

Lake Champlain Steering Committee Meeting

Tuesday & Wednesday, April 9-10, 2019

[Auberge Bromont](#), 95 Rue de Montmorency, Bromont, Quebec J2L 1K6

Draft Meeting Summary – Day 1: Tuesday April 9, 2019

9:15 AM **Auberge Bromont - Arrive, networking** (*coffee etc. provided*)

Daniel Leblanc (Chair; Ministry of Environment and the Fight Against Climate Change), Bob Stegemann (NYS Department of Environmental Conservation), Steve Garceau (Ministry of Fauna, Forests, and Parks), Andrew Milliken (US Fish and Wildlife Service), Craig Digiammarino (VT Agency of Transportation), Alyson Eastman (VT Agency of Agriculture), Mario Paula (EPA Region 2), Mel Cote (EPA Region 1), Renee Rouleau (MRC Haut-Richelieu), Brent Chamberlin (MRC Brome-Missisquoi), Laura Treischmann (VT Agency of Commerce and Community Development), Lori Fisher (VT CAC), Buzz Hoerr (Education & Outreach Advisory Committee), Pierre Leduc (Quebec CAC), John Krueger (Heritage Advisory Committee), Neil Kamman (Interim Chair Technical Advisory Cmte)

Staff: LCBP - Eric Howe, Matthew Vaughan, Lauren Jenness, Elizabeth Lee, Colleen Hickey, Meg Modley Gilbertson, Ellen Kujawa, Jim Brangan; Jane Ceraso (NEIWPCC), Susan Sullivan (NEIWPCC), Bethany Sargent (VT ANR Champlain Coordinator), Fred Dunlap (NYS DEC Champlain Coordinator, Phone), Stefanos Bitzikidis (QC MELCC Champlain Coordinator), Aisha Sexton-Sims (EPA R2), MaryJo Feuerbach (EPA R1), Bryan Dore (EPA R1)

Guests: Guy Paquin, Festifolies en Armandie, Haley Pero (Sen. Sanders), Thea Wurzburg (Cong. Welch), Tom Berry (Sen. Leahy), Koon Tang (NYS DEC)

10:00 **Meeting Begins** *Daniel Leblanc, Chair*

- Welcome and Introductions
- Draft Meeting Agenda review

ACTION ITEM: Motion to approve the December 2018 Steering Committee meeting minutes
Motion approve: Buzz Hoerr motioned to approve. John Krueger provided the second on the motion.

Discussion: none.

Vote: All in favor.

Abstained: Alyson Eastman.

10:05 **Public Comments** – None offered.

10:15 **Presentations from partners** –

Guy Paquin, Festifolies en Armandie - The Loyalists Trail Project. Loyalists were about to be expelled from US, and arrived in Philipsburg. These people transformed the region when they moved here. The *Festifolies en Armandie* used their CVNHP Making of Nations grant to develop and install wayside exhibits in the Philipsburgh area to interpret the history of the Loyalists Trail.

Andrew Milliken, USFWS - International Year of the Salmon. Andrew provided an overview of the history of landlocked Atlantic salmon in the Lake Champlain watershed, including their introduction when the Champlain Sea connected what is now Lake Champlain to the Atlantic Ocean and subsequently was cut off by glacial rebound, their historical abundance in the lake and tributaries, their extirpation due to dams and other factors in the mid-1800s and restoration efforts for this species that have been underway since the 1970s. USFWS and partners have been conducting research on Atlantic salmon in Lake Champlain to help

inform management decisions. Recent dam removals, including on the Boquet River in Willsboro, NY have demonstrated successful upstream migration past these historical barriers and successful spawning in historical spawning grounds. 2019 is being celebrated around the world as the International Year of the Salmon, and events have been scheduled around the Lake to recognize and promote this celebration. The LCBP/CVNHP staff worked with USFWS and partners to develop a series of portable interpretive exhibits for these events. The Lake Champlain Maritime Museum will be sending the *Lois McClure* on a voyage around the lake this summer to promote the International Year of the Salmon. Andrew also acknowledged USFWS Fisheries Biologist Dr. Bill Ardren, who was awarded the USFWS Rachel Carson award to recognize his work to restore Atlantic salmon in the Champlain basin.

10:30

Brief Jurisdictional Updates *(NY, QC, VT, US Fed Partners)*

Bethany Sargent (for Julie Moore, VT ANR): Bethany reviewed the VT ANR handout (attached to this meeting summary). Bethany added that the US Army Corps Section 542 project to address phosphorus mitigation in St. Albans Bay was recently signed and will be moving forward soon. Governor Scott offered the legislature a proposal to address long-term funding for Lake Champlain using a diversion of funds from the estate tax, and others. This would raise approximately \$16 million. The Legislature is considering this today. There still would need to be an additional \$8 million to raise to reach the goal of \$25 million annually in VT Government. Tom Berry recognized and thanked Matt Cosby at USACE for working to re-start the 542 program.

Bob Stegemann (NYS DEC): Bob reviewed the NYS DEC handout attached to this meeting summary. Bob was excited to see the salmon interpretive panels and would like to talk with Andrew Milliken and Jim Brangan to schedule stops for the exhibits. Lori asked about the NY Governor's HAB initiative started last year and whether funding was moving forward. Bob responded that Champlain was not selected for funding, although Lake George was, among other lakes across NY.

Daniel Leblanc (QC MELCC): Daniel reviewed the QC MELCC handout attached to this meeting summary. Daniel highlighted the goal of the new wetland protection efforts, which is no new net loss of wetlands in Quebec. Daniel added that the Quebec-Vermont MOU discussion is moving forward and he will be talking with Julie to discuss this over the next few days. Daniel concluded by formally announcing his retirement in the next month. He will be continuing his role on the IJC Study Board. He has enjoyed working with the Steering Committee over the past 14 years.

Mel Cote (US EPA R1): Mel reviewed the US EPA R1 handout attached to this meeting summary.

Mario Paula (US EPA R2): Mario noted that Region 2 is going through an organizational restructuring, but should not affect LCBP. Mario reviewed the VIDA act that was passed in US Congress last year. Section 903 of the VIDA act establishes a Great Lakes and Champlain aquatic invasive species initiative to address this concern in these watersheds. Mario noted that no funds of the possible \$50 million were appropriated in FY19 but is hopeful that this program will receive funding in FY20. Mario has been coordinating with GLNPO and LCBP to identify on-the-ground programs for AIS control and prevention in these regions. They are going to develop a report to summarize these efforts to highlight the need for additional funding through the VIDA. Pierre asked about a Canadian involvement in this program. The Act does include a ballast water component, which could have Canadian involvement.

Matt Cosby (US Army Corps of Engineers): 21 March 2019, USACE and LCBP hosted a Workshop on the Section 542 Program to accompany an Invitation for Letters of Request. The Workshop included 6 organizations including the city of St. Albans who is interested in stormwater design projects. The team was able to review approximately 9 new potential projects which included items like a thermally impaired stream, wetland conservation, additional phosphorous reduction, green schools, invasive species risk assessment, and Stormwater improvements. To date we have not received any formal Letters of Interest, but we are actively engaging with the prospective partners and look forward to receiving them.

11:00 Legislative Updates

Haley Pero (Senator Sanders) – Haley noted that Senator Sanders has been working on Champlain issues through his position on the Budget committee. Congress passed a Lands and Water Conservation Fund bill that included Scenic Waters. Senator Sanders introduced through the Waters act, which focused on water infrastructure, including drinking and wastewater, with emphasis on disadvantaged households. He also is on the energy committee and effects on water from this perspective.

Tom Berry (Senator Leahy) – the 2018 Farm Bill was passed in December. This was very strong on conservation programs including EQIP. This is the largest single appropriation for work in the Champlain basin at \$20 million annually. The FY19 appropriations bills were passed in February 2019. EPA Section 120 for the LCBP was funded at \$11 million with a set aside of \$6.6 million for 2016 TMDL implementation. The Great Lakes Fishery Commission was funded at \$7 million for Lake Champlain work, with an additional \$250,000 appropriation for fisheries work on Lake Memphremagog. The USFWS was funded at \$500,000 for sea lamprey control in Lake Champlain, and the IJC received another \$1 million for their flood study in the Champlain-Richelieu River. The Vessel Incidental Discharge Act (VIDA) was authorized with no appropriation in FY19, largely due to the late date in the last Congress in which this Act was passed. The CVNHP will be level funded in FY19. Senator Leahy is in the process of queuing programs for funding in FY20. Andrew Bahrenburgh is a new legislative staff person in Senator Leahy's office in DC office working on environmental issues, including Lake Champlain.

