

THE LAKE CHAMPLAIN BASIN PROGRAM: ITS HISTORY AND ROLE

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INTRODUCTION

The Lake Champlain Basin Program (“LCBP”) is a collaborative partnership of state, federal, provincial and municipal leaders, and several non-governmental members, presenting a strong international foundation for cooperation and action to protect and restore the water quality of Lake Champlain. Now in its 25th year of operations, the LCBP reflects the strengths of the convergent mandates of two very dissimilar governmental initiatives: an international Memorandum of Understanding (“MOU”) between two U.S. states and a Canadian province in 1988 and an Act of the United States Congress in 1990.

The 1988 MOU between the States of Vermont and New York and Quebec bound the parties to communicate on Lake Champlain issues and established a Joint Committee for this purpose. The Joint Committee, which later came to be called the “Lake Champlain Steering Committee,” was not provided with operational funds.

The Lake Champlain Special Designation Act of 1990 (“LCSDA”), an amendment of the U.S. Federal Clean Water Act, designated Lake Champlain as a resource of national significance.² This Act directed the U.S. Environmental Protection Agency (“EPA”) to convene a multi-jurisdictional “Lake Champlain Management Conference” to develop a restoration plan for Lake Champlain, and it authorized federal funding.³ In 1991, EPA Region I assembled the Lake Champlain Management Conference, which began working in June of that year.⁴ In 1992, the Management Conference established the LCBP as the organizational vehicle to accomplish its work.⁵ In 1996, the Management Conference concluded its work, resulting in the comprehensive management plan: *Opportunities for Action: An Evolving Plan for the Future of the Lake Champlain Basin (“OFA-1996”)*.⁶ The new plan assigned plan implementation and oversight of the LCBP to the Lake Champlain Steering Committee, and expanded its membership, adding U.S. federal agencies, municipalities, and non-governmental members. In the course of its work

2. Lake Champlain Special Designation Act of 1990, Pub. L. No. 101-596, § 301, 104 Stat. 3006 (1990) (codified at 33 U.S.C. § 1251).

3. § 210, 104 Stat. 3006.

4. Meeting Minutes from Lake Champlain Management Conference (June 3, 1991) (on file with author and Vermont Journal of Environmental Law).

5. Meeting Minutes from Lake Champlain Management Conference (Mar. 5, 1992) (on file with author and Vermont Journal of Environmental Law).

6. LAKE CHAMPLAIN MGMT. CONFERENCE, OPPORTUNITIES FOR ACTION: AN EVOLVING PLAN FOR THE FUTURE OF THE LAKE CHAMPLAIN BASIN (1996), <http://www.lcbp.org/wp-content/uploads/2013/03/OFA-1996.pdf> [<https://perma.cc/DBB2-777Y>].

developing a management plan, the Lake Champlain Management Conference became a forum for dialogue, debate, and the development of working relationships among leaders from each jurisdiction.

The role of the LCBP is to regularly bring together jurisdictional partners from Vermont, New York, Quebec, numerous U.S. federal agencies, and others to examine, debate, and coordinate the environmental management of Lake Champlain and its watershed. Several inter-jurisdictional agreements advancing the stewardship of the Lake Champlain watershed have been facilitated by the LCBP, resulting in a robust culture of cross-boundary collaboration to protect and restore the water quality of the lake. The Lake Champlain Steering Committee annually allocates funds to: long-term goals; basin-wide monitoring of water resources; local plan implementation grants; direct pollution prevention projects; targeted research; educational programs; operational assistance to watershed organizations; and heritage and recreational programs that connect people to the lake.

I. HISTORY OF THE LAKE CHAMPLAIN BASIN PROGRAM

A. Convergent Mandates

The 1988 MOU among the States of Vermont and New York and the Canadian Province of Quebec established a Joint Committee on environmental management of Lake Champlain. This MOU represented the first cross-boundary, whole-watershed effort to manage Lake Champlain water quality and establish a forum to address a wide range of stewardship initiatives. The agreement provided a scope and specific objectives in the three-jurisdiction relationship that had been developing informally during the previous few years. Although no funds were allocated to directly support the work of the Joint Committee, the MOU triggered a significant boost in communication among personnel from each jurisdiction, as reflected by several collaborative agreements among the two states and the province. By 1992, the Joint Committee was commonly known as the Lake Champlain Steering Committee.⁷

Following the MOU by two years, the LCSDA, an amendment of the U.S. Federal Clean Water Act, was signed into law.⁸ The new law—introduced by Vermont's U.S. Senator Patrick Leahy and co-sponsored by U.S. Senators Jeffords (VT), Moynihan (NY), and D'Amato (NY)—was

7. LAKE CHAMPLAIN PROJECT DIRECTORY 2 (1992).

8. Lake Champlain Special Designation Act § 301.

included as a component of the larger Great Lakes Critical Programs Act of 1990, sponsored by U.S. Senator Levin (MI). The LCSDA established the lake as a special project area under the U.S. Department of Agriculture Conservation Program, and it directed the EPA to convene a multi-agency Lake Champlain Management Conference to develop a pollution prevention, control, and restoration plan for Lake Champlain. The Act established a Technical Advisory Committee (“TAC”) of experts from federal and state agencies and local research institutions to provide technical and scientific advice to the Management Conference and to ensure that policy and budget decisions would be well informed by contemporary science.

Throughout the five-year period (1991–1996) of management plan formulation by the Lake Champlain Management Conference, several conference members also served on the Joint Committee (later called the Lake Champlain Steering Committee) established by the 1988 MOU. Following an extensive review, vigorous public comments, and significant draft revisions, the first comprehensive management plan for Lake Champlain and its drainage basin, OFA-1996, was signed by the Governors of Vermont and New York and the Regional Administrators of EPA Regions I and II. The Lake Champlain Management Conference, having fulfilled its planning mandate, dissolved itself. Implementation of the new plan and continuing oversight of the LCBP was assigned to an expanded Lake Champlain Steering Committee, in accord with the implementation strategy specified in OFA-1996.⁹

Following the completion of OFA-1996, the Special Designation Act was ripe for reauthorization to reflect the transition from plan formulation to plan implementation, and to increase the level of EPA funding authorized for the LCBP. The Daniel Patrick Moynihan Lake Champlain Act of November 2002 amended Section 120 of the Federal Water Pollution Control Act to codify the establishment of the LCBP.¹⁰ This amendment recognized the new management plan, calling for it to be “reviewed and revised, as necessary, at least once every five years, in consultation with the Administrator and other appropriate Federal agencies.”¹¹ It also increased authorized support for the LCBP to \$11 million annually via funds to the

9. LAKE CHAMPLAIN BASIN PROGRAM, BACKGROUND TECHNICAL INFORMATION FOR: OPPORTUNITIES FOR ACTION-AN EVOLVING PLAN FOR THE FUTURE OF THE LAKE CHAMPLAIN BASIN (June 1996), http://www.lcbp.org/wp-content/uploads/2013/03/16_BackgroundTechnicalInformation_OpportunitiesForAction.pdf [<https://perma.cc/62E4-CW89>].

10. Daniel Patrick Moynihan Lake Champlain Basin Program Act of 2002, Pub. L. No. 107-303, §201, 116 Stat. 2358 (2002) (codified at 33 U.S.C. § 1251).

10. *Id.*

EPA from the Department of the Interior appropriations.¹² Although annual EPA appropriations for Lake Champlain have not approached this level of support, they have increased significantly in the years since the Moynihan Act was passed.

New York, Vermont, and Quebec have reconfirmed the trilateral MOU of 1988 numerous times (1992, 1996, 2000, 2003, and 2010), adjusting and updating it each time to reflect contemporary priorities of the signing parties.¹³ Were this agreement merely between the two states, it likely would be termed an interstate compact; however the inclusion of both U.S. states and a Canadian province made the term “MOU” (more often applied to binational agreements) seem more appropriate to the signers. However, unlike many MOUs describing international commitments, this agreement is not binding under international law as it is not an agreement among national governments; it is not registered in the United Nations Treaty Collection.

Conversely, each edition of OFA (1996, 2002, 2010) does involve one national government, as each has been endorsed by the U.S. government through the signature of the Administrators of EPA Regions I and II, in addition to the signatures of the contemporary governors of Vermont and New York. In order for OFA to become an international agreement, there would need to be parity among the signers from both the U.S. and Canada, reflecting commitments by both executive branches. However, in view of the predominate responsibilities and virtual control of Quebec over the management of its natural resources, and Quebec’s strong role in the work of the LCBP, a need to pursue a Canadian federal role on the Lake Champlain Steering Committee has not developed. This perspective also reflects the contemporary political realities of Quebec’s storied history spanning more than 400 years since its earliest days as New France in North America.

Although the absence of international parity between the U.S. government and the Province of Quebec prevents a binational agreement, and the U.S. federal endorsement precludes Quebec’s signature on OFA, recent editions of the plan feature a strong supportive letter from the Premier. The inclusion of Quebec content and expression of commitment does result in a U.S. Department of State protocol review of each revision draft of OFA prior to EPA’s signatures, and past editions of the plan have met approval.

12. *Id.* at 2360.

13. Lake Champlain Basin Program Archives. (on file with author and Vermont Journal of Environmental Law).

The convergent mandates of the Federal Clean Water Act and the cross-boundary MOU from 1988 have resulted in the Lake Champlain Steering Committee charged with oversight of the LCBP. The multi-jurisdictional foundation and collective mandate of the Lake Champlain Steering Committee draws substantial legitimacy from the two very different jurisdictional actions simultaneously. Without a single over-arching agreement, this would not be possible to achieve due to complexities of international and homeland policy constraints on each side of the international border.

B. Federal Program Coordination

The LCSDA authorized collaborative efforts to benefit Lake Champlain by several U.S. federal agencies, and mandated specific tasks for each through a series of instructions to the Secretaries of the Interior and of Agriculture.¹⁴

The EPA was authorized to provide annual federal funding of \$2 million for the five years succeeding the LCSDA to organize and lead the work of the Management Conference. The Management Conference initiated a long-term lake-and-tributary-monitoring program, which was based on the preliminary results of a diagnostic feasibility study conducted by Vermont and New York in response to the 1988 MOU,¹⁵ to inform the planning process. The Management Conference also designed and funded numerous research projects to answer critical planning and management questions in the years of plan formulation. Throughout the planning process, the Management Conference funded numerous local grants to reduce lake pollution, impede the spread of aquatic invasive species, and to increase public access for lake users. Annual appropriations were generally consistent with the authorization and, subsequent to reauthorization in 2002, funding has continued in the years since.

The U.S. Department of Agriculture was mandated to designate the Lake Champlain watershed as a special project area under the Agriculture Conservation Program established in the Soil Conservation and Domestic Allotment Act.¹⁶ This designation increased the soil conservation and

14. Lake Champlain Special Designation Act, §301, 104 Stat. at 3006–3010.

15. VT. DEP'T ENVTL. CONSERVATION & N.Y. STATE DEP'T ENVTL. CONSERVATION, A PHOSPHORUS BUDGET, MODEL, AND LOAD REDUCTION STRATEGY FOR LAKE CHAMPLAIN: LAKE CHAMPLAIN DIAGNOSTIC-FEASIBILITY STUDY (1997), http://www.vtwaterquality.org/lakes/docs/lp_lcdfs-finalreport.pdf [<https://perma.cc/EF6M-X3SV>].

16. Lake Champlain Special Designation Act, §304, 104 Stat. at 3008 (codified at 33 U.S.C. § 1270).

technical-assistance funds ceiling and authorized a comprehensive agricultural monitoring and evaluation network for all major drainages in the basin. It also instructed the Secretary of Agriculture to implement these new programs in consultation with the Lake Champlain Management Conference, and to allocate assistance at sites prioritized by the Management Conference. The language of the mandate made clear the legislative intent to reduce and control nonpoint sources of water pollution in the Lake Champlain basin.

The U.S. Geological Survey of the New York and New England Districts were mandated to enhance and expand data collection and monitoring in the Lake Champlain basin and to collaborate with many partners to develop an integrated GIS database for the watershed. This mandate specified the upgrade of intermittent-stream-gauging stations to continuous-stream-gauging stations, and the addition of monitoring stations for water quality and sediment in tributaries.

The U.S. Fish and Wildlife Service ("FWS"), in cooperation with both the existing Lake Champlain Fish and Wildlife Cooperative and the Management Conference, was tasked with establishing and implementing a fisheries restoration, development, and conservation program. The program was to include the maintenance or increase of fish culture operations within the watershed. The service was also mandated to conduct a wildlife and species habitat assessment survey in the watershed to assess species that are listed or proposed for listing as rare or threatened under the Endangered Species Act and to assess migratory nongame species that frequent the watershed. Significantly, the Secretary of the Interior also was instructed to control sea lampreys and other nonindigenous aquatic animal nuisances and improve the health of the fishery resource.

Each of the congressional mandates to the Secretaries of the Interior and of Agriculture included an authorization of funds. The Director of Water Programs at EPA Region I convened and chaired the Management Conference. Representatives from EPA Region II, the United State Department of Agriculture-Natural Resource Conservation Service State Conservationists from New York and Vermont, and the manager of the U.S. Fish and Wildlife Service Lake Champlain Complex Office were included as members of the Management Conference. After the approval of OFA-1996, they continued as members of the Lake Champlain Steering Committee. Moreover, a significant and continuous level of collaboration and fund allocations to implement the management plan has persisted from each of these agencies and the U.S. Geological Survey continuously in the years since the Special Designation Act of 1990.

1. The Lake Champlain Management Conference

As mandated by the Special Designation Act of 1990, the EPA Region I office convened the Lake Champlain Management Conference in the summer of 1991. The Management Conference began its work with a visioning exercise that brought its members, many of them unknown to others in the group, to some common ground by identifying shared goals. At its first meeting, the Management Conference established the LCBP as the organizational vehicle to accomplish its work. Early in its deliberations, the Management Conference recognized that the management plan would be an advisory rather than a regulatory enforcement tool. Although the group held widely disparate views on this and other topics, the Management Conference chose a consensus model for most of its decision making. Votes were held when it was necessary for the record or when members wished to record that consensus was not reached; progress could be maintained in this way. The thirty-one-member Management Conference met nearly monthly, from 1991 to its dissolution in 1996, to direct the operations of the LCBP and to develop the comprehensive management plan.

