

Lake Champlain Basin Program:

Implementing an Evolving Plan for Lake Champlain's Future

BY COLLEEN HICKEY

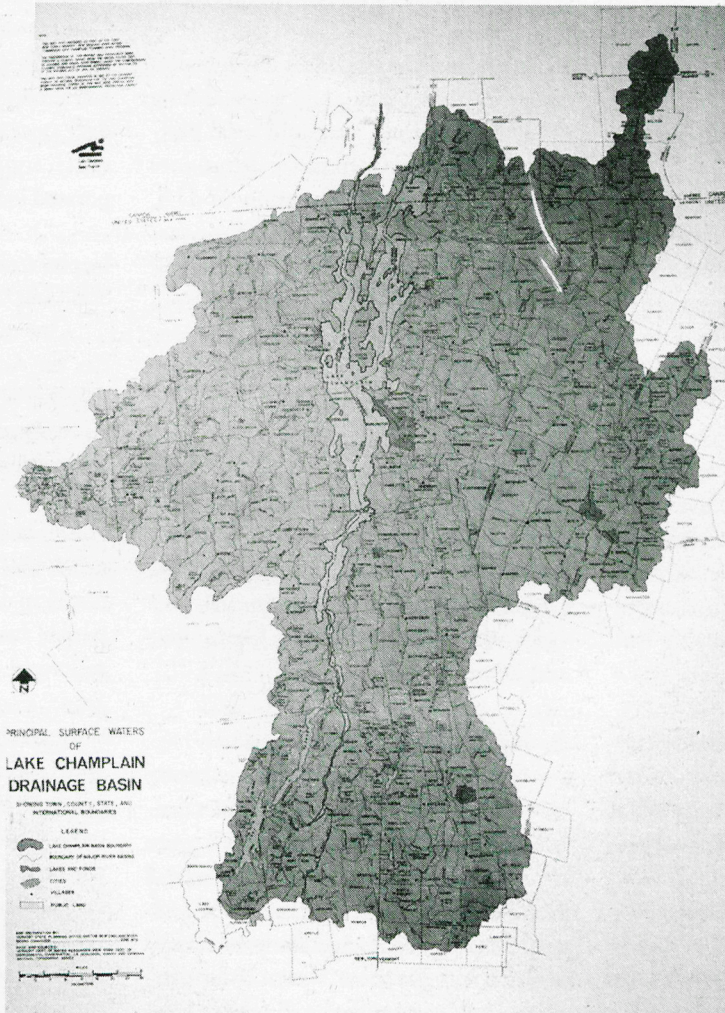
Lake Champlain Special Designation Act of 1990

Recognizing the need to bring many interests together to plan for Lake Champlain's future, U.S. Senators Leahy and Jeffords from Vermont and Senators Moynihan and D'Amato from New York sponsored the Lake Champlain Special Designation Act of 1990. The Act created a 31-member Lake Champlain Management Conference (LCMC) to develop a comprehensive pollution prevention, control and restoration plan for Lake Champlain.

Previously, several state and federal initiatives had tried to enhance coordination of Lake Champlain protection efforts. The most recent planning effort (prior to the LCBP) was the Level B Study conducted by the New England River Basin Commission in the 1970s. In 1980, after a change in the federal administration, the implementation funding for the Lake Champlain project was discontinued.

The Statement of Legislative Intent for the Special Designation Act was both comprehensive and inclusive. The Act called for diverse representation

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to participate in the Management Conference. The Management Conference was also directed to look beyond water quality and address many issues affecting the Lake, including ecological, economic, cultural and recreational uses. The Lake Champlain Basin Program was created to coordinate this planning effort.

While the Special Designation Act required a comprehensive plan, the LCMC had to define the scope of the planning effort. Ultimately, the LCMC decided to embrace a phased approach to planning, focusing on issues facing the Lake and its immediate environs first. This was done with the understanding that over the coming years, the LCBP would begin to address issues farther out into the watershed. The LCMC also chose not to address issues that were viewed more as statewide issues than Lake Champlain Basin issues such as monitoring deer herds.

Opportunities for Action: An Evolving Plan for the Future of the Lake Champlain Basin was drafted in 1994 and finalized in 1996. The LCMC made specific recommendations for action

based on public input and the best scientific data available. Since then, federal, state and local initiatives have continued to implement plan components. A summary of the major issues and examples of the partnerships that emerged from the planning process are summarized below.

In October, 1996, Opportunities for Action was released by the Lake Champlain Basin Program. After five years of cooperative effort which included 28 public meetings, demonstration projects and research and monitoring efforts, representatives from New York and Vermont agreed on the top priorities facing Lake Champlain. The Plan was officially approved by the Governors of New York and Vermont and the Administrators of the Environmental Protection Agency (U.S. EPA) Regions I and II during a signing ceremony at Valcour, NY.

The plan considers a number of critical issues which range from improving water quality to protecting the basin's living natural resources, to preserving the region's rich cultural heritage. From these, the plan identifies three highest priorities for action:

- Reduce phosphorus inputs to the Lake from targeted watersheds
- Prevent and control inputs and effects of toxic contaminants found lakewide or in localized areas of the lake, and
- Develop and implement a comprehensive program for managing nuisance non-native aquatic species.

The Role of the Lake Champlain Steering Committee

Since the original legislation called for the LCMC to disband after the final plan was completed, another task was to determine who should be responsible for overseeing plan implementation. To more fully understand the options available, the LCBP hired Yellow Wood Associates from St. Albans, Vermont to analyze possible alternatives. The results of this study and the feedback received through public meetings showed that the most reasonable solution was to restructure the existing Lake Champlain Steering Committee.

The Steering Committee was first formed in 1988 through a Memorandum of Understanding. The MOU called for the two states and Quebec to work to-

gether on mutual issues of concern for Lake Champlain and laid the groundwork for establishing the Citizens Advisory Committees. By increasing the representation on the Steering Committee, additional state partners, local officials and the NY, VT and Quebec Citizens Advisory Committee could participate. The Steering Committee now meets four times a year and its executive committee meets monthly.

In addition to providing a discussion forum for Lake Champlain issues among the LCBP's federal, state and local partners, the Steering Committee determines how the annual appropriation of U.S. EPA funds will be applied to priority actions in Opportunities for Action. The Steering Committee receives input from its Technical Advisory Committee, Education and Outreach Advisory Committee and through the NY, VT and Quebec Citizens Advisory Committees. The New York State Department of Environmental Conservation, the Vermont Agency of Natural Resources and the U.S. EPA administer the program cooperatively. The Lake Champlain Basin Program staff provides support to the Steering Committee and its committees.

Basing the Plan on Sound Science

Opportunities for Action recommended actions based on the best scientific data available at the time. But given the dynamic conditions of the Lake and its tributaries, a portion of the LCBP's annual funding is still used for research and monitoring projects. From measuring phosphorus concentrations in the Lake to determining the impacts of toxic substances in lake sediments, research and monitoring programs help answer management questions and measure progress toward meeting the goals of Opportunities for Action. In 1999, for example, biologists will be assessing the stability of streams, many of which have changed considerably in the last few years due to 100-year storm events. In addition, training will be provided to local watershed

groups so that they may plan more effective streambank restoration projects.

The Lake Champlain Research Consortium synthesizes results and sets research priorities for Lake Champlain. Several participants from the Research Consortium participate in the LCBP's Technical Advisory Committee and provide continuity between the two efforts. In May, 1999, the Adirondack Research Consortium and the Lake Champlain Research Consortium will host a joint conference in Saranac Lake, NY. As new data becomes available through the research community, the data will be incorporated into the implementation process.

Implementing the Plan through Federal, State and Cooperative Partners

One of the main goals of Opportunities for Action is to bring organizations together to address actions cooperatively. Three examples showing legislative initiative, statewide programs and local action follow.

Vermont and New York State Agricultural Cost Share Program. In Vermont, municipal wastewater treatment plants, which had long been a major point source of phosphorus, continue to upgrade phosphorus removal technology through the use of local bonds, and state and federal grant programs. But non-point sources are often more difficult to reduce because they involve many land use activities, ranging from urban lawns and gardens to agricultural use. Data currently indicates that up to 66 % of the Lake Champlain's nonpoint source phosphorus load may be attributable to agricultural land uses. As new data becomes available, this percentage may change. But over the last decade, farmers and environmental organizations have sought new ways to help farmers pay for implementing best management practices that may reduce agricultural runoff.

Farmers in New York and Vermont are now able to apply for both federal and state dollars to offset the cost of implementing best management practices. A

TABLE 1. Federal Lake Champlain Basin Program Funding¹, 1991-1998

Funding Source	Amount (in \$Millions)	Description of Use
U.S. Environmental Protection Agency	12.75	Support development and implementation of LCBP plan through program coordination, research, demonstration projects, education and outreach.
National Park Service	1.65	Cultural and recreational planning and demonstration projects
U.S. Fish and Wildlife Service	3.88	Lamprey control, habitat restoration, wetland restoration, fish and wildlife management
U.S. Geological Survey	1.38	Stream gauging, GIS data development ² , research
National Oceanic and Atmospheric Admin.	.90	Air mercury monitoring, lake hydrodynamic measurements.
National Marine Fisheries Service	.10	Lamprey control.
International Fisheries Commission	.20	Lamprey control.
U.S. Department of Agriculture	9.50	Agricultural Best Management Practices (BMPs) on farms

¹These federal funds were specifically earmarked to support LCBP activities. Many of these agencies expend additional funds in the Basin through other programs. State and local entities also contribute substantially to the LCBP. The EPA funds require a 25% match (\$4.6 million to date) and the USDA cost share program requires at least a 25% state/local/farmer share.

² GIS data for the Lake Champlain Basin is available from the VT Center for Geographic Information. Download data and maps from their website <<http://geo-vt.uvm.edu>>. Contact VCGI (802-656-4277) for further information

few years ago, for example, a Vermont farmer could have requested that the USDA pay for up to 50% of installing a manure storage pit and the farmer would have paid for the rest. Vermont initiated a state cost-share program in 1994 to help absorb some of the farmer's cost of building a pit. In some instances, a farmer now pays 10-15% of the cost, which can still be \$10,000 or more. The Vermont legislature, working with the Vermont Department of Agriculture, Food, and Markets, implemented this program to help local farms remain viable while also improving water quality through the use of state funds. A similar cost-share mechanism is available in New York as part of the Clean Water/Clean Air Bond Act.

Passage of the New York Environmental Bond Act. Another statewide initiative was the passage of the New York Clean Water/Clean Air Bond Act through which New York voters approved \$15 million for Lake Champlain projects. During the first three rounds of Bond Act funding, projects including nutrient management programs on farms, wastewater

treatment plant improvements and fish and wildlife projects have been implemented. To date, approximately \$10 million of the Lake Champlain funds have been awarded to local communities for phosphorus reduction projects for both point and non-point sources.

Wetland Acquisition. Partnerships have also emerged at the local level, bringing together private landowners, nonprofit organizations and state and federal partners. For example, in 1991, the Lake Champlain Basin Program funded \$20,000 toward a cooperative wetlands acquisition strategy to permanently protect important wetlands within the Champlain Basin. Representatives from the Nature Conservancy, the New York and Vermont Departments of Environmental Conservation, the Adirondack Park Agency, and the Vermont Dept. of Fish and Wildlife developed a strategy to work with willing landowners. They also submitted an application for funding, which was subsequently funded, to the North American Wetlands Conservation Council to protect the highest priority wetlands.

The group, led by the Nature Conservancy, completed Phase I of the project, resulting in the protection of 3,500 acres of wetlands. Willing landowners work with the Nature Conservancy and the two states to preserve wetlands that have a high value for wildlife, waterfowl, plant diversity, recreation, aesthetics, flood storage, groundwater protection and other values. Currently, Phase II of the strategy is underway. Private landowners near the Cornwall Swamp in Middlebury, VT and the Ward, Finch, Charter and Freedom Marshes in New York communities may choose to participate. Additional sites will be chosen as Phase II progresses. The funding for Phase II, totaling \$800,000, was made available through the North American Wetlands Conservation Act administered by the U.S. Fish and Wildlife Service. In addition to willing landowners, several projects have succeeded through partnerships with other nonprofit organizations. For example, Ducks Unlimited contributed \$30,000 for the acquisition of the Hawkins tract, a 122 acre wetland which is part of the Otter Creek Wildlife Management Area.

Leveraging state, federal and local contributions

From 1991 to 1998, federal funding for the LCBP surpassed \$30 million. The Special Designation Act authorized up to \$2 million annually for 5 years to the EPA to administer the program as well as \$2 million for the U.S. Department of Agriculture and \$1 million to the Department of Interior to support specific activities based on agencies' particular expertise. While these exact amounts were not realized each year, significant funding was always appropriated and has continued during the implementation period (see Table 1). Additionally, the EPA and USDA funds required a local or state match. EPA funds were matched at a 25% rate, and after 8 years this match totaled \$4.6 million. This required investment by state and local entities strengthens commitments from all partners, decreases reliance on federal dollars and increases the overall sustainability of the Program. State and local contributions to LCBP activities have greatly exceeded the match requirements over the years.

Federal and state dollars have been integral, particularly in support of local projects which, in turn, leverage additional support, making the program more sustainable. Since over 90% of Lake Champlain's water flows through the watershed first, it's important that citizen-based groups provide the link between the local communities and basin-wide planning efforts. Citizens are much more aware of what is happening within their own watershed and can often affect change more easily than state or federal representatives. These groups also have considerable knowledge about who's living in their communities and who might be willing to work cooperatively on behalf of the Lake or its basin. Local participation is also needed to restore fish and wildlife habitat, protect cultural heritage resources and improve recreational resources.

The LCBP continues to support local projects that promote hands-on activities and increase citizen awareness of the con-

nections between their community and the Lake. Local watershed groups such as Friends of the Winooski River and the Missisquoi River Basin Association work directly with farmers and other willing landowners in partnerships to stabilize streambanks and plant vegetated buffers. Many watershed groups receive funding from the Lake Champlain Basin Program to purchase streambank stabilization materials, improve habitat or to hire a part-time coordinator to pull together projects. The volunteer hours of watershed group members and contributions by local communities provide the backbone for local implementation efforts.



Citizen Sampling in the Missisquoi River

The new AuSable River Association, in the New York portion of the watershed, will strengthen the involvement of local communities and complement the efforts of the Boquet River Association. A strength of such local organizations is their ability to forge new partnerships with other groups, whether it's town road crews, Trout Unlimited, Audubon groups, the Nature Conservancy or the Moriah Shock Center. By pooling resources for different projects, the results can be solid and long lasting.

Strengthening Sustainable Tourism

Opportunities for Action, as required by the Special Designation Act, also included recreation and cultural heritage resources. Few, if any, other large-scale watershed planning projects have included these two components. The Champlain basin is full of cultural resources, a key to our heritage and economic well being. Protection of these cultural resources will help sustain tourism throughout the Basin. The National Park Service has provided funding for these two planning elements.

In addition to providing financial and technical assistance to local projects, two larger projects are benefiting from the Lake Champlain Basin Program. Financial support has been provided to a team of researchers, led by the Lake Champlain Maritime Museum, that has now mapped 120 miles of the Lake's bottom and identified 25 previously unknown shipwrecks, including one of Benedict Arnold's revolutionary war gunboats from the Battle of Valcour. The LCBP is also sponsoring another project that may be of particular interest to local communities, one that emphasizes the importance of historic landings along the Lake.

On the recreation front, 16 public access improvement projects have been completed or initiated along shoreline communities during the past two years. Beaches, parks, shoreline trails and boat access areas have benefited from this program. Materials purchased with LCBP funds, coupled with volunteer labor or the use of other community resources, has improved the public's access to the waterfront. Two larger projects are also drawing tourists to the region: the Lake Champlain Bikeways and the Lake Champlain Paddler's Trail. Bicyclists can now enjoy a 350 mile bicycle route around the Lake and 40 shorter loops totaling 1,200 miles. Nine theme loops were also completed in 1998 by local and county groups. In addition, the Lake Champlain Committee released the Paddlers Trail Guide highlighting the first 18 public sites for use by paddlers and kayakers. Similar trails estab-



Lake Champlain Paddler's Trail

lished along Puget Sound and the Maine Coast have proved to be very successful and important to local economies, and the Lake Champlain partners hope the same will happen here.

Increased Quebec Participation

Since the Steering Committee was restructured to oversee plan implementation, the role of provincial and municipal officials from Quebec has strengthened. Following a Steering Committee meeting in 1998, three mayors of Quebec municipalities hosted a tour around Missisquoi Bay to highlight projects that have addressed point and nonpoint sources of pollution. Canadian recreational use of the Bay and the Lake and efforts to protect the spiny softshell turtle were also discussed.

Over the last 18 months, the Quebec Ministry of the Environment and the Vermont Agency of Natural Resources have been working toward a phosphorus reduction agreement for the Missisquoi Bay watershed. Opportunities for Action called for the two entities to work together so that the state and the province could plan a course of action to reduce their respective phosphorus inputs. The Missisquoi Bay Task Force was created, and a new study of phosphorus loads from different parts of the Missisquoi watershed is nearing completion. The Task Force will

use the results of the study and earlier phosphorus modeling work to set the basis for the new agreement.

The Quebec Citizens Advisory Committee has also been more active since *Opportunities for Action* was approved. Recently, the Committee has been working to form a 13 member committee to guide the formation of a final action plan for the Quebec portion of the Lake Champlain basin. A vote to finalize member selection was scheduled for March, 1999. Quebec anticipates that the Steering Committee will receive funding from the Canadian government to implement the action plan and to hire professional staff to coordinate implementation activities. Committee members will represent agricultural, municipal, environmental and economic interests. Four non-voting members from the provincial government and one from the federal government will also sit on the committee.

Looking ahead to 1999

In January, the Lake Champlain Steering Committee set budget priorities for \$1.84 million available through the U.S. Environmental Protection Agency in 1999. Highlights include continuing the lakewide monitoring program to measure water quality, assessing sea lamprey in the Pike and Poultney Rivers, tracking phosphorus reductions achieved through agri-

cultural best management practices in NY and VT, conducting stream assessments and increasing the funds for water chestnut harvesting in the South Lake.

As the Lake Champlain Basin Program continues during the third year of plan implementation, several major tasks are underway. *Opportunities for Action* outlined a 20 year timeframe for reducing phosphorus by 57 metric tons. New York and Vermont agreed to achieve the reductions in five year increments. However, with the passage of the New York Bond Act and continued state funding for agricultural cost-share programs in Vermont complementing federal programs, the phosphorus reductions may be achieved earlier than originally planned. An evaluation of the progress that's been made to date in addressing phosphorus reductions will be completed this year.

Two other tasks will be forming new subcommittees to further guide the implementation of the Plan and providing more information to adult populations about Lake issues through the news media. In addition, the states will work closely with the LCBP to finalize a plan for non-native nuisance aquatic species. This latter task was identified as one of the highest priorities in *Opportunities for Action*.

The Lake Champlain Basin Program is fortunate to have so many diverse partners joining in the effort to improve the Lake Champlain Basin. By working together through research, monitoring and citizens based projects, the Lake Champlain Basin will be even more inviting for future generations.

For further information about the LCBP, including school programs, educator workshops, public meetings, technical projects, committee listings or other aspects of the program, contact the Lake Champlain Basin Program, P.O. Box 204, 54 West Shore Road, Grand Isle, VT 05458 or call (802) 655-6382. LCBP's web site address is www.lcbp.org. The author would also like to thank the LCBP staff for their help in writing this article.