



# Monroe County Water Authority

## 2020 Water Quality Monitoring Program Summary

Water Quality Monitoring Parameters				MCWA - SWTP			MCWA - WWTP			MCWA - CWTP			Rochester			ECWA - VWTP		
	EPA / NYS MCL	EPA / NYS MCLG	UNITS	Source - Lake Ontario			Source - Lake Ontario			Source - Groundwater Well(s)			Source - Hemlock Lake			Source - Lake Erie		
				Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020
<b>Inorganics, Metals, &amp; Physical Parameters:</b>																		
Asbestos (Distribution System)	7	7	MF/L	ND		1 (2016)	ND		1 (2016)	ND		1 (2016)	ND		1 (2014)	ND		30 (2015)
Aluminum	NS	NS	µg/L	85.3	28 - 200	4	76	41 - 160	4	ND		4	5.3	ND - 21	4	176	150 - 400	4
Antimony	6	6	µg/L	ND		4	ND		4	ND		4	ND		1	ND		1
Arsenic	10	0	µg/L	ND		4	ND		4	ND		4	ND		4	ND		4
Barium	2	2	mg/L	0.021	0.02 - 0.023	4	0.021	0.019 - 0.023	4	0.1	0.1 - 0.11	4	0.017	0.017	1	0.021	0.021	1
Beryllium	4	4	µg/L	ND		4	ND		4	ND		4	ND		1	ND		1
Bromide	NS	NS	µg/L	0.019	0.018 - 0.02	4	0.02	0.019 - 0.02	4	NR			0.013	0.013	1	0.01	0.01	1
Cadmium	5	5	µg/L	ND		4	ND		4	ND		4	ND		1	ND		1
Calcium	NS	NS	mg/L	33.8	33 - 34	4	33.8	33 - 35	4	45.8	42 - 52	4	26.8	26 - 28	4	32.8	33 - 34	4
Chromium	100	100	µg/L	ND		4	ND		4	ND		4	ND		1	ND		1
Copper (Distribution System Samples)	NS	NS	µg/L	ND		4	ND		4	14.3	12 - 19	4	7.5	2.2 - 16	4	2.5	ND - 2.5	4
Copper (Customer Tap Samples)	AL* = 1300	1300	µg/L	160	5.3 - 200	52 (2018)	160	5.3 - 200	52 (2018)	110	4.9 - 240	20 (2018)	160	5.3 - 200	63 (2018)	110	4.9 - 240	20 (2018)
Cyanide	200	200	µg/L	ND		4	ND		4	ND		4	ND		4	ND		4
Fluoride	2.2	NA	mg/L	0.7	0.5 - 0.93	2194	0.70	0.18 - 1	2146	0.13	0.11 - 0.14	4	0.69	0.08 - 0.78	1087	0.69	0.58 - 0.8	56
Iron	300	NA	µg/L	ND		4	ND		4	ND		4	ND		3	ND		1
Lead (Distribution System)	NS	NS	µg/L	ND		4	ND		4	ND		4	ND		4	ND		4
Lead (Customer Tap Samples)	AL* = 15	0	µg/L	7.2	ND - 29	52 (2018)	7.2	ND - 29	52 (2018)	3	ND - 76	20	7.2	ND - 29	52 (2018)	3.0	ND - 76	20 (2018)
Magnesium	NS	NS	mg/L	8.5	8.5	1	8.4	8.4	1	16	16	1	6.2	6.2	1	8	8	1
Manganese	300	NA	µg/L	ND		4	ND		4	7	3.9 - 14	4	ND		4	2.7	2.7	1
Mercury	2	2	µg/L	ND		4	ND		4	ND		4	ND		4	ND		1
Nickel	100	NA	µg/L	ND		4	ND		4	ND		4	ND		4	ND		1
Nitrate	10	10	mg/L	0.28	0.21 - 0.35	4	0.31	0.23 - 0.39	4	ND		4	0.25	0.25	1	0.32	0.32	1
Nitrite	1	1	mg/L	ND		4	ND		4	ND		4	ND		1	ND		1
Potassium	NS	NS	mg/L	1.1	1.1	1	1.1	1.1	1	ND		1	1.1	1.1	1	1.1	1.1	1
Selenium	50	50	µg/L	ND		4	ND		4	ND		4	ND		1	ND		1
Silica	NS	NS	mg/L	0.44	0.34 - 0.65	4	0.45	0.33 - 0.68	4	7.88	7.6 - 8.1	4	1	0.52 - 1.4	4	0.4	0.64 - 0.56	4

Water Quality Monitoring Parameters				MCWA - SWTP			MCWA - WWTP			MCWA - CWTP			Rochester			ECWA - VWTP		
