridge)	No	3,6,9,12/ 2016	72 ⁽⁵⁾ 42.4-91.4	ug/l	N/A	MCL = 80	By-product of drinking water disinfection needed to kill harmful organisms.
Stage 2 - Haloacetic Acids (HAA5) ⁴ (Stockbridge)	No		52 ⁽⁵⁾ 36.4-56.7		N/A	MCL = 60	
See City of Oneida AWQR for additional sample information - Physical Parameters, Radioactive Contaminants, Inorganic Contaminants, Synthetic Organic Contaminants, Principal Organic Contaminants, Lead and Copper							

Notes:

- 1 - The levels presented represent the average and range of the levels reported on the microbiological sampling reports.
- 2 - Value presented represents the Maximum Residual Disinfectant Level (MRDL) which is a level of disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. MRDLs are currently not regulated but in the future they will be enforceable in the same manner as MCLs.
- 3- TTHMs – chloroform, bromodichloromethane, dibromochloromethane and bromoform
- 4- HAA5- mono-, di-, and trichloroacetic acid, and mono- and dibromoacetic acid
- 5 – This level represents the highest Locational Running Annual Average (LRAA) and range of all sample results. Compliance with the MCL for Disinfection Byproducts is based upon the Locational Running Annual Average of all samples collected during four consecutive quarters. Individual samples may have exceeded the MCL but our system's LRAA never exceeded the MCL.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no 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. We are required to present the following information on lead in drinking water:

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 Stockbridge Water District 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>.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2016, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

CRYPTOSPORIDIOSIS AND GIARDIASIS

New York State law requires water suppliers to notify their customers about the risks of cryptosporidiosis and giardiasis. Cryptosporidiosis and giardiasis are intestinal illnesses caused by microscopic parasites. Cryptosporidiosis can be very serious for people with weak immune systems, such as chemotherapy, dialysis or transplant patients, and people with Crohn's disease or HIV infection. People with weakened immune systems should discuss with their health care providers the need to take extra precautions such as boiling water, using certified bottle water or a specially approved home filter. Individuals who think they may have cryptosporidiosis or giardiasis should contact their health care provider immediately. For additional information on cryptosporidiosis and giardiasis, please contact Madison County Health Department @ 366-2526.

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 2009, as part of the City of Oneida's routine sampling, 12 samples of Glenmore Reservoir source water were collected and analyzed for Giardia cysts. Of these samples, one was confirmed positive. 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 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 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 microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

WATER RATES

Residential Customers	
First 8,000 gallons.	\$48.00
Over 8,000 gallons	\$6.00 per 1000 gallons

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.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers.