

Annual Drinking Water Quality Report for 2020
TOWN OF MURRAY
3840 FANCHER ROAD
HOLLEY, NY 14470
Murray North, PWS #NY3622603 & Kendall #6, PWS #NY3630096

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 2020, 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 1300 people through 381 service connections in seven districts. The total water purchased from the Monroe County Water Authority in 2020 was 25,601,000 gallons.

Fluoride

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 U.S. 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 2020 the fluoride levels in your water were within 0.2 mg/L of the CDC's recommended optimal level 99.5% of the time. The highest monitoring result was 1.0 mg/L, below the 2.2 mg/L MCL for fluoride.

Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water and groundwater under the direct influence of surface water. Cryptosporidium is removed / inactivated through a combination of filtration and disinfection or by disinfection. In 2020, the MCWA analyzed a total of 16 source water samples for Cryptosporidium taken from Lake Ontario at our Shoremont and Webster water treatment plants. Cryptosporidium was detected in one raw water sample collected in March at the Webster water treatment plant. In our treatment processes at this plant Cryptosporidium is removed / inactivated by a combination of filtration and disinfection.

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We encourage individuals with weakened immune systems to consult their health care provider regarding appropriate precautions to avoid infection. Ingestion of Cryptosporidium may cause cryptosporidiosis, 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 cryptosporidiosis, please contact your local county health department.

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 .09 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.

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 2020, 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 2020, the highest monitoring result was 1.43 mg/L, below the 2.2 mg/L MCL for fluoride.

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. 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.

Monroe County Water Authority

2020 Water Quality Monitoring Program Summary

| Water Quality Monitoring Parameters | | | | MCWA - SWTP Source - Lake Ontario | | |
|--|---------------|----------------|------------|--------------------------------------|--------------|-----------------|
| | EPA / NYS MCL | EPA / NYS MCLG | UNITS | Average | Range | Samples in 2020 |
| Inorganics, Metals, & Physical Parameters: | | | | | | |
| Aluminum | NS | NS | µg/L | 85.3 | 28 - 200 | 4 |
| Barium | 2 | 2 | mg/L | 0.021 | 0.02 - 0.023 | 4 |
| Bromide | NS | NS | µg/L | 0.019 | 0.018 - 0.02 | 4 |
| Calcium | NS | NS | mg/L | 33.8 | 33 - 34 | 4 |
| Copper (Customer Tap Samples) | AL* = 1300 | 1300 | µg/L | 160 | 5.3 - 200 | 52 (2018) |
| Fluoride | 2.2 | NA | mg/L | 0.7 | 0.5 - 0.93 | 2194 |
| Lead (Customer Tap Samples) | AL* = 15 | 0 | µg/L | 7.2 | ND - 29 | 52 (2018) |
| Magnesium | NS | NS | mg/L | 8.5 | 8.5 | 1 |
| Nitrate | 10 | 10 | mg/L | 0.28 | 0.21 - 0.35 | 4 |
| Potassium | NS | NS | mg/L | 1.1 | 1.1 | 1 |
| Silica | NS | NS | mg/L | 0.44 | 0.34 - 0.65 | 4 |
| Sodium | NS | NS | mg/L | 14.5 | 14 - 16 | 4 |
| Sulfate | 250 | NA | mg/L | 26.3 | 25 - 28 | 4 |
| Alkalinity | NS | NA | mg/L | 89.8 | 87 - 93 | 4 |
| Chloride | 250 | NA | mg/L | 24.5 | 22 - 25 | 4 |
| Conductivity | NS | NS | µmhos/cm | 296.7 | 280 - 320 | 50 |
| pH | NS | NS | pH units | 7.48 | 7.25 - 8.24 | 366 |
| Total Dissolved Solids | NS | NS | mg/L | 170 | 160 - 180 | 4 |
| Total Hardness | NS | NS | mg/L | 120 | 120 | 4 |
| Total Organic Carbon | TT | NS | mg/L | 1.78 | 1.7 - 1.9 | 4 |
| Turbidity - Entry Point | TT ** | NA | NTUs | 0.04 | 0.02 - 0.08 | 2196 |
| Turbidity - Distribution System | TT *** | NA | NTUs | 0.11 | 0.03 - 7 | 3778 |
| Chlorine Residual - Entry Point | 4 | NA | mg/L | 1.15 | 0.78 - 1.38 | 2196 |
| Chlorine Residual - Retail Distribution System | 4 **** | NA | mg/L | 0.55 | ND - 1.83 | 3778 |
| Microbiological Parameters: | | | | (0% POSITIVE MURRAY NORTH) | | |
| Coliform - Retail Distribution System | TT ***** | 0 | % Positive | 2 positive samples - 0.05% | | 3778 |
| | | | | November: 1 positive sample - 0.39% | | |
| Volatile Organic Compounds: | | | | | | |
| Perfluorooctanesulfaonic Acid (PFOS) | 10 | NA | ng/L | 2.55 | 2.5 - 2.6 | 2 |
| Perfluorooctanoic Acid (PFOA) | 10 | NA | ng/L | 2.1 | 2.1 | 2 |
| Disinfection By-products: | | | | | | |
| Total Trihalomethanes (TTHMs) | 80 | NA | µg/L | 34.7 | 16 - 58 | 52 |
| | | | | Maximum LRAA = 46.5 | | |
| Haloacetic Acids (HAA5) | 60 | NA | µg/L | 9.7 | ND - 22 | 52 |
| | | | | Maximum LRAA = 14.8 | | |
| Emerging Contaminants - Per & Polyfluorinated Alkyl Acids (PFAS): | | | | | | |
| Perfluorohexanesulfonic acid | NS | NS | ng/L | 1 | ND - 2 | 2 |
| UCMR4 - HAA Groups Indicators: Data from 2019. | | | | | | |
| Bromide | NS | NS | µg/L | 36.3 | 36 - 37 | 4 |
| Total Organic Carbon | TT | NS | µg/L | 2.3 | 2 - 2.4 | 4 |

| Water Quality Monitoring Parameters | | | | MCWA - SWTP Source - Lake Ontario | | |
|--|-----------------|----------------|-------|--------------------------------------|-----------|-----------------|
| | EPA / NYS MCL | EPA / NYS MCLG | UNITS | Average | Range | Samples in 2020 |
| UCMR4 - HAA Groups: | 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 |
| Tribromoacetic acid | NS | NS | µg/L | 0.5 | ND - 2.7 | 60 |
| Trichloroacetic acid | NS | NS | µg/L | 7.5 | ND - 15 | 60 |
| ~MURRAY NORTH~ | | | | | | |
| Disinfection By-products: | | | | | | |
| Total Trihalomethanes (TTHMs) | 80 | NA | µg/L | 49 | 0-25 | 24 |
| Haloacetic Acids (HAA5) | 60 | NA | µg/L | 14 | 0-7 | 24 |
| Key Terms and Abbreviations: | | | | | | |
| <p>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.</p> <p>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.</p> <p>TT = Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.</p> <p>AL* = Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. If >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>LRAA = Locational Running Annual Average - The annual average contaminant concentration at a monitoring site.</p> <p>mg/L = Milligram (1/1,000 of a gram) per Liter = ppm = parts per million</p> <p>NA = Not Applicable NR = Not Required / Not Reported NS = No Standard NT = Not Tested</p> <p>Not Detected = ND = 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>NTU = Nephelometric turbidity Unit, a measure of the clarity of water.</p> <p>µg/L = Microgram (1/1,000,000 of a gram) per Liter = ppb = parts per billion</p> <p>ng/L = Nanogram (1/1,000,000,000 of a gram) per Liter = ppt = parts per trillion</p> <p>pg/L = Picogram (1/1,000,000,000,000 of a gram) per Liter = ppq = parts per quadrillion</p> <p>pCi/L = PicoCuries per Liter</p> | | | | | | |