	EPA / NYS MCL	EPA / NYS MCLG	UNITS	Source - Lake Ontario			Source - Lake Ontario			Source - Groundwater Well(s)			Source - Hemlock Lake			Source - Lake Erie		
				Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020
Silver	100	NA	µg/L	ND		4	ND		4	ND		4	ND		1	ND		1
Sodium	NS	NS	mg/L	14.5	14 - 16	4	15.5	14 - 17	4	80.5	46 - 100	4	20.3	19 - 21	4	13	12 - 14	4
Sulfate	250	NA	mg/L	26.3	25 - 28	4	26.5	26 - 27	4	50	48 - 52	4	12	12	4	20.8	20 - 21	4
Thallium	2	0.5	µg/L	ND		4	ND		4	ND		4	ND		1	ND		1
Zinc	5	NA	mg/L	ND		4	ND		4	ND		4	ND		1	ND		1
Alkalinity	NS	NA	mg/L	89.8	87 - 93	4	90	89 - 91	4	253	250 - 253	4	72	67 - 73	4	92	88 - 94	4
Chloride	250	NA	mg/L	24.5	22 - 25	4	27.3	25 - 29	4	59.8	48 - 68	4	38	37 - 39	4	22.3	21 - 24	4
Color	15	NA	Color Units	ND		4	ND		4	ND		4	ND		4	ND		4
Conductivity	NS	NS	µmhos/cm	296.7	280 - 320	50	301.4	290 - 310	50	732.3	600 - 810	52	297.4	280 - 320	69	296.4	270 - 320	59
pH	NS	NS	pH units	7.48	7.25 - 8.24	366	7.5	7.23 - 7.79	359	7.4	7.33 - 7.68	187	7.87	7.02 - 8.13	366	8.01	7.56 - 8.3	1006
Total Dissolved Solids	NS	NS	mg/L	170	160 - 180	4	172.5	160 - 200	4	417.5	410 - 440	4	148	130 - 160	4	150	140 - 160	4
Total Hardness	NS	NS	mg/L	120	120	4	120	120	4	205	170 - 290	4	93	92 - 94	4	115	110 - 120	4
Total Organic Carbon	TT	NS	mg/L	1.78	1.7 - 1.9	4	1.78	1.7 - 1.8	4	1.02	0.90 - 1.3	4	2.6	2.1 - 3.6	4	1.78	1.7 - 1.9	4
Surfactants	NS	NS	mg/L	ND		4	ND		4	ND		4	ND		4	ND		4
Turbidity - Entry Point	TT **	NA	NTUs	0.04	0.02 - 0.08	2196	0.04	0.02 - 0.09	2149	0.22	0.04 - 1.77	52	0.06	0.04 - 0.1	2190	0.1	0.04 - 0.18	1006
Turbidity - Distribution System	TT ***	NA	NTUs	0.11	0.03 - 7	3778	0.11	0.03 - 7	3778	0.12	0.03 - 2.6	373	0.11	0.03 - 7	3778	0.12	0.03 - 2.6	373
Chlorine Residual - Entry Point	4	NA	mg/L	1.15	0.78 - 1.38	2196	0.77	0.46 - 0.97	2148	0.85	0.54 - 1.34	184	0.84	0.71 - 1.1	2182	1.49	1.29 - 1.64	1006
Chlorine Residual - Retail Distribution System	4 ****	NA	mg/L	0.55	ND - 1.83	3778	0.55	ND - 1.83	3778	0.53	ND - 1.27	373	0.55	ND - 1.83	3778	0.53	ND - 1.27	373
<b>Microbiological Parameters:</b>																		
Coliform - Retail Distribution System	TT *****	0	% Positive	2 positive samples - 0.05%		3778	2 positive samples - 0.05%		3778	1 positive sample - 0.27%		373	2 positive samples - 0.05%		3778	1 positive sample - 0.27%		373
				November: 1 positive sample - 0.39%			November: 1 positive sample - 0.39%			March: 1 positive sample - 2.86%			November: 1 positive sample - 0.39%			March: 1 positive sample - 2.86%		
Cryptosporidium (source water prior to treatment)	TT	0	OoCysts/L	ND		4	0.004	ND - 0.05	12	NR		NR	ND		4	NR		NR
				None detectd.			March - 1 positive sample.			NR			None Detected.			NR		
