



Conesus Lake Annual Report Card



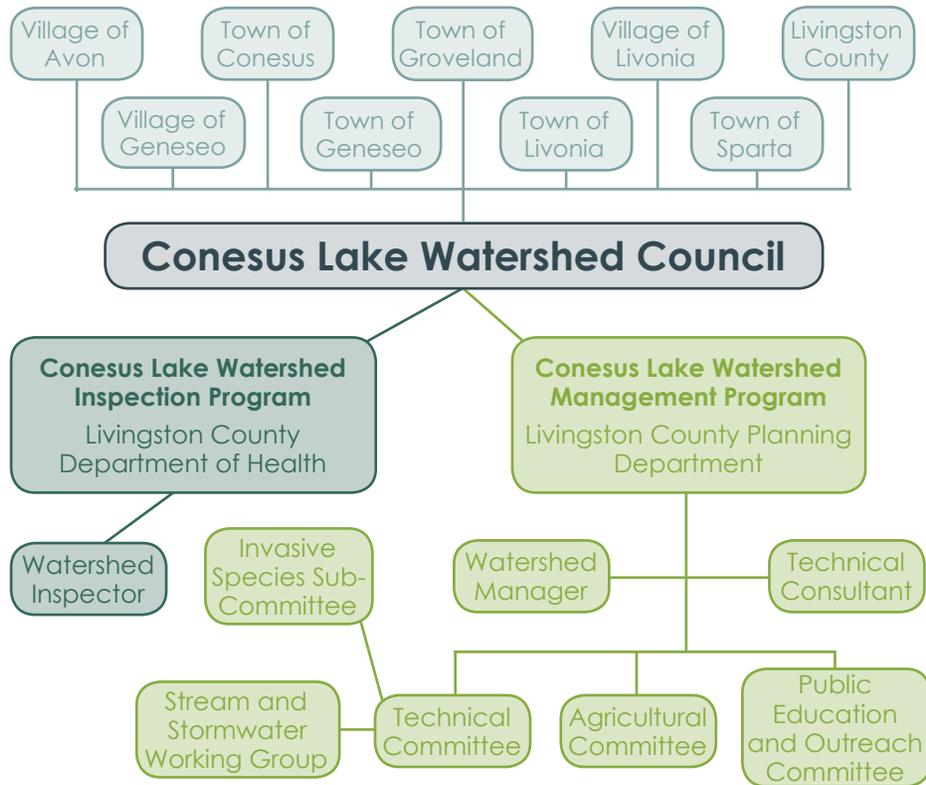
Conesus Lake Watershed Council

2016



About the Conesus Lake Watershed Council

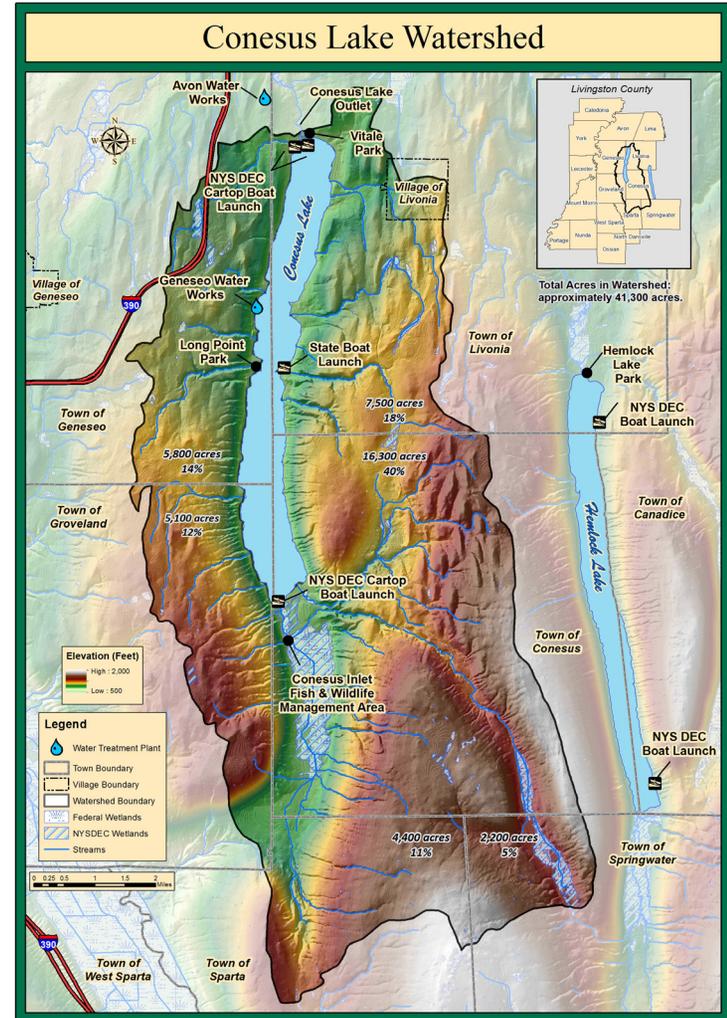
The Conesus Lake Watershed Council is an inter-municipal organization established in 2003 to govern the implementation of the Conesus Lake Watershed Management Plan. Council membership is composed of towns and villages with land within the watershed boundaries and water purveyors who use Conesus Lake as a public water supply. The Council oversees the Conesus Lake Watershed Management Program and the Conesus Lake Watershed Inspection Program. Three committees and two sub-committees comprised of local stakeholder agencies and organizations report to the Watershed Council.



Conesus Lake Watershed Council governing structure

Purpose of this Document

Recommendation H-2 in the Conesus Lake Watershed Management Plan (2004) 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 forum for tracking water quality conditions in Conesus Lake and highlighting implementation projects and new developments.



Summary of Major Accomplishments

Since its formation in 2003, the Conesus Lake Watershed Council has coordinated implementation of the recommendations of the Conesus Lake Watershed Management Plan. Restoring the health of the lake and its watershed requires a sustained effort across multiple partnerships and a focus on many deeply interconnected issues. Progress in implementation of the Conesus Lake Watershed Management Plan continued in 2016. Highlights include:

Invasive Species

- Continued implementation of the Conesus Lake Watershed Council's Invasive Species Prevention and Response Plan (adopted 2013).
- Mile-a-minute vine and hemlock wooly adelgid were identified in Conesus Lake Watershed.
- No new, high priority aquatic invasive species were discovered in 2016.
- The Watercraft Steward Program inspected 3,915 boats, added additional coverage hours, and a boat decontamination station in 2016.

Watershed Inspection Program

- The Watershed Inspector responded to 25 complaints, monitored 33 construction sites and issued 3 violations.
- The Department of Health continued its public bathing beach program through 2016.

Harmful Algal Blooms

- Blooms were absent during the peak summer season in July and August. Small localized blooms were identified during the Fall and early Winter.

Stream Restoration and Stormwater Management

- Streambank remediation construction was completed on upper Long Point Creek in the Town of Geneseo, North McMillan Creek in the Town of Conesus, and North Gully and Wilkins Creek in the Town of Livonia as part of the EPF Streambank Remediation Grant Program. Grant closeout documentation has been submitted to the NYS Department of State. The Project received the Genesee Branch of the American Public Works Association's Environmental Project of the year award.
- The Planning Department contracted with Barton and LoGuidice to provide code review and develop a regulatory toolkit. Agency and stakeholder interviews have begun.
- The Town of Livonia's contract for the Wilkins Creek Sub-Watershed Stormwater Study was submitted to the Department of State for execution.
- A Shorescaping Working group was created to work on shoreline restoration and other green landscaping projects and initiatives.

Agricultural Best Management Practices

- The Natural Resources Conservation Service supported the installation of cover crops on 650 acres of watershed farms.
- The Soil and Water Conservation District installed a catch basin to intercept 8 acres of water and 1,600 feet of underground outlet to address sheet, rill, and gully erosion on a 39 acre watershed farm.

Invasive Species

Invasive species, by definition, 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 Inlet in 2011, the Conesus Lake Watershed Council established an Invasive Species Sub-Committee tasked with drafting and implementing the Invasive Species Prevention and Response Plan (2013). Implementation efforts continued in 2016.

Volunteer Monitoring

The Conesus Lake Association met with Emily Staychock of the Cornell Cooperative Extension Invasive Species Program in June to discuss standardized aquatic invasive species monitoring protocol. On September 11, 2016, Conesus Lake Association volunteers conducted a Hydrilla Hunt on Conesus Lake using rake toss surveys. Two areas were searched: East Lake Road Boat Launch and Freedom Point near the lake outlet. No hydrilla plants were found during the field surveys. Hydrilla (*Hydrilla verticillata*) is an invasive aquatic plant that roots in the sediment and forms dense mats at the surface of the water that block sunlight to native plants below, crowd out native fish habitat, and impede swimming and boating.

Hemlock Woolly Adelgid

Hemlock woolly adelgid (*Adelges tsugae*) was positively identified in the Conesus Lake Watershed by the CCE Invasive Species Program. Hemlock Woolly Adelgid or HWA

is a small aphid-like insect originating from Asia that feeds on hemlock trees. The Eastern Hemlock (*Tsuga canadensis*) species found in the forests in New York State has not built up a natural resistance to this new invader. Hemlock Woolly Adelgid causes extensive tree decline and mortality within 4-10 years of initial infestation.



Hemlock Woolly Adelgid

Eastern Hemlock trees are found along creeks and in steep ravines in the southern portion of the Conesus Lake watershed. They serve an important role in stabilizing streambanks and preventing erosion. Their shade also cools stream water therefore moderating the temperature of the lake. Without this important species in the watershed, streambanks would erode sending sediment and nutrients into the lake. Water temperature would increase, fouling fish and wildlife habitat and increasing algae bloom frequency and duration and aquatic vegetation growth.



Hemlock Ravine

A hemlock woolly adelgid woodswalk was organized by the CLA and held on private land in the Town of Conesus. Invasive Forest Pest Specialists from Cornell University presented on HWA and potential control methods. The Conesus Lake Invasive Species Sub-Committee is looking into partnering with Cornell University to release HWA bio-control beetles once available in sufficient quantities.

Mile-a-Minute Vine

Mile-a-minute vine (*Persicaria perfoliata*) was confirmed in the Conesus Lake Watershed by the Finger Lakes PRISM in late September. The invasive annual vine grows along hedgerows, roadsides, and other disturbed areas with ample sunlight. Mile-a-minute vine smothers and often kills other vegetation. It can grow up to 6 inches a day forming dense mats. The occurrence in the Town of Geneseo is the first instance of Mile-a-minute vine north of the lower Hudson River Valley.



Mile-a-minute vine

The Invasive Species Sub-committee followed the Invasive Species Prevention and Response Plan to determine response strategy. The Finger Lakes Partnership for Regional Invasive Species Management is taking the lead on the coordinated response. Seeds were removed from the existing plants to prevent reseeding. Seeds from past years can survive in the soil for up to seven years, so further seed and plant harvesting will need to take place in following years. Additional surveying and landowner notification will take place during the 2017 growing season.



Hill covered in mile-a-minute vine

Boat Wash Station

The Conesus Lake Association received a New York State Department of Environmental Conservation grant through State Senator Cathy Young's office for a boat wash decontamination station at the East Lake Road Boat Launch. CLA volunteers worked with NYSDEC to administer this grant and construct and install the wash station. The grant also provided funding for the 2016 watercraft steward program. A ribbon cutting ceremony for the boat decontamination station was held on September 2nd.



Boat Wash Decontamination Station Ribbon Cutting Ceremony. Left to Right: Wayne France, CLA Chair; Bo Freeman, Director, CCE Livingston; Brenda Donohue, Supervisor, Town of Conesus; Scott Proctor, CLA Director; Senator Cathy Young; Anna Deats, Watercraft Steward; Roland Beck, Regional Manager NYS OPRHP, Doug Kelly Assistant Regional Manager, NYS OPRHP; Angela Ellis, Planning Director.

Watercraft Steward Program

The primary pathway by which hydrilla and other aquatic invasive species reach inland waterways is by “hitchhiking” on recreational boats and trailers or in the live wells of fishing boats. 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.

The Conesus Lake Watercraft Steward Program was continued in 2016 through an effective collaboration among the Livingston County Cornell Cooperative Extension (CCE), SUNY Geneseo, the Conesus Lake Association (CLA), the Livingston County Planning Department, and the Livingston County Office of Workforce Development. Livingston County CCE provided in-kind services to house and supervise

three stewards whose salaries were funded by the CLA and NYSDEC grant funds. An additional watershed steward was employed through the Livingston County Office of Workforce Development’s Summer Youth Employment Program (SYEP), which is funded through NY Works. The SYEP provides wages, Workman’s Compensation and insurance coverage, and employment prescreening for economically disadvantaged youth ages 16-20.

The Summer Youth Employment Program participant, trained and supervised by CCE, assisted with staffing at the state boat launch for five weeks during July and August. In 2016, the Watercraft Stewards staffed the boat launch from Memorial Day through Labor Day. A total of 3,915 boats were inspected, and over 10,000 boaters were reached with information about invasive species prevention.

Watercraft Steward Program Data

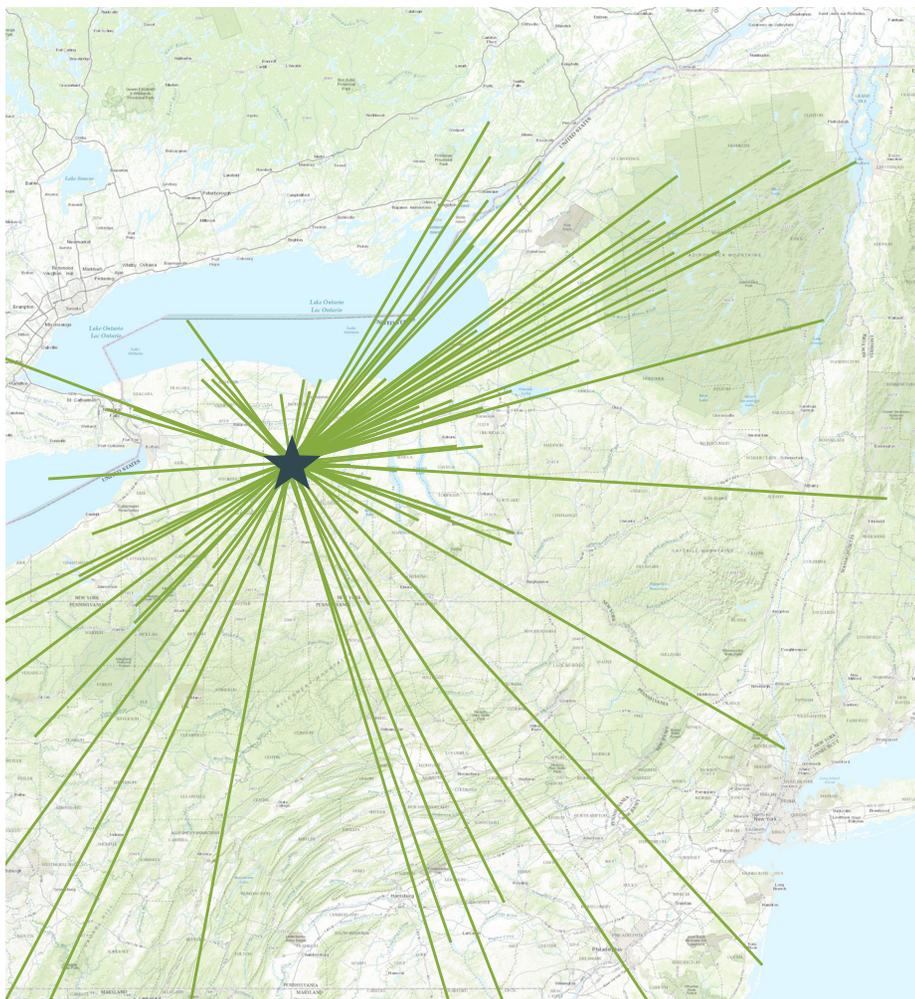
	2014	2015	2016
Days at launch	58	83	93
Boats recorded	3915	5131	4491
Non risk boats (last launch Conesus)	2898	3560	2176
Risk boats (last launch other)	1017	1671	1445
% of boats non risk	74%	67%	68%
% of boats risk	26%	33%	32%
Boats found with organisms attached	73	121	13
Percent of total boats	1.8%	2.4%	0.29%
Percent of risk launches	12%	10%	0.90%
Prior contact with a Steward Q1	58%	80%	85%
Prior contact with a Steward Q4	80%	89%	93%
Prevention steps taken prior to launch	N/A	21%	25%
Total Steward hours	676.5	890	1172
Total coverage hours at launch	520.5	797	938

Livingston County CCE and the Livingston County Planning Department applied for and secured additional funding for the Watercraft Steward Program through the 2018 boating season. The NYSDEC Aquatic Invasive Species Spread Prevention grant will leverage in-kind staff and volunteer time and cash contribution from the CLA to provide \$64,025 for watercraft stewards. The grant will expand steward coverage and wooden invasive species disposal stations at nearby Hemlock and Canadice Lakes in partnership with NYSDEC Lands and Forests. Livingston County’s application was ranked first out of 24 applications and was funded in full.

Drought and less than ideal fishing conditions affected attendance numbers at the East Lake Road Boat Launch in 2016, which led to lower recorded boater visits in lieu of increased steward presence at the launch. The New York State Parks parking ticket collection numbers at the East Lake Road Boat Launch also reflected this

trend. Only 1% of risk launches (13 boats) were found to be transporting organisms as opposed to 10% in 2015. This ten fold reduction could partially be explained by relatively low amount of aquatic weed growth observed across the Finger Lakes region during the drought, as well as increased awareness of NYS regulations and clean boat best practices

Last Waterbody Visited



Boats travel to Conesus Lake from across the continent, emphasizing the need for the Watercraft Steward Program. In 2016, boats came as far as Florida and the Gulf of Mexico.

conveyed by the Conesus Lake stewards and other similar programs across the State. By the end of 2016, 93% of boaters entering Conesus Lake launch had previously spoken with a watercraft steward, as opposed to 58% of boaters at the start of the 2014 season. Boaters taking prevention steps prior to launch increased to 1 in 4 in 2016.

Walleye Stocking Program

The Conesus Lake Association and New York State Department of Environmental Conservation stock young walleye into the Lake each year 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. The CLA stocked 1,200 8 to 10-inch fingerlings in late fall. The NYSDEC stocked 32,500 1.5-inch walleye fingerlings in June.



NYSDEC Walleye gill-netting population survey

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), and five surrounding towns, the inspection program became a reality on August 31, 1998. The Livingston County Department of Health 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 Conesus Lake Watershed Inspector responds to water quality complaints made by watershed residents and other members of the public. The Inspector also conducts routine watershed surveillance, monitoring construction sites, erosion, sewage overflows, blue green algae blooms, flooding, bathing beaches, and other activities including public education.

2016 Inspection Activities

Complaints	25
Construction Projects	33
Violations	3
New Septic Systems	3
Repaired Septic Systems	7
Sewage Overflows	0
Bacteriological Bathing Beach Water Samples	46
Beach Closures	4
Educational Events	4
Special Water Samples	0
Damaging Flooding Events	1

2016 Complaint Breakdown

Sediment and Erosion	16
Drainage	0
Sewage Discharge	1
Agricultural Related	1
Nuisance	1
Weeds/Algae/Odor	6
Total	25

Drinking Water

The New York State Department of Environmental Conservation 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 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.

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
2016 Usage (gallons)	315,880,000	375,504,000

MGD: (million gallons per day)

Bathing Beach Monitoring

The Livingston County Department of Health (LCDOH) collects 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 by fecal material. While the coliform bacteria may not be pathogenic (disease-causing), their presence means that other harmful microbes may be in the water. Three bathing beaches: Long Point Beach, Southern Shores Beach, and Camp Stella Maris were routinely monitored throughout the recreational season.

Results are compared to the state ambient water quality standards for bacteria, which are used by the New York State Department of Environmental Conservation (NYSDEC) to evaluate whether a waterbody supports its designated best uses and by the New York State Department of Health (NYSDOH) to evaluate suitability for swimming at designated beaches.

The NYSDEC ambient water quality standard for fecal coliform bacteria is 200 colony forming units per 100 mL of lake water (cfu/100 mL), calculated as the geometric mean of at least five samples per month. A single sample maximum count (1000 cfu/100 mL) is also enforced by the NYSDOH



Water Sampling

for public beaches. The current bathing beach monitoring program collects weekly samples during the summer recreational season.

The summer-averaged results for all beach locations ranged between non-detect (<5 cfu/100mL) and 85 cfu/100mL. There were 46 samples in total. No result exceeded the single sample limit of 1000 cfu/100 mL. The highest bacterial count at a designated bathing beach during the summer of 2016 was collected off a dock at Shouthern Shores Beach on May 17th. The Department of Health is able to report full compliance with fecal coliform bacteria standards at the three monitored bathing beaches.

Beach Closure Days

	2016			2015			2014			2013			2012		
	HAB	Bact.	Turb.												
Long Point	0	0	0	0	0	1	2	0	0	1	0	0	1	0	0
Stella Maris	3	0	0	0	0	0	8	0	0	1	0	0	5	0	0
Southern Shores	8	0	0	0	0	0	3	0	0	0	0	0	0	0	0

HAB: Harmful Algal Blooms Bact: Bacteria Turb: Turbidity

Harmful Algal Blooms

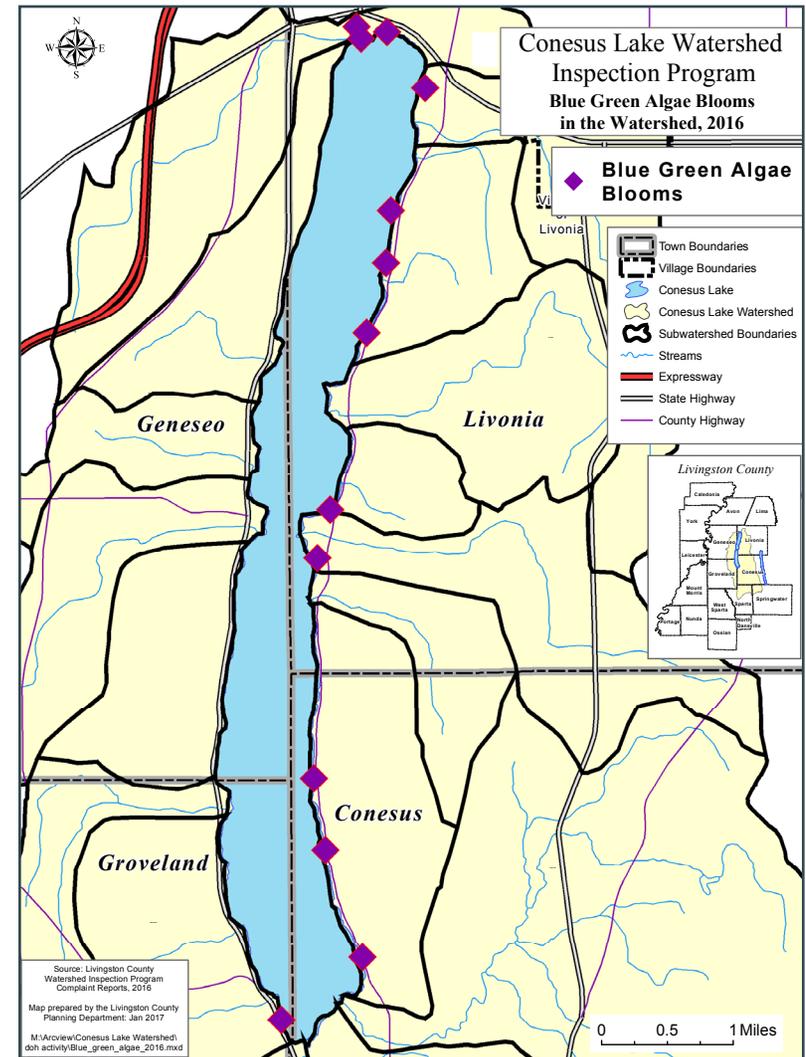
Harmful algal blooms, or HABs, are algal blooms that have the potential to cause illness or harm in humans and animals. Often HABs are composed of blue-green algae, also known as cyanobacteria. These harmful forms of algae are naturally present in very low concentrations in lakes and streams, but can form concentrated blooms or surface scums following certain key environmental and weather conditions that encourage algal growth. 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.

2016 Bloom Season

Similar to 2015, the 2016 Harmful Algal Bloom (HAB) season was again mild in comparison to previous years. An HAB was reported on June 17th near Southern Shores Campground. An investigation found subsequent small localized blooms along the east side of the lake and a large localized bloom was identified on the south west shore. Reported blooms were absent during the peak recreational months of July and August. Blooms were identified on September 6th (small localized), October 14th (small localized), October 21st (large localized) and October 27th (small localized) on the north east area of the lake.



Harmful Algal Bloom
in low water.



In November, a bloom was identified at the Vitale Park old outlet and was persistent throughout the month of November and into the first two weeks of December (small localized).

Southern Shores bathing beach was closed for eight days in late June due to Harmful Algal Blooms. Camp Stella Maris bathing beach was similarly closed for three days in late June. Long Point Park bathing beach had no HAB related closures in 2016.

Stream Restoration and Stormwater Management

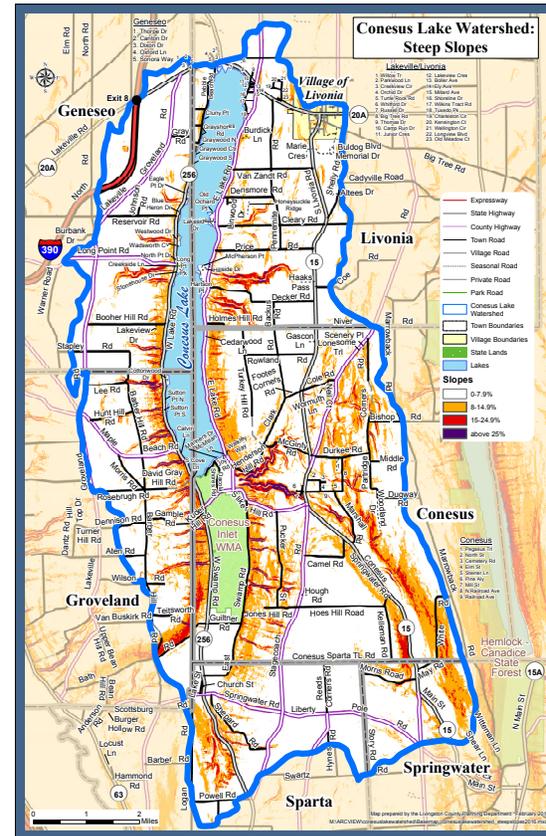
Climate Change predictions for the Finger Lakes Region forecast an increase in the frequency and intensity of heavy rain events and corresponding streambank erosion and localized flash flooding. In light of increased development pressures in the watershed compounding these issues, focus has rightly turned toward stream system restoration and stormwater management to help alleviate effects on water quality and public and private property.

Wilkins Creek Sub-Watershed Stormwater Study

The Town of Livonia received grant funding on behalf of the Town and Village of Livonia through the New York State Department of State's Local Waterfront Revitalization Program for a stormwater study for the Wilkins Creek sub-watershed. Wilkins Creek is the most developed sub-watershed leading into Conesus Lake. The study will examine and identify strategies to slow down the movement of stormwater into Wilkins Creek via green infrastructure and other stormwater management practices. Zoning and land use regulations will be analyzed to assess potential impact of development on the stormwater system. The study will offer recommendations on physical projects and updates to municipal regulations to improve water quality. A finalized contract was submitted to the NYS Department of State for execution.

Stormwater and Erosion Control Regulatory Toolkit

The Planning Department has contracted with Barton and LoGuidice and CC Environment and Planning to develop a new stormwater and erosion control regulatory toolkit. The toolkit will provide local agencies and code enforcement officers with a comprehensive overview of jurisdiction and



regulations pertaining to water quality, floodplains, stormwater management, and soil and erosion control. This project was developed by the Stream and Stormwater working group.

The consultants have begun the process of reaching out to agencies and stakeholders during the months of November and December to discuss roles and informational needs. The consultants will be facilitating a meeting between local partners and USACE

and NYSDEC permitting staff in early 2017. The final draft Toolkit will be available in 2017. In conjunction with the toolkit consultants are also preparing land-use code reviews for all watershed municipalities.

Vitale Park Shoreline Restoration and Green Infrastructure Demonstration Project

The Planning Department applied for and received \$25,000 through the NYSDEC/New York Sea Grant Great Lakes Small Grant Program for projects in Vitale Park. The grant award provides funding for a rain garden and two rain barrels to capture and treat stormwater runoff from the new building under construction at Vitale Park. The grant also provides funds for engineering and construction of a shoreline

restoration project on the east shore of the Park. Public education kiosks will be designed and installed at each of the three projects and a shorescaping and green infrastructure brochure will be created and available for landowners interested in implementing similar water quality practices on their own properties. Work is set to begin in 2017.

Shorescaping Working Group

A Shorescaping working group was developed to oversee a new shorescaping initiative. Membership is comprised of the Watershed Manager, Watershed Inspector, and CLA volunteers with expertise in the landscaping field. The group will also provide input on the shoreline restoration and green infrastructure project being designed for Vitale Park.

Environmental Protection Fund Streambank Remediation Grant Program

Through a strong partnership between New York State, Livingston County, the Towns of Conesus, Geneseo and Livonia, the Conesus Lake Watershed Council, engineers from Barton & Loguidice, and 28 landowners, five streambank projects have been completed as part of the Conesus Lake Watershed Streambank Remediation Grant Project. Located in the Towns of Conesus, Geneseo and Livonia, the total effect of these projects is the remediation of 2,860 linear feet of streambank for an estimated reduction in 921 tons of sediment eroding from these streambanks per year.