Thea Wurzburg (Congressman Welch) – Thea noted that the House appropriations request for LCBP through Section 120 of the Clean Water Act is for FY19-level funding at \$11 million, the VIDA request is for \$50 million, and a bump to the GLFC for \$10 million for Lake Champlain. Congressman Welch also signed a request for Harmful Algal Bloom funding nationwide.

11:10 Advisory Committee Updates (2 min each)

Citizen's Advisory Committees:

Pierre Leduc, QC CAC: Pierre reviewed the handout circulated at the meeting. The OBVBM annual meeting will be on June 20 in Notre-Dame de Stanbridge. Steve Garceau added that MFFP is working with OBVBM and the IJC to identify fish spawning grounds along the tributaries to Missisquoi Bay. Pierre also highlighted the May 8 IJC workshop for the water quality reference that will be held in Colchester, VT.

Fred Dunlap, NY CAC: Fred reviewed the handout circulated at the meeting.

Lori Fisher, VT CAC: The Vermont CAC has a requirement in their Statute to provide an annual priorities report. This Action plan was circulated at the table. The CAC is trying to do more work on outreach and will be holding an information session on recreation in early summer. The CAC is also interested in holding a forum on agriculture and water quality in the fall. New membership appointments are in consideration by the Governor.

Neil Kamman, Technical Advisory Committee: The TAC worked through their FY19 Technical RFPP process. Neil highlighted a report from Stone Environmental on tile drain monitoring. This is very groundbreaking information regarding the amount of total and dissolved phosphorus coming out of tile systems. Neil recognized Matt's work on the tributary analysis from LTMP data. Perry Thomas from VT DEC spoke to TAC about the Lake Carmi aeration project at the April meeting. Matt recognized Ellen for her work with NEIWPCC staff in Lowell and OBVBM to move the IJC water quality project forward. TAC also received updates on the Champlain Canal barrier study and the Boat Launch Steward program. TAC had a good discussion on the FY19 technical budget process, and will review this discussion with Steering Committee in June. Finally, TAC heard from Mike Kelly at IBM who is working on the Jefferson Project on Lake George to model nutrient cycling in that watershed. Matt reviewed additional items listed in the TAC handout.

Buzz Hoerr, Education and Outreach – The E&O committee is continuing work on the Healthy Soils initiative and the goal is to address residential and commercial entities to Raise the Blade of their lawnmowers to 3 inches or greater. We gave out hundreds of Raise the Blade lawn signs. The Champlain Basin Education Initiative is funded every other year by LCBP for a teacher training collaborative and there is a small crew in this cohort (6 teachers). Lori noted that we are leveraging teacher resources and we are doing an additional stormwater assessment programs at schools with CBEI teachers.

John Krueger, Heritage Area Advisory Committee – John deferred to the written handout for HAPAC. John shared a story about Commodore Macdonough's ship, that was constructed in Vergennes during the War of 1812, and the battle of Plattsburgh against the British fleet.

11:25 Director's Report – LCBP staff

June 6th is the next Steering Committee meeting in VT. That agenda will focus on initial FY20 discussions and grant updates. The next 12-month meeting schedule has been circulated. NALMS will be hosted by LCBP and VTDEC the week of November 11th, 2019. Matthew Vaughan is working on establishing a NY-focused Lake Champlain Basin Dam Task Force. LCBP takes a trip down to DC annually and Meg and Jim joined Eric to share the work in the basin with LC delegation. They brought flyers that highlight Lake Champlain watershed work, a GLFC-funding flyer that covers all Lake Champlain work, a CVNHP flyer, and concept ideas for Chambly Canal barrier feasibility study and Lake Champlain contaminant monitoring program. The FY18 Annual Report summary and full report at each of your seats. This report covers work that spanned October 1st, 2017 - September 30th 2018 and summarizes all of the grants and programs that are supported with LCBP funding. We will hear a report from the staff later in this agenda that highlights the work within.

