

# Conesus Lake Annual Report Card



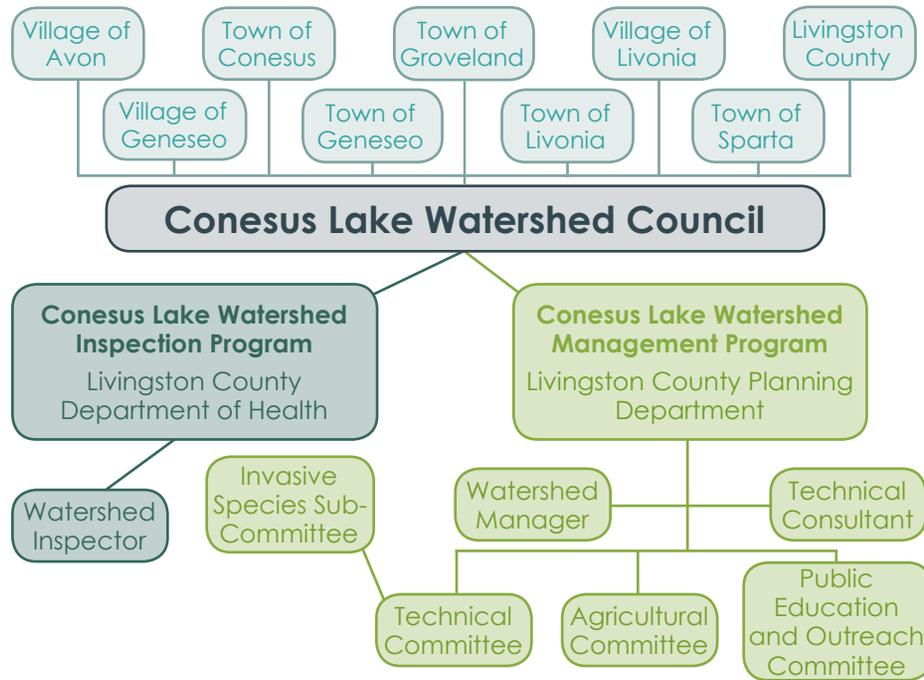
Conesus Lake Watershed Council

2022



## About the Conesus Lake Watershed Council

The Conesus Lake Watershed Council (CLWC) is an intermunicipal organization formed in 2003 to guide implementation of the recommendations of the Conesus Lake Watershed Management Plan. Members of the Council, shown in the chart below, include elected officials from municipalities with lands within the watershed, representatives of public water purveyors, and partners engaged in efforts to protect the lands and waters for generations to come. The CLWC provides an important forum for collaboration among the stakeholders and community education on progress and emerging issues. Livingston County has two standing programs focused on Conesus Lake and its watershed, the Watershed Management Program and Watershed Inspection Program. The CLWC oversees these two programs and approves annual workplans and priorities.

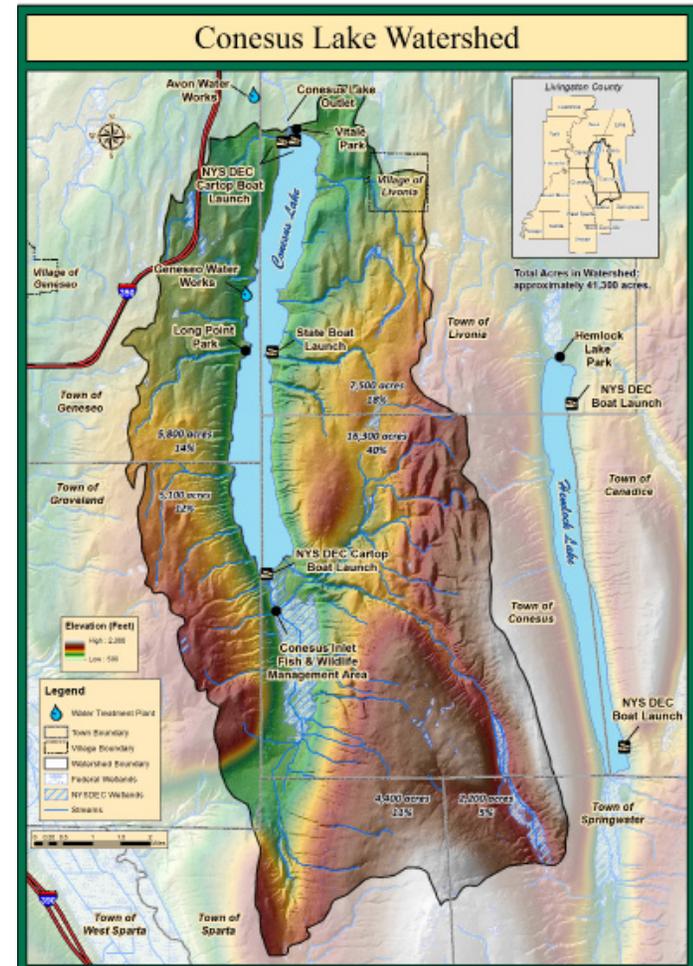


Conesus Lake Watershed Council governing structure

## Purpose of this Document

Recommendation H-2 in the Conesus Lake Watershed Management Plan (2003) is to prepare an annual update summarizing the status of activities in the watershed, particularly the ongoing efforts to reduce nonpoint source pollution. The Annual Report Card provides a framework for tracking water quality conditions in Conesus Lake and highlighting implementation projects and new emerging issues.

Acronyms: Conesus Lake Association (CLA), Livingston County Soil & Water Conservation District (SWCD), Livingston County Water & Sewer Authority (WSA), Cornell Cooperative Extension-Livingston County (CCE), Finger Lakes Institute (FLI), Natural Resources Conservation Service (NRCS) and NYS Department of Environmental Conservation (DEC).



## Summary of Major Accomplishments

The 2003 Conesus Lake Watershed Management Plan vested oversight of actions designed to protect and restore the lake and watershed with the intermunicipal CLWC. Funding, implementing, monitoring, and evaluating the success of these actions requires a sustained effort across multiple partnerships and a focus on deeply interconnected issues. Progress with implementing recommendations of the Conesus Lake Watershed Management Plan, the phosphorus TMDL, and the HABs Action Plan continued in 2022. The CLWC benefitted from the long-term collaboration with SUNY Geneseo and SUNY Brockport faculty and students on lake and watershed issues.

### Monitoring and Assessment

- Faculty and students from SUNY Geneseo and SUNY Brockport continued collaborative studies on Conesus Lake and watershed issues. The 2022 in-lake program focused on phytoplankton and zooplankton community structure and dynamics, and the study of cyanobacterial dominance. The watershed team continued to monitor nonpoint source loading from the landscape and identified areas of potential concern.
- Conesus Lake Association (CLA) continued participating in CSLAP, the Citizens Statewide Lake Assessment Program. This statewide initiative is a joint program of NYSDEC and the NYS Federation of Lake Associations.
- Livingston County Department of Health (LCDOH) staff monitored beach areas for coliform bacteria; these organisms are used as indicators of the potential presence of pathogens in water. The LCDOH and trained CLA volunteers conducted shoreline surveillance for cyanobacteria (HABs) and the LCDOH reported their findings to the state's HABs reporting site.
- The CLA continued their efforts to deploy state-of-the-art instrumentation for water quality monitoring. This program provided data to our SUNY partners to support their lake monitoring and research program.
- Feasibility Study for the Long Point Drainage Improvements Project was completed in 2022. The study evaluates the feasibility of the construction of a stormwater management facility along Long Point Road to address existing water quality and quantity concerns.
- Schnabel Engineering issued a Streamgauge Technical Memorandum related to the potential installation of a streamgauge within the Conesus Lake watershed. This was a follow-up activity resulting from the Safe Yield Analysis for Conesus Lake, Schnabel Report, 2021.
- Funding was awarded for projects in the Conesus Lake watershed: Livingston County Road Ditch Remediation, Booher Hill Erosion and Stormwater Control Improvements, Conesus Lake Watershed Management Plan Update, and the Lakeville Corridor Strategic Plan.



SUNY Brockport & SUNY Geneseo students participating in the lake monitoring.



SUNY Geneseo students participating in the lake monitoring.

## Invasive Species

- The invasive macrophyte starry stonewort (SSW) was detected in Conesus Lake in 2021. The County Planning Department mobilized a rapid response using the framework of the Watershed Council's Invasive Species Prevention & Response Plan. Local and regional watershed partners and citizens collaborated on a coordinated program to identify the extent of the invasion. The Watershed Manager, with support from the iMapInvasives team and FLI, organized an extensive mapping effort to provide "live" survey locations and data collection, and assign volunteers to specific locations using an "Adopt-a-Grid" framework. Over 40 trained volunteers (primarily CLA members) identified 51 locations where SSW was present, and 109 locations where it was not. Survey efforts continued in 2022. The Watershed Council's Invasive Species Subcommittee will continue to assess the extent of the infestation and evaluate control methods in 2023.



