Introduction

To comply with New York State regulations, the Village of Nunda, is issuing its annual 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 New York 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 Troy Bennett, Chief Water Operator, at 585-468-5983. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled Village board meetings. The meetings are held on the second Monday of each month at 7:00 PM at the Nunda Government Center.

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 number of certain contaminants in water provided by public water systems. The State Health Department 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 1600 people through 756 service connections. Our water source is a man-made impoundment reservoir on Chidsey Road, in the Town of Nunda, holding an estimated 13,000,000 gallons of water and was completed in the early 1960's. During 2020, our system did not experience any restriction of our water source. Prior to distribution, the raw water enters two clarification tanks. Stern-Pac (a coagulant) is added to optimize settling. The gravity-fed multimedia filters then remove the finer organic and inorganic matter and an optimum turbidity (clarity of water) is the result. The last stage of treatment is disinfection with chlorine. Chlorine is an oxidizing agent and is the most widely-used means of disinfection prior to distribution. Ortho-phosphates are also added for corrosion control in the distribution system.

The total water produced in 2020 was 46,998,000 gallons. The daily average of water treated and pumped into the distribution system was 128,674 gallons per day. Our highest single day was 187,000 gallons in August 2020. The amount of water delivered to customers was 29,877,895 gallons. This leaves a total of 17,120,105 gallons which was used to provide bulk water to customers, the Nunda Government Center, Village DPW Department, Village Water Treatment Plant and Waste Water Treatment (Sewer) Plant for backwashing requirements, flushing mains, fighting fires, storage, leakage and accounts for the remaining 36.4% of the total amount produced. In 2020, water customers were charged $49.50 for the minimum usage of 5,000 gallons per quarter, and $3.50 per 1,000 gallons of water over the minimum usage. The annual *average water* charge per service connection, less the debt service charge was $265.89, billed quarterly with an average of $66.47 (or monthly average charge of $22.15).

For the reservoir on Chidsey Road, this assessment found an elevated susceptibility to contamination for this source of drinking water. The number of agricultural lands in the assessment area results in elevated potential for protozoa and pesticides contamination. No permitted discharges are found in the assessment area. There is also considerable contamination susceptibility associated with other discrete contaminant sources, and these facility types include mines. Finally, it should be noted that hydrologic characteristics (e.g., basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination.

The New York State Department of Health has evaluated the Village of Nunda's water source 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 source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for this Public Water Supply (PWS). This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

Are there contaminants in our drinking water?

As New York State regulations require, we routinely test our drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, lead and copper, volatile organic compounds, total trihalomethanes, halo acetic acids, radiological contaminants, Escherichia Coli, and synthetic organic compounds. The complete list of monitoring results will be available at the Village of Nunda Clerk's Office for public viewing during normal business hours. The table presented below depicts which compounds were detected in your drinking water. New York State does allow our municipality 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 Environmental Protection Agencies Safe Drinking Water Hotline (800-426-4791) or the Livingston County Health Department at 585-243-7280.

Table of Detected Contaminants

Contaminant	Violation Yes/No	Date of Sample	Level Detected Average/Maximum Range	Unit Measure-ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Chlorine Residuals Measured in Distribution							
Chlorine Residual	**No**	Daily	**.0795 / 1.02** Range	mg/l	N/A	MRDL=4.0	Water additive used to control microbes
Microbiological Contaminants							
Turbidity [(1)] (Raw)	No	Daily	**.879 / 12.30** Average / Maximum	NTU	N/A	N/A	Soil Runoff
Turbidity [(1)] (Treatment)	No	Daily	**.0296 / .3700**	NTU	N/A	TT = 0.3	Soil Runoff
Turbidity [(1)] (Distribution)	No	5 per week	**.1142 / .6600** Average / Maximum	NTU	N/A	NTU = 5	Soil Runoff
Disinfection Byproducts							
Total Trihalomethanes (Chloroform, Bromodichlorimethane, Dibromochloromethane, Bromoform)	No	9/1/2020	**44**	ug/L	N/A	MCL = 80	By-product of drinking water chlorination needed to kill harmful organisms. Trihalonmethanes are formed when source water contains large amounts of organic matter.
Haloacetic Acids	No	9/11/2020	**13**	ug/L	N/A	MCL = 60	By-product of drinking water chlorination.
Disinfection byproduct Precursors							
TOC - Total Organic Carbon Raw Water	No	Monthly	**1.618 / 2.300** Average / Range	mg/L	N/A	N/A	Disinfection by-product Precursor
TOC - Finished Water	No	Monthly	**<1 / 1.600** Average / Range	mg/L	N/A	TT 15 - 25% removal	Disinfection by-product Precursor
Inorganic Contaminants							
Barium	No	1/11/21	**43.1**	mg/l	2	MCL = 2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chloride	No	11/5/2020	**27**	mg/L	N/A	MCL = 250	Naturally occurring or indicative of road salt contamination.
Sodium	No	11/3/2020	**17**	mg/L	AL	AL = 20	Naturally occurring; Road salt; Water softeners; Animal waste.
Chloroform[(2)] Bromodichloromethane[(2)] Dibromochloromethane[(2)]	No	9/1/2020	**28** **12** **3.7**	ug/l	N/A	MCL = 80	Byproduct of drinking water chlorination.

Lead and Copper							
Copper	No	8/28/2020	**0.0449**[3] Average / Range .0010 - .0990	mg/L	0	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits. Ten locations were used for this analysis spread-out throughout the municipality.
Lead	No	8/28/2020	**0.0014**[3] Average / Range <0.0010-0.0014	ug/l mg/L	AL	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits. Ten locations were used for this analysis spread-out throughout the municipality.
Long Term 2 Enhanced Surface Water Treatment Rule (4)							
Escherichia Coli (E. coli)	No	1/2020 - 12/2020 Every two weeks	All tests completed during this timeframe created negative results	cfu/100ml.	0	Yearly average over 100	Naturally present in the environment.

(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. Our highest single treated turbidity measurement of 0.370 NTU for the year occurred on June 11, 2020, State regulations require that turbidity, prior to distribution, must always be below 1 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. Turbidity samples are collected 5 days per week at various locations in the distribution system. Regulations require that distribution turbidity readings do not exceed 5 NTU.
(2) The total of chloroform, bromodichloromethane, dibromochloromethane and bromoform for the Village of Nunda equals 43.7 ug/L and meets the standard of not exceeding 80 ug/L.
(3) The level presented represents the 90th percentile of the 10 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 and copper values detected at your water system. The action level for lead and copper was not exceeded at any of the sites tested.

What Does This Information Mean?
Although no action level for lead was exceeded, 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 your home's plumbing. The Village of Nunda 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.

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.
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).
Halo acetic acids (five) (HAA5) means the sum of the concentrations in milligrams per liter of five specific halo acetic acid compounds.
Total Trihalomethane (TTHM) means the sum of the concentration of trichloromethane (chloroform), dibromochloromethane, bromodichloromethane and tribromomethane (bromoform).
Colony forming unit(cfu): Measurement of a colony of cells

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).

Spanish

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien. This report contains very important information about your drinking water. Translate it or speak with someone who understands it.

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 treat 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.

System Improvements and Closing

The Village of Nunda Water Department continues its working collaboration with New York State Department of Conservation and the Livingston County Department of Health which has created a superb dynamic between personnel, processes, reporting requirements and increased functionality and safety measures of our municipal water source and Water Department.

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. Through collaboration with New York State Rural Water Association, the Village of Nunda continues to reduce loss of water by identifying leaks within the infrastructure and repairing our system. Continuous efforts are in place to monitor leakage through system checks.

In July 2019, the Village of Nunda submitted to New York State Department of Conservation through the Water Quality Improvement Project (WQIP) Program a grant request to acquire, through purchase, property directly adjacent to the municipalities water source (reservoir). In December 2019, a grant award of $235,250 for the Village of Nunda, Land Acquisition for Source Water Protection Project was received. This grant will be used to acquire 173.8 acres within the water source protection area of the municipal reservoir adding greater protection to the drinking water the municipality provides. Due to COVID-19 restrictions, including State Executive Orders, delays in acquiring theses properties were identified and mitigated through months of dialog with many New York State officials. In late Fall 2020, State restrictions expired allowing our process to move forward. Our goal of completion is December 2021.

The Nunda Water Department asks that all our customers continue to help us protect our water sources, which is at the heart of the community. Please call our office at 585-468-2215 if you have questions or concerns.