



Annual Drinking Water Quality Report for 2018

STAR LAKE WATER DISTRICT

Town of Fine

4078 State Hwy 3

Star Lake, NY 13690

Public Water Supply ID# NY4404398

INTRODUCTION

To comply with State regulations, the *Star Lake 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 contaminate 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 Water Superintendent Mark Hall at (315) 848-3121 ext 302. 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. Town Board meetings are held at 6:30 pm in the Town Municipal Office Building on the second Wednesday 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 950 people through 365 service connections. Our water source is surface water drawn from Post Office Bay in Star Lake. The water is Filtered and Chemically Disinfected prior to distribution. The system was expanded this year to include the former Town of Clifton Woodhaven water district adding approximately 30 connections.



The NYS DOH has evaluated our Public Water Supply (PWS's) susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraphs below. It is important to stress that these assessments were created using available information and only estimate the potential for untreated drinking water sources to be impacted by contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for this PWS. This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

This assessment found a moderate susceptibility to contamination for this source of drinking water. Land cover and its associated activities within the assessment area does not increase the potential for contamination. The sole non-sanitary wastewater discharge in the assessment area is associated with the water treatment plant and, consequently it is unlikely to contribute to source water contamination. There are no noteworthy contamination threats associated with other discrete contamination sources. Additional sources of potential contamination include: septic and transportation routes.

The dominant considerations for defining natural sensitivity ratings for small lakes are their size and lack of high velocity and directional water flows. These water bodies are assigned medium natural sensitivity ratings for the microbial, other chemical, and phosphorous contaminate categories. This is due to the tendency for microbial to undergo some inactivation or sedimentation, and these water bodies tend to respond moderately to phosphorus problems with their watershed. The volatile nature of most organic chemicals makes these categories rate low for small lakes.

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, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds. The table presented 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, is 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 NYS Health Department Office in Canton at (315) 386-1040.



Radiological Contaminants

Table of Detected Contaminants							
Contaminant	Violation Yes/No	Date of Sample	Level Detected Avg/Max (Range)	Unit Measure -ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Combined radium – 226 and 228	NO	9/06/17	ND	pCi/L	0	5 ¹	Erosion of natural deposits
228	NO	9/06/17	0.941				
Gross alpha activity (including radium – 226 but excluding radon and uranium)	NO	9/06/17	ND	pCi/L	0	15 ¹	Erosion of natural deposits

Inorganics

Contaminant	Violation Yes/No	Date of Sample	Level Detected Avg/Max (Range)	Unit Measure -ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Nitrate	NO	5/29/18	<.029	mg/l	10	MCL = 10 mg/l	Runoff from fertilizer use; Leaching from Septic Tanks, sewage, Erosion of natural deposits.
Barium	NO	5/02/16	0.013	mg/l	2	MCL=2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Lead	NO	9/29/16	0.0048 (<.001-.0069)	ug/l	15	AL=15 ²	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	NO	9/24/15	0.33 (0.01-0.063)	mg/l	1.3	AL = 1.3 ³	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
Sodium			182	mg/l	NA	See footnote #4	Naturally occurring; Road salt; Water softeners; Animal waste
Fluoride			0.2	mg/l	2.2	NA	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories.



¹ A MCL violation occurs when the annual composite of four quarterly samples or the average of the analysis of four quarterly samples exceeds the MCL.

² The level presented represents the 90th percentile of the 5 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 lead values detected at your water system. The action level was not exceeded at any of the sites tested. 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. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

³ The level presented represents the 90th percentile of the 5 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.

⁴ Water containing more than 20 mg/L of sodium should not be used for drinking by people on a severely restricted sodium diet. Water containing more than 270 mg/L of sodium should not be used for drinking by people on a moderately restricted sodium diet.

Disinfection Byproducts

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
Haloacetic Acids (HAA5'S -)	NO	Quarterly	45 30-56	ug/l	N/A	MCL=60	By-product of drinking water chlorination
Total Trihalomethanes (TTHMs - chloroform, bromodichloromethane, dibromochloromethane, and bromoform)	NO	Quarterly	50.53 26-88	ug/l	N/A	MCL=80	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.

Microbiological

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
Total Coliform	No	Monthly	Negative	N/A	N/A	MCL=2 or more positive samples in 1 month ⁷	Naturally Present in the environment.

⁷ A violation occurs at systems collecting less than 40 samples per month when two or more samples are total coliform positive.



Turbidity

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	No	Daily	.019-6.95	NTU	N/A	1.0 NTU	Naturally Present in the environment.

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. Our highest single turbidity measurement for the year occurred on (4/25/18) as was recorded at (6.95 NTU). State regulations require that turbidity must always be below 1.0 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU.

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.

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.

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).

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.

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 Star Lake Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in household 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 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 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 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.

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. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. We ask that all our customers help us protect our water sources, which are the heart of our community. Remember to notify the water department in plenty of time if you need your service turned on or off for the season. You also might consider turning the water valve off inside your home if you leave your home unattended for an extended period of time. Please call our office if you have questions.

For a full size report, please visit the town website "afineadironacktown.org" or stop and pick one up at the Municipal Office Building.



STAR LAKE WATER IMPROVEMENT PROJECT

The Star Lake Water District is undertaking a water treatment/distribution system improvement project for the Star Lake water system. Many components are original to the 1952 construction of the system and require upgrades to meet current standards and demands. The Development Authority of the North Country (DANC) is providing technical services and Barton & Loguidice, D.P.C. (B&L), has prepared a Preliminary Engineering Report (August 2013) and Map Plan & Report (May 2105) for the project.

This \$8.408 million dollar project is being financed by the NYS Environmental Facilities Corporation (EFC), with a \$3 million dollar grant and the balance interest-free financing for a term of 30 years, through the Drinking Water State Revolving Fund (DWSRF). NY State Senator Joseph Griffo contributed a DASNY State and Municipal Facilities (SAM) \$100,000 Grant for the project.

Grant and low interest loan funding criteria have minimum user cost obligation requirements. Residential yearly water rates for the Star Lake Water District are estimated to have a service charge of \$540.00 per year to meet these grant and low interest loan requirements.

1) FILTRATION / TREATMENT SYSTEM:

Our current diatomaceous earth filtration system is deficient in meeting summer water demand and meeting certain NYS requirements. A new state-of-the-art Dakota Pump, Inc filtration package plant that was delivered in January 2019 and placed in service in April 2019. The WesTech AltaPac Ultrafiltration Filters use hollow fiber permeable membranes to remove organic particulates and macromolecules from the raw water to produce potable water. With a pore size of 0.01 microns, the membranes remove contaminants from the water by size separation. Bacteria such as giardia, cryptosporidium, and E. coli, along with certain viruses, are too large to fit through the membrane pores and are prevented from entering the drinking water system. Chlorine is added to the water as an additional required disinfectant. The new automated system includes production cycles with automatic backwashes and cleaning. The system also has automated start, standby, and stop sequences based on storage tank levels. Residents should notice a more consistent, less turbid water quality.

2) STORAGE TANK:

Current 200,000 gallon steel storage tank is deficient. A new 250,000 gallon water tank was put in service in July 2018.

3) DISTRIBUTION PIPING:

A majority of distribution main line piping was replaced in 2018.

4) GOLF COURSE:

The golf course sprinkler system will be separated from drinking water system. This is projected to take place in 2019.

5) INTERCONNECTION:

The project includes interconnecting with the Town of Clifton's Woodhaven Water District. Star Lake Water District will contract to provide water to the Town of Clifton District. Clifton's District will share proportionally in the long-term debt repayment and operating / maintenance costs. Woodhaven Water District has approximately 55 EDUs. Star Lake has approximately 545 EDUs. This interconnection took place in August 2018.

6) DISTRICT EXPANSION:

The District has been expanded to include the backside of the lake. This will loop the distribution system, improving water quality. This will also allow isolating smaller areas of the district when issues occur and possibly continuing service to critical users such as the Hospital and School. This will add approximately 25 users to the system.