One of the motivating factors leading to the 1988 MOU was the compelling need for cross-boundary collaboration to establish common, lake-wide, numeric phosphorus concentration targets for Lake Champlain. Through Steering Committee member dialogue, New York, Vermont, and Quebec agreed to endorse specific in-lake phosphorus criteria as interim management goals until a consistent set of state water quality criteria could be formalized in each jurisdiction.¹⁷ The interim in-lake criteria developed together, were separately codified as water quality standards in Vermont and New York, and also were accepted as water quality targets where applicable in Quebec.

The Management Conference benefitted from the pattern of collaborative cross-boundary problem solving that followed the 1988 MOU in a number of ways and it seems certain that the reciprocal also was true. As the leadership in each jurisdiction developed confidence in and familiarity with each other, the increased professional regard and mutual trust grew incrementally with each successful agreement.

The Management Conference allocated EPA funds provided to the LCBP, establishing a long-term-monitoring program at optimal locations in Lake Champlain and tributary rivers. The LCBP also supported: targeted

17. ERIC SMELTZER, HISTORY OF THE LAKE CHAMPLAIN PHOSPHORUS TMDL (2013), <http://www.emcenter.org/wp-content/uploads/2013/02/History-of-Lake-Champlain-T.M.D.L..pdf> [<https://perma.cc/NH9W-UAZ2>].

research to clarify planning and management needs; a vigorous local grants program to reduce pollution; management of aquatic invasive species and increased public access to the waterfront; and a number of educational and outreach programs.

The Management Conference established and relied upon several advisory committees to ensure that these efforts remained informed by and relevant to the community of the lake basin.

The TAC assumed a critically important role in developing the key specifications of requests for proposals subsequently released by the LCBP and assisting in the review and ranking of proposals received. The TAC prepared technical task proposals at the request of the Management Conference. The TAC also worked with LCBP technical staff to interpret anonymous peer reviews of final task deliverables and make recommendations regarding the acceptance of final reports. The TAC has provided technical and scientific advice to the LCBP continuously since its establishment.

The Plan Formulation Team (“PFT”) was established as a subcommittee of the Management Conference to develop the draft document that would become the comprehensive management plan. The PFT memorialized many decisions of the group in the language of goals, objectives, and tasks as it worked over the course of years in developing the management plan. Its membership included the chair of the TAC and the director of the Lake Champlain Research Consortium in order to ensure that the language of the draft plan hewed meticulously to technical realities. The PFT worked with LCBP technical staff to ensure that the key technical background information, which provided the basis for management actions called for in the plan was assembled in a supplemental document as the plan took shape.¹⁸ The PFT was dissolved when the management plan was approved in 1996.

The Education and Outreach Committee (“E&O”) was established as a subcommittee of the Management Conference to promote a better understanding among citizens and visitors about the stewardship issues in the lake and watershed and the importance of individual action in addressing those issues. E&O provided advice to the Management Conference on the design and cost of education and outreach initiatives needed to inform and improve public involvement in stewardship.

Citizens Advisory Committees (“CACs”) were established in Vermont, New York, and Quebec under the 1988 MOU to inform the jurisdictions about public concerns related to Lake Champlain. Appointments to each

18. BACKGROUND TECHNICAL INFORMATION, *supra* note 9, at 1.

CAC are unique to their respective jurisdiction. Although not mandated in the Special Designation Act, the Vermont and New York chairpersons were invited to be members of the Management Conference.

The Vermont CAC was established in 1988 by Executive action and re-established and expanded in 1990 by the Vermont Legislature. The Vermont House, Senate, and Executive each appointed four members to comprise the twelve member Vermont CAC. The Vermont CAC is charged with presenting its advice pertaining to Lake Champlain management in an annual report to the legislature.

The New York CAC was established by Executive action and is comprised of fourteen members appointed by the New York Department of Environmental Conservation Commissioner.

The Quebec CAC is comprised of eight members appointed by the Ministry of Environment and Climate Change Mitigation. The Quebec CAC became involved with the LCBP in 1996, at the time of the approval of the management plan and the renewal of the 1988 MOU.

2. The Role of New England Interstate Water Pollution Control Commission.

In the earliest days of the Management Conference, LCBP staff resources were provided directly by EPA Regions I and II, and by Vermont Agency Natural Resources and New York Department of Environmental Conservation (with EPA funding). External grants (for pollution prevention or educational programs) and research contracts were issued on behalf of the LCBP by EPA Region I. As the program grew, the number of small grants and contracts became ill-suited for regional EPA office management and there was growing inconsistency in the management of human resources. In 1992, the Management Conference invited the New England Interstate Water Pollution Control Commission (“NEIWPCC”) to serve as the fiscal agent for the operations of the LCBP. NEIWPCC accepted the role of fiscal manager for the LCBP and since that time, has received the bulk of EPA funds in order to employ LCBP human resources and to handle contracts and accounting.

“Established by Congress in 1947, NEIWPCC is a 501(c)(3) corporation that also operates under a seven-state compact.”¹⁹ NEIWPCC’s primary mission is to assist member states (the six New England states and

19. *A Strategy for Implementing the Plan*, LAKE CHAMPLAIN BASIN PROGRAM, <http://plan.lcbp.org/ofa-database/chapters/a-strategy-for-implementing-the-plan> [<https://perma.cc/4HRW-GW2J>] (last visited June 10, 2016).

New York) by providing coordination, public education, training, and leadership in the protection of water quality and related work in the region.²⁰ The LCBP-NEIWPC relationship has proved a successful model in the years since 1992. LCBP operational policy, budgeting, and contract selection decisions remained the domain of the Management Conference and its successor, the Lake Champlain Steering Committee, with implementation professionally managed by NEIWPC staff.

II. THE MANAGEMENT PLAN EVOLVED

A. Opportunities for Action: 1996

In 1996, the Lake Champlain Management Conference concluded its plan formulation assignment, resulting in the comprehensive management plan for Lake Champlain, OFA-1996.²¹ Public involvement in the development of the plan was extensive, including twenty-eight formal public meetings around the basin, a public comment period, a period of extensive re-writing, and additional public meetings prior to the completion of the final draft. When the plan was signed by the Governors of New York and Vermont and the Regional Directors of EPA Regions I and II, the Management Conference ceased operations. Because the management plan bears the signatures of U.S. federal agencies, it does not include a signature from Quebec—that would trigger international agreement protocols that would not be achievable in this case. However, Quebec assumed a vital partnership role in both the oversight and the implementation of OFA-1996 and subsequent editions of the plan with up to six seats on the Lake Champlain Steering Committee.

The new management plan assigned the oversight of the implementation work of the LCBP to the Lake Champlain Steering Committee and expanded that committee to include municipal representatives, non-governmental members, and several U.S. federal agencies, including those that provide funds to the LCBP. Since 1996, the Lake Champlain Steering Committee has set the policies of the LCBP and guided the expenditures of U.S. federal funding annually appropriated to the LCBP for plan implementation. The active involvement of Quebec on the Lake Champlain Steering Committee arises from its party status in the New York-Vermont-Quebec MOU, which was not signed by either U.S. or Canadian officials.

20. *Id.*

21. LAKE CHAMPLAIN MGMT. CONFERENCE, *supra* note 5.

OFA-1996 provided for the Lake Champlain Basin Program to be a multi-partner, watershed-based, non-regulatory, collaborative stewardship effort. The plan recognized three highest-priorities action areas and included specific task descriptions to accomplish each:

- Reduce phosphorus in targeted watersheds of the lake. Based on phosphorus loading information for tributaries and concentrations in thirteen lake segments, the plan called for major point source and nonpoint source load reductions.
- Prevent and control persistent toxic contaminants found lake-wide or in localized areas of the lake. This action area was primarily concerned with mercury and polychlorinated biphenyls (“PCB”) contamination and both ecosystem impact and human health protection.
- Develop and implement a comprehensive management program for nuisance non-native aquatic species. This program aimed to stop both the invasion and spread of nuisance non-native aquatic species and included efforts such as sea lamprey control and water chestnut harvesting.

OFA-1996 also accorded high priorities to other pressing management concerns, with chapters addressing water quality and the health of the lake, living natural resources, recreation and cultural resources, and a written strategy for plan implementation.

B. Opportunities for Action: 2003

The management plan was intended to evolve to reflect changing stewardship needs. It was extensively revised in April of 2003, and signed by the Governors of New York and Vermont and the Regional Directors of the EPA Regions I and II. The new plan (OFA-2003) was published in hardcopy in English²² and in French.²³ Although the Premier of Quebec did not sign the document, it does contain a letter from the Premier pledging support for the implementation of the plan.

OFA-2003 retained the three highest priorities of OFA-1996, and added a fourth:

- Minimize the risks to humans from water-related health hazards in the Lake Champlain Basin. The objectives under

22. *Id.*

23. LAKE CHAMPLAIN BASIN PROGRAM, PERSPECTIVES D’ACTION: UN PLAN PROGRESSIF POUR L’AVENIR DU BASSIN DU LAC CHAMPLAIN (2003), <http://www.mddelcc.gouv.qc.ca/eau/bassinversant/bassins/missisquoi/champlain.pdf> [<https://perma.cc/VZT3-96F2>].

this priority were focused on pathogens and closed beaches, drinking-water quality, health risks from blue-green algae blooms, and the danger of consumption of mercury contaminated fish.

The U.S. Congress established the Champlain Valley National Heritage Partnership (“CVNHP”) in 2006. This national heritage area was designated to recognize the importance of the historical, cultural, and recreational resources of the Champlain Valley; to preserve, protect, and interpret those resources; to enhance the tourism economy; and to encourage partnerships among state, provincial, and local governments and nonprofit organizations in New York, Vermont, and Quebec to carry out the purposes of the legislation. It is uncommon for U.S. federal legislation to include specific recognition of the importance of collaboration of management with interests in another country. However, the CVNHP authorization did reference the importance of cross-boundary coordination with resource managers in Quebec, Canada and it designated the LCBP to be the management entity for the new National Heritage Area.

Most of the CVNHP is located within the Lake Champlain Basin; however, the partnership area also includes Bennington, Vermont and Saratoga, New York counties—areas outside the basin to the south. A three-year CVNHP management plan development process resulted in its approval by the U.S. Secretary of the Interior in 2010, as required by the congressional authorization. The CVNHP Management Plan addresses three approved themes: the making of nations; corridor of commerce; and a culture of conservation. The strategic issues associated with these three themes—the goals, objectives, and actions of the CVNHP management plan—were then included as a chapter in the new online OFA-2010.

C. Opportunities for Action: 2010

The most recent revision of OFA occurred in November of 2010 and included a major overhaul of plan structure and content.²⁴ The increase in frequency and severity of blue-green algae blooms in the northern part of Lake Champlain since the plan’s first edition resulted in a surge of public concern about both the condition of the lake and the inadequacy of efforts to improve water quality. OFA-2010 was designed to be highly responsive to the growing public need for transparency and communication about public sector follow-through in implementing key management actions.

24. LAKE CHAMPLAIN BASIN PROGRAM, LAKE CHAMPLAIN OPPORTUNITIES FOR ACTION MANAGEMENT PLAN (2010), <http://plan.lcbp.org/> [<https://perma.cc/7K5A-NZJW>].

OFA-2010 identifies eight goals to protect and restore the ecological and cultural resources of the Basin while maintaining a vital regional economy. Based on comments from citizens and other stakeholders at public meetings and on the recommendations of advisory committees, eight goals were designated the highest priorities of the plan:

- promote a better understanding and appreciation of Lake Champlain Basin resources and threats and also personal responsibility that leads to behavioral changes and actions to reduce pollution;
- reduce phosphorus inputs to Lake Champlain to promote a healthy and diverse ecosystem and provide for sustainable human use and enjoyment of the lake;
- reduce contaminants that pose a risk to public health and the Lake Champlain ecosystem;
- maintain a resilient and diverse community of fish, wildlife, and plants in the Lake Champlain Basin;
- prevent the introduction, limit the spread, and control the impact of non-native aquatic invasive species in order to preserve the integrity of the Lake Champlain ecosystem;
- identify potential changes in climate and develop appropriate adaptation strategies to minimize adverse impacts on Lake Champlain's ecosystem and natural, heritage, and socioeconomic resources;
- promote new discoveries of the history, culture, and special resources of the Champlain Valley National Heritage Partnership and make this information accessible to all; and
- promote healthy and diverse economic activity and sustainable development principles within the Lake Champlain Basin while improving water quality and conserving the natural and cultural heritage resources on which the regional economy is based.

In an effort to provide information and transparency, the plan was published in an online database format that allows the public to review which government or management entity has committed to achieving each listed task and to observe updated progress reports (including lack of progress in some cases).²⁵ This approach was novel and has been met with mixed success and failure. A review of the task status does provide the reader with a clear understanding of the status of task implementation, with notes about how progress is being achieved. However, agency resources

25. *Id.*

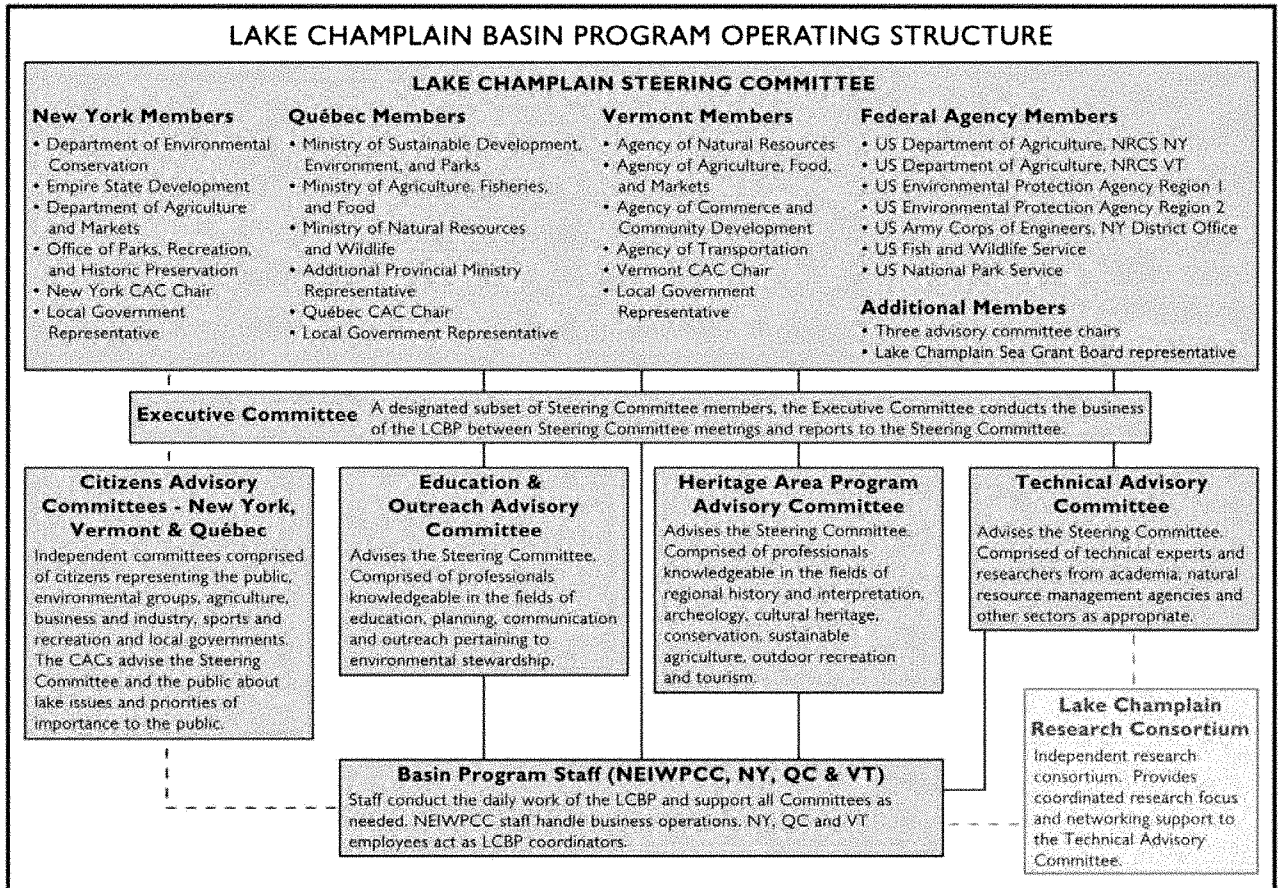
and commitments changed through the years of implementation and reporting discipline faltered during that period. The plan also is available online as a PDF document,²⁶ but was not published in hardcopy.

D. Lake Champlain Basin Program Governance Refined

From 1996 to 1998 the governance of the LCBP was accomplished solely by the Steering Committee in the course of its usual four meetings each year. The leadership protocol provides that the Steering Committee meet in rotation in each jurisdiction: New York, Quebec, Vermont, and so forth. Each Steering Committee meeting is chaired by the lead environmental officer for the host jurisdiction, and the meeting protocols of the host jurisdiction are applicable. However, as the level of U.S. federal funding for LCBP programs was increasing through the years, the number of decisions on grant and contract awards correspondingly increased and the Steering Committee found its agenda dominated by award decisions rather than policy collaborations. Moreover, a sense developed that the LCBP operations would benefit from more consistent leadership than was provided by the rotation of Steering Committee meetings and chairs.

In 1998, the Steering Committee established an Executive Committee drawn from its members to handle the increased work load. The Executive Committee would be chaired, in rotation of two-year terms, by the lead environmental officer from New York, EPA Region I, and Vermont. The length of the chair's term provides two-year periods of continuity in leadership for the LCBP. The Executive Committee is charged by the Steering Committee and conducts its work between Steering Committee meetings.

26. LAKE CHAMPLAIN STEERING COMM., OPPORTUNITIES FOR ACTION: AN EVOLVING PLAN FOR THE FUTURE OF THE LAKE CHAMPLAIN BASIN (2010), <http://www.lcbp.org/wp-content/uploads/2013/03/OpportunitiesForAction2010.pdf> [<https://perma.cc/29ZU-7ADN>].



III. THE PLAN IMPLEMENTATION ROLE OF THE LCBP

A. Background

In the quarter century since the LCBP was established, its role has been to bring jurisdictional partners from the states of New York and Vermont and Quebec together with numerous U.S. federal agencies to coordinate the multi-jurisdictional management of Lake Champlain and its entire watershed.

In practice, the Lake Champlain Steering Committee meets regularly about four times annually and the Executive Committee meets about five times each year. Committee members have developed a comfortable practice of working together, recognizing common issues, and managing resources to address them. This working history of many individual

members over the course of years (for example, to prioritize tasks and allocate financial resources) has resulted in an important level of professional respect and personal trust at a member-to-member level. This familiarity and trust has been especially helpful in the dialogue required to address challenging problems.

B. Financial Support

The research, monitoring, outreach, and pollution prevention tasks regularly undertaken by the LCBP include all parts of the Lake Champlain Basin. In the U.S. sector of the basin, federal funding has supported this work primarily through annual appropriations to EPA (since the inception of the program), the National Park Service (“NPS”), and the Department of Agriculture’s Natural Resource Conservation Service. Since 2010, the International Great Lakes Fishery Commission (“GLFC”) also provided significant support for tasks performed by the LCBP. The International Joint Commission (“IJC”) has supported LCBP tasks supported by federal appropriations from the State Department and, to a much lesser degree, Canada’s Foreign Affairs office. Since the 1988 MOU, Quebec has provided resources through its Ministry of Environment for management plan tasks implemented in Quebec. The Province maintains close collaboration and cooperation with LCBP partners south of the international border, but funds its own work. LCBP tasks, when funds appropriated for international use are available, are located in Quebec.

Every successful watershed initiative funded with U.S. federal resources relies on a congressional champion to support funding authorizations and to shepherd federal appropriations through the annual budgeting process. Vermont’s U.S. Senator Patrick Leahy, regularly a member of the Senate Appropriations Committee and at times Chair of the Senate Judiciary Committee, has provided focused and consistent support for the LCBP, beginning with his sponsorship of the Special Designation Act in 1990 and through annual appropriations in every year since. Vermont’s late U.S. Senator Jim Jeffords, former Chair of the Senate Committee on Environment and Public Works, took an active role in the reauthorization of the program in the Daniel Patrick Moynihan Lake Champlain Basin Program Act of 2002, honoring the late New York Senator Moynihan. The federal congressional delegations of Vermont and New York, comprised of four senators and two to three congressional representatives, regularly work as a non-partisan caucus to maintain the funding that allows the LCBP to thrive.

1. United States Environmental Protection Agency Support

EPA regularly enters into grant agreements with NEIWPC, New York, and Vermont to implement tasks according to a single coordinated LCBP work plan approved by the Lake Champlain Steering Committee. Most tasks are implemented by LCBP staff who, as NEIWPC employees, provide task management and continuity through annual budget cycles and who coordinate the advisory committees and procedures involved in annual operations. The states of New York and Vermont each enter into grant agreements with EPA to manage implementation tasks that may be more efficiently accomplished by state personnel. Both states maintain Lake Champlain Coordinators, with LCBP funding, who ensure that implementation managed by the states reflects the intentions of the Lake Champlain Steering Committee.

2. Great Lakes Fishery Commission Support

In 2010, following an increase in U.S. federal funding (up to \$10 million) provided to GLFC and intended to support expanded work in Lake Champlain, a MOU was endorsed by GLFC, NEIWPC, and FWS, entailing a commitment of cooperation and coordination on native species, habitat restoration, and water quality improvements in the basin.²⁷ The MOU recognized that the Great Lakes and Lake Champlain share many natural resource characteristics and management challenges, including many of the same native species, economically important species, and aquatic habitat characteristics. The MOU pledged sharing of expertise, funding, and human resources to benefit fish and wildlife resources and water quality in the Great Lakes and Lake Champlain. This MOU has guided the sharing of annual U.S. federal appropriations made to the GLFC with the LCBP and the FWS.

3. National Park Service Support

Cultural heritage tasks implemented by the LCBP, in its role as management entity of the Champlain Valley National Heritage Partnership in the U.S. sector of the basin, are funded by federal appropriations to NPS and through other federally funded agencies and commissions. U.S. federal

27. Memorandum of Understanding between the Great Lakes Fishery Commission, the New England Interstate Water Pollution Control Commission, and U.S. Fish and Wildlife Service, for Cooperation and Coordination on Native Species and Habitat Restoration and Water Quality Improvements in the Lake Champlain Basin (July 26, 2010).

appropriations reflect both the executive branch priority and congressional commitments in targeted earmarks through 2010 and in fluctuating programmatic support through budget lines in subsequent years.

4. Quebec Support

Quebec provides direct financial support for ministerial oversight of Lake Champlain in the Quebec sector of the basin. Although these funds are not budgeted by the LCBP in the manner that is applied to U.S. federal funds, Quebec regularly provides staff support, project funding, and local organizational and municipal support to implement aspects of OFA that apply to the Quebec sector of the watershed. Many of the tasks implemented by Quebec are embedded in the five-year management plans regularly prepared and updated by the Ministry of Environment, Sustainable Development and Adaptation to Climate Change to provide operational guidance in the stewardship of Lake Champlain.

IV. WORKING COLLABORATIONS AND PARTNERSHIPS

A. Long-Term Monitoring Project

Since it was established in 1991, the LCBP has developed and maintained a robust long-term monitoring data set, characterizing nutrient concentrations in fifteen lake locations, and concentrations and load at the lower reaches of eighteen tributary streams, along with a broad array of other physical chemical and biological parameters at each location. The Long-Term Monitoring Project is probably the single most important collaborative success through the quarter century of LCBP activities. Through this program, monitoring data are acquired at fifteen fixed sample locations and at the mouths of eighteen tributaries, in accord with a single common annual LCBP work plan developed by all parties through their participation on the TAC. Both LCBP and EPA approve the Quality Assurance Project Plan (“QAAP”) and work plan for the U.S. sector activities annually.²⁸ To ensure continuity and constancy, LCBP provides funds to the governments of both Vermont and New York for staff support for this project, assigns direct LCBP staff support, and provides a sampling

28. VT. DEP'T OF ENVTL. CONSERVATION WATERSHED MGMT. DIV. & N.Y. STATE DEP'T OF ENVTL. CONSERVATION DIV. OF WATER, QUALITY ASSURANCE PROJECT PLAN FOR THE LAKE CHAMPLAIN LONG-TERM WATER QUALITY AND BIOLOGICAL MONITORING PROJECT 1 (2015).

boat in Vermont, sample equipment, supplies, and reimbursal of laboratory expenses.

Quebec participates directly in the work plan and QAAP development for the Long-Term Monitoring Project and funds and implements tributary sampling north of the international border, following the same criteria and sample parameters and using identical laboratory equipment and analysis protocols. Due to the special interest of Vermont and Quebec for quality assurance of sampling and analysis in the shared Missisquoi Bay watershed, which both jurisdictions sample, an exchange of split samples and reciprocal analysis is regularly practiced. Both Quebec and the U.S. Geological Survey have installed and maintain stream gauging stations so that tributary discharge and nutrient concentration data may be used to calculate tributary load. Numerous other physical, biological, and chemical parameters (such as plankton populations and diversity, surface water temperature, and water clarity) are sampled throughout the soft water season (ice-free) and entered into a comprehensive database that is available to researchers, managers, regulators, and the public.

The long run of monitoring data pertaining to nutrient concentrations, most recently interpreted by LCBP in the State of the Lake 2015 report,²⁹ has provided a sound basis for Lake Champlain phosphorus Total Maximum Daily Load (“TMDL”) calculations.³⁰ In an operational extension of the LCBP’s familiarity with the technical issues and objective perspective on the challenges of achieving water quality standards, staff have facilitated numerous public informational meetings, on behalf of Vermont and EPA, through the course of the revision of the Vermont-Lake Champlain Phosphorus TMDL to be finalized by EPA in 2016.

B. Special Projects

Eighty-one published LCBP Technical Reports present the results of research that has targeted critical management questions.³¹ In the initial plan formulation period (from 1991 to 1996), a number of demonstration projects were completed, providing essential information on the efficacy

29. LAKE CHAMPLAIN BASIN PROGRAM, 2015 STATE OF THE LAKE AND ECOSYSTEM INDICATORS REPORT (2015), http://sol.lcbp.org/images/State-of-the-Lake_2015.pdf [<https://perma.cc/ZMU4-RCQC>].

30. U.S. ENVTL. PROT. AGENCY, PHOSPHORUS TMDLS FOR VERMONT SEGMENTS OF LAKE CHAMPLAIN (Aug. 14, 2015), <http://winooskinrcd.org/wp-content/uploads/phosphorus-tmdls-vermont-segments-lake-champlain.pdf> [<https://perma.cc/6BZG-KR2Q>].

31. See *Technical Reports*, LAKE CHAMPLAIN BASIN PROGRAM, <http://www.lcbp.org/media-center/publications-library/technical-reports/> [<https://perma.cc/SGE7-2ADM>] (last visited Mar. 26, 2016) (giving a list of all the completed reports).

and cost of management practices, leading to ten published Demonstration Project Reports.³² The LCBP local grants program is particularly effective in implementing the priorities of OFA through direct support to communities and organizations to prevent pollution, halt the spread of invasive species, prevent or mitigate toxic or pathogenic contamination, or to promote and deliver education and outreach materials in the watershed. By winter of 2015, LCBP made over 1,000 local grant awards to provide more than \$7 million in small awards to improve conditions in Lake Champlain. The larger of these awards have resulted in completion reports that are included in the LCBP grants database.³³

Many of the research projects chosen for funding by the LCBP have provided essential insight for lake resource managers and policy leaders at state, provincial, and U.S. federal levels. As one example, the Cumberland Bay PCB Study³⁴ reported on the transport and fate of PCB contamination within Cumberland Bay, New York and estimated the PCB flux from the bay to the main lake. PCBs are persistent industrial chemicals found worldwide that are suspected to cause cancer. Like mercury, they accumulate in larger predatory fish.³⁵ The resulting report triggered action on the part of the New York State Department of Environmental Conservation to initiate a remediation and brought the adjacent Georgia Pacific paper mill to provide significant funds to the task.³⁶ “The two-year \$35 million cleanup of Cumberland Bay, New York, completed in 2001 by the NY State Department of Environmental Conservation [], removed PCB-laden sediments that had been left in the bay from industrial discharges.”³⁷ On March 27, 2013, Cumberland Bay was removed from the New York

32. *Id.*

33. *LCBP Grants Map*, LAKE CHAMPLAIN BASIN PROGRAM, <http://www.lcbp.org/about-us/grants-rfps/grants-database/lcbp-grants-map-2/> [<https://perma.cc/B2ZW-TJ2A>] (last visited Apr. 1, 2016).

34. CLIFF CALLIHAN ET AL., CUMBERLAND BAY PCB STUDY 1 (1998), http://www.lcbp.org/wp-content/uploads/2013/03/27_Cumberland_Bay_PCB_Study_1998.pdf [<https://perma.cc/HPL3-Q8TN>].

35. LAKE CHAMPLAIN BASIN PROGRAM, STATE OF THE LAKE: LAKE CHAMPLAIN IN 2005—A SNAPSHOT FOR CITIZENS 7 (2015), http://www.lcbp.org/wp-content/uploads/2013/03/sol_web.pdf [<https://perma.cc/Q336-PFZX>].

36. *See* CITY OF PLATTSBURG LOCAL WATERFRONT REVITALIZATION PROGRAM, CITY OF PLATTSBURG LOCAL WATERFRONT REVITALIZATION PROGRAM 17, 43 (2010), <http://www.cityofplattsburgh-ny.gov/DocumentCenter/View/157> [<https://perma.cc/4732-GVHP>] (discussing PCB contamination adjacent to the Georgia Pacific site and past and continuing mitigation efforts in the area).

37. STATE OF THE LAKE: LAKE CHAMPLAIN IN 2005, *supra* note 35.

State Toxic Superfund Site list as it no longer presented a public hazard due to PCB contamination.³⁸

Mimeault and Manley describe the cooperative efforts of Quebec and Vermont in forming the Missisquoi Bay Phosphorus Reduction Task Force in 1997 and charging it to assess phosphorus load in their respective jurisdictions.³⁹ LCBP provided facilitation and recording of minutes for the Task Force meetings as it developed a proposal for an equitable division of responsibilities for the nutrient problems in the bay. The Task Force recommended an allocation of responsibility for phosphorus loading of Missisquoi Bay at sixty percent Vermont and forty percent Quebec based on the best information then available. Continued work by the Task Force led to a landmark agreement between Quebec and Vermont codifying the apportionment of phosphorus reduction commitments made by each jurisdiction. This agreement has provided the jurisdictional goals for public and private investments to reduce phosphorus pollution in the Missisquoi Bay watershed ever since.⁴⁰

C. Lake Champlain Basin Program Projects on the Ground

The LCBP annual budget and work plans implement Lake Champlain research, monitoring, education, and stewardship tasks prioritized in OFA that other jurisdictional partners find more difficult to achieve. The LCBP office is located in an island community in the north central part of Lake Champlain at the Gordon Center House in Grand Isle, Vermont. LCBP staff guide and oversee LCBP-funded plan implementation tasks.

From 1998 to 2015, five State of the Lake reports have presented objective analyses and interpretations of the evolving condition of Lake Champlain and its watershed. The reports focus on nutrient status, phosphorus load from point sources and nonpoint sources, aquatic invasive species, toxins, human health risks, recreational opportunities, public access, and heritage resources of special interest.⁴¹

The 2010 MOU among New York, Vermont, and Quebec mandates an LCBP State of the Lake report at three-year intervals. The 2015 edition of

38. *Cumberland Bay Removed from Superfund List*, LAKE CHAMPLAIN BASIN PROGRAM (Apr. 2, 2013), <http://www.lcbp.org/2013/04/cumberland-bay-removed-from-superfund-list/> [<https://perma.cc/39A7-VXB7>].

39. Martin Mimeault & Tom Manley, *Missisquoi Bay: An International Partnership Towards Restoration*, in LAKE CHAMPLAIN: PARTNERSHIPS AND RESEARCH IN THE NEW MILLENNIUM 1–6 (T. Manley et al. eds., 2004).

40. *Id.* at 6.

41. *State of the Lake*, LAKE CHAMPLAIN BASIN PROGRAM, <http://www.lcbp.org/media-center/publications-library/state-of-the-lake/> [<https://perma.cc/RR3Q-42QE>] (last visited Apr. 1, 2016).

the State of the Lake report⁴² is a thirty-four-page summary of the condition of Lake Champlain presented in a segment-by-segment format, with descriptions of trends, problems, and accomplishments. The key characteristic of the State of the Lake report is the presentation of an objective analysis of the best available information firmly based on monitoring data, peer reviewed science, and public records (for example, beach closures).

The State of the Lake reports are structured around frequently asked questions and aim to inform all demographics from policy-makers and funding agencies to resource managers, residents, visitors, and students. LCBP provides a conceptual meeting place for many jurisdictional partners, but the staff are not government employees and so answer to the multi-partner Lake Champlain Steering Committee as a whole. This relationship, together with the considerable reliance on the TAC, allows LCBP technical analyses, such as the presented in the State of the Lake reports, to be objectively based on contemporary science virtually unfiltered by agency policies from any jurisdiction. The institutional culture of LCBP places a high value on the independence and objectivity of the analyses presented in technical reports.

The flagship task of the LCBP is a vigorous competitive Local Implementation Grants program. From 1992 to 2015, the LCBP awarded more than 1,000 small grants to support stewardship activities at the local level. In 2015, the Local Implementation Grants budget exceeded \$1.1 million dollars. These local grants enable people in a community to address problems that they know best, achieving solutions that benefit from local relationships and often leverage substantial matching in-kind resources.

LCBP staff work closely with community organizations over the span of decades, assisting their development (Organizations Support Grants), supporting their education programs (Education Grants), and supporting the direct reduction of contaminants reaching the lake (Pollution Prevention Grants). The CVNHP also supports a vigorous local grants program with improved resource interpretation, conservation projects, and educational programs. The array of local grants awarded by the LCBP directly supports the essential work of a large number of organizations, resulting in a practice of collaboration and partnership that produces a strong sense of community among LCBP staff and many stewardship organization leaders.⁴³

42. 2015 STATE OF THE LAKE AND ECOSYSTEM INDICATORS REPORT, *supra* note 29.

43. See *Grants Database*, LAKE CHAMPLAIN BASIN PROGRAM, <http://www.lcbp.org/about-us/grants-rfps/grants-database/> [https://perma.cc/J2EP-7BR8] (last visited Apr. 1, 2016) (giving a review of the full scope of the LCBP small grant project descriptions).

Focused scientific research and monitoring to answer specific resource management questions is a long tradition for LCBP and regularly yields results that inform jurisdictional policy makers and guides related management decisions. Research and monitoring projects, and related technical tasks, to reduce pollution or to enhance ecosystem integrity, may be proposed to the LCBP by any party in the LCBP annual budgeting process. Most research, monitoring, and technical proposals are developed by the TAC to address priorities in OFA, or in response to contemporary Steering Committee direction to advisory committees. Each fall, the TAC deliberates on numerous proposals, develops cost estimates, and prepares a prioritized ranking of all tasks, with commentary, for consideration by the Executive and Steering Committees which finalize the LCBP budget. Several technical tasks are regular features of the LCBP annual work plan. Examples include:

- Agricultural best management practice research tasks and implementation programs are regularly supported by LCBP in view of the importance of agricultural nonpoint source tributary loading. Phosphorus nonpoint source tributary load directly from overland agricultural surface runoff is approximately forty percent of the total load and a significant part of additional load entering tributaries from collapsing streambanks also comes from agricultural lands. LCBP research has examined the efficacy of best management practices through paired tests on a number of adjacent fields with and without certain management practices. Additional research is examining the impact of agricultural tiling on nutrient concentrations and load from tile outflows compared to fields without tile.
- Critical sources of phosphorus nonpoint source loading in the Missisquoi Bay watershed of the northern Lake Champlain Basin were mapped in an LCBP project with support from the IJC. LCBP worked with a community of agricultural and water quality experts to develop the specifications for the modeling effort so that the resulting product would include an interactive online map that shows the annual amounts of phosphorus expected to be lost to tributaries by the landscape. High resolution LiDAR micro-topographic data was acquired for much of the watershed in preparation for this project and a subcontracting engineering firm determined the likely phosphorus loss (not considering possible management

practices that might be in place) using the U.S. Department of Agriculture Soil and Water Assessment Tool.⁴⁴

- Awards of larger competitive Pollution Prevention and aquatic invasive species spread prevention grants by the LCBP normally number in the dozens annually. These awards tend to respond to immediate—sometimes urgent—needs in which prevention activities allow avoidance of pollution that would be costly to remediate or nuisance species invasions that would be impossible to contain. In recent years, LCBP has provided the landowner matching funds that enable more farms to install best management practices, with the U.S. Department of Agriculture’s Natural Resources Conservation Service support, to reduce nonpoint source nutrient loading. Other awards have addressed such areas as urban area stormwater management, illicit discharge detection, roadside ditches, and culvert capacities and the outcomes of the larger awards are described in ninety-one LCBP Technical and Demonstration Project Reports and made available online.⁴⁵
- Education and Outreach programs (and also hard copy and online publications) have been an enduring priority for the LCBP through public and schoolroom presentations throughout the basin, and both hard copy and online publications.
- The program operates and staffs the LCBP Resource Room located at ECHO, the science center and aquarium at the Leahy Center for Lake Champlain, to field questions that arise among ECHO visitors, resulting in direct interactions with over 250,000 visitors during the last decade. The room features exhibits, hands-on activities, computer stations, a library of Lake Champlain information, educator resources, and technical documents.
- The LCBP website is extensively developed and includes a significant array of resources about the LCBP and the lake, water and environmental issues, culture and recreation, education and publications, and personal involvement.⁴⁶

44. ERIC HOWE ET AL., MODELING EFFORTS AND IDENTIFICATION OF CRITICAL SOURCE AREAS OF PHOSPHORUS WITHIN THE VERMONT SECTOR OF THE MISSISQUOI BAY BASIN 6–7 (Dec. 2011), http://www.lcbp.org/wp-content/uploads/2013/07/63A_Missisquoi_CSA-3.pdf [<https://perma.cc/K9HY-NNT2>].

45. *Technical Reports*, *supra* note 31.

46. LAKE CHAMPLAIN BASIN PROGRAM, www.lcbp.org (last visited Mar. 19, 2016).

Special web resources include Casin' the Basin e-News, a quarterly newsletter of Lake Champlain interest sent to over 5,000 email contacts.⁴⁷

- The Lake Champlain Atlas presents maps and graphics that address frequently asked questions and interests expressed by the public.
- Watershed Matters provides professional development resources for curriculum development, and learning outside the classroom.
- Champlain Basin Education Initiative is a partnership of several regional environmental education organizations facilitated, staffed, and funded by the LCBP to provide professional and curriculum development through continuing education credit programs for teachers. The program produces a five-credit field course in partnership with St. Michael's College to increase teacher knowledge-base of Lake Champlain stewardship issues and natural history.
- LCBP offers dozens of classroom programs and organizational meeting presentations throughout the year. In recent years, at the request of federal and state agencies, LCBP staff have convened and facilitated numerous public informational meetings concerning the phosphorus TMDL regulatory process and various IJC projects concerning Lake Champlain.

CONCLUSION

The LCBP works cooperatively with many partners to protect and enhance the environmental integrity and the social and economic benefits of the Lake Champlain Basin. The program is well guided by the Lake Champlain Steering Committee, a board comprised of a broad spectrum of representatives of government agencies and the chairs of advisory groups, representing citizen lake users, scientists, and educators. During the past two decades, the LCBP has sponsored a great variety of projects to reduce pollution in the lake, educate and involve the public, and gather information about lake issues. The LCBP also has funded education, planning, demonstration, research, and monitoring projects to support the restoration and protection of water quality and the diverse natural and cultural resources of the Lake Champlain Basin.

47. *E-News*, LAKE CHAMPLAIN BASIN PROGRAM, <http://www.lcbp.org/category/e-news/> [<https://perma.cc/647P-YLJQ>] (last visited Apr. 1, 2016).

The convergent mandates of the MOU of 1988 and the Special Designation Act of Congress in 1990 serve Lake Champlain very well. The Lake Champlain Steering Committee directs the activities of the LCBP through a consensus-driven institutional culture of partnership and collaboration. Although many Steering Committee members are state, federal, or provincial authorities with regulatory responsibilities, the LCBP has evolved as an objective, non-regulatory influence to inform, enhance, and support the protection of water quality, the environment, and the related economic vitality of Lake Champlain and its basin in ways that none of the participating jurisdictions could accomplish working independently. Although it is a product of governmental actions, the multi-jurisdictional Steering Committee structure tends to isolate it from the political will of any individual partner; LCBP relies heavily on objective science to inform its work.

OFA-2010 establishes a plan for coordinated action by each jurisdiction and community in the Basin to restore and protect water quality and the diverse natural and cultural resources of the Lake Champlain Basin. It continues to incorporate by reference and intent numerous other more-specialized management plans, such as the TMDL implementation plans for impaired waters, the Aquatic Invasive Species Rapid Response Plan,⁴⁸ the CVNHP management plan, and the Toxic Chemical Management Strategy. In the years ahead, more widespread use of integrated permitting, ramping up of regulatory enforcement and compliance, increased tributary and subwatershed monitoring, enhanced transparency in public policy development, significantly improved public education about ecosystem issues, and personal responsibility offer hope of movement toward the third theme of the CVNHP: a Culture of Conservation. As congressional support for the management of Lake Champlain resources continues undiminished and the implementation tasks of OFA and related management plans are accomplished by many joint efforts and partnerships among natural resource agencies, citizens, and other Lake and watershed stakeholders, the future of Lake Champlain and its watershed are made more secure.

48. LAKE CHAMPLAIN BASIN PROGRAM AQUATIC NUISANCE SPECIES SUBCOMM., LAKE CHAMPLAIN BASIN RAPID RESPONSE ACTION PLAN FOR AQUATIC INVASIVE SPECIES (2009), <http://www.lcbp.org/wp-content/uploads/2012/08/2009-AIS-Rapid-Response-Plan.pdf> [<https://perma.cc/P7RQ-428P>].