Giardia Lamblia (source water prior to treatment)	TT	0	Cysts/L	ND		4	ND		12	NR		NR	ND		4	NR		NR
				None detected.			None detected.			NR			None Detected.			NR		
<b>Radionuclides:</b>																		
Gross Alpha	15	0	pCi/L	ND		1 (2012)	ND		3 (2015)	ND		1 (2012)	ND		1 (2018)	ND		1 (2019)
Gross Beta	50	0	pCi/L	ND		1 (2012)	ND		3 (2015)	ND		1 (2012)	ND		1 (2018)	ND		1 (2019)
Combined Radium 226/228	5	0	pCi/L	ND		1 (2012)	ND		3 (2015)	ND		1 (2012)	1.06		1 (2018)	ND		1 (2019)
Uranium	30	0	pCi/L	ND		1 (2012)	ND		3 (2015)	ND		1 (2012)	ND		1 (2018)	NR		

Water Quality Monitoring Parameters				MCWA - SWTP			MCWA - WWTP			MCWA - CWTP			Rochester			ECWA - VWTP			
	EPA / NYS MCL	EPA / NYS MCLG	UNITS	Source - Lake Ontario			Source - Lake Ontario			Source - Groundwater Well(s)			Source - Hemlock Lake			Source - Lake Erie			
				Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	
<b>Volatile Organic Compounds:</b>																			
Benzene	5	0	µg/L	<b>Not Detected</b>			<b>Not Detected</b>			<b>Not Detected</b>			<b>Not Detected</b>			<b>Not Detected</b>			
Bromobenzene	5	NA	µg/L																4
Bromochloromethane	5	NA	µg/L																4
Bromomethane	5	NA	µg/L																4
n-Butylbenzene	5	NA	µg/L																4
sec-Butylbenzene	5	NA	µg/L																4
tert-Butylbenzene	5	NA	µg/L																4
Carbon Tetrachloride	5	0	µg/L																4
Chlorobenzene	5	NA	µg/L																4
Chloroethane	5	NA	µg/L																4
Chloromethane	5	NA	µg/L																4
2-Chlorotoluene	5	NA	µg/L																4
4-Chlorotoluene	5	NA	µg/L																4
Dibromomethane	5	NA	µg/L																4
1,2-Dichlorobenzene	5	NA	µg/L																4
1,3-Dichlorobenzene	5	NA	µg/L																4
1,4-Dichlorobenzene	5	NA	µg/L																4
Dichlorodifluoromethane	5	NA	µg/L																4
1,1 Dichloroethane	5	NA	µg/L																4
1,2-Dichloroethane	5	0	µg/L																4
1,1-Dichloroethene	5	NA	µg/L	4															
cis-1,2-Dichloroethene	5	NA	µg/L	4															
trans-1,2-Dichloroethene	5	NA	µg/L	4															
1,2-Dichloropropane	5	0	µg/L	4															
1,3-Dichloropropane	5	NA	µg/L	4															
2,2-Dichloropropane	5	NA	µg/L	4															
1,1-Dichloropropene	5	NA	µg/L	4															
1,3-Dichloropropene (Cis)	5	NA	µg/L	4															
1,3-Dichloropropene (Trans)	5	NA	µg/L	4															
Ethylbenzene	5	NA	µg/L	4															
Hexachlorobutadiene	5	NA	µg/L	4															

Water Quality Monitoring Parameters				MCWA - SWTP Source - Lake Ontario			MCWA - WWTP Source - Lake Ontario			MCWA - CWTP Source - Groundwater Well(s)			Rochester Source - Hemlock Lake			ECWA - VWTP Source - Lake Erie						