Livingston County interactive online map for starry stonewort.

- The Watercraft Steward Program inspected 3,358 boats in Conesus Lake and intercepted 22 boats arriving from other lakes with contaminants. Stewards completed 971 fishing boat inspections (increase of 29% from 2021) and 348 boat decontaminations (increase of 682% from 2021).
- The Watershed Management Program successfully deployed a drone and an underwater camera as part of their surveillance efforts for invasive species and HABs.
- SUNY Brockport, with support from Finger Lakes PRISM and NYSDEC, coordinated mile-a-minute eradication/pulling activities in Geneseo. Continued reduction in plant numbers reported.

## Watershed Inspection Program

- The Watershed Inspector responded to 24 complaints and 3 violations to help improve environmental protection.
- The Department of Health continued its public bathing beach program at Camp Stella Maris and Conesus RV Park Beach. Long Point Park Beach was closed in 2022.

## Harmful Algal Blooms

- HAB identification and notification efforts continued from June through October.
- The Town of Livonia moved forward on their Water Quality Improvement (WQIP) Old Outlet Reconfiguration Grant in Vitale Park to enhance circulation and reduce potential HABs. The Livingston County Highway Department replaced the existing culverts with an open span bridge in 2021; the bridge officially opened in Spring 2022. In 2022, efforts focused on the reconfiguration of one of the dam gates.

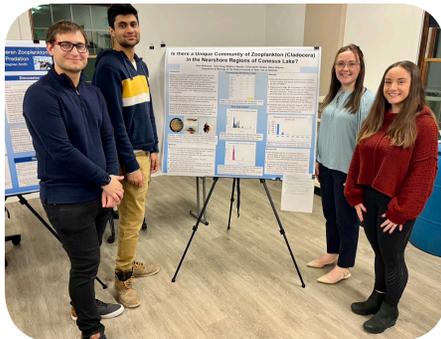
Undersized culverts in the Old Outlet, prior to replacement.



20' span replacement bridge installed.

## Education

- In 2022, the CLA successfully raised funds to acquire state-of-the-art audiovisual technology that allows for superior hybrid education, offering both virtual and in-person options. Donors included the CLA, the four lake municipalities and private donors.



"SUNY Brockport/SUNY Geneseo Student Presentations," another free and well attended WEC program!

## Agricultural Best Management Practices

- In 2022, the Livingston County SWCD continued to conduct an Upland Watershed Protection Program for agricultural land uses in the Conesus Lake watershed. SWCD projects included removal of stream blockages, grading, establishment of sod buffers, decommissioning of a failed pond, shaping of drainageways, and reconstruction and establishment of drainage ditches.



Grading and shaping of a drainageway to alleviate erosion and drainage limitations.

## Stream Restoration and Stormwater Management

- The Town of Livonia moved forward on their WQIP Natural Shoreline Restoration Grant in Vitale Park. The grant will restore and stabilize the Park's eastern Conesus Lake shoreline. In 2022, City Hill Excavating, Inc. restored 320' of the shoreline. Replantings in Spring 2023 will complete the project. This site will also function as a demonstration project designed to illustrate lake-friendly landscaping and natural shorescaping for lakeshore residents.
- In 2021, the Towns of Conesus, Geneseo, and Sparta were awarded a WQIP grant for road ditch remediation. The grant will fund erosion control measures for more than 14,000 feet of roadside ditches with severe erosion issues, located in the Conesus Lake watershed. This program will improve water quality in the watershed. In 2022, the contract was in process with NYSDEC.



Natural shoreline installed in Vitale Park.



Project provides shoreline stabilization with natural shorescaping.



Grading and establishment of a permanent sod buffer along the entire northern side of the stream.

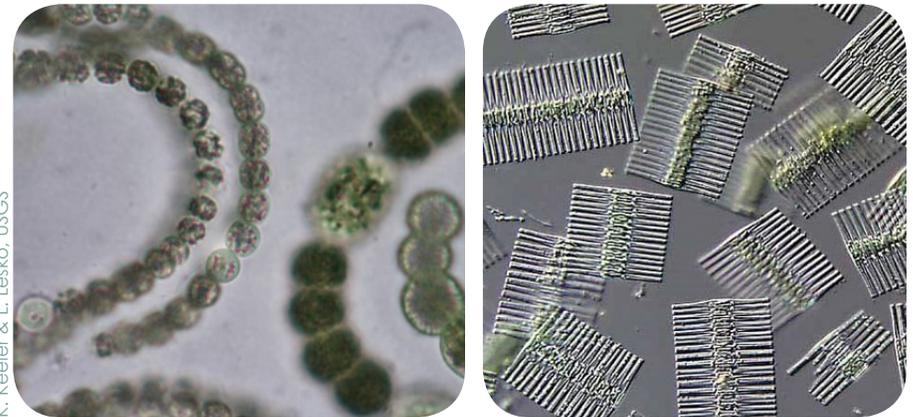
## Monitoring and Assessment

The CLWC and its partners are committed to using the best available science to inform lake and watershed management decisions. A key issue is identifying and addressing sources of phosphorus and sediment, both external sources from the watershed and internal sources from the lake sediments (legacy phosphorus). The 2003 Conesus Lake Watershed Management Plan outlined a long-term strategy to gather comparable data at regular intervals to characterize the lake ecosystem and track changes over time. Over the decades, annual monitoring has encompassed cyanobacteria and other phytoplankton, aquatic plants, zooplankton, benthic invertebrates including mussels, and the fish community (Table 1). The ecosystem-based management approach and effective collaborations among SUNY Geneseo and SUNY Brockport, USDA, NYSDEC, Conesus Lake Association, and the Finger Lakes-Lake Ontario Watershed Protection Alliance help guide the Council in defining management strategies and priorities.

### Food Web Analysis: Zooplankton Community

The *in-lake* monitoring program conducted jointly by SUNY Geneseo and SUNY Brockport focused on the phytoplankton community of Conesus Lake. The phytoplankton consists of microalgae (such as diatoms) and cyanobacteria (blue-green algae) that are especially important because they make up the base of the lake food web. Moreover, blooms of phytoplankton and specifically cyanobacteria are a concern because they decrease water quality and at times are the agent of harmful algal blooms (HABs) that pose a threat to recreational use of lake waters and to the drinking water supply. The last seasonal study of the Conesus Lake phytoplankton community was completed by Professor Joe Makarewicz and his co-workers in 2014. As part of the monitoring activities in 2022, the SUNY Geneseo researchers compared trends from 2022 to the 2014 study and to four other seasonal studies dating back to 1993. Working with SUNY Brockport researchers, the SUNY Geneseo team also collected seasonal data on lake water quality characteristics (temperature, pH, oxygen levels, etc.) and on dissolved phosphorus and nitrite and nitrate concentrations at different depths.

In 2022, the phytoplankton community showed strong seasonal changes in species dominance. Diatoms, particularly *Fragillaria crotonensis*, and other types of microalgae (i.e. not cyanobacteria) dominated during the spring and even into early summer. However, by mid-July the dominant microalgae had been replaced by a bloom of very small single-celled cyanobacteria that greatly increased the turbidity of the lake, resulting in seasonally low Secchi depths of about 1 meter. By late July, the single-cell bloom had abated, and several species of filamentous cyanobacteria in the genus *Dolichospermum* had increased in abundance, reaching a peak in August when they were 54% of the total phytoplankton biovolume (a direct indicator of biomass). Cooling waters in early September lead to the resurgence of diatoms, which by September 15 made up nearly 60% of the phytoplankton biovolume.



K. Keeler & L. Lesko, USGS

A filament of *Dolichospermum spiroides* and a colony of *Microcystis* shown together (Left). The diatom *Fragillaria crotonensis* (right).

Several important conclusions can be drawn from this study. First, the seasonal pattern of phytoplankton dominance with abundant cyanobacteria (~35% of the biovolume on average) from mid-July to August is consistent with the 2014 data and with other recent observations. This is now considered to be the typical summer pattern for Conesus Lake. The average biovolumes of cyanobacteria and phytoplankton in 2022 were lower than those reported in previous years (Figure 2). Interestingly, the species of *Microcystis* that trouble

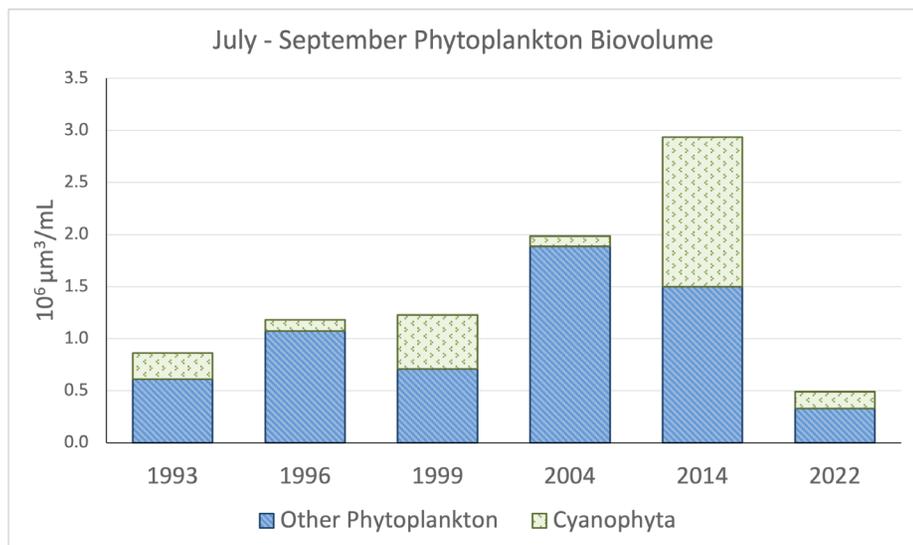


Figure 2 - Phytoplankton Biovolume

neighboring lakes and are notorious for producing microcystin toxins are not abundant in Conesus Lake. Future studies will investigate the drivers of the observed seasonal shifts in dominance and try to better understand why species of *Dolichospermum* are dominant in the summer phytoplankton community of Conesus Lake.

### Trophic State and CSLAP

Conesus Lake continued to participate in CSLAP, the Citizens' Statewide Lake Assessment Program, designed to provide comparable water quality monitoring data for lakes across the state. Limnologists and lake managers rely on key measurements to assess a lake's level of primary productivity or trophic state. Total phosphorus (Total P), chlorophyll-a (photosynthetic pigment indicative of phytoplankton), and Secchi disk transparency (a measure of water clarity) are widely used to demonstrate a lake's trophic state.

Biweekly sampling was conducted from June through September. The 2022 results (Table 2) indicate that Conesus Lake continues to be classified as mesotrophic (moderate

levels of productivity) with total phosphorus, water clarity, and chlorophyll-a (an indicator of phytoplankton abundance) within normal ranges for this lake.



SUNY Geneseo students participating in lake monitoring.



SUNY Geneseo students participating in lake monitoring.



Statewide CSLAP training for volunteers on Conesus Lake.

Table 1. Sequence of Monitoring and Assessment, 2003-2022

Year	Lake Monitoring					Lake Remedial Alternatives		Tributary BMPs and Load Estimates	
	Trophic State	Beach Bacteria	Macrophytes	Internal Phosphorus	Food Web	Enhanced Mixing	Alum Treatment	USDA Project	Streambank Stabilization
2003	✓	✓	✓	✓				✓	
2004		✓	✓		✓Plankton, Fish		✓DEIS	✓	
2005		✓	✓		✓Macrobenthos		✓Jar Tests	✓	
2006, 2007	✓	✓	✓			✓SolarBee		✓	✓(2007)
2008		✓	✓					✓	✓
2009	✓	✓	✓	✓	✓Plankton, Fish			✓	
2010		✓	✓					✓	
2011, 2012	✓	✓						✓	
2013		✓							
2014	✓	✓			✓Plankton, Fish				
2015, 2016		✓						✓	✓(2016)
2017	✓CSLAP	✓		✓					
2018, 2019	✓CSLAP	✓		✓	✓Cyanobacteria				✓(2019)
2020	✓CSLAP	✓	✓	✓	✓Plankton			✓	
2021	✓CSLAP	✓	✓		✓Zooplankton			✓	
2022	✓CSLAP	✓		✓	✓Phytoplankton			✓	✓

Table 2. Results of 2022 CSLAP Monitoring, Conesus Lake

Trophic State Indicator Parameters (June-Sept)	Trophic State Classification Ranges			Conesus Lake South		Conesus Lake North	
	Oligotrophic	Mesotrophic	Eutrophic	2022 Median	Long-term Median	2022 Median	Long-term Median
Summer average total phosphorus, (ug/L)	<10	10 - 35	35 - 100	13	17	15	17
Summer average chlorophyll-a (ug/L)	<2.5	2.5 - 8	8 - 25	4.3	5.1	4.5	6.5
Summer average Secchi disk (meters)	>6	6 - 3	3 - 1.5	3	2.9	3.2	2.9

South Basin data, intermittent from 1972 to present. North Basin data, 2017-present.

## Tributary Monitoring

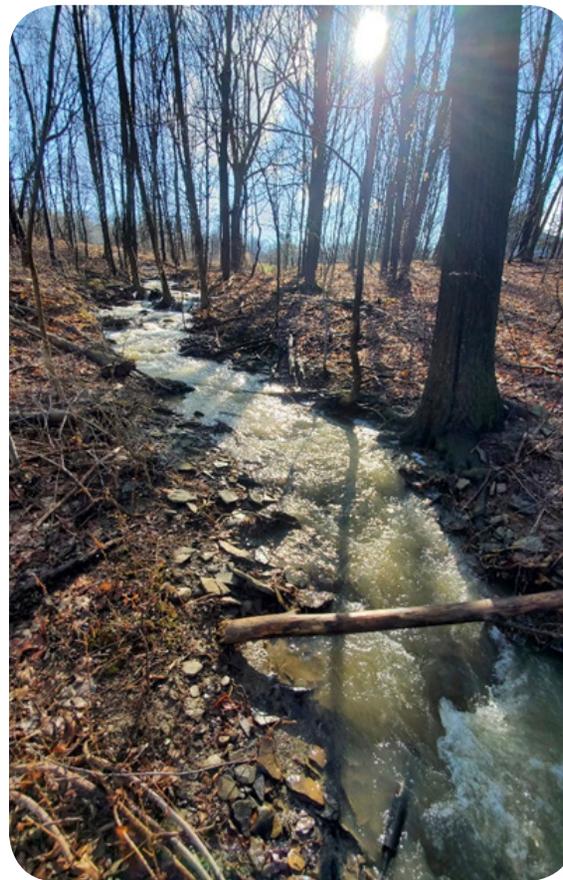
In 2022, Dr. Michael Chislock, Dan Beers, and Brayden Link of SUNY Brockport continued to lead a tributary monitoring program designed to assess nutrient and sediment influx to Conesus Lake, with spring and summer activities focused on the North McMillan subwatershed. North McMillan Creek has historically served as a relatively pristine, reference watershed for the lake to help assess baseline nutrient and sediment loading as well as the effectiveness of management practices. However, significant loadings of total suspended sediments (TSS) and phosphorus occurred several times throughout summer and fall of 2022 during intense storm events as a result of streambank erosion and potential changes in land use.

The 2022 tributary monitoring program focused on 8 selected sites in the North McMillan subwatershed to identify potential sources of sediments and nutrients. Biweekly sampling of TSS and total phosphorus (TP) occurred from mid-March to the beginning of June, in addition to 3 storm events. A major conclusion of the 2022 tributary monitoring program

is the degradation of North McMillan Creek water quality. In particular, remediation efforts are needed in the downstream reaches of North McMillan Creek. Stream bank restoration measures previously completed are failing and in need of future attention. Streambank erosion and concomitant sediment and nutrient loading from North McMillan may become a more prevalent issue in the future if the intensity and frequency of storm events increases with climate change. The 2023 tributary monitoring program will focus on unassessed bodies of water in the Conesus Lake watershed, in addition to continuing to assess nutrient and sediment influxes from North McMillan Creek.



Baseflow vs. storm event runoff showing turbid water.



Storm event runoff in the North McMillan subwatershed.

## Invasive Species

Invasive species are non-native, introduced species that cause harm to the environment, human health, and/or economy. Humans have dramatically increased the rate of spread of new species through international trade and travel. Invasives out-compete and displace native species in their new environment. In the absence of natural predators, invasive species can grow relatively unchecked and disrupt the native ecosystem. In response to the discovery of highly invasive *Hydrilla verticillata* in nearby Cayuga Lake, the Conesus Lake Watershed Council (CLWC) established an Invasive Species Sub-Committee tasked with drafting and implementing the Invasive Species Prevention and Response Plan (2013). Implementation efforts continued in 2022.

Invasive species information: <http://fingerlakesinvasives.org/>

To report NEW invasive species: collect plant sample/insect, send email with photo and location/gps coordinates to [FLXPlantID@gmail.com](mailto:FLXPlantID@gmail.com) and the Conesus Lake Watershed Manager at [munderhill@co.livingston.ny.us](mailto:munderhill@co.livingston.ny.us) or call 585-243-7550.

### Education and Monitoring

#### How can you help reduce the spread of aquatic invaders?

Practice Clean-Drain-Dry. Dispose of bait buckets and debris in trash cans or disposal stations. Do not dump aquarium contents in water bodies or ditches. Only use bait from dealers selling certified disease-free bait. DO NOT use Rudd, and learn how to identify & report invasives.