11:45 NEIWPCC Annual Update to the Steering Committee, Susan Sullivan, Executive Director

Susan reviewed the NEIWPCC mission, including NEIWPCC commissioners who serve on the NEIWPCC Executive Committee. There are currently 2 vacancies for NY seats and one vacancy for a Vermont seat on the NEIWPCC Executive Committee. Susan reviewed NEIWPCC's Strategic Plan SWOT analysis, mission, vision, and core values. NEIWPCC is considering a branding change to make NEIWPCC more recognizable across the region. Susan reviewed NEIWPCC's role for LCBP and the Lake Champlain Steering Committee, and presented her position for NEIWPCC to have a voting membership on the Steering

Committee. Susan reviewed NEIWPCC's five-year financial forecast for LCBP, which is in good shape.

Susan explained that NEIWPCC's administrative costs have doubled because the LCBP budget has doubled. The NEIWPCC portion of the LCBP budget is split based on personnel and the indirect budget, per NEIWPCC's approved indirect policy. Indirect is charged to projects and most other expenses under \$100,000 and not to projects over \$100,000. In addition, the uniform grant guidance requirements keep changing and we have to put in more time into the grant reporting requirements. NEIWPCC has increased the amount budgeted for accounting personnel at NEIWPCC due to these additional requirements.

12:15 **LUNCH** (*Provided*) – *Auberge Bromont*

1:15 **FY18 LCBP Annual Report presentations:** *Informed and Involved Public*
Colleen Hickey highlighted several projects in the Informed and Involved Public section of the LCBP Annual report.

1:30 **FY19 LCBP Draft Budget Task Introduction** *LCBP Staff*

- Review of Education and Outreach proposed FY19 budget – Colleen – Ryan sends out two requests for proposals that are brought before the committee for review. We will convert to the pre-proposal process like TAC and CVNHP next year.

Discussion:

Buzz and Pierre mentioned that the boat launch stewards are much more than AIS focused. They answer questions about water quality and many other topics. The education and outreach stewards will focus more broadly on watershed issues, and will be attending and tabling at events around the basin.

Partners submit project proposals and the E&O committee reviews them, ranks them and presents them to the Steering Committee. Reviewers are selected so they can address and assess the project content.

Director's Report, continued:

- *Lake Champlain Steering Committee Roles and Responsibilities*
Eric reviewed some revision suggestions. The Quebec Ministry of Environment has changed their formal name, and this needs to be updated. Also, we need to discuss the "non-governmental" eligibility of the chairs of the Advisory Committees. Eric asked the Committee members to consider striking "non – governmental" from the Guiding Principles document that serves as Appendix A to *Opportunities for Action 2017*. We have had difficulty finding qualified individuals who do not work for a government organization and have the flexibility within their job descriptions to dedicate the amount of time required to Chair the Technical Advisory Committee as well as participate at the Executive and Steering Committee levels. TAC works really hard and meets monthly for 6 hours or more and some of our governmental partners have the flexibility and expertise to serve in these roles. The LCBP has had an informal the policy that the Chairs of our Advisory Committees should not work for a government agency because they could have biased positions. Eric noted that this bias (perceived or real) might be present for any organization represented by the individual serving in the Chair role. Andrew Milliken agreed that whoever it is serving as Chair has the potential for a bias so they have to be careful about recusing themselves.

ACTION ITEM: John Krueger moved to update the LCBP Guiding Principles for Program Management and to include that the “Steering Committee will carefully consider individuals for chair positions to ensure impartial representation” and updating the Quebec Ministry of Environment name, second by Julie Moore. Tom Berry offered a point of discussion: We need to keep our radar up because there are lots of Conflicts of Interest. We have had cases when the chair of the TAC or another committee might also align with the chair of the SC and we need to be extremely aware and careful about this. Lori Fisher also supports this change but LCBP staff and the Steering Committee need to be responsible for ensuring that the individual is speaking on behalf of the Committee they Chair, not their employer. It is important to have those voices and we have to think about this and ensure it is an equal opportunity for all partners. We don’t just want these positions filled by governmental organizations. There are creative ways to bring in other members to the committees. Maybe a sentence that suggests that for LCBP to operate most effectively we need to make assurances that Conflicts of Interest are fairly represented in the leadership. This could be overkill but might be good to state. Pierre noted that he is hearing that we want government employees to be an exception as Chairs. If we keep the language as we have it today then we can make exceptions that we as a Steering Committee simply need to discuss. This is another option. Eric responded that the Steering Committee needs to give the LCBP some flexibility on this. On TAC we have been trying to appoint non-governmental employees but they are not as available. For example, faculty at academic institutions often have teaching conflicts.