	EPA / NYS MCL	EPA / NYS MCLG	UNITS	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020				
Isopropylbenzene	5	NA	µg/L	<b>Not Detected</b>		4	<b>Not Detected</b>		4	<b>Not Detected</b>		4	<b>Not Detected</b>		4	<b>Not Detected</b>		4				
p-Isopropyltoluene	5	NA	µg/L			4			4			4			4			4		4		4
Methyl Tert-butyl ether (MTBE)	10	NA	µg/L			4			4			4			4			4		4		4
Methylene Chloride (Dichloromethane)	5	0	µg/L			4			4			4			4			3		4		4
n-Propylbenzene	5	NA	µg/L			4			4			4			4			4		4		4
Styrene	5	NA	µg/L			4			4			4			4			4		4		4
1,1,1,2-Tetrachloroethane	5	NA	µg/L			4			4			4			4			4		4		4
1,1,2,2-Tetrachloroethane	5	NA	µg/L			4			4			4			4			4		4		4
Tetrachloroethene	5	0	µg/L			4			4			4			4			4		4		4
Toluene	5	NA	µg/L			4			4			4			4			4		4		4
1,2,3-Trichlorobenzene	5	NA	µg/L			4			4			4			4			4		4		4
1,2,4-Trichlorobenzene	5	NA	µg/L			4			4			4			4			4		4		4
1,1,1-Trichloroethane	5	NA	µg/L			4			4			4			4			4		4		4
1,1,2-Trichloroethane	5	3	µg/L			4			4			4			4			4		4		4
Trichloroethene	5	0	µg/L			4			4			4			4			4		4		4
Trichlorofluoromethane	5	NA	µg/L			4			4			4			4			4		4		4
1,2,3-Trichloropropane	5	NA	µg/L			4			4			4			4			4		4		4
1,2,4-Trimethylbenzene	5	NA	µg/L			4			4			4			4			4		4		4
1,3,5-Trimethylbenzene	5	NA	µg/L		4		4		4		4		4		4		4					
Vinyl Chloride	2	0	µg/L		4		4		4		4		4		4		4					
Xylenes	5	NA	µg/L		4		4		4		4		4		4		4					
<b>Organics, Pesticides, &amp; Herbicides:</b>																						
1, 2-Dibromo-3-Chloropropane	200	0	ng/L	<b>Not Detected</b>		1	<b>Not Detected</b>		1	<b>Not Detected</b>		1	<b>Not Detected</b>		1	<b>Not Detected</b>		1				
1, 2-Dibromoethane (EDB)	50	0	ng/L			1			1			1			1			1		1		1
2, 4, 5-TP (Silvex)	10	NA	µg/L			1			1			1			1			1		1		1
2, 4-D	50	NA	µg/L			1			1			1			1			1		1		1
3-Hydroxycarbofuran	50	NS	µg/L			1			1			1			1			1		1		1
Alachlor	2	0	µg/L			4			4			4			4			4		4		4
Aldicarb	3	1	µg/L			1			1			1			1			1		1		1
Aldicarb Sulfone	2	1	µg/L			1			1			1			1			1		1		1
Aldicarb Sulfoxide	4	1	µg/L			1			1			1			1			1		1		1
Aldrin	5	NA	µg/L			4			4			4			4			4		4		4

Water Quality Monitoring Parameters				MCWA - SWTP Source - Lake Ontario			MCWA - WWTP Source - Lake Ontario			MCWA - CWTP Source - Groundwater Well(s)			Rochester Source - Hemlock Lake			ECWA - VWTP Source - Lake Erie						
	EPA / NYS MCL	EPA / NYS MCLG	UNITS	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020				
Atrazine	3	3	µg/L	Not Detected		4	Not Detected		4	Not Detected		4	Not Detected		4	Not Detected		4				
Benzo(a)pyrene	200	0	µg/L			4			4			4			4			4		4		4
Bis(2-Ethylhexyl)Phthalate	6	0	µg/L			4			4			4			4			4		4		4
Butachlor	50	NA	µg/L			4			4			4			4			4		4		4