Streambank erosion is a significant contributor of sediments and nutrients to watershed streams and, eventually, to Conesus Lake. The five streambank projects completed as part of the Conesus Lake Watershed Streambank Remediation Grant Project were first identified in the Conesus Lake Watershed Management Plan and were also classified as high priority projects in a 2007 streambank



Project partners visiting upper Long Point Creek.

assessment engineering study funded by New York State. The New York State Department of State then awarded two grants to fund high priority streambank remediation projects in the Towns of Conesus, Geneseo and Livonia. The projects were identified as high priority because of their potential impact to water quality, ease of access to the project sites and high probability of landowner involvement. Project funding was also received through the Finger Lakes – Lake Ontario Watershed Protection Alliance.

All of the streambank remediation projects were completed on private property with the permission of the landowners, and each landowner granted easements to their respective Towns. Remediation work was undertaken by a combination of Town Highway Departments, the County Highway Department and a private contractor. The Town Boards of Conesus, Geneseo and Livonia authorized the projects, and the Livingston County Planning Department handled project management activities with the participation of the Conesus Lake Watershed Council Technical Committee. The Town of Livonia acted as Applicant for both grants. Barton & Loguidice and CC Environment and Planning provided engineering design, premitting, and construction oversight services. Below are some quick facts on each project:

North McMillan Creek, Town of Conesus

Project Length: 260 linear feet

Landowners: 1

Work completed by: Town of Conesus Highway Department

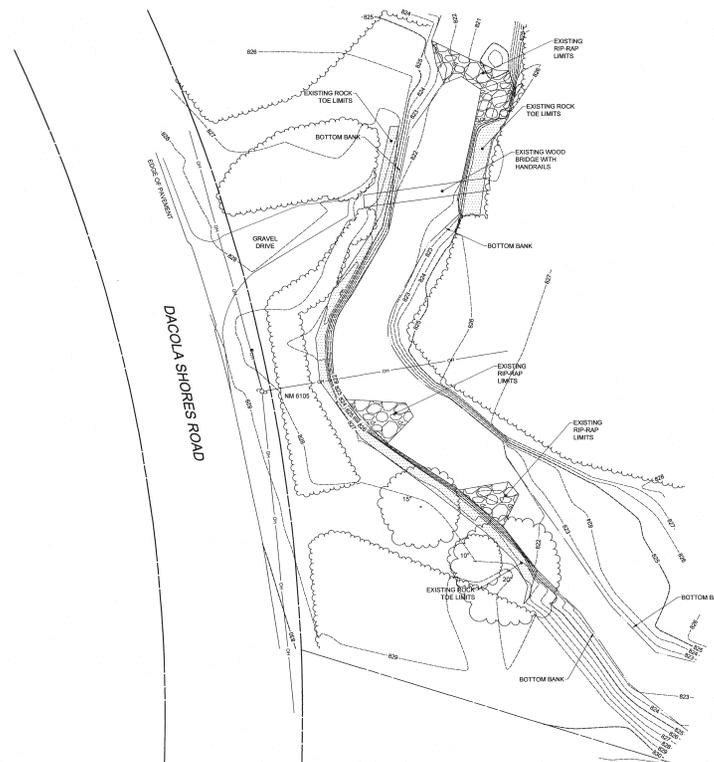
Measures installed: Rock toe protection, floodplain benches, two rock deflector vanes, removal of invasive plant species, and installation of native plants.

Estimated sediment yield reduction: 114.1 tons per year



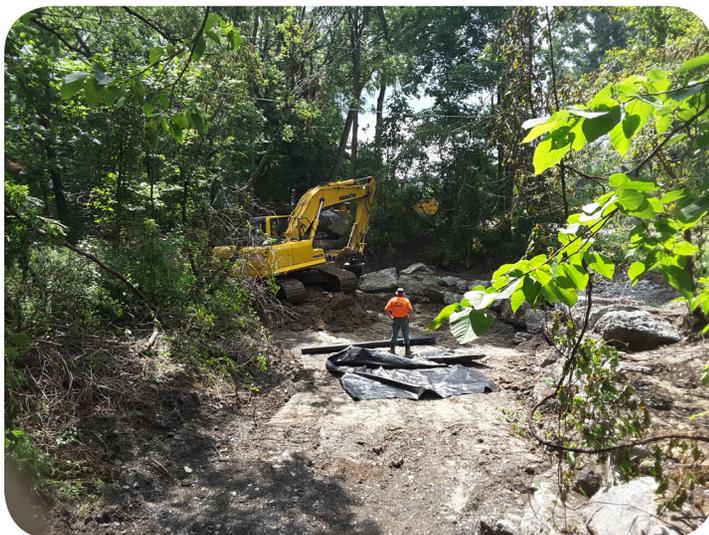
Before:

Significant erosion on left bank, threatening Dacula Shores Road.



Construction:

Water is rerouted around the project area to allow Highway crew to work in the stream.



After:

Stream is rerouted away from the road and bank protection is added to prevent erosion.

Long Point Creek (lower), between West Lake Road and Conesus Lake, Town of Geneseo

Project Length: 390 linear feet

Landowners: 23

Work completed by: Town of Geneseo Highway Department

Measures installed: Rock toe protection, floodplain benches, riprap placement, installation of native plants.

Estimated sediment yield reduction: 59.5 tons per year



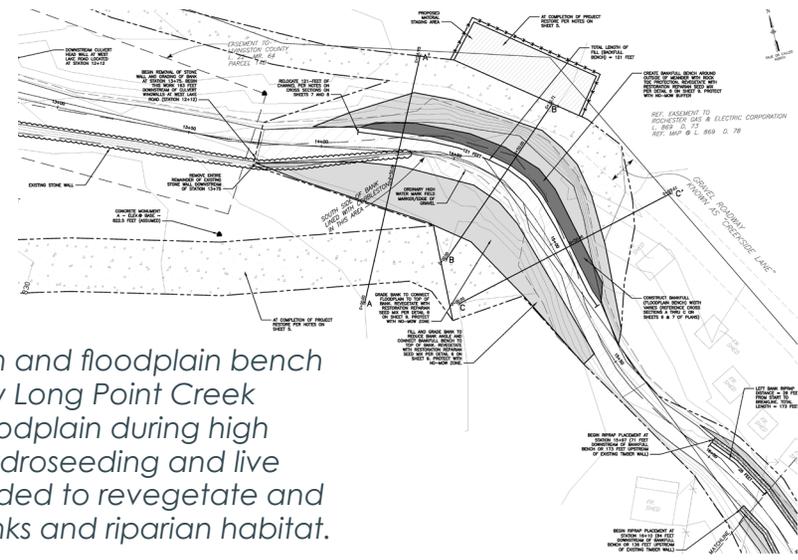
Before:
Bank erosion and undercutting threatening Creekside Lane.