Vote: All in favor. Neil Kamman abstained.

FY19 budget review, continued:

- LCBP Key Functions – Eric

Eric introduced the Key Functions portion of the FY19 budget. Susan Sullivan noted that the NEIWPC accounting budget looks very different from the budget in front of the Steering Committee today. She suggested there may be another way to present the budget to Steering Committee members. Bob Stegemann noted that the numbers are a reflection of salary increase and travel increase that could be explained in more detail.

Andrew Milliken asked Eric to reflect on whether LCBP is at the appropriate staff level given the current funding level for the LCBP. Eric noted that LCBP recently added a new FTE and that has been very useful. We are continually seeing demands on staff time for attendance and participation in meetings with our partners, which reduces the amount of time staff are in the office to work on projects and manage grants, while increasing our travel costs.

Bob offered that we should not presuppose the outcome of office location. If proximity hurts this then we need to talk about that. Eric responded that the office relocation conversation has stalled and we are exploring our options with our partners. We will have more to talk about in future meetings, but he did not have any new information at this time.

FY19 LCBP Draft Budget Task Review & Discussion (continued)

Executive Session to discuss FY19 Technical and Heritage Proposals

ACTION: Neil K. moved to enter into executive session, seconded by Pierre L., all in favor with no abstentions.

Exit Executive Session. The group will conclude this discussion tomorrow morning.

4:45 PM Executive Session: Technical Advisory Committee Chair
Exit Executive session.

ACTION ITEMS: John Krueger moved to nominate Neil Kamman as chair of the Technical Advisory Committee for a 3-year term. Second by Andrew Milliken. No discussion.
Vote: All in favor. Julie Moore, Neil Kamman abstained.

5:00 PM Meeting Recesses Overnight

Lake Champlain Steering Committee Meeting

Tuesday & Wednesday, April 9-10, 2019

Auberge Bromont, 95 Rue de Montmorency, Bromont, Quebec J2L 1K6

Draft Meeting Summary, Wednesday April 10, 2019

8:15 Arrive at Auberge Bromont, Introductions

Nathalie Provost (Chair; Ministry of Environment and the Fight Against Climate Change), Bob Stegemann (NYS Department of Environmental Conservation), Andrew Milliken (US Fish and Wildlife Service), Craig Digiammarino (VT Agency of Transportation), Alyson Eastman (VT Agency of Agriculture), Mario Paula (EPA Region 2), Mel Cote (EPA Region 1), Renee Rouleau (MRC Haut-Richelieu), Brent Chamberlin (MRC Brome-Missisquoi), Laura Treischmann (VT Agency of Commerce and Community Development), Lori Fisher (Chair, VT CAC), Buzz Hoerr (Chair, Education & Outreach Advisory Committee), Pierre Leduc (Chair, Quebec CAC), John Krueger (Chair, Heritage Advisory Committee), Neil Kamman (Chair, Technical Advisory Committee), Kris Stepenuck (Lake Champlain Sea Grant)

Staff: LCBP - Eric Howe, Matthew Vaughan, Lauren Jenness, Elizabeth Lee, Colleen Hickey, Meg Modley Gilbertson, Ellen Kujawa, Jim Brangan; Jane Ceraso (NEIWPCC), Susan Sullivan (NEIWPCC), Bethany Sargent (VT ANR Champlain Coordinator), Fred Dunlap (NYS DEC Champlain Coordinator, Phone), Stefanos Bitzikidis (QC MELCC Champlain Coordinator), Aisha Sexton-Sims (EPA R2), MaryJo Feuerbach (EPA R1), Bryan Dore (EPA R1), Daniel Leblanc (QC MELCC).
Guests: Tom Berry (Sen. Leahy), Koon Tang (NYS DEC)

Kris Stepenuck (Lake Champlain Sea Grant, for Breck Bowden) and Nathalie Provost (Quebec Ministry of Environment) joined the meeting today. Steve Garceau was not present today. Nathalie Provost is now the official Quebec Ministry of Environment representative to the Lake Champlain Steering Committee.

