

2024 Annual Report

Owasco Lake Watershed

Inspection and Protection Division

Our Mission:

To make regular and thorough inspections of Owasco Lake, its watercourses, and its watershed; to identify and promote compliance with the Watershed Rules and Regulations set forth in New York State Public Health Law; and to provide educational outreach within the watershed community that promotes environmental awareness and lake stewardship.



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OWASCO LAKE WATERSHED MANAGEMENT COUNCIL: EXECUTIVE DIRECTOR'S SUMMARY

The Owasco Lake watershed, part of the Great Lakes Basin in the Finger Lakes region of New York, encompasses 208 square miles across three counties. Owasco Lake is an oligo-mesotrophic lake classified by the NYS Department of Environmental Conservation (NYSDEC) as a Class AA (TS) waterbody suitable for drinking water supply, trout spawning, fishing, and recreation. Owasco Lake and its watershed have been monitored for several decades by researchers and partners of the Owasco Lake Watershed Management Council (OLWMC) to track water quality and investigate lake impacts. Owasco Lake is one of the 12 “priority” lakes in New York impacted by Harmful Algal Blooms (HABs) (NYSDEC, 2019 HAB Action Plan Owasco Lake). Recent data suggests that the lake’s conditions are deteriorating, with nutrient loading and climate variability as leading attributed causes.

Advancements in water quality protection have been made in response to the challenges and costs associated with treating surface waters for drinking water purposes, the general degradation of lake water quality, and associated threats to lake recreation and the local economy. The OLWMC coordinates watershed protection and restoration efforts through: (1) oversight of the (Owasco Lake Watershed Inspection and Protection Division (OLWIPD) towards watershed regulatory compliance; (2) providing a platform for communication and collaboration among partners; (3) increasing municipal participation and revenue generation; and (4) watershed protection project coordination and fundraising. For example, in 2023, in partnership with several organizations, the OLWMC was awarded \$457,839.92 from the National Fish and Wildlife Foundation (NFWF) Sustain Our Great Lakes (SOGL) program for the *Owasco Lake Watershed Critical Streams Restoration Project* that targets streambank stabilization projects along the Owasco Inlet. The project team is working towards 2025 project implementation.

The OLWMC plays an active role in the advancement of updated Watershed Rules and Regulations (WRR), which are intended to enhance, and better define, local requirements relative to existing 1984 WRR. In July 2024, the regulatory project was terminated by the NYS Department of Health, which according to NYS Public Health Law, is responsible for promulgating watershed rules and regulations for the protection of water supplies. In response, the OLWMC helped coordinate legal counsel for water purveyors in an effort to ensure that the NYS Department of Health maintains accountability for advancing WRR for the protection of NYS watersheds. In 2024, the OLWMC welcomed Lead Watershed Inspector and OLWIPD Manager, Jesse Lloyd.

The OLWMC is making progress towards implementing the NYS approved Owasco Lake Watershed Nine Element Plan for Phosphorus Reduction (9E Plan). The OLWMC’s 9E Project Coordination Committee unifies partnering organizations that collaborate to develop project proposals and associated funding requests, according to the recommendations of the approved clean water plan. The 9E committee is currently focused on a wide breadth of watershed protection projects, including stream corridor and firelane assessments, ditches and stream stabilization projects, land acquisitions and easements, invasive species management, and outreach and education initiatives. Furthermore, the group looks forward to supporting capacity building for the watershed agricultural industry to advance best management practice (BMP) implementation at the rate recommended by the NYS approved 9E Plan.

In 2024, the OLWMC established a public access lot and educational kiosk and blazed trails at its Fillmore Nature Preserve, a 161-acre property in Sempronius and Summerhill gifted by The Nature Conservancy (TNC) in 2023. The success of the overall project was wrought from a strong collaboration between key partners, including the Emerson Foundation, Cornell University’s Design Connect, TNC, the Cayuga County Planning Department, and highway departments for the Towns of Summerhill, Moravia, and Owasco. The Fillmore Nature Preserve’s trails are open for respectful public use. Stewarding land preserves, and thereby protecting ecosystem services for the benefit of water quality, has expanded upon the OLWMC’s public service initiatives. The OLWMC is considering stewarding two additional properties proposed for transfer by TNC.

The OLWMC’s educational public services, including Lake Friendly Living programming, events, and the distribution of outreach materials, promote conservation efforts at watershed-scale. The OLWMC’s Lake Friendly Living (LFL) pledge campaign is part of a Finger Lakes regional messaging effort intended to promote awareness of, and commitments to, recommended conservation practices. In 2024, the OLWMC again spearheaded a NYS Assembly resolution commemorating LFL awareness throughout the Finger Lakes Region.

The OLWMC welcomes the voice of new municipal Directors and is committed to engaging with the remaining municipalities that have yet to join. The OLWMC welcomes interest and involvement from the Town of Lansing, which resolved to join the Council in 2024. Water purveyors, the City of Auburn, and the Town of Owasco remain the primary source of annual baseline funding to the OLWMC. For 2024-2025, the City of Auburn increased its annual commitment to \$250,000, while the Town of Owasco increased its annual commitment to \$32,000. The Towns of Fleming, Scipio, Niles, Moravia, Dryden, Genoa, and the Village of Moravia maintained their commitments at \$7,000, \$3,000, \$2,500, \$2,000, \$500, \$200, and \$2,000, respectively. In 2025, the Towns of Summerhill, Lansing, and Locke initiated annual commitments of \$200, \$200, and \$100, respectively. The OLWMC now has 100% financial buy-in from directors; these municipalities acknowledge the sense of urgency from the community for protecting Owasco Lake, and the importance of funding the OLWMC’s public service initiatives.

Over the last several years, OLWMC staff have continued to publish monthly articles in the Auburn Citizen, spotlighting watershed residents and local partners making strides towards watershed conservation, and featuring relevant topics about water quality concerns and management. The OLWMC’s website (www.olwmc.org) provides links to these articles, as well as to the LFL program pledge and valuable educational materials. The OLWMC looks forward to continuing to build relationships throughout the watershed community and will continue to strive towards advancing watershed protection and restoration efforts to protect Owasco Lake as a cornerstone to the community.



Adam Effler, PhD, Executive Director



Ed Wagner, Chair



2024 Inspection Summary

In 2024, the OLWIPD continued to monitor the watershed through direct assessments of land use activities. Observations included identification of sources of pollution, evaluation of erosion and sedimentation, and monitoring of aquatic habitats. Inspections were based on regulatory parameters with guidance from the Watershed Inspection Committee, as well as relevant stakeholders including local authorities, environmental agencies, and technical advisors. Owasco Lake Watershed Inspectors identified 47 sites as potential threats to water quality. Numerous follow up inspections and site walks were conducted. Inspection sites were categorized by four categories:

- (1) Severe erosion and stabilization efforts,
- (2) Stormwater and construction activities,
- (3) Agricultural operations, and
- (4) Miscellaneous - ranging from chemical spills to illegal dumping and unauthorized projects.

Through site inspections and follow-up visits, inspectors document compliance based on the extent to which protections and recommended practices have been implemented. Violations were primarily solved through voluntary compliance, although some were elevated to the Cayuga County's Department of Health and the NYS Department of Environmental Conservation for resolution. The OLWIPD encourages the implementation of precautionary and preventive practices to protect water quality. The OLWIPD would like to thank and recognize those who are committed to the protection of our watershed through the voluntary adoption of best management practices (BMPs) and those committed to the Finger Lakes Lake Friendly Living Program.



Did You Know?

- ♦ The Owasco Inlet supplies Owasco Lake with over 50% of its water.
- ♦ Owasco Lake gets its name from the Native American word “osco,” which means “the crossing place,” or “wasco,” which means “floating bridge” – both reflecting its spatial and functional importance.
- ♦ The Owasco Lake watershed has the largest watershed to lake ratio (~20:1) of all the Finger Lakes.
- ♦ There are more than 1.2 million residents in the Finger Lakes Region, and more than 200 million gallons of water is withdrawn from the Finger Lakes for drinking water every day.
- ♦ A healthy 100-foot-tall tree has about 200,000 leaves. A tree of this size can remove about 11,000 gallons of water from the soil and release it into the air again, as oxygen and water vapor, in a single growing season.