Carbaryl	50	NA	µg/L			1			1			1			1			1		1		1
Carbofuran	40	40	µg/L			1			1			1			1			1		1		1
Chlordane	2	0	µg/L			4			4			4			4			4		4		4
Dalapon	50	NA	µg/L			1			1			1			1			1		1		1
DCPA, Mono & Di-Acid Degradate	50	NS	µg/L			1			1			1			1			1		1		1
Di(2-Ethylhexyl) Adipate	50	NA	µg/L			4			4			4			4			4		4		4
Dicamba	50	NA	µg/L			1			1			1			1			1		1		1
Dieldrin	5	NA	µg/L			4			4			4			4			4		4		4
Dinoseb	7	7	µg/L			1			1			1			1			1		1		1
1, 4-Dioxane	1	NA	µg/L			2			2			2			4			2		2		2
Dioxin	30	0	pg/L			1			1			1			1			1		1		1
Diquat	20	20	µg/L			1			1			1			1			1		1		1
Endothall	50	NA	µg/L			1			1			1			1			1		1		1
Endrin	2	2	µg/L			4			4			4			4			4		4		4
Glyphosate	50	NA	µg/L			1			1			1			1			1		1		1
Heptachlor	400	0	ng/L			4			4			4			4			4		4		4
Heptachlor Epoxide	200	0	ng/L			4			4			4			4			1		1		1
Hexachlorobenzene	1	0	µg/L			4			4			4			4			4		4		4
Hexachlorocyclopentadiene	5	NA	µg/L			4			4			4			4			4		4		4
Isophorone	50	NA	µg/L			4			4			4			4			4		4		4
Lindane (gamma-BHC)	200	200	ng/L		4		4		4		4		4		4		4					
Methomyl	50	NA	µg/L		1		1		1		1		1		1		1					
Methoxychlor	40	40	µg/L		4		4		4		4		4		4		4					
Metolachlor	50	NA	µg/L		4		4		4		4		4		4		4					
Metribuzin	50	NA	µg/L		4		4		4		4		4		4		4					
Oxamyl	50	NA	µg/L		1		1		1		1		1		1		1					
p,p' DDD	5	NA	µg/L		4		4		4		4		4		4		4					
p,p' DDE	NS	NS	µg/L		4		4		4		4		4		4		4					

Water Quality Monitoring Parameters				MCWA - SWTP			MCWA - WWTP			MCWA - CWTP			Rochester			ECWA - VWTP		
	EPA / NYS MCL	EPA / NYS MCLG	UNITS	Source - Lake Ontario			Source - Lake Ontario			Source - Groundwater Well(s)			Source - Hemlock Lake			Source - Lake Erie		
				Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020
p,p' DDT	5	NA	µg/L	ND		4	ND		4	ND		4	ND		4	ND		4
PCB's Total	500	0	ng/L	ND		4	ND		4	ND		4	ND		4	ND		1
Pentachlorophenol	1	0	µg/L	ND		4	ND		4	ND		4	ND		4	ND		4
Perchlorate	NS	NS	µg/L	ND		1	ND		1	ND		1	ND		1	ND		1
Perfluorooctanesulfaonic Acid (PFOS)	10	NA	ng/L	2.55	2.5 - 2.6	2	2.65	2.5 - 2.8	2	ND		4	ND		2	ND		2
Perfluorooctanoic Acid (PFOA)	10	NA	ng/L	2.1	2.1	2	1.1	ND - 2.2	2	ND		4	ND		2	ND		2
Pichloram	50	NA	µg/L	ND		1	ND		1	ND		1	ND		1	ND		1
Propachlor	50	NA	µg/L	ND		4	ND		4	ND		4	ND		4	ND		4
Simazine	4	4	µg/L	ND		4	ND		4	ND		4	ND		4	ND		4
Total Chlordane	2	0	µg/L	ND		4	ND		4	ND		4	ND		4	ND		4
Toxaphene	3	0	µg/L	ND		4	ND		4	ND		4	ND		4	ND		4
<b>Disinfection By-products:</b>																		
Total Trihalomethanes (TTHMs)	80	NA	µg/L	34.7	16 - 58	52	34.7	16 - 58	52	40	18 - 63	8	34.7	16 - 58	52	40	18 - 63	8
				Maximum LRAA = 46.5			Maximum LRAA = 46.5			Maximum LRAA = 53			Maximum LRAA = 46.5			Maximum LRAA = 53		
Haloacetic Acids (HAA5)	60	NA	µg/L	9.7	ND - 22	52	9.7	ND - 22	52	10.7	3.1 - 23	8	9.7	ND - 22	52	10.7	3.1 - 23	8
				Maximum LRAA = 14.8			Maximum LRAA = 14.8			Maximum LRAA = 11.5			Maximum LRAA = 14.8			Maximum LRAA = 11.5		
<b>Emerging Contaminants - Per &amp; Polyfluorinated Alkyl Acids (PFAS):</b>																		
N-ethyl Perfluorooctanesulfonamidoacetic acid	NS	NS	ng/L	ND		2	ND		2	ND		4	ND		2	ND		2
N-methyl Perfluorooctanesulfonamidoacetic acid	NS	NS	ng/L	ND		2	ND		2	ND		4	ND		2	ND		2
Perfluorobutanesulfonic acid	NS	NS	ng/L	ND		2	ND		2	ND		4	ND		2	ND		2
Perfluorodecanoic acid	NS	NS	ng/L	ND		2	ND		2	ND		4	ND		2	ND		2
Perfluorododecanoic acid	NS	NS	ng/L	ND		2	ND		2	ND		4	ND		2	ND		2
Perfluoroheptanoic acid	NS	NS	ng/L	ND		2	ND		2	ND		4	ND		2	ND		2
Perfluorohexanesulfonic acid	NS	NS	ng/L	1	ND - 2	2	ND		2	ND		4	ND		2	ND		2
Perfluorohexanoic acid	NS	NS	ng/L	ND		2	ND		2	ND		4	ND		2	ND		2
Perfluorononanoic acid	NS	NS	ng/L	ND		2	ND		2	ND		4	ND		2	ND		2
Perfluorotetradecanoic acid	NS	NS	ng/L	ND		2	ND		2	ND		4	ND		2	ND		2
Perfluorotridecanoic acid	NS	NS	ng/L	ND		2	ND		2	ND		4	ND		2	ND		2
Perfluoroundecanoic acid	NS	NS	ng/L	ND		2	ND		2	ND		4	ND		2	ND		2

Water Quality Monitoring Parameters				MCWA - SWTP Source - Lake Ontario			MCWA - WWTP Source - Lake Ontario			MCWA - CWTP Source - Groundwater Well(s)			Rochester Source - Hemlock Lake			ECWA - VWTP Source - Lake Erie											
	EPA / NYS MCL	EPA / NYS MCLG	UNITS	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020									
<b>UCMR4 - Alcohols, Metals, Pesticides, SVOCs &amp; Cyanotoxins:</b> Data from 2019 and 2020				<b>Not Detected</b>			<b>Not Detected</b>			8   6 - 10   2			<b>Not Detected</b>			3.49   0.77 - 6.3   4											
Manganese	NS	NS	µg/L																4	4	4	8	6 - 10	2	4	4	4
Germanium	NS	NS	µg/L																4	4	4	<b>Not Detected</b>			2	4	4
alpha-Hexachlorocyclohexane	NS	NS	µg/L																4	4	2				4		
Chlorpyrifos	NS	NS	µg/L																4	4	2				4		
Dimethipin	NS	NS	µg/L																4	4	2				4		
Ethoprop	NS	NS	µg/L																4	4	2				4		
Oxyfluoren	NS	NS	µg/L																4	4	2				4		
Profenofos	NS	NS	µg/L																4	4	2				4		
Tebuconazole	NS	NS	µg/L																4	4	2				4		
Permethrin, cis & trans	NS	NS	µg/L																4	4	2				4		
Tribufos	NS	NS	µg/L																4	4	2				4		
Butylated hydroxyanisole	NS	NS	µg/L																4	4	2	4					
o-Toluidene	NS	NS	µg/L																4	4	2	4					
Quinoline	NS	NS	µg/L																4	4	2	4					
1-Butanol	NS	NS	µg/L																4	4	2	4					
2-Methoxyethanol	NS	NS	µg/L																4	4	2	4					
2-Propen-1-ol	NS	NS	µg/L																4	4	2	4					
Total Microcystin	NS	NS	µg/L																8	8	<b>Not Required</b>			0	8	8	
Microcystin-LA	NS	NS	µg/L							8	8	0	8														
Microcystin-LF	NS	NS	µg/L							8	8	0	8														
Microcystin-LR	NS	NS	µg/L							8	8	0	8														
Microcystin-LY	NS	NS	µg/L							8	8	0	8														
Microcystin-RR	NS	NS	µg/L	8	8	0	8																				
Microcystin-YR	NS	NS	µg/L	8	8	0	8																				
Nodularin	NS	NS	µg/L	8	8	0	8																				
Anatoxin-A	NS	NS	µg/L	8	8	0	8																				
Cylindrospermopsin	NS	NS	µg/L	8	8	0	8																				
<b>UCMR4 - HAA Groups Indicators:</b> Data from 2019.																											
Bromide	NS	NS	µg/L	36.3	36 - 37	4	36	34 - 37	4			NR			NR			NR									
Total Organic Carbon	TT	NS	µg/L	2.3	2 - 2.4	4	2.2	1.9 - 2.3	4			NR	2.6	2.6	4	2	2	4									

Water Quality Monitoring Parameters				MCWA - SWTP Source - Lake Ontario			MCWA - WWTP Source - Lake Ontario			MCWA - CWTP Source - Groundwater Well(s)			Rochester Source - Hemlock Lake			ECWA - VWTP Source - Lake Erie		
	EPA / NYS MCL	EPA / NYS MCLG	UNITS	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020	Average	Range	Samples in 2020
<b>UCMR4 - HAA Groups:</b>	Data from 2019.			Combined Distribution System Data														
Total HAA (5)	60	NS	µg/L	14.1	0.74 - 31	60												
Total HAA (6) Br	NS	NS	µg/L	7.4	ND - 12	60												
Total HAA (9)	NS	NS	µg/L	21	0.74 - 42	60												
Bromochloroacetic acid	NS	NS	µg/L	2.2	ND - 4.4	60												
Bromodichloroacetic acid	NS	NS	µg/L	3.1	ND - 5.9	60												
Chlorodibromoacetic acid	NS	NS	µg/L	1.0	ND - 1.6	60												
Dibromoacetic acid	NS	NS	µg/L	0.5	ND - 1.4	60												
Dichloroacetic acid	NS	NS	µg/L	6.0	0.74 - 15	60												
Monobromoacetic acid	NS	NS	µg/L	ND	ND - 0.47	60												
Monochloroacetic acid	NS	NS	µg/L	ND	ND - 2.3	60												
Tribromoacetic acid	NS	NS	µg/L	0.5	ND - 2.7	60												
Trichloroacetic acid	NS	NS	µg/L	7.5	ND - 15	60												

**Key Terms and Abbreviations:**

<p><b>MCL</b> = 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.</p> <p><b>MCLG</b> = 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.</p> <p><b>TT</b> = Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.</p> <p><b>AL*</b> = Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. If &gt;10% of results are greater than 15 µg/l for lead or 1300 µg/L for copper, remediative steps are required. In MCWA's combined retail area, 90% of the samples were less than 12 µg/L for lead and 94 µg/L for copper.</p> <p><b>LRAA</b> = Locational Running Annual Average - The annual average contaminant concentration at a monitoring site.