

THE MONTROSE IMPROVEMENT DISTRICT

ANNUAL WATER QUALITY REPORT FOR 2017

2065 East Main Street, Cortlandt Manor, NY 10567
Public Water Supply ID# NY5903436

INTRODUCTION

To comply with State and Federal regulations, the Montrose Improvement District annually issues 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 resources. This report provides an overview of last year's water quality, including details about your sources of water, what it contains, and how it compares to State and Federal standards.

Last year, your tap water met or exceeded all State and Federal drinking water health standards.

WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap and bottled) 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 the following: 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 that limit the amount of certain contaminants in water provided by public water systems. The State Health Department and the FDA 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 2017, 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.

FACTS AND FIGURES

Our water system serves approximately 4,100 people and has approximately 840 service connections. The total water produced in 2017, was approximately 405 million gallons which was purchased from New York City. The amount of water delivered to customers was approximately 405 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 one million gallons per day. This leaves < 1 million gallons of water unaccounted for during the year, which is < 1 % 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 2017, residential water customers were billed every four months. The amount billed was \$3.06 per 100 cubic feet of water usage up to 10,000 cubic feet and \$5.14 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 \$405 per household. Bulk consumers paid \$5.09 per 1,000 gallons.

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 2017 the following improvements were made to the water distribution system:

- 1) Three fire hydrants in the district were replaced by new hydrants.
- 2) Aging and non functioning water meters were replaced by new radio-read water meters.
- 3) Three new 8" water valves installed on Dutch street replacing two older failing and adding one additional.
- 4) 6 inch metered bypass installed at Crugers/MID border, adding a backup for Montrose residents.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

If you have any questions or would like additional information please contact Matthew Geho, Director of Operations-NWJWW at 914-737-3558 ext # 111 or matthewgeho@nwjww.com

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, volatile organic compounds, total trihalomethanes, and synthetic organic compounds. Table 1 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 concentration of these contaminants does not change frequently. These substances were not detected in 2015. Lead and copper are now tested at the customer's tap every three years. Substances not detected in water samples are listed in the paragraph entitled "non-detected substances and the frequency of testing." It should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of 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 Agency's (EPA) Safe Drinking Water Hotline (800-426-4791), www.epa.gov/safewater or the Westchester County Department of Health at (914) 813-5000, www.westchester.gov/health.

WHAT DOES THIS INFORMATION MEAN?

Our drinking water met or exceeded state and federal regulations for 2015. Although a few contaminants were detected by our testing, their concentrations were below the levels determined by the State and the EPA to cause health concerns

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. This includes a minimum of three microbiological samples per month, collected at locations approved by the Westchester County Health Department.

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Average & Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contaminant
<i>Inorganic</i>							
Alkalinity	no	1/1 – 12/31/17	16.25 12.0-21.8	mg/L as CaCO3	N/A	N/A	Naturally occurring
Hardness	no	1/1 – 12/31/17	14.96 10.8-22.6	mg/L as CaCO3	N/A	N/A	Naturally occurring
Barium	no	6/21/2017	0.007	mg/L	2	MCL 2	Erosion of natural deposits.
Chloride	no	6/21/2017	12	mg/L	N/A	MCL 250	Naturally occurring or indication of road salt contamination
Chlorine, Free	no	1/1 - 12/31/17	1.09 0.6-1.5	mg/L	N/A	MRDL 4	Water additive used to control microbes.
Chromium	no	6/21/2017	0.0001	mg/l	N/A	MCL 0.1	Naturally occurring and industrial runoff
Manganese	no	6/21/2017	0.004	mg/l	N/A	MCL 0.3	Erosion of Natural deposits
Nickel	no	6/21/2017	0.0005	mg/l	N/A	N/A	Erosion of natural deposits and industrial runoff
Nitrate	no	5/11/2017	0.07	mg/L	10	MCL 10	Fertilizer run-off, septic tank leaching, natural deposits.
pH	no	1/1 - 12/31/17	7.48 6.7-8.0	N/A	N/A	N/A	N/A
Phosphorus, Ortho	no	1/1 - 12/31/17	0.90 0.65-1.4	mg/L	N/A	N/A	Additive to prevent corrosion
Sodium ³	no	6/30/2017	8.5	mg/L	N/A	(20) ³	Naturally occurring, road salt, water softening, animal waste.
Sulfate	no	6/15/2017	4	mg/L	N/A	250	Naturally occurring
Zinc	no	6/21/2017	8.28	ug/l	N/A	5000	Naturally occurring and industrial runoff
<i>Microbiological</i>							
Distribution Turbidity ⁴	no	1/1 - 12/31/17	0.34 0.07-4.3	NTU	N/A	MCL 5.0 NTU	Soil run-off.
Filtration Turbidity ⁵	no	1/4/2017	0.16 100%< 0.3ntu	NTU	N/A	TT=95% of samples<0.3NTU	Soil run-off.
<i>Disinfection by Products-THM's and HAA's</i>							
Haloacetic Acids Stage2 ^{6 8}	no	1/1 – 12/31/17	19.15 13.9-22.4	µg/L	N/A	MCL 60	By-product of drinking water chlorination needed to kill harmful organisms
Total Trihalomethanes Stage2 ⁹	no	1/1 – 12/31/17	21.7 11.7-34.2	µg/L	N/A	MCL 80	By-product of drinking water chlorination needed to kill harmful organisms. ⁶

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Average & Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contaminant
Radioactive							
Gross Alpha	no	7/19/12	0.187	pCi/L	0	15 pCi/L	Erosion of natural deposits.
Gross Beta ⁷	no	7/19/12	0.688	pCi/L	0	50 pCi/L ⁷	Decay of natural deposits and man-made emissions.
Combined Radium 226 & 228	no	7/19/12	0.3525	pCi/L	0	5 pCi/L	Erosion of natural deposits.
Total Uranium	no	7/19/12	0.023	µg/L	0	30 µg/L	Erosion of natural deposits
Lead & Copper							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Average & Range)	# of Samples above Action Limit	MCLG	# of Samples Taken	Likely Source of Contaminant
Copper ¹	No	6/6/2017-6/19/2017	94 ¹ ND – 144	0	1300	10	Corrosion of household plumbing systems; naturally occurring.
Lead ²	no	6/6/2017-6/19/2017	1.0 ² ND – 9.0	0	0	10	Corrosion of household plumbing systems; naturally occurring.

Table 1 – Detected Substances (Cont.)

- 1 This concentration represents the 90th percentile of the 10 sites tested for copper in 2017. This value was 94 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 2020
- 2 This concentration represents the 90th percentile of the 10 sites tested for lead in 2017. 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 2020.
- 3 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.
- 4 Turbidity is a measurement of the cloudiness of the water. High turbidity can hinder effectiveness of disinfectants.
These are measurements that were taken in our distribution system
- 5 Turbidity is a good indicator of the effectiveness of our filtration system. This value is the highest single combined filter measurement. At least 95% of the samples collected must be less than or equal to 0.30 NTU. These measurements were taken at the water treatment plant.
- 6 THMs are formed when source water contains large amounts of organic matter.
- 7 The State considers 50 pCi/L to be the level of concern for beta particles.
- 8 HAAS test results.
- 9 THM test results

Definitions for Table 1:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health.

MCLGs allow for a margin of safety.

Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

90th Percentile: This means no more than 10% of samples collected can be above the AL of 1300 ug/l or 15 ug/l for copper and lead respectively. This is computed by arranging the results of 10 samples collected from lowest to highest, with the 9th sample result being the 90th percentile used for AL compliance.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Milligrams per liter (mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million – ppm).

Micrograms per liter (µg/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion – ppb).

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 microbiological 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 microbiological contamination.

N/A : Not applicable. **ND:** Not detected.

pCi/L: Picocuries per liter- picocuries per liter is a measure of radioactivity in water.

DO I NEED TO TAKE PRECAUTIONS?

Although our drinking water met or exceeded all 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, persons 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).

Please note that our Catskill water treatment plant is effective for removing Cryptosporidium oocysts and Giardia cysts. Also, our chlorination process inactivates Giardia cysts.

The information summarized in Table 1 shows that our distribution system had no violations. We detected some contaminants below the MCL. For example, one contaminant, lead was detected in the first draw water of two (2) of the 10 residences that were sampled. Although the sample was below the Action Level of 15 parts per billion and ranged from undetected to 9.0 parts per billion. However, we are required to provide the following information: "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 Montrose Improvement District 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>.

