



2022

Annual Drinking Water Quality Report



City of Auburn
160 Swift St
Auburn, NY 13021
Water Supply ID# NY 0501710

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1. Introduction

To comply with State and Federal regulations, the City of Auburn will be annually issuing a report describing the quality of your drinking water and awareness of the need to protect municipal drinking water sources. In 2022, City of Auburn Water Filtration Plant operators conducted tests for over 100 contaminants. Testing resulted in the detection of several contaminants. One contaminant was found at a level above the threshold set forth by the New York State Department of Health. A letter was sent out to customers regarding this exceedance and our plan to flush our system to help alleviate this issue. The next set of tests will be done in the 1st quarter of 2023. 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.

We want you to be informed about your drinking water. If you have any questions concerning this report on your drinking water, please contact Mr. John West, Chief Water Plant Operator, at (315)-253-8754. If you wish to learn more, please attend any of our regularly scheduled City Council Work Sessions. A schedule of the Council Work Sessions may be obtained from the Mayor's Office, located in City Hall, (315)-255-4104 or on the City's website: www.auburnny.gov.

2. Where Does Our Drinking Water Come From?



In general, sources of drinking water (for both tap and bottled water) include: **rivers, lakes, streams, ponds, reservoirs, springs, and wells**. As water travels over land surfaces or through the ground, it dissolves naturally occurring materials (that are, in some cases, radioactive) and can pick up substances resulting from the presence of animals or human activities.

Some contaminants that may be present in source water include:

- **Microbial** contaminants, including bacteria and viruses, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
- **Inorganic** contaminants, including salts and metals, which can be naturally occurring or a result of urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;
- **Pesticides** and **herbicides**, which can come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses;
- **Organic** chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and
- **Radioactive** contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the New York State Department of Health (NYSDOH) and the Environmental Protection Agency (EPA) prescribe regulations limiting the amount of certain contaminants in water provided by public water systems. The NYSDOH and the United States Food and Drug Administration's (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.



Figure 1. Owasco Lake Watershed Boundary

2.a. Auburn Water Supply

The City of Auburn’s water source is Owasco Lake. Owasco Lake is classified as a Class-AA special water body, designated by the New York State Department of Environmental Conservation (NYSDEC) as listed in 6 NYCRR Part 702. It is considered an excellent source of potable water, and must be protected. In an effort to maintain our source water quality, the City of Auburn actively participates and financially supports the Owasco Lake Watershed Inspection and Protection Division on an annual basis. The Watershed Inspection and Protection Division is charged with enforcement of watershed rules and regulations for Owasco Lake, promulgated by law under NYCRR Section 1100 (Public Health).

The City draws its water through a single-30 inch intake line that extends over 1,800 feet into the lake. The intake structure is a submerged concrete crib. The city’s allowable withdrawal from Owasco Lake is 15 million gallons per day (MGD), as permitted by Water Resource Application #422 dated 10/03/63. The dependable yield is determined to be 48 MGD in a study conducted in 1995 by R & D Engineering, P.C., and Buffalo, New York. Dependable yield, sometimes called safe yield, is the amount of water that can be continuously withdrawn from the source without ecological impact.

2.b. Auburn Water System Use

The transmission main from the Upper Pumping Station to the Water Filtration Plant on Swift Street consists of approximately 8,800 feet of 24-inch cast-iron pipe. The first 400 feet of transmission main is a new 30-inch diameter pipe installed as part of the reconstruction of the Owasco Lake Seawall Project, completed in 2001. The pipe size is increased to 36-inch at the point where it crosses over the Owasco Lake Outlet adjacent to the State Dam, and is reduced to 30 inches before entering the rapid-sand filtration plant.

The City presently operates two filtration plants, a slow-sand and a rapid-sand plant, which function in parallel operation. They are located at the corner of Swift Street and Pulsifer Drive in Auburn. The slow-sand filtration plant was constructed in 1916-17. The plant contains four beds with a total capacity of about 7.5 MGD (millions gallons per day). The beds consist of about 42 inches of sand supported by 12 inches of gravel. The rapid-sand filtration plant originally constructed in 1969 consists of 3 dual media filters with a combined capacity of about 7.25 MGD. In the rapid-sand plant, all water is pre-treated with poly-aluminum chloride to facilitate coagulation, sedimentation, and settling prior to filtration. All water is disinfected with Sodium Hypochlorite Solution prior to distribution.

Reservoirs on Franklin Street and Swift Street maintain reserves of 10.25 million gallons (MG) and 3 MG, respectfully. The City also protects its raw water intake pipe from Zebra mussels by adding a chemical solution of Sodium Hypochlorite. The addition of Sodium Hypochlorite added at concentrations between 0.40 and 0.70 mg /L prevents adolescent zebra mussels from developing into adults which can attach to the inside of the intake pipe and restrict the City’s ability to draw water from the lake. During the 2017 season, a Powered Activated Carbon system was built at the Upper Pumping Station to help treat for microcystin, the toxin associated with Harmful Algae Blooms (HAB).

