Annual Drinking Water Quality Report for 2017
Village of Lowville
5535 Bostwick Street
Lowville, NY 13367
Public Water Supply ID# NY 2402365

INTRODUCTION

To comply with State regulations, The Village of Lowville 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. We conduct tests for thirteen different contaminants, though not all are required every year by the New York State Department of Health. We were required to sample for eight contaminants this past year, none of the contaminants were found at a level higher than the State allows. 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 Thomas S.M. Compo, P.E. Superintendent of Public Works, 315-376-2834. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled Municipal Board meetings. The meetings are held on the second Tuesday of every month at 6:30 pm at the Village of Lowville Municipal Office at 5535 Bostwick Street.



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 source consists of a spring/stream fed reservoir – Young's Pond – and two additional spring/stream fed impoundments – the Upper and Main Springs. These sources are located on 1,550 acres of village-owned land approximately 9 miles from the Village of Lowville in the Towns of Watson and New Bremen.

The first half of 2017 the source water was initially treated by slow sand filtration technology only. During the second half of the year the Village experienced high volume demands in a very short time period. To make matters worse, the high-volume demand coincided with early morning peak demands. As a result, it was necessary to place restrictions on water consumption from our system due to the unanticipated volume demand throughout a normal week. These restrictions had nothing to do with the amount of water available from our water source but rather the filtering capabilities.

To satisfy the volume demands, the Municipal Board recommended to the Board of Trustees to pursue a lease for a microfiltration unit which was approved. The micro-filtration system was approved by the NYSDOH and installed as part of a pilot study to aid in remedying the filtration limitations initially and the ongoing disinfection byproducts issues.

SOURCE WATER ASSESSMENT

The NYSDOH has evaluated this Public Water Supply's (PWS) susceptibility to contamination under the Source Water Assessment Program. 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 source water 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.

The assessment area for this drinking water source contains no discrete PCS's, and none of the land cover contaminant prevalence ratings are greater than low. However, the high mobility of microbial contaminants in reservoirs results in this drinking water intake having medium-high susceptibility ratings for protozoa and enteric bacteria and viruses. In addition, reservoirs are highly susceptible to water quality problems caused by phosphorus additions.

It should be noted that the Village owns/controls most of its watershed and has implemented a watershed management plan.

The Village Trustees extended the 9-month moratorium, which went into effect on September 22, 2016 which restricted increases in water allocations beyond the current limits of each water district.

The Municipal Board recommended to the Trustees the investigation of two test wells that were installed in 2010 to determine the viability of their use as a groundwater source. This work is scheduled to be completed in late Spring. Also ongoing is the request for qualifications from professional firms to investigate our current watershed property to determine if there are additional sources that could be used to provide additional yield.

A copy of this assessment can be obtained by contacting the supplier of water.

FACTS AND FIGURES

Our water system serves approximately 3,480 customers in the Village of Lowville and an estimated 400 or more customers in the Towns of Lowville, Watson, New Bremen and Martinsburg through 1,470 service connections. The total water produced in 2017 was 402,164,000 gallons. The daily average amount of water treated and entering the distribution system was 1,101,819 gallons per day. The total amount of water delivered to customers was 345,255,108 gallons. This leaves 56,908,892 gallons of water "unaccounted for". Unaccounted for water includes water used in hydrant flushing, fire fighting, fire flow testing, water lost through leaks and water main breaks as well as occasional overflow at the storage tank on the Number Three Road. This is down from the "unaccounted for" water from 2015 and is the third year in a row which there has been a decrease in unaccounted for water. Based on the above figures, 85.8% of the water produced at our filtration plant has been accounted for. This figure is down from the 87.1% of water accounted for in 2017. In 1999 the Village was only able to account for 65% of the water it produced. We will continue our efforts to account for this valuable resource. It is probable that a significant percentage of the water that is not accounted for is lost due to undetected leaks. In addition, the Village experienced several water leaks during the winter months, which were caused from water main breaks due to the excessive amount of frost. Many leaks begin small and gradually increase in intensity before they eventually surface or cause noticeable pressure problems. The Village has periodically employ a leak detection company to scan the system with extremely sensitive detection equipment. The Department of Public Works pays a great deal of attention to any sign of leakage and repairs are made as quickly and as reasonably possible. In 2017, water customers in the Village of Lowville paid an average water bill of approximately $265.10 per year (this does not include sewer charges that are combined on the same bill). Village residents are charged a minimum bill of $61.85 per 6-month billing period, which includes 1000 cubic feet of water (7,480 gallons). This is equivalent to $8.27 per 1,000 gallons of water. After the minimum is met, the rate decreases to $2.12 for every 100 cubic feet (748 gallons), or $2.83 for every 1,000 gallons thereafter. Homeowners can help conserve water and keep their water bill as low as possible by repairing leaking faucets and toilets. A leaking toilet can waste 30,000 gallons of water per year and significantly increase your water bill.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: turbidity, total coliform, nitrate, lead and copper, radiological compounds, primary and secondary inorganic chemicals, total trihalomethanes, haloacetic acids and synthetic organic chemicals. 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, 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 Health Department at 315-785-2277.

Table of Detected Contaminants

Contaminant	Violation (Yes/No)	Date of Sample	Level Detected (Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Microbiological Contaminants							
Total Coliform	No	1/1/17 to 12/12/17	0	N/A	0	MCL= 2 or more positive samples	Naturally present in the environment.
Turbidity [1]	No	11/15/17	2.269	NTU	N/A	TT≤ 5 NTU	Soil Runoff.
Turbidity [1]	No	1/1/17 to 12/31/17	100.00%	NTU	N/A	TT = 95% of samples < 1.0 NTU	
Inorganic Contaminants							
Arsenic	No	5/19/08	ND	mg/l	N/ A	MCL=0.010	Natural deposits in the earth, agricultural or industrial practices.
Copper	No	8/22/17 to 8/24/17	0.291 [2] 0.254 – 0.454	ug/l	1300	AL = 1300	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
Chloride	No	5/19/08	2.80	mg/l	N/A	MCL = 250	Naturally occurring or indicative of road salt contamination.
Fluoride	No	5/15/08	ND	ug/l	N/A	MCL = 2200	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories.
Iron	No	5/19/08	< 25	ug/l	N/A	MCL = 300,000	Naturally occurring.
Lead	No	8/22/17 to 8/24/17	0.008 [3] ND – 0.002	ug/l	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits.
Sodium	No	5/1/02	1.85 [4]	mg/l	N/A	See Note [4]	Naturally occurring; Road salt; Water softeners; Animal waste.
Sulfate	No	5/16/08	4.2	mg/l	N/A	MCL = 250	Naturally occurring.
Zinc	No	5/1/02	305	ug/l	N/A	MCL = 5,000	Naturally occurring; Mining waste
Inorganics - Nitrate and Nitrite							
Nitrate	No	6/27/17	118	ug/l	0	MCL = 10,000	Soil Runoff.

Table of Detected Contaminants (Continued)

Contaminant	Violation (Yes/No)	Date of Sample	Level Detected (Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Disinfection By-Products							
Total Trihalomethanes (TTHMs)	Yes	Once per Quarter 2017	55 @ site 1 (5) 50 @ site 2 (5) 35-74	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.
Total Haloacetic Acids (HAA5s)	Yes	Once per Quarter 2017	76 @ site 1 (6) 55 @ site 2 (6) 45-140	ug/l	N/A	MCL = 60	By-product of drinking water disinfection necessary to kill harmful organisms.
Chlorine Residual	No	11/1/17	3.90 (7) 0.20 - 3.90	mg/l	N/A	MCL = 4(8)	By-product of drinking water chlorination.

Table 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 11/15/17 (2.269 NTU). State regulations require that turbidity must always be below 5.0 NTU. The regulations also require that 95% of the turbidity samples collected have measurements below 1.0 NTU for our particular method of filtration (slow sand). All turbidity levels recorded during the calendar year 2017 were within the acceptable range allowed and thus no treatment technique violations occurred.

(2) The level presented represents the 90th percentile of the 20 sites tested on the indicated dates. 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 in the Village water system. In this case, twenty samples were collected and the 90th percentile value was the 18th highest value (0.291 ug/l). The action level for copper was not exceeded at any of the sites tested.

(3) The level presented represents the 90th percentile of the 20 sites tested on the indicated dates. 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 in the Village water system. In this case, twenty samples were collected and the 90th percentile value was the 18th highest value (0.008 ug/l). The action level for lead was not exceeded at any of the sites tested.

(4) 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.

(5) This level represents the highest rolling annual average calculated from data collected during the calendar year 2017, and the range of detected values at 2 sample sites. The system was out of compliance of the 80 ug/l limit at a sample site number one for all four quarters of 2017 with a Running Annual average of 61.2 ug/l for the first quarter, 76 ug/l for the second quarter, 95.9 ug/l for the third quarter and 115.28 ug/l for the fourth quarter. Trihalomethanes (THMs) are derivatives of methane, often formed during chlorination by reactions with natural organic materials in the water. THMs are suspected carcinogens.

(6) This level represents the highest rolling annual average calculated from data collected during the calendar year 2017, and the range of detected values at 2 sample sites. The system was out of compliance of the 60 ug/l limit at a sample site for all four quarters of 2017 with a Running Annual average of 79.8 ug/l for the first quarter, 91.0 ug/l for the second quarter, 91.4 ug/l for the third quarter and 109.15 ug/l for the fourth quarter. Haloacetic acids (HAA5s) are by-products of the drinking water disinfection process. Haloacetic acids are suspected carcinogens.

(7) This level represents the single highest chlorine residual measurement recorded in the distribution system on the date shown, as well as the range of chlorine residual measurements that were recorded in the distribution system during the 2017 calendar year.

(8) 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.

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 (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 (parts per quadrillion – 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?

The table shows that we are out of compliance with the EPA as it relates to Haloacetic Acids. The Haloacetic Acid running average was in excess of the 60 parts per billion limit for three out of the four quarters of 2016.

Haloacetic acids are a group of chemicals that includes mono-, di and trichloroacetic acids and mon- and dibromoacetic acids. Haloacetic acids are formed in drinking water during treatment by chlorine, which reacts with acids that are in naturally–occurring organic material (e.g. decomposing vegetation such as tree leaves, algae or other aquatic plants) in surface water sources such as rivers and lakes. The amount of haloacetic acids in drinking water can change from day to day, depending on the temperature, the amount of organic material in the water, the amount of chlorine added, and a variety of other factors. Drinking water is disinfected by public water suppliers to kill bacteria and viruses that could cause serious illnesses. Chlorine is the most commonly used disinfectant in New York State. For this reason, disinfection of drinking water by chlorination is beneficial to public health.

Some studies of people who drank chlorinated drinking water for 20 to 30 years show that long term exposure to disinfection byproducts (possibly including haloacetic acids) is associated with an increased risk for certain types of cancer. However, how long and how frequently people drank the water as well as how much haloacetic acids the water contained is not known for certain. Therefore, we do not know for certain if the observed increased risk for cancer is due to

haloacetic acids, other disinfection by-products, or some other factor. The individual haloacetic acids dichloracetic acid and trichloracetic acid, cause cancer in laboratory animals exposed to high levels over their lifetimes. Dichloracetic acid and trichloracetic acid are also known to cause other effects in laboratory animals after high levels of exposure, primarily on the liver, kidneys, and nervous system and on their ability to bear healthy offspring. Chemicals that cause effects in animals after high levels of exposure may pose a risk to humans exposed to similar or lower levels over long periods of time.

We are working closely with the Department of Health and are implementing several treatment controls to reduce these levels, including PH adjustment, evaluating/revising chlorination injection points, source water controls and groundwater investigation.

Although we had no lead violation, 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 Village of Lowville 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.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

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.
- 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.

SYSTEM IMPROVEMENTS

New water mains and fire hydrants were installed during the recent DOT Project along Dayan Street, as well as portions of State Street, Cascade Avenue and Shady Avenue. This work replaced infrastructure that had been in use since the 1930's. The Village completed a major project in 2013 which consisted of installing approximately 430 feet of water main under the Black River in the Town of Watson. This installation was due to a break in one of the two mains dating back to the original installation. **One ongoing area being addressed by the Village of Lowville and the NYS Department of Health is the Haloacetic Acid compliance issue. Several operational changes to lower these levels have been and continue in an effort to maintain compliance with regulations. Continued monitoring and fine-tuning are required to determine if this will be a long-term solution to this issue. If unsuccessful, significant capital improvements may be required to maintain compliance. The costs of such improvements may be reflected in the rate structure and adjustments may be necessary to fund necessary improvements.**

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.