Central New York's Water Authority

Memorandum

Date: May 2023

To: All OCWA Customers/Consumers

From: Jeffrey D. Brown, Executive Director
Geoffrey G. Miller, Executive Director of Operations
Curtis R. Marvin, Chief Financial Officer

Subject: 2022 Consumer Confidence Report

IMPORTANT INFORMATION ABOUT YOUR WATER SUPPLY

We at the Onondaga County Water Authority ("OCWA" or the "Authority") are pleased to provide our customers and consumers with the attached ***Consumer Confidence Report***, also known as the annual drinking water quality report, for the year ending on December 31, 2022. Throughout this report, readers will find useful information specifically related to the water delivered to you by OCWA. In addition to notifying our customers of the availability of the report, we are continuing our practice of providing copies of the report to local libraries and advertising its availability in local print media.

In 2022, despite supply chain issues and inflationary pressures, our employees worked hard to ensure that our water supply was safe and ready to meet the needs of our community. As in prior years, the water delivered to you not only met prescribed water quality requirements, but in many ways surpassed New York State Department of Health ("NYSDOH") and the United States Environmental Protection Agency's ("USEPA") standards.

While our employees concentrated their efforts on providing high quality drinking water, they also demonstrated OCWA's core values, including focusing on the "well-being" of co-workers. Our employee-led safety committee met monthly throughout the year, reviewing policies and procedures and making recommendations on improvements, training, and equipment selection. We implemented many of the committee's recommendations, resulting in a significant reduction in our workers' compensation experience modification rate ("EMR"), a metric that insurers use to calculate insurance premiums; it takes into account the number of claims/injuries a company has had in the past, and their corresponding costs, thereby saving OCWA thousands of dollars. Our safe working practices also led to OCWA receiving a state-wide safety award from the New York Section of the American Water Works Association in 2022. We also received the award in 2021, 2020, 2018, 2016, 2015, and 2014.

In addition, we continued to significantly reinvest in our five-county water system via several major capital improvement and maintenance projects. This ongoing work helps to keep our water system in good operational condition and limit costly service disruptions. Included in our 2022 capital reinvestment program were continuing renovations to our Lake Ontario water treatment facilities. These facilities were constructed in the late 1960's and have served our community well for over 50 years. While still functioning effectively, it is necessary to make major upgrades to the facilities to ensure that they can continue to provide high quality water for the next 50 years.

Last year we began construction on the second phase of the Lake Ontario improvements. This phase of the project includes work on the water filtration systems, replacement of major equipment, upgrading the control systems, and major building maintenance work. The first phase of the project, which included replacement of the electrical substations and addition of emergency power generators, received an award from the New York Section of the American Water Works Association for Project of the Year. A third phase of the project will include the replacement of the onsite water storage tanks in the coming years.

Work on another major capital project, replacement of the water storage facilities at our Hinsdale Road work center in Camillus, also continued in 2022. The second of two six-million-gallon concrete water storage tanks was constructed and placed into service. Site grading will be completed in 2023 to finalize this project.

Our ongoing investment in the replacement and renewal of aging watermains continued as well. We replaced 22,300 feet of watermain during nine improvement projects and completed a watermain renewal project consisting of an additional 9,850 feet. The renewal work involves relining aging cast iron watermains via a process that minimizes the excavation footprint required. This renewal project received a 2022 Project of the Year award from the Central New York Branch of the American Public Works Association.

In addition to our watermain replacement and relining projects, and in cooperation with our municipal partners, we added four town district projects at the end of 2021 and during 2022 in Hastings, Granby, Sullivan, and Lenox/Lincoln. Those projects included over 50 miles of new water infrastructure and the potential to add over 1,200 new customers.

Our ongoing annual capital reinvestment program also continued to replace numerous hydrants and water services, and made further improvements to tanks, pump stations, and pressure control facilities.

Our Otisco Lake Water Treatment Plant ("Otisco WTP") continued to maintain its Phase III certification under USEPA's Partnership for Safe Water optimization program, and in 2022 the plant received this certification for the 25th straight year, evidencing compliance with this voluntary program. Also in 2022, our Lake Ontario Water Treatment Plant received the USEPA Partnership for Safe Water Phase IV President's Award. It should be noted that the Partnership program supports the Authority and other water utilities in voluntary efforts to achieve greater control and removal of microbial impurities. Our Otisco WTP was the eighth in the nation to be certified under this program. Both treatment plants serve as an example of how OCWA sets and meets higher standards for water quality than is required by state and federal government mandates.

To learn more about our water system and water supply, you are urged to read the information included in this report. Readers that have questions regarding the report or require additional information can contact our Water Quality Manager, Lisa Yesensky, by calling 315-455-7061, extension 3157.

OCWA 2022 CONSUMER CONFIDENCE REPORT

PWS ID # NY 3304336

OCWA is a public benefit corporation created by the New York State Legislature in 1951 (and began operating in 1955) in accordance with the Public Authorities Law of the State of New York. The Authority was created to finance, construct, operate, and maintain a water supply and distribution system for the benefit of residents in and around Onondaga County. We are currently one of the 125 largest public drinking water suppliers in the United States.

The Distribution System map (found on Page 4) shows the typical service area for each of our three water sources. We serve water to residents in five counties. Wholesale and retail areas are included in the distribution system. In the retail areas, we supply the water, maintain the distribution system, and bill customers directly. In the wholesale areas, a municipality or water district buys some or all its water from us.

Wholesale systems maintain their own distribution and customer billing systems. Some key facts about our operation can be found in the OCWA Statistics table below:

OCWA Statistics:

2022:

Average Daily System Delivery	36.12 Million Gallons
Maximum Daily System Delivery (07/21/22)	46.50 Million Gallons
Total Annual Water Treated by OCWA	12.79 Billion Gallons
Annual Non-revenue Water	1.91 Billion Gallons
Purchased Water from City of Syracuse	0.38 Billion Gallons
Total Water Sold by OCWA	11.26 Billion Gallons

As of December 31, 2022:

Population Served	500,000 Retail, Wholesale, & Emergency
Accounts	105,836
Miles of Water Main	2,213
Number of Hydrants	14,084
Storage Facilities	63
Pumping Facilities	48

The residential user charge is based on a quarterly base system fee plus a usage rate for water used. In 2022, residential users were billed $38.85 for the quarterly base system fee, plus $3.11 per 1,000 gallons for the first 10,000 gallons used. A detailed description and charges for other customers can be found on our website.

For a more detailed explanation of water sources and the treatment processes employed by OCWA and our one wholesale water provider (City of Syracuse Water Department), please see pages 5 and 6.

For questions about this report, or questions in general related to your water or water supply, a list of phone numbers and contacts can be found on Page 27 of this report.

Quality - How do you know your water is safe?

Drinking water, including bottled 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. Under the Safe Drinking Water Act ("SDWA"), the United States Environmental Protection Agency ("USEPA") sets national limits on contaminant levels to ensure the safety of your drinking water. These limits are known as Maximum Contaminant Levels ("MCLs"). For some contaminants, the monitoring techniques may be unreliable, too expensive, or too difficult to perform. In these cases, the USEPA establishes treatment technique requirements instead of an MCL. If it cannot be determined that a contaminant is absent, systems operate as if it is present and provide the treatment necessary to produce safe drinking water. USEPA regulations also specify testing and reporting requirements for each contaminant. Something every regulation has in common is a requirement to notify the public if there is a regulation violation. If a regulation is violated the supplier is required to inform the consumers being served by the system. USEPA also requires water suppliers to monitor unregulated contaminants to provide occurrence data for future regulations.

USEPA has established regulations for 88 individual contaminants. These include: 8 microbiological contaminants, 4 radionuclides, 16 inorganic chemicals, 53 organic chemicals, 3 disinfectants, and 4 disinfection byproducts. The SDWA requires USEPA to review and revise each regulation on a regular basis. For example, the MCL for trihalomethanes was lowered from 100 to 80 ug/L (parts per billion) as part of a review completed in 1997. The 1996 reauthorization of the SDWA also requires the USEPA to consider at least 5 new contaminants for regulation every 5 years.

In New York, the New York State Department of Health ("NYSDOH") is responsible for enforcing USEPA regulations. New York State has the option to implement alternative regulations when the alternative is equivalent to or more stringent than USEPA's regulation. In Onondaga County, due to the strength of the local unit, the State Health Department has delegated its primary enforcement and surveillance activities to the Onondaga County Health Department. The County Health Department reviews and approves all treatment plant and distribution system modifications, as well as new construction. It also reviews all our operating and monitoring data for compliance each month. We take a similar, cooperative approach with the Health Departments in Oswego, Oneida, Madison, and Cayuga counties.

We use a combination of internal and external laboratories to conduct over 20,500 tests during a typical year. We operate three state certified testing laboratories: one at our Otisco Water Treatment Plant ("Otisco WTP"), one at our Ontario Water Treatment Plant ("Ontario WTP"), and one at our headquarters building in North Syracuse. We also utilize several outside certified testing laboratories, including PACE Analytical, Life Science Laboratories, Eurofins Eaton Analytical, Analytical Services Inc., and Upstate Freshwater Institute.

Our raw water monitoring programs are specifically designed to address concerns about Otisco Lake and Lake Ontario as they serve as our main sources of supply. In both lakes, raw water intakes extend from a mile to a mile and a half out into the lakes in order to minimize the effects of near shore currents and run-off. Lab results consistently confirm that levels of organic compounds and heavy metals do not exceed the applicable MCLs. General unfiltered water quality remains high for both Otisco Lake and Lake Ontario. Both sources are monitored more frequently, and for a wider range of compounds, than required by state and federal law.

A water quality summary is provided for each of our water sources in the tables included in the appendix found at the end of this report. More detailed information can be obtained by calling our Water Quality Department at 315-455-7061 ext. 3157.

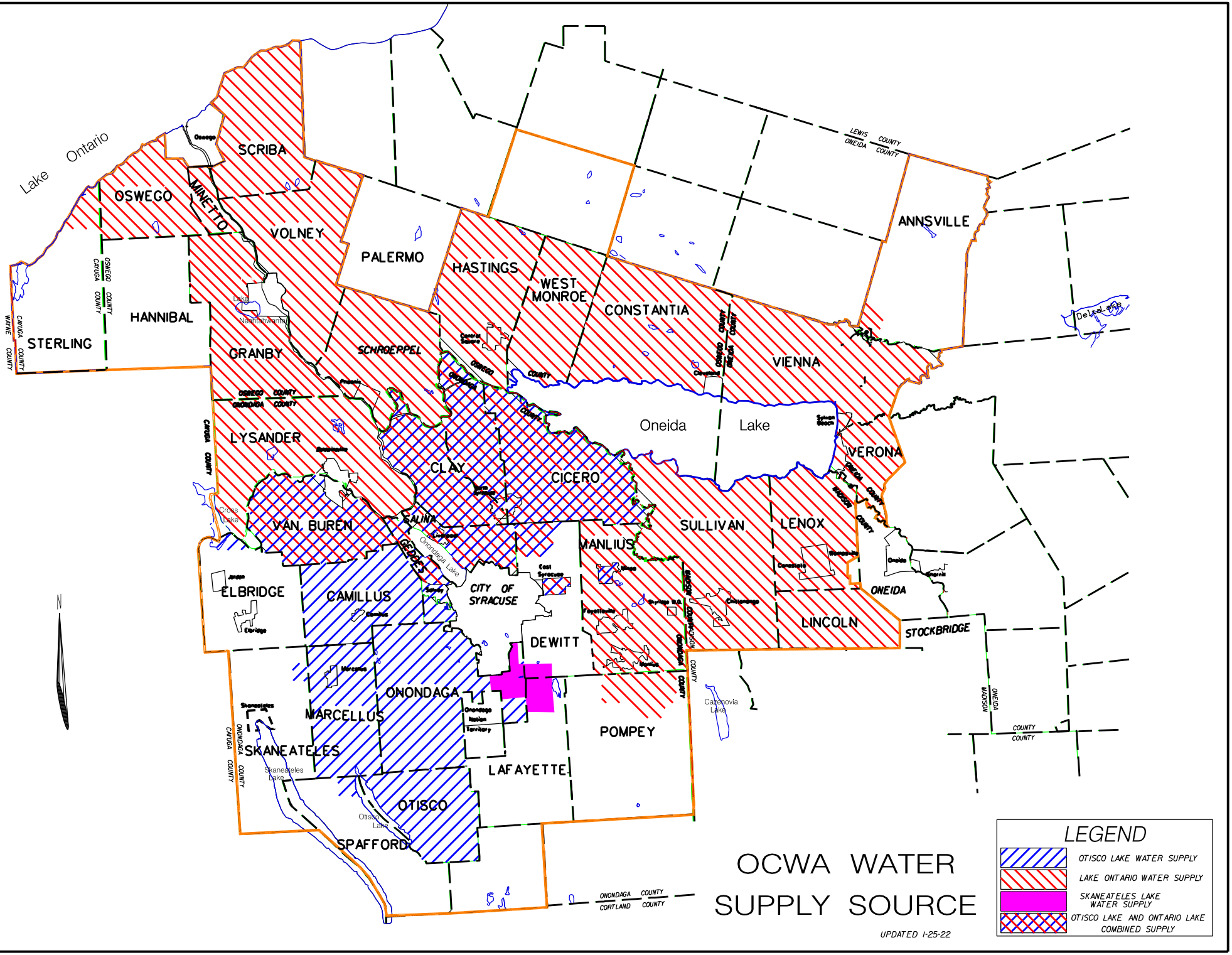
Additional information on contaminants and potential health effects can be obtained by calling USEPA's "Safe Drinking Water Hotline" at 1-800-426-4791.

WATER SOURCES

FOR TOWNS & VILLAGES SERVED

COUNTY:	TOWNS / CITIES:	WATER SOURCE:	VILLAGES:	WATER SOURCE:
ONONDAGA:	CAMILLUS	OTISCO	BALDWINSVILLE	ONTARIO***
	CICERO	OTISCO / ONTARIO	CAMILLUS	OTISCO
	CLAY	OTISCO / ONTARIO	E. SYRACUSE	OTISCO/ONTARIO
	DEWITT	OTISCO / ONTARIO / SKANEATELES	FAYETTEVILLE	ONTARIO
	ELBRIDGE	OTISCO	LIVERPOOL	OTISCO/ONTARIO
	GEDDES	OTISCO / ONTARIO / SKANEATELES	MANLIUS	ONTARIO
	LAFAYETTE	SKANEATELES	MARCELLUS	OTISCO
	LYSANDER	ONTARIO	MINOA	OTISCO/ONTARIO
	MANLIUS	ONTARIO / SKYRIDGE WELLS	N. SYRACUSE	OTISCO/ONTARIO
	MARCELLUS	OTISCO	SOLVAY	OTISCO
	ONONDAGA	OTISCO / SKANEATELES		
	OTISCO	OTISCO		
	POMPEY	ONTARIO		
	SALINA	OTISCO / ONTARIO		
	SKANEATELES	OTISCO		
	SPAFFORD	OTISCO		
	SYRACUSE	OTISCO / ONTARIO***		
	VAN BUREN	OTISCO / ONTARIO		
MADISON:	LENOX	ONTARIO	CANASTOTA	ONTARIO
	LINCOLN	ONTARIO		
	SULLIVAN	ONTARIO	CHITTENANGO	ONTARIO
	ONEIDA (City)	ONTARIO ***		
ONEIDA:	VERONA	ONTARIO	SYLVAN BEACH	ONTARIO
	VIENNA	ONTARIO		
	ANNSVILLE	ONTARIO		
OSWEGO:	FULTON	ONTARIO ***	CENTRAL SQUARE	ONTARIO
	GRANBY	ONTARIO	PHOENIX	ONTARIO
	CONSTANTIA	ONTARIO		
	HANINBAL	ONTARIO		
	HASTINGS	ONTARIO		
	OSWEGO (Town)	ONTARIO		
	OSWEGO (City)	ONTARIO***		
	SCHROEPPEL	ONTARIO		
	WEST MONROE	ONTARIO		
	VOLNEY	ONTARIO		
	MINETTO	ONTARIO		
	SCRIBA	ONTARIO ***		
CAYUGA:	STERLING	ONTARIO		