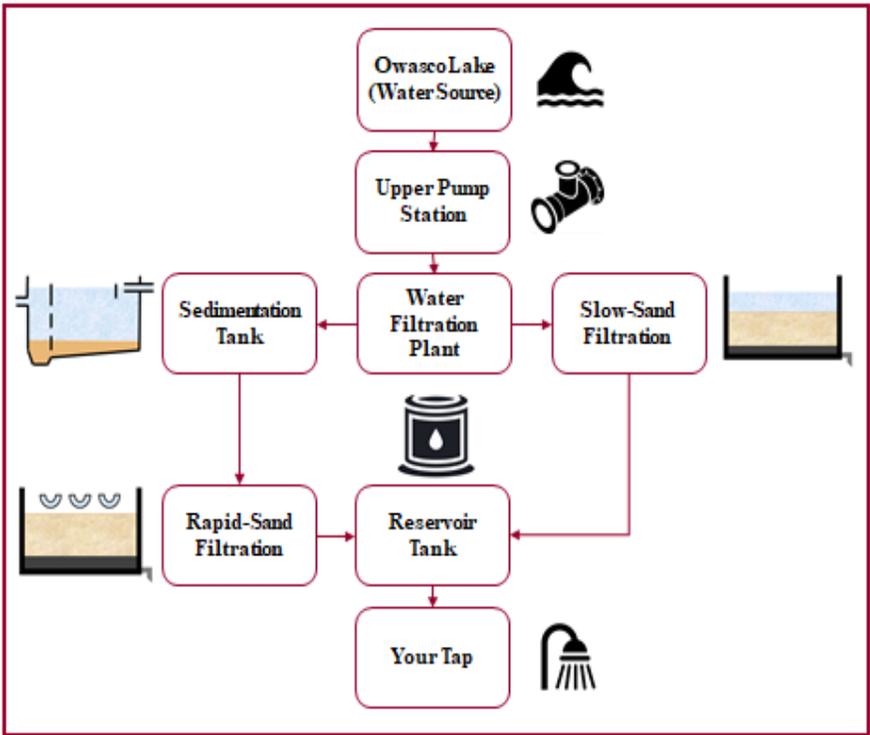
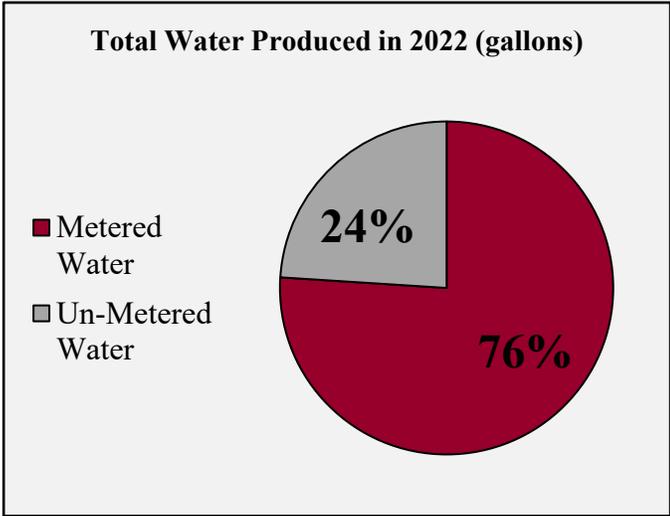


Figure 2. Water Filtration Flow, From Lake to Tap

3. Facts and Figures

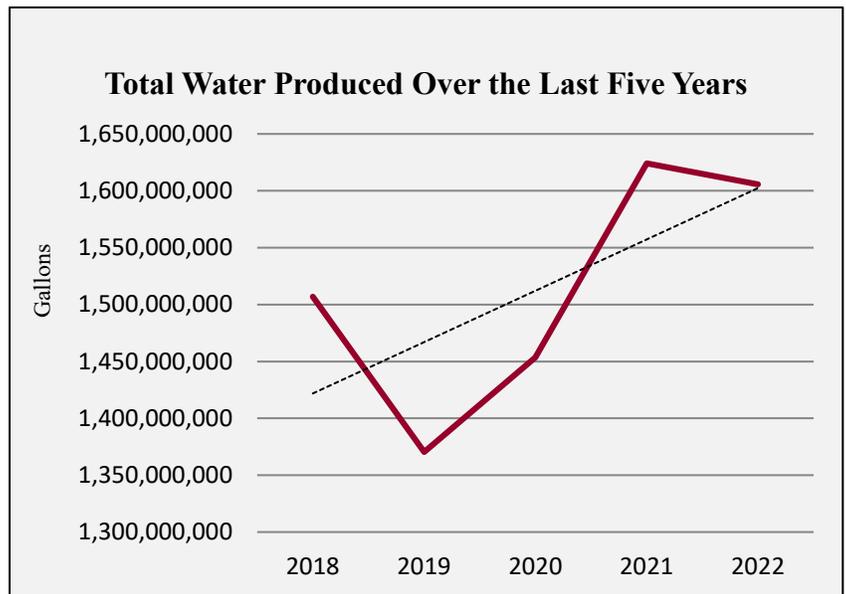
The City of Auburn water system serves approximately 26,866 (2020 Census) Auburn residents with around 8,800 service connections. Water from the City of Auburn is also distributed to areas within the towns of Sennett, Fleming, Throop, Brutus, Montezuma, Springport, Mentz, and Aurelius. The City also distributes water to the villages of Cayuga, Port Byron, and Weedsport, as well as the Cayuga County Water Authority and the Thruway Authority. It is estimated that Auburn supplies close to 43,000 people in Cayuga County with their drinking water.

3.a. Water Production



The total water produced in 2022 was **1,605,701,000** gallons. The daily average of water treated and pumped into the distribution system was 4,399,181 gallons per day. The single highest day was 5,390,000 gallons. The amount of water metered totaled **1,220,624,548** gallons. This leaves a difference of **385,076,452** gallons of un-metered water, or **24%** of the total water produced. This water is lost due to leakage, water used to flush reservoirs and mains, wash streets, fight fires, and for internal use at the water treatment plant.

Over the past five years, the total water produced ranged from **1,370,368,000** gallons in 2019 to **1,624,124,000** gallons in 2021, and averaged a value of **1,512,110,400** gallons. The amount of water produced this year, in 2022, falls above this average, closing in at **1,605,701,000** gallons. There is no major variance in the total water produced based on the last five years.



In 2022, the City replaced 72 water services, installed 1195 feet of copper, and fixed 22 main breaks. In 2022, from January 1st to April 30th, both residential and commercial water customers were charged \$ 2.62 per 100 cubic feet. Following a rate adjustment on May 1st, residential water customers were charged \$3.35 per 100 cubic feet and commercial water customers were charged \$2.99 per 100 cubic feet. The minimum quarterly usage charge for water per user is \$20.10, plus a fixed service fee. The fixed water service fee for 5/8” meter is \$ 12.10 per quarter.