After:
Bank protection and floodplain bench added to allow Long Point Creek access to its floodplain during high flow events. Hydroseeding and live stakes were added to revegetate and stabilize the banks and riparian habitat.



After: Bank protection during storm event.



North Gully, east of East Lake Road, Town of Livonia

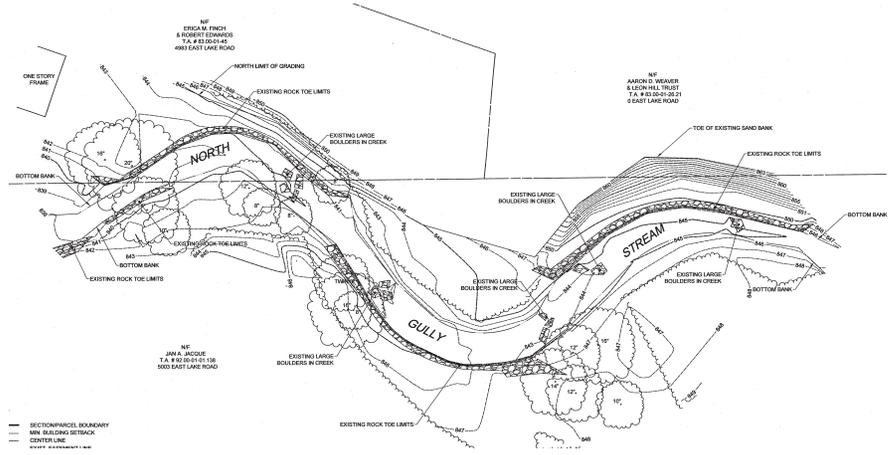
Project Length: 381 linear feet

Landowners: 2

Work completed by: Livingston County Highway Department & Town of Livonia Highway Department

Measures installed: Rock toe protection, floodplain benches, three rock deflector vanes, removal of invasive plant species, and installation of native plants.

Estimated sediment yield reduction: 192.2 tons per year



Before:
Left: Significant erosion occurring on high bank. Additional bank undercutting, erosion, and treefall throughout reach. Original box culvert was undersized causing erosion to threaten East Lake Road.



Construction:
Right: Replacement culvert being lowered into place on East Lake Road. Below right: Rock toe protection is added to protect the high bank from erosion, Silt fencing is installed to prevent loose sediment from the construction site from running off into North Gully Creek.



**After:**

Left:
Replacement
culvert at North
Gully/East Lake
Road crossing.
Below:
High bank
protection
and floodplan
bench.

Wilkins Creek, east of Pennemite Road, Town of Livonia

Project Length: 764 linear feet

Landowners: 2

Work completed by: Town of Livonia Highway Department & private contractor

Measures installed: Rock toe protection, floodplain benches, and installation of native seed mix.

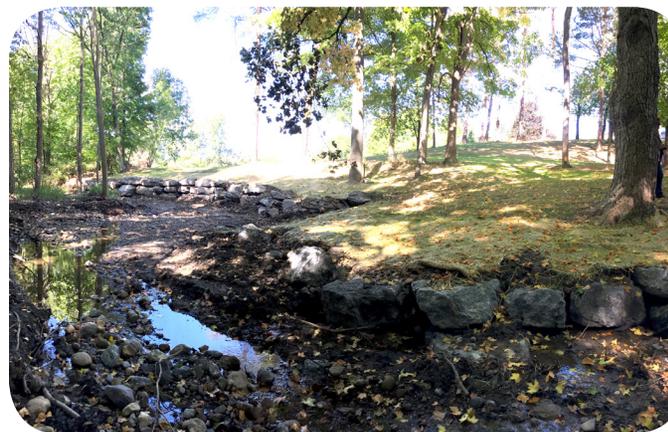
Estimated sediment yield reduction: 139.6 tons per year

**Before:**

Wilkins Creek is unable to access its floodplain to dissipate water energy leading to undercutting and bank erosion.

**After:**

Bank is graded to restore floodplain access. Rock toe protection is added to protect banks from erosion.



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 Soil and Water Conservation District and the Natural Resources Conservation Service conduct an upland watershed protection program for agricultural land uses to reduce nonpoint sources of pollution from entering waterbodies throughout the watershed.

The Livingston County Soil & Water Conservation District installed a catch basin to intercept 8 acres of water and 1,600 feet of underground outlet to address sheet, rill, and gully erosion on a 39 acre watershed farm. The Natural Resources Conservation Service supported the installation of 650 acres of cover crops on farms within the watershed.



Installation of underground outlet and water and sediment control basin



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, Hemlock Woolly Adelgid and Emerald Ash Borer affecting forest cover and riparian habitat.
- Changes in climate and precipitation patterns (National Climate Assessment):
 - Increase in the frequency and duration of droughts leading to low water levels and intermittent streams
 - Increase in the intensity of heavy rain events leading to increases in natural and stormwater related high flow events contributing to property and infrastructure damage.
 - Less reliable snowpack and Spring groundwater recharge.
 - More frequent freeze thaw cycles during winter leading to increased instances of ice jamming and localized flooding.
- Increases 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

- Increase public education initiatives related to stream and shoreline restoration.
- Educate municipalities regarding land use practices effect on stormwater, soil erosion, and water quality.
- Continuation of invasive species prevention projects, including the watercraft steward program at the East Lake Road Boat Launch.
- Explore Watershed Management Plan update.
- Continue water quality parameter monitoring program.
- Conduct further investigation into potential causes and solutions to help mitigate increases in sodium levels.
- Revisit Invasive Species, Blue Green Algae, and Fish Kill Response Plans.
- Pursue additional funding for watershed restoration projects.
- Further explore relationship between thermocline and wind mixing as a possible tool to predict blue green algae blooms.