Executive Session: Advisory Committee membership, Record of Decision for NY agronomy projects

ACTION ITEMS:

- **Motion to Approve Record of Decision for NY agronomy projects**
- John moved to approve as submitted. Second on the motion by Lori Fisher.
- Vote: All in favor. No abstentions.

- **Motion to Approve Committee nominations for advisory committee membership**
- Neil Kamman moved to approve. Second on the motion by Bob Stegemann.
- Vote: All in favor. No abstentions.

9:00 Meeting re-convenes in Public Session: brief summary of previous day's work

9:10 Public Comments – none provided.

9:15 Partner Presentation: *Andrzej Barwicz, Association pour la protection du lac Parker*

Lake Parker is at the head of the North branch of the Missisquoi River. Andrzej spoke about the restoration of the Lake Parker watershed. The goals were to stop the degradation of the lake and the watershed, and complete sustainable development within the watershed for the lake. Because this lake is at the headwaters of the North branch of the Missisquoi, they had the support of municipalities downstream of the lake as well. The lake has experienced eutrophication over the past several decades. Cold-water species of fish and other fauna have disappeared. The Lake Parker Protection Association identified ways to reduce the amount of stormwater runoff in the lake basin, especially from the steeper locations of the drainage area. The management plan has identified funding requirements for the different steps in their management plan. Actions include interventions up in the watershed to reduce pollutant loading into the lake, and also suction harvesting to remove aquatic plants from within the lake. Conservation planning also is underway for this watershed, to protect wildlife travel corridors. Looking forward, the Association is promoting their management plan to the residents of the basin and holding meetings to present their plan. This year, the Association will focus on invasive plants inventory and a bathymetric study of the lake. Fundraising for the lake cleaning will commence next year.

9:30 FY18 LCBP Annual report presentations, continued

Ryan Mitchell introduced the LCBP 2018 annual report

- *Clean Water – Matthew Vaughan*
 - Matt reviewed several technical projects in the Clean Water section of the report, including the Long-Term Monitoring Program, Cyanobacteria Monitoring, a research study to examine mercury and cyanotoxins in fish tissue in Lake Champlain, and tile drainage research in the Basin. There was some conversation around the interpretation of the results from the mercury study. LCBP staff will coordinate a discussion around this topic.
- *Healthy Ecosystems – Meg Modley Gilbertson*
 - Meg reviewed projects in the Healthy Ecosystems section of the report, including the Boat Launch Steward Program, dam removal work, new invasions, and committees at the regional and national level on which Staff participate. Meg also reviewed several projects supported through the AIS Spread Prevention grant program, including Diver-Assisted Suction Harvesting (DASH), water chestnut management, and boat launch stewards stationed at lakes and rivers in the Basin.
- *Thriving Communities – Jim Brangan*
 - Jim reviewed the goal of the Thriving Communities portion of the report. Jim commented that this is where we can interpret the research done for people in our communities who do not necessarily have an appreciation for the lake. Jim managed 25 CVNHP grants in FY18, with over \$500,000 match and over 4,000 volunteer hours. Jim highlighted interpretive projects around the history of and

importance of logging in the Adirondacks, Franco-American connections in the Champlain Valley, the Northern Forest Canoe Trail and others.

- *Informed and Involved Public – Ryan Mitchell and Colleen Hickey*
 - Ryan reviewed the goal of the Informed and Involved Public section of the report. Ryan highlighted an artist interpretation program that was conducted in FY18, and the Lake Champlain Basin Atlas. Colleen reviewed the Watershed for Every Classroom program and the syllabus for this program, the 2018 World Water Day celebration, the Healthy Soils Initiative, the Resource Room at ECHO Leahy Center.

