Annual Drinking Water Quality Report for 2022
Montrose Improvement District
2065 East Main Street, Cortlandt Manor, NY 10567
Public Water Supply ID# NY5903436

INTRODUCTION

To comply with State regulations, The Montrose Improvement District (MID) 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 contaminant level, however, we were issued a Tier 3 violation from Westchester County Department of Health, for failure to collect second quarter 2022 Disinfection By Product samples. We did collect the 1st, 3rd and 4th quarter samples, in which the results were similar to 2021. Last year, we conducted tests for over 80 contaminants. We detected 15 of those contaminants, and found 0 of those contaminants 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 Matthew Geho, Operations Director-914-737-0558 Ext # 111.We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled MID board meetings. The meetings are held the 2nd Wednesday of the month at 6:00pm at 2065 East Main Street, Cortlandt Manor, NY 10567

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 is the Catskill Aqueduct, which is located in the Town of Cortlandt. The Northern Westchester Joint Water Works' Catskill Water Treatment Plant produces potable water from this source. During 2022, our system did not experience any restriction of our water source. Water is treated with the following processes prior to distribution: pH adjustment, coagulation, dissolved air flotation, filtration, chlorine disinfection, and corrosion control. A connection with the City of Peekskill water system is maintained as a supplementary water supply. Also, treated water from the Amawalk Water Treatment Plant on Route 35, in Somers, can be used as an emergency water supply via the Yorktown 24" transmission main.

The NYS DOH has evaluated the susceptibility of water supplies statewide to potential 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 potable water supply (PWS). This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

This PWS obtains water from the New York City water supply system. Water either comes from the Catskill/Delaware watersheds west of the Hudson River and/or from the Croton watershed in Putnam and Westchester counties. The New York City Department of Environmental Protection (DEP) implements a series of programs to evaluate and protect source water quality within these watersheds. Their efforts focus on three important program areas: the enforcement of strengthened Watershed Rules and Regulations; the acquisition and protection of watershed lands; and implementation of partnership programs that target specific sources of pollution in the watersheds.

Due to these intensive efforts, the SWAP methodologies applied to the rest of the state were not applied for this PWS. Additional information on the water quality and protection efforts in these New York City watersheds can be found at DEP's web site www.nyc.gov/dep/watershed. Specifically, this PWS obtains its water from the Catskill/Delaware watersheds west of the Hudson. The reservoirs in this mountainous rural area are relatively deep with little development along their shorelines. The main water quality concerns associated with land cover is agriculture, which can contribute microbial contaminants, pesticides, and algae producing nutrients. There are also some potential contamination concerns associated with residential lands and associated wastewater discharges. However, advanced treatments which reduce contaminants are in place for most of these discharges. There are also a number of other discrete facilities, such as landfills, chemical bulk storages, etc. that have the potential to impact local water quality, but large significant water quality problems associated with these facilities are unlikely due to the size of the watershed and surveillance and management practices.

Our water system serves approximately 4200 people through ~850 service connections. Our water source is the Catskill Aqueduct, which is supplied by the Ashokan Reservoir owned and operated by New York City Department of Environmental Protection (NYCDEP). We are fortunate to be part of NYCDEP's water supply, since it is a very high quality and is located in Catskill Mountains. The lands surrounding the Catskill Reservoirs are protected wild forests, which provides adequate buffer between our source water and manmade activities. Throughout the year MID's source water may vary depending on the operational needs of NYCDEP. There are occasions in which the Catskill Aqueduct is taken off line for routine maintenance. During these times, MID source water may be switcher to the Campfield Reservoir, located in Peekskill NY. The reservoir is supplied by the Hollow Brook via a pump station located in the Town of Cortlandt Manor, NY. The Campfield Reservoir was not used in 2022 for source water. Additionally, water from the Amawalk Reservoir, located in Somers NY may be used to supply MID. Water from the Amawalk Reservoir is treated at the Amawalk Water Treatment Facility and pumped via a 24" transmission main to the Storage tank which supplies MID. This source was utilized ten (10) days in 2022.

Prior to distribution the water is coagulated with poly aluminum chloride, filtered through anthracite and sand, and disinfected with Sodium Hypochlorite at the Catskill Treatment Facility and Calcium Hypochlorite at the Amawalk Treatment Facility. Additionally, Ortho Phosphate is added for corrosion control and Sodium Hydroxide for pH adjustment.

FACTS AND FIGURES

The total water purchased in 2022, was 237 million gallons from Northern Westchester Joint Water Works. The amount of water delivered to customers was approximately 229.4 million gallons. Metered customers include the Montrose Improvement District, the Village of Buchanan and the VA Hospital. The amount of water treated and delivered to customers was approximately 884,000 gallons per day. Approximately, 7.6 million gallons of water was unaccounted for during the year, which is 3 % of the total amount purchased. Water that is unaccounted for was used to flush hydrants, to fight fires, and was lost from water main breaks and through leakage.

