

Annual Drinking Water Quality Report for 2016
Town of Grand Island
2255 Baseline Road
Public Water Supply ID#1400451

INTRODUCTION

To comply with State regulations, The Town of Grand Island Water Department 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. 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. 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. Last year we conducted tests for over 75 contaminants and none were found at a level higher than the state allows.

If you have any questions about this report or concerning your drinking water, please contact **John C Whitney, P.E., Department of Engineering & Water Resources, 773-9600 x629**. 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 and third Monday of each month at the Town Hall, 2255 Baseline Road.

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, 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 (Environmental Protection Agency) 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 (Food and Drug Administration) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our Community receives its water from the west branch of the Niagara River and the Niagara County Water District. The Niagara River receives water from Lake Erie, which is an excellent source of water. The Town of Grand Island Water Department was established in 1938 and serves a population of 20,500 people through a distribution system of 127.5 miles of pipeline. We have 7687 service connections in our system and water rates are \$2.85 per 1000 gallons, with 7000 gallons minimum charged per quarter. Average annual cost for a family of four is \$320 and unpaid balances are subject to a 10% penalty after 30 days. After October 31, arrears are applied to the tax rolls. The total amount of water produced in 2016 was 632 million gallons in addition to 204 million gallons purchased from Niagara County Water District. The daily average water treated and pumped into the distribution system was 1.9 million gallons per day. Our single highest day was 2.25 million gallons. The amount of water delivered to customers in 2016 was 644 million gallons. This leaves an unaccounted for total of 192 million gallons. This was used to flush mains, fight fires and leakage.

The New York State Department of Health recently completed a draft Source Water Assessment of the supply's raw water source under the States Source Water Assessment Program (SWAP). The purpose of this program is to compile, organize, and evaluate information regarding possible and actual threats to the quality of public water supply (PWS) sources. It is important to note that source water assessment reports estimate the potential for untreated drinking water sources to be impacted by contamination. These reports do not address the safety or quality of treated finished potable tap water. The Great Lakes' watershed is exceptionally large and too big for a detailed evaluation in the SWAP. General drinking water concerns for public water supplies which use these sources include: storm generated turbidity, wastewater, toxic sediments, shipping related spills, and problems associated with exotic species (e.g. zebra mussels - intake clogging and taste and odor problems). The SWAP is based on the analysis of the contaminant inventory compiled for the drainage area deemed most likely to impact drinking water quality at this public water supply raw water intake. This assessment found an elevated susceptibility to contamination for this source of drinking water. The amount of agricultural lands in the assessment area results in elevated potential for microbials, disinfection byproduct precursors, and pesticide contamination. There is also a high density of sanitary wastewater discharges, which results in elevated susceptibility for numerous contaminant categories. Non-sanitary wastewater could also impact source water quality. There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include: chemical bulk storage facilities, landfills, toxic release inventory facilities and Resources Conservation and Recovery Act (RCRA) facilities.

If you have any questions about the States Source Water Assessment Program, please contact Ms. Jennifer Delany, P. E., Senior Public Health Engineer, Erie County Health Department, 961-6864.

WHAT WATER PURIFICATION PROCESS DOES THE TOWN OF GRAND ISLAND WATER DEPARTMENT USE?

The treatment plant uses pre-chlorination, coagulation, sedimentation and filtration processes to ensure the quality of water. The Town of Grand Island uses chlorination for disinfection and Fluoride is added to the finished water. All water is filtered through mixed media filters and is of excellent quality.

