



Conesus Lake and Watershed Report Card

Assessment of the Conesus Lake Watershed
Management Plan in 2012

Conesus Lake Watershed Council

January 11, 2013



PURPOSE OF THIS DOCUMENT

One of the recommendations of the Conesus Lake Watershed Management Plan (CLWMP) is to prepare an annual update summarizing the status of activities in the watershed, particularly the ongoing efforts to reduce nonpoint source pollution. This annual summary also provides a forum for tracking conditions in Conesus Lake and highlighting new information.



MAJOR ACCOMPLISHMENTS

Since its formation in 2003, the Conesus Lake Watershed Council (CLWC) has coordinated implementation of the recommendations of the CLWMP. The Watershed Council is an intermunicipal organization with a dual mission: first, to coordinate actions for restoring the health of Conesus Lake and its watershed, and second, to communicate progress to the watershed community and other stakeholders. Restoring the health of the lake and its watershed requires a sustained effort and a focus on many interrelated issues.

Progress in implementation of the CLWMP continued in 2012. Highlights include:

- ***The Conesus Lake Watershed Characterization Report*** is undergoing a 10-year update, to incorporate the data and information garnered over the past decade and to assess changes. The report will be issued in 2013.
- ***Stream testing*** of several streams that were included in the USDA program continued, led by Dr. Joseph Makarewicz of SUNY Brockport, to measure the concentration of nutrients and sediments flowing into Conesus Lake from the subwatersheds. Three USDA subwatersheds were monitored during the spring of 2012, and the results evaluated using the Stream Watershed Quality Index.
- ***Historical trends of macrophyte diversity and biomass in Conesus Lake*** were evaluated, led by Dr. Sid Bosch of SUNY Geneseo. Eurasian watermilfoil biomass at the mouths of USDA streams were assessed, as well as macrophyte community diversity throughout the lake, building on studies dating back to 1927.
- ***Conesus Lake trophic state*** was assessed in 2012 by researchers at SUNY Brockport.
- ***Blue-Green Algae (Cyanobacteria) Early Detection and Rapid Response Plan*** was approved by the CLWC in August 2011. This plan was developed to outline the response to a major blue-green algal bloom on Conesus Lake. Researchers from SUNY Geneseo developed *Procedures for Estimation of Cyanobacterial Bloom Intensity by Phycocyanin Fluorescence* to test the lake waters and enable early detection and rapid response. The CLWC approved an updated version of the plan in January 2011.
- ***Invasive Species Management Plan***. The CLWC is developing an Invasive Species Management Plan to serve as a reference for problem solving and decision making throughout the invasive species management process.



TEN-YEAR UPDATE OF THE CONESUS LAKE WATERSHED CHARACTERIZATION REPORT

In May 2002, the *State of Conesus Lake: Watershed Characterization Report* was completed as the first step toward preparing the 2003 *Conesus Lake Watershed Management Plan*. The *Watershed Characterization Report* documented the water quality and ecological conditions of Conesus Lake and its watershed in 2002. Specific areas of concern were identified, including issues such as sedimentation, nutrient enrichment, bacteria contamination and pesticide levels that threaten the long-term health of the lake and its desirable uses as a drinking water supply and recreational resource.

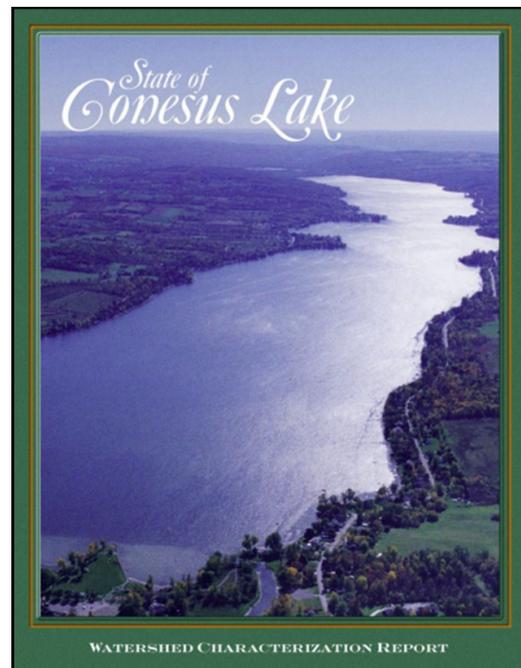
A decade has passed since the *Watershed Characterization Report* was completed, and, as expected, the state of the lake and its watershed has not remained static. Since 2002, population and land use patterns have changed. Agricultural practices have continued to evolve; there has been an infusion of financial support to implement agricultural Best Management Practices (BMPs) on watershed farms. Municipalities in the watershed have continued to improve their local controls on erosion and sedimentation. New York State passed legislation restricting use of phosphorus-containing fertilizers on residential lawns and reducing the phosphorus content of dishwasher detergents. Streambank and roadbank stabilization projects have been implemented. The Army Corps of Engineers began an assessment of macrophyte growth and control alternatives. An updated bathymetric map of the lake was completed. These, and a myriad of other initiatives and events, have contributed to the knowledge base required to manage Conesus Lake and its watershed.

In 2012, the CLWC approved undertaking a ten-year update to the Watershed Characterization Report. This update will incorporate the data and information garnered from 2003 through 2012. Sources of these data include the annual monitoring program administered by Livingston County Planning Department, funded by the State through the Finger Lakes-Lake Ontario Watershed Protection Alliance (FLOWPA), and the findings of the USDA program led by Dr. Joe Makarewicz of SUNY-Brockport.

The ten-year update to the *Watershed Characterization Report* will address questions such as:

- What has been learned from the annual lake and watershed monitoring programs?
- Is the lake's trophic state stable?
- Is there evidence of reduction in nonpoint source loading from the agricultural BMPs?
- Has the macrophyte community changed?
- Has the community of macroalgae changed?
- Are there new invasive species threats?
- What is the status of Conesus Lake on the State's 305(b) and 303(d) lists of water quality and desired uses?

The ten-year update of the *Watershed Characterization Report* will be available in 2013.



FINDINGS OF THE 2012 INVESTIGATIONS: WATERSHED MONITORING

During the spring of 2012, SUNY Brockport scientists completed their tenth consecutive year of water quality monitoring of streams flowing into Conesus Lake through agricultural and/or forested areas. The 2012 monitoring program was designed to contribute to the long-term data record.

2012 Monitoring Program - Objectives

In 2010, the SUNY Brockport team compared the annual stream nutrient and sediment loading estimates from 2003-2007 to the same loading estimates calculated from the 2008-2010 data. The investigators concluded that in order to evaluate the effectiveness of best management practices (BMPs) in keeping soils and nutrients on the landscape, it is most important to capture the spring conditions - typically characterized by higher runoff and precipitation - rather than summer conditions. In 2011, the Conesus Lake work plan was changed to initiate a spring rather than summer sampling period for creeks of concern.

Also in 2011, the SUNY Brockport team developed a graphical index of stream discharge versus parameter concentration based on historical spring data. This approach, referred to as the Stream Watershed Quality Index, appears to be a viable, cost-effective tool for continued evaluation of the water quality of the USDA streams and performance of the BMPs. An example graphic demonstrating the Stream Watershed Quality Index is shown in Figure 1. The data are plotted on the index as black markers; the data in the "green" zone represent improving conditions, while data in the "red" zone indicate degrading conditions.

Indices were developed for six parameters measured in six watersheds. The six parameters are: total suspended solids (TSS), total phosphorus (TP), soluble reactive phosphorus (SRP), nitrate, total Kjeldahl nitrogen (TKN), and sodium. The six watersheds are: Cottonwood Gully, North McMillan Creek, Graywood Gully, Creek, Sutton Point Creek, and Sand Point Gully.

In 2011, only Cottonwood Gully and North McMillan Creek were sampled in the spring and evaluated using the Stream Watershed Quality Index. The objective of the 2012 monitoring program was to extend the use of the Stream Watershed Quality Index and evaluate three other USDA streams (Long Point Creek, Sand Point Gully, and Graywood Gully) during the spring (March 1 through May 8) of 2012. The results of this program would be used to assess whether conditions in streams draining these watersheds are improving, getting worse, or not changing.

The results from the 2012 monitoring season showed generally improving trends with the two areas of concern highlighted on the following page.

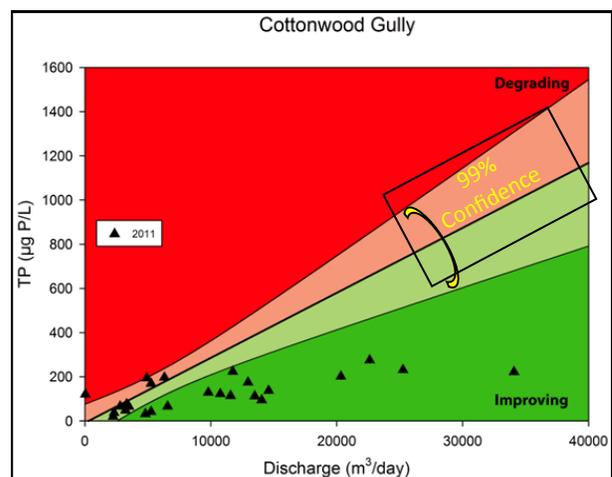


Figure 1. Regression Line and 99% Confidence Interval based on historic spring phosphorus data, with 2011 data. Image courtesy: Makarewicz et al, 2011. SUNY Brockport.

FINDINGS OF THE 2012 INVESTIGATIONS : WATERSHED MONITORING (CONTINUED)

Monitoring Trends 2012

The researchers applied the Stream Watershed Quality Index to evaluate the 2012 water quality trends in Long Point Creek, Sand Point Gully, and Graywood Gully. Overall, during the monitoring period, levels of nutrients and soils losses from the three stations were at or below levels observed during baseline period conditions (2002 to 2007). However, elevated levels of nutrients were observed during rain events - especially during the rising limb of the stream hydrograph, as runoff enters the stream and water levels begin to rise.

Two specific observations were highlighted in the 2012 data analysis by SUNY Brockport scientists. First, as observed at the Sand Point Gully and Graywood Gully monitoring stations, elevated levels of some nutrients at the Long Point Creek station were associated with rain events and/or snow melt. However, more than half of the measured nitrate levels were elevated, which included both event and non-event samples (Figure 2), indicating degrading water quality is occurring as a result of runoff and during periods when there is no runoff. Elevated concentrations may be associated with fertilization practices.

The second observation highlighted concerns over elevated sodium levels at the Sand Point Gully and Long Point Creek stations. This represents an increase over historical levels (Figure 3). Sodium is a component of deicing salts; researchers have documented increasing deicing salt levels over the past 50 years in the Conesus Lake water supply (Makarewicz and Lewis, 2009). Deicing salt application rates on roads may also have increased during this period.

Recommendations

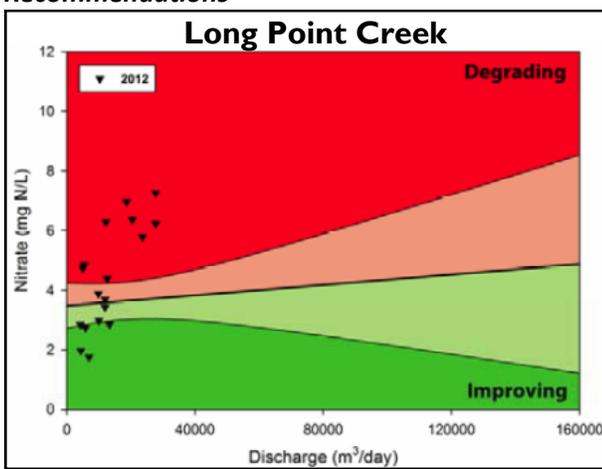


Figure 2. Long Point Creek - based on historic spring nitrate data, with 2012 monitoring data.

Image courtesy: Makarewicz et al, 2012. SUNY Brockport.

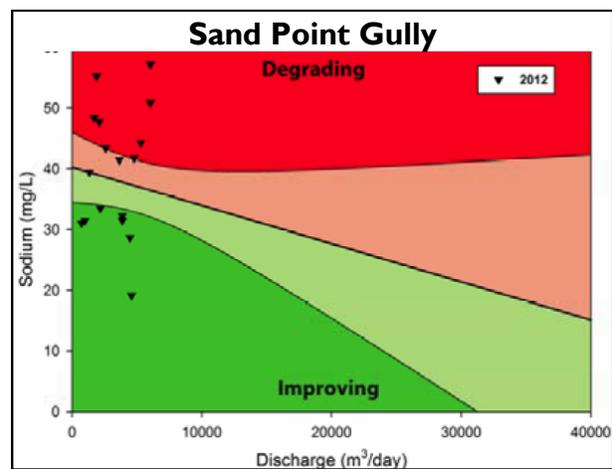


Figure 3. Sand Point Gully- based on historic spring sodium data, with 2012 monitoring data.

Image courtesy: Makarewicz et al, 2012. SUNY Brockport.

Three recommendations were suggested by the SUNY Brockport team resulting from this analysis. First, work with the Soil and Water Conservation District on methods to reduce runoff volume and manage fertilizer application in these watersheds. Second, discuss with the Highway Departments rates of deicing salt application and the impact on the lake. Third, continue use of the Stream Watershed Index to evaluate land-use practices and to assist in future watershed planning and management.

FINDINGS OF THE 2012 INVESTIGATIONS: HISTORICAL TRENDS OF MACROPHYTE DIVERSITY AND BIOMASS IN CONESUS LAKE

The submerged macrophyte community of Conesus Lake is one of the most extensively studied in the Finger Lakes region. W.C. Muenschner (1927) first described this varied flora in a study that also included Silver Lake. SUNY Geneseo Professor Herman Forest and his co-workers conducted the first quantitative studies of the macrophyte community in Conesus Lake in 1967-1970. In 1999, Bosch and colleagues conducted the first lake-wide survey of macrophytes since Forest's work in the 1970s.

One of the most important results of the Bosch (1999) study was finding that the largest and most dense milfoil-dominated macrophyte beds were located near streams that drained primarily agricultural watersheds. This observation was part of the rationale for the USDA watershed management project (2003-2009), which among many other questions tested the possibility that nutrient management at the watershed level could reduce milfoil biomass downstream along the lake littoral (Makarewicz et al., 2009). Monitoring of the Conesus Lake macrophyte beds has continued in recent years at Sutton Point Creek, Sand Point Gully and Cottonwood Gully, as well as North Gully, which served as a reference site for the USDA project.

During 2012, SUNY Geneseo scientists conducted a macrophyte monitoring program. The two principal goals of the program were:

- Continue monitoring the biomass of Eurasian watermilfoil in four macrophyte beds sampled since 2000, initially as part of the USDA watershed study. In particular, evaluation of the macrophyte bed in North Gully Cove (south of McPherson Point) would provide data to assess whether diversion of the North Gully stream channel away from the bed had resulted in reduction of milfoil or algae growth in North Gully Cove.
- Survey the species diversity and relative abundance of the macrophyte community lake-wide and compare its current state to trends identified in 1968 and 1999.



*Image courtesy: Bosch et al, 2012.
SUNY Geneseo.*

Eurasian Watermilfoil Biomass—Status and Trends

At the Sutton Point Creek, Sand Point Gully, and Cottonwood Gully long-term monitoring sites, the surface area of coverage and the standing crop of the milfoil-dominated zone remained low or continued to decrease when compared to 2009, even in sites that had already undergone significant reductions of milfoil biomass from 2004-2008 in response to watershed management. At the North Gully site, where in 2008 the stream channel was redirected to drain away from the macrophyte bed, the surface area of the milfoil dominated zone and the total milfoil standing crop were about 40% lower than in 2009. As a result of this data assessment, a strong case can be made that the declining milfoil standing crops over the past three years are a continuation of improvement generated by BMPs established in the watersheds as part of the USDA project.

Presently milfoil is especially dominant near the mouths of some streams, where it represents 84.3% of the biomass in the 2-3 m depth zone. In areas more removed from the influence of these streams, milfoil is only 43.8% of the biomass and many of the native macrophytes are found in much greater abundance. This observation offers some hope that continuing nutrient management will not only reduce the dominance of

FINDINGS OF THE 2012 INVESTIGATIONS: HISTORICAL TRENDS OF MACROPHYTE DIVERSITY AND BIOMASS IN CONESUS LAKE (CONTINUED)

Eurasian milfoil, as already documented in the long-term monitoring sites, but also restore diversity in the macrophyte community that was lost with the spread of this invasive.

Species Diversity and Relative Abundance—Status and Trends

Most of the macrophyte species that are currently abundant in Conesus Lake were abundant in previous surveys, even going back to W.C. Muenschner’s survey in 1927. The one exception is in the dominance of the invasive Eurasian watermilfoil, which was introduced to the lake by the late 1960s. Ultimately, this invasive species supplanted the native Northern milfoil and displaced the dominant Water stargrass in most of the lake (Figure 4).

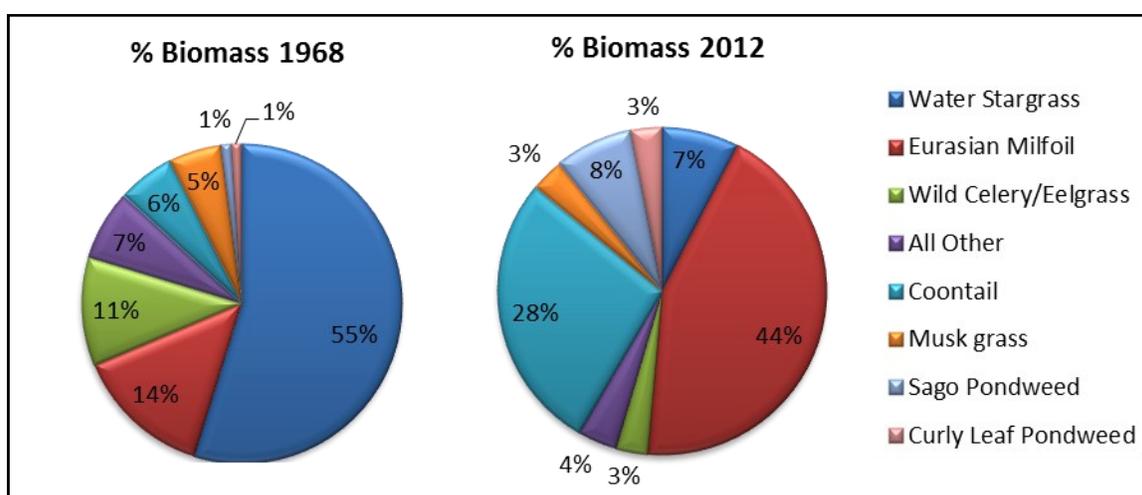


Figure 4. A comparison of percent biomass of macrophytes in Conesus Lake, 1968 and 2012. Source: Bosch et al, 2012. SUNY Geneseo.

This shift in the community is reflected in all of the community metrics tested. For example, the Simpson’s Diversity index is a metric that provides a single value that incorporates the species richness and the relative abundance of species in a community on a scale from 0 to 1, with 1 representing infinite diversity and a 0 representing no diversity. The Simpson’s Diversity Index in 2012 was 0.32 with milfoil representing more than 43% of the dry weight, as compared to an Simpson’s Index of 0.43 and 14% dry weight for 1968.

Conclusions

The results of the 2012 survey at the North Gully, Sutton Point Gully, Sand Point Gully, and Cottonwood Gully long-term monitoring sites indicate that dominance of Eurasian watermilfoil continues to abate. Specifically, the surface area and total standing crops of milfoil have decreased markedly since 2009, while the overall size of the macrophyte bed has changed very little.

Lake-wide, the species composition of the macrophyte community in Conesus Lake seems to be very stable, having changed only slightly since the first survey conducted by W.C. Muenschner (1927). It is virtually the same as that documented by Professor Herman Forest during his extensive studies in Conesus Lake in the 1960s and 1970s. The one exception is the invasion and subsequent spread to all parts of the lake by Eurasian watermilfoil, which may have begun in the late 1960s.

FINDINGS OF THE 2012 INVESTIGATIONS: TROPHIC STATE

The trophic state of a lake is typically defined by three parameters: phosphorus concentration, Secchi disk transparency, and chlorophyll- α concentration. These three parameters are used to assess lake productivity. In turn, the lake productivity is related to the dissolved oxygen content of the water column; highly productive lakes consume more oxygen and therefore have zones of low oxygen or anoxia. The presence of anoxic conditions in lower waters, adjacent to the sediments, will promote flux of phosphorus from sediment storage into the water column where it becomes more available to algae. This can result in more algal blooms.

Carlson's Trophic State Index

These three parameters – total phosphorus (TP), chlorophyll- α , and Secchi disk transparency – are interrelated, and may be used to assess algal biomass. All three parameters are used in Carlson's Trophic State Index (TSI), useful in assessing the productivity of the lake. The TSI is calculated using measurements from the lake, and the resulting values indicate the trophic state, as shown in Table 1.

Range of TSI Values	Trophic State	Attributes
<30	Oligotrophic	Clear water, oxygenated throughout the year in the hypolimnion (lower waters)
30-50	Mesotrophic	Moderately clear water, increasing probability of hypolimnetic anoxia during summer
50-70	Eutrophic	Anoxic hypolimnia, macrophyte and algal problems possible
>70	Hyper-eutrophic	Dense algae and macrophytes; algal scum; light-limited productivity.

Table 1: Carlson's Trophic State Index is a useful metric for assessing lake productivity based on three parameters.

Conesus Lake Trophic State

SUNY Brockport researchers conducted monitoring of Conesus Lake during the summer of 2012. The researchers evaluated the current trophic state of the lake and identified whether improvements or further degradation of water quality had occurred. Using the Carlson Index, they calculated the TSI values for Conesus Lake in 2012: total phosphorus (45.1), chlorophyll- α (49.2), and Secchi disk transparency (46.0).

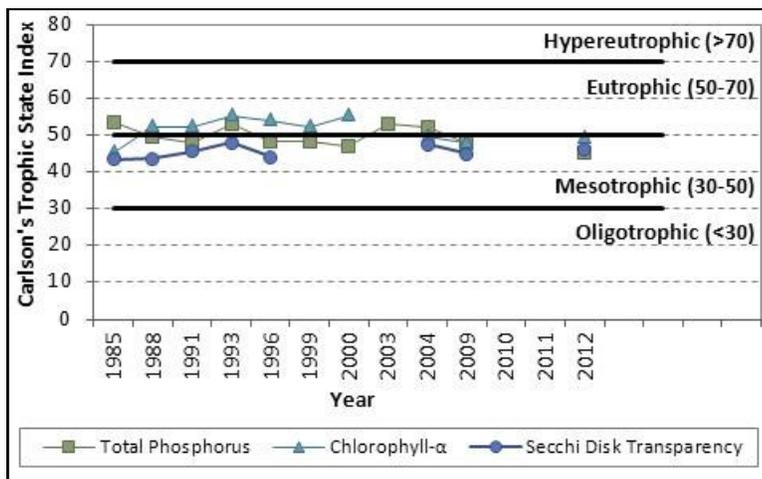


Figure 5. Historical evaluation of Conesus Lake trophic state.

These results suggest that Conesus Lake is in a mesotrophic state, with TSI values between 30 and 50. Historic TSI values show that Conesus Lake has been typically on the border between the mesotrophic and eutrophic states (Figure 5).

Along with other indicators, these analyses suggest that Conesus Lake water quality and trophic state appear to be improving, and may be the result of management efforts.

2012 FOCUS ON CONESUS LAKE BACTERIAL MONITORING AND BLUE-GREEN ALGAE (CYANOBACTERIA)

Bacteriological Monitoring

The Livingston County Department of Health samples nearshore waters at designated bathing beaches in Conesus Lake each summer for the presence of fecal coliform bacteria. This class of bacteria is used to indicate the potential presence of pathogenic (disease-causing) microorganisms. In 2012, samples were collected at three sites: Long Point Beach, Southern Shores Beach and Camp Stella Maris. Results are compared to



Image courtesy: Camp Stella Maris on-line photo gallery.

the state ambient water quality standard for bacteria, which is used by the Department of Environmental Conservation to evaluate water quality and by the Department of Health to evaluate suitability for swimming at designated beaches.

The state's ambient water quality standard for fecal coliform bacteria is 200 colony forming units per 100 ml of lake water (cfu/100ml), is calculated as the geometric average of at least five samples per month. The Department of Health collects on average three samples per month. The geometric mean for the sample concentration in 2012 was 4cfu/100 ml, therefore results for the Conesus Lake beaches in 2012 were well below the 200 cfu/100 ml standard, indicating consistent compliance.

Blue-Green Algae (Cyanobacteria)

An emerging issue in lake management is the development of harmful blooms of cyanobacteria (blue-green algae). A Blue-Green Algae Early Detection and Rapid Response Plan for Conesus Lake was developed in 2011 to improve public understanding of this issue, and to ensure that the state, county and local agencies - including water purveyors - understand their responsibilities and have access to clear and verified data. More information is available on the County website (<http://www.co.livingston.state.ny.us/planning.htm>).

In the summer of 2012, Dr. Sid Bosch of SUNY Geneseo developed a quantitative methodology to characterize the local intensity of cyanobacterial blooms in Conesus Lake, using the pigment phycocyanin as an indicator of bloom intensity. The concentration of phycocyanin in freshly collected samples can be estimated from the pigment's natural fluorescence peak. Phycocyanin concentration is strongly correlated with the number of cyanobacteria cells in the water and thus bloom intensity.

The method developed by Dr. Bosch was used on August 7-14, 2012, when surface slicks of cyanobacteria were observed in shoreline areas. The fluorescence and calculated phycocyanin concentrations measured for surface slicks were very high, and insights about bloom intensity gained from these measurements were considered by the Livingston County Department of Health to temporarily close public beaches and to warn residents of potential risks in the affected areas.



Image courtesy: Bosch et al, 2012. SUNY Geneseo.

2012 FOCUS ON CONESUS LAKE INVASIVE SPECIES MANAGEMENT PLAN

Invasive species, by definition, are non-native, introduced species that cause harm to the environment, human health, and/or economy. Invasive species grow relatively unchecked and disrupt the native ecosystem until the environment begins to evolve and adapt on its own.

Invasive Species Management Plan

Conesus Lake is currently home to four confirmed aquatic invasive species. Of these four species, three (Eurasian watermilfoil, alewife and the zebra mussel) account for the most prominent and significant impacts to Conesus Lake.

During 2012, the CLWC initiated development of an Invasive Species Management Plan for Conesus Lake. This Plan aims to facilitate effective and efficient collaboration between organizations and agencies to prevent new invasive species infestations from entering Conesus Lake and to minimize the ecological, economical and recreational impacts of existing invasive species in the Conesus Lake watershed. The Plan will serve as a reference for problem solving and decision making throughout the invasive species management process.

The CLWC Invasive Species Management Plan has three goals:

- 1) Implement programming to prevent new invasive species from entering Conesus Lake.
- 2) Create an early detection and rapid response system to detect new invasive species while they are at easily treatable levels.
- 3) Realistically and efficiently manage existing invasive species infestations, both in-lake and in the watershed, to minimize impacts to the ecosystem, human health, recreation and economy given existing resources and funding opportunities.

The Plan consists of three elements: Prevention, Monitoring, and Early Detection/Rapid Response.

- **Prevention** is the most cost effective management strategy for the control of invasive species. Increasing awareness levels of invasive species issues and educating the public on prevention best management practices are key. Once a species is established in an ecosystem, direct costs associated with management and indirect economic losses can spiral out of control.
- **Monitoring** will be conducted in a coordinated manner between different groups, including a volunteer monitoring program that will be established.
- The **Early Detection and Rapid Response** element will provide the preparation and planning needed to undergo a rapid response to a newly detected invasive species infestation.

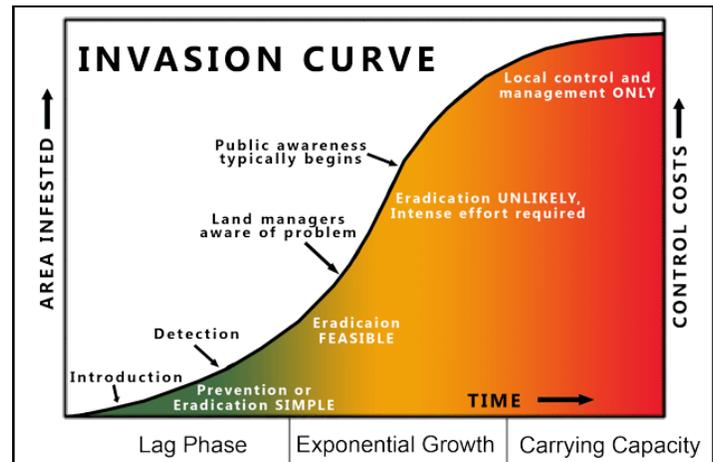


Figure 6. The Invasive Species Invasion Curve emphasizes the importance of addressing new invasions in the early stages.

Image Courtesy of Alaska Department of Natural Resources



CONESUS LAKE WATERSHED MANAGEMENT PLAN

IMPLEMENTATION STATUS REPORT—2012 YEAR IN REVIEW

# in Plan	Recommendation	Priority	Action Taken
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	<ul style="list-style-type: none"> In progress. The Planning Department received a \$5,000 grant from Scott's Products, administered through the NYS Soil and Water Conservation Committee and FLOWPA for a rain garden and public education campaign at Long Point Park.
A-1	Review and amend zoning regulations to improve consistency in near-lake areas.	High	<ul style="list-style-type: none"> The Town of Geneseo has been awarded a grant to complete an Agricultural & Farmland Protection Plan, part of which will look at the connection between land use regulations and agriculture. The Town of Geneseo is also in the process of updating the Town Zoning Code. The Planning Department will be assisting in both planning projects.
A-3	Develop public education campaigns on BMPs for lake and watershed residents.	Medium	<ul style="list-style-type: none"> A Planning Department website is in progress. The Watershed Manager is working on eliminating outdated information, updating contact information and creating new material. This website will be the up-to-date source of public education and outreach information. The Public Education and Outreach Committee is working on developing content for the public education kiosk constructed at Long Point Park. Other public education efforts are in progress. The Watershed Inspector and Watershed Manager are assisting the CLA by providing an up to date contact list for Lake inspection and management issues. A draft was approved for distribution in October.
B-1	Secure funding to help mitigate the financial impacts of changes in agricultural practices on the producers.	High	<ul style="list-style-type: none"> In progress. Agencies will continue these activities annually as part of their existing programs. Livingston County SWCD was awarded funding for four watershed projects through the Agricultural Nonpoint Source Abatement and Control Program (Round 18) through the New York State Department of Agriculture and Markets.
B-2	Implement practices that will reduce non-point source pollution from farms.	High	<ul style="list-style-type: none"> An overgrazed pasture in No Name sub-watershed was converted to cropland with grass field borders to provide a buffer for the adjacent stream. Drainage improvements were installed to address concerns from roof water runoff and past pasture compaction. Additional implementation projects are currently underway. Agricultural BMPs continue to be implemented by watershed farmers, the Livingston County SWCD, and the USDA NRCS.

Key to Acronyms:

BMPs - Best Management Practices

CLWMP - Conesus Lake Watershed Management Plan

FLOWPA - Finger Lakes-Lake Ontario Watershed Protection Alliance

SWCD - Soil and Water Conservation District

CLA - Conesus Lake Association

EPF - Environmental Protection Fund

NRCS - Natural Resource Conservation Service

USDA - United States Department of Agriculture

**CONESUS LAKE WATERSHED MANAGEMENT PLAN
IMPLEMENTATION STATUS REPORT—2012 YEAR IN REVIEW**

# in Plan	Recommendation	Priority	Action Taken
C-1	Develop and implement program to restore and stabilize stream banks in the watershed.	High	<ul style="list-style-type: none"> The NY State Department of State executed contracts for both the Phase 1 EPF streambank remediation grant (Town of Livonia, Village of Livonia and the Town of Conesus) and the Phase 2 EPF streambank remediation grant (Towns of Livonia and Geneseo). For both reconnaissance is set to run through Winter of 2013. Construction on both phases is anticipated to begin in Spring 2013.
C-3	Develop public education campaigns on the impact of human activities on the health of the Lake.	Medium	<ul style="list-style-type: none"> The CLA "Welcome to the Lake Kit" program reached out to 20 new owners this season. The CLA also set up a shoreline clean-up sub-committee and established a weed mat program to control aquatic vegetation. Sixteen filamentous algae cleanup kits were purchased by lakeshore residents and shared among neighbors. One hundred and fifty weed mat signs have been placed at retailers or handed out to individuals. An estimated 35 weed mats have been purchased for Smith Lumber in addition to an unknown number of others who bought materials to construct their own mats.
G-1	Investigate and implement effective methods to control the spread of non-native (exotic) organisms.	High	<ul style="list-style-type: none"> The CLA Invasive Species Project Team is working with the CLWC Technical Committee members on the CLWC Invasive Species Plan. The Conesus Lake Watershed Manager and the CLA Invasive Species Project Team held a hands-on Hydrilla identification and monitoring workshop to train volunteer invasive species monitors. Presentations on Hydrilla and aquatic invasive species prevention were given to the Livingston County Federation of Sportsmen's Clubs, Finger Lakes Conservation Council meeting, and the Watershed Council and Technical Committee. An aquatic invasive species informational booth was staffed at the DEC National Hunting and Fishing Days Livingston County continues to participate in the Finger Lakes PRISM, an information-sharing group formally created by New York State to look regionally at the problem of aquatic and terrestrial invasive species. The CLWC Invasive Species Sub-Committee met nine times in 2012. First and second drafts of the Invasive Species Management Plan were reviewed.

Key to Acronyms:

CLA - Conesus Lake Association
DEC - Department of Environmental Conservation

CLWC - Conesus Lake Watershed Council
PRISM - Partnership for Regional Invasive Species Management



**CONESUS LAKE WATERSHED MANAGEMENT PLAN
IMPLEMENTATION STATUS REPORT—2012 YEAR IN REVIEW**

# in Plan	Recommendation	Priority	Action Taken
G-2	Initiate a leaf cleanup program for lakeside and near-shore residents of Conesus Lake.	High	<ul style="list-style-type: none"> Funding opportunities were investigated for the procurement of suitable leaf pick-up equipment. No new funding opportunities were available during 2012.
G-3	Initiate effort to determine if alum treatment to control release of phosphorus from deep lake sediments would be effective in Conesus Lake. Proceed with plans for implementation if effectiveness is warranted and monitor for environmental impacts.	High	<ul style="list-style-type: none"> The Watershed Manager received an update on the Honeoye Lake Alum treatment from the Ontario County Planning Department.
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	<ul style="list-style-type: none"> In 2012, the CLA stocked 1,000 ten-inch fingerlings from a private hatchery, and 78 six-inch fingerlings provided through the FLCC program. DEC stocked 47,000 two to five -inch walleye and 12,000 ten-and-a-half-inch tiger muskellunge fingerlings.
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	<ul style="list-style-type: none"> Meeting to discuss annual monitoring was held in January 2012. SUNY Brockport completed monitoring three USDA study streams (Sand Point Gully, Long Point Creek and Graywood Gully). SUNY Brockport completed its in-lake trophic indices monitoring. SUNY Geneseo completed macrophyte survey Livingston County Department of Health purchased blue-green algae toxin test strips for trial use for the blue-green algae monitoring program, and completed its 2012 public bathing beach monitoring program.
H-2	Prepare and distribute an annual Conesus Lake and Watershed Report Card.	High	<ul style="list-style-type: none"> 2011 Report Card completed and presented to the CLWC.
H-2	Update the Conesus Lake Watershed Characterization Report	High	<ul style="list-style-type: none"> In progress. The CLWC approved a project to update the Watershed Characterization Report. EcoLogic and the Planning Department are working on the update.

Key to Acronyms:

CLA - Conesus Lake Association

FLCC - Finger Lakes Community College

SUNY - State University of New York

CLWC - Conesus Lake Watershed Council

DEC - Department of Environmental Conservation

USDA - United States Department of Agriculture

For additional information contact:
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