*** ***Emergency Connection Only***


Lake Ontario
SCRIBA
OSWEGO
MINETTO
VOLNEY
PALERMO
HASTINGS
WEST MONROE
CONSTANTIA
ANNSVILLE
HANNIBAL
STERLING
GRANBY
SCHROEPPEL
VIENNA
Oneida Lake
LYSANDER
CLAY
CICERO
VERONA
VAN BUREN
SULLIVAN
LENOX
MANLIUS
ELBRIDGE
CAMILLUS
CITY OF SYRACUSE
ONEIDA
LINCOLN
STOCKBRIDGE
DEWITT
ONONDAGA
MARCELLUS
POMPEY
SKANEATELES
LAFAYETTE
OTISCO
SPAFFORD
OCWA WATER SUPPLY SOURCE
UPDATED 1-25-22
LEGEND
OTISCO LAKE WATER SUPPLY
LAKE ONTARIO WATER SUPPLY
SKANEATELES LAKE WATER SUPPLY
OTISCO LAKE AND ONTARIO LAKE COMBINED SUPPLY

Water Sources and Treatment

Our customers receive water that originates from Otisco Lake, Lake Ontario, and/or Skaneateles Lake depending on their geographic location and changes in seasonal demand. In 2022, we supplied on average 36.12 million gallons per day to approximately 97,300 residential accounts located in suburban Onondaga County, and parts of Madison, Oneida, Oswego, and Cayuga counties. We also supply water daily to 49 industrial customers and four municipal wholesale water accounts. In addition, we supply water on an intermittent or emergency basis to seven additional municipal water systems.

In 2022, on average 17.05 million gallons per day, or 47.2% of OCWA's water supply came from Otisco Lake, the easternmost and smallest Finger Lake. The customers receiving water originating from Otisco Lake are mostly located in the southern and western half of Onondaga County.

Our Otisco WTP has two intake pipes located in Otisco Lake. The water entering these pipes is immediately disinfected with either sodium hypochlorite or chlorine dioxide to discourage the growth of zebra mussels. The water then travels, by gravity, approximately five miles to our Otisco WTP located in Marcellus, NY. Water first enters the rapid mix tank where a coagulant (polyaluminum chloride) is added. After 30 seconds of mixing, the water enters the contact basins where the calm conditions allow the coagulant to make the small particles adhere together, forming larger particles. Some of these particles settle and are cleaned out later. The contact time in these basins also allows the powdered activated carbon (used only when needed) to adsorb organic taste and odor. After about one hour of contact time, the water next enters the filters. Particles are removed as the water passes through one of six multimedia filters. These filters consist of granular activated carbon, silica-sand, and hi-density sand. The filters are washed when needed and the water used to do this is collected in lagoons and allowed to settle. It is then recycled back to the start of the treatment plant to be treated again. After filtration, the water is again disinfected with sodium hypochlorite and fluoride is added. The water is stored in large tanks located at the treatment plant to provide adequate contact time for the chlorine to work. Once the water leaves the tanks, orthophosphate is added for corrosion control, or to prevent the leaching of lead and copper from pipes into your water.

We also treat and deliver water from Lake Ontario via the Ontario WTP. In 2022, on average 18.00 million gallons per day, or 49.9% of our water supply, came from Lake Ontario. Customers receiving water originating from Lake Ontario are mostly located in the northern and eastern half of Onondaga County. Customers in Madison, Oneida, Oswego, and Cayuga counties receive all their water from Lake Ontario.

Our Ontario WTP pumps water from Lake Ontario through an eight-foot diameter intake it shares with the City of Oswego. Upon entering the raw water pumping station, lake water is treated with carbon dioxide to suppress pH thereby increasing the effectiveness of chemical coagulation. Potassium permanganate is applied seasonally to the water for taste and odor control and to discourage the growth of zebra mussels. The water is then pumped approximately two miles to our Ontario WTP. Water entering the plant is treated with sodium hypochlorite (disinfectant) and polyaluminum chloride (coagulant) and then flash mixed. The water next enters three contact basins where slow mixing allows small particles to accumulate and form larger, more readily filtered particles. After about two hours of contact time, the water flows into dual media filters consisting of granular activated carbon and filter sand whereby particulate contaminants are removed. After filtration, three treatments are applied: fluoride to reduce tooth decay, sodium hypochlorite to disinfect, and sodium hydroxide for corrosion control.

The City of Syracuse Water Department is responsible for treating and delivering water originating from Skaneateles Lake. In 2022, on average 1.06 million gallons per day or 2.9% of our water supply, came from Skaneateles Lake. The water was purchased from the City of Syracuse Water Department through various supply connections. We use this water to supplement areas close to the city boundary when needed. Our customers living in Nedrow, Southwood, and the Jamesville area get their water from Skaneateles Lake exclusively.

The City of Syracuse does not filter the water from its intakes located in Skaneateles Lake because it has been granted a waiver to provide its customers with unfiltered water, subject to strict conditions set by the NYSDOH. These conditions include water quality monitoring, backup disinfection, and watershed protection. The City of Syracuse water plant, located in the Village of Skaneateles, is where the water is disinfected with chlorine and fluoride is added. Water then flows by gravity into the City's storage reservoirs. Orthophosphate is added to the water (for corrosion control) as it leaves the reservoirs, and it is disinfected again by the addition of sodium hypochlorite. In 2013, an Ultraviolet Light Treatment Facility was put into operation at Westcott Reservoir. Another UV Light Treatment Facility at Woodland Reservoir was added in April 2014. Ultraviolet disinfection allows the city to strengthen protection against microbial contaminants, especially targeting cryptosporidium.

The first step in water treatment is to protect the source. At OCWA, we have ongoing watershed protection programs in place. These programs are carried out in cooperation with the State and Onondaga County Departments of Health. In addition, we monitor lake conditions at regular intervals prior to treatment. The City of Syracuse also has ongoing water protection programs, and it monitors lake conditions at regular intervals prior to treatment.

The NYSDOH completes Source Water Assessments to better recognize potential sources of contaminants for every water source used throughout the State. This assessment, as it relates to OCWA, can be found in this report under the heading **SWAP Summary for OCWA** on Page 7.

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 waters are microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. To ensure that water is safe to drink, NYSDOH and USEPA prescribe regulations which limit the level of certain contaminants in water provided by public water systems. The State Health Departments and the US Food and Drug Administration's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Source Water Assessment Program ("SWAP") Summary

NYSDOH has evaluated our susceptibility to contamination under the Source Water Assessment Program ("SWAP"), and the agency's findings are summarized in the paragraphs below. It is important to stress that these assessments were created using the information available and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur. We provide treatment and regular monitoring to ensure that the drinking water we deliver to consumers meets all applicable standards.

Otisco Lake Source:

This assessment found a moderate susceptibility to contamination of our Otisco Lake source of drinking water. The amount of row crops in the assessment area results in a medium susceptibility to pesticides. Importantly, no permitted discharges are found in the assessment area.

There is also susceptibility of contamination of phosphorus associated with one discrete contaminant source, mines. While lakes are not generally considered to have a high natural sensitivity to phosphorus in SWAP, Otisco Lake can have problems with algae. Therefore, additional phosphorus contribution would likely result in further water quality degradation.

Lake Ontario Source:

The Great Lakes' watershed is exceptionally large and too big for a detailed SWAP evaluation. General drinking water concerns for public water supplies from a large source can include storm generated turbidity, wastewater, toxic sediments, shipping related spills, and problems associated with exotic species (e.g., zebra mussels). The summary below is based on the analysis of the contaminant inventory compiled for the drainage area deemed most likely to impact drinking water quality at this public water system intake.

According to the assessment, there is a moderate susceptibility to contamination in this source of drinking water.

The number of agricultural lands in the assessment area results in elevated potential for pesticides contamination. Non-sanitary wastes may also increase contamination potential. Furthermore, there is a noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include mines.

Skaneateles Lake Source (water purchased from the City of Syracuse):

According to the assessment, there is a moderate susceptibility to contamination in this source of drinking water. The amount of pasture in the assessment area results in a high potential for protozoa contamination. No permitted discharges are found in the assessment area. There are no likely contamination threats associated with other discrete contaminant sources, even though some facilities were found in low densities.