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, turbidity, inorganic compounds, nitrate, arsenic, radiological contaminants, lead and copper, volatile organic compounds, total trihalomethanes, total haloacetic acids 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 Erie County Health Department at 961-6800

Table of Detected Contaminants for the Town of Grand Island

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg./Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Turbidity ¹	N	9/30/16	Highest After Filter 0.20 NTU	NTU	NA	TT = ≤ 1.0NTU	Soil runoff
Turbidity ¹	N	2016	100% ≤ 0.3	NTU	NA	TT = 95% of samples ≤ 0.3NTU	Soil runoff
Distribution Turbidity ²	N	7/16	0.25 NTU	NTU	NA	MCL > 5NTU	Soil runoff
Chlorine Residual	N	1/16-12/16	0.85 (0.75 – 0.95)	mg/l	MRDL 4.0	MRDLG 4.0	Added for disinfection
Flouride	N	2016	0.6 – 0.8	mg/l	NA	2	Naturally occurring and added to drinking water
Nitrate	N	5/3/16	0.30	mg/l	10	10.0 mg/l	Fertilizer, soil run off
Arsenic	N	5/3/16	<0.00200	mg/l	NA	0.01mg/l	Naturally present in the environment
Barium	N	5/3/16	0.0210	Mg/l	2.00	2.00	Soil runoff
Lead ^{4 & 7}	N	8/6/14	90% = 1.3ug/l Range is (ND -7.6)ug/l	ug/l	0	15 ug/l	Corrosion of household plumbing
Copper ^{3 & 7}	N	8/6/14	90% = 43.3 Range is (2.1–150)ug/l	ug/l	1.3	1300 ug/l	Corrosion of household plumbing
Total Trihalomethanes	N	2016	30 Range is (16-51) ug/l	ug/l	NA	80 ug/l	By-product of water disinfection
Total Haloacetic acids	N	2016	10 Range is (5-14) ug/l	ug/l	NA	60 ug/L	By-product of water disinfection
Gross Alpha ⁵	N	5/4/09	0.75	pCi/l	0	15 pCi/l	Naturally present in the environment
Radium 226 ⁵	N	5/4/09	0.09	pCi/l	0	5 pCi/l	Naturally present in the Environment
Radium 228 ⁵	N	5/4/09	1.53	pCi/l	0	5 pCi/L	Naturally present in the Environment
Asbestos ⁵	N	6/9/10 8/11/10	<0.010 – <0.50	MFL	NA	7 MFL	AC Pipe

- 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 9/30/16 (0.20 NTU). State regulations require that turbidity must always be less than or equal to 1.0 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. 100% of the samples were less than turbidity limits.
 - 2 – Distribution Turbidity is a measure of the cloudiness of the water found in the distribution system. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. Our highest average monthly distribution turbidity measurement detected during the year (0.25 NTU) occurred in July 2016. This value is below State's maximum contaminant level (% NTU).
 - 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 30 samples were collected at your water system and the 90th percentile value was 0.0772 mg/l, 0.330-mg/l highest value, 0.120-mg/l second highest value. 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 samples collected. The action level for lead was not exceeded at any of the 30 sites

tested.

5 – One sample required every 9 years.

6 – one sample required during each 18 month period

7 - sampling required every 3 years

Table of Detected Contaminants for Purchased Water from Niagara County Water District							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg. / Max.) (Range)	Unit of Measurement	MCLG	Regulatory Limit	Likely Source of Contamination
Inorganic Contaminants							
Barium	No	3/16	0.021	mg/L	2.00	MCL=2.00	Discharge of drilling wastes and from metal refineries; Erosion of natural deposits.
Copper ¹ (in distribution system)	No	6/14-9/14	0.201 (0.01-0.33)	mg/L	1.3	AL=1.3	Corrosion of galvanized pipes; Erosion of natural deposits.
Fluoride	No	1/16-12/16	0.65 (0.060-0.70)	mg/L	N/A	MCL=2.2	Erosion of natural deposits; Water additive that promotes strong teeth
Lead ¹ (in distribution system)	No	6/14-9/14	4.5 (0.50-299)	ug/L	0	AL=15	Corrosion of household plumbing systems; Erosion of natural deposits.
Nitrate	No	11/15	0.200	mg/L	10.0	MCL=10.0	Erosion of natural deposits. Atmospheric deposition
Sodium	No	03/16	9.89	mg/L	N/A	AL=20	Erosion of natural deposits. Use of road salt, discharges from water softeners.
Entry Point Chlorine Residual	No	1/16-12/16	1.15 (1.0-1.5)	mg/L	MRDL 4.0	MRDLG 4.0	Added for disinfection.
Entry Point ² Turbidity	No	1/16-12/16	0.03 (0.02-0.05)	NTU	N/A	0.3 NTU	Soil runoff
Entry Point ² Turbidity	No	1/16-12/16	100% of samples less than 0.3 NTU	NTU	N/A	TT=95% of samples < 0.3 NTU	Soil runoff
Radioactive Contaminants							
Gross Alpha Particles	No	3/14	0.00	pCi/L	N/A	MCL=15	Erosion of natural deposits of certain radioactive minerals
Radium 226 and 228 combined	No	3/14	0.428	pCi/L	N/A	MCL=5	Decay of natural and man-made deposits of certain radioactive minerals.
Uranium	No	3/14	0.036	µg/L	N/A	MCL=30	Erosion of natural deposits