#	Recommendation	Priority	Actions
All	Secure funding Outside of the EPF funding source to implement CLWMP activities. Investigate and apply for funds from grants opportunities as they arise.	High	<p>The Watercraft Steward Program was awarded a New York State Department of Environmental Conservation Aquatic Invasive Species Prevention grant totalling \$64,025. The grant provides three years of stewards at Conesus, Hemlock, and Canadice Lakes.</p> <p>The Planning Department received \$25,000 through the NY Sea Grant/ NYSDEC Small Grants Program. The funding will provide shoreline restoration, a rain garden, and rain barrels and accompanying public education for Vitale Park.</p>
A-1	Review and amend zoning regulations to improve consistency in near-lake areas.	High	<p>Planning Staff participated in the Town of Geneseo's zoning update, Springwater Comprehensive Plan, and Geneseo and Sparta's Agriculture and Farmland Protection Plans. The Planning Department contracted with Barton and LoGuidice to provide code review to watershed municipalities.</p>
A-3	Develop public education campaigns on BMPs for lake and watershed residents.	High	<p>Watershed Inspector and Planning Assistant educated the public on invasive species prevention at the April 9th Polar Plunge event on Conesus Lake.</p> <p>The Conesus Lake Association hosted a May presentation on various water quality topics at the Chip Holt Nature Center.</p> <p>The Watershed Manager presented on 2015 monitoring program and stream and stormwater initiative projects at the Conesus Lake Association's (CLA) Annual Meeting in September.</p> <p>Water quality monitoring reports were made available on the Planning Department's Conesus Lake webpage.</p> <p>The Watershed Inspector presented on watershed issues to youth audiences at both the Way-Co Health Fair and Cuylerville Rod and Gun Club.</p> <p>The Planning Department contracted with Barton and LoGuidice to develop a stream and stormwater regulatory toolkit for local agencies. Information on regulations and permitting researched and compiled in the toolkit will be provided to the public as a series of fact sheets.</p>

#	Recommendation	Priority	Actions
B-1	Secure funding to help mitigate the financial impacts of changes in agricultural practices on the producers.	High	Agencies will continue these activities annually as part of their existing programs.
B-2	Implement practices that will reduce nonpoint source pollution from farms.	High	<p>The Natural Resources Conservation District supported the installation of 650 acres of cover crop throughout the watershed.</p> <p>The Soil and Water Conservation District (SWCD) installed a catch basin to intercept 8 acres of water and 1,600 feet of underground outlet to address sheet, rill, and gully erosion on a 39 acre watershed farm.</p>
C-1	Develop and implement program to restore and stabilize streambanks in the watershed.	High	<p>Streambank restoration has been completed for North Gully, Upper and Lower Long Point Creek, Lower Wilkins Creek, and North McMillan Creek. Final grant closeout documentation has been submitted to the NYS Department of State.</p> <p>Wilkins Creek Subwatershed Stormwater Study contract documentation was submitted to the NYS Department of State for execution. A draft RFP for consultant services is under development.</p>
C-3	Develop public education campaigns on the impact of human activities on the health of the Lake.	Med.	<p>The CLA distributed fifty-two Welcome to the Lake kits to new watershed residents this year.</p> <p>A working group was assembled to address stream and shoreline landscaping and restoration public education initiatives and has commenced research for 2017 projects and publications.</p>
E-2	Develop a public education campaign promoting invasive species awareness	High	<p>The CLA staffed an invasive species prevention booth at the Arts and Craft Show in July.</p> <p>The Watershed Inspector and Planning Assistant staffed a public education booth at the April 9th Polar Plunge.</p>

#	Recommendation	Priority	Actions
G-1	Investigate and implement effective methods to control the spread of non-native (exotic) organisms	High	<p>The Watercraft Steward Program hired three stewards for the 2016 boating season and coordinated with the Workforce Development Summer Youth Employment Program to hire an additional steward to join the Cornell Cooperative Extension stewards at the boat launch during July. Stewards started at the Boat Launch on May 27th. Launch data was compiled and analyzed by the CLA.</p> <p>The CLA met in Emily Staychock of the Cornell Cooperative Extension Invasive Species Program to discuss standardized invasive species survey technique in June. CLA's Hydrilla Hunt took place on September 11th. No hydrilla or other invasive species were detected.</p> <p>The Watershed Manager and CLA volunteers participated in Finger Lakes Partnership for Regional Invasive Species Management Steering Committee and Aquatic Working Group meetings on 1/20, 4/4, 5/13, 9/2, 9/13, and 11/14.</p> <p>The CLA worked with NYSDEC and Senator Cathy Young's office on a \$50,000 grant for a boat wash decontamination station at the East Lake Road Boat Launch. The wash station opened in late August and a dedication ceremony was held on September 2nd. A new \$50,000 grant for invasive species prevention and monitoring equipment has been awarded.</p>
G-4	Initiate effort to determine if increased stocking of walleye fingerlings, or other species, would be an effective biological control in Conesus Lake.	High	<p>New York State Department of Environmental Conservation stocked 32,500 1.5-inch walleye fingerlings on 6/24.</p> <p>The CLA stocked 1,200 8 to 10-inch fingerlings in late fall.</p>
H-1	Conduct an annual monitoring program of Conesus Lake and its watershed. An annual monitoring meeting should be held to coordinate the monitoring program.	High	<p>The Livingston County Department of Health continued the public bathing beach monitoring and blue green algae programs during 2016.</p> <p>The CLA is working with SUNY Geneseo researcher Sid Bosch on a thermocline depth sensor. The sensor was installed on June 18th.</p>

#	Recommendation	Priority	Actions
H-2	Prepare and distribute an annual Conesus Lake and Watershed Report Card.	High	2015 Report Card was completed and presented to the CLWC at its May meeting. Monitoring data and Annual Report Card were provided to NYSDEC in May.

Conesus Lake Watershed Council

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