

Annual Drinking Water Quality Report for 2019
TOWN OF MURRAY
3840 FANCHER ROAD
HOLLEY, NY 14470
WATER DISTRICTS #2, #4, #5, #11N, #12, #15N and #16
Murray North, PWS #NY3622603

INTRODUCTION

To comply with State regulations, the Town of Murray, 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 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 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 the Town of Murray Water Department at 585-638-8507, x103.

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 surface water drawn from Lake Ontario, pumped, filtered and treated by the Monroe County Water Authority at the Shoremont Water Treatment Plant in the Town of Greece, prior to distribution. Water is purchased from Monroe County Water Authority and enters the town through a 12" transmission main on Route 104 and through Clarendon's system at the Clarendon/Murray town line at Hulberton Road and Fancher Road. During 2018, our system did not experience any restriction of our water source.

SOURCE WATER ASSESSMENT

The New York State Health Department has evaluated the susceptibility of water supplies statewide to potential contamination under the Source Water Assessment Program (SWAP). In general, the Great Lakes sources used by MCWA are not very susceptible because of the size and quality of the Great Lakes. Because storm and waste water contamination are potential threats to any source water, the water provided to our customers undergoes rigorous treatment and testing prior to its delivery.

FACTS AND FIGURES

Our water system serves approximately 1270 people through 371 service connections in seven districts. The total water purchased from the Monroe County Water Authority in 2019 was 42,561,000 gallons.

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. 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, 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 Orleans County Health Department at 585-589-3278.

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, and synthetic organic compounds.

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 turbidity measurement for the year was .1 NTU. 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. The levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation.

2 – The level presented represents the 90th percentile of the 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 copper values detected at your water system. In this case, samples were collected at your water system of the 90th percentile value the highest level detected was .320 mg/l. The action level for copper was not exceeded at any of the sites tested.

3 – The level presented represents the 90th percentile of the samples collected. The action level for lead was exceeded at two of the 10 sites tested.

4 – This level represents the annual quarterly average calculated from data collected.

MCWA Water Quality Summary Table

2019 results except as noted									
Detected Substances				2019 results except as noted					
Supply:				MCWA Production Water:		MCWA Purchased Water:		Likely Source:	Water Quality Violation:
Source:				CWTP	Rochester	ECWA			
(Source Type)				Lake Ontario	Well Field	Hemlock Lake	Lake Erie	Yes or No	
Substances:				(Surface Water)	(Groundwater)	(Surface Water)	(Surface Water)		
Units	MCLG	MCL	Range of detected values						
Barium	mg/L	2	2	0.019 - 0.025	0.12 - 0.14	0.015 - 0.017	0.019 - 0.023	Erosion of natural deposits	No
Chloride	mg/L	NA	250	24 - 32	44 - 64	36	21 - 22	Naturally occurring	No
Fluoride	mg/L	NA	2.2	0.15 - 1.43	0.13 - 0.15	0.11 - 0.77	0.11 - 0.8	Natural and additive - promotes strong teeth	No
Nitrate	mg/L	10	10	0.22 - 0.39	ND	ND - 0.25	0.14 - 0.23	Erosion of natural deposits	No
Perfluorohexanesulfonic acid	µg/L	NS	NS	0.002	ND	ND	ND	Used to manufacture textiles	No
Perfluorooctanesulfonic acid	µg/L	NS	NS	0.0036	ND	ND	ND	Used to manufacture textiles	No
Perfluorooctanoic acid	µg/L	NS	NS	0.0022 - 0.0035	ND	ND	0.0021	Used to manufacture textiles	No
Sodium	mg/L	NA	NS	16 - 20	56 - 75*	20 - 21*	14	Naturally occurring	No
Sulfate	mg/L	NA	250	24 - 29	47 - 52	11 - 13	20 - 21	Naturally occurring	No
<p>Turbidity - Turbidity is a measure of cloudiness of the water. Turbidity has no health effects. MCWA monitors turbidity because it is a good indicator of the effectiveness of our filtration systems and water quality. State regulations require that turbidity must always be below 1 NTU in the combined filter effluent. The regulations also require that 95% of samples collected from the entry point have measurements below 0.3 NTU and the highest monthly average for distribution system samples be below 5 NTU. Averages, annual ranges and lowest monthly percentages are listed.</p>									
Turbidity - Entry Point	NTU	NA	TT	0.04 (0.02 - 0.13) 100% < 0.3 NTU	NR	0.06 (0.03 - 0.11) 100% < 0.3 NTU	NA	Soil Runoff	No
Turbidity - Distribution	NTU	NA	5	3.32 - July	1.37 - February	3.32 - July	1.37 - February	Soil Runoff	No
<p>Microbial Parameters - No more than 5% of monthly samples can be positive. The highest monthly % positive and number of samples is listed.</p>									
Total Coliform Bacteria	NA	0	TT	0.62% - September 2 samples	ND	0.62% - September 2 samples	ND	Naturally occurring	No
<p>Source Water Microbial Pathogens - The highest positive month and number of samples is listed. In our treatment processes, <i>Giardia Lamblia</i> is removed / inactivated through a combination of filtration and disinfection or by disinfection alone.</p>									
SWTP - 1 (May)									
Giardia Lamblia	Cysts/L	0	TT	WWTP - 1 (Feb.) 2 Samples	NR	ND	NR	Naturally occurring	No
<p>Disinfectant and Disinfectant By-products (DBPs) - Chlorine has a MRDL (Maximum Residual Disinfectant Level) and MRDLG (MRDL Goal) rather than an MCL and MCLG (Averages and ranges are listed). For the DBPs (Total Trihalomethanes and Haloacetic Acids) the annual system average, range for all locations, and highest locational running annual average for all locations are listed.</p>									
Chlorine Residual - Entry Point	mg/L	NA	MRDL = 4	.44 (0.28 - .55)	0.84 (0.5 - 1.5)	0.89 (0.6 - 1.70)	NA	Additive for control of microbes	No
Chlorine Residual - Distribution	mg/L	NA	MRDL = 4	0.56 (ND - 2.2)	0.51 (ND - 1.34)	0.56 (ND - 2.2)	0.15 (ND - 1.34)	Additive for control of microbes	No
Total Trihalomethanes (TTHMs)	µg/L	NA	80	41.1 (14 - 84) Max. LRAA = 53.8	43.9 (17 - 75) Max. LRAA = 47	41.1 (14 - 84) Max. LRAA = 53.8	43.9 (17 - 75) Max. LRAA = 47	Byproduct of water chlorination	No
Haloacetic Acids (HAAs)	µg/L	NA	60	11.4 (ND - 22) Max. LRAA = 16.3	9.8 (ND - 23) Max. LRAA = 10.1	11.4 (ND - 22) Max. LRAA = 16.3	9.8 (ND - 23) Max. LRAA = 10.1	Byproduct of water chlorination	No
<p>Lead and Copper - 90% of samples must be less than the Action Level (AL). The 90th Percentile, the number of samples exceeding the AL, and the range of results are listed.</p>									
Copper - Customer Tap Samples	mg/L	1.3	AL = 1.3	0.160 (None) 0.005 - 0.200	0.110 (None) 0.005 - 0.240	0.160 (None) 0.005 - 0.200	0.110 (None) 0.005 - 0.240	Corrosion of household plumbing	No
Lead - Customer Tap Samples	µg/L	0	AL = 15	7.2 (Two) ND - 29	3.0 (One) ND - 76	7.2 (Two) ND - 29	3.0 (One) ND - 76	Corrosion of household plumbing	No
<p>* There is no MCL set for sodium in water. However, EPA recommends that 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.</p>									
<p>Unregulated Contaminant Monitoring (UCMR4) - Every few years the USEPA issues a new list of up to 30 unregulated contaminants for which public water systems must monitor. This provides baseline occurrence data that the EPA combines with toxicological research to make decisions about future drinking water regulations. MCWA began monitoring for the fourth list (UCMR 4) in 2018. For more information on this process go to https://drinktap.org/Water-Info/Whats-in-My-Water/Unregulated-Contaminant-Monitoring-Rule-UCMR</p>									
Alcohols, Indicators, Metals, Pesticides, SVOCs, and Cvantoxins:									
Entry Points:		Lake Ontario Supplies:		Purchased Water Supplies:		Groundwater Supply:		Water Quality Violation:	
Units	MCL	SWTP	WWTP	Rochester	ECWA	CWTP	Yes or No		
Manganese	µg/L	NA	ND	ND	3.5 (0.77 - 6.3)	8.0 (6 - 10)	NA		
Bromide	µg/L	NA	36.3 (36 - 37)	36 (34 - 37)	NR	NR	NA		
Total Organic Carbon	mg/L	NA	2.3 (2 - 2.4)	2.2 (1.9 - 2.3)	NR	NR	NA		
HAA Groups:		Distribution System:		Combined System Summary:					
Total HAA (5)	µg/L	60	14.1 (0.74 - 31)						
Total HAA (6) Br	µg/L	NA	7.4 (ND - 12)						
Total HAA (9)	µg/L	NA	21 (7.4 - 42)						
Bromochloroacetic acid	µg/L	NA	2.2 (ND - 4.4)						
Bromodichloroacetic acid	µg/L	NA	3.1 (ND - 5.9)						
Chlorodibromoacetic acid	µg/L	NA	1 (ND - 1.6)						
Dibromoacetic acid	µg/L	NA	0.5 (ND - 1.4)						
Dichloroacetic acid	µg/L	NA	6 (0.74 - 15)						
Trichloroacetic acid	µg/L	NA	7.5 (ND - 15)						

Key Terms and Abbreviations used

MCL = Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as possible.

MCLG = Maximum Contaminant Level Goal - The level of a contaminant below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL = Maximum Residual Disinfectant Level - 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.

MRDLG = Maximum Residual Disinfectant Level Goal - The level of a drinking water disinfectant below which there is no known or expected risk to health. MCLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

LRAA = Locational Running Annual Average - The annual average contaminant concentration at a monitoring site.

pCi/L = picoCuries per liter.

TT = Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

AL = Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

ND = Not Detected - Absent or present at less than testing method detection level. All testing methods are EPA approved with detection limits much less than the MCL.

NA = Not applicable. **NR** = Not required / Not reported. **NS** = No standard.

mg/L = milligram (1/1,000 of a gram) per liter = ppm = parts per million.

µg/L = microgram (1/1,000,000 of a gram) per liter = ppb = parts per billion.

ng/L = nanogram (1/1,000,000,000 of a gram) per liter = ppt = parts per trillion.

NTU = Nephelometric Turbidity Unit - A measurement of water clarity.

CWTP = Corfu Water Treatment Plant. **SWTP** = Shoremnt Water Treatment Plant. **WWTP** = Webster Water Treatment Plant.

MCWA = Monroe County Water Authority. **Rochester** = City of Rochester. **ECWA** = Erie County Water Authority.

Compounds Tested For But Not Detected

Benzene	Tetrachloroethene	Benzo(a)pyrene	Germanium
Bromobenzene	Toluene	Butachlor	alpha-Hexachlorocyclohexane
Bromochloromethane	1,2,3-Trichlorobenzene	Carbaryl	Chlorpyrifos
Bromomethane	1,2,4-Trichlorobenzene	Dalapon	Dimethipin
n-Butylbenzene	1,1,1-Trichloroethane	Di(2-Ethylhexyl) Adipate	Ethoprop
sec-Butylbenzene	1,1,2-Trichloroethane	Di(2-Ethylhexyl) phthalate (DEHP)	Oxyfluoren
tert-Butylbenzene	Trichloroethene	Dicamba	Profenofos
Carbon Tetrachloride	Trichlorofluoromethane	Dieldrin	Tebuconazole
Chlorobenzene	1,2,3-Trichloropropane	Dinoseb	Permethrin, cis & trans
Chloroethane	1,2,4-Trimethylbenzene	Oiquat	Tribufos
Chloromethane	1,3,5-Trimethylbenzene	Endothall	Butylated hydroxyanisole
2-Chlorotoluene	Vinyl Chloride	Glyphosate	o-Toluidene
4-Chlorotoluene	o-Xylene	Hexachlorobenzene	Quinoline
Dibromomethane	m, p-Xylene	Hexachlorocyclopentadiene	1-Butanol
1,2-Dichlorobenzene	Total Xylene	3-Hydroxycarbofuran	2-Methoxyethanol
1,3-Dichlorobenzene	Alachlor	Methomyl	2-Propen-1-ol
1,4-Dichlorobenzene	Aldicarb	Metolachlor	Monobromoacetic acid
Dichlorodifluoromethane	Aldicarb sulfoxide	Metribuzin	Monochloroacetic acid
1,1 Dichloroethane	Aldicarb sulfone	Oxaryl (vydate)	Tribromoacetic acid
1,2-Dichloroethane	Atrazine	Perchlorate	1, 4-Dioxane
1,1-Dichloroethene	Carbofuran	Picloram	N-ethyl Perfluorooctanesulfonamidoacetic acid
cis-1,2-Dichloroethene	Chlordane	Propachlor	N-methyl Perfluorooctanesulfonamidoacetic acid
trans-1,2-Dichloroethene	Dibromochloropropane	Simazine	Perfluorobutanesulfonic acid
1,2-Dichloropropane	2, 4-D	2, 3, 7, 8-TCDD (Dioxin)	Perfluorodecanoic acid
1,3-Dichloropropane	Endrin	Antimony	Perfluorododecanoic acid
2,2-Dichloropropane	Ethylene Dibromide	Beryllium	Perfluoroheptanoic acid
1,1-Dichloropropene	Heptachlor	Chromium	Perfluorohexanoic acid
1,3-Dichloropropene(cis)	Heptachlor Epoxide	Cyanide	Perfluoronononic acid
1,3-Dichloropropene(trans)	Lindane (gamma-BHC)	Mercury	Perfluorotetradecanoic acid
Ethylbenzene	Methoxychlor	Nickel	Perfluorotridecanoic acid
Hexachlorobutadiene	p,p' DDD	Nitrite	Perfluoroundecanoic acid
p-Isopropyltoluene	p,p' DDE	Selenium	
Methyl Tert-butyl ether (MTBE)	p,p' DDT	Silver	
Methylene Chloride (Dichloromethane)	PCB's Total	Thallium	
n-Propylbenzene	Pentachlorophenol	Zinc	
Styrene	Toxaphane	Surfactants (Foaming Agents)	
1,1,1,2-Tetrachloroethane	2, 4, 5-TP (Silvex)	Cryptosporidium	
1,1,2,2-Tetrachloroethane	Aldrin		

For more information on MCWA's water quality monitoring program call Customer Service at 585-442-7200 or visit our website at www.mcwa.com

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 the level allowed by the State.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

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 2019, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

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).

INFORMATION ON FLUORIDE ADDITION

MCWA is one of the many New York water utilities providing 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 an optimal level of 0.7 mg/L. To ensure optimal dental protection, the State Department of Health requires that we monitor fluoride levels on a daily basis. In 2019, the highest monitoring result was 1.43 mg/L, below the 2.2 mg/L MCL for fluoride.

GIARDIA LAMBLIA

Giardia Lamblia is a microbial pathogen present in varying concentrations in many surface waters and groundwater under the direct influence of surface water. Giardia is removed / inactivated through a combination of filtration and disinfection or by disinfection treatment techniques. In 2019, the MCWA analyzed a total of 16 source water samples for Giardia taken from Lake Ontario at our Shoremont and Webster water treatment plants. Giardia was detected in one raw water sample collected in February at the Webster water treatment plant and in one raw water sample collected in May at the Shoremont water treatment plant. In our treatment processes at each of these plants Giardia is removed / inactivated by a combination of filtration and disinfection.

The MCWA encourages individuals with weakened immune systems to consult their physicians regarding appropriate precautions to avoid infection. Ingestion of Giardia may cause giardiasis, an intestinal illness, and may spread through means other than drinking water. Person to person transmission may also occur in day care centers or other settings where handwashing practices are poor. For more information on Giardiasis, please contact your local county health department.

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ◆ Saving water saves energy and some of the costs associated with both of these necessities of life;
- ◆ Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- ◆ Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- ◆ Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- ◆ Turn off the tap when brushing your teeth.
- ◆ Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- ◆ Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- ◆ Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, and then check the meter after 15 minutes. If it moved, you have a leak

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call the Town of Murray Water Department at 585-638-8507 or MCWA Customer Service at 585-442-7200.