

Gonesus Lake

Watershed Management Plan



EXECUTIVE SUMMARY

COVER PHOTO
Adrian "Bud" Prince

Gonesus Lake

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LOCAL WATERFRONT REVITALIZATION GRANT AWARDED TO:

Town of Livonia

35 COMMERCIAL STREET
P.O. Box 43
LIVONIA, NY 14487
(585) 346-3710



PROJECT MANAGER

Livingston County Planning Department

6 COURT STREET - ROOM 305
GENESEO, NY 14454
(585) 243-7550

[HTTP://WWW.CO.LIVINGSTON.STATE.NY.US](http://www.co.livingston.state.ny.us)



PROJECT CONSULTANT

EcoLogic, LLC

ATWELL MILL ANNEX, SUITE S-2
132 1/2 ALBANY STREET
CAZENOVIA, NY 13035
(315) 655-8305

[HTTP://WWW.ECOLOGICLLC.COM](http://www.ecologicllc.com)



EcoLogic

GRAPHIC DESIGN

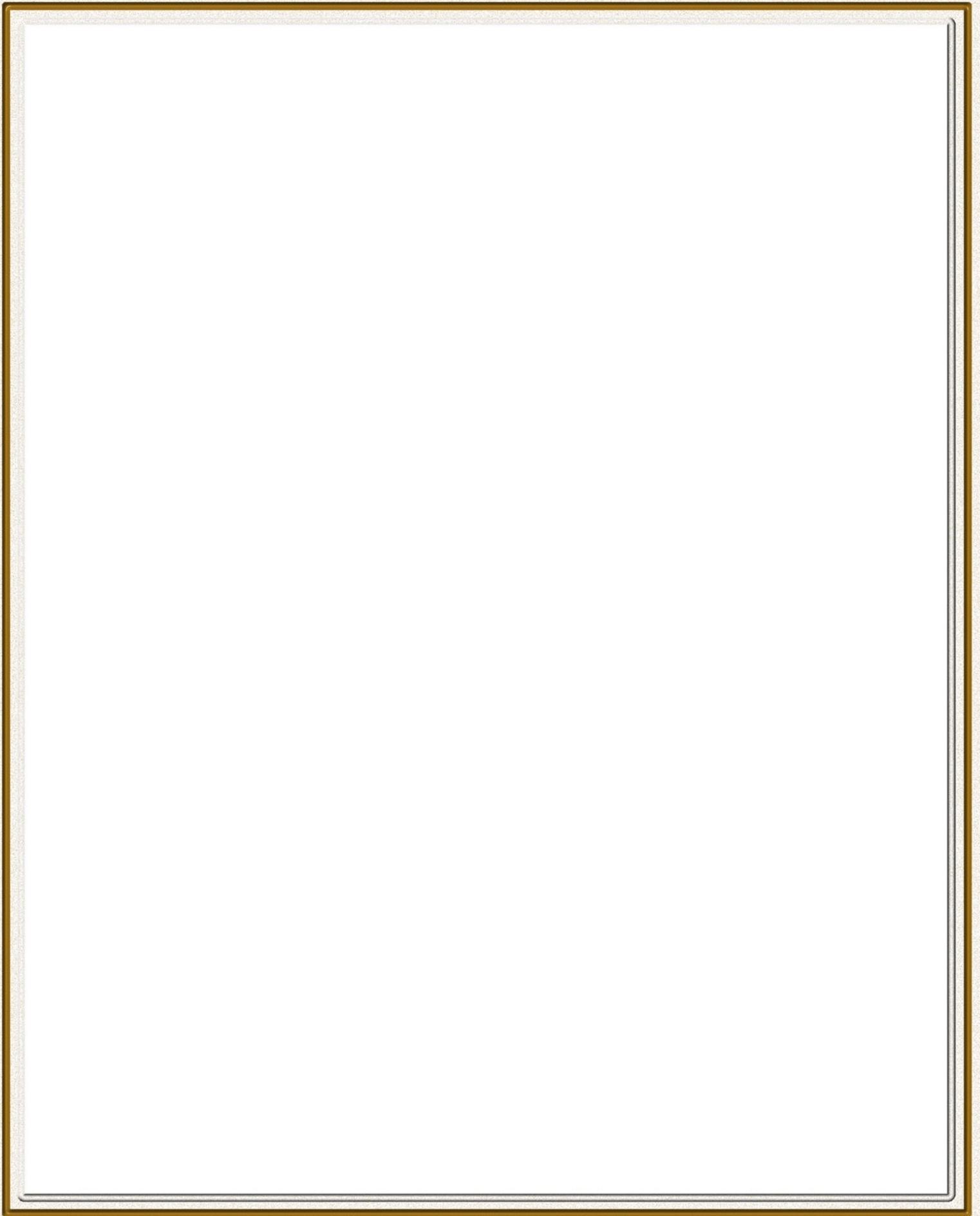
Kat Nichols

NICHOLS GRAPHIC DESIGN & CONSULTING
P.O. Box 566
LAKEVILLE, NY 14480
(585) 346-5437

Nichols
GRAPHIC DESIGN
AND CONSULTING

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Conesus Lake

INTRODUCTION

The Conesus Lake Watershed Management Plan (CLWMP) is the result of a process that began in the 1990s, when concerned citizens, academic researchers, and local government representatives rallied around the need to restore and protect Conesus Lake. Publication of the *State of Conesus Lake: Watershed Characterization Report* in May 2002 was a significant milestone in the process of developing a management plan for the lake and its watershed. This report describes existing conditions of the lake and watershed, identifies pollutants that threaten water resources, and identifies specific land uses and geographical areas that contribute pollutants of concern. The Conesus Lake Watershed Management Plan builds on the work done for the Characterization Report; the Management Plan presents a series of recommended actions designed to improve the quality of Conesus Lake. These actions target the types and sources of pollution that present the greatest threat to the lake's continued use as a public water supply and recreational asset. The purpose of the Watershed Management Plan is to serve as a consensus among the Conesus Lake Watershed municipalities and the State of New York on future actions needed to protect the lake.

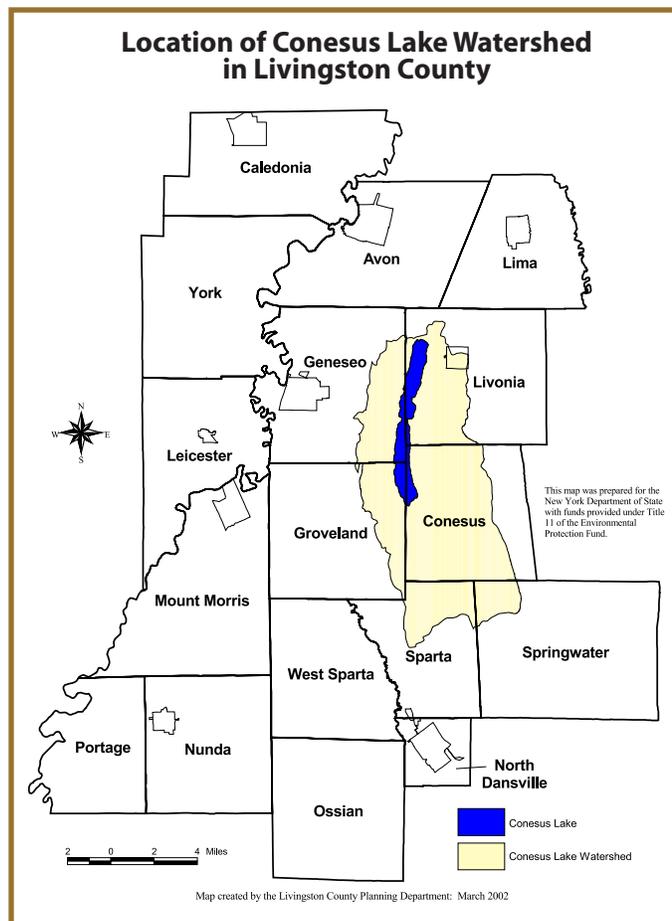
Implementation of these recommended actions will require dedicated efforts of federal, state and local government, natural resource and agricultural management agencies, and the watershed community. The problems evident in Conesus Lake are not caused by any single action or land use; they are the cumulative results of many activities and natural conditions within the watershed boundaries. Therefore, everyone who lives, works, or plays in the watershed must cooperate in order to achieve the needed improvements.

The Conesus Lake Watershed Management Plan is a "living document" that can grow and change as old issues are resolved and new issues are encountered. It is not a mandate but will serve as a guide to effective actions to protect and enhance the quality of the lake and watershed.

The Planning Process

The Watershed Management Plan was developed through a collaborative process that reflects local input on priority actions and the feasibility of solutions. The plan identifies priorities and recommendations based on the input and vision of those who live and work in the watershed and of those using Conesus Lake as a public water supply. Preparation of the Watershed Management Plan was overseen by the CLWMP Policy Committee, which was comprised of representatives from Livingston County, the watershed municipalities, the Villages of Avon and Geneseo (public water suppliers), and the federal, state, and local agencies at work in the watershed.

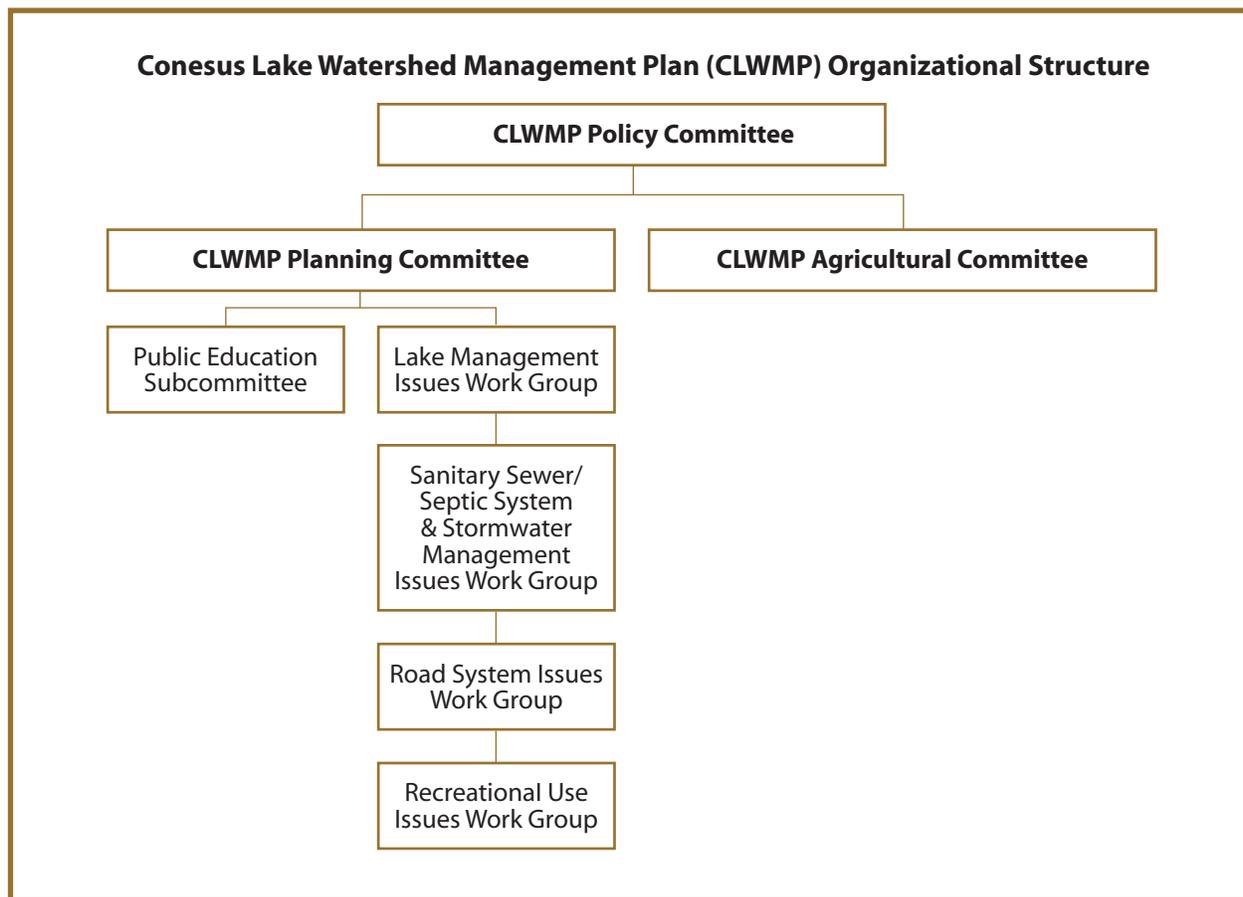
Public scoping sessions were held early in the process to get input from concerned citizens and technical experts regarding the major problems affecting Conesus Lake and its watershed. As a next step, a technical consultant was engaged to document existing conditions and determine the underlying sources of pollution. Based on the public scoping sessions and findings of the *State of Conesus Lake*:



Watershed Characterization Report, the watershed management planning effort focused on five critical areas. These areas, which include both sources of pollution and impaired uses, are: (1) agriculture, (2) lake management issues (control of weeds and algae), (3) sanitary sewer/septic systems & stormwater, (4) road systems, and (5) recreational use.

Work groups and/or committees were formed to focus on these five critical areas. Lively discussions characterized a series of meetings that brought together representatives from watershed municipalities, government (local, state, and federal) and non-governmental agencies, the private sector, and academic institutions (SUNY Geneseo & Brockport). The kickoff meetings served as a forum to explore each critical area in detail and brainstorm possible solutions. Next, potential solutions were investigated with respect to potential effectiveness, costs, permits needed, public acceptance, and other criteria. A short list of recommendations was arrived at by consensus. Finally, each work group or committee ranked the recommended solutions to assign priorities. Results of this concerted effort were presented to the Planning Committee and then to the Policy Committee.

Preparation of the plan was financed through three Environmental Protection Fund-Local Waterfront Revitalization Program grants awarded to the Town of Livonia on behalf of all the watershed municipalities. The grants were matched by an equal amount of local contributions and in-kind services. The Livingston County Planning Department managed the project on behalf of the Town of Livonia and the other watershed communities.



VISION AND GOALS

The vision statement for the CLWMP was developed as a guide for the planning process. It describes what the members of the Planning and Policy Committees would like to achieve for Conesus Lake and its watershed. It includes elements related to human uses of the lake and its watershed, restoration of the lake ecosystem, continuation of agricultural land uses, and protection of the rural character of the watershed. The Policy Committee has adopted the following statement to express their vision of both the Watershed Management Plan and the watershed:

“TO DESIGN A MANAGEMENT PLAN THAT PRESERVES, RESTORES, AND ENHANCES THE HEALTH, NATURAL BEAUTY, AND RURAL CHARACTER OF CONESUS LAKE AND ITS WATERSHED.”



PHOTO: ADRIAN 'BUD' PRINCE

What is the objective of the Conesus Lake Watershed Management Plan?

To ensure the sustainability of designated uses for Conesus Lake and its continued role as a positive influence on the social and economic well being of watershed communities.

What are the goals regarding water quality of the lake?

To improve water quality conditions in Conesus Lake to ensure its continued use as a water supply and make it more attractive for water contact recreation.

How does the plan view ecosystem management?

The plan includes actions designed to restore Conesus Lake to a diverse ecosystem composed primarily of native species of plants and animals.

What part does the community play in the plan?

For the plan to succeed, it must promote cooperation of all stakeholders at the local level to develop a comprehensive approach that seeks to build collaboration and balance diverse concerns.

How does the plan address the specific concerns of agriculture?

The plan recognizes the value of high quality agricultural practices in meeting its goals. The plan seeks to promote the viability of agriculture and best management practices in land use.

How does the plan affect residents of the watershed?

The plan seeks to provide necessary services to all watershed residents while preserving the natural beauty and rural character of the countryside.

ISSUES AFFECTING CONESUS LAKE AND ITS WATERSHED

The Management Plan presents a series of actions designed to improve the quality of Conesus Lake and protect its future as a water supply and recreational asset. These actions target the major sources and symptoms of pollution as listed below. Notes indicate the section of the Management Plan where recommended actions are designed to improve these issues.

- **Aquatic plants and algae:** Excessive aquatic plants interfere with recreational uses of the lake. Excessive algae in the lake can cause problems to the water treatment plant if they clog filters or cause unacceptable levels of disinfection byproducts. Certain algal species can cause taste and odor problems in public water supplies. [In-lake issues]
- **Sediments and nutrients:** Conesus Lake is designated and used as a public water supply. In 2002, Conesus Lake was included on New York State's 303(d) list, which is an inventory of lakes, streams, and coastal areas where water quality conditions are not adequate to support a designated use. Sediment and nutrients (phosphorus) are cited as the major cause of the problem. [Development, Agriculture, Stormwater, Roadways, In-lake issues: alum application]
- **Non-native species:** Non-native (exotic) species of plants and animals have caused problems in Conesus Lake that have no easy solutions. The non-native species causing the most concern at this time are: Eurasian watermilfoil (*Myriophyllum spicatum*), an aquatic plant; the alewife (*Alosa pseudoharengus*), a small fish; and zebra mussels (*Dreissena polymorpha*), a mollusk. These species interfere with recreation and disrupt the natural ecosystem of the lake. [In-lake and Recreational issues]
- **Pesticides:** Measurable concentrations of herbicides and their breakdown products (metabolites) have been detected in the lake water (USGS & NYSDEC Pesticide Monitoring Program, 2000). No single concentration in Conesus Lake exceeds its associated water quality standard designed to protect human health and the environment. [Agriculture, Stormwater, Development: public education]
- **Pathogens:** Indicators of the possible presence of disease-causing microorganisms (pathogens) have been found in tributary streams and, to a much lesser extent, in the nearshore areas of Conesus Lake. This is a public health concern for drinking water and water contact recreation. [In-Lake and Recreational issues, Agriculture, Water & Wastewater]
- **Salts:** Comparison of historical and recent data confirms that concentrations of sodium and chloride have increased over time; this is widely viewed as a consequence of road deicing practices. Increased salt levels could restrict the use of Conesus Lake as a public water supply for certain vulnerable consumers. [Roadways]
- **Lake level management:** Lake levels are managed by the Conesus Lake Compact of Towns using a rule curve developed by the Army Corps of Engineers. The NYSDEC completed a safe yield evaluation of Conesus Lake in 1994 (NYSDEC 1994). Current water supply permits allocate more than the safe yield amount; however, the actual withdrawals for public water supply are below their permit allocation. [Water & Wastewater]

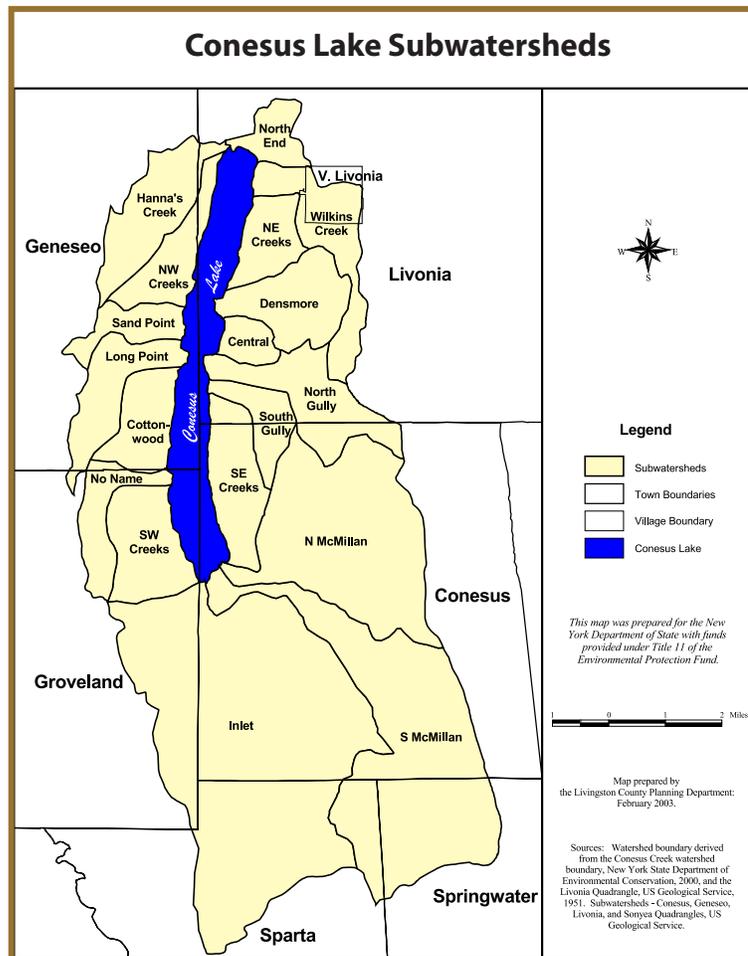
An analysis was conducted to evaluate the relative contribution of each sub-watershed to nutrient and sediment inputs to the lake. The results of this analysis are presented in Chapter 4 of the Management Plan.

Recommended Actions

Specific recommendations are grouped into four categories:

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The first three recommendation categories deal with specific issues and problems as discussed in the preceding section. Category 4, Monitoring and Assessment, tracks implementation of the recommended actions and measures the response of the lake and watershed. Continued monitoring will help evaluate the effectiveness of the steps taken to reduce nonpoint sources of pollution to Conesus Lake. Moreover, continued monitoring and assessment will help managers identify emerging issues. Public education is also a key component that threads through many of the recommended actions.



Controls on Loading From External (Nonpoint) Sources of Pollution

A. DEVELOPMENT ISSUES

Recommendation A-1. Review and amend zoning regulations to improve consistency in near-lake areas and address specific water quality related concerns in the watershed. Specific changes are needed in four areas:

- Limit impervious cover
- Establish riparian setbacks or buffer strips for non-agricultural parcels
- Protect critical environmental areas
- Establish cluster development regulations with strict stormwater management requirements

Priority: High

Summary

This recommendation calls for changes in local regulations to better protect water quality. Any changes to local laws must, of course, be made by the municipality. In 2002, the New York State Department of State allocated funding to help communities in the watersheds of Cayuga, Canandaigua and Conesus Lakes review and amend their local laws to improve water resources management and reduce nonpoint source pollution. The Genesee/Finger Lakes Regional Planning Council will work in partnership with the Livingston County Planning Department and local municipalities to strengthen local laws to help control nonpoint source pollution.

Recommendation A-2. Adopt local sediment and erosion control laws based on the CLWMP Model Erosion and Sediment Control Law

Priority: Medium

Summary

Local laws are needed to control erosion caused by construction and other activities that disturb large areas of soil. The Model Erosion and Sediment Control Law can be used as a guide when drafting a local law for this purpose.



PHOTO: PETER D'ALUIO; PILOT: JIM RAFFA

Recommendation A-3. Develop public education campaigns (or promote if existing) to include, but not be limited to, the following:

- Encourage planting and protection of streamside vegetation
- Discourage use of herbicides, pesticides, and fertilizers on shoreline properties
- Erosion control and lake-friendly landscaping

Priority: Medium

Summary

Many land use practices that have negative effects on water quality are the result of uninformed decisions. Public education is necessary to inform landowners of the consequences of their actions and promote alternatives that will have little or no negative effects on the environment.

B. AGRICULTURAL ISSUES

(See Appendix 7 in the Watershed Management Plan for additional information regarding technical support and regulatory programs related to agriculture)

Recommendation B-1. Secure funding to help mitigate the financial impacts of changes in agricultural practices on the producers.

Priority: High

Summary

Agricultural producers often work with very low profit margins. Any changes in their operations can have large economic impacts. Therefore, providing financial support to farmers might allow them to make changes in their operations to reduce potential pollution of streams, lakes, and groundwater.

Recommendation B-2. Implement practices that will reduce nonpoint source pollution from farms. Agricultural practices designed to reduce the input of sediment, nutrients, pathogens, pesticides, and other potential pollutants to Conesus Lake should be selected and implemented through the Agricultural Environmental Management (AEM) framework of whole farm planning.

Priority: High

Summary

The whole farm planning approach is a voluntary effort of individual producers to identify practical, cost-effective, and environmentally sound practices for their farms. The planning is done with technical input and support of agricultural agencies and/or certified planners. The federal government sponsors the AEM program and offers financial assistance to participants.

Recommendation B-3. Develop and implement programs and partnerships to facilitate removal of waste materials from farms.

Priority: High

Summary

Farms use specialized materials that have no easy disposal options, for example, the plastic used to wrap hay bales, etc. Implementation of waste removal programs targeted at agriculture is needed.

Recommendation B-4. Develop programs for public education and outreach for both the agricultural and the non-agricultural community.

Priority: High

Summary

Agriculture is an important component of the Conesus Lake watershed. However, there is a need to improve communication between the agricultural and non-agricultural communities in the watershed. Public education is needed to inform farmers and non-farmers alike about what each other is doing to protect the environment and cooperate with the CLWMP process.

Recommendation B-5. Recruit additional agricultural producers to serve on an advisory committee during the implementation phase of the Conesus Lake Watershed Management Plan.

Priority: High

Summary

Agriculture is a significant land use and a significant potential source of pollution in the watershed. The quality of the lake cannot be improved and protected without the active participation of the agricultural community. For this reason, it is important that agricultural producers be actively involved in the implementation phase. An agricultural committee is part of the proposed Conesus Lake Watershed Council organizational structure found on page 16.

C. STORMWATER MANAGEMENT

Recommendation C-1. Develop and implement program to restore and stabilize streambanks in the watershed.

Priority: High

Summary

Streambank erosion is a major source of sediment to the lake. Restoration and stabilization of streambanks is a costly effort, but it will greatly benefit water quality and the protection of private property.

Recommendation C-2. Identify and develop sites for regional stormwater treatment areas in cooperation with NYSDEC and other stakeholders.

Priority: Low

Summary

The goal of this recommendation is to identify and develop areas to capture stormwater runoff. Sediments in captured stormwater would have a chance to settle out before the water reaches the lake. Because of the high development around the lake and the steep topography of the region, there are a limited number of areas where this recommendation could be implemented.

D. ROADWAY MAINTENANCE

Recommendation D-1. Provide training on erosion control practices for municipal highway departments to support compliance with state and federal Phase II Storm Water Regulations.

Priority: High

Summary

State and federal Phase II Storm Water Regulations became effective in March, 2003. Municipal highway department personnel will need additional training in order to ensure compliance with the new regulations.

Recommendation D-2. Implement Best Management Practices (BMPs), such as hydroseeding or other approved methods, as soon as possible after road construction or maintenance activities occur in the watershed. The goal is to have all road construction and maintenance activities subject to hydroseeding or other appropriate BMPs within three days.

Priority: Medium

Summary

Areas of bare soil erode faster than vegetated areas. It is important that municipal highway departments work in partnership with the Soil and Water Conservation District, the NYS Department of Transportation, and/or other sources, to re-vegetate areas left bare after road maintenance activities. Because re-vegetating is not a viable option during certain times of the year, other erosion control techniques should be put into place at those times.

Recommendation D-3. Municipal highway departments should develop a plan, subject to available funding, to remediate ditches in poor condition.

Priority: Medium

Summary

An inventory of road ditches in the Conesus Lake watershed was conducted during 2001 (Appendix 5). Ditches were ranked based on their potential annual erosion. Municipal highway departments should give priority to repairing those ditches found to have the highest potential

erosion. Highway departments are proceeding with repair work as available funds allow. This effort will help to reduce the sedimentation of Conesus Lake.

Recommendation D-4. Develop plan to phase-in computer controlled spreaders on trucks used for winter deicing (includes training, funding, and use of the equipment). Promote sensible deicing practices: develop incentives and/or disincentives.

Priority: Low

Summary

Chloride and sodium concentrations in Conesus Lake have been increasing for decades as the watershed developed. Winter deicing practices are a major factor contributing to the increased concentrations of chloride and sodium. Computer controlled materials spreaders ensure a uniform application of deicing materials on the roads and can reduce the amount of chemicals and sand used during the winter as compared to manually-controlled application. However, incentives and training are needed to ensure equipment will be used appropriately.

Recommendation D-5. Develop public and promote education campaigns for the following:

- Sensible winter driving
- Why and when are road ditches cleaned
- Need to keep yard debris and trash out of road ditches

Priority: Low

Summary

The recommendations in this section will require the cooperation of watershed residents in order to maintain safety and improve watershed conditions. Public education is necessary to keep residents informed of changes and to solicit their cooperation.

E. RECREATIONAL ISSUES

Recommendation E-1. Three inter-related recommendations concerning toilet facilities on boats:

- Allow boats with permanently fixed, self-contained toilets with no overboard discharge mechanisms to operate on Conesus Lake.
- Install pumpout facilities for boats in areas with easy access.
- Allow marine sanitation devices, i.e. porta-potties, on boats.

Priority: High

Summary

The Management Plan recommends allowing boats equipped with self-contained toilets with no overboard discharge to operate on Conesus Lake. This represents an environmentally sound, practical alternative for boaters who want to spend long hours on the lake without coming back to shore. Allowing porta-potties will encourage small boat users to dispose of the waste properly. Both options will require a strong public education campaign.



PHOTO: ADRIAN 'BUD' PRINCE

Recommendation E-2. Develop a public education campaign (or promote existing campaign, where applicable) including, but not limited to, the following issues:

- Effect of boat speed on weeds (creates weed-chop)
- Precautions to follow when discarding unused bait or transporting bait from one waterbody to another (exotic species introduction).
- Need to clean and inspect boat (body, bilge, coolant system, etc.) and trailer when transporting from one waterbody to another (exotic species introduction).
- Existing boat and personal watercraft laws.

Priority: High

Summary

Public education and outreach can be an effective means of guiding behavior. When residents and lake users understand the potential consequences of their actions, they are more likely to behave in a manner that protects the environment. Public education is a tool to promote compliance with existing regulations and to encourage behaviors that will protect the lake and its watershed.

Recommendation E-3. Continued enforcement of existing boat and personal watercraft laws.

Priority: High

Summary

Conesus Lake is often cited as the Finger Lake with the best enforcement of boating laws. It is important that this high level of enforcement continues. This recommendation supports the work being done by the Livingston County Sheriff's Office Marine Patrol.

Recommendation E-4. Amend Town dock laws to add the provision of 24-hour access to toilet facilities to the list of requirements for granting a Special Use Permit.

Priority: Medium

Summary

Town dock laws allow a certain number of boat slips on residential docks. Lakeshore residents who wish to exceed this number would need a Special Use Permit and would be required to provide 24-hour access to toilet facilities as a condition of the permit.