2024 Weather Conditions Overview



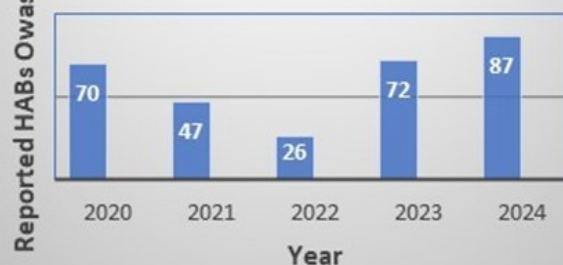
In 2024, the Owasco Lake watershed community experienced an unseasonably warm winter and spring. Winter brought unusually high temperatures, with January reaching above 50°F and February climbing above 60°F. The average daily low temperature in Moravia in February, 2024 was 23.6°F, which was 7.6°F above the historical average of 16.0°F (world-weather.info). Accordingly, outdoor enthusiasts, such as ice fishermen and snowmobilers, were disappointed with the lack of ice cover on Owasco Lake. Snowfall was lighter than usual, and snow accumulation quickly melted due to the warm weather. On January 9, 2024 a powerful windstorm hit the Finger Lakes Region, with gusts reaching up to 80 mph, knocking over trees and causing power outages for over 100,000 residents of upstate New York.

Spring saw more typical weather, with a March-May average temperature of 48.9°F. This was slightly warmer than the 25-year average of

45.3°F (www.weather.gov, Auburn NY weather station). The watershed received 14.3 inches of precipitation, 1.8 inches above the historical average.

The summer of 2024 was the fourth hottest on record for the United States (www.noaa.gov), with states like Arizona, California, Florida, Maine, and New Hampshire experiencing their warmest summers on record. According to USA Today, the global average temperature for the boreal summer (June–August) 2024 was 1.2°F above the 1991–2020 average, surpassing the previous record set in 2023. While much of the country sweltered, Central New York largely avoided the heatwave, with an average temperature of 68.1°F in July–September, close to the 25-year average of 67.7°F. However, July and September were drier than usual, with rainfall deficits of 2.5 inches and 0.9 inches, respectively, which lead to moderate drought conditions during that period. This combination of warm, dry weather, following a stormy early summer, created favorable conditions for Harmful Algal Blooms (HABs). In 2024, there were 87 HABs reported for Owasco Lake, according to the NYHABs website operated by the New York State Department of Environmental Conservation. These blooms raised community concerns about the lake's health. HABs notwithstanding, water sampling conducted by the Owasco Watershed Lake Association (OWLA) showed that Owasco Lake's average phosphorus concentrations remained within a range consistent with low levels of algal production. Researchers are continuing to evaluate the underlying causes of HABs in nutrient poor lakes, as well as potential mitigation strategies.

NYSDEC Reported HABs- Owasco Lake



Information Gathered from NYSDEC HABs Data Archive

2024 WATERSHED INSPECTION HIGHLIGHTS

Severe Erosion / Stabilization Efforts

Sediment erosion, resulting from high velocity stormwater runoff or from man-made alterations to natural drainage systems, were resolved through stabilization.

<u>Municipality</u>	<u>No. of Occurrences</u>
♦ Owasco	8
♦ Fleming	1
♦ Scipio	1
♦ Moravia	3
♦ Locke	1
Total No. of Sites	14

Erosion was stabilized using various methods including: planting vegetation, installing geotextiles, constructing retaining walls, using mulch or hydroseeding to protect the soil surface, implementing terraces and/or installing erosion control mats. These techniques help reduce runoff and enhance soil stability.



Severe bank erosion caused by the installation of a parking area up-gradient. A silt log was installed at the bottom of the bank. The bank was later stabilized with large stone.



Ground-disturbing residential construction projects occurred along Owasco Lake's shoreline and adjoining tributaries. Construction sites throughout the watershed were stabilized to reduce adverse impacts to water quality.

Stormwater Checks/ Construction Activities

<u>Municipality</u>	<u>No. of Occurrences</u>
♦ Owasco	8
♦ Niles	3
♦ Fleming	4
♦ Scipio	2
♦ Moravia	5
♦ Skaneateles	3
♦ Groton	1
Total No. of Sites	26

The use of erosion and sediment controls at construction sites is crucial to prevent soil erosion, protect water quality, and reduce sediment runoff into nearby water bodies. These controls help maintain water quality, prevent habitat destruction, and ensure compliance with environmental regulations. Many residents use silt logs, silt fence and buffers for sediment control. Implementing proper erosion control measures minimizes environmental damage, promotes sustainable development, and improves site stability.

2024 WATERSHED INSPECTION HIGHLIGHTS

Miscellaneous Inspections

Watershed Inspectors manage a wide variety of Owasco Lake watershed concerns, and frequently receive anonymous reports.