Frequently Asked Questions

Does my water contain fluoride?

Yes, OCWA water is fluoridated to a target concentration of 0.7 mg/l.
OCWA is required to fluoridate by the Onondaga County Health Department, and we strive to stay within one tenth of 0.7 mg/l.

What is the pH of my water?

Our water's pH is 7.1 to 8.7, which is slightly basic.
Alkalinity varies by the source and ranges from 95 mg/l to 140 mg/l (CaCO3)

Is my water hard or soft?

The hardness of our water ranges from 115 to 190 ppm. That is equal to about 6 to 11 grains per gallon, which is considered moderately hard. Hardness is a measurement of calcium carbonate in the water and is not a health concern.

Will having a water softener installed improve the water quality in my home?

No, softening does not improve the sanitary quality of water. Softeners mostly remove calcium carbonate. They will stop 'spotting' or 'scaling' which may occur on certain surfaces, and under certain conditions, when water puddles or droplets are allowed to evaporate. Water softeners may increase water usage because it takes more soft water to rinse away soap. Softening is ultimately a matter of personal preference.

What can I do about dirty or rusty water?

Water that is dirty or rusty can be caused by changes in flow inside the pipes. Usually, this is due to a sudden increase in flow, but also can be due to a change of direction. Leaks, hydrant usage, or changes in valve positioning can rile things up and cause these problems. If the problem doesn't clear up in a short period of time, call us and we will try to help. We will investigate and attempt to correct the cause of the problem, including by flushing our piping if necessary. You may also then be instructed to flush the piping in your own home.

What about taste or odor problems?

Algae most commonly causes tastes and odors that may be classified as: earthy, musty, grassy, or fishy. At our Otisco and Ontario WTPs, water is filtered through granular activated carbon. At times, powdered activated carbon is also added to adsorb the offensive tastes and odors, and then the carbon and algae are both are filtered out. Algae blooms are common in the warm and sunny months and the carbon dosage is always being monitored and adjusted. Occasionally, some tastes and odors do get through. Customer complaints about taste and odor are taken very seriously. Tastes and odors originating from algae have no adverse health effects.

What about chlorine taste and odor?

Chlorine dissipates as it travels through a pipeline. In order to ensure that customers living far from a treatment plant get water that is adequately disinfected, the dosage of chlorine received by customers living close to the plant is slightly higher. We try to accommodate everyone, but in the case of a person very sensitive to chlorine living very close to a treatment facility, this may not be possible. Chlorine can be reduced simply by letting a pitcher of water stand overnight in the refrigerator or by running water through an activated carbon filter. Activated carbon filters, if used, need to be replaced regularly as old filters may promote bacterial growth.

Why does my water look cloudy/white?

Cloudy and/or white water is generally due to excess air in the lines. Flushing cold water tap will often resolve this issue. Air in the lines does not present a health or safety issue.

Cryptosporidium and Giardia:

New York State law requires water suppliers to notify their customers about the risks of cryptosporidium and giardia, which are intestinal illnesses caused by these microscopic parasites. These pathogens are of concern because they are found in surface water and ground water under the influence of surface water throughout the United States. Filtration and disinfection are the best methods for use against these pathogens, but 100% removal or inactivation cannot be guaranteed. Symptoms of infection from cryptosporidium and giardia include nausea, diarrhea, and cramps. Most healthy people can overcome the disease within a few weeks.

In 2022, Otisco, Ontario, and Skaneateles lakes were tested for cryptosporidium and giardia as part of routine monitoring conducted by OCWA and the City of Syracuse Water Department. Additionally, our Otisco WTP tested its recycled wash water, which is water that is reclaimed after filter backwashing (cleaning) and returned to the treatment plant influent stream for retreatment.

We collected a total of six samples from our Otisco WTP and tested them for cryptosporidium and giardia. In January and February, two samples each were collected from the raw (untreated) water, the entry point (treated) water, and the recycled water. Neither giardia nor cryptosporidium were detected in any of the water samples originating from Otisco Lake.

In addition, we collected a total of two samples from our Ontario WTP (one at raw water and one at entry point) and tested these for cryptosporidium and giardia Neither cryptosporidium nor giardia were detected in either water sample originating from Lake Ontario.

The City of Syracuse Water Department collected a total of 24 samples from Skaneateles Lake (one each month from each of the two intakes) and tested them for cryptosporidium and giardia. Neither cryptosporidium nor giardia were detected in any of the City of Syracuse's raw water samples.

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 people, and infants can be particularly at risk from infections. These individuals should seek advice from their health care provider about their drinking water. USEPA/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).

Individuals who think they may have cryptosporidiosis or giardiasis should contact their health care provider immediately. For additional information on cryptosporidiosis or giardiasis you may contact the Onondaga County Health Department at 421 Montgomery St., 12th Floor, Syracuse, NY 13202 or by calling 315-435-6600.

Importantly, the same degree of caution applied to your tap water source should be used in selecting a bottled water supplier. To that end, a list of certified bottled waters for sale in New York (along with their sources) can be obtained from NYSDOH by calling 1-800-458-1158.

USEPA's Surface Water Treatment Rule (“SWTR”) established water treatment standards specifically designed to ensure the removal or deactivation of cryptosporidium, giardia, and other microbial contaminants. USEPA is currently working on enhancing these standards to further ensure protection against exposure to cryptosporidium from drinking water. Our Otisco and Ontario WTPs are in full compliance with all current operational, monitoring, and reporting requirements.

In addition, our internal performance standards are more stringent than the law currently requires. For example, the SWTR requires a treatment plant's combined filter effluent water turbidity (a measure of clarity used to check filtration particulate removal) to be less than 0.30 NTUs 95% of the time. In 2022, our Otisco WTP’s combined filter effluent turbidity was less than 0.07 NTUs 95% of the time based on continuous four-hour sampling intervals. Our Ontario WTP’s combined filter effluent turbidity in 2022 averaged less than 0.08 NTUs 95% of the time, again based on four-hour sampling intervals. Cryptosporidium regulations contain improved filtration performance requirements to ensure removal of any protozoans that may be present. Part of the enhanced filtration requirements involve lowering the turbidity criteria from 0.50 NTU to the 0.30 NTU range. Both of our treatment plants are achieving turbidity results much lower than the regulated levels.

Pharmaceuticals and Personal Care Products in Drinking Water

In 2008, the Associated Press released a three-part story on pharmaceuticals and personal care products in drinking water sources. While OCWA was not one of the systems covered by the story, the article did provoke further discussion and action internally. Accordingly, in 2008 we implemented an annual testing program to learn more about potential pharmaceutical and personal care product contaminants that might be found in our Otisco Lake and Lake Ontario water supplies.

While none of us want to find any contaminants in our drinking water, it is important to begin the process of gathering occurrence data to allow researchers to target the more commonly found contaminants. As such, we have continued to collect data related to pharmaceuticals and personal care products in water and have continued our process of sharing the data with both researchers and consumers.

To learn more about the test results and related information, you can visit our web site (www.ocwa.org). Click on the Water Quality tab across the top of the page and scroll down to the Pharmaceuticals and Personal Care Products in Drinking Water. Anyone who has questions about the results, or any of the other water quality reports posted on our web site, is encouraged to contact our Water Quality Department at 315-455-7061, extension 3157.

Medication disposal: *To help safeguard water quality, discard your medications in the trash, rather than dumping down sink or toilet. For more information on proper disposal and drop-off locations for pharmaceuticals, please visit: https://www.dec.ny.gov/chemical/67720.html.*

General Information related to Pharmaceuticals and Other Emerging Contaminants

Pharmaceuticals and personal care products, known in the water industry as PPCPs, are a group of compounds consisting of human and veterinary drugs (prescription or over the counter) and consumer products, such as fragrances, lotions, sunscreen, and housecleaning products. These compounds have been detected in trace amounts in surface water, drinking water and wastewater effluent sampling because water professionals have the technology today to detect more substances, at lower levels, than ever before.