Recommendation E-5. Winterize facilities at the State Boat Launch on East Lake Road and at the Town of Geneseo's Long Point Park to permit year-round use of public toilets.

Priority: Medium

Summary

This recommendation, together with the proposal to allow portable ice fishing shelters, will make the lake more attractive for ice fishing. It will also give winter users of the lake and watershed more options for proper disposal of human waste.

Recommendation E-6. Allow portable ice-fishing shelters (with one open side) for daily use on Conesus Lake

Priority: Low

Summary

This recommendation is targeted to making the lake more attractive for ice fishing and, at the same time, preventing the misuse of structures. The daily use provision ensures that structures will be removed at the end of each day.

Water Supply and Wastewater Improvements

F. WATER SUPPLY, WASTEWATER PERMITS AND INFRASTRUCTURE

Recommendation F-1. NYS Department of Environmental Conservation should review and update its 1994 safe yield allocation calculation for Conesus Lake, and make any necessary revisions to water allocations for public supply and wastewater dilution.

Priority: High

Summary

Based on a 1994 safe yield analysis, the water supply from Conesus Lake is over-allocated. This is currently not of immediate concern because the public water suppliers draw significantly below their permit limits and their current physical facilities do not allow them to consistently draw at or near their permit limits. However, future lake level management and economic development decisions should be made based on a technically-sound yield analysis and appropriate permit limits. The 1994 safe yield analysis should be reviewed to ensure that the science behind this analysis is sound and in-line with the latest available information and technologies.

Recommendation F-2. Extend sewer system to areas including: Dacula Shores, Conesus Hamlet, Scottsburg Hamlet, cove areas between Conesus Lake and West/East Lake Roads, along West Lake Road, and along East Lake Road

Priority: Medium

Summary

Development over the past 30 years has increased the density of housing and the risk that inadequately treated effluent from individual on-site systems may ultimately end up in the Lake. Contamination concerns from failing septic systems include nutrients (nitrogen and phosphorus) and pathogens. (In October 2002, the Town of Conesus received one million dollars from New York's Clean Water/Clean Air Bond Act to construct a sewer collection system to convey wastewater from the Hamlet of Conesus to the existing wastewater treatment plant.)

Recommendation F-3. Control sanitary sewer overflows within the collection system.

Priority: Medium

Summary

This recommendation represents an ongoing commitment to maintain and improve the aging wastewater collection and treatment infrastructure surrounding Conesus Lake. The Livingston County Water and Sewer Authority was successful in obtaining funds from the Clean Water/Clean Air Bond Act to correct a sanitary sewer overflow problem at Camp Run in Lakeville.

Recommendation F-4. Develop protocol and timeline to inventory septic/sanitary systems within the watershed.

Priority: Low

Summary

Failing individual on-site wastewater disposal systems (septic systems) have the potential to contaminate surface and groundwater and can pose a threat to the health of nearby residents. Currently, the Livingston County Department of Health responds to complaints of malfunctioning septic systems and can order immediate action to correct problems that endanger public health and environmental quality. (Some areas, such as the Hamlets of Conesus and Scottsburg, have already been identified as problem areas.) In addition, most banks require inspection or testing when properties are transferred. This recommendation is an attempt to obtain baseline data tracking the age, condition, location, and number of individual on-site wastewater disposal systems within the Conesus Lake watershed.

In-Lake Measures to Improve Water Quality, Recreational Use, Aesthetic Quality, and Ecosystem Functioning

G. IN-LAKE MEASURES

Recommendation G-1 Investigate and implement effective methods to control the spread of non-native (exotic) organisms.

Priority: High

Summary

Non-native organisms can disrupt an ecosystem in ways that are difficult to control or manage. Conesus Lake has experienced the disruptive effects of the alewife, zebra mussel, and Eurasian watermilfoil. To date there are no fail-safe ways of preventing the introduction of non-native organisms through boats, bait, and other means of entry. Boat washing was investigated as a possible control measure and found to have mixed results. The NYS Office of Parks, Recreation, and Historic Preservation, which operates the boat launch on East lake Road, did not support the installation of a boat washing station in Conesus Lake as a method for controlling the introduction of non-native aquatic organisms at this time. However, as technology develops and knowledge of ecosystem management increases, new ways to control the spread of non-native organisms could become available. Public education is a large component of this effort.

Recommendation G-2. Develop and implement a program for cleaning accumulated aquatic plants and algae along the shoreline of Conesus Lake.

This is one of a series of recommendations to address aquatic plant management. It would be a part of an integrated aquatic plant management plan, which would specify the combination of measures, their timetable, and funding sources for implementation.

Priority: High

Summary

Lakeside residents have expressed the need to clean the shoreline of accumulated aquatic plant fragments and algae. These masses of decaying plant

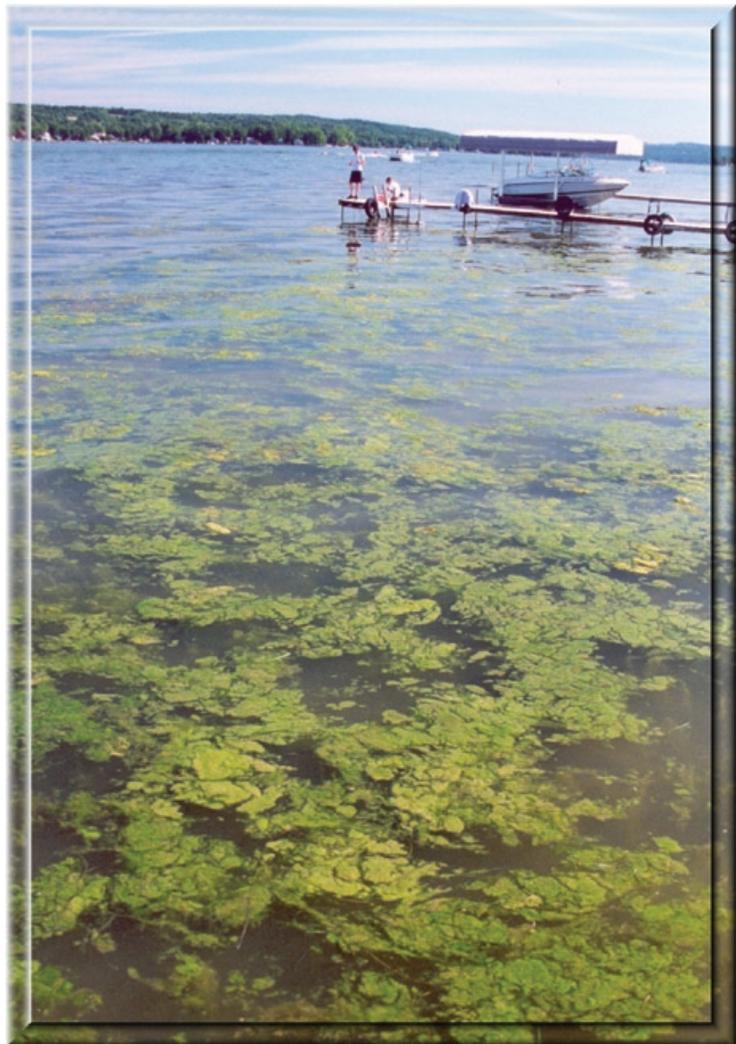


PHOTO: PETER D'ALITO

material degrade the aesthetic quality of the lake and are a source of unpleasant odors. Suctioning equipment has been used previously, with limited success. Success factors include identifying a tool or process to remove the material and a disposal site for the plant material. The shoreline should be cleaned at regular intervals to maintain acceptable conditions for recreational users.

Recommendation 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.

Priority: High

Summary

The June 2002 placement of Conesus Lake on the NYSDEC 303(d) list cites phosphorus release from lake sediments as a source of phosphorus that contributes to the poor water quality conditions. This recommendation is to investigate and implement a lake restoration technique directed at the phosphorus flux from sediments deep in the lake.

Release of phosphorus from Conesus Lake sediments is closely coupled to the lake's annual patterns of water temperature and dissolved oxygen levels. Under current conditions, phosphorus release occurs during late summer from sediments in the deepest portion of the lake; water overlying these sediments becomes oxygen depleted and the sediment chemistry changes so that phosphorus becomes soluble. The recommended action is to treat these deep sediments with aluminum sulfate (alum) to block the lake's internal phosphorus source. Additional investigations are needed to quantify the importance of sediment phosphorus to the lake's water quality.

Recommendation G-4. Initiate effort to determine if increased stocking of walleye fingerlings, or other species, would be an effective biological control in Conesus Lake. Proceed with plans for implementation if effectiveness is warranted.

Priority: High

Summary

The ecology of Conesus Lake has been altered in recent decades with introduction of exotic plant and animal species. Among the most disruptive of these introductions is the alewife, a fish that feeds on large-bodied zooplankton (among other food sources). In the years since the alewife invaded the lake, the community of large-bodied zooplankton has decreased dramatically. The loss of the zooplankton has led to proliferation of phytoplankton (tiny algae and bacteria suspended in the water column) and a visible decline in water clarity (Makarewicz 2000). One technique to biologically control the alewife population is to introduce large numbers of walleye (*Stizostedion vitreum*), a native gamefish, to feed on the alewife. In order for this strategy to be effective, walleye must be stocked in the lake as fingerlings (greater than 2.5 inches) so that they can avoid predation by other animals.

Recommendation G-5. Develop an experimental program for control of aquatic weeds using the aquatic moth and/or weevil.

This is one of a series of recommendations to address aquatic plant management. It would be a part of an integrated aquatic plant management plan, which would specify the combination of measures, their timetable, and funding sources for implementation.

Priority: Medium

Summary

The larval stages of an aquatic moth (*Acentria ephemerella*) and the aquatic weevil (*Euhrychiopsis lecontei*) preferentially feed on Eurasian watermilfoil. Experiments using these biological controls in other lakes have shown variable success (Johnson et al. 2001). Investigations are needed to ensure the viability of this strategy in Conesus Lake. These insects are established species in the Northeast and the Finger Lakes region. No adverse impacts have been observed in other lakes. However, monitoring and keeping current with scientific knowledge concerning these species will be an important component of the implementation phase for this recommendation.

Recommendation G-6. Develop program for suctioning aquatic weeds from designated public areas that are too shallow for harvester to maneuver.

This is one of a series of recommendations to address aquatic plant management. It would be a part of an integrated aquatic plant management plan, which would specify the combination of measures, their timetable, and funding sources for implementation.

Priority: Low

Summary

This strategy requires the services of a professional diver and specialized equipment that work somewhat like a vacuum cleaner. Rooted plants are pulled out of the sediment and transferred to a mesh bag for disposal. An experienced professional can select plants for removal and minimize disturbance of sediments.

Recommendation G-7. Develop a weed harvesting program either by contracting with outside vendor or purchasing equipment.

This is one of a series of recommendations to address aquatic plant management. It would be a part of an integrated aquatic plant management plan, which would specify the combination of measures, their timetable, and funding sources for implementation.

Priority: Low

Summary

Harvesting aquatic vegetation in Conesus Lake would help improve the lake's attractiveness for water contact recreation. Efficient removal of harvested vegetation also removes the nutrients in the mass of plant material. Weed harvesting has been implemented on Conesus Lake in the past. However, effectiveness was limited by the sheer size of the area to be harvested in comparison to the production rate of the single machine, and the lack of easy access points to launch and remove the material. In order to be successful, this strategy would have to include multiple harvesters and use equipment that can get very close to shore. Harvesting, if done properly, is a temporary measure to improve recreational access and improve aesthetics. The harvested vegetation must be collected, dewatered, and disposed of in an appropriate manner in an upland setting.

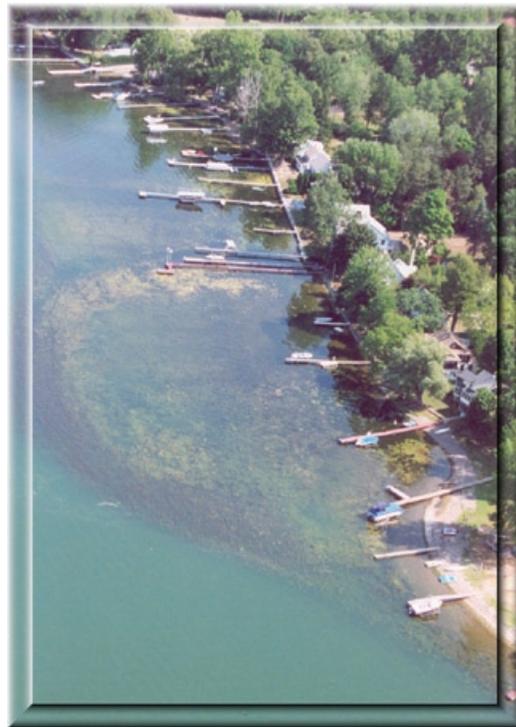


PHOTO: PETER D'AUTO; PILOT: JIM RAFFA

Monitoring And Assessment

H. COORDINATED MONITORING EFFORTS AND ANNUAL REPORTING

Recommendation 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. An annual monitoring meeting should be held to coordinate the monitoring program.

Priority: High

Summary

Currently, a number of agencies conduct monitoring activities within the Conesus Lake watershed. There is a potential to coordinate activities and greatly enhance the value of the information for managing the lake and watershed. The *State of Conesus Lake: Watershed Characterization Report* outlined a monitoring framework that rotated effort on a three-year cycle between the lake, the major tributaries, and specific subwatershed areas. This monitoring framework is included as Appendix 9 in the Watershed Management Plan.

Recommendation H-2. Prepare and distribute an annual Conesus Lake and Watershed Report Card describing progress towards implementing the CLWMP recommendations, elements of the CLWMP workplan for the upcoming year, the status of funding requests, and water quality and ecological conditions of the lake and watershed.

Priority: High

Summary

This recommendation is a potentially effective means to communicate progress towards implementing the recommendations of the Watershed Management Plan.

IMPLEMENTATION OF THE CONESUS LAKE WATERSHED MANAGEMENT PLAN

During the three-year process to develop the Management Plan, several areas of immediate need were identified and the community responded by fast-tracking some solutions. Examples of these “on-going implementation” activities include:

- Watershed Inspection Program
- Annual water quality monitoring program
- Development of a Model Erosion and Sediment Control Law
- Development of educational brochures on boating and soil erosion
- Successful grant applications for agricultural BMPs
- Successful grant applications for improvements to sanitary sewers

Implementing the recommendations of the Conesus Lake Watershed Management Plan requires a high level of commitment at all levels. An institutional framework for implementation is needed to identify clear lines of leadership and accountability, focus on funding opportunities, and keep stakeholders informed of progress. The chart below shows the proposed organizational structure for the implementation phase.

Conesus Lake Watershed Council

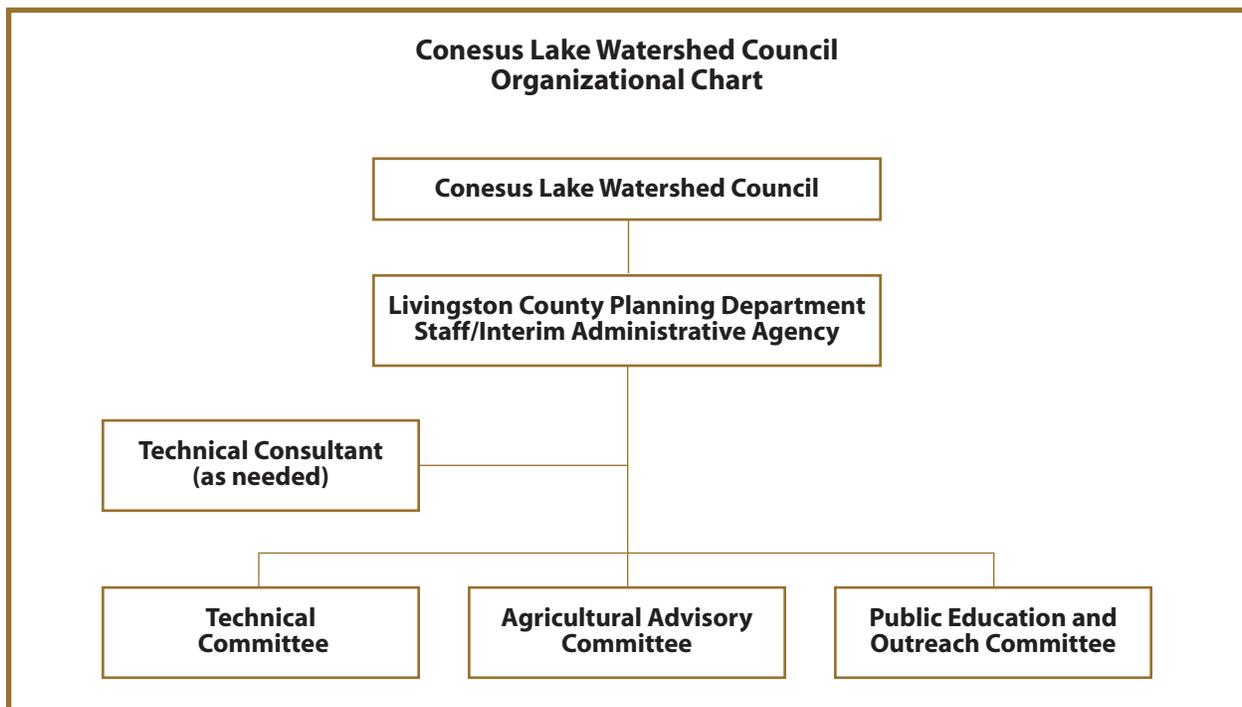
After careful consideration, the creation of a Watershed Council was chosen as the best option for implementing the recommendations in the Plan. The Council will be structured so that decisions are made by elected officials. Challenges associated with lake restoration and protection will continue to have a high profile in the community.

Several important steps remain before the Watershed Council is created. The Council must formalize its membership and organizational structure, including the number, focus, and membership of committees needed to carry out the CLWMP recommendations. The Council must also determine an equitable funding formula to support its operations and formalize these important decisions in an Intermunicipal Agreement signed by all parties. Finally, the Council must decide how it will be staffed. These issues were discussed during the development of the Watershed Management Plan, and the discussions will continue during the formation of the Watershed Council.

Three standing committees will be created to support the Watershed Council.

- A Technical Committee will advise the Council on technical issues related to defining priority actions and identifying funding opportunities. Membership will be similar to that of the CLWMP Planning Committee: key staff from federal, state, and county agencies involved with water quality and nonpoint source pollution issues.
- An Agricultural Advisory Committee will help track the many issues and recommendations affecting the farming community. Members of the Agricultural Advisory Committee will include active producers throughout the watershed, with balanced representation by municipality, along with representatives of the agricultural support agencies.
- A Public Education and Outreach Committee will be tasked with carrying out the many recommendations related to communicating issues and progress to the watershed community. Membership will include volunteers from the Conesus Lake Association, the farming community, and interested public.

Ideally, the Watershed Council would be staffed by a Watershed Manager, dedicated to implementing the CLWMP recommendations. Because of current County budget uncertainties, creating a new staff position, either full or part time, was not recommended at this time. Reliance on existing staff, possibly supplemented by contract or consultant services, was viewed as an appropriate interim solution. However, the value of hiring a Watershed Manager was recognized and the position may be created in the future, depending on economic conditions. With a Watershed Manager, the recommended actions could likely be implemented more quickly.



The Livingston County Planning Department was identified as the interim leader of the implementation effort, supported with consultant assistance as funding allows. The Planning Department was viewed as the agency best suited for this interim assignment and has agreed to assume this role for a one to two year period while the Watershed Council organizes and defines a long-term solution for staffing. The Planning Department has directed the development of the Watershed Management Plan and works very closely with local governments on land use, environmental quality, and development issues. Moreover, the Planning Department has been successful in identifying and securing external funding and creating effective partnerships between other agencies, academic institutions, and the community.

Funding Formula

The funding formula to determine municipal contribution to the Watershed Council will be a weighted fee assessed to members based on six factors: water withdrawal, shoreline miles, percent of land area in the watershed, population in the watershed, assessed value of shoreline properties, and assessed value of properties within watershed boundaries. While agreement on the six factors to be included in the weighting formula has been reached, a final decision on the relative importance assigned to each of the factors has not been made.

A weighted formula is one where the factors included are not given the same importance. For example, some factors might be assigned a 50% weight and others only 10%. Negotiating this funding formula will be crucial for the language of the Intermunicipal Agreement between members of the Watershed Council.

Agency Involvement

Implementing the CLWMP recommendations must remain an important priority of the many agencies and organizations involved in natural resources management issues within the watershed. Actions are required by federal, state, county, and municipal governments, public agencies, interest groups, and watershed residents (Table 1). Because the CLWMP is an evolving plan, additional programs and responsibilities are likely to be added to this list in the future. *(A list of acronyms for the agencies is included at the end of the table.)*

