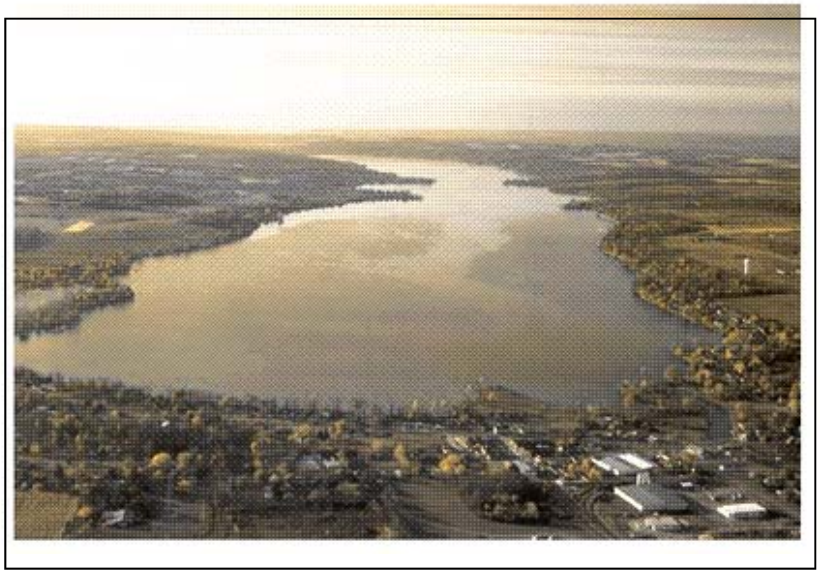

Conesus Lake and Watershed Report Card

Assessment of the Conesus Lake Watershed Management Plan in 2008

Conesus Lake Watershed Council

March 2009

EcoLogic

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 designed to reduce nonpoint source pollution. In addition, the annual summary provides a forum for tracking conditions in Conesus Lake and highlighting new information.

MAJOR ACCOMPLISHMENTS

The Conesus Lake Watershed Council (CLWC) was created in December 2003 when nine watershed partners signed an Intermunicipal Agreement to implement the recommendations of the Conesus Lake Watershed Management Plan (CLWMP). The Watershed Council has met quarterly since its founding and is effective in coordinating projects and reporting on overall progress. Restoring the lake and its watershed requires a sustained effort to address multiple issues. Progress continues on many fronts. Some highlights of 2008 accomplishments are summarized below, along with the CLWMP recommendation they address.

Reduce inputs of nutrients, sediments, microorganisms, and other substances that can degrade the quality of Conesus Lake.

- Continue to advance whole farm planning and support the agricultural community with best management practices (BMPs).
- Project to install sanitary sewers in the Hamlet of Conesus near completion.
- Town of Livonia received a notice of an Environmental Protection Fund (EPF) grant award to remediate stream bank erosion in the Towns of Conesus and Livonia.
- Continue to stabilize eroding roadside ditches in the watershed as funding allows.

Modify in-lake processes in ways that will improve recreational quality.

- 2007 CLA funded the continued stocking of the lake with walleye fingerlings reared at the Finger Lakes Community College and from private pond operation.
- Continued evaluation of the effectiveness of an alum treatment program for Conesus Lake, learning from the experience of Honeoye Lake.

Track water quality conditions and evaluate the effectiveness of control measures.

- Monitor nutrient and sediment export from subwatersheds as improved agricultural practices are implemented.
- Measure near-shore growth of weeds and algae.
- Continue funding the positions of Watershed Inspector and Watershed Manager.
- Continue directing funds to lake and watershed monitoring activities.

Inform the public of watershed management activities.

- Professor Joseph Makarewicz of SUNY-Brockport has led a successful effort to publish a special issue of the Journal of Great Lakes Research devoted to Conesus Lake. The journal, which will be published in early 2009, includes articles highlighting the success of the agricultural BMPs, as measured by improved quality of Conesus Lake and its tributary streams. The collaborative science-based planning effort that resulted in the Conesus Lake Watershed Management Plan will also be discussed in this special issue.

2008 UPDATE:
WATER QUALITY MONITORING OF THE TRIBUTARIES TO CONESUS LAKE

Monitoring Priorities

Early each spring, members of the Technical Committee meet to discuss the annual monitoring program. This meeting, held annually since work began on the CLWMP in 2000, is an opportunity to identify priority issues and find ways to coordinate efforts. A rotating focus examines conditions in the lake monitoring, watershed-wide, and in special focus areas. Flexibility is key; monitoring priorities are shifted to address emerging issues and special topics. For example, the SolarBee monitoring program in 2006 and 2007 directed monitoring resources to the lake to evaluate whether these solar-powered mixing devices could bring about discernable improvement in lake water quality. The 2008 monitoring priorities returned to the watershed. Three projects were completed: evaluation of the continued effectiveness of agricultural BMPs; baseline data collection for the Stream Bank Restoration Project; and evaluation of effectiveness of relocating the North Gully tributary on macrophyte and algae abundance in the cove south of McPherson's Point.

Are the Agricultural Best Management Practices Continuing to be Effective?

In 2007, the USDA-funded research program led by Professor Joseph Makarewicz of SUNY Brockport came to an end. The program, which was designed to quantify the effectiveness of best management practices, brought together a consortium of researchers from local academic institutions and agricultural support agencies for a six-year program of intensive monitoring and analysis.

To evaluate whether the BMPs implemented over the course of the program continued to provide water quality benefits, Professor Makarewicz and his associates collected water quality samples during summer 2008 from six of Conesus Lake's tributary streams: Graywood Gully, Long Point Gully, Sand Point Gully, Cottonwood Gully, Sutton Point Gully, and North McMillan Creek. Findings were encouraging. In those subwatersheds with BMPs, substantial decreases in nutrient and sediment loss continued to be documented. In general, reductions observed from 2003 to 2007 were maintained into 2008 following the formal end of the USDA project. The one exception was Long Point Gully where major increases in the concentrations of phosphorus, suspended solids, and organic nitrogen in the stream were detected. This merits continued monitoring.

Baseline data collected for Stream Bank Restoration Project

One of the CLWMP recommendations is to stabilize eroding stream banks to help reduce sediment washing into the lake. These remedial measures are costly, and will be implemented on a worst-first basis as funds become available. One of the 2008 projects was to evaluate baseline conditions in several stream reaches considered high priority for restoration. These data will serve as a baseline to determine the effectiveness of future restoration projects. This effort was led by Professor Makarewicz.

2008 UPDATE: MONITORING OF CONESUS LAKE TRIBUTARIES (CONTINUED)

Water samples were collected from Wilkins Creek, Densmore Creek, North Gully, and North McMillan Creek over the summer of 2008 and analyzed for total suspended solids. Total suspended solids are a measure of suspended particles - soil and sediment - being carried by the water. After remedial measures have been implemented, a similar study will be conducted to document the effectiveness of the restoration.

Has relocating the North Gully tributary reduced the abundance of macrophytes and filamentous algae in the cove south of McPherson's Point?

Over the last decade, the cove south of McPherson's Point (North Gully Cove) has been characterized by dense growth of Eurasian watermilfoil and an extensive cover of filamentous algae. North Gully Creek flowed into this cove, and carried large amounts of dissolved and particulate nutrients. Approximately 45% of the land within the North Gully watershed is in active agricultural use, primarily dairy farms and row crops.

In February 2008, the North Gully creek channel was diverted northward along the McPherson's Point shoreline to disperse the stream flow into the more open waters of Conesus Lake and away from North Gully Cove.

Professor Isidro Bosch, Lindsey Campana and Peter Radlowski of the SUNY Geneseo Department of Biology investigated whether the diversion of North Gully was effective in reducing the amount of plant growth in North Gully Cove. The size of the macrophyte bed, the density of milfoil plants, and the percent cover of filamentous algae were measured during the peak of the growing season in 2008 and compared to the long term record for the site. Macrophyte beds at Sutton Point and at Sand Point were monitored as reference sites to account for lake-wide changes in plant growth that might influence trends at North Gully Cove.

Macrophyte and filamentous algal biomass in North Gully Cove during the 2008 growing season seemed to follow lake-wide trends, as indicated by comparisons with data from the reference sites and by observations in other littoral areas of Conesus Lake. The 2008 data did not provide definitive evidence that the diversion of North Gully affected plant growth in the cove. These results were not unexpected given the short time elapsed since completion of the diversion project. Additional monitoring in the next few years should provide better insights on the effectiveness of this effort to manage nutrient runoff.

# in Plan	Recommendation	Priority	Action Taken
B-1	Secure funding to help mitigate the financial impacts of changes in agricultural practices on the producers.	High	The CLWC Agricultural Committee reviewed all agricultural recommendations in the Conesus Lake Watershed Management Plan and put together action items for the 2009 CLWMP work plan.
B-2	Implement practices that will reduce nonpoint source pollution from farms.	High	• A tour for agricultural producers, agricultural agency personnel, crop advisors, and local officials was held on August 19, 2008. This tour highlighted BMPs being implemented on farms associated with the USDA grant. A boat tour was also included in the activities, in partnership with the Conesus Lake Association. • The CLWC Agricultural Committee reviewed all agricultural recommendations in the Conesus Lake Watershed Management Plan and put together action items for the 2009 CLWMP Work Plan.
B-3	Develop and implement programs and partnerships to facilitate removal of waste materials from farms.	High	The CLWC Agricultural Committee reviewed all agricultural recommendations in the Conesus Lake Watershed Management Plan and put together action items for the 2009 CLWMP Work Plan.
C-1	Develop and implement program to restore and stabilize stream banks in the watershed.	High	• The McPherson's Point Project/North Gully Straightening Project was completed in February 2008. • The Town of Livonia received notice of an EPF grant award for stream bank remediation in the amount of $382,869. This is a 50/50 matching grant.
D-3	Municipal Highway Departments should develop a plan, subject to available funding, to remediate ditches in poor condition.	Medium	• Conesus Highway Department received a grant to conduct road ditch remediation on Henderson Hill Road, which was completed in 2008. • Conesus Highway Department is in the process of preparing additional EPF grants for road ditch remediation. • Livingston County Planning Department, the Town of Groveland, and the Highway Superintendents of the Towns of Groveland, Geneseo, Conesus and Sparta met with the CLWC Technical Committee and the NYS Department of State on July 11, 2008 for an EPF road ditch grant kick-off meeting.

Key to Acronyms

BMPs - Best Management Practices
CLWMP - Conesus Lake Watershed Management Plan
USDA - United States Department of Agriculture
CLWC - Conesus Lake Watershed Council
EPF - Environmental Protection Fund

CLWMP IMPLEMENTATION STATUS REPORT—2008 YEAR IN REVIEW (CONTINUED)

# in Plan	Recommendation	Priority	Action Taken
F-2	Extend sewer system	Medium	Hamlet of Conesus Sanitary Sewer System will be completed in 2009. The project does not cover Dacola Shores; instead, the project was routed down East Lake Road. The route was selected due to the opposition to sanitary sewers by the residents of Dacola Shores.
G-1	Investigate and implement effective methods to control the spread of non-native (exotic) organisms.	High	Livingston County is a participant in the Finger Lakes PRISM, an information-sharing group that was formally created by New York State to look at the problem of aquatic and terrestrial invasive species on a regional level.
G-2	Develop and implement a program for cleaning accumulated aquatic plants and algae along the shoreline of Conesus Lake.	High	A comprehensive Fish Kill Contingency Plan was adopted by the CLWC in February 2008 to address cleanup of large fish kills.
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	At the August 8, 2008 CLWC meeting, the Council evaluated the action taken on alum and directed the Planning Department, Watershed Manager, and Technical Committee to conduct further research into phosphorus loading from the watershed and to look into conducting a bathymetric survey of Conesus Lake.
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	• In Summer 2008, Conesus Lake was stocked with approximately 250 advanced walleye fingerlings from the FLCC walleye rearing ponds. • The Conesus Lake Association purchased approximately 2,000 advanced walleye fingerlings, which were stocked in the lake in Summer 2008.
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	EcoLogic, LLC, Dr. Makarewicz, Dick Davin (Watershed Inspector), and Dr. Bosch collaborated on the preparation of a plan for 2008 monitoring activities.

Key to Acronyms
CLWC - Conesus Lake Watershed Council
FLCC—Finger Lakes Community College
PRISM - Partnership for Regional Invasive Species Management

CLWMP IMPLEMENTATION STATUS REPORT—2008 YEAR IN REVIEW
PUBLIC EDUCATION RECOMMENDATIONS

# in Plan	Recommendation	Priority	Action Taken
A-3	Develop public education campaigns: • Encourage planting and protection of streamside vegetation • Discourage use of herbicides, pesticides, and fertilizers on shoreline properties • Erosion control and lake-friendly landscaping	Medium	The CLWC Public Education and Outreach Committee reviewed all public education recommendations in the Conesus Lake Watershed Management Plan and put together action items for the 2009 CLWMP Work Plan.
B-4	Develop programs for public education and outreach for both the agricultural and the non-agricultural community.	High	
D-5	Develop public education campaigns: • Sensible winter driving • Why and when are road ditches cleaned • Need to keep yard debris and trash out of road ditches	Low	
E-2	Develop a public education campaign: • Effect of boat speed on weeds (creates weed-chop) • Precautions to follow when discarding unused bait or transporting bait from one water body to another (exotic species introduction). • Need to clean and inspect boat (body, bilge, coolant system, etc.) and trailer when transporting from one water body to another (exotic species introduction). • Existing boat and personal watercraft laws.	High	

Key to Acronyms
CLWC - Conesus Lake Watershed Council
CLWMP - Conesus Lake Watershed Management Plan

For additional information contact: :
Conesus Lake Watershed Manager
(585) 243-7550 or (585) 519-7509

Conesus Lake Watershed Council
6 Court Street—Room 305
Geneseo, NY 14454
(585) 243-7550
http://www.livingstoncounty.us/conesus.htm

Prepared by:

EcoLogic, LLC
132 1/2 Albany Street
Cazenovia NY 13035
http://www.EcoLogicLLC.com