#### Starry Stonewort (*Nitellopsis obtusa*)

Starry stonewort (SSW), an aquatic invasive species, was confirmed in Conesus Lake in 2021. This species invades lakes, ponds, and slow-moving water bodies. It can form dense mats, outcompete native plants, reduce biodiversity, fish habitat and spawning grounds, and make lake recreation difficult. SSW is a macroalgae that resembles a vascular plant with a long stem-like structure and whorls of branchlets. It has several native “look



Carol Cole

SSW with characteristic star-shaped bulbils.

alikes”, but SSW may appear larger and more robust. It produces bulbils along clear rhizoids that anchor it to the sediment. SSW fragments easily and fragments can readily reproduce into new plants. SSW can persist under ice and snow and its bulbils can overwinter in the sediments ([greatlakescenter.buffalostate.edu](http://greatlakescenter.buffalostate.edu)).

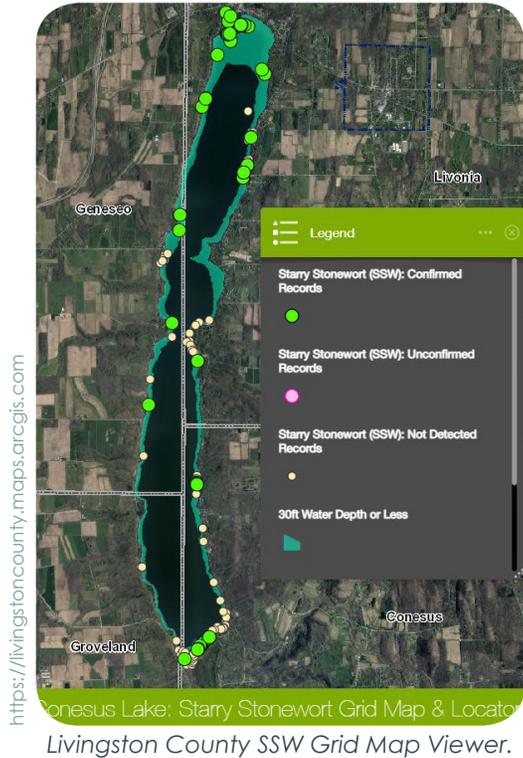
SSW was first discovered in the US in the Saint Lawrence River. It has spread throughout the Great Lakes basin, into the Finger Lakes, including Owasco, Cayuga, Keuka, Canandaigua and Skaneateles Lakes, and into at least 15 counties in NYS. One of the most likely means of transportation of this invasive is via people spreading fragments and bulbils between and within waterbodies.

SSW is known for its rapid and aggressive growth, and is often the first to recolonize disturbed areas. A 2021 study conducted by SUNY Geneseo and SUNY Brockport evaluated the ecological niche of SSW in Conesus Lake. Results showed SSW records throughout the lake at depths of 1 to 15 feet. The study confirmed that SSW is firmly established in Conesus Lake, and possibly has been for a number of years. Based on surveys conducted by Conesus Lake SSW volunteers, the mat density and pure monocultures observed in other lakes, such as Keuka Lake, have not been observed/located in Conesus Lake, to date.

SSW is difficult to control, and once well-established, eradication may be impossible. Control methods in other lakes have included hand pulling, mechanical harvesting, chemical application or diver-assisted suctioned harvesting. The proper use of benthic mats may be useful in small areas. Research on this species in the US has not been extensive. The full environmental and economic impacts, including impacts to

water quality, and best management practices of this species are not well understood and are still being researched.

In 2022, SSW volunteers continued surveillance in Conesus Lake. Reduced numbers of samples were taken; less aquatic vegetation was noted in the lake this year. Due to the



widespread distribution of SSW around the lake perimeter, additional surveying is advised to help determine the most effective control and management strategies. The Subcommittee and regional experts will reconvene in 2023 to assess the extent of the population, and evaluate control methods for Conesus Lake. Grant funds will be investigated to support management efforts. Recommendations from the Subcommittee will be forwarded to the Watershed Council for their consideration.

### Hydrilla (*Hydrilla verticillata*)

Hydrilla is a submerged aquatic macrophyte that creates dense mats of vegetation. NYSDEC has classified hydrilla as one of the most difficult aquatic invasive plants to control, and eradication efforts are intense and costly. The plant can grow rapidly, blocking sunlight and displacing native plants and fish habitat. Decaying biomass can decrease dissolved oxygen content in the water column, leading to fish kills. Dense hydrilla growth would significantly impair fishing, boating, and recreation in Conesus Lake.

Hydrilla is on the Watch List of Conesus Lake (NOT present) so PREVENTION is the most effective control. Hydrilla can be easily spread by its seeds, buds, and plant fragments, and carried by currents, boats, trailers, and fishing gear to new locations. Dumping of unwanted aquarium contents is another common vector.



R. videki, Bugwood.org

Hydrilla

### Spiny Waterflea (*Bythotrephes longimanus*)

The spiny waterflea is a tiny crustacean less than 1/2 inch long, with long, sharp, barbed tails. Masses of the spiny waterflea can accumulate on fishing gear, forming gelatinous clumps on fishing lines. Spiny waterfleas feed heavily on native zooplankton, like *Daphnia*, an important food for young native fish. As spiny waterfleas become more abundant, less food remains for juvenile fish. Small fish cannot readily consume them because of their long sharp tails, adding to the waterfleas' explosive populations.

The Spiny waterflea is on the Watch List of Conesus Lake (NOT present) so PREVENTION is the most effective control. Fishing and boating equipment is the most likely means of spread. Boats and gear should be thoroughly checked, cleaned, drained, and dried before entering new waterways.



NYSDEC

Tiny waterfleas resting on the tip of a human finger.



Emily DeBolt

Hundreds of adult spiny waterfleas clumped together on a fishing line.

## Rudd (*Scardinius erythrophthalmus*)

Rudd has been confirmed in Conesus Lake. Rudd are adaptable and are often found in still or slow-moving water and in areas of dense vegetation. They consume large amounts of aquatic plants along shorelines, which can degrade breeding grounds for native fishes. Juvenile rudd eat zooplankton and aquatic insects, posing a threat to native food webs and juveniles of native species. Rudd can breed with native fish, aiding to a loss of genetic diversity. Long term effects of rudd are still being studied. Potential impacts of rudd on the Conesus Lake food web will continue to be monitored, in partnership with our SUNY researchers.

Peter Vander Sluijs



Rudd

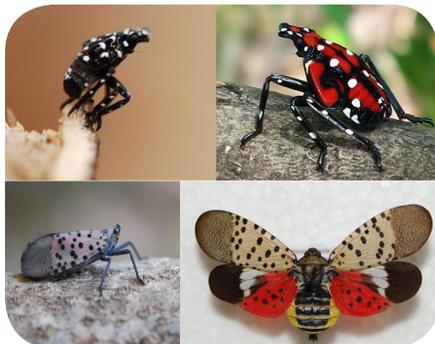
### How can you help reduce the spread of terrestrial invaders?

Practice Play-Clean-Go, clean hiking gear, use boot brush stations, don't move firewood, plant native species, and learn how to identify & report invasives.

## Spotted Lanternfly (*Lycorma delicatula*)

Spotted lanternfly (SLF) feeds on more than 70 plant species, including grapes, hops, fruit trees, and hardwoods (apple, cherry, maple, walnut and oaks), with a primary host of Tree of Heaven (*Ailanthus altissima*). This destructive pest feeds on plant sap, stressing plants, making them vulnerable to disease and other insect attacks, and excreting large amounts of sticky honeydew which attracts sooty mold and swarms of insects. This insect poses a significant threat to NYS agricultural and forest health.

L. Barringer, PA Dept. of Agriculture, Bugwood.org



Spotted Lanternfly

Per NYS Department of Ag & Markets (AGM), circle traps to capture adult SLF have been effective. This design also allows for the release of other beneficial insects/small mammals accidentally captured. AGM is not recommending the use of sticky traps. The CLA, with support from the Livingston County Environmental Management Council (EMC) and the Finger Lakes PRISM, installed several circle traps in the Conesus Lake watershed in 2022 on private lands and at one local winery.

SLF was discovered in 2014 in Pennsylvania. According to Cornell University, the closest infestation has been reported in the Buffalo, NY, area and the closest sightings have been located in Monroe and Ontario Counties, NY. Insects lay eggs on a variety of surfaces including vehicles, stone, and firewood and are easily spread by people to new areas.

### How can you help?

Check vehicles, trailers, and materials to be transported for insects and egg masses before traveling. Scrape off and dispose of egg masses. Consider removal of Tree of Heaven. Report it to AGM at [spottedlanternfly@agriculture.ny.us](mailto:spottedlanternfly@agriculture.ny.us).

## Mile-a-Minute Vine (*Persicaria perfoliata*)

Mile-a-minute vine (MAM) was confirmed in the Conesus Lake watershed in the Town of Geneseo in 2017. The invasive vine grows along hedgerows, roadsides, and other disturbed areas. MAM vine smothers and often kills other vegetation. It can grow up to 6 inches a day forming dense mats.

L.J. Mehrhoff, U. of Connecticut, Bugwood.org



Mile-a-minute close-up

SUNY Brockport, Finger Lakes PRISM, and NYSDEC lead the coordinated response in Geneseo, with support from Livingston County and the CLWC. In 2022, SUNY Brockport conducted three pulls, in August, September, and October.

Their eradication efforts show the seed bank is not completely exhausted, although plant numbers continue to decrease. As seeds from past years can survive in the soil for up to seven years, SUNY Brockport will continue eradication efforts at this site.

## Watercraft Steward Program

The primary pathway by which many aquatic invasive species reach inland waterways is by “hitchhiking” on recreational boats, trailers, fishing gear, or in the live wells of fishing boats. Hydrilla and water chestnut are highly aggressive aquatic invasive plants that form dense mats that block sunlight to native plants below, crowd out native fish habitat, and impede boating, fishing and swimming. Some invasives on the Watch List for Conesus Lake include: hydrilla, water chestnut, Asian clam, quagga mussel, spiny waterflea, European frogbit and round goby. These Watch List invasives are not known to be present in Conesus Lake; they do pose a significant threat to the lake.

Watercraft Steward Programs educate the community on the risk of spreading invasive species via recreational boating and assist boaters in performing inspections and invasive species decontamination. In 2022, the Watercraft Steward Program was fully funded under the NYS Office of Parks, Recreation and Historic Preservation (OPRHP) and was supported by SUNY College of Environmental Science & Forestry (ESF) and the CLA.

In 2022, two Watercraft Stewards staffed the Conesus Lake boat launch from Memorial Day weekend to mid August. Although the total boats inspected has decreased annually at the boat launch since 2017, this was a year with many positive trends. Compared to 2021, there was an increase in Total Days Covered, Fishing Boats Inspected, Total Launches Inspected, Risk Launches Inspected, and Organisms Detected. Of special note, the Stewards completed 348 Boat Decontaminations in 2022, an increase from 51 Decontaminations last year.

In 2023, ESF, State Parks, and the CLA will continue to work

**Watercraft Steward Program Data, Conesus Lake**

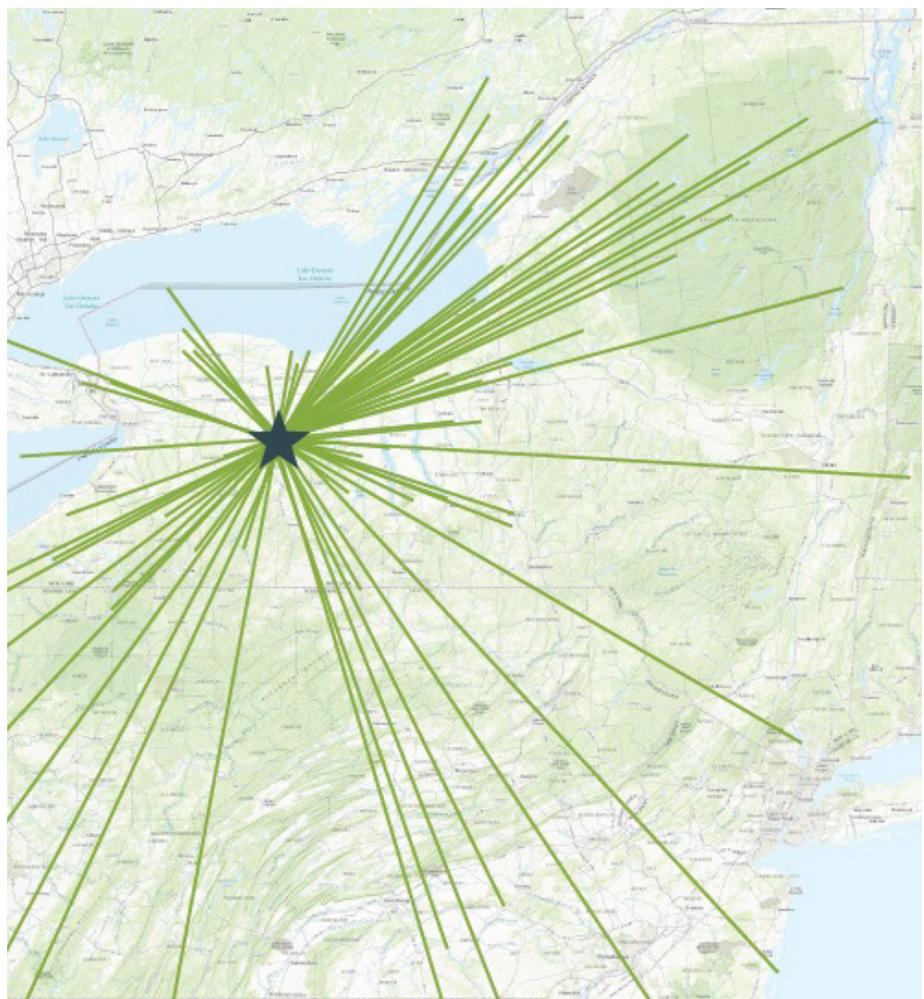
	2022	2021	2020	2019	2018
<b>Boats inspected</b>	3,358	3,392	3,989	4869	6423
<b>Non risk boats (last launch-Conesus)</b>	2,228	1,938	*	2446	5651
<b>Risk boats (last launch other)</b>	491	375	600	*	772
<b>% of total boats</b>	22%	11%	*	*	12%
<b>Boats found with organisms attached</b>	22	4	32	24	4
<b>% of total boats</b>	0.66%	0.12%	0.80%	0.5%	.06%
<b>% of risk launches</b>	4%	1.07%	5.3%	4.2%	.52%
<b>Fishing boats inspected</b>	971	868	594	1244	2241
<b>Prior contact with a Steward</b>	94%	89%	86%	96%	98%
<b>Prevention steps taken prior to launch</b>	91%	74%	66%	67%	97%
<b>Total days of coverage</b>	51	47	58	*	*
<b>Decontaminations completed</b>	348	51	8	1	4

\*Due to new state tracking/data capture methods, comparable data was not collected.

together on more flexible schedules to increase steward coverage during peak use times and coverage of fishing tournaments, which will increase the total number of boats inspected.

Conesus Lake attracted boaters from 37 different waterbodies across NYS in 2022. The number of boats coming from other lakes found with contaminants increased to 22 up from four

### Last Waterbody Visited



Boats travel to Conesus Lake from across the continent, emphasizing the need for the Watercraft Steward Program. In 2018, boats came as far as Canada and Alaska.

in 2021. 94% of boaters entering the launch had previously spoken with a Watercraft Steward. Boaters taking prevention steps prior to launch increased significantly to 91%.

### Fish Stocking Program

The CLA and NYSDEC have stocked young walleye in the lake to increase the walleye population that was decimated by the introduction of the invasive alewife. In turn, adult walleye prey on alewives, which helps lower the alewife population.

In June, the NYSDEC stocked 58,800 walleye fry (1.5” length) in Conesus Lake. In August, stocking of the usual annual allotment of 9,500 tiger muskellunge fingerlings (8.5” length) was completed. In 2022, the CLA did not participate in fish stocking in the lake.



Watercraft Steward Training.

NYS Waterbodies That Boats Visited From, in Order of Highest Frequency.			
1	Honeoye Lake	10	Erie Canal
2	Canandaigua Lake	11	Cayuga Lake
3	Irondequoit Bay	12	Niagara River
4	Lake Ontario	13	Canadice Lake
5	Seneca Lake	14	Adirondacks
6	Silver Lake	15	Chautauqua Lake
7	St. Lawrence River	16	Lake George
8	Lake Erie	17	Oneida Lake
9	Keuka Lake	18	Otisco Lake

## Watershed Inspection Program

The objective of the Conesus Lake Watershed Inspection Program is to help protect and enhance Conesus Lake as a potable water source. Conesus Lake is a valuable resource for Livingston County; protection of the water supply is important for health of the community. With the cooperation and contributions of the two purveyors of public water (Villages of Avon and Geneseo), the Village of Livonia, Livingston County, and five surrounding towns, the inspection program became a reality on August 31, 1998. The Livingston County Department of Health (LCDOH) provides the Conesus Lake Watershed Inspector who responds to concerns regarding water quality and non-point sources of pollution in the watershed.

### Watershed Inspections

The Watershed Inspection program is responsible for monitoring water quality and environmental conditions across the lake and watershed. In addition to responding to complaints and emergencies such as flooding and sewage overflows, the Inspector conducts routine surveillance of construction activities and monitors bathing beaches for compliance with public health standards, including harmful algal blooms.