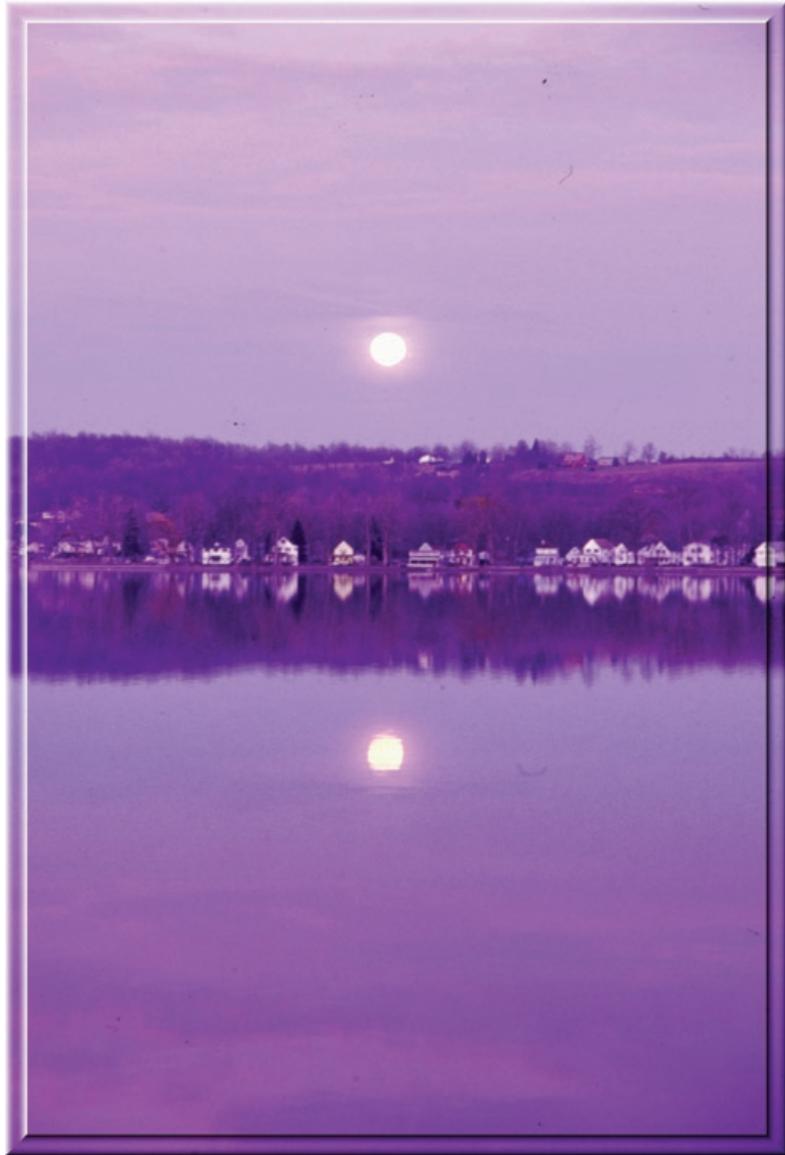


PHOTO: ADRIAN 'BUD' PRINCE

Summary of Responsibilities by Agency

Agency	Primary Responsibilities, as shown in Recommendation:	Support Responsibilities, as shown in Recommendation:
ACOE	--	C-2 (regional stormwater), F-1 (safe yield)
Ag Comm	B-1 (ag financial)	B-3 (farm waste), B-4 (Ag outreach)
CCE	B-4 (Ag outreach)	A-3 (public ed), B-1 (ag financial), B-2 (whole farm planning), B-3 (farm waste)
CLA	-- E-2 (public ed), E-3 (enforce boating laws),	A-3 (pub ed), E-1 (boat toilets and pumpout), E-6 (ice shelters), G-1 (exotics), G-2 (shoreline weed cleanup), G-4 (walleye stocking), G-5 (aquatic moth/weevil), G-6 (weed suction), G-7 (weed harvesting), H-1 (monitoring), H-2 (report card)
COC	--	B-4 (Ag outreach)
Conesus Lake Watershed Inspector	Continued enforcement of watershed rules and regulations	A-2 (sediment and erosion), A-3 (public ed), B-4 (Ag outreach), C-1 (streambank stabilization), D-1 (erosion control training), D-2 (road BMPs), D-3 (road ditch remediation), D-5 (road public ed), E-2 (recreation public ed), H-1 (monitoring), H-2 (report card)
FL-LOWPA	--	E-2 (recreation public ed), G-1 (exotics)
FSA	--	B-1 (ag financial), B-2 (whole farm planning)
G/FLRPC	--	A-1 (zoning), D-1 (erosion control training)
GLOW	B-3 (agricultural waste)	G-2 (shoreline weed cleanup), G-7 (weed harvesting)
Highway Depts.	C-1 (streambank stabilization), D-2 (road BMPs), D-3 (road ditch remediation), D-4 (salt spreaders)	D-5 (public outreach on roads and driving)
Livingston County Sheriff	E-3 (boating enforcement)	E-2 (public education on boating practices)
LCDOH	E-1 (boat toilets and pumpouts), E-6 (ice fishing shelters), F-4 (septic inventory)	E-4 (dock laws), F-2 (sewer system extension), F-3 (sewer overflows), G-3 (alum), H-1 (monitoring), H-2 (report card)
LCPD	Staff to Watershed Council, A-1 (zoning), G-3 (alum), G-4 (walleye stocking), G-5 (aquatic moth/weevil), G-6 (weed suction), G-7 (weed harvesting), H-1 (monitoring); H-2 (report card)	All

Summary of Responsibilities by Agency (cont'd.)

Agency	Primary Responsibilities, as shown in Recommendation:	Support Responsibilities, as shown in Recommendation:
LCWSA	E-1 (boat toilets and pumpout station), F-2 (sewer system extension), F-3 (sewer overflows), G-2 (shoreline weed cleanup), G-7 (weed harvesting), G-6 (weed suction)	E-5 (winterize park facilities), G-4 (walleye stocking)
Municipalities	A-1 (zoning), A-2 (erosion control laws), E-1 (boat toilets and pumpout station), E-4 (dock laws), E-5 (winterize park facilities), F-2 (sewer system extension), G-2 (shoreline weed cleanup), G-6 (weed suction), G-7 (weed harvesting)	All
NRCS	B-1 (ag financial), B-2 (whole farm planning)	--
NYSDEC	C-2 (regional stormwater); F-1 (safe yield); G-3 (alum), G-4 (walleye stocking), G-5 (aquatic moth/weevil) G-7 (weed harvesting), H-1 (monitoring),	D-1 (erosion control training); F-2 (sewer system extension), F-3 (sewer overflows), G-1 (exotic species), G-6 (weed suction), H-2 (report card)
NYSDOS	--	A-1 (zoning)
NYSDOT	D-1(erosion control training), D-2 (road BMPs), D-3 (ditch remediation)	D-4 (salt spreaders)
NYSOPRHP	E-1 (pumpout facility and boat toilets) E-5 (winterize park facilities)	G-1 (exotics)
Public Education and Outreach Committee	A-3 (development); B4 (agricultural outreach); D-5 (roads), E2 (recreation)	B-4 (ag outreach), E-1(toilets on boats), E-6 (ice shelters)
STRC&D	--	B-1 (ag financial)
SUNY and other Academic Institutions	G-3 (alum), G-4 (walleye stocking), G-5(aquatic moth/weevil)	F-4 (septic inventory), G-1 (exotics), H-1 (monitoring)
SWCD	B-1 (ag financial), B-2 (whole farm planning), C-1 (streambank stabilization)	D-2 (hydroseeding and other road BMPs); D-3 (road ditch remediation), H-1 (monitoring)
USDA	--	B-1(ag financial), C-1(streambank stabilization)
USFS	--	C-1 (streambank stabilization)
USCGA	--	E-2 (public education)
Watershed Council	Workplan development and oversight B-5 (Ag committee); G-1 (exotics), H-1 (monitoring), H-2 (report card)	All

Key to Acronyms

ACOE	Army Corps of Engineers
Ag Comm	Agricultural Committee
CCE	Cornell Cooperative Extension
CLA	Conesus Lake Association
COC	Livingston County Chamber of Commerce
FL-LOWPA	Finger Lakes-Lake Ontario Watershed Protection Alliance
FSA	Farm Services Agency
G/FLRPC	Genesee/Finger Lakes Regional Planning Council
GLOW	Genesee-Livingston-Orleans-Wyoming Region Solid Waste Management Committee
LCDOH	Livingston County Department of Health
LCPD	Livingston County Planning Department
LCWSA	Livingston County Water and Sewer Authority
NRCS	Natural Resources Conservation Service
NYSDEC	New York State Department of Environmental Conservation
NYSDOS	New York State Department of State
NYSDOT	New York State Department of Transportation
NYSOPRHP	New York State Office of Parks, Recreation, and Historic Preservation
STRC&D	Seneca Trails Resource Conservation & Development Council
SWCD	Soil and Water Conservation District
USCGA	United States Coast Guard Auxiliary
USDA	United States Department of Agriculture
USFS	United States Forest Service
WC	Watershed Council

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Town of Livonia

35 COMMERCIAL STREET
P.O. BOX 43
LIVONIA, NY 14487
(585) 346-3710

Livingston County Planning Department

6 COURT STREET - ROOM 305
GENESEO, NY 14454
(585) 243-7550
[HTTP://WWW.CO.LIVINGSTON.STATE.NY.US](http://www.co.livingston.state.ny.us)

EcoLogic, LLC

ATWELL MILL ANNEX, SUITE S-2
CAZENOVIA, NY 13035
(315) 655-8305
[HTTP://WWW.ECOLOGICLLC.COM](http://www.ecologicllc.com)

Kat Nichols

NICHOLS GRAPHIC DESIGN & CONSULTING
PO BOX 566
LAKEVILLE, NY 14480
(585) 346-5437
[HTTP://WWW.CO.LIVINGSTON.STATE.NY.US](http://www.co.livingston.state.ny.us)

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