10:30 FY19 Budget results presentation and final budget discussion

ACTION ITEM: Neil K. moved to enter into Executive Session. John K. offered a second. All in favor.

Exit Executive Session.

ACTION ITEM: FY19 LCBP, CVNHP Budget Approval of Prioritized Task List

Andrew commented that the CVNHP budget offers less than \$175,000 in grants. \$25,000 of this budget is applied toward indirect costs to manage the contracts for these small grants. These indirect funds significantly reduce the available funding for additional grants in the CVNHP program. Is there a way to offset these costs to restore funding to the CVNHP and expand this program? Eric and Susan responded that this is part of the formula that NEIWPCC uses to calculate their annual indirect rate that is negotiated with the US Office of Management and Budgets. This approach is to the benefit of the LCBP in the long run; if indirect was charged to grants over \$100,000, then much more indirect would be removed from the LCBP budget annually, to do the same amount of work.

Mel noted that the office operations budget is more than 50% in GLFC. Mel asked why this is, if the EPA budget is so much greater than the GLFC appropriation. Eric responded that the GLFC funds are more flexible than EPA funds and this allows for support for Steering Committee meetings around the watershed, among other expenses. Mel asked Eric to look into whether EPA funds could be used to support Steering Committee meetings in future budgets to free up GLFC funds for additional grant support. John added that NEIWPCC is more than 1/6th of the NPS budget. Jane reminded the group that indirect rate is applied to tasks that are less than \$100,000 because this will skew the math. Tom noted that it would be interesting to see what the indirect would be if it was distributed more equally across all projects. Does the indirect formula that NEIWPCC uses put a disproportionate amount of indirect on LCBP over other NEIWPCC programs? If that is the case, then we should support projects over \$100,000 to avoid indirect rates on our funding. Susan noted that the indirect rate is set to be equitable among the different programs and it is not legal to charge different rates to different programs within NEIWPCC. Pierre noted that the Steering Committee should be cognizant that small projects get charged more and allocate the funding necessary so that the net award to CVNHP grants is larger.

ACTION: Julie M. moved to accept the LCBP base budget FY19 as proposed, seconded by John Krueger.

Discussion on the motion: Tom noted that he was convinced that there is not a need to embed the VT agronomy in the program back in the LCBP budget this year, and that potential applicants could apply through existing LCBP grant programs to do this agronomy work. Tom advised that next year the Steering Committee should take a look at the base budget and consider equal agronomy support in VT and NY. Bob noted that the New York program has not reached a level of maturity that the Vermont program has. Alyson noted that there is still a lot of work to be done with

agronomy work with ecosystem services and tracking it as well as the cost of equipment. Vermont may be ahead of New York in the Champlain basin with respect to agronomy work but there are many synergies to be achieved. The Executive Committee will work with NEIWPCC to assess options to address the effect of the indirect rate on availability of CVNHP grant funds.

Vote: All in favor. Lori Fisher and Pierre Leduc abstained.

11:15 FY19 Budget Vermont TMDL Implementation Projects discussion and approval

Eric reminded the group that there will be \$6.6 million set aside in the FY19 EPA appropriation for tasks that directly address the implementation plan for the Vermont phosphorus TMDL for Lake Champlain. Per agreement of the Steering Committee during their December 2018 meeting, a subcommittee consisting of staff from Vermont, EPA Region 1, LCBP and Senator Leahy's office have been working to develop these tasks that would be considered independently from the LCBP base budget that was just approved. Bethany reviewed the tasks proposed by the VT ANR for the group. Renee Rouleau wondered whether the first TMDL project will have collaboration potential with the IJC's work. Bethany clarified that the projects are not directly related.

Pierre asked about project 3 - the Missisquoi Bay project; Julie pointed out that one of the requests from the Executive Committee was to identify projects that offer synergy among the other jurisdictions; this one meets that goal. Jane noted that this project also aligns with the IJC water quality study that NEIWPCC and LCBP are currently working on with OBVBM. Pierre agreed. Neil noted that this project is better aligned to operate through the LCBP TAC than through the State of Vermont. The in-lake treatments that would be used here would be aeration, alum, and dredging. Alternative approaches also will be explored in this project. Habitat impacts on management actions would require consideration.

ACTION ITEM: