



Letter from the Chair

January 1999

Dear Friends of Lake Champlain,

As the millennium approaches, we here in the Lake Champlain region face another important milestone in the year 2009: the 400th anniversary of Samuel de Champlain's arrival on Lake Champlain.

Just a few years ago, Vermonters and New Yorkers agreed on a strategy to protect and restore Lake Champlain.

Individuals and organizations from throughout the lake basin have joined together in a partnership and have begun to implement this comprehensive plan. For example, Vermont continues to appropriate capital funding to reduce phosphorus inputs to Lake Champlain from municipal wastewater facilities and farms. New York State voters approved an environmental bond act in 1996 which committed \$15 million to the Lake Champlain basin and reduced the time-frame for achieving New York's share of phosphorus reductions to seven years instead of twenty. Funding from federal agencies has also increased to help meet this challenging task.

While much progress is being made throughout the region, much more remains to be done. The Citizens Advisory Committee undertook a careful review of *Opportunities for Action: An Evolving Plan for the Future of the Lake Champlain Basin* in preparation of this annual report and action plan. We unanimously concluded that the single most important priority for Lake Champlain is to shorten the time for achieving the goals of the plan. In simple terms, we encourage all involved to take appropriate actions today so that ten years from now we can celebrate a healthy environment and prosperous economy on the 40th anniversary of Samuel de Champlain's exploration of the lake.

The Citizens Advisory Committee calls upon our legislators, government agencies and citizens throughout the Lake Champlain basin to join with us in meeting this challenge. We all must work together to secure adequate funding, to look for new opportunities and technological breakthroughs, and to support education and public involvement efforts -- three key elements of achieving our goals by 2009.

Sincerely,

Buzz Hoerr, Chair

Overview

In 1998, the Vermont, New York and Quebec Citizens Advisory Committees held a public meeting to discuss the *State of the Lake Report* released by the Lake Champlain Basin Program and to review progress on implementing *Opportunities for Action: An Evolving Plan for the Future of the Lake Champlain Basin*. Some of the key issues raised by those in attendance included:

- Shorten the timeframe for achieving phosphorus pollution reductions
- Support local watershed groups
- Increase funding to combat the spread of nuisance water chestnuts
- Provide information to landowners about solutions to shoreline flooding and erosion
- Publicly post manure spreading exemptions so that residents will know if a farm is complying with rules before calling to complain
- Address the problem of declining walleye populations in the lake
- Increasing cormorant populations have become a problem on the lake
- Establish a joint fishing license for Vermont and New York
- Recognize that education and outreach efforts are key and should be continued

In an effort to address these concerns, the Vermont Citizens Advisory Committee (CAC) undertook an extensive review of implementation activities on five critical issues: reducing phosphorus pollution, preventing pollution from toxic substances, controlling nuisance aquatic plants and animals, enhancing recreation and economic resources and protecting cultural heritage resources. Citizens and experts attended meetings to present information and provide input to the CAC. This process took several months to complete and resulted in the recommendations contained in this report. The CAC believes that the *1999 Lake Champlain Action Plan* addresses the lake basin issues that are most important to Vermonters.

In its recommendations this year, the CAC calls upon the Vermont General Assembly and state agencies to join them in an effort to accelerate implementation of the plan. Specific actions are described in the following pages.

Opportunities for Action: An Evolving Plan for the Future of the Lake Champlain Basin was approved by the Governors of Vermont and New York and the Administrator of EPA. The plan addresses many issues, ranging from the improvement of water quality, to the protection of the Basin's living resources, to the preservation of the region's rich cultural heritage. Three action areas were designated as the highest priorities for action: reducing phosphorus in targeted watersheds; preventing and controlling persistent toxic contaminants; and implementing a comprehensive management program for nuisance normative aquatic plants and animals.

1999 Action Plan Recommendations

"Our most important priority is to shorten the time-frame for implementing the plan and achieve phosphorus reduction goals by 2009, the 400th anniversary of Samuel de Champlain's arrival on Lake Champlain."

--Buzz Hoerr, Chair, Vermont CAC

ACTIONS TO IMPROVE WATER QUALITY

When the Governors of New York and Vermont and the Administrator of EPA approved *Opportunities for Action: an Evolving Plan for the Future of the Lake Champlain Basin* in 1996, they anticipated the need to continually update the plan and its recommendations. Since that time, New York State voters approved the Clean Air/Clean Water Bond Act which has greatly accelerated implementation activities in the New York portion of the basin, especially related to phosphorus reduction goals. What was anticipated to take 20 years to implement in New York will now be completed in seven years. Vermont, too, has been systematically implementing a phosphorus reduction plan for municipal wastewater treatment plants and agricultural nonpoint source pollution. In recognition of this, the CAC's highest priority this year is to accelerate implementation activities in Vermont in order to shorten the timeframe needed to achieve in-lake water quality criteria.

Another important priority for action is preventing pollution from toxic contaminants. By reducing toxic substances and waste products at the source, municipalities, businesses and individuals can help keep toxics out of the waste stream and out of the lake and even increase profit margins. Some state and local programs are underway in the Vermont portion of the Lake Champlain basin, but more are needed to address pollution concerns in urban and residential areas.

Legislative Actions

- **Capital funding for wastewater treatment** -- Continue to appropriate capital funding on an annual basis for point source phosphorus reductions at municipal wastewater treatment plants in the Lake Champlain basin. A total of \$3.5 million of state funding is requested this year.
- **Financial assistance to farmers** -- Increase levels of financial assistance available to farmers-for implementing best management practices (BMPs) on farms. A minimum of \$750,000 of state funding is requested this year. Financial assistance to farmers from state and federal sources should be doubled in future years to meet the shortened timeframe for achieving in-lake phosphorus criteria.

Agency Actions

- **Integrate programs related to watersheds** -- The Vermont Agency of Natural Resources (ANR) and Vermont Department of Agriculture, Food and Markets (DAFM), working with the U.S. Environmental Protection Agency (EPA) and other partners, should use *Opportunities for Action* as a framework for implementing activities within watersheds of the Lake Champlain basin. This includes, but is not limited to, implementing requirements of the Clean Water Act related to total maximum daily loads (TMDLs). Implementation activities should be strategic and emphasize citizen and community involvement.
- **Consider public health concerns in watershed implementation activities** -- In addition to phosphorus, ANR should include pathogens and toxic substances when implementing water quality improvement programs within watersheds of the Lake Champlain basin.
- **Improve compliance with existing laws regulating agricultural activities** -- DAFM should continue and improve upon programs to educate farmers, provide technical assistance, enforce regulations and track pollution reductions. In particular, the Department should achieve compliance with Accepted Agricultural Practices. To improve accountability to the public, the Department should publicize waivers for manure spreading operations at town offices and should consider conducting random inspections or audits on 10% of farms each year.
- **Redefine acceptable agricultural practices** -- DAFM should consider and propose acceptable agricultural standards regarding manure applications to soils. Alternative methods such as composting and energy production as well as the use of new and emerging technologies should be examined to see if they are applicable to the Lake Champlain Basin.
- **Monitor the effectiveness of BMPs** -- DAFM and ANR should measure and monitor the effectiveness of BMPs in achieving pollution reduction in watersheds.
- **Reduce urban nonpoint sources of pollution** -- ANR should assess and evaluate nonpoint sources of pollution from residential areas, especially as it relates to changing land use patterns in the watershed. ANR should be encouraged to work with local communities to prevent and reduce pollution from phosphorus and toxic substances in urban areas and expand programs accordingly. ANR needs to create a better understanding of phosphorus and toxic substances in urban and suburban settings.
- **Reduce Pollution from septic systems** - For failed or problem septic systems, ANR should permit alternative waste disposal systems in order to protect water quality.
- **Expand pollution prevention programs** -- ANR and other Lake Champlain Basin Program partners should expand pollution prevention programs in the Lake Champlain basin. State agencies should be more reflective of the policies they represent, e.g. ANR and other state agencies could implement rigorous pollution prevention programs within their own offices.

- **Develop coordinated approach to risk communication** -- ANR and the Department of Health should develop a more coordinated approach to communicating health risks related to pathogens and toxic substances. In addition, municipalities need better information about toxic substances and drinking water requirements.
- **Continue and expand research and monitoring programs** -- Partners of the Lake Champlain Basin Program, including ANR, should identify through research and monitoring programs, additional pollutants of concern and potential problem areas related to toxic substances and pathogens. Results of a recently completed study of chronic effects of pollution in Burlington harbor should be reviewed. Vermont should collaborate with other states to better understand sources of toxic pollution from within and outside the region. ANR should include monitoring of pathogens at river mouths and swimming areas in its ongoing lakewide program.
- **Seek party status for permit renewals** - As outlined in the Memorandum of Understanding on Environmental Cooperation on the Management of Lake Champlain renewed in Oct. 1996, New York and Vermont have agreed to provide prior notification for any pending major action which could affect the environmental quality of lake Champlain and to exchange materials concerning Lake Champlain's ecosystem. It is important that the State of Vermont seek party status to review and comment upon pollution permit renewal applications, including International Paper Company's permit, and look for conditions that would prevent pollution from toxic substances from Lake Champlain's airshed or watershed.

ACTIONS TO CONTROL NUISANCE AQUATIC PLANTS AND ANIMALS

Since they were first found in 1993, zebra mussels have spread throughout Lake Champlain and are now being found in major tributaries. In recent years, water chestnut populations have also expanded and spread as far north as McNeil Cove in Charlotte, VT. In addition, the alewife, a new normative species to the lake basin, was recently found in large numbers in Lake St. Catherine. All of these species pose serious threats to the ecological health of Lake Champlain, not to mention the impacts on recreational opportunities and the economy in general. Other species also pose threats if they invade Lake Champlain, making spread prevention and control programs a high priority.

Legislative Actions

- **Continue funding for water chestnut control** .. Continue State funding for water chestnut control in order to leverage additional funds (\$150,000 is requested this year).
- **Continue funding for lamprey control** -- Continue and expand the ongoing sea lamprey control program to include a more integrated approach which considers the use of physical barriers and non-chemical controls.

Agency Actions

Continue education programs on spread prevention -- ANR should continue important educational programs aimed at preventing the spread of nuisance aquatic plants and animals.

Conduct research on the impacts or zebra mussels -- The Lake Champlain Basin Program partners should support research on the impacts of zebra mussels on Lake Champlain's natural and cultural resources.

Implement cormorant management plan -- ANR and the USFWS should implement the cormorant management plan which calls for the reduction of nests on Lake Champlain islands from 600 to 300. At the same time, ANR should seek long-term solutions and study the impacts of gull populations.

ACTIONS TO ENHANCE RECREATION AND ECONOMIC RESOURCES

With state and federal funding, progress is being made to enhance public access and encourage new recreation opportunities. The Lake Champlain Basin Program began a grant program to enhance public access sites in 1997 and continues to implement the Lake Champlain Bikeways. A 350-mile bicycle route around the lake was finalized, 40 shorter loops totaling 1,200 miles have been assessed, and nine them loops completed in 1998. Steady progress is also being made in the establishment of the Lake Champlain Paddler's Trail. Citizens from both states continue to call for a reciprocal fishing license, and as a result, officials from Vermont and New York have begun to explore this possibility.

Agency Actions

- **Establish reciprocal fishing license** -- As a first step, ANR should provide fishing licenses from both Vermont and New York at the point of sale and implement a joint marketing campaign with New York. Both states should work toward a long-term goal of establishing a fully reciprocal license.
- **Increase recreational access** -- ANR should acquire and develop additional access sites on Lake Champlain, including areas specifically designated for low-impact non-motorized recreational use.
- **Integrate recreation and cultural programs** -- The Lake Champlain Basin Program partners should better integrate programs related to Lake Champlain Byways, Lake Champlain Heritage Corridor Study, and Lake Champlain Bikeways.
- **Secure paddler's trail sites** -- The Department of Forests, Parks and Recreation should establish long-term agreements for paddler's trail sites on Lake Champlain.
- **Review results of economic development studies** -- The Lake Champlain Basin Program partners should review the results of regional and county-level economic development studies, such as one underway in Grand Isle County, to identify issues and potential needs.

ACTIONS TO PROTECT CULTURAL HERITAGE RESOURCES

A team of researchers lead by the Lake Champlain Maritime Museum have now completed an underwater survey of 120 miles of lake bottom and identified 25 previously unknown shipwrecks, including the exciting discovery of a revolutionary war gunboat in 1997. The threats posed by zebra mussels highlight the importance of this work as well as the tremendous challenges in protecting these valuable historic resources. In 1998, two new preserves, including the first in New York state, have been added to the Lake Champlain Underwater Preserve System, making a total of seven shipwrecks more accessible and providing them with better protection. Also, the National Park Service continues to work on an initiative to establish the Lake Champlain Heritage Corridor.

Agency Actions

- **Accelerate underwater survey program** -- The Lake Champlain Basin Program partners should accelerate programs to identify, manage and protect submerged heritage resources and sunken ships vulnerable to destruction by zebra mussels, in cooperation with New York and the National Park Service, and with special requests to the U.S. Congress for special appropriations.
- **Encourage proper management of underwater preserves** -- The State of Vermont should provide funding for a comprehensive program for managing underwater preserves. Establishment of user fees should be explored as a way to support program.
- **Continue support for establishing a Lake Champlain Heritage Corridor** -The State of Vermont and other Lake Champlain Basin Program partners should continue to support the National Park Service's efforts to establish a Lake Champlain Heritage Corridor.

Glossary

Nonpoint Source Pollution - nutrients or toxic substances that enter water from dispersed and uncontrolled sites, rather than through pipes. Sources of nonpoint source pollution include runoff from agricultural practices, urban and forest land, and on-site sewage disposal.

Pathogen - organisms, usually viruses, bacteria or fungi, capable of causing disease.

Phosphorus - a nutrient that helps plants grow. Phosphorus is found naturally in the environment and in human and animal waste.

Point Source Pollution - nutrients or toxic substances that enter a water body from a specific entry point, such as a pipe. For example, the discharge from a sewage treatment plant is point source pollution.

Total Maximum Daily Load (TMDL) - an estimate of the maximum amount of pollution that a body of water can receive and still meet water quality standards.

Toxic Substance - any substance which upon exposure, ingestion, inhalation or assimilation into any organism, causes death, disease, genetic mutations, physiological malfunctions or physical deformation. Examples of toxic substances are cyanides, phenols, pesticides and heavy metals.

Watershed - the geographic reach within which water drains into a particular river, stream or body of water. A watershed includes both the land and the body of water into which the land drains.

Partnership Program Awards

Twenty-two organizations in the Lake Champlain Basin were awarded \$70,000 through 1998 Partnership Program funding by the New York-Vermont Citizens Advisory Committees (CACs) on Lake Champlain.

"The CAC awards build and reinforce partnerships around the Basin, which result in significant improvements to the Basin's cultural, recreational and natural resources, and also further the actions set forth in *Opportunities for action*," said Buzz Hoerr, Chair of the Vermont CAC.

This marks the sixth year that Partnership Program awards have been made to grassroots projects that demonstrate practical ways to address economic and conservation challenges. Funding was made available through the Lake Champlain Basin Program from the U.S. EPA and the National Park Service. To date, the CACs have awarded \$294,000 for local, community projects.

The 1998 Lake Champlain Partnership Projects:

Land For Learning, Moriah Central School - \$4,000

The Vermont Guidebook: Touring Vermont's Oldest City, City of Vergennes - \$2,800

Final Intervale Land Restoration, Intervals Foundation - \$2,500

Saranac Lake River Corridor Commission Riverbank Stabilization, Village of Saranac Lake - River Corridor Commission - \$5,000

Addison County Riverwatch Collaborative, Otter Creek Audubon Society - \$2,000

Missisquoi River Dynamics/Canoe Course, Arvin A. Brown Public Library - \$500

Field Bam Stabilization, The Nature Conservancy - \$5,000

Youth Corps State Park Improvements, Vermont Youth Conservation Corps - \$2,500

The Winooski Mills: Economic, Social & Ecological Impact, Heritage Winooski - \$4,500

The Northern Lake Champlain Endangered and Threatened Species Project, Green Mountain Audubon Society - \$4,200

Mentors in the Champlain Basin, VERMONT Museum & Gallery Alliance - \$3,000

Boat-building Program for Youth at Risk, Lake Champlain Maritime Museum - \$2,500

Preserving our Agricultural Heritage - The Historic Monitor Barns Project, Richmond Land Trust - \$3,000

Burlington Guidelines for Stormwater Pollutant Reduction, Burlington Conservation Board - \$4,000

Gilleland History/Nature Foot & Canoe Trail, Boquet River Association - \$2,000

Otter Creek Heritage Corridor, UVM - \$3,000

Coon Mountain Preserve/Split Rock Link, Adirondack Nature Conservancy & Adirondack Land Trust - \$5,000

B.A.C.S.T.O.P. Summer '98, Village of Whitehall, NY - \$3,000

East Bay (Poultney River) Watershed Improvement, Whitehall Jr./Sr. High School - \$1,500

Adopt-a-Salmon Family, Lake Champlain Chapter of Trout Unlimited - \$1,200

Lake Champlain Bilingual Boating Publication, Lake Champlain Committee - \$5,000

Lake Champlain Paddlers Trail Outreach Project, Lake Champlain Committee - \$2,000

1999 State of the Lake Index

Point source phosphorus reductions--To date, 18 facilities in the Vermont portion of the Lake Champlain basin have completed phosphorus removal upgrades. Three additional facilities, including Middlebury, Montpelier and Castleton, have received state funding for construction of phosphorus removal upgrades.

Nonpoint source phosphorus reductions--Through joint federal and state cost-share programs, VT Department of Agriculture, Food and Markets has been able to account for a reduction of 13,500 pounds in phosphorus in the Lake Champlain basin over the last four years.

Pathogen levels--**Water** quality testing by Town Health Officer in Colchester, Vermont, documented problems with pathogen levels in Lake Champlain near the mouth of the Winooski River.

Water chestnut control--A \$270,000 control program was able to prevent the range of nuisance water chestnuts in Lake Champlain from expanding further northward in 1998. Despite these efforts, surveys by the VT DEC documented an expansion of water chestnut growth in a number of areas including both sides of the lake between Chipman's Point and Benson Landing and in Dead Creek and Otter Creek. Also, New populations were discovered and handpulled from Coggman Pond in Benson and Lake Paran in Bennington.

Wetland conservation--3,000 acres of wetlands are targeted for protection with \$800,000 of funding from the North American Wetlands Conservation Act (NAWCA) as part of second phase of a strategy to protect Lake Champlain wetlands. Phase one of the acquisition strategy was completed in 1997 and has already resulted in the protection of 3,500 acres of wetlands in the Lake Champlain watershed.

Paddler's trail--The first edition of the *Lake Champlain Paddler's Trail Guidebook and Stewardship Manual* was released in 1998. The guidebook includes descriptions and locator maps of 18 public sites on the trail.

Pubic access enhancement--Eight public access projects in Vermont and New York recently received grants through the LCBP with funding from the National Park Service.

Underwater historic preserves--In June 1998, two preserves were added to the system which already includes five sites along Vermont's shores: the wreck of *the Champlain II*, the first preserve in New York, and the *O.J. Walker* which lies northwest of the Burlington breakwater.

1999 Lake Champlain Action Plan - January 12 Draft

Annual report of the Vermont Citizens Advisory Committee on Lake Champlains Future
Final draft can be requested from the Lake Champlain Basin Program at 1-800-468-5227

Report Card
on CAC recommended Legislative Initiatives

Legislative Actions	Action needed in 1998	Past Performance
Appropriate capital funding for wastewater treatment	*	+
Increase levels of funding available to farmers	*	+
Continue funding for water chestnut control	*	+
Continue funding for sea lamprey control	*	+
Reauthorize the Vermont CAC's Legislative charge	*	+
Create a visitors center at Mt. Independence		+
Authorize conservation license plate		+
Consider zebra mussel study recommendations		+
Provide funding for historic artifact recovery		+
Adopt phosphorus reduction plan		+

For more information about the Vermont CAC, please contact the Lake Champlain Basin Program at 1-800-468-5227 or (802) 655-6382.

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