3.b. Are There Contaminants In Our Drinking Water?

As the State regulations require, we routinely test your drinking water for numerous contaminants. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. These contaminants include the following:

Water Contaminant Levels		
Contaminant Type	Owasco Lake Levels	NYSDOH Maximum Limit
Physical		
Raw Water Turbidity (NTU)	0.63-19.70	No Designated Limit
Color	<5	15 Units
Odor	<1 T.O.N (Threshold Odor Number)	3 Units
Radioactive Contaminants		
<i>Potable Water</i>		
Gross Alpha	ND	15 pCi/L
Gross Beta Activity	ND	4 pCi/L
Combined Radium 226 and 228	0.850	5 pCi/L
Chemical		
pH	7.25-8.33	6.5-8.5
Hardness (as CaCO3 mg/L)	120	No Designated Limit
Inorganics (mg/L)		
Antimony	<0.00040	0.006
Arsenic	<0.0010	0.01
Barium	0.024	2
Beryllium	<0.00030	0.004
Cadmium	<0.0010	0.005
Chromium	<0.0010	0.1

Cyanide	<0.005	0.2
Fluoride	<0.1	2.2
Mercury	<0.00020	0.002
Nickel	0.0014	0.1
Nitrate	1.2, 1.2, 0.80, 0.89	10
Selenium	<0.0010	0.1
Sodium	19	No Designated Limit
Thallium	<0.00030	0.002
Organics (mg/L)		
Trihalomethanes, Total	0.034-0.107	0.08
Haloacetic Acids, (HAA5)	0.0028-0.048	0.06
Specific Organic Chemicals (mg/L) (2021 data)		
Alachor	<0.0001	0.002
Aldicarb	<0.0005	0.003
Aldicarb Sulfone	<0.0008	0.002
Aldicarb Sulfoxide	<0.0005	0.004
Aldrin	<0.001	0.005
Atrazine	<0.0001	0.003
Benzo(a)pyrene	<0.00002	0.0002
Butachlor	<0.01	0.05
Carbaryl	<0.001	0.05
Carbofuran	<0.0009	0.04
Chlordane<Alpha Gamma>	<0.00002	0.002
Dalapon	<0.001	0.05
1,2 Dibromo-3-Chloropropane	<0.00002	0.0002
Dieldrin	<0.001	0.005
2, 4-D	<0.0001	0.05
Dinoseb	<0.0002	0.007
Dicamba	<0.01	0.05
Endrin	<0.00001	0.002
Bis (2-Ethylhexyl) Adipate	<0.0006	0.006
Bis (2-Ethylhexyl) Phthalate	<0.0006	0.006
Glyphosate	<0.005	0.5
Heptachlor	<0.00004	0.0004
Heptachlor Epoxide	<0.00002	0.0002
Hexachlorobenzene	<0.0001	0.001
Hexachlorocyclopentadiene	<0.0001	0.005
3-Hydroxycarbofuran	<0.001	No Designated Limit
Lindane	<0.00002	0.0002
Methomyl	<0.001	0.05
Methoxychlor	<0.0001	0.04
Metolachlor	<0.01	0.05
Metribuzin	<0.01	0.05
Oxamyl	<0.001	0.05
Pentachlorophenol	<0.00004	0.001
Picloram	<0.0001	0.05
Propachlor	<0.01	0.05
Simazine	<0.0001	0.004
Toxaphene	<0.001	0.003
2,4,5-TP (Silvex)	<0.0002	0.01
UCMR3/UCMR4 (ug/L)		
Perfluorobutanesulfonic Acid (2021)	<0.030	No Designated Limit

Perfluoroheptanoic Acid (2021)	<0.0033	No Designated Limit
Perfluorohexanesulfonic Acid (2021)	<0.010	No Designated Limit
Perfluorononanoic Acid (2021)	<0.00067	No Designated Limit
Perfluorooctanesulfonic Acid (2021)	<0.0013	No Designated Limit
Perfluorooctanoic Acid (2021)	<0.00067	No Designated Limit
Cobalt (2021)	<0.33	No Designated Limit
Molybdenum (2021)	<0.33	No Designated Limit
1,1-Dichloroethane	<0.5	No Designated Limit
1,2,3-Trichloropropane	<0.5	No Designated Limit
1,3-Butadiene (2021)	<0.10	No Designated Limit
Bromochloromethane	<0.5	No Designated Limit
Bromomethane	<0.5	No Designated Limit
Chlorofluoromethane (2021)	<0.080	No Designated Limit
Chloromethane	<0.5	No Designated Limit
1,4-Dioxane	<0.070	No Designated Limit
Total Microcystin (2021)	<0.3	No Designated Limit
Microcystin-LA (2021)	<0.008	No Designated Limit
Microcystin-LF (2021)	<0.006	No Designated Limit
Microcystin-LR (2021)	<0.02	No Designated Limit
Microcystin-LY (2021)	<0.009	No Designated Limit
Microcystin-RR (2021)	<0.006	No Designated Limit
Microcystin-YR (2021)	<0.02	No Designated Limit
Nodularin (2021)	<0.005	No Designated Limit
Anatoxin-A (2021)	<0.03	No Designated Limit
Cylindrospermopsin (2021)	<0.09	No Designated Limit
Germanium (2021)	<0.3	No Designated Limit
Alpha-Hexachlorocyclohexane (2021)	<0.01	No Designated Limit
Chlorpyrifos (2021)	<0.03	No Designated Limit
Dimethipin (2021)	<0.2	No Designated Limit
Ethoprop (2021)	<0.03	No Designated Limit
Oxyfluorfen (2021)	<0.05	No Designated Limit
Profenofos (2021)	<0.3	No Designated Limit
Tebuconazole (2021)	<0.2	No Designated Limit
Total Permethrin (cis- & trans-) (2021)	<0.04	No Designated Limit
Tribufos (2021)	<0.07	No Designated Limit
1-Butanol (2021)	<2.0	No Designated Limit
2-Methoxyethanol (2021)	<0.4	No Designated Limit
2-Propen-1-ol (2021)	<0.5	No Designated Limit
Butylated Hydroxyanisole (2021)	<0.03	No Designated Limit
o-Toluidine (2021)	<0.007	No Designated Limit
Quinoline (2021)	<0.02	No Designated Limit

3.c. Summary of Detected Contaminants

It should be noted that all drinking water, including bottled water, might be reasonably expected to contain 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 at 1-800-426-4791 or the Cayuga County Health Department at (315)-253-1405.

Table of Detected Contaminants

Contaminant	Violation: Yes/No	Date of Sample	Level Detected (Average) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT, OR AL)	Likely Source of Contamination
PHYSICAL Turbidity	No	5 days per week	Avg: 0.15 Range: 0.03-2.05	NTU	N/A	5.0 distribution system	Soil runoff/Natural Lake Turnover
PHYSICAL Turbidity	No	7 days per week	Avg: 0.052 Range: 0.01-0.3	NTU	N/A	0.3-1.0 MCL filter performance	Soil runoff/Natural Lake Turnover
Inorganics							
Barium	No	4/13/2022	0.024	ppm	2	2	Erosion of natural deposits
Cyanide	No	2/20/2019	13	ppb	N/A	200	Erosion of natural deposits
Nickel	No	4/13/2022	1.4	ppb	N/A	100	Erosion of natural deposits
Sodium	No	8/17/2022	19	ppm	N/A	No Limit	Naturally occurring
Sulfate	No	3/23/2020	12	ppm	N/A	250	Naturally occurring
Nitrate	No	2/16/2022 5/18/2022 8/17/2022 11/16/2022	Avg: 1.023 Range: 0.8-1.2	ppm	10	10.0 MCL	Erosion of natural deposits
ORGANICS, Trihalomethanes, total, TTHM	Yes ⁵	2/16/2022 5/18/2022 8/17/2022 11/16/2022	LRAA ⁴ 80.9 Range: 34.06-107.7	ppb	N/A	80 MCL	Contained in chlorinated water
Haloacetic Acids, HAA5	No	2/16/2022 5/18/2022 8/17/2022 11/16/2022	LRAA ⁴ 34.8 Range: 2.8-48	ppb	N/A	60 MCL	Contained in chlorinated water
Lead	No	June 2020 July 2020	Range: 1.4 ¹ ND- 5.2	ppb	0	AL-15	Contained in Finished Water, an artifact of old piping and lead soldered joints
Copper	No	June 2020 July 2020	0.045 ² Range: 0.0013-0.15	ppm	1.3	AL-1.3	Contained in Finished Water, an artifact of old piping and lead soldered joints
Radioactive Contaminants							
Combined Radium 226 and 228	No	4/26/2021	0.85	pCi/L	0	5 pCi/L	Contained in soil or sedimentary rock formations
Unregulated Contaminants							
Bromide	No	7/2/2018 10/2/2018	15 15	ppb	N/A	N/A	Naturally occurring
TOC	No	1/15/2020 2/19/2020	1.4 1.4	ppm	N/A	N/A	Erosion of natural deposits
Manganese	No	7/2/2018 10/2/2018	0.86 1.7	ppb	N/A	N/A	Naturally occurring

Haloacetic Acids, HAA9	No	7/5/2018 10/2/2018	4.9	ppb	N/A	N/A	Contained in Chlorinated Water
Haloacetic Acids, HAA6Br	No	7/5/2018	4.9	ppb	N/A	N/A	Contained in Chlorinated Water
1-4, Dioxane	No	9/14/2022	0.0204	ug/L	N/A	N/A	Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites
Cyanotoxin							
Microcystin Finished Water	No	8/17/2022- 11/14/2022 21 Samples	All <0.15	ppb	0	N/A ³	Naturally occurring due to harmful algal blooms/cyanobacteria
Microcystin Raw Water	N/A	8/17/2022- 11/14/2022 21 Samples	Range <0.15- 17.0	ppb	N/A	N/A	Naturally occurring due to harmful algal blooms/cyanobacteria

Notes:

*1 – The level presented represents the 90th percentile of the 33 samples collected. In this case, 33 samples were collected at your water system and the 90th percentile value was the twenty-seventh highest value, 1.4 ppb. The action level for lead was not exceeded at any one of the 30 sites.

*2 – The level presented represents the 90th percentile if the 33 sites tested. A percentile is a value on a scale of 100 that indicates the percent of 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, 33 samples were collected at your water system and the 90th percentile value was the twenty-seventh highest value, 0.045 mg/l. The action level for copper was not exceeded at any of the sites tested.

*3 – The United States Environmental Protection Agency 10-day health advisory level for microcystin is 0.3 ppb for children less than or equal to 5 years of age and vulnerable populations; and 1.6 for all other people.

*4 – This number represents the Highest Locational Running Annual Average (LRAA) for 2022.

*5 – Exceeded (81ppb) LRAA last quarter result.

The table shows that The City of Auburn exceeded the MCL of 80 ppb for Total Trihalomethanes at one of the four locations that are tested quarterly. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems and may have an increased risk of cancer. The City has implemented a monthly hydrant flushing program in hopes of alleviating this issue.

3.d. Summary of Non Detected Contaminants

The City of Auburn was required to test for the following contaminants in 2022: nitrate, primary inorganic chemicals, disinfection byproducts, principal organic chemicals, 1,4 dioxane, alkalinity, TOC, sodium, and a minimum of 30 total coliform samples per month. Synthetic organic chemical testing is required every 18 months so no testing was done in 2022. The next set of samples is due by 6/30/23. Contaminants that were detected are in section 3c of this report. The following are chemicals that were tested for but not detected.

Primary Inorganic Chemicals sampled for on 4/13/22: Antimony, Arsenic, Beryllium, Cadmium, Chromium, Mercury, Selenium and Thallium.

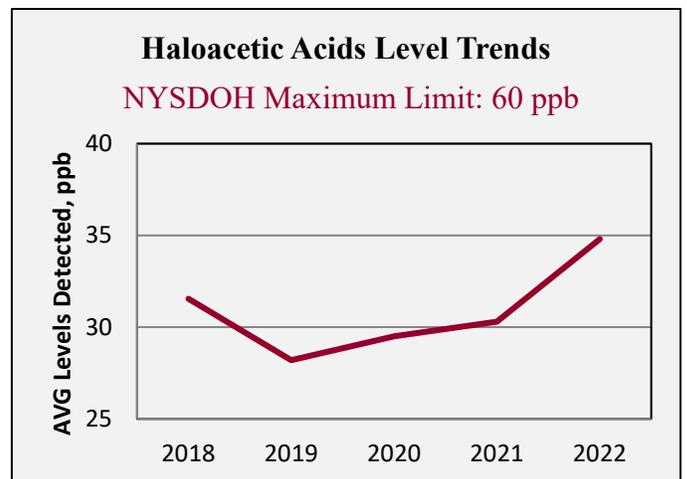
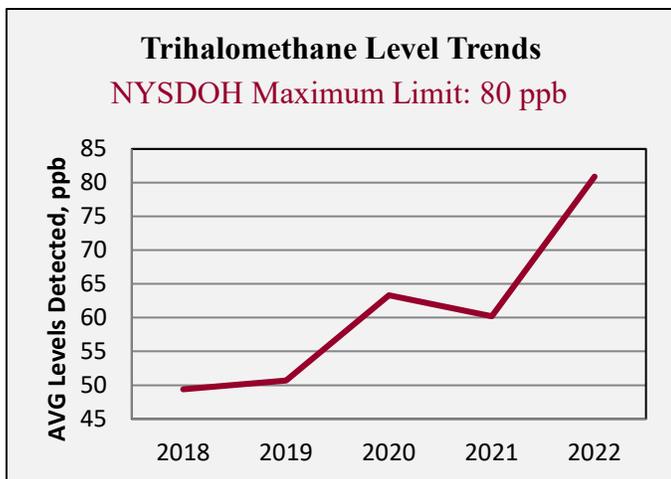
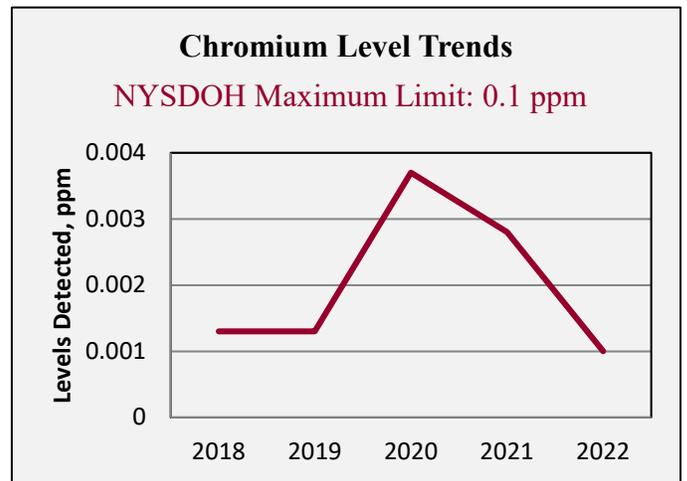
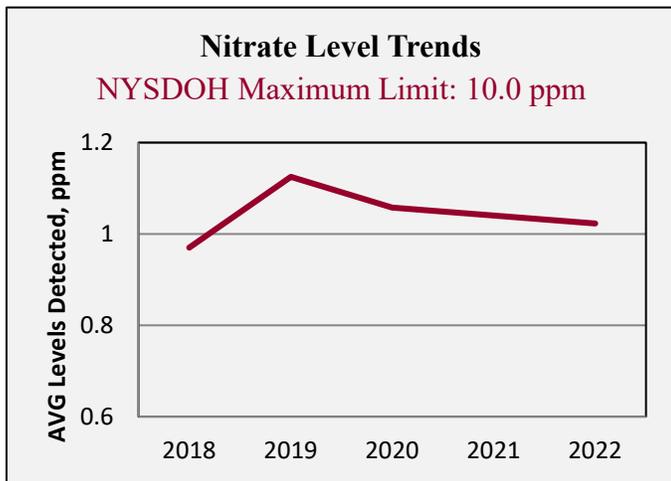
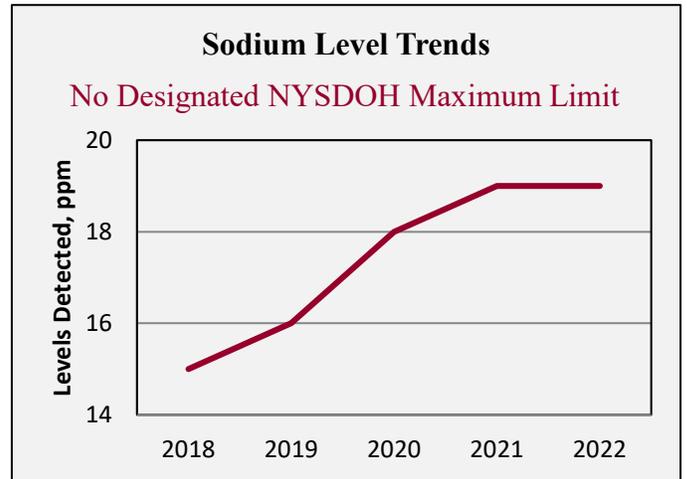
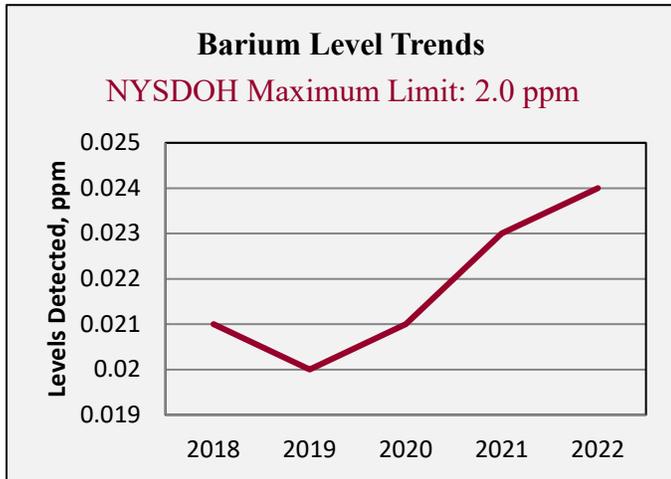
Synthetic Organic Chemicals sampled for on 4/26/21: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane (EDB), Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aldrin, Chlordane Total, Dieldrin, Endrin, Heptachlor, Heptachlor Epoxide, Hexachlorocyclopentadine, gamma-BHC (Lindane), Methoxychlor, Toxaphene, 2,4-D, Dalapon, Dicamba, Dinoseb, Pentachlorophenol, Picloram, and 2,4,5-TP (Silvex).

Principal Organic Chemicals sampled for on 4/13/22: Benzene, Bromobenzene, Bromochloromethane, Bromomethane, sec-Butylbenzene, n-Butylbenzene, tert-Butylbenzene, Carbon tetrachloride, Chlorobenzene, Chloroethane, Chloromethane, 2-Chlorotoluene, 4-Chlorotoluene, Dibromomethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Dichlorodifluoromethane, 1,1-Dichloroethane, 1,2-Dichloroethane, cis-1,2-Dichloroethene, 1,1-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, Ethyl benzene, Hexachlorobutadiene, Isopropylbenzene (Cumene), 4-Isopropyl toluene (Cymene), Methylene chloride, n-Propylbenzene, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, Tetrachloroethane, Toluene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethane, Trichlorofluoromethane (Freon 11), 1,2,3-Trichloropropane, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Vinyl Chloride, MTBE, Xylenes (total), Surrogate (1,2-DCA-d4), Surrogate (Tol-d8) and Surrogate (4-BFB).

Radiological sampled on 4/26/21: Gross Alpha, Radium 226.

Unregulated Contaminants Sampled on 10/6/20, 1/12/21, 4/6/21, 7/6/21: PFOA and PFOS.

3.e. Trends for Various Inorganic and Organic Contaminants Over the Past Five Years



3.f. Definitions

- **Level 1 Assessment:** A Level 1 assessment is a study 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 a very detailed study of the water system to identify potential problems and determine, if possible, why an E. Coli violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
- **Maximum Contaminant Level:** The highest level of a contaminant that is allowed in drinking water. MCLs are set to as close to the MCLGs as feasible.
- **Maximum Contaminant Level Goal:** 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 Disinfection 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 Disinfection 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.
- **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.
- **Colony Forming Units (CFU):** A unit used to measure the number of viable bacteria cells.
- **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).
- **Picocuries per liter (pCi/L):** A measure of the radioactivity in water.
- **Color:** The presence of dissolved substances in water.
- **Hardness:** A characteristic of water caused mainly by the salts of calcium and magnesium, such as bicarbonate, carbonate, sulfate, chloride and nitrate.
- **Inorganic chemicals:** Materials such as sand, salt, iron, calcium salts, and other materials of mineral origin.
- **Odor threshold:** The minimum odor of a water sample that can just be detected after successive dilutions with odorless water.

4. What Does This Information Mean?

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 City Of Auburn 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>.

Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Turbidity itself has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbiological growth. Turbidity may indicate the presence of disease causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Please pay special attention to the additional statement in this document regarding Cryptosporidium and Giardia. Plant monitoring equipment has been updated and plant procedures have been modified to allow treatment of our water and keep it well within all regulatory requirements.

4.a. Information on Cryptosporidium & Giardia

New York State law requires water suppliers to notify their customers about the risks of Cryptosporidiosis and Giardiasis. Cryptosporidiosis and Giardiasis are intestinal illnesses caused by microscopic parasites. Cryptosporidiosis can be very serious for people with weak immune systems, those on chemotherapy, dialysis or transplant patients, as well as people with Crohn's disease or Human Immune Deficiency (HIV) infection. People with weakened immune systems should discuss with their health care providers the need to take extra precautions such as boiling water, using certified bottle water or a specially approved home filter. Individuals who think they have may have Cryptosporidiosis or Giardiasis should contact their healthcare provider immediately. The city began a two year testing program for Cryptosporidiosis and Giardiasis in October of 2016. Samples of our **raw water** were collected once a month during this two year period. Of the 24 samples collected during this period, one sample in April of 2018 tested positive for Giardia. The rest of the samples collected in 2018 were negative for Cryptosporidium and Giardia. For additional information on **Cryptosporidiosis** or **Giardiasis**, please contact the Cayuga County Health Department at (315)-253-1405.

4.b. Information on Radiologic Testing

Radiologic Testing was performed in 2021. Regulatory limits are listed on the table, and all testing was below limits.

4.c. Information on Unregulated Contaminants

We were required to test for the unregulated contaminants in 2018. A list of the contaminants found is in the summary of detected contaminants section of this report. PFOS/PFOA and 1,4 Dioxane samples will be collected in 2023.

4.d. 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/Acquired Immune Deficiency Syndrome (AIDS) or other immune disorders, some elderly, and infants can be particularly at risk for infections. These people should seek advice from their healthcare provider about their drinking water. EPA/Center for Disease Control and Prevention (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 1-800-426-4791.

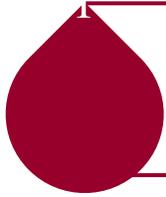
5. Why Save Water?

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.

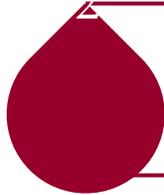
- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers.
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential firefighting needs are met.

5.a. You Have The Power To Save Water

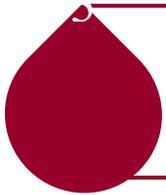
By becoming aware of how much water your household is using, and looking for ways to use less, you can conserve water! Some tips to get you started include:



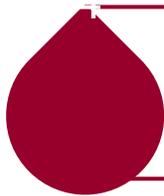
Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So, get a run for your money and load it to capacity.



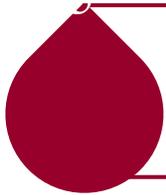
Turn off the tap while brushing your teeth. To clean your brush, use short bursts of water. This can save about 80% of the water that would normally be used.



Check every faucet in your home for leaks. Did you know? Just a small drip can waste 15-20 gallons a day! Fix it, and you can save almost 6,000 gallons a year!



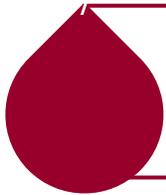
Invest in either a low-flow shower head or adjustable flow-reducer device on your shower head. They can reduce flow by at least 25%.



Check your toilets for leaks by putting a few drops of food coloring in the tank, and 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 per day from an invisible toilet leak. Fix it, and you can save more than 30,000 gallons per 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 has moved, you have a leak.



Do not over-water your plants and gardens in anticipation of a shortage or drought. Soil cannot store extra water.

6. System Improvements

The City of Auburn Department of Municipal Utilities continues to proactively develop and implement a capital improvement projects on a 5-year look-ahead cycle. In addition to capital project planning, our Operators and Staff deploy multiple annual programmatic improvements to your water system infrastructure. The following list compiles recent capital and operational improvement projects:

1. We continue to use Poly Aluminum Chloride (PACl) for coagulation. By using PACl, we have enhanced the pretreatment of the water, reduced chemical handling costs and now produce 1/3 of the waste sludge by volume as in previous years.
2. We continue to improve our telemetry and Supervisory Control and Data Acquisition (SCADA) systems. Our SCADA system was recently upgraded to current industry standards in 2019. This allows our operations staff to keep a watchful eye on every water treatment process from our command center on a 24/7/365 basis.
3. Complete, system-wide Distribution Mapping & GIS Integration project completed in 2018. The City now owns and uses a comprehensive mapping system of the entire water distribution system. This mapping allows staff to conduct hydraulic analysis on the system prior to implementation of a water main improvement project so resources are best spent on projects with the most beneficial system wide impacts.
4. North St. water main replacement project, completed in 2018.
5. Vulnerability Assessment began in 2022 with completion in 2023.
6. Lead Service line inventory work began in 2022 with completion in 2023.
7. PAC storage system and upper pumping station improvements installed in 2019.
8. Intake inspection and cleaning in 2022.
9. Zebra Mussel control system at the Upper Pumping Station upgraded in 2020.
10. Storage Pole Barn addition in 2022 with completion in 2023.
11. Remove stone around Upper Pumping Station and replace with asphalt and flexipave.
12. York St., Chase St. ext., Swift St., and Pulsifer Dr. water main upgrades and replacement in 2019.
13. Arlington Ave., Kensington Ave., West Clymer St., and Dunning Ave. water main upgrades in 2020.
14. Water main upgrades on sections of South St., Woodlawn Ave., East Genesee St., and North St. in 2021.
15. Upper Pump Station Pump #5 raw water valve replaced in 2021.
16. New control gate at water treatment plant installed in 2021.
17. Water Treatment Plant Low Lift Pump #1 rehabbed in 2021.

6.a. Future Work

- Slow Sand Filter re-sanding in 2023.
- Rapid Sand Filter media remediation in 2023.
- Slow Sand Building and Clearwell Upgrades in 2023.
- Chlorine Dioxide system to replace Sodium Hypochlorite system at U.P.S. in 2023.
- Investigate Raw Water Intake Extension
- Lead service line replacements in 2023 and beyond

7. FAQs

Is our Water System meeting other rules that govern operations?

No. In 2022, our system had a MCL violation for THMs. All other samples collected met all Federal and State levels and regulations.

What affects the taste of my water?

The taste of drinking water is affected by its mineral content as well as the presence of chlorine, which is used to protect against potential bacterial contamination. Sometimes plumbing can cause a metallic flavor, especially if water has been sitting in pipes for many hours. Taste, however, does not necessarily indicate a higher or lower degree of contamination. At times, when conditions are right, algae blooms occur in our lake sometimes causing objectionable odors and taste in the finished drinking water. Although algae are removed during the treatment process, some of their metabolites may be left behind. The two most common metabolites are geosmin and 2-methylisoborneol (MIB). Even though these compounds are harmless, the human sense of taste and smell are extremely sensitive to them and can detect them in water at concentrations as low as 5 parts per trillion. To give you an idea of what a “part per trillion” is, consider this – One part per trillion is equivalent to one drop of water diluted in 20 Olympic swimming pools.

What affects the way my water looks?

In addition to naturally occurring minerals, our water also includes small amounts of iron picked up from our water also includes small amounts of iron picked up from our cast-iron water mains. When a surge of pressure occurs, usually from a main break or a fire hydrant being used, the sediment becomes stirred into the water. During these episodes, the water supply to your home can be tinted yellow or even brownish-red. The iron is harmless and settles out again in a few hours. Please be aware that it will stain clothing, so don't wash your clothes if you experience iron-tinted water. Also, avoid running hot water at these times, if possible, so that your water heater doesn't refill with iron tinted water.

Do I really need to buy a Water Filter or Home Treatment System?

The decision to buy water filters or home treatment systems is yours. Our water meets and exceeds rigid State and Federal Standards. If you decide to buy a filter system, be a smart shopper and do some homework. Be sure that any treatment device you buy is registered with the National Sanitation Foundation (NSF). Information on these systems is available at libraries, or from the NSF. Contact the NSF toll free at 877-867-3435 or visit www.nsf.org.

8. Owasco Lake Watershed Inspection and Protection Division 2022 Summary

While the watershed community continues to recover from destructive weather that occurred in 2021, precipitation events were somewhat less impactful to the landscape in 2022. According to the National Weather Service, the Owasco Lake watershed received precipitation deficits within the northern portion of the basin, and a surplus in the southern portion of the basin. This led to some reductions in sediment transport from highly erodible soils, steep slopes, and unstable streambanks. Nevertheless, streambank erosion and sediment plumes in Owasco Lake were observed throughout the watershed following precipitation events, especially in the southern drainage area of the basin (i.e., Owasco Inlet sub-watershed), where precipitation levels were 4 inches above average for the year. These observations reveal the continued need for flood resiliency planning in communities such as Moravia and Locke, where floodwater conveyance remains problematic.

Local water sampling efforts in 2022 have shown that microcystin toxins associated with Harmful Algal Blooms (HABs) have been increasing exponentially in recent years. This observation highlights the importance of monitoring the landscape for streambank erosion, exposed ditches, and other pathways of nutrient and sediment transport, especially as

destructive weather patterns become more common. According to Dr. John Halfman’s (Finger Lakes Institute) 2022 lake water quality monitoring report, lake temperatures are increasing, and oxygen depletion is occurring within deeper waters. These effects can alter lake chemistry, extend the duration of lake stratification, and lead to increases in internal nutrient loading. Long term water quality monitoring is required to further assess how the relationships between increasing water temperatures and oxygen depletion may be impacting lake productivity and the presence of HABs in Owasco Lake.

a. Landscape Conditions Observed

In 2022, the Owasco Lake Watershed Inspection and Protection Division (OLWIPD) continued with watershed-wide monitoring. Through close observation of the landscape and by working closely with partner agencies, Watershed Inspectors identified areas that were impacted by severe weather events, and are continually working to resolve concerns that can contribute to sediment and nutrient loading and/or adversely impact the water quality of Owasco Lake. Staff identified **128 sites** with potential or ongoing water quality concerns, and performed numerous follow-up visits to document compliance throughout 2022. Inspections included stormwater checks of construction sites, thorough reviews of agricultural land-use, assessments of stabilization issues such as streambank erosion, and more. Watershed inspectors identified **14 violations** of watershed, state, and/or federal regulations in 2022. Violations were primarily resolved through voluntary compliance, and one violation related to residential construction was elevated to a Cayuga County Department of Health hearing for resolution. The OLWIPD routinely maintains high levels of voluntary compliance by providing a timely notification of potential violations to partner agencies, and through ongoing engagement with landowners. The OLWIPD continues to encourage landowners to implement conservation practices that elevate watershed stewardship, and recognizes the landowners who have demonstrated their commitment to watershed protection through voluntary practice adoption and integration in the Finger Lakes Lake Friendly Living Program initiatives.

8.b. Special Projects

Division staff participated in numerous community awareness projects during 2020. In cooperation with the Owasco Watershed Lake Association and Scout Troop 11 from Auburn, 140 storm drain educational “Drains to Lake” medallions were placed onto street storm grates throughout the villages of Moravia and Groton, as well as the hamlet of Locke. Staff assisted the Owasco Lake Watershed Management Council’s Lake Friendly Living campaign, distributing and placing roadside lawn signs to residents throughout the watershed pledging to conduct lawn care activities in a manner that protects water quality.

9. Backflow Prevention

The Department of Municipal Utilities (DMU) is responsible for providing a continuous supply of safe, clean drinking water to more than 45,000 residents and visitors throughout the City and Cayuga County. To protect the City’s drinking water from contamination, DMU has a robust water quality monitoring program and regularly performs sampling throughout the City to ensure all relevant State and Federal standards are met. DMU also works to prevent contamination before it occurs by ensuring that local businesses comply with all relevant City and State codes. A key component of this enforcement and inspection initiative is the City’s Cross Connection Control Program, (Article IV § 297-32 - §297-38) which requires all commercial businesses and residential four units or more to install and operate approved backflow prevention devices. The City of Auburn currently has 239 businesses, with 431 backflow units in operation. In 2022, 18 new backflow devices were installed, along with 21 backflow applications approved by the Cayuga County Department of Health that are pending installation by licensed plumbers.



10. A Note from the New York State Department Of Health

The NYS Department of Health has completed a source water assessment for the City of Auburn, based on available information. Possible and actual threats to this drinking water source were evaluated. This source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to lakes. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. (See the section of this document “Are there contaminants in our drinking water?” for a list of the contaminants that have been detected in the drinking water.) The source water assessments are intended to provide managers with additional information for protecting source waters into the future. As mentioned before, our water is derived primarily from Owasco Lake. The source water assessment has rated this source as having an elevated susceptibility to protozoa and phosphorus due to the amount of agricultural lands in the assessment area and the quantity of wastewater discharged from municipal wastewater treatment plants to surface water. In addition, this source water assessment rated Owasco Lake as having an elevated susceptibility to pesticide contamination due to the amount of agricultural lands. County and state health departments will use this information to direct future source water protection activities. These may include water quality monitoring, resource management, planning, and education programs. A copy of the complete assessment is available for review by calling the Cayuga County Health Department at (315) 253-1405.

11. Additional Sources of Information

Seth Jensen
Director of Municipal Utilities
(315) 255-4180
sjensen@auburnny.gov

United States Environmental Protection Agency
Safe Drinking Water Hotline
1-800-426-4791

Cayuga County Health Department
Kathleen Cuddy, Public Health Director
(315) 253-1560

John West
Chief Water Plant Operator
(315) 253-8754
jwest@auburnny.gov

Eileen O’Connor
Director of Environmental Health
(315) 253-1405

Visit the City’s website for information regarding our water supply: <http://auburnny.gov>