2022 Inspection Activities	
Complaints	24
Violations	3
New Septic Systems	4
Repaired Septic Systems	7
Sewage Overflows	1
Bacteriological Bathing Beach Water Samples	30
Beach Closure Days	31
Educational Events, Outside of WEC Programs	1
Damaging Flooding Events	1

2022 Complaint Breakdown	
Sediment and Erosion	15
Drainage	0
Sewage Discharge	3
Agricultural Related	1
Nuisance	3
Weeds/Algae/Odor/HABs Reports	2
Petroleum & Chemical	0

Conesus Lake Drinking Water Facts and Figures		
	Village of Avon	Village of Geneseo
NYSDEC Allocation	3.5 MGD	3 MGD
Plant Rating	1 MGD	2 MGD
2018 Annual Usage (gallons)	273,000,000	359,000,000

MGD: (million gallons per day)

### Drinking Water

The NYSDEC classifies Conesus Lake as a Class AA waterbody, designating its best use as a public drinking water supply. One of the goals of both the Watershed Inspection and Management Programs is to ensure this best use. The Villages of Avon and Geneseo both use Conesus Lake as the source for their public water supply. Through these two purveyors, Conesus Lake water supplies more than 20,000 users and 10 water districts, including the Villages of Avon and Geneseo, and portions of the Towns of Avon, Geneseo, Leicester, and York.



## Bathing Beach Monitoring

The LCDOH collects weekly nearshore water samples at designated bathing beaches each summer and tests for the presence of fecal coliform bacteria. Fecal coliform bacteria are used as an indicator of recent contamination of water. While coliform bacteria may not be pathogenic (disease-causing), their presence means that other harmful microbes may be in the water. Results of the tests are compared with public health standards to determine the safety of water contact recreation. In 2022, both monitored bathing beaches (Conesus RV Park Beach and Camp Stella Maris) were in full compliance with the fecal coliform bacteria standards.

Beach Closures Due to HABs						
	2022	2021	2020	2019	2018	2017
Long Point	*	*	*	0	1	0
Stella Maris	2	2	1	1	1	0
RV Park	1	3	0	1	1	0

HAB: Harmful Algal Blooms \*Long Point Park Beach closed in 2020-2022

## Special Projects

Long Point Stormwater Management Facility Feasibility Study evaluated the feasibility of the construction for drainage improvements along Long Point Road in Geneseo to address drainage and stormwater management concerns, and mitigate impacts to Conesus lake. Completed in 2022.

Streamgage Technical Memorandum by Schnabel Engineering described options for monitoring tributary inflows to Conesus Lake and the potential installation of a streamgage within the watershed. Memorandum released in 2022. Discussions on potential benefits of watershed streamflow monitoring and potential locations for a streamgage will continue in 2023.

Conesus Lake Watershed Management Plan Update-Livingston County, on behalf of the Towns of Conesus, Geneseo, Groveland, Livonia and Sparta, was awarded the grant in 2022 to complete

an update to the 2003 Conesus Lake Watershed Management Plan. This project will also include a review of local green infrastructure land use regulations. Project completion in 2024 is anticipated.

Livingston County Road Ditch Remediation Grant, on behalf of the Towns of Conesus, Geneseo and Sparta, was awarded in 2022. Funding provided for erosion control measures on 14,000 feet of roadside ditches in the Conesus Lake watershed. Project completion is anticipated in 2023.

Conesus Lake Watershed Management Plan & Partnerships 20-Year Report provides a visual compilation of 20 years of successful implementation of water quality recommendations and projects in the Conesus Lake watershed. Project initiated in 2022, and completion is anticipated in early 2023.

Lakeville Corridor Strategic Plan is a streetscape/design plan for State Hwy 20A from West Lake Road to East Lake Road in the Town of Livonia. The plan includes recommendations

for stormwater management, an examination of access management, transportation inter-relatedness with local land use and development, public transportation accessibility, pedestrian infrastructure improvements, and other complete street concepts. The plan will address concerns with the corridor, to promote user safety and facilitate bike and pedestrian infrastructure investments. The Town of Livonia received funding, through the Genesee Transportation Council, to complete this study in 2023.

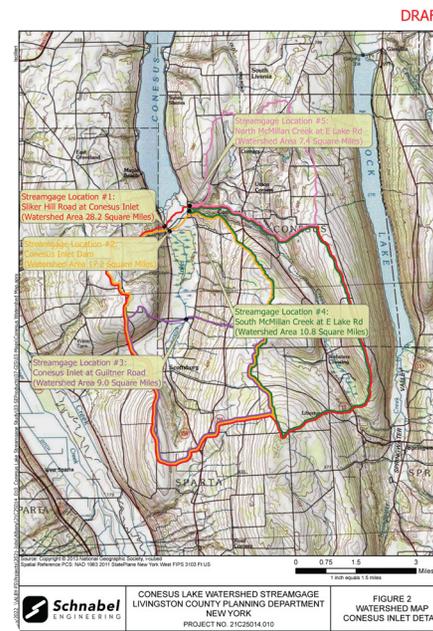


Figure 2 - Watershed Map Conesus Inlet

## Harmful Algal Blooms

Harmful algal blooms, or HABs, generally consist of visible patches of a bacteria called cyanobacteria. Cyanobacteria, also known as blue-green algae (BGA), are naturally present in low concentrations in most lakes and streams. Under certain conditions, cyanobacteria can multiply rapidly, forming blooms that are visible on the waterbody's surface. Some cyanobacteria can produce toxins that are harmful to people and animals, in cases of ingestion, skin contact, or inhalation. During the summer and fall, the Watershed Inspector conducts routine surveillance for HABs and responds to reports of blooms from the Sheriff's Marine Patrol and citizens on the Lake.

### 2022 Bloom Season

In Conesus Lake, the first HAB was identified on July 12th and the last HAB was recorded on August 12th. There were a total of three beach closures in 2022. Five HABs were confirmed. HABs reports were received from LCDOH (5), the CSLAP team (1), and from NYS Parks (1).

### Harmful Algal Blooms Action Plan

The NYSDEC released the Conesus Lake HABs Action Plan in 2018. Conesus Lake was among the 12 priority lakes selected for development of a HABs Action Plan, due to its importance as a water supply and recreational asset. The Plan describes current conditions and trends and recommends solutions to reduce the risk of cyanobacterial blooms and associated adverse effects on recreational use, potable water supply, and aquatic life protection. Significant sources of phosphorus affecting lake water quality conditions were identified.

The percent contribution of phosphorus sources to Conesus Lake were consistent with previous estimates from the SUNY research and monitoring efforts that began in the early 2000s. Internal loading from legacy phosphorus is the major source, contributing some 80% of the annual load. Watershed runoff supplies the remaining 20%.

## Partnerships Protect Water Quality



LCDOH

Clumps of cyanobacteria on the surface may be the beginning of a HAB.



LCDOH

Several types of cyanobacteria from a lake sample.

## Key Actions Taken to Address the Plan:

- Conesus Lake volunteer HABs monitoring program continued with numerous spotters, working in conjunction with the Livingston County Marine Patrol and trained by LCDOH and the CLA.
- HABs surveillance, beach monitoring and health advisory notifications from the LCDOH continued.
- Two Town of Livonia Water Quality Improvement grants moved forward. These grants will address shoreline stabilization and enhance water circulation and reduce residence time in critical areas, which will aid in the reduction of HABs.
- The SWCD supported multiple Ag BMPs in the watershed to reduce runoff, soil erosion and nutrient loss.
- NYSDEC continues to improve and standardize reporting of cyanobacterial blooms through their New York Harmful Algal Bloom System “NYHABS,” an online notification and reporting system. CLA volunteers and all lake users are encouraged to report suspicious blooms to the Watershed Inspector, an employee of the LCDOH and will report

confirmed blooms along with appropriate documentation to NYHABS. The bloom will also be immediately reported to the LCDOH to determine if a release of a Public Health HABs Advisory is appropriate.

## Total Maximum Daily Load

The 2019 Conesus Lake Phosphorus Total Maximum Daily Load (TMDL) outlines target reductions in phosphorus loading needed to restore and protect the lake for its designated uses as a water supply, recreational resource, and habitat for native plants and animals. Reductions are needed in both external (watershed) sources and internal (legacy phosphorus from lake sediments) sources as shown in Table 3. Efforts to reduce watershed nonpoint source runoff continue and are challenged by the increased frequency of high intensity precipitation events. Management practices such as winter cover crops, infiltration basins, whole farm planning, and green infrastructure are effective and will continue to be deployed across the watershed. In 2021, NYSDEC began pilot testing techniques for mitigating internal phosphorus loading in other lakes in NYS and plans to continue this effort in 2023. This development holds promise for expanding the tools available to meeting the lake’s phosphorus TMDL targets.

**Table 3. Summary of Conesus Lake Phosphorus TMDL**

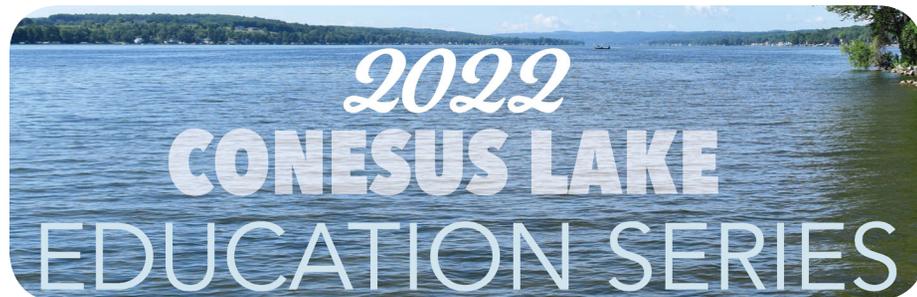
Phosphorus (P) Source	Current P Load (kg/year)	Target P Load to achieve water quality (kg/year)	Required Reduction
Forest and natural areas	321	321	0%
Agricultural runoff	3,202	2,700	16%
Runoff from developed areas	756	700	7%
Internal-aerobic sediment release	6,288	2,680	57%
Internal-anaerobic sediment release	10,641	4,538	57%
<b>Total</b>	<b>21,208</b>	<b>10,939</b>	<b>48%</b>

## Education

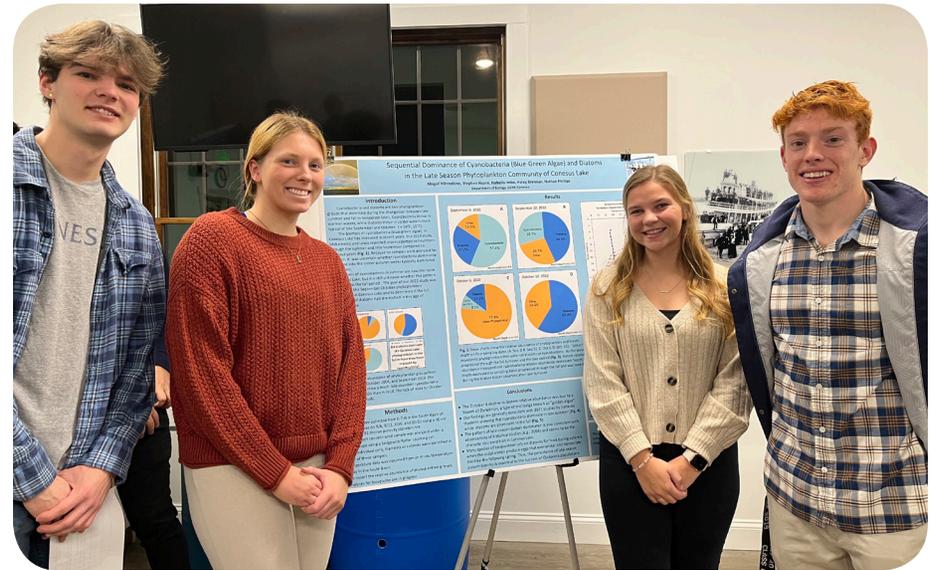
The Watershed Education Center (WEC) at Vitale Park, in the Town of Livonia, serves as an educational hub providing information about watershed protection and best management practices. A collaborative group of watershed partners, Town of Livonia, CLA, CCE, Chip Holt Nature Center, and Livingston County Planning Department and DOH, worked to deliver a year-round educational program, at no cost to participants, featuring scientists and professionals with local, regional, and state perspectives. In 2022, a total of 12 programs reaching 470 participants were held, with an average number of 39 participants attending per session. The geographic range of attendees continues to expand, likely due to digital access.

The WEC programs were widely promoted. In addition to the web and social media, an ad was placed in the Genesee Valley Pennysaver, and funded with FLOWPA funds. A rack card with WEC info was distributed. Both the Pennysaver ad and the WEC rack card contained the CLA website link where full program information was available.

In response to COVID 19 restrictions, programming in 2020 transitioned successfully to a hybrid presentation format. The hybrid format, offering both virtual and in person attendance, was positively received by participants. In 2022, the CLA researched and purchased state-of-the-art equipment to enable superior hybrid presentations. Funding for the equipment was provided by the Towns of Livonia, Conesus, Genesee and Groveland, CLA, and private donors.



WEC Program Advertisement.



SUNY Genesee students presenting at the December program - "SUNY Genesee & SUNY Brockport Student Presentations".



Scout Troop 5074 from Livonia assisting with the "Rain Barrel Workshop".

"Livonia High School Student Presentations" - best attended program in 2022 with 75 participants.



## Agricultural Best Management Practices

*Agricultural Best Management Practices (BMPs) help protect water quality by reducing nonpoint sources of pollution on farms. Nonpoint source pollution occurs when rainfall moves over and through the ground picking up loose soil, nutrients, and other pollutants. BMPs function to keep soil and nutrients on the farm and out of ditches, gullies, and streams that flow into lakes and other waterbodies. The same nutrients that help plants grow in the field can contribute to plant growth in a lake in the form of weeds and algae.*

The Livingston County SWCD conducted an Upland Watershed Protection Program for agricultural land uses to reduce nonpoint sources of pollution from entering waterbodies throughout the watershed.

FLLOWPA funding was used by the SWCD on two farms in the watershed in the Town of Livonia: Webb Farm and Cadyville Farm. Details of these projects are included below.

### Cadyville Farm

- Designed to alleviate erosion and drainage limitations impacting 100 acres of active farmland
- Decommissioned failed pond
- Reconstructed two failed drainage ditches



Cadyville Farm, Pre Construction



Cadyville Farm, During Construction

- Established a 350-foot shallow diversion ditch
- Completed project makes continued improvements to adjacent croplands possible



Cadyville Farm, Post Construction

### Webb Farm

- Designed to address ongoing and worsening erosion and flooding impacts
- Project promotes more natural stream characteristics and the ability for flood waters to reach the floodplain
- Removal of woody debris/blockages and grading along 1,800 feet of the stream corridor
- Established 1.5 acres of permanent sod to act as a buffer along the northern side of the stream segment



Webb Farm, Pre Construction



Webb Farm, Post Construction

## Trends and Recommendations

*Identifying emerging trends and issues and establishing recommendations helps guide the Conesus Lake Watershed Council's yearly Work Plan.*

### Emerging Trends and Issues

- Invasive forest pests including, but not limited to spotted lanternfly, hemlock wooly adelgid, emerald ash borer, and spongy moth affecting forest cover and riparian habitat.
- Confirmed HABs have fluctuated over the past few years in Conesus Lake with five blooms in 2021 and in 2022, one bloom in 2020, six blooms in 2019, and nine blooms in 2018.
- Impact of aquatic invaders in Conesus Lake: rudd and starry stonewort.
- Risk of aquatic invaders coming to Conesus Lake: hydrilla, water chestnut, Asian clam, quagga mussel, and spiny waterflea.
- Changes in weather patterns (National Climate Assessment): Increase in the frequency and duration of droughts leading to low water levels and intermittent streams.
- More intense rain events and overall precipitation leading to increased high flow events and associated risk of damage to property and infrastructure as well as increased pollutant loads to the waterways.
- Less reliable snowpack and spring groundwater recharge.
- Increase in sodium and chloride levels in treated water at both the Village of Avon and Village of Geneseo water treatment plants. Sodium levels exceed the recommended levels for consumption by individuals on severely restricted sodium diets.

### Recommendations

- Update the Conesus Lake Watershed Management Plan.
- Continue to advocate for funding and technical support for implementing agricultural BMPs in priority areas.
- Remediate road ditches identified in the NYSDEC WQIP grant.
- Encourage participation in the NYSDEC septic system replacement program, through the LCDOH.
- Assist municipalities with water resources planning and zoning updates, including green infrastructure regulations.
- Continue active participation in CSLAP, PRISM, Watercraft Steward Program, and others.
- Continue to support Public Education & Outreach initiatives, including WEC programming.
- Conduct SUNY annual monitoring program and LCDOH water quality parameter monitoring program.
- Revisit Invasive Species, Harmful Algal Blooms, and Fish Kill Response Plans.
- Pursue additional funding for watershed restoration projects.
- Continue implementation of Governor's HABs Initiative and pursue funding to support the recommendations in the Conesus Lake HABs Action Plan.
- Conduct further investigation into potential causes and solutions to help mitigate increases in sodium levels.
- Continue to support the LCDOH Watershed Inspection Program.
- Continue to support special projects within the watershed, including the Lakeville Corridor Strategic Plan and the potential Conesus Lake streamgage.

Document (Rec #)	Recommendation	Actions
<b>Annual Report Card</b>		
CLWMP (H-2)	Prepare and distribute an annual Conesus Lake and Watershed Report Card.	2021 Annual Report Card was approved by the Watershed Council and provided to NYSDEC/Finger Lakes Hub.
CLWMP Purpose; CLWMP (A-1)	Consider updating the CLMWP, as an evolving guidance document as needed; Review/amend zoning regulations to improve consistency in near-lake areas and address water quality concerns in the watershed.	Conesus Lake Watershed Management Plan (CLWMP) Update grant was awarded. Grant will include Green Infrastructure zoning updates. Plan update will get underway in 2023.
<b>Monitoring Program</b>		
CLWMP (H-1)	Conduct an annual monitoring program of Conesus Lake and its watershed to evaluate water quality and ecological conditions, assess the effectiveness of controls, and identify the need for additional actions. Hold an annual monitoring meeting to coordinate the program.	SUNY Geneseo and SUNY Brockport 2022 in-lake program focused on phytoplankton and zooplankton community structure and dynamics, and the study of cyanobacterial dominance. SUNY Brockport conducted stream & storm event sampling. Watershed team continued to monitor nonpoint source loading from the landscape and identify areas of potential concern.  CLA continued to deploy state-of-the-art instrumentation for water quality monitoring. This program provided data to SUNY partners to support their lake monitoring and research program.  LCDOH continued public bathing beach and HABs monitoring programs. LCDOH & CLA conducted the volunteer HABs monitoring program.
HABs	Implement recommendations from the NYSDEC HABs Action Plan to minimize the frequency, duration and intensity of HABs in Conesus Lake.	Town of Livonia moved forward on their WQIP Old Outlet Reconfiguration Grant. The new open span bridge was officially opened in the Spring. USACE & DEC dam gate permits were approved. Whipps & Siewert, contractor, initiated shop drawings; dam gate delivery is anticipated in early 2023.  Conesus Lake volunteer HABs monitoring program continued working in conjunction with the LC Marine Patrol. LCDOH completed weekly surveillance of HABs. Through complaint investigation and regular surveillance, five HABs were confirmed.
TMDL	Implement recommendations from the EPA/NYSDEC TMDL Implementation Plan to assist in watershed nutrient reduction.	2022 CSLAP program funded through FLOWPA and DEC for two monitoring sites on Conesus Lake. 2022 Program operated with three CLA volunteers. Statewide training for new CSLAP volunteers was hosted at the WEC.

Document (Rec #)	Recommendation	Actions
<b>Invasive Species</b>		
CLWMP (G-1), CLWC IS Prevention & Response Plan.	Investigate and implement effective methods to control the spread of non-native (exotic) organisms.	<p>ESF/OPRHP renewed the Watercraft Steward Program contract for a 5-year period. Program fully funded through 2027. Two Watercraft Stewards staffed the Conesus Lake State boat launch from Memorial Day weekend to mid-August. 3,358 boats were inspected, and 22 boats were found with organisms attached. The stewards completed 348 Boat Decontaminations in 2022.</p> <p>CLWC Invasive Species Prevention &amp; Response Plan continued to be activated to address starry stonewort (SSW). The Aquatic Invasive Species (AIS) Subcommittee, State Parks, and DEC were involved in planning for 2022 monitoring. SSW training was held at the WEC. Reports of reduced numbers of SSW samples in 2022; less aquatic vegetation noted in the lake overall.</p> <p>Watershed Manager participated in PRISM Full Partner and Working Group meetings.</p> <p>SUNY Brockport - led continued MAM eradication efforts at the Geneseo site.</p> <p>LCDOH, LCPD, &amp; CLA coordinated drone/underwater camera use for AIS/HABs response. Exploration of legislative support for Invasive Species emergency and control funding continued.</p>
CLWMP (E-2)	Develop a public education campaign promoting invasive species awareness.	Invasive species awareness education was promoted at the Watershed Education Center, with 3 targeted programs offered in 2022, and through the Watercraft Steward Program.
CLWMP (G-4)	Initiate effort to determine if increased stocking of walleye fingerlings, or other species, would be an effective biological control in Conesus Lake.	DEC stocked 58,800 walleye fry, 32,500 walleye pond fingerlings, 33,140 walleye fingerlings, and 9,500 tiger muskellunge fingerlings.
<b>Stream and Stormwater Management</b>		
CLWMP (A-3)	Develop public education campaigns on BMPs for lake and watershed residents.	<p>Town of Livonia worked with the CLA, CCE, LCPD, LCDOH, and LCSWCD on educational programming at the WEC. Promotion of WEC programs continued via distribution of informational rack cards, a Pennysaver ad, and social media posts. 2022 programming delivered in hybrid platform. 12 educational programs were held at the WEC, reaching 470 participants.</p> <p>Conesus Lake Stormwater Toolkit for homeowners and municipal officials, were distributed. Landowner issues with flooding/debris at mouths of streams has been identified as an area for research/study. A 3-part educational series to address landowner issues at the WEC has been scheduled in 2023. NYSDEC 4-hr Erosion Control Workshop was offered with funding provided by LCSWCD.</p>

Document (Rec #)	Recommendation	Actions
<b>Stream and Stormwater Management Continued</b>		
CLWMP (A-1)	Review and amend zoning regulations to improve consistency in near-lake areas.	LCPD provided support to the Towns of Conesus, Geneseo, Groveland, and Sparta on Solar and/or Battery Energy Storage Laws and/or projects.
CLWMP (C-1), Wilkins Creek	Develop and implement program to restore and stabilize streambanks in the watershed.	<p>Interest in additional grant funded projects in Wilkins Creek subwatershed was explored.</p> <p>Town of Livonia moved forward on their WQIP Natural Shoreline Restoration Grant to restore and stabilize Vitale Park’s eastern shoreline. City Hill Excavating, Inc. nearing completion with construction, Zehr’s will return in Spring 2023 to complete plantings.</p> <p>CPL completed the feasibility study for a Long Point stormwater management facility in Geneseo for a possible future CFA grant application.</p>
CLWMP (B-1)	Secure funding to help mitigate the financial impacts of changes in agricultural practices on the producers.	LCPD continued to work with the LCSWCD to implement Ag BMPs in the Conesus Lake watershed using CLAWS funding.
CLWMP (B-2)	Implement practices that will reduce nonpoint source pollution from farms.	LCSWCD continued to conduct an Upland Watershed Protection Program in the Conesus Lake watershed. LCSWCD supported two soil & erosion control projects in the Town of Livonia.
TMDL (7.1.3), CLWMP (D-3)	Identify and implement roadside ditch stabilization efforts.	With support from the LCPD & Highway Department, the Towns of Conesus, Geneseo, and Sparta were awarded a WQIP grant for road ditch remediation in the watershed.
CLWMP (C-2)	Identify and develop sites for regional stormwater treatment areas in cooperation with NYSDEC and other stakeholders.	Long Point Stormwater Management Facility Feasibility Study was completed in 2022.
CLWMP (C-2)	Support for the Lakeville Corridor Strategic Plan	Funding was secured and project is underway. The project involves a streetscape/design plan for State Hwy 20A from West Lake Road to East Lake Road in Lakeville. Project is under the direction of the Genesee Transportation Council & Town of Livonia.



Document (Rec #)	Recommendation	Actions
<b>Water Supply &amp; Wastewater Improvements</b>		
CLWMP (F-4)	Develop Protocol and timeline to inventory septic/sanitary systems within the watershed.	LCDOH participated in the DEC Septic System Replacement Program, which provides funding to property owners for replacement of eligible septic systems located in direct proximity to tributaries of Conesus Lake.
CLWMP (F-1)	Investigate feasibility of completing a Safe Yield Study.	Schnabel Engineering completed the Safe Yield Analysis for Conesus Lake. As a follow up, Schnabel conducted an investigation of streamgauge options and the completed Technical Report was supplied to the CLWC.
<b>Weeds and Algae</b>		
HABs, CL Fish Kill Contingency Plan	Implement response and contingency plans to address Harmful Algal Blooms and Fish Kills in Conesus Lake.	CLWC Invasive Species Prevention & Response Plan was activated to address the detection of starry stonewort.  Exploring use of drone & underwater camera for inclusion in Plan updates.
<b>Public Education</b>		
CLWMP (A-3)	Develop public education campaigns on BMPs for lake and watershed residents.	WEC programs addressed BMP's for lake and watershed residents.  LCPD supported and the CLA participated in the Livingston County Community Clean Up Event.
CLWMP (C-3)	Develop public education campaigns on the impact of human activities on the health of the Lake.	Worked in partnership with the CLA on public education efforts, and supported the Conesus Stewardship Initiative.

CLWMP - Conesus Lake Watershed Management Plan

Wilkins Creek - Wilkins Creek Subwatershed Stormwater Study

HABs - Conesus Lake Harmful Algal Blooms (Blue Green Algae) Early Detection &amp; Rapid Response Plan

TMDL - Total Maximum Daily Load for Phosphorus in Conesus Lake

# Conesus Lake Watershed Council

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[livingstoncounty.us/conesus.htm](http://livingstoncounty.us/conesus.htm)



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Document prepared by the Livingston County Planning Department and CC Environment & Planning



*Cover photos provided by SUNY Geneseo, Livingston County Department of Environmental Health, and Livingston County Soil & Water Conservation District.*