<u>Watershed Concern</u>	<u>No. of Occurrences</u>
♦ Waste Water/ Sewage	2
♦ Petroleum Spill	2
♦ Unpermitted work in the Owasco Outlet	1
♦ Waste Oil Fire/Storage	1
♦ Unauthorized Project	1
<u>Total No. of Sites</u>	7

Watershed Inspectors face a wide variety of unique situations while patrolling the watershed. In collaboration with various agencies and partners, inspectors are able to problem solve and promote remediation efforts.



A broken sewer main downstream of a pumping station released sewage above ground. With the help of local utility authorities and the Cayuga County Soil and Water Conservation District, sewage was intercepted before discharging into the watercourse.

Noteworthy Site Responses



A tanker carrying whey tipped into a ditch. The OLWIPD worked with Venice, Fleming, and Ledyard Fire Rescue to dam the flow of diesel fuel in the ditch. Furthermore, the spill was contained until the vehicle was righted.



An illegal waste oil storage caught fire. The property had been abandoned for 6 years prior to its discovery. The OLWIPD inspector helped NYSDEC track down landowners for site remediation.



A storage container for corrosive liquid was found in a ditch. The OLWIPD inspector verified the liquid and arranged for its pick up by the NYSDEC.

Lake Friendly Living Coalition

The Lake Friendly Living Coalition of the Finger Lakes represents the eleven Finger Lakes. Nine of the member Finger Lakes have associated programming that can be found on their respective lake stewards' websites: Canandaigua, Cayuga, Keuka, Otisco, Owasco, Seneca, Conesus, Honeoye, and Skaneateles Lakes. The associated education and unified messaging campaign is intended to advance pollution and nutrient reduction as well as water conservation throughout the Finger Lakes Region. Please join the 'Lake Friendly Living' Pledge Program to advance a variety of land and water stewardship practices in the Owasco Lake watershed. This pledge opportunity aligns with 'Lake Friendly Living' pledges taken throughout the Finger Lakes Region. Being 'lake-friendly' means making active choices that prioritize the health of the lake. Land use choices affect the water quality of Owasco Lake, and incorporating 'Lake Friendly Living' practices into farm, home and business activities can reduce lake eutrophication and water quality degradation.



Tributary Identification

The Tributary Adoption and Identification Program, or "TAIP," was a foundational tributary identification initiative funded by New York Sea Grant in 2016. This project involved the development of signage, posted at stream-road crossings in many townships like Owasco, Fleming, and Niles, and provides identifying information for streams. Over the course of 2024, with the help of municipalities and project partners, the TAIP and associated signage have expanded. Individuals can scan the QR code on any of the signs to visit the OLWIPD website for project and inspector contact information.



An example of a TAIP sign along Decker Creek.



A local municipal snow plow passes by the OLWIPD truck on a snowy December day. Recognizing the significant water quality threats posed by road salt, communities are beginning to take proactive steps to reduce its use.

Articles Published in the Citizen

- Winter Weather Patterns and Adaptation in the Finger Lakes Region
- PFAs, emerging contaminants threaten drinking water in the Finger Lakes
- Fighting road salt pollution in the Finger Lakes
- Three invasive species in the Finger Lakes and how you can help stop them
- Protecting Owasco Lake through Construction Site Stabilization
- Reflections on managing the Owasco Lake Watershed
- The Future Health of Owasco Lake from an Outside Perspective
- Being Owasco Lake Watershed Friendly During the Winter

Education and Outreach

Lead Watershed Inspector, Jesse Lloyd, and Michele Wunderlich, Associate Planner for the Cayuga County Planning Department, hosted a table about invasive species during the 2024 Conservation Field Days at Emerson Park. The event was sponsored by the Cayuga County Soil and Water Conservation District and Cooperative Extension of Cayuga County. The purpose of Conservation Field Days is to give attending sixth grade students an opportunity to become better acquainted with natural resources and the environment. Professionals from various fields gave short programs, enabling the students to learn not only about the subject matter discussed, but also to see nature and conservation related occupations in action.



The main attraction of the invasive species table was the large, invasive Chinese Mystery snail. This snail was caught earlier that morning in the Owasco Outlet, along with other native species of snails. The invasive snail is known to out-compete the much smaller native snails for food and resources.



Workshops




Watershed Inspectors attend multiple events and workshops throughout the year to make connections with local partners and for skills enhancement. Participating in relevant workshops allows access to specialized training sessions, expert insights, and practical tools. Workshops are provided by a variety of partnering organizations, including: Cayuga, Onondaga, and Tompkins Cornell Cooperative Extensions, Cayuga County Soil and Water Conservation District, Finger Lakes Partners for Regional Invasive Species Management, Owasco Watershed Lake Association, and other Finger Lakes watershed organizations. Continuing education provides invaluable opportunities for both professional growth and status updates regarding industry trends and best practices, enabling staff to continually grow and improve their roles as stewards of the watershed.

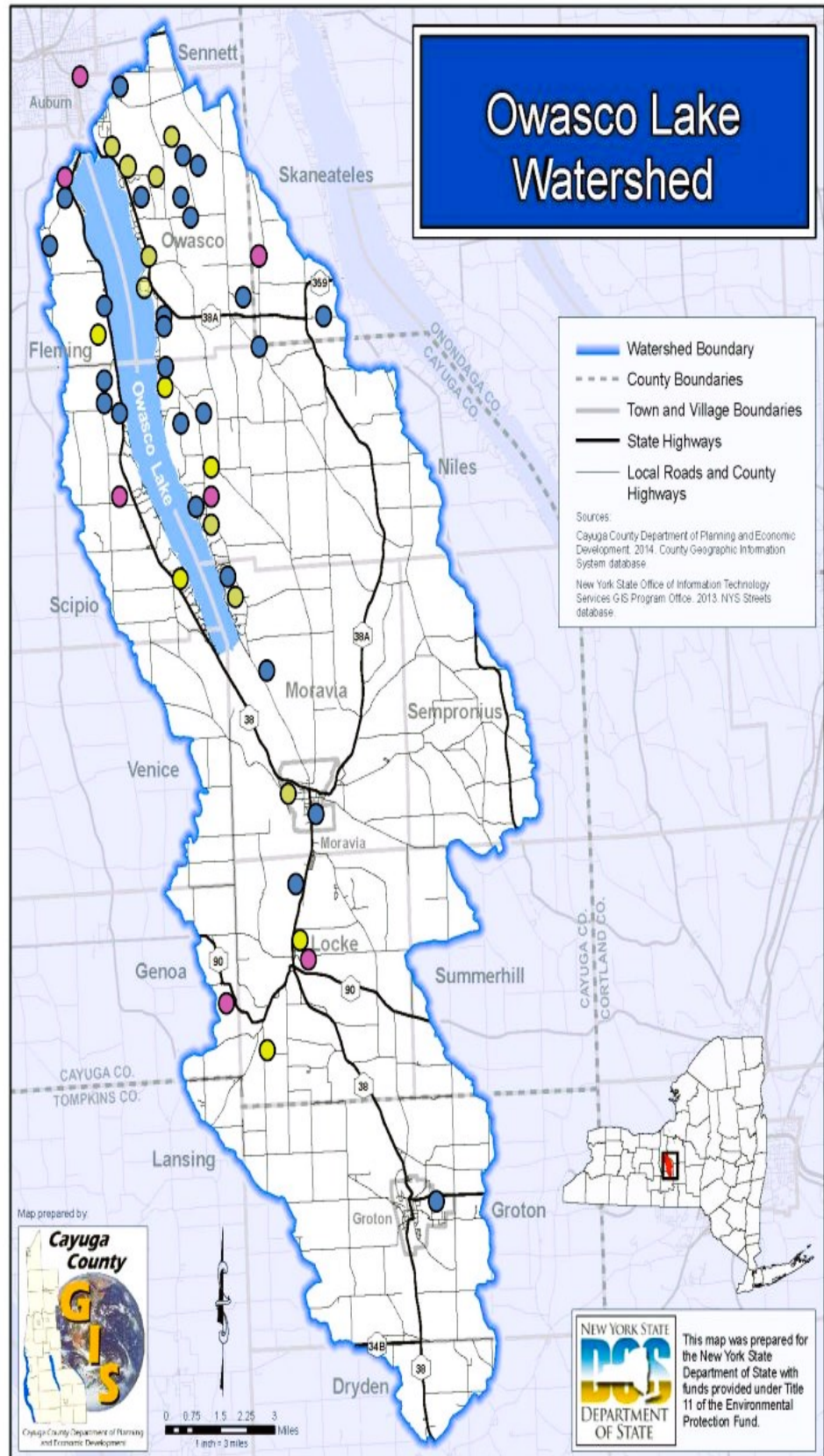


Photo of a lined and covered manure storage lagoon at Fessenden Dairy Farm in King Ferry. Excess methane is burned off by flaring. Inspectors and partners visited this farm, and other farms, during the 2024 Conservation Skills Workshop, organized by the NYS Conservation District Employees' Association and others.

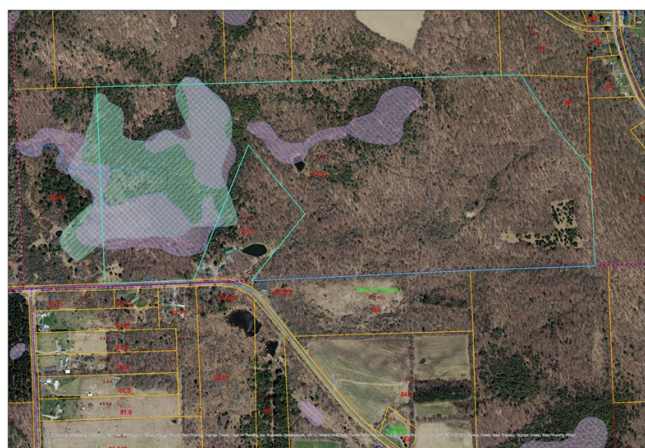
2024 Owasco Lake Watershed Inspections

Sites Where Water Quality Concerns were Identified in 2024

Category	Symbol
Severe Erosion / Stabilization :	
Storm Water/ Construction:	
Miscellaneous:	



Fillmore Nature Preserve



Fillmore Nature Preserve (161 acres)

Date: 12/8/2023

NOTE: Tax maps do not establish title or legally define boundaries.
For Real Property Tax Purposes Only.



The Owasco Lake Watershed Management Council's 161 acre Fillmore Nature Preserve is open to the public for hiking and exploring, and Watershed Inspectors are responsible for annual inspections there to identify potential property concerns or ecological threats. The preserve is located approximately 1,000 feet east of the intersection of Skinner Hill Rd and Lick St, in Sempronius. The OLWIPD looks forward to continuing to host schools and other groups for interactive workshops at the Fillmore Nature Preserve. Please make contact with interest in hosting an event at the preserve.

2025 Owasco Lake Foam Sampling

Foam naturally occurs seasonally on the Finger Lakes. It has been discovered that the foam can enrich Per- and polyfluoroalkyl substances (PFAS) levels up to 70 times normal lake water levels. Further research about this emerging contaminant is required to understand the fate of PFAS in our lakes and to determine human exposure pathways and potential remediation solutions. Global Aquatic Research (GAR), has been studying lake foam properties on several Finger Lakes. The OLWMC assisted GAR with a grant support letter to sample and study Owasco Lake foam in 2025, and the grant was awarded funding.

Land Use Percentages in the Owasco Lake Watershed

Region	% Agriculture	% Forest	% Developed
Entire Watershed	55.0	41.0	3.0
Dutch Hollow	64.5	32.8	2.5
Owasco Inlet Headwaters	43.8	50.5	2.8
Mill Creek	46.9	50.7	1.9
Hemlock Creek	56.5	41.2	0.6
Direct Drainage to Lake	69.3	25.4	4.1

(Halfman et al., 2022)

Find us on Facebook, Instagram, or our Website! www.owascoinspection.org

Staff Contact Information

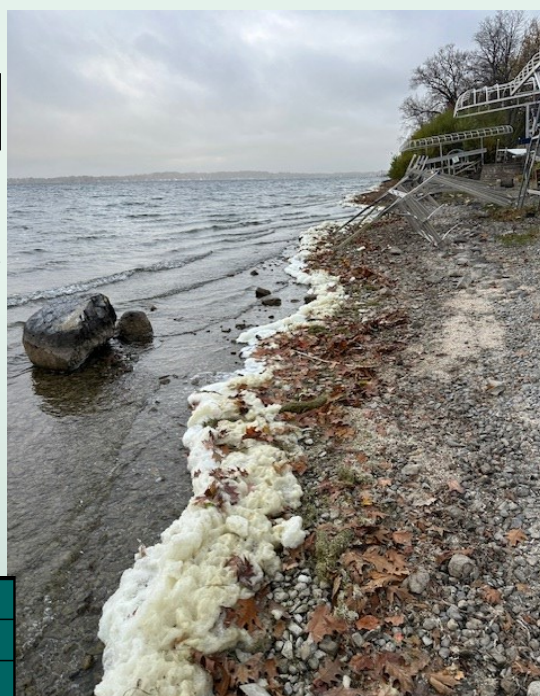
Lead Watershed Inspector

Phone | Text: (315) 427-5188



Our Location:

6073 West Lake Road
Auburn, NY 13021



USEFUL FACTS AND INFORMATION

If you see something in the watershed, which you suspect could impact Owasco Lake or its tributaries, please contact us ASAP. ***All reports received are kept anonymous!***

We are here to be of service to the watershed residents. Cell: 315-427-5188.

Important Reminders

- ♦ To avoid disruption of trout spawning, in-stream work should be avoided to the greatest extent possible between **November 1 and June 15.**
- ♦ Shoreline Construction Mean High Water Level (MHWL) Elevation: **713.9'**
- ♦ Stream Classifications: The watershed has protected streams that may require permitting from the DEC or local municipality.
- ♦ Before performing any shoreline or streambank construction, make certain that state and federal permits are in place.
- ♦ Erosion /sediment control materials should be deployed prior to excavation

Owasco Lake Watershed Facts and Figures

Drainage area	208 square miles
Counties within the watershed	3—Cayuga, Onondaga, & Tompkins
Municipalities within the watershed	17—Dryden, Fleming, Genoa, Groton (Town and Village), Lansing, Locke, Moravia (Town and Village), Niles, Owasco, Scipio, Sempronius, Sennett, Skaneateles, Summerhill, Venice
Maximum lake depth	177 feet
Lake length	11.1 miles
Lake max width	1.3 miles
Average volume	~260 billion gallons
Finger Lakes rank	6 th largest
NYS Lake Classification	AA—source for drinking water
Number of people consuming Owasco Lake water	~45,000 people
Land to Lake ratio	20:1 (largest of the Finger Lakes)

Owasco Lake Watershed Inspection Committee Members

City of Auburn:

- ♦ Ginny Kent, City Councilor, OLWMC Secretary
- ♦ Seth Jensen, P.E., Director of Municipal Utilities

Town of Owasco: Ed Wagner, Town Supervisor, OLWMC Chair

Cayuga County: Aileen McNabb-Coleman, County Legislator, OLWMC Vice-Chair

The Watershed Inspection Committee oversees the operations of the Owasco Lake Watershed Inspection and Protection Division.

Directors of the Owasco Lake Watershed Management Council

Town of Owasco: Ed Wagner

Cayuga County: Aileen McNabb-Coleman

City of Auburn: Ginny Kent

Town of Niles: Joan Jayne

Town of Locke: Thane Benson

Town of Fleming: Karen VanLiew

Town of Lansing: Joseph Wetmore

Village of Moravia: Chris Fulton

Village of Groton: Ted Skibinski

Town of Summerhill: Charlie Ripley

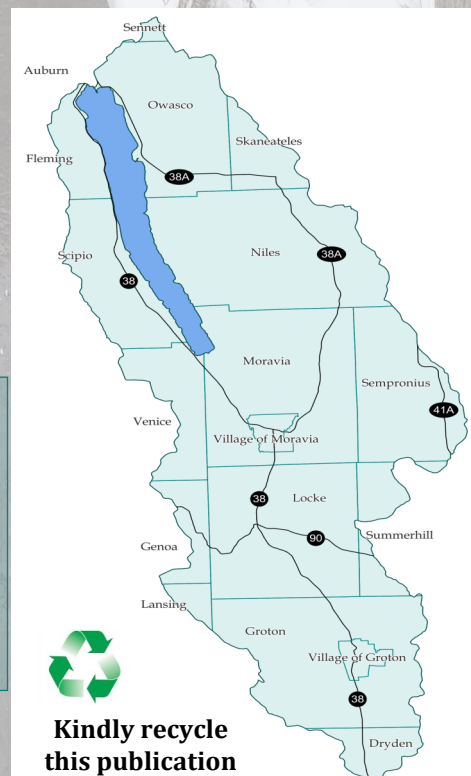
Town of Sennett: Tom Blair

Town of Scipio: Nancy Hart

Town of Dryden: Anne Clarke

Town of Moravia: Terry Palmer

Vacant Municipal Director Seats: Towns of Groton, Venice, Skaneateles, Sempronius and Genoa



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