

ANNUAL DRINKING WATER QUALITY REPORT FOR 2018
Upper Mohawk Valley Regional Water Board
(Mohawk Valley Water Authority)
1 Kennedy Plaza
Utica, New York 13502
(Public Water Supply ID# NY3202411)

**MVWA Report – Use
with Supplemental
System reports for
required reporting
information**



INTRODUCTION

To comply with State and Federal regulations, the Mohawk Valley Water Authority (MVWA) 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. All Federal and New York State Drinking Water Standards were met. This report provides an overview of last year's (2018) water quality. Included are details about where your water comes from, what it contains, and how it compares to State and Federal standards.

If you have any questions about this report or concerning your drinking water, please contact Philip Tangorra, Director of Water Quality, at 792-0301. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled Water Board meetings. The meetings are held on the third Monday of each month at the Mohawk Valley Water Authority Conference Room, third floor, Utica City Hall at 5 P.M.

For non-English speaking / reading population:

"This report contains important information about your drinking water. Translate it or speak with someone who understands it."

Bosnian – Ovaj izvještaj sadrži važne informacije o vodi za piće. Prevesti, ili razgovarati s neko ko razumije.

Russian - Этот отчет содержит важную информацию о вашей питьевой воды. Перевести его, или поговорить с кем-то, кто понимает его.

Somali – Warbixintani waxay ku qoran macluumaad muhiim ah oo ku saabsan biyo aad u cabbo. Fasiri karaa ama ula hadasho qof fasiri karaa adiga.

Spanish - Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Vietnamese - Báo cáo này chứa thông tin quan trọng về nước uống của bạn. Dịch nó, hoặc nói chuyện với một ai đó hiểu nó.

Simplified Chinese - 该报告包含有关饮用水的重要信息。翻译它，或者与别人谁了解它说话。

Traditional Chinese - 該報告包含有關飲用水的重要信息。翻譯它，或者與別人誰了解它說話。

WHERE DOES YOUR 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 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. 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.

The water we drink gathers in the streams and creeks of a remote 374 square mile Adirondack Mountain watershed, far from settled areas and farmland. These tributaries drain into the West Canada Creek, which carries our water to the New York State-owned Hinckley Reservoir, the source of our water supply.

SOURCE WATER ASSESSMENT INFORMATION

A Source Water Assessment has been completed for our water system. Possible and actual threats to drinking water source(s) were evaluated. The source water assessment includes a

susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the source(s). The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is or will become contaminated. The Source Water Assessment Program (SWAP) is designed to compile, organize and evaluate information to make better decisions regarding protecting sources of public drinking water. The report does not address the safety or quality of treated finished potable tap water. The source water assessment report is based on reasonably available information. Although efforts have been made to check the source water assessment report for accuracy, the large scope of this program and the nature of the available data make the elimination of all errors from these reports nearly impossible. It is important to note that source water assessment reports estimate the potential for untreated drinking water sources to be impacted by contamination. A copy of the assessment, including a map of the assessment area, can be obtained by contacting us, as noted above.

During 2005 a source water assessment was completed under the NYS Department of Health's Source Water Assessment Program (SWAP). This assessment found a low to moderate susceptibility to contamination of our source water. Land cover and its associated activities within the assessment area did not increase the potential for contamination. Permitted discharges from facilities in the watershed do not represent an important threat to source water quality, based on their density in the assessment area. There are no likely contamination threats associated with other discrete contaminant sources, even though some facilities were found in low densities. Additional sources of potential contamination include the roadways in the watershed. In conclusion, it was noted that hydrologic characteristics (basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination.

See section "*Are there contaminants in our drinking water?*" for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

Based upon the SWAP Report determinations, good judgment should be used, and caution should be exercised when determining land use near the source. We work hard to ensure that the source of water for our system is protected from contamination. In fact, the MVWA has existing Watershed Rules and Regulations (10NYCRR Chapter III Part 130.2) that regulate the land use and potential contamination sources around the water source. This is accomplished through a combination of land ownership and policing of the watershed area.

HOW IS YOUR WATER TREATED?

In 1990, after four years of careful testing, planning and design, construction of a water treatment and filtration plant began at a site near the village of Prospect. The facility became operational in 1992. The treatment plant includes a double filtration system designed to remove most of the organic matter and contaminants.

After our water has been filtered it is chlorinated. Chlorine is a disinfecting agent and kills bacteria present in the water. Chlorine levels are continuously monitored throughout our 600 miles of pipe that brings the water to your home.

Fluoride is added to your water in concentrations of 0.7 mg/l. Fluoride has been shown to reduce tooth decay and cavities.

Our water is treated to control corrosion of household plumbing that may contain metals such as lead. Calcium hydroxide (lime) and sodium carbonate (soda ash) are used in small amounts to buffer the water so that it is rendered non-corrosive to your home's plumbing. Lime and soda ash are naturally occurring substances, which pose no threat to human health. Lead levels measured in our customer's homes are in compliance with the Federal Lead Monitoring Program action levels.

FACTS AND FIGURES

Our water system presently serves approximately 126,250 people through over 38,900 service connections. The daily average amount of water treated was 19.3 million gallons per day. Our highest single day of production was 21.9 million gallons. The total water produced in 2018 was approximately 6.4 billion gallons. Some of the water was used for flushing water mains, filter backwashing, plant processes, equipment and hydrant testing, fighting fires, training firefighters, street cleaning and water main breaks and leakage. Approximately 3.5 billion gallons were sold to our customers. MVWA has an ongoing Leak Detection and Repair program. All distribution mains within the MVWA system are surveyed by professional Leak Detection Contractors annually. In the past 3 years, approximately 1.5 to 2 mgd of non-revenue water demand has been eliminated through this aggressive program. The MVWA recently invested over \$30,000 in updated electronic leak detection equipment and training for in house personnel.

In 2018, residential water customers were charged approximately \$4.78 per 1,000 gallons of water (average family of four).

SYSTEM IMPROVEMENTS

During 2018 the MVWA continued its aggressive program of reinvestment in the Regional System.

The Engineering and Distribution Department continued to implement major physical and operational improvements throughout the Regional Transmission and Distribution System and Facilities in 2018. These projects and the continued application of system management tools combine to improve water service reliability and ensure sustainability throughout the Regional Water System.

These management tools include the system-wide all pipe hydraulic model that can also be utilized for water quality modeling, real-time remote monitoring of pressure, flow and water quality parameters utilizing the MVWA SCADA System, the GIS/Mapping system and aggressively detecting leaks and tracking water accountability.

The Department is also responsible for preparing, bidding and administering routine annual contracts for commodities and services including; Water Main Materials, Leak Detection, Generator Maintenance, Fence Repairs, Tree Removals, Backflow Testing, Asphalt Paving and Concrete repairs and numerous other System needs. There is also an annual Tank Diving contract that permits the cleaning and inspection of the tanks while they remain in service thus eliminating sometimes day long service interruptions.

A program to begin replacement of key valves in vaults with packaged Pressure Reducing Valves (PRV) Vaults was commenced in 2018. These types of valves, many located in underground vaults, automatically regulate system flow and pressure. Failures can cause pressure fluctuations and cause main breaks. Repairs and upgrades to the vaults to improve access and safe working conditions were also undertaken.

Department staff members are active members of several Professional Associations and their Boards. MVWA staff helped organize and attended and presented at regional, state and national conferences. Presentations have typically been made at the New York Section American Water Works Association meetings, at the ESRI Annual Conference, the Mohawk Valley Environmental Information Exchange, the NYS Geo-Con Fall meeting and the American Academy of Environmental Engineers and Scientists meeting among others.

PROJECTS AND OPERATIONS IN FY 2018 INCLUDED:

FACILITIES – PUMPSTATIONS, CHEMICAL TREATMENT BUILDINGS AND WATER STORAGE TANKS

Significant work has been undertaken in the past several years to upgrade stations and tanks ranging in age from 40 to 90 years old. While minor upgrade projects continued in 2018, the year's focus was on evaluating and preparing plans to rehabilitate several older concrete tanks. General building improvements such as ceiling and roof replacements, new insulation, and new lighting were undertaken at several pump stations and chemical treatment buildings. The lighting improvements were partially financed by a National Grid grant. A major electrical safety program was begun including an Arc Flash Survey and development of new Lock-Out/Tag-Out procedures. Upgrades to several chlorination

facilities were completed including unloading, bulk storage and feed system improvements. One facility was converted from gaseous to liquid chlorine for safety reasons with all new equipment.

WATER MAIN REPLACEMENT & EXTENSIONS, LARGE VALVE REPLACEMENTS – TRANSMISSION MAINS, NYSDOT RT. 5S, JOHN ST AREA & UTICA CSO/PAVING & LEAD SERVICE LINE REPLACEMENT PROGRAM

The MVWA supported the NYSDOT as they constructed their Rt. 5S reconstruction project with water main design and field services for nearly 7,000 feet of new and relocated mains up to 12" in diameter including hydrants, and services. A second DOT Project on an adjacent section of 5S was commenced and will continue into 2019. The MVWA also supported the City of Utica's Lead Service Line Replacement Program in Symonds and Gray Avenues. MVWA also prepared a contract for clearing and erosion for the Marcy/Deerfield sections of the transmission mains. An all-terrain dump truck was rented to stockpile repair materials along the transmission main. One eroded pipe crossing was remediated. New leak detection and correlation equipment was purchased to replace a 10+ year old unit.

HYDRAULIC CONTROL VALVES MAINTENANCE AND IMPROVEMENTS

Hydraulic control valves include; Pressure Reducing Valves (PRVs), Pump Control Valves and Altitude Valves. The MVWA has over 150 of these types of valves in the system. These stations were inspected/adjusted and significant PRV improvement work was undertaken at several sites. A new prefabricated PRV Chamber was specified and bid for installation in 2019. This new chamber will replace an aging, very constricted one in a priority location. New isolation valves were installed to facilitate maintenance without impacting a large number of services.

SCADA, WATER QUALITY MONITORING AND SECURITY ADVANCEMENT

The MVWA SCADA system is 100% managed and maintained in house. Installation of a new wireless technology for monitoring remote (PRV) stations and water storage tanks without power has proved very effective and as a result, additional equipment is being installed to extend this capability to additional locations. New equipment noted above has all been tied into the SCADA system.

RAW WATER MAINS & NORTH AND SOUTH PIPE BRIDGES

The North Pipe Bridge is designated for renovations and coating in the next several years. A funding application under the WIIA was submitted for Phase 2 of the raw water mains but was unsuccessful. A preliminary design package for the new bridge is complete and a review meeting with Brookfield Power will be held in early 2019. A Drinking Water Grant was received for construction of a new pipe bridge which has resulted in the availability of funds for related projects. One project may include the demolition of the existing South Bridge once the new bridge is complete.

ARE THERE CONTAMINANTS IN YOUR 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, disinfection byproducts, 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, might 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 at 800-426-4791 or the Oneida County Health Department at 315-798-5064.

Table of Detected Contaminants

Contaminant	Is System in Violation?	Date of Sample	Level Detected Average / Maximum (Range)	Unit Measurement	MCLG / MRDLG	Regulatory Limit (MCL, MRDL, TT or AL)	Likely Source of Contamination
Microbiological Contaminants– over 100 Coliform Samples Monthly (2,628 collected in 2018)							
Total Coliform	No	5/14 (2), 5/24 (2)	4 positive samples ⁽¹⁾ 1.6% of samples in May	N/A	0 N/A	Any positive sample ⁽²⁾	Naturally present in the environment.
Physical Parameters							
Turbidity (Filtered Water) ^(3a)	No	07/20/2018	0.16 (highest single measurement) ^(3a)	NTU	N/A	TT = <1.0 NTU	Soil Runoff
Turbidity (Filtered Water) ^(3b)		All months ≤ 0.3	99.9% ≤ 0.3 (lowest monthly percentage of samples meeting specified limits)			TT = 95% of samples <0.3 NTU	
Turbidity (Distribution)		Daily	0.56 ⁽⁴⁾ (range = 0.10 – 9.8)			TT = <5 NTU (Monthly Average)	
Total Organic Carbon (Raw Water)	No	Monthly	5.0 ⁽⁵⁾ (range = 3.1 – 7.8)	mg/l	N/A	TT (relative to removal rates)	Naturally present in the environment.
Total Organic Carbon (Filtered Water)			1.1 ⁽⁵⁾ (range = 0.1 – 2.0)				
Inorganic Contaminants							
Barium	No	9/18	0.0059	mg/l	2	MCL = 2	Erosion of natural deposits.
Chloride	No	9/18	5.1	mg/l	N/A	MCL = 250	Naturally occurring.
Copper	No	2018	0.023 ⁽⁶⁾ (range = ND – 0.050)	mg/l	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits.
Fluoride (System Entry Point)	No	Daily	0.7 ⁽⁷⁾ (range = 0.5 – 1.0)	mg/l	N/A	MCL = 2.2	Erosion of natural deposits; Water additive that promotes strong teeth (<i>The MVWA water system adds Fluoride to the water</i>).
Fluoride (Distribution System)	No	Monthly	0.6 ⁽⁸⁾ (range = 0.6 – 0.7)				
Lead	No	2018	13.0 ⁽⁹⁾ (range = ND – 41.9)	ug/l	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits.
Manganese	No	9/18	3.3	ug/l	N/A	MCL = 300	Naturally occurring.

Table of Detected Contaminants

Contaminant	Is System in Violation?	Date of Sample	Level Detected Average / Maximum (Range)	Unit Measurement	MCLG / MRDLG	Regulatory Limit (MCL, MRDL, TT or AL)	Likely Source of Contamination
Nitrate	No	2/18	0.37	mg/l	N/A	MCL=10	Run off from fertilizer use, leaching of septic tanks, erosion of natural deposits.
Sodium	No	9/18	25.0 ⁽¹⁰⁾	mg/l	N/A	See Note 11 below	Naturally occurring; part of pH adjustment additive.
Sulfate	No	9/18	13.7	mg/l	N/A	MCL = 250	Naturally occurring.
Disinfectants / Disinfection Byproducts							
Chlorine Residual	No	Daily/ Monthly	0.9 ⁽¹¹⁾ (range = 0.2 – 2.2)	mg/l	N/A	MRDL = 4 ⁽¹²⁾	Water additive used to control microbes.
Haloacetic Acids (mono-, di- and trichloroacetic acid, and, mono- and dibromoacetic acid)	No	Quarterly	14.7 ⁽¹³⁾ (range = 0 – 21)	ug/l	N/A	MCL= 60	By product of drinking water disinfection needed to kill harmful organisms.
Total Trihalomethanes (TTHMs – chloroform, bromodichloromethane, dibromochloromethane and bromoform)	No	Quarterly	44.5 ⁽¹⁴⁾ (range = 5 – 69)	ug/l	N/A	MCL = 80	Byproduct of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.
Unregulated Contaminants							
Cyanotoxins							
Anatoxin	No	Semi-monthly from 8/1/2018 thru 11/30/2018 (8 samples collected)	<0.030 ⁽¹⁵⁾ All samples ND	ug/l	N/A	N/A	Algal toxins released in source waters during high algae blooms.
Cylindrospermopsin	No		<0.090 ⁽¹⁶⁾ All samples ND	ug/l	N/A	N/A	
Total Microcystins	No		<0.30 ⁽¹⁷⁾ All samples ND	ug/l	N/A	N/A	

Additional Detected Water Quality Parameters Collected Monthly (MVWA)

Contaminant	Level Detected - Average or Maximum (Range)	Unit Measurement	Importance of Parameter Measurement for Treatment
pH	9.5 (range = 7.4 – 10)	units	pH is a measure of the acidity or basicity of water. Solutions with a pH less than 7 are said to be acidic and solutions with a pH greater than 7 are basic or alkaline. The pH of our water has an effect on our water treatment and the efficiency of chemical treatment (e.g. coagulants, chlorine).

Notes:

- 1 - We averaged 219 Total Coliform samples per month in 2018. Four samples out of 2,628 total routine samples collected in 2018 were found to contain Total Coliform. (Samples collected May 14 and May 24). Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful bacteria may be present. Additional samples were subsequently collected after each positive sample and total coliforms were not detected in those samples. Since total coliforms were detected in <5% of the samples collected during each month when detected, the system did not have an MCL violation. It should be noted that E. coli, associated with human and animal fecal waste, was not found in any of the samples collected.
- 2 - A Level 1 assessment is triggered at systems collecting 40 or more samples per month when more than 5% of the total coliform samples are positive or at systems collecting less than 40 samples per month when two or more samples are total coliform positive. A Level 1 assessment can also be triggered if the system fails to take every required repeat sample after any single total coliform-positive sample.

- 3a – This value represents the highest daily average number reported.
- 3b - 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. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. 99.9% recorded during 2018 were within the acceptable range allowed.
- 4 - Turbidity is measured daily in the distribution system. State regulations require that the monthly turbidity average must always be below 5 NTU. The monthly average of the results in the months with highest turbidity levels were all below 5 NTU. May 2018 had the highest monthly average of Distribution Turbidity measurements (0.76 NTU).
- 5 - This level represents the average and range of values calculated from monthly sample submission results.
- 6 - The level presented represents the 90th percentile of the 52 sites tested in 2018. 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, fifty-two samples were collected at your water system and the 90th percentile value was the 6th highest value. The action level for copper was not exceeded at any of the sites tested. The next scheduled round of copper sampling is 2021.
- 7 - This level represents the average and range calculated from daily measurements.
- 8 - This level represents the average and range calculated from sample submission results.
- 9 – The level presented represents the 90th percentile of the fifty samples collected in 2018. In this case, fifty-two samples were collected at your water system and the 90th percentile value was the 6th highest value. The next scheduled lead sampling is 2021.
- 10 - 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.
- 11 - This level represents the average and range calculated from sample submission results.
- 12 - 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.
- 13 - This level represents the highest Locational Running Annual Average along with the range of results for samples collected in compliance with the Stage 2 DBP Rule. Compliance with the MCL (60 ug/l) for HAAs is determined by the Locational Running Annual Average.
- 14 - This level represents the highest Locational Running Annual Average along with the range of results for samples collected in compliance with the Stage 2 DBP Rule. Compliance with the MCL (80 ug/l) for TTHMs is determined by the Locational Running Annual Average.
- 15,16,17 - This level represents the average and range of values calculated from 2018 semi-monthly entry point sample results for the federal Unregulated Contaminant Monitoring Rule (UCMR4) sampling.

Definitions:		
ACTION LEVEL	AL	The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
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.
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).
NEPHELOMETRIC TURBIDITY UNIT	NTU	A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
NON-DETECTED	ND	Laboratory analysis indicates that the constituent is not present.
TREATMENT TECHNIQUE	TT	A required process intended to reduce the level of a contaminant in drinking.

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 New York State requirements.

UNREGULATED CONTAMINANT INFORMATION

From 2018-2020, we are required to collect and analyze drinking water samples for the following unregulated contaminants: Cyanotoxins (Total microcystins, Anatoxin, Cylindrospermopsin), germanium, manganese, alpha-hexachlorocyclohexane, profenofos, chlorpyrifos, tebuconazole, dimethipin, total permethrin (cis & trans-), ethoprop, tribufos, oxyfluoren, HAA5, HAA6Br, HAA9, 1-butanol, 2-propen-1-ol, 2-methoxyethanol, butylated hydroxyanisole, o-toluidine, quinoline. We collected samples semi-monthly from August 1, 2018 through November 30, 2018 for cyanotoxins (8 total samples) from the entry point to the distribution system. The rest of the contaminants will be sampled in 2019 and 2020 per the EPA mandated schedule from either the Entry Point or pre-determined sites in the Distribution System. Detections are noted in the Table of Detected Contaminants. *You may obtain the monitoring results by calling Philip Tangorra, Director of Water Quality, at 315-792-0301.*

ADDITIONAL TESTING

In addition to the testing we are required to perform; our water system voluntarily tests hundreds of additional substances and microscopic organisms to make certain our water is safe and of high quality. If you are interested in a more detailed report, contact the Water Quality Department at 315-792-0338; visit us on the web at www.mvwa.us. We'll be happy to answer any questions about the MVWA and our Water Quality Department

INFORMATION ON CRYPTOSPORIDIUM

Cryptosporidium is a microbiological pathogen found in surface water and groundwater under the influence of surface water. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. During 2018, as part of our routine sampling, 12 samples of Hinckley Reservoir raw source water and 12 samples of our filtered water were collected and analyzed for Cryptosporidium oocysts. One sample taken from the raw water was positive for the presence of Cryptosporidium. No Cryptosporidium was detected in our filtered drinking water. Current test methods do not allow us to determine if the organisms are dead or if they can cause disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, a gastrointestinal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their health care provider regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

Last year, our system was in general compliance with State drinking water operating, monitoring and reporting requirements.

CLOSING

To maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all our customers. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary 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 and our way of life. Please call our office if you have questions.

INFORMATION ON 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 2018, as part of our routine sampling, 12 samples from the Hinckley Reservoir raw source water and 12 samples of our filtered water were collected and analyzed for Giardia cysts. Of these samples, from the Hinckley Reservoir raw source water 7 tests were positive for Giardia. Therefore, our testing indicates Giardia may be present in our raw source water. However, no Giardia was detected in our filtered drinking water. Current test methods do not allow us to determine if the organisms are dead or if they can cause 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.

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 several 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 for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up and you can save almost 6,000 gallons per year.
- Check 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 Heat Tape to protect your pipes from freezing. This will save water AND protect septic systems from overuse.
- 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.

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).

LEAD INFORMATION

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Our water system 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 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. 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 monitor fluoride levels on a daily basis to make sure fluoride is maintained at a target level of 0.7 mg/l (the CDC's "interim" target level). During the last year monitoring showed that fluoride levels in your water were within 0.1 mg/l of the target level for 99% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride. Our fluoride addition facility is designed and operated to provide drinking water with this beneficial fluoride treatment. Additional reliable information regarding fluoridation in public water systems can be found online at: <http://www.cdc.gov/FLUORIDATION/> and <http://www.health.state.ny.us/prevention/dental/fluoridation/>.

WATER TREATMENT PLANT OPERATIONS

In August of 2017, MVWA entered into a partnership with Suez-NA for the daily operation and maintenance of the Water Treatment Plant and related facilities. This 5-year contract provides the on-site leadership and technical support to enhance employee health & safety for those staffing the WTP and provides additional perspectives to remain in compliance with regulations. This unique relationship has MVWA well positioned for the future.