



2007
LAKE CHAMPLAIN
ACTION PLAN

LAC CHAMPLAIN 2007 PLAN D'ACTION

APERÇU

« Le lac Champlain est à son point le plus critique depuis sa découverte par Samuel de Champlain il y a 400 ans. Ce n'est que dernièrement que nous nous sommes rendu compte de l'ampleur des dommages que nous avons causés au lac, la majeure partie du temps sans le savoir, et que nous avons pris des mesures pour réduire l'incidence de nos activités sur la qualité de l'eau. L'avenir économique du Vermont et sa précieuse image sur le plan environnemental seront compromis si nous n'arrivons pas à atteindre nos objectifs de réduction de nutriments d'ici à 2009. Nous avons donc le devoir de réussir. »

— Buzz Hoerr, Président, VTCAC

Le Comité Consultatif des Citoyens du Vermont (VTCAC) prend fermement position sur la question de la réduction des phosphores. Si, comme citoyens et leaders du bassin du lac Champlain, nous maintenons le cap actuel vers la réduction de la pollution, il se peut que nous n'atteignons pas nos ambitieuses cibles de réduction des nutriments. Il ne reste plus que deux ans avant la commémoration, prévue pour 2009, du quadricentenaire de l'arrivée de Samuel de Champlain au lac. Le gouverneur Douglas a travaillé d'arrache-pied avec le gouverneur de l'État de New York et le premier ministre de la province de Québec pour atteindre les cibles de charge de phosphore précisées dans le Lake Champlain Phosphorus TMDL d'ici à 2009. Comme la pollution de source agricole non ponctuelle est la plus importante source de phosphore dans les zones les plus polluées que sont les passages nord et sud du lac, elle est au centre du plan d'action du VTCAC pour 2007.

En nous fondant sur des travaux intensifs effectués avec les citoyens en 2006, nous croyons que l'accélération de la mise au point et de la mise en œuvre de programmes exhaustifs de gestion des nutriments (PGN) dans toutes les exploitations agricoles constitue le plus important défi que nous ayons à relever pour atteindre nos cibles de phosphore de 2009. Des PGN exhaustifs constituent un outil indispensable pour rehausser la durabilité économique des exploitations agricoles. Au Québec, le modèle du Club Agriculture jumelle 30 exploitations agricoles à un agronome en vue de l'établissement et de la mise en œuvre de plans. Non seulement ce modèle réduit-il la pollution par le phosphore, l'érosion du sol et la rupture des berges, mais il permet aussi aux agriculteurs de réaliser des économies en réduisant leurs besoins

PRIORITÉS CAPITALES

1. **Éliminer l'excédent de phosphore de source agricole non ponctuelle en établissant dans toutes les exploitations agricoles du Vermont des plans exhaustifs de gestion des nutriments ayant comme principale priorité l'atteinte des cibles de charges quotidiennes maximales (TMDL) d'ici à 2009.**
2. Maintenir des niveaux de financement permettant l'accélération du plan visant la réduction de la charge quotidienne maximale totale (TMDL) de phosphore dans le lac Champlain par tous les moyens possibles d'ici à 2009 — année du 400^e anniversaire de l'arrivée de l'explorateur Samuel de Champlain au lac portant son nom.
3. Améliorer la responsabilité des programmes de gestion des eaux de ruissellement en appuyant le programme des indicateurs d'écosystèmes du Lake Champlain Basin Program (LCBP) et en raffinant le modèle de comptabilisation des niveaux de phosphore.

en fertilisants importés. Une fois que les PGN exhaustifs sont réalisés, les agronomes continuent de travailler avec les agriculteurs en vue d'arriver à une gestion scientifique et économique de leurs exploitations.

Il n'existe vraisemblablement pas de meilleur retour sur l'investissement que la mise en œuvre de plans exhaustifs universels de gestion des nutriments pour assurer la qualité de l'eau et la viabilité économique des exploitations agricoles. Sur les quelque 1140 fermes laitières du Vermont, environ 225 d'entre elles disposent de plans. La plupart des fermes qui ont besoin de plans sont des petites fermes laitières que ne sont pas encore touchées par la Concentrated Animal Feed Operation (CAFO) et la nouvelle réglementation fédérale sur les exploitations agricoles qui requiert l'application de PGN exhaustifs pour les exploitations agricoles de moyenne et de grande envergure.

— French translation by Claude Ghanimé

LAKE CHAMPLAIN 2007 ACTION PLAN

OVERVIEW

“Lake Champlain is at the most critical point in 400 years of post Samuel de Champlain history. Only recently have we realized the extent to which we have damaged the Lake, for the most part unwittingly, and taken steps to reduce our impact on our waters. Vermont’s economic future and our priceless environmental image are at stake if we fail to meet our nutrient reduction goals by 2009. We must succeed.”

— Buzz Hoerr, Chair
Vermont Citizens Advisory Committee (VTCAC)

The Vermont Citizens Advisory Committee on Lake Champlain (VTCAC) is taking a bold stance on phosphorus reduction. If we as citizens and leaders in the Lake Champlain Basin continue on the current course to reduce pollution, we may not reach our aggressive nutrient reduction targets. It is only two years until the 2009 Quadricentennial Celebration of Samuel de Champlain’s arrival to the Lake. Governor Douglas, along with the Governor of New York and the Premier of Quebec, has worked in earnest to reach phosphorus load targets as specified in the *Lake Champlain Phosphorus TMDL by 2009*. Since agricultural nonpoint source pollution is the single greatest source of phosphorus to the Lake, it is the centerpiece of our 2007 platform.

Based on intensive work with citizens in 2006, we believe that expediting completion and implementation of comprehensive nutrient management plans (NMP) on all farms is our most important quest to reach 2009 phosphorus targets. Comprehensive NMPs are an indispensable tool to enhance farm economic sustainability. In Quebec, the Agriculture Club model pairs 30 farms with one agronomist to develop and implement plans. This model not only reduces phosphorus pollution, soil erosion, and streambank destabilization, it also saves farmers money by reducing imported fertilizer needs. Once comprehensive NMPs are completed, agronomists continue working with farmers to scientifically and economically manage operations.

There is likely no better return on investment for water quality and farm economic viability than universal comprehensive NMP implementation. Of nearly 1140 Vermont dairy farms, about

HIGHEST PRIORITIES

1. **Slash excess phosphorus from agricultural nonpoint sources by developing comprehensive nutrient management plans on all Vermont farms, with priority given to meeting the *Lake Champlain Phosphorus TMDL by 2009*.**
2. Sustain funding levels supporting acceleration of the *Lake Champlain Phosphorus TMDL* in every possible manner by 2009—400th anniversary of explorer Samuel de Champlain’s arrival to the Lake.
3. Improve the accountability of watershed management programs by supporting the Lake Champlain Basin Program’s (LCBP) Ecosystem Indicators Program and refining the phosphorus accounting model.

225 have plans. Most farms needing plans are small dairies not yet affected by the Concentrated Animal Feed Operation (CAFO) and new federal farm rules which stipulate comprehensive NMPs on many medium and large farms.



Fencing animals from streams and creating designated stream crossings reduces streambank erosion.

Lake Champlain Basin Program

ACTIONS TO IMPROVE WATER QUALITY

Of ten major tributaries monitored in Vermont and Quebec during 1990-2004, six had declining trends in flow-adjusted phosphorus concentrations, three showed no clear trend up or down, and one showed increasing phosphorus. While Vermont, New York, and Quebec have invested in significant phosphorus reduction, insufficient control of nonpoint source pollution, population growth, and increasing development of forested or agricultural land may be offsetting prior reductions.

Changing how agricultural improvements are funded from whole farm fixes to ranking single worst problems is one way to further reduce nonpoint source pollution. The VTCAC successfully inspired the Natural Resource Conservation Service to begin a trial program that funds “single practices” on farms instead of requiring long-term contracts and commitments to fix all problems. This trial program is attracting harder-to-reach regions and individuals.

Educators identify healthy streams by classifying aquatic insects at an LCBP workshop.



Lake Champlain Basin Program

LEGISLATIVE ACTIONS

- **Accomplish comprehensive nutrient management plans (NMP) on ALL farms**

The VTCAC urges the Governor and the Legislature to direct the Vermont Agency of Agriculture, Food, and Markets (VAAFMM) to coordinate development of comprehensive NMPs on all remaining farms. Focusing on farms with soils and terrain more likely to export phosphorus into surface waters first will help us reach phosphorus load reduction targets more quickly as specified in the *Lake Champlain Phosphorus TMDL*. Estimates to accomplish this goal by 2009 are over \$5 million. We believe this single feat will have the largest impact on reducing agricultural nonpoint source phosphorus pollution, not only in the Lake Champlain Basin, but also statewide.

- **Restrict farm animals from large streams and rivers and create stream crossings**

Animals drinking from streams destabilize streambanks and add sediments, nutrients, and fecal bacteria to surface waters. Fencing animals from streams and creating designated stream crossings (usually bridges) reduces streambank erosion. The Vermont Agency of Natural Resources’ (VTANR) river corridor

Number of Vermont farms needing comprehensive nutrient management plans (NMP) and costs, February 2007¹

Farm Classification	Number of Farms	Number of Farms Needing Comprehensive NMPs	2005-2007 Farms Served & Funds Allocated To Date (Federal & State)	2008 Proposed Funds (Federal & State)	Cost Needs to Complete Comprehensive NMPs on Remaining Farms
SFO Small Farm Operations <200 animals	~921 ²	~829 ²	74 farms served	–	\$4,986,000
MFO Medium Farm Operations 200-699 animals	200	86	97 farms served	–	\$754,000
LFO Large Farm Operations ≥700 animals	19	0	11 farms served to meet new standard	–	Needs met
TOTAL	~1,140 ⁴	~915	\$2,428,203	\$875,000	\$5,740,000 ³

¹ Source: VAAFMM

² Inventory in progress

³ Cost estimates for 2007 based on acreage and number of animals and include three years of implementation costs

⁴ LFO & MFO figures include dairy & other operations, SFO figure includes dairies shipping milk



The VTCAC held four special meetings in far northern and southern reaches of Lake Champlain attended by over 300 people and three new groups — Farmers Watershed Alliance, Northern Waters Partners, and South Lake Group.

protection grants, Conservation Reserve Enhancement Program (CREP), and Vermont Agronomic Buffers Program are existing tools to address these needs. The VTCAC supports increased fencing and stream crossing programs and initiatives that encourage farmers to restrict animals from larger streams and rivers (classified and mapped by US Geological Survey as “second order” streams).

- **Increase cost-share funding and technical assistance to farmers**

State funds allocated to the Conservation Reserve Enhancement Program (CREP) and Farm Agronomic Practices Program (FAP) leverage significant federal matching funds. The CREP program pays farmers to take land adjacent to waterways out of production. The new 2006 FAP program encourages farmers to continue NMPs, cover cropping, and other Best Management Practices (BMP) after initial cost-share funding ends. Technical assistance to farmers has decreased as regulatory requirements have increased. The VTCAC recommends that CREP receives \$250,000 and that FAP receives \$100,000.

