

Lake Iroquois Watershed Project
Overview and Progress Report
January 1993

Lake Iroquois Watershed Steering Committee
and the
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Lake Iroquois Watershed Project Overview and Progress Report

The Lake Iroquois Watershed Project was initiated in 1991 to address declining water quality conditions in the lake. Excessive phosphorus enrichment in Lake Iroquois is causing increased algae scums and blooms, reduced water clarity, oxygen depletion, and some excessive native plant growth. Phosphorus is a necessary plant and algae nutrient; however, excessive amounts cause water quality problems. In Lake Iroquois, phosphorus comes from both land runoff in the watershed (*external sources*), and from chemical recycling of phosphorus in the lake bottom sediments (*internal sources*). The Watershed Project focuses on reducing external sources of phosphorus. The internal sources of phosphorus cannot be effectively addressed until external sources are significantly reduced.

In May of 1992, Michaela Stickney was hired as Project Coordinator. She is responsible for working with landowners, town residents, and town planning and conservation groups to correct existing pollution problems and initiate programs to prevent future problems.

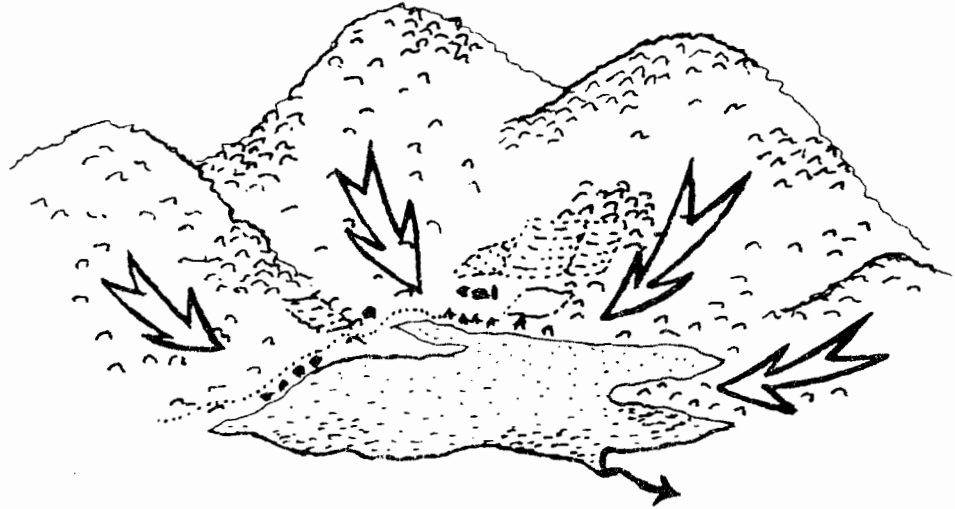
Funding

Funding for the Project is provided primarily by a Competitive Watershed Grant under the Clean Water Act through the U.S. Environmental Protection Agency. The grant period began in May of 1992 and will run until November of 1993. The grant amount of \$75,793 is primarily divided between the salary of the Coordinator, Michaela Stickney (\$28,000 over 18 months) and small grants to landowners to be used for the correction of identified pollution problems (\$29,719). (Approximately \$16,000 of the salary portion remains uncommitted at this time).

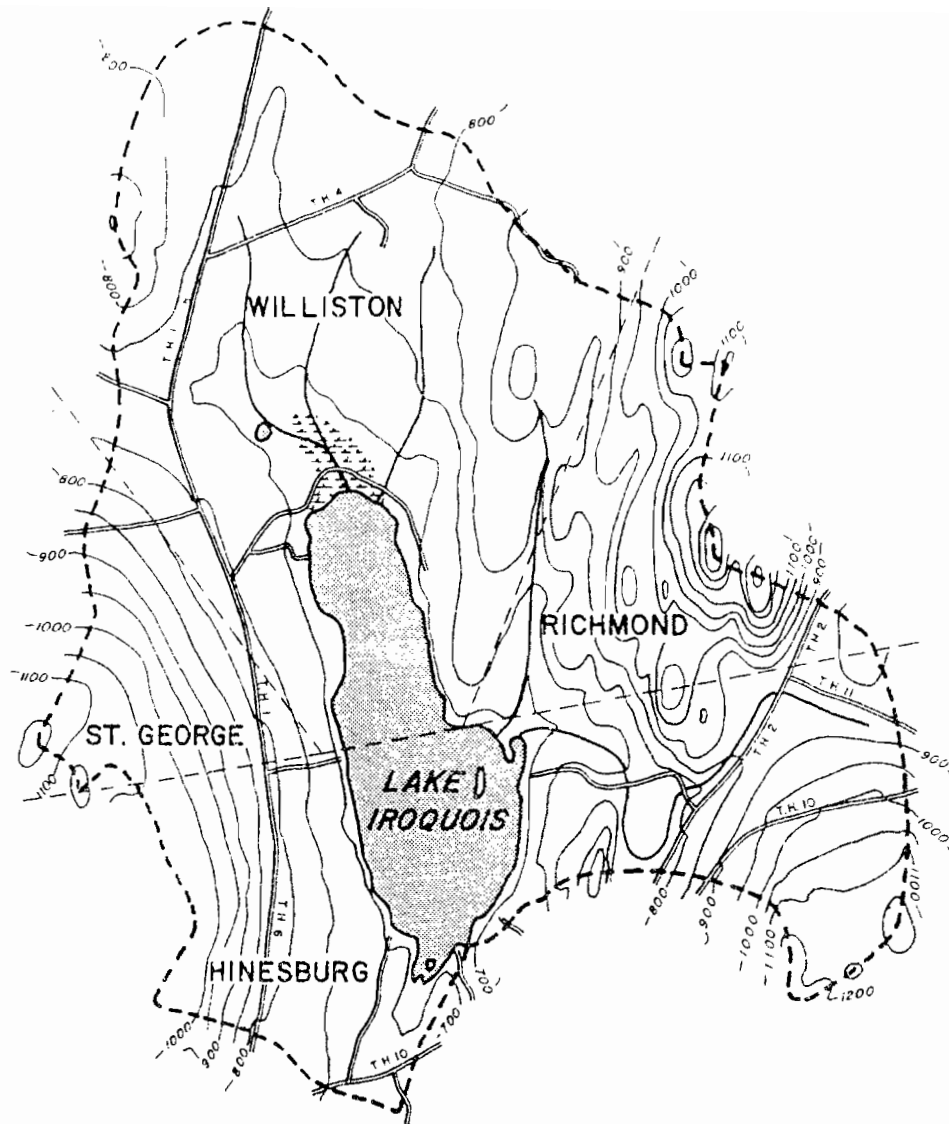
The grant from the USEPA requires a match of local or state funds or services. The salary portion of the grant is being matched with work time of both the VT Department of Environmental Conservation staff and the Watershed Steering Committee members. The small grants to landowners portion of the grant will be matched by the landowner (25% of the cost of the correction measure); volunteer services or donated materials can count as that match.

What is a watershed?

A lake's watershed is the land area which drains into the lake. Rain falling anywhere in the watershed runs downhill, into streams and eventually reaches the lake. The physical characteristics of the watershed have a major influence on the nature of a lake. In particular, human activities and land uses can have a polluting effect on a lake if not managed properly.



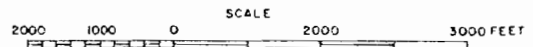
The map (*at right*) shows the approximate boundaries of the Lake Iroquois watershed. Portions of four towns are in the Iroquois watershed - Hinesburg, Richmond, St. George and Williston. Land use activities occurring inside this area can all affect water quality, since during rainstorms and snow melt periods, water carrying pollutants runs into tributary streams and down into the lake. Areas which are far from the lake and those right on the lakeshore can have an equal effect on lake water quality.



LAKE IROQUOIS DRAINAGE BASIN

KEY

- Watershed Boundary
- Contour Line (50' interval)
- Road
- Wetland
- Stream



Objectives of the Project

The goal of the Watershed Project is to **improve and protect the water quality of Lake Iroquois** by achieving the following objectives:

- A. Correct existing pollution problems;
- B. Provide information to landowners about pollution prevention measures; and
- C. Prevent new sources of pollution by implementing effective town programs.

Who's Involved

Many different people have been involved in the Watershed Project. Most significantly, all landowners in the watershed are important to its success. Their interest in preventing pollution and protecting the lake will be essential, both now and in the future.

A Steering Committee made up of representatives from each of the four watershed towns has been meeting monthly since the summer of 1991. The Committee provides project oversight, ideas, and community support. Specifically, the Committee has been working on the Watershed Education Plan, which will provide a framework for continuing the efforts to restore and manage the watershed after the EPA grant ends. Anyone is welcome to attend the Committee's meetings. The group usually meets the third Tuesday of every month, 8:00 a.m., at the Williston Planning Office. Contact a Committee member (below) to confirm the date and time.

Steering Committee members are:

Hinesburg

Faith Ingulsrud, Town Planner482-2096

Roger Donegan, Conservation Commission482-2017

Dale Dawson, Lake Iroquois Beach District.....482-2706

Richmond

Pete Pochop, Conservation Commission434-3740

St. George

Jim Lurie, Chittenden County Regional

Planning Commission Board482-2073

Williston

Gail DeSorda, Planning and Zoning Admin. 878-6704

Gayle Erdman, Conservation Commission..... 878-8881

Jeff Fehrs, Conservation Commission..... 879-3121

Lake Iroquois Campers Association

Betty and Jack Wright 878-6709

The Steering Committee has been coordinating with the Iroquois Beach District because of a mutual interest in the long term health of the lake.

A. CORRECT EXISTING POLLUTION PROBLEMS

The first objective of the Lake Iroquois Watershed Project is to correct existing pollution sources in the watershed. A previous study indicated that the majority of phosphorus pollution entering the lake from the watershed was sediment runoff from soil erosion sites. In order to identify current erosion sites, a watershed survey (described below) was the first task of the Project. The survey concentrated on identifying erosion sites, while keeping an eye out for other sources of phosphorus pollution.

Problem Site Identification

Michaela Stickney spent most of the summer and fall of 1992 visiting the properties of interested landowners to identify and diagram any erosion sites that may exist. Two hundred and forty-four landowners were contacted in the spring of 1992, 19 of whom chose not to participate. As she conducted the surveys, she spoke with or met nearly half of the landowners. The vast majority of landowners were interested in the project and anxious to know how they could prevent pollution and improve runoff conditions on their property.

Michaela encountered a diverse array of situations which could result in pollution to the lake. A partial list includes:

- driveways with evidence of erosion
- ditches along driveways with evidence of erosion

- clearing of vegetation along streams and lakeshores, which may eventually result in erosion
- collapsing retaining walls along the lakeshore
- roads experiencing erosion on the roadbed itself, in ditches, and at culverts

Fixing the Identified Problems

Using the information collected during the site surveys in 1992, sites will be ranked according to the severity of the erosion problem. Priority sites will be identified based on the estimated phosphorus export from that site (i.e. that site's contribution to the lake's phosphorus concentration), and the estimated cost of the suggested correction measure.

Small cash grants will be available to landowners to fund the correction measure if that site ranked high on the priority list. Grants will cover 75% of the cost of the correction; the remaining 25% will be covered by the landowner. This "local share" can be met either with cash, or with "inkind services" such as labor or materials. To the greatest extent possible, Michaela will attempt, with the help of the Steering Committee and landowners, to coordinate "inkind services" to reduce costs to individual landowners. Participation by the landowners in the correction phase of the Watershed Project, as in all other phases, will be entirely voluntary.

Project Schedule

The following is an overview of the Project's schedule, both activities completed so far, and those to be completed in the next year.

Completed so far:	
1992 April	Hired Project Coordinator, Michaela Stickney
May	Mailed project information to landowners in the watershed, inviting them to participate in the project
June-September	Visited watershed properties to identify and diagram sites of erosion Held 2 lake neighborhood meetings Met with Hinesburg Planning and Conservation Commissions, Williston Planning and Conservation Commissions, Richmond Conservation Commission, Lake Iroquois Beach District
October-December	Completed watershed site surveys Held two Watershed Workshops for Lake Association members and municipal planners from other towns
Will be completed:	
1993 January-March	Calculate phosphorus export from each identified site Obtain cost estimates for correction measures Rank sites for correction measures Begin designing site correction measures
April	Begin final designs with recommendations for correction work
May	Contact landowners with recommendations for correction measures, determine willingness of landowners to implement measures Submit first round of contracts to State (administrator of funds)
June- August	Coordinate and administer implementation of correction measures (construction, plantings etc.)
September-November	Administer final payment of small grants to landowners Complete Watershed Education Plan Write Watershed Project final report

Septic Systems

Correction of any failing septic systems that may exist is **not** an element of this Project for two reasons. First, a 1984 Diagnostic Study of Lake Iroquois' water quality found that leachate from shoreline septic systems accounted for only about 1% of the external phosphorus loading to the lake. Second, failing septic systems are relatively expensive to correct, and the project funds will not go very far if used to upgrade septic systems.

Problem septic systems are still a concern, however. Even if the phosphorus loading from them is not significant on a lake-wide basis, nutrient-rich leachate entering the lake or a stream from an adjacent septic system can cause a localized weed or algae problem. Also, failing septic systems can result in the introduction of disease-causing organisms to water, thus creating a public health hazard. Proper septic system function and maintenance will be addressed in property maintenance workshops held as part of the project.

B. PROVIDE INFORMATION TO LANDOWNERS

Providing information to landowners on property management techniques that will prevent water pollution is a major element of the Watershed Project. Several educational events have been held so far as part of the project including:

- Public Information Meeting, May 1992, Hinesburg School
- Two watershed neighborhood meetings
- Presentation at Hinesburg Conservation Commission Forum
- Presentation at VT Lay Monitoring Conference
- Participation in the Lake Champlain Celebration Day
- Two Watershed Workshops for people from other towns and lakes

More such meetings will be held in the second year of the Project.

In addition to informing town and watershed residents about pollution prevention, a significant goal is to encourage other towns in Vermont to pursue watershed management projects on other lakes. Two watershed management workshops were held this fall, one for members of lake associations, and one for town and regional planning commission members. The workshops culminated in the afternoon with tours of the watershed to look at specific erosion sites and discuss how they could be restored or prevented.

The Steering Committee is presently working on a Watershed Education Plan for the Project that will establish an on-going Watershed Information process that will last beyond the length of the current grant from the U.S. Environmental Protection Agency. The plan will address providing information to landowners, school projects, monitoring watershed conditions in the years to come, and planning public events and many other watershed management activities.

Please contact a Steering Committee member if you wish to review a draft of the education plan. Input from town residents is strongly desired!

C. PREVENT FUTURE SOURCES OF POLLUTION

The Steering Committee has been discussing ways to ensure that the work of protecting Lake Iroquois' water quality continues into the future. Much of this work will be covered in the Watershed Education Plan the group is now working on. In addition, DEC staff members Michaela Stickney and Susan Warren will be working with the planning commissions of each town to examine ways in which town programs may address pollution prevention. Each of the four watershed towns is in a different stage of writing or revising a town plan, zoning or other means of implementing the plan. Thus the work with each town will vary quite a bit. The DEC staff plans to provide each town and commission with information about ways in which water quality protection can be addressed. Each town commission and residents will then make the final decisions about any protective measures they may want to adopt.

Your Input and Assistance is Desired!

There is plenty of work to do to protect Lake Iroquois! If you want to help, have any ideas, comments, or questions, please feel free to call a Steering Committee member or send in the comment sheet found on the next page. **Let us hear from you; the lake is everyone's concern!**

Lake Iroquois Watershed Project
Comments and Suggestions

Please send us your comments and suggestions. The Watershed Steering Committee welcomes participation from watershed and town residents.

Comments:

Suggestions:

Name: _____

Address: _____

Please call me at: _____

Return form to:

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P.O. Box 137
Williston, VT 05495

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Hinesburg, VT 05461

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