¹During 2014 the Niagara County Water District collected and analyzed 50 samples for lead and copper. The level presented represents the 90th percentile of the 50 sites tested. The 90th percentile is equal to or greater than 90% of the lead or copper values detected at your water system. The analysis showed concentrations below action levels for all 50 copper samples. Three (3) of the 50 lead samples exceeded the action level of 15 µg/L. The range of lead levels detected is presented below the 90th percentile value.

²Turbidity 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. NCWD's highest single turbidity measurement for the year was 0.05 NTU. State regulations require that turbidity must always be below 1 NTU leaving the

Water Plant and 5 NTU in the distribution system. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. All samples collected in 2016 were below the treatment technique level.

Table of Detected Contaminants for Purchased Water from Niagara County Water District							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg. / Max.) (Range)	Unit of Measurement	MCLG	Regulatory Limit	Likely Source of Contamination
Microbiological Contaminants¹							
Turbidity	No	1/16-12/16	0.13 (0.02-0.52)	NTU	N/A	TT= <5NTU	Soil Runoff
Total Coliform	No	1/16-12/16	0 positive samples	N/A	0	MCL= 2 or more positive samples	Naturally present in the environment
Chlorine Residual	No	1/16-12/16	0.65 (0.14-1.05)	mg/l	MRDL 4.0	MRDLG 4.0	Added for disinfection.
Disinfection Byproducts²							
Total Trihalomethanes	No	1/16-12/16	43 (31-56)	µg/l	N/A	MCL=80	By-product of drinking water chlorination
Total Haloacetic Acids	No	1/16-12/16	28 (11-38)	µg/l	N/A	MCL=60	By-product of drinking water chlorination
¹ 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 average monthly turbidity must always be below 1 NTU leaving the Water Plant and 5 NTU in the distribution system. ² Results for Total Trihalomethanes (TTHMs) and Total Haloacetic Acids (HAA5s) are reported as the highest locational running annual average. The range of detection is shown below the average							

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.

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

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 (µg/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

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

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

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.

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.

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 in your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. The Town of Grand Island is responsible for providing high quality 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>.

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 Niagara county Water District before it is delivered to us. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at a properly controlled level. To ensure that the fluoride supplement in your water provides optimal dental protection, we and the Niagara County Water District monitor fluoride levels on a daily basis to make sure fluoride is maintained at a target level of 0.7 mg/l. During 2016 monitoring showed that fluoride levels in your water were within 0.2 mg/l of the target level for 100% of the time. None of the monitoring results showed fluoride at levels that approach the 2 mg/l MCL for fluoride.

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).

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 water treatment plant improvements, 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 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 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, then check the meter after 15 minutes, if it moved, you have a leak.

WATER SYSTEM IMPROVEMENTS

In 2016, the Town installed a new clearwell line and replaced deteriorated water lines on Ferry Road between Baseline and East River. In 2017, the Town plans to upgrade high lift pumps at the water plant and begin survey and design for a new water line on Staley Road. In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to

address these improvements.

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 at 773-9600 if you have questions.

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