</p> <p><b>mg/L</b> = Milligram (1/1,000 of a gram) per Liter = ppm = parts per million</p> <p><b>NA</b> = Not Applicable    <b>NR</b> = Not Required / Not Reported    <b>NS</b> = No Standard    <b>NT</b> = Not Tested</p> <p><b>Not Detected = ND</b> = Absent or present at less than the testing method detection level. All testing methods are EPA approved with detection limits much less than the MCL.</p> <p><b>NTU</b> = Nephelometric turbidity Unit, a measure of the clarity of water.</p> <p><b>µg/L</b> = Microgram (1/1,000,000 of a gram) per Liter = ppb = parts per billion</p> <p><b>ng/L</b> = Nanogram (1/1,000,000,000 of a gram) per Liter = ppt = parts per trillion</p> <p><b>pg/L</b> = Picogram (1/1,000,000,000,000 of a gram) per Liter = ppq = parts per quadrillion</p> <p><b>pCi/L</b> = PicoCuries per Liter</p>	<p><b>MCWA - SWTP</b> = Monroe County Water Authority - Shoremont Water Treatment Plant.</p> <p><b>MCWA - WWTP</b> = Monroe County Water Authority - Webster Water Treatment Plant.</p> <p><b>MCWA - CWTP</b> = Monroe County Water Authority - Corfu Water Treatment Plant.</p> <p><b>Rochester</b> = City of Rochester - Hemlock Water Filtration Plant. MCWA purchases water from Rochester's water system.</p> <p><b>ECWA - VWTP</b> = Erie County Water Authority - Van de Water Water Treatment Plant. MCWA purchases water from ECWA's water system.</p> <p><b>MF/L</b> = Million Fibers per Liter. A measure of the presence of asbestos fibers longer than 10 micrometers.</p> <p><b>(year)</b> = Most recent testing. Monitoring frequency requirements vary depending on compound.</p> <p><b>UCMR4</b> = Unregulated Contaminant Monitoring Rule 4 - Periodic EPA required monitoring of up to 30 unregulated water quality parameters to establish baseline occurrence data. EPA combines this data with research to establish future regulations.</p> <p><b>µmhos/cm</b> = micro ohms per centimeter</p> <p><b>Cont</b> = Continuously monitored via online measurements.</p> <p><b>**</b> = 95% of measurements within a given month must be less than 0.3 NTUs.</p> <p><b>***</b> = Average of monthly distribution system turbidity samples must be less than 5.0 NTUs.</p> <p><b>****</b> = 95% of monthly distribution system samples must have a measurable chlorine residual.</p> <p><b>*****</b> = No more than 5% of monthly samples can be positive.</p> <p><b>Note:</b> Total Hardness is also expressed in grains per gallon. The Total Hardness of the Ontario, Hemlock, &amp; Erie supplies are 7.0, 5.4, and 6.7 grains per gallon respectively. The Total Hardness of the Corfu supply is 12 grains per gallon.</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------