Many PPCP compounds are being found at extremely low levels, typically single digit parts per trillion (ppt). Drinking-water standards are typically set in the parts per-billion range, which is 1,000 times higher. The fact that a substance is detectable in drinking water does not mean the substance is harmful to humans.

However, the water community is committed to protecting the public's health. Water professionals are examining the occurrence of PPCPs in drinking-water supplies and the effectiveness of current treatment techniques for removal. They are also paying close attention to health-effects research in this area, including research being conducted by the Water Research Foundation.

USEPA and New York State consider certain so-called emerging contaminants such as per- and polyfluoroalkyl substances (PFA's) and 1,4-dioxane to be important environmental contaminants. These contaminants are a group of man-made compounds which persist in the environment. Some of these compounds were included in the Unregulated Contaminant Monitoring Rule 3 Sampling back in 2014-2015. As a result, regulations for these compounds are now in effect. See page 21 for recent monitoring results.

Additionally, every five years the USEPA implements the Unregulated Contaminant Monitoring Rule (UCMR). The purpose of the UCMR is to collect data from across the country on emerging contaminants that may be present in drinking water and could potentially cause health risks. As a result of past monitoring, regulations for some of these compounds are now in effect. See page 21 for recent monitoring results.

Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are 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 two 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 or at *http://www.USEPA.gov/safewater/lead.*

Additional Facts on Lead

Lead is a naturally occurring metal that for most of the 20th century was used regularly as a component of paint, piping (including water service lines), solder (a metal used by plumbers to hold piping together), brass, and until the 1980s, as a gasoline additive. We no longer use lead in many of these products, but older products – such as paints and plumbing fixtures in older houses – can still contain lead. USEPA and the U.S. Centers for Disease Control (CDC) report that lead paint (and the contaminated dust and soil it generates) is the leading source of lead exposure in older housing.

While lead is rarely present in water coming from a treatment plant, it can enter tap water through corrosion of some plumbing materials. In recent years, several aggressive and successful steps have been taken to reduce the occurrence of lead in drinking water.

In 1986, Congress amended the national Safe Drinking Water Act to prohibit the use of pipe, solder, or flux containing high lead levels. The Lead Contamination Control Act of 1988 led schools and day-care centers to repair or remove water coolers with lead-lined tanks. USEPA provided guidance to inform and facilitate their action.

As the result of the implementation of the Lead and Copper Rule in 1991, many community drinking water systems are required to actively manage the corrosivity of water distributed to customers. In addition, community water systems conduct routine monitoring at selected houses with lead service lines and lead solder. If more than 10 percent of the homes tested have elevated lead levels (defined as more than 15 parts per billion), water providers must notify their consumers via several means. They must also take steps to reduce the problem, including improving corrosion control and possibly replacing lead service lines that contribute to lead contamination.

In December 2021, USEPA announced the development of a new regulation, the Lead and Copper Rule Improvements (“LCRI”), to better protect communities from exposure to lead in drinking water. They have mandated a compliance date of October 16, 2024, by which all public water utilities must have Lead Service Line Inventories made available for consumers and have plans in place for removing all lead service lines.

You can’t see, smell, or taste lead in your water. ***Testing at the tap is the only way to measure the lead levels in your home or workplace.*** If you choose to have your tap water tested, be sure to use a properly certified laboratory. Testing usually costs between $20 and $100. If you currently have a lead service line, we are willing to provide a free, one-time test after inspecting and confirming that the service line is lead. Please contact our Water Quality Manager at 315-455-7061 extension 3157 for more information.

Table of Detected Contaminants

Lead & Copper in the Distribution System

Contaminant	Sample Source	Violation Yes/No	Date(s) of Sampling	Average Level found (Range)	90th Percentile Value	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Copper	OCWA Distribution System	No	Jun-Aug 2022	0.0794 (<0.002-0.631)	0.215	mg/L	0	AL = 1.3*	Corrosion of household plumbing systems; Erosion of natural deposits. Leaching from wood preservatives.
Lead	OCWA Distribution System	No	Jun-Aug 2022	4.1 (< 1.0 - 126.0)	6.4	µg/L	0	AL = 15*	Corrosion of household plumbing systems; Erosion of natural deposits.

*AL (Action Level) – Only 10% of samples can exceed this level.

About Lead and Copper: To deter the leaching of lead and/or copper from our customers' pipes, OCWA has been mandated to implement corrosion control. The method of corrosion control used on waters originating from Otisco and Skaneateles lakes is the addition of orthophosphate. The adjustment of pH is the method used for water from Lake Ontario. OCWA is required to sample for lead and copper to make sure our corrosion controls are effective. The latest sampling period was June - August of 2022. OCWA will sample again in 2023.

90^{th} Percentile Values for Lead & Copper: The values reported for lead and copper represent the 90^{th} percentile. The 90^{th} percentile value is the concentration that 90% of the taps sampled were at or below. Since the action level for lead is 15 µg/l, 90% of the taps tested had to be at or below this value. The above chart shows that 90% of the taps tested were at or below 6.4 ug/l in June - August of 2022. The action level for copper is 1.3 mg/l. The observed 90th percentile for copper was 0.2150 mg/l. The above chart shows that that 90% of the taps tested were at or below this value. The testing showed that OCWA's methods of corrosion control were effective.

EDUCATIONAL INFORMATION ABOUT LEAD:

Lead can cause serious health problems, especially for pregnant wormen and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. OCWA is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing, and taking other steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact OCWA at 315-455-7061. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at *http://www.epa.gov/safewater/lead.*

Table of Detected Contaminants

Turbidity at Entry Point

Contaminant	Water Source	Violation Yes/ No	Sampling Frequency (date of highest reading)	Average Level (Range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Lowest % of Monthly tests meeting limit	Likely Source of Contamination
Turbidity	Otisco	No	Every 4 hrs (6/17/22)	0.06 (0.04 - 0.09)	NTU	N/A	TT = 0.3 NTU for systems that filter	100%	Soil run off
	Ontario	No	Every 4 hrs (8/25/22)	0.05 (0.02 - 0.09)	NTU	N/A	TT = 0.3 NTU for systems that filter	100%	
	Skaneateles	**Yes***	11/30/22 12/1/22	8.48 7.19	NTU	N/A	TT = 5.0 NTU for systems that do not filter	N/A	

About Turbidity:

Turbidity is a measure of the cloudiness of water. Turbidity is monitored because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. Treatment plants that filter also measure it because it is a good indicator of filter efficiency. Otisco Lake and Lake Ontario waters are filtered. As explained above, Skaneateles Lake water is not.

OCWA customers get their water from one of three sources. Water may originate from Otisco Lake, Lake Ontario, or Skaneateles Lake, which is treated by the Syracuse Water Department and sold to OCWA. Customers may also get a mixture of these waters.

Water purveyors are required to measure turbidity as water leaves the treatment facilities.

OCWA's highest single turbidity measurement during 2022 at the Otisco WTP occurred on 6/17/22 (0.09 Nephelometric Turbidity Unit ("NTU")). Our highest single turbidity measurement for the year at the Ontario WTP occurred on 8/25/22 (0.09 NTU). State regulations require that turbidity must always be less than or equal to 1.0 NTU and that 95% of the turbidity samples collected must be below 0.3 NTU. The levels recorded at both treatment plants were all below these regulatory standards.

***Treatment Technique/MCL Violation for Turbidity;** On November 30, 2022 and December 1, 2022, due to sustained southerly winds, the turbidity levels entering the City of Syracuse's Skaneateles Lake intake exceeded the maximum allowable standard of 5.0 NTU. Turbidity levels reached 8.48 & 7.19 NTU respectively, and triggered an MCL violation (2 day exeedance). Notification of this event was made to the public and to the Onondaga County Health Department.

Health Effects of Turbidity: Turbidity has no known health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may also indicate the presence of disease-causing organisms. These organisms can include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. See pages 10-11 on cryptosporidium.

Table of Detected Contaminants
Bacteria Found in the Distribution System

Contaminant	Sample Source	Violation Yes/ No	Date(s) of Sampling in 2022	Month with Highest % positive samples	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Total Coliform Bacteria*	OCWA Distribution System	No	approx. 80 per week	August 0.59 % (2 out of 358)	N/A	0	> 5 % Positive samples in any month	Naturally present in the environment

*****Whenever a positive sample for total coliform is found, the sample is further tested for the presence of E.coli, and three additional resamples are collected. OCWA regularly samples about 80 sites per week located throughout our distribution system. We test these sites for both bacteria and disinfectant residual to ensure our water is of a safe and sanitary quality.

Disinfectant & Disinfection By-products Found in the Distribution System

Contaminant	Sample Source	Violation Yes/ No	Date(s) of Sampling in 2022	Level found (Range)**	Units Measured	MCLG	Regulatory Limit (MCL, TT, AL, or MRDL)	Likely Source of Contamination
Chlorine Residual	OCWA Distribution System	No	approx. 70 per week	0.48 (ND - 2.20)	mg/l	N/A (MRDLG)	4 (MRDL)	Added to water to kill harmful bacteria and to prevent the regrowth of bacteria
Chlorite	OCWA Distribution System	No	Monthly; April to November	0.15 (< 0.01 - 0.25)	mg/l	N/A	1	By-product of drinking water disinfection at plant using chlorine dioxide.
Total Trihalo Methanes ***	OCWA Distribution System	No	Quarterly; Feb, May Aug, Dec	48.91 (16.0 - 77.0)	ug/l	N/A	80	By-product of drinking water chlorination. TTHMs form when source water contains large amounts of organic matter.
Haloacetic Acids****	OCWA Distribution System	No	Quarterly; Feb, May Aug, Dec	19.59 (6.6 - 36.4)	ug/l	N/A	60	By-product of drinking water chlorination.

Disinfection by-products: During disinfection, certain by-products form as a result of chlorine reacting with naturally occurring organic matter. The disinfection process is carefully monitored so that disinfection is effective, while levels of disinfection by-products are kept as low as possible. Total Trihalomethanes (TTHMs) and Haloacetic acids (HAAs) are classes of chemicals that OCWA is required to monitor in its distribution system.

**The reported "Level Found" for trihalomethanes and haloacetic acids is the highest recorded quarterly running annual average accross all of OCWA's disinfection by-product sampling locations
***See 'Terms & Abbreviations' for the listing of total trihalomethanes contaminants
****See 'Terms & Abbreviations' for the list of haloacetic acids contaminants

Table of Detected Contaminants

Inorganic Contaminants Found at Entry Point

Contaminant	Water Source	Violation Yes/ No	Date(s) of Sampling	Average Level found (Range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Aluminum	Otisco	No	Sept 2022	0.064	mg/l	N/A	N/A	Erosion of natural deposits; Industrial sources
	Ontario	No	Sept 2022	0.145	mg/l	N/A	N/A	
Barium	Otisco	No	Sept 2022	0.0348	mg/l	2	2	Erosion of natural deposits
	Ontario	No	Sept 2022	0.0211	mg/l	2	2	
	Skaneateles	No	May 2022	0.0227	mg/l	2	2	
Calcium	Otisco	No	Sept 2022	34.7	mg/l	N/A	N/A	Naturally occurring
	Ontario	No	Sept 2022	31.0	mg/l	N/A	N/A	
Chloride	Otisco	No	Sept 2022	7.73	mg/l	N/A	250	Naturally occurring; Road salts
	Ontario	No	Sept 2022	26.3	mg/l	N/A	250	
	Skaneateles	No	May & Nov 2022	23.2 (21.9 - 24.5)	mg/l	N/A	250	
Chlorite (1)	Otisco	No	Daily	0.24 (0.07 - 0.42)	mg/l	N/A	1	By-product of drinking water disinfection at plant using chlorine dioxide
Chlorine Dioxide Residual (1)	Otisco	No	Daily	< 10 (< 10 - 110)	ug/l	N/A	800 (MRDL)	By-product of drinking water disinfection at plant using chlorine dioxide
Chlorine Residual (Free)	Otisco	No	Every 4 hrs	0.96 (0.68 - 1.34)	mg/l	N/A	4 (MRDL)	Added to water to kill harmful bacteria and to prevent the regrowth of bacteria
	Ontario	No	Every 4 hrs	0.91 (0.72 - 1.22)	mg/l	N/A	4 (MRDL)	
	Skaneateles	No	Every 4 hrs	1.15 (0.37 -2.02)	mg/l	N/A	4 (MRDL)	

(1) **Chlorite and Chlorine Dioxide** were tested daily for 211 days in 2022. At the same time, OCWA added chlorine dioxide at Otisco's intake as a preoxidant in order to control zebra mussels, provide adequate disinfection, and limits the formation of undesirable disinfection by-products such as trihalomethanes and haloacetic acids. OCWA intends to add chlorine dioxide again during the warm water conditions in 2023.

Table of Detected Contaminants

Inorganic Contaminants Found at Entry Point

Contaminant	Water Source	Violation Yes/ No	Date(s) of Sampling	Average Level found (Range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Copper	Otisco	No	Sept 2022	0.0023	mg/l	N/A	AL = 1.3	Erosion of natural deposits
	Ontario	No	Sept 2022	0.0050	mg/l	N/A	AL = 1.3	
Fluoride (2)	Otisco	No	Daily	0.69 (0.59 - 0.78)	mg/l	N/A	2.2	Erosion of natural deposits; Water additive that promotes strong teeth; discharge from fertilizer
	Ontario	No	Daily	0.69 (0.47 - 0.77)	mg/l	N/A	2.2	
	Skaneateles	No	Daily	0.71 (0.10 - 0.99)	mg/l	N/A	2.2	
Magnesium	Otisco	No	Sept 2022	11.2	mg/l	N/A	N/A	Naturally occurring
	Ontario	No	Sept 2022	8.52	mg/l	N/A	N/A	
	Skaneateles	No	Nov 2022	7.73	mg/l	N/A	N/A	
Nickel	Otisco	No	Sept 2022	0.00054	mg/l	N/A	N/A	Erosion of natural deposits; Industrial sources
	Ontario	No	Sept 2022	0.00064	mg/l	N/A	N/A	

(2) Information on Fluoride Addition: OCWA is one of many drinking water systems that provide drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Center for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal dose of 0.7 mg/l. To ensure that the fluoride supplement in your water provides optimal dental protection, the NYS Health Department requires that we monitor fluoride levels on a daily basis. 2022 monitoring showed fluoride levels in your water were within 0.1mg/l of the optimal dose 99% of the time for Otisco Lake water and 98% of the time for Lake Ontario water.

Table of Detected Contaminants

Inorganic Contaminants Found at Entry Point

Contaminant	Water Source	Violation Yes/ No	Date(s) of Sampling	Average Level found (Range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Nitrate	Otisco	No	Sept 2022	0.37	mg/l	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits
	Ontario	No	Sept 2022	0.26	mg/l	10	10	
	Skaneateles	No	May 2022	0.45	mg/l	10	10	
Sodium (3)	Otisco	No	Sept 2022	22.9	mg/l	N/A	See Health Effects	Naturally occurring; Road salts; water softeners; animal wastes
	Ontario	No	Sept 2022	15.8	mg/l	N/A	See Health Effects	
	Skaneateles	No	May & Nov 2022	11.2 (10.7 - 11.7)	mg/l	N/A	See Health Effects	
Sulfate	Otisco	No	Sept 2022	11.2	mg/l	N/A	250	Naturally occurring
	Ontario	No	Sept 2022	7.73	mg/l	N/A	250	
	Skaneateles	No	May & Nov 2022	12.1 (12.0 - 12.2)	mg/l	N/A	250	
Odor	Otisco	No	Sept 2022	1	units	N/A	3	Organic or inorganic pollutants from municipal or industrial waste, natural sources

(3) Health Effects of Sodium: There is no maximum contaminant level (MCL) for sodium. However, 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 diets.

Table of Detected Contaminants

Radionuclides Found at Entry Point

Contaminant	Water Source	Violation Yes/ No	Composite of quarterly sampling	Level found	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Alpha Emitters	Otisco	No	Feb,May, Aug, Nov. 2017	0.62	pCi/l	0	15	Erosion of natural deposits
Beta Emitters	Otisco	No	Feb,May, Aug, Nov. 2017	0.85	pCi/l	0	50	Decay of natural deposits and man made emmissions
	Ontario	No	Feb,May, Aug, Nov. 2022	1.68	pCi/l	0	50	
Radium- 226	Otisco	No	Feb,May, Aug, Nov. 2017	0.47	pCi/l	0	5	Erosion of natural deposits
	Ontario	No	Feb,May, Aug, Nov. 2022	0.197	pCi/l	0	5	
Radium- 228	Otisco	No	Feb,May, Aug, Nov. 2017	0.08	pCi/l	0	5	Erosion of natural deposits
	Ontario	No	Feb,May, Aug, Nov. 2022	0.161	pCi/l	0	5	
Total Uranium	Otisco	No	Feb,May, Aug, Nov. 2017	0.30	ug/l	N/A	30	Erosion of natural deposits
	Ontario	No	Feb,May, Aug, Nov. 2022	0.364	ug/l	N/A	30	

Organic Contaminants Found at Entry Point

Contaminant	Water Source	Violation Yes/ No	Date(s) of Sampling	Average Level found (Range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Dissolved Organic Carbon	Otisco	No	Monthly 2022	2.0 (1.2 - 2.4)	mg/l	N/A	N/A	Naturally occurring.
	Ontario	No	Monthly 2022	1.7 (1.3 - 2.4)	mg/l	N/A	N/A	
Total Organic Carbon	Otisco	No	Monthly 2022	1.8 (1.3- 2.1)	mg/l	N/A	N/A	Naturally occurring.
	Ontario	No	Monthly 2022	1.6 (1.3- 2.6)	mg/l	N/A	N/A	

Table of Detected Contaminants

Per- and Poly-fluoroalkyl Substances (PFOA & PFOS) found at Entry Point

Contaminant	Water Source	Date(s) of Sampling	Average Level found (Range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Perfluorooctanoic acid (PFOA)	Ontario Entry Point	Monthly 2022	1.10 (ND - 2.0)	ng/L	N/A	10	Non-stick coatings, stain repellants, and firefighting foam
Perfluorooctane sulfonate (PFOS)	Ontario Entry Point	Monthly 2022	1.75 (ND - 2.4)	ng/L	N/A	10	Non-stick coatings, stain repellants, and firefighting foam
Perfluorobutanoic acid (PFBA)	Ontario Entry Point	December 2022	2.9	ng/L	N/A	N/A	Non-stick coatings, stain repellants, and firefighting foam
	Otisco Entry Point	December 2022	2.0	ng/L	N/A	N/A	Non-stick coatings, stain repellants, and firefighting foam

Per- and poly- fluoroalkyl substances (PFAs) are a group of man-made chemicals that are persistant in the environment. PFAs can be found in products such as stain repellant fabrics, Teflon, polishes, waxes, paints, cleaning products and fire fighting foams. Many PFAs are no longer manufactured in the United States but may still be produced internationally and imported to the United States.

OCWA's Unregulated Contaminant Monitoring Rule 4 (UCMR4) Sampling

In 2019, OCWA was required to participate in UCMR4. OCWA was required to collect entry point samples from each of its water sources as well as various distribution points representative of all three sources. These samples were then analyzed for 30 unregulated contaminents including: ten cyanotoxin chemicals; two metals; eight pesticides and one pesticide manufacturing byproduct; three brominated haloacetic acid groups; three alcohols; three semivolatile chemicals.

Unregulated Contaminants Detected During Testing

Contaminant	Water Source	Date(s) of Sampling	Average Level found (Range)	Units Measured	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
Manganese	Otisco Entry Point	Feb, May, Aug, Nov 2019	2.04 (0.86 - 4.7)	ug/l	N/A	N/A	Naturally occurring element. Commercially available in combination with other elements and minerals. Used in steel production, fertilizer, batteries, and fireworks.
	Ontario Entry Point	Feb, May, Aug, Nov 2019	1.08 (ND - 2.7)	ug/l	N/A	N/A	
	Skaneateles Thurber St PS	Feb, May, Aug, Nov 2019	1.20 (.67 - 2.5)	ug/l	N/A	N/A	
HAA5	OCWA Distribution System	Feb, May, Aug, Nov 2019	20.04 (5.61-41.51)	ug/l	N/A	N/A	By-product of drinking water chlorination.
HAA6Br	OCWA Distribution System	Feb, May, Aug, Nov 2019	7.71 (3.23-12.22)	ug/l	N/A	N/A	By-product of drinking water chlorination.
HAA9	OCWA Distribution System	Feb, May, Aug, Nov 2019	27.06 (8.23-51.03)	ug/l	N/A	N/A	By-product of drinking water chlorination.

Unregulated Contaminants Not Detected During Testing

In 2019, the following contaminants were tested for as part of UCMR4 but not detected: germanium (metal); 1-butanol, 2-mehtoxyethanol, 2-Propen-1-ol (alcohols); butylated hydroxyanisole, o-toluidine, quinoline (semivolatiles); and alpha-hexachlorocyclohexane, chlorpyrifos, dimethipin, ethoprop, oxyfluorfen, profenofos,tebuconazole, total permethrin [cis- & trans-], and tribufos (pesticides); total microcystins, microcystin-LA, microcystin-LF, microcystin-LY, microcystin-RR, microcystin-YR, nodularian, anatoxin-a, and clyindrospermopsin (cyanotoxins).

Chromium 6 Health Information

Chromium is a common element in rocks, soil, water, plants, and animals. It gets into surface or groundwater after dissolving from rocks and soil. Chromium is used to manufacture steel, to electroplate metal, and in the textile, tanning, and leather industries. Contamination of drinking water may occur if chromium gets into surface or groundwater after improper waste disposal in landfills or by industrial or manufacturing facilities using chromium.

Chromium is found in the environment in two principal forms: chromium (III) and chromium (VI). Chromium (III) compounds are the most common chromium compounds in the environment. Chromium (VI) compounds are less common in the environment and are typically associated with an industrial source. Depending on the conditions, each form of chromium can be converted into the other form in the environment.

Chromium (VI) is the more toxic form of chromium. There is strong evidence from human studies in many countries that occupational exposures to chromium (VI) in the air can cause lung cancer. There is weaker evidence from studies in China that long-term exposure to chromium (VI) in drinking water can cause stomach cancer. Chromium (VI) causes cancer in laboratory animals exposed almost daily to high levels in the air (lung cancer) or drinking water (mouth and intestinal cancers) over their lifetimes. Adverse gastrointestinal-tract effects (oral ulcers, stomach or abdominal pain, diarrhea) other than cancer are also associated with long-term human exposures to oral doses of chromium (VI). In laboratory animals, repeated exposures to high oral doses of chromium (VI) have caused blood, liver, and kidney damage in adult animals, and can adversely affect the developing fetus and the male and female reproductive organs. Chemicals that cause cancer or other adverse health effects in people or laboratory animals exposed to high levels also may increase the risk of such effects in people exposed to lower levels over long periods.

Prepared by New York State Department of Health – Bureau of Toxic Substance Assessment, March 14, 2011.

Although we are not currently required to monitor for Chromium (VI), we have continued to monitor it after it was included in the Unregulated Contaminant Monitoring Rule 3 conducted in 2014-2015. Results for Chromium (VI) are found in the Table of Detected Contaminants – Inorganic Contaminants Found at Entry Point.

Contaminants Tested for but Not Detected

(Non-Detects Arranged By Source)

Synthetic Organic Contaminants
(Otisco, Ontario, Skaneateles)

Alachlor
Aldicarb
Aldicarb sulfone
Aldicarb sulfoxide
Aldrin
Atrazine
Benzo(a)pyrene
Butachlor
Carbaryl
Carbofuran
Chlorodane
Dalapon
Di(2-ethylhexyl)adipate
Di(2-ethylhexyl)phthalate
Dibromochloropropane
Dicamba
Dieldrin
Dinoseb
Endrin
Ethylene Dibromide
Glyphosate
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Lindane
Methomyl
Methoxychlor
Metolachlor
Metribuzan
Oxamyl vydate
Pentachlorophenol
Pichloram
Polychlorinatedbiphenyls
Propachlor
Simazine
Toxaphene
2,4 -D
2,4,5-TP (Silvex)
3-Hydroxycarbofuran
1,4-dioxane

Synthetic Organic Contaminants
(Otisco, Ontario)

Diquat
Endopthall
2,3,7,8-TCDD (Dioxin)

Radiological Contaminants
(Skaneateles)

Alpha Emitters (& Ontario)
Radium 226
Radium 228

Principal Organic Contaminants
(Otisco, Ontario, Skaneateles)

Benzene
Bromobenzene
Bromochloromethane
Bromoform
Bromomethane
N-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Chloromethane
2-Chlorotoluene
4-Chlorotoluene
Dibromomethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorofluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
1,3-Dichloropropane
2,2-Dichloropropane
1,1-Dichloropropene
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Ethylbenzene
Hexachlorobutadiene
Isopropylbenzene
p-Isopropyltoluene
Methylene Chloride
MTBE
n-Propylbenzene
Styrene
1,1,1,2-Tetrachloroethane
1,1,2,2,-Tetrachloroethane
Tetrachloroethene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,1,1,-Trichloroethane
1,1,2,-Trichloroethane
Trichloroethene
Trichlorofluoromethane
1,2,3,-Trichloropropane
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
Toluene (Otisco,Ontario)
Vinyl Chloride
o-Xylene
m & p-Xylene

Inorganic Contaminants
(Otisco, Ontario, Skaneatles)

Antimony
Arsenic
Beryllium
Cadmium
Chromium
Copper (Otisco)
Cyanide
Iron
Lead
Manganese (Ontario)
Mercury
Nitrite
Selenium
Silver
Thallium
Zinc

Physical Characteristics

Color (Otisco/Ontario/Skaneateles)
Odor (Ontario/Skaneateles)

Per & Poly-fluoroalkyl Contaminants
(Otisco, Ontario)

Perfluoropentanoic acid
Perfluorohexanoic acid
Perfluoroheptanoic acid
Perfluorooctanoic acid
Perfluorononaoic acid
Perfluorodecanoic acid
Perfluororoundecanoic acid
Perfluorodecanoic acid
Perfluorobutanesulfonic acid
Perfluoropentanesulfonic acid
Perfluororoundecanoic acid
Perfluorodecanoic acid (Ot
Perfluorobutanesulfonic acid
Perfluoropentanesulfonic acid
Perfluorohexanesulfonic acid
Perfluoroheptanesulfonic acid
Perfluorooctanesulfonic acid
Perfluoro(2-ethoxyethane)sulfonic acid
1H,1H,2H,2H-Perfluorohexane sulfonic acid
1H,1H,2H,2H-Perfluorooctane sulfonic acid
1H,1H,2H,2H-Perfluorodecane sulfonic acid
Hexafluoropropylene Oxide Dimer Acid
4,8-Dioxa-3H-perfluorononanoic acid
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid
Perfluoro-4-methoxybutanoic acid
Perfluoro-3-methoxypropanoic acid
Nonafluoro-3,6-dioxaheptanoic acid

The frequency that various contaminants are tested for is regulated by NYSDOH and can vary from source to source. NYSDOH allows for some contaminants to be tested for less than once a year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, is more than one year old. Some contaminants are monitored at the various sources more often than required.

Terms & Abbreviations

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

Chlorine Residual – the amount of chlorine in water available for disinfection.

Disinfection By-product (DBP) – chemical compounds that result from the addition of chlorine to water containing organic substances.

HAA (Haloacetic acids) – the combined concentration of the following five contaminants; Dibromo-, Dichloro-, Monobromo-, Monochloro-, and Trichloro –, acetic acids.

Inorganic Contaminant – chemical substances of mineral origin, such as hiron or manganese.

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

Maximum Contaminant Level Goal (MCLG) – the level of a contaminant in drinking water below which there is no known or expected risk to health; MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) – the highest level of a disinfectant allowed in drinking water; There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) – the level of a disinfectant in drinking water 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 contaminants.

mg/l – (milligrams per liter) corresponds to one part of liquid in one million parts of liquid (parts per million or **ppm**).

Microbiological Contaminant – very small organisms, such as bacteria.

N/A – not applicable.

ND – not detected at testing limits.

ng/l – (nanograms per liter) corresponds to one part of liquid in one trillion parts of liquid (parts per trillion or **ppt**).

NTU – Nephelometric Turbidity Unit - a measurement of particles in water.

Organics – substances containing the element carbon; These can be naturally occurring or man-made, and can include pesticides, solvents, and by-products of disinfection.

pCi/L – pico curies per liter; units of concentration of radioactive substances.

Radionuclides– contaminants giving off ionizing radiation.

TTHM – (Total Trihalomethanes) – the combined concentration of the following four contaminants; Bromodichloromethane, Bromoform, Chloroform, and Dibromochloromethane.

TON (Threshold Odor Number) – the greatest number dilutions of a sample with “odor-free” water yielding a perceptible odor.

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

ug/l – (micrograms per liter) corresponds to one part of liquid in one billion parts of liquid (parts per billion or **ppb**).

Conservation

Unlike many areas in the country, OCWA has access to adequate amounts of water that should meet both current and future needs. Otisco Lake can safely yield 25 million gallons of water per day. Lake Ontario is part of the Great Lakes which contain 20% of the world's fresh water. However, even with this abundance, water must be used wisely. It takes energy and resources to treat and deliver water to the consumer. On hot summer days demand can increase by as much as 67% over an average day's production. To promote the wise use of water and to avoid waste and reduce energy demands, please note the following conservation tips:

- Fix any leaky faucets. A leak streaming at 1/16th at 60 psi can amount to more than 24,000 gallons in one month.
- Water lawns only when necessary. When walking on the grass, does it spring back up? If it does, the lawn does not need watering.
- When watering lawns or gardens, give them a thorough soaking during the most effective time to water. This is after sunset and before 10:00 a.m., which allows more time for water to soak into the ground. Watering during daylight hours results in water loss due to evaporation. Timely watering also helps minimize energy and production peaks during the driest parts of the year.
- When washing a car, use a bucket for washing and turn on the hose only for rinsing. Do not let water run continuously from a hose when not in use.
- Consider placing a layer of mulch around trees and shrubs to maintain the moisture level for plants. Mulch will also discourage weed growth.
- If you have a swimming pool, fill it during the night when the demand for power and production systems is lower.

If you're interested in additional water savings tips call our Customer Service Department at 315-455-7061 ext. 3335.

Water Pressure:

Water Pressure: NYSDOH regulators and Recommended Standards for Water Works indicate that normal water pressure in the distribution system should be approximately 60 to 80 psi and not less than 35 psi while maintaining a minimum pressure of 20 psi under all conditions of flow. We attempt to operate and maintain our system within these parameters as much as possible, however, due to significant variants in topography in Central New York, it is not possible to do so in all areas of the system. In areas where pressures exceed 80 psi, the New York State Uniform Building Code requires that homes have pressure-reducing valves (PRVs). Customers are responsible for installing the PRVs, and to periodically check/maintain them; failure to do so may result in water damage and/or damaged water fixtures. When required for meter installation, the PRVs are to be installed either in a meter pit or within the house just before the meter. Customers should check the requirements within their municipality, but some require a licensed plumber to complete the installation.

Other Important Phone Numbers:

Nature of Call:	**Contact:**	**Phone Number:**
Inquiries About This Report	Lisa Yesensky, Water Quality Manager	315-455-7061 ext. 3157
After Hours/ Weekend Emergency		**315-475-7601**
Water Quality Questions	Water Quality	315-455-7061 ext. 3141
Billing Inquiries	Customer Service	315-455-7061 ext. 3335
Low Pressure / Discolored Water	Operations	315-455-7061 ext. 3120
Report a Leak	Distribution	315-455-7061 ext. 3127
OCWA Board Meeting Information	Administration	315-455-7061 ext. 3112
Onondaga County Dept. of Health		315-435-6600
Oswego County Dept. of Health		315-349-3557
Madison County Dept. of Health		315-366-2526
Oneida County Dept. of Health		315-798-5064
Cayuga County Dept. of Health		315-253-1405
New York State Dept. of Health		1 (800) 458-1158
USEPA	Safe Drinking Water Hotline	1 (800) 426-4791