VERMONT STATE AGENCY ACTIONS

- **Refine phosphorus accounting to support the *Clean and Clear Action Plan***

In late 2006, the VTANR and VAAFM released an on-line database of projects funded to date by the *Clean and Clear Action Plan*. An accounting system is needed to track progress in reducing phosphorus as a result of these projects. Refining the phosphorus accounting model and pinpointing the largest contributing sources, as called for by the Lake Champlain Committee and other VTCAC partners, may help make this nexus. Offsetting factors such as land conversion, riparian development, and other sources of phosphorus increase must be tracked. The VTCAC strongly recommends that the

VTANR, VAAFM, LCBP, and University of Vermont (UVM) collaborate to refine phosphorus accounting methods.

- **Improve communication with the public regarding blue-green algae blooms**

Blue-green algae (BGA) blooms are a continued public health concern. Although usually harmless, BGA can sometimes produce toxins that cause illness if ingested in significant quantities. The UVM, with LCBP funding, has monitored BGA for seven years and provides test results to the Vermont Department of Health to alert the public. In addition to monitoring, the Lake Champlain Committee and UVM developed a cost-effective method of citizen volunteers to collect samples. This approach allows a wide geographical area to be sampled quickly, and without additional staff costs. The public has repeatedly requested expanding the volunteer network to cover the same geographical area as the monitoring program. The current 15 volunteer monitors should be expanded to 22 to cover known problem areas, and to capitalize on volunteer interest.

ACTIONS TO CONTROL AQUATIC NUISANCE PLANTS AND ANIMALS

While water chestnut has been consistently controlled and diminished in southern reaches of Lake Champlain for 25 years through the monumental efforts of multiple partners, the invasive plant is getting a toehold in the North Lake. In June 2006, water chestnuts were discovered in remote areas of Missisquoi National Wildlife Refuge. The LCBP partner organizations mobilized over 30 volunteers and staff to survey areas and hand-pull water chestnut. They contributed 300 hours of labor to harvest 12,000 water chestnut rosettes. Efforts are underway to resurvey refuge lands in 2007 for signs of spread.

LEGISLATIVE ACTIONS

- **Support continued water chestnut control and spread prevention efforts**

Consistent annual funding has proven successful at managing water chestnut. The Vermont Department of Environmental Conservation (VTDEC) leads this 25-year program with long-term support from US Army Corps of Engineers, LCBP, New York State DEC, Nature Conservancy, and other partners. In 2006, headway continued in the north to south Lake Champlain management effort and no new inland Vermont waters were found to have the invader. Despite these successes, water chestnut is still predominant in the South Lake and new populations were discovered in Missisquoi National Wildlife Refuge. To meet northern and southern needs, continued annual state funding of at least \$300,000 is critical, as previous funding reductions resulted in immediate reinfestation of previously controlled areas.

- **Expand local management of aquatic nuisance species**

The VTDEC's Grant-in-Aid Program funds towns to control aquatic nuisance species (ANS) in infested waters and prevent new introductions into uninfested waters. The program, funded through motorboat registration receipts and federal funds, does not have adequate resources to meet demands.

Alternative funds are required to meet needs for ANS controls as outlined in *Report on the Vermont Aquatic Control Grant-in-Aid Program, January 2006*, prepared for the Vermont Legislature. This report recommends that a legislative study committee be convened to identify how additional funds can be raised for ANS control. The VTCAC supports this recommendation.

- **Endorse the LCBP's ANS Rapid Response Protocol**

The LCBP has convened Vermont, New York, and Quebec government and non-government experts to develop an ANS Rapid Response Protocol. Once invasive species become established, the likelihood for eradication quickly diminishes and management costs rise. At least four invasive species entered Lake Champlain in the last five years. The VTANR needs to initiate swift decisions and actions to halt new invasions. Expediting the necessary permits as detailed in the Rapid Response Protocol is a key step.

- **Better enforce the ANS Transport Law and Baitfish Rule**

Preventing ANS introduction and spread is more cost effective and ecologically sound than eradicating them after they become established. Enforcement of the current ANS Transport Law is hindered by species identification. The LCBP's soon-to-be released *Lake Champlain Basin ANS*



Release of this 400th anniversary logo officially launched Quadrcentennial Celebration events.

PDI Creative Communications

Identification Guide will help decipher species identification. However, expanding the law to cover all aquatic plant transport will further augment spread prevention. The VTCAC urges the Legislature to expand regulatory capability and provide additional enforcement funding for the ANS Transport Law and Baitfish Rule.

ACTIONS TO ENHANCE RECREATION AND CULTURAL HERITAGE RESOURCES

Planning for the 400th anniversary of Samuel de Champlain's arrival to the Lake is in full swing. Vermonters have embraced the idea of shining an international spotlight on the history and culture of Lake Champlain. People from this region, France, and the United Kingdom will join us in commemorating the French explorer's voyage. A special ceremony at St. Anne's Shrine marked the release of the first-ever, international and interstate stamp cancellation. In September 2006, philatelists obtained commemorative postal cancellations in Isle La Motte, Vermont, Champlain, New York, and St. Jean, Quebec as they traveled to each place with a special stamp cache designed by the LCBP.

The Lake Champlain Quadrcentennial Commission (LCQC) has established several subcommittees of interested citizens that have been very productive over the past year. In 2006, a website was introduced, logos for the 400th anniversary were established, and a draft strategic plan was presented. Following an eight-month public comment period, the LCQC has incorporated suggestions and will present the final plan to the Legislature in 2007.

LEGISLATIVE ACTIONS

- **Provide seed money for the Lake Champlain Quadrcentennial Celebration**

In two years, people from all over the world will visit Vermont for the Quadrcentennial. The Vermont Department of Tourism and Marketing has done an outstanding job organizing public planning efforts for the anniversary. The US National Park Service estimates that the Quadrcentennial Celebration could generate \$133 million in

Stamp collectors obtained commemorative postal cancellations in Vermont, New York, and Quebec for the first-ever, international and interstate stamp cancellation marking the Quadrcentennial (1609-2009).



Lake Champlain Basin Program

additional tourism revenues over the next six years. Tourism and Marketing needs \$250,000 of seed funding to implement preparations.

- **Lake Champlain booster license plate**

The Legislature should support legislation to establish a booster license plate for the Quadrcentennial. The plate will commemorate the 400th anniversary of Samuel de Champlain's arrival in 1609. The legislation will allow the design, purchase, and sale of commemorative motor vehicle plates bearing the message "Vermont Lake Champlain Quadrcentennial 1609-2009." Similar to the Vermont Bicentennial booster plate, the Quadrcentennial plate can be displayed on the front of any Vermont-registered vehicle for two years (2008-2010). Once development and production costs are met, the balance of the revenues will fund other anniversary programs.

VERMONT STATE AGENCY ACTIONS

- **Increase state agency support for the Lake Champlain Quadrcentennial**

While the Vermont Department of Tourism and Marketing and the Vermont Division for Historic Preservation have been leaders in preparing for the Quadrcentennial, other state agencies, departments, and divisions must become more actively involved through staff support and funding. State grant funding should be directed at projects that support implementation of the Lake Champlain Quadrcentennial Strategic Plan in time for 2009.

VERMONT CITIZENS ADVISORY COMMITTEE (VTCAC) ON LAKE CHAMPLAIN'S FUTURE

The VTCAC is a diverse group of citizens, lake advocates, business representatives, farmers, and legislators united through their interest in a clean, healthy Lake Champlain. The VTCAC members are appointed by the Governor or by the Vermont Legislature for two or three year terms. They are charged with submitting an annual report to the Vermont Legislature that maps out recommended actions to protect the future integrity of the Lake. The Vermont, New York, and Quebec CACs each hold a seat on the Lake Champlain Steering Committee, the governing board for the Lake Champlain Basin Program (LCBP). The VTCAC members guide the development of the LCBP's annual budget and outreach programs, and guide the selection of annual Partnership Program grants.

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