In 2022, residential water customers were billed every four months. The amount billed was $3.98 per 100 cubic feet of water usage up to 10,000 cubic feet and $6.66 per 100 cubic feet of water use in excess of 10,000 cubic feet. The rate of penalty charge for late payment of water charges was 10% per four-month period. The annual average residential water charge was ~ $560 per household.
Bulk consumers paid $6.66 per 100 cubic feet.

WATER SUPPLY AND TREATMENT SECURITY

Since September 11, 2001, security in and around the water treatment plants and water storage areas was increased including better fencing, locks and surveillance equipment, along with increased visual inspections and patrols of all facilities.

WATER SYSTEM IMPROVEMENTS

In 2022 the following improvements were made to the water distribution system:

Three fire hydrants in the district were replaced by new hydrants.

Approximately 30% of the fire hydrants were painted

6 Service line leaks were repaired

4 Water main breaks were repaired

6" distribution valve was replaced along the 16" main transmission line

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. A complete list of contaminates sampled for and sampling frequency follows:

NON-DETECTED SUBSTANCES AND THE FREQUENCY OF TESTING

According to State regulations, the following lists of substances (along with test frequencies) were tested for in your drinking water and **not detected**. Samples for coliform bacteria were tested at least three times per month. Bromochloromethane, Bromoform, and dibromoacetic acid was tested quarterly from four sites. Arsenic, beryllium, cadmium, chromium, color, cyanide, manganese, mercury, nickel, nitrite, selenium, silver, sulfate, and thallium, were tested for annually. Bromomethane, carbon tetrachloride, chloroethane, chloromethane, dibromomethane, dichlorodifluoromethane, 1,1-dichlorrethane, 1,2-dichloroetnane, 1,1-dichloroethene, cis-1, 2-dichlroethene, trans-1, 2-dichloroethene, 1,2-dichloropropane, 1,3-dichloropropane, 2,2-dichloropropane, 1,1-dichloropropene, cis-1, 3-dichloropropene, trans-1, 3-dichlroprpene, methylene chloride, 1,1,1,2-tetrachlorosthane, 1,1,2,2-tetrachlroethane, tetrachloroethene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, trichlorofluoromethane, 1,2,3-trichloropropane, vinyl chloride, benzene, bromobenzene, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, chlorobenzene, 2-chlorotoluene, 4-chlorotoluene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, ethyl benzene, hexachlorobutadiene, isopropylbenzene, p-isopropyltoluene, napthalene, n-propylbenzene, styrene, toluene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,3,5-trichloromethylbenzen, p&m-xylene, o-xylene, methyl t-butyl ether, methyl isobutyl ketone, 1,2-dibromoethane, 1,2-dibromo-3-chloropropane, aldrin, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, lindane, methoxychlor, toxaphene, proachlor, PCB's, 2,4-D, 2,4,5-T, silvex, dalapon, dicamba, dinoseb, pentachlorophenol, pichloram, alachlor, atrazine, simazine, hexachlorobenzene, hexachlorocyclopentadiene, benzo(a)pyrene, di (2-ethylexyl) adipate, aldicarb sulfoxide, aldicarb sulfone, oxamyl, methomyl, 3-hydroxycarbofuran, aldicarb, carbofuran, carbaryl, glyphosate, and diquat were tested annually.

Table # 1-5 presented below identifies compounds that 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.

Table #1 Inorganics and Turbidity

Compound/ Analyte	Violation Yes/No	Date of Sample	Level Detected (Average & Range)	Unit Measurement	MCLG	Regulatory Limit (MCL,TT,or AL)	Likely Source
Alkalinity	No	1/1-12/31/2022	17.22 12.0-24.0	Mg/l as CaCO3	NA	NA	Naturally Occurring
Barium	No	5/13/2022	0.0064	Mg/l	2	MCL=2	Erosion of natural deposits
Chloride	No	5/13/2022	10.7	Mg/l	NA	MCL=250	Naturally occurring or indication of road salt
Chlorine	No	1/1-12/31/2022	1.31 0.20-1.45	Mg/l	NA	MRDL=4.0	Water additive for disinfection
Copper	No	5/13/2022	0.0022	Mg/l	0	1.3	Naturally occurring and leached from plumbing materials
Hardness	No	1/1-12/31/2022	14.7 10.0-20.1	Mg/l as CaCO3	NA	NA	Naturally occurring
Magnesium	No	5/13/2022	0.859	Mg/l	NA	NA	Naturally occurring
Nitrate	No	5/13/2022	0.16	Mg/l	0	10.0	Naturally occurring and soil run off
Nitrite	No	5/13/2022	0.17	Mg/l	0	1.0	Naturally occurring and soil run off
pH	No	1/1-12/31/2022	7.7 7.36-8.28	NA	NA	NA	NA
Phosphorous Ortho	No	1/1-12/31/2022	0.79 0.6-0.97	NA	NA	NA	Additive to prevent corrosion in plumbing fixtures, and pipes
Sodium[1]	No	5/13/2022	7.3	Mg/l	NA	AL=20[1]	Naturally occurring, road salt runoff, of animal waste
Filtration Turbidity [2/3]	No	11/30/2022	Max turbidity=0.16 %<0.3=100% Range 0.04-0.16 Average 0.06	NTU	NA	TT=5%of samples <0.3NTU	Soil Run off

Table # 2 Radiological

Contaminate	Violation Yes/No	Date of Sample	Level Detected (Average & Range	Unit of Measurement	MCLG	Regulatory Limit (MCL,TT, AL)	Likely Source
Gross Alpha	No	8/13/2021	-0.322+/-0.509	pCi/L	0	15pCi/L	Erosion of natural deposits
Gross Beta[4]	No	8/13/2021	1.35+/-0.941	pCi/L	0	50pCi/L	Decay of natural deposits and manmade emissions
Combined Radium 226&228	No	8/13/2021	0.1961	pCi/L	0	5pCi/l	Erosion of natural deposits
Total Uranium	No	8/13/2021	0.016+/-0.001	µg/L	0	30µg/l	Erosion of natural deposits

Table #3 Synthetic Organic Contaminates (pesticides, Herbicides, PFOA/PFOS and 1,4 Dioxane)

Contaminate	Violation Yes/No	Date of Sample	Results ng/l	MCL ng/l	# of samples	Likely Source
1,4 Dioxane	No	1/13/2022	<2.0	1000	1	Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites
Total PFOA	No	1/13/222	<2.0	10	1	Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites
Total PFOS	No	1/13/2022	<2.0	10	1	Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites

Table #4 Organics (Total THM's & HAA's)[5]

Contaminate	Violation Yes/No	Date of Sample	Level Detected (Maximum & Range	Unit of Measurement	MCLG	Regulatory Limit (MCL,TT, AL)	Likely Source
Total Trihalomethanes	No	02/8/2022-11/9/2022	20.99 (8.9-18.4)	µg/l	N/A	MCL 80 Annual average	By-product of drinking water disinfection needed to kill harmful organisms. TTHM's are formed when source water contains large amounts of organic matter
Haloacetic Acids	No	2/8/2022-11/9/2022	18.03 (10.2-14.7)	µg/l	N/A	MCL 60 Annual average	By-product of drinking water disinfection needed to kill harmful organisms

*Second quarter 2022 was not sampled. WCDOH issued Tier 3 violation to MID. Notice is being made in 2022 AWQR

Table # 5 Lead and Copper Results

Compound	Violation Yes/No	Date of Sampling	Level Detected (90^{th} % & Range)	Units	# of samples above A.L.	Action Level (A.L.)	MCLG	# of Samples Collected	Likely source
Copper[6]	No	6/7-6/30 2021	79.8 7.5-127	µg/l	0	1300	0	20	Corrosion of plumbing fixtures & piping; naturally occurring
Lead[7]	No	6/7-6/30 2021	1.0 <1.0-4.9	µg/l	0	15	0	20	Corrosion of plumbing fixtures & piping; naturally occurring

Table 1-5 Foot notes

1. People on severely restricted sodium diets should not consume water containing more than 20 mg/L of sodium. Water containing more than 270 mg/L of sodium should not be used for drinking by people on moderately restricted sodium diets.
2. 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 11-30-2022 (0.16NTU). State regulations require that turbidity must always be below 1 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. 100% of the turbidity samples collect in 2022 were < 0.3NTU and did not constitute a treatment technique violation.
3. These measurements were taken at the water treatment plant.
4. The State considers 50 pCi/L to be the level of concern for beta particles.
5. THMs are formed when waters containing organic compounds are disinfected with chlorine. The objective of the treatment plant is to remove as much organic carbon prior to disinfection so there is no exceedance of the DBP's rule as the water travels through distribution to consumer's taps.
6. This concentration represents the 90th percentile of the 20 sites tested for copper in 2021. This value was 79.8 µg/L. The action level for copper is 1300 µg/L. The action level for copper was not exceeded at any of the sites tested. We are required to test for both lead and copper at 10 homes every three years. Next sampling event will occur in 2023
7. This concentration represents the 90th percentile of the 20 sites tested for lead in 2021. This value was 1.0 µg/L. The action level for lead is 15 µg/L. The action level for lead was not exceeded at any of the sites tested. Next sampling event will occur in 2023.

Definitions for Table 1-5:

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.

Level 1 Assessment: A Level 1 assessment is an evaluation of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.

Level 2 Assessment: A Level 2 assessment is an evaluation of the water system to identify potential problems and determine, if possible, why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

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.

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 Westchester County Department of Health Department at 914-864-7167.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no violations for MCL's, Treatment Techniques, or Action Limits. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

Monitoring Violations:

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During 2022, we did not monitor or test for the 2nd quarter 2022 Disinfection By Products (THM's & HAA's), and therefore cannot be sure of the quality of your drinking water during that time.

INFORMATION ON CRYPTOSPORIDIUM

Cryptosporidium is a microbial 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. 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.

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. 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.

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 firefighting 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. Please call our office if you have questions.