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 needed to treat and deliver the water;

Saving water reduces the need to construct costly new sources, pumping systems and water storage reservoirs; 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.

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-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethene, cis-1, 2-dichloroethene, trans-1, 2-dichloroethene, 1,2-dichloropropane, 1,3-dichloropropane, 2,2-dichloropropane, 1,1-dichloropropene, cis-1, 3-dichloropropene, trans-1, 3-dichloropropene, methylene chloride, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 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, naphthalene, n-propylbenzene, styrene, toluene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,3,5-trichloromethylbenzene, 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-ethylhexyl) adipate, aldicarb sulfoxide, aldicarb sulfone, oxamyl, methomyl, 3-hydroxycarbofuran, aldicarb, carbofuran, carbaryl, glyphosate, and diquat were tested annually.

HOW CAN I CONSERVE MY WATER?

Know how much water your household uses, and look for ways to use less whenever you can:

*Automatic dishwashers use about 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 and when shaving.

*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 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, and then check the meter after 15 minutes. If it moved, you have a leak.

Thank you for allowing us to provide your family with quality drinking water. We ask that all our customers help us protect our water sources, which are the heart of our community and our way of life. Copies of this report are available at the Northern Westchester Joint Water Works Office located at 2065 East Main Street, Cortlandt Manor and at the Hendrick Hudson Public Library. If you have questions concerning your drinking water, please don't hesitate to call us at (914) 737-5380.

Montrose Improvement District HAA5 Test Results	80 Sunset Road	Montrose Fire House	3 Trolley Road	MID Garage
	µg/l	µg/l	µg/l	µg/l
First Quarter 2017				
Dibromoacetic Acid	BDL			BDL
Dichloroacetic Acid	8.40			7.90
Bromoacetic Acid	BDL			BDL
Chloroacetic Acid	BDL			BDL
Trichloroacetic Acid	8.00			7.60
Total	16.40			15.50
Second Quarter 2017				
Dibromoacetic Acid	BDL			BDL
Dichloroacetic Acid	10.30			7.10
Bromoacetic Acid	BDL			BDL
Chloroacetic Acid	BDL			BDL
Trichloroacetic Acid	12.10			11.00
Total	22.40			18.10
Third Quarter 2017				
Dibromoacetic Acid	BDL			BDL
Dichloroacetic Acid	8.10			7.50
Bromoacetic Acid	BDL			BDL
Chloroacetic Acid	BDL			BDL
Trichloroacetic Acid	8.90			9.20
Total	17.00			16.70
Fourth Quarter 2017				
Dibromoacetic Acid	<1.0			<1.0
Dichloroacetic Acid	11.70			5.80
Bromoacetic Acid	<1.0			<1.0
Chloroacetic Acid	<2.0			<1.0
Trichloroacetic Acid	9.10			8.10
Total	20.80			13.90
Locational Average	19.15			16.05

15.95 AVG
16.40 MAX

20.25 AVG
22.40 MAX

16.85 AVG
17.00 MAX

17.35 AVG
20.80 MAX

Total Sites

17.60 RAA

Montrose Improvement District THM Test Results	80 Sunset Road	Montrose Fire House	3 Trolly Road	MID Garage
	µg/l	µg/l	µg/l	µg/l
First Quarter 2017				
Bromodichloromethane	2.39			1.97
Bromoform	BDL			BDL
Chloroform	10.10			9.77
Dibromochloromethane	BDL			BDL
Total	12.5			11.7
Second Quarter 2017				
Bromodichloromethane	3.50			3.63
Bromoform	BDL			BDL
Chloroform	20.20			11.70
Dibromochloromethane	BDL			BDL
Total	23.70			15.33
Third Quarter 2017				
Bromodichloromethane	2.50			2.30
Bromoform	BDL			BDL
Chloroform	13.90			13.00
Dibromochloromethane	BDL			BDL
Total	16.4			15.30
Fourth Quarter 2017				
Bromodichloromethane	3.70			2.70
Bromoform	<0.500			<0.500
Chloroform	30.50			11.80
Dibromochloromethane	<0.500			<0.500
Total	34.20			14.50

12.12 AVG
12.49 MAX

19.52 AVG
23.70 MAX

15.85 AVG
16.40 MAX

24.35 AVG
34.20 MAX

Locational Average 21.70 14.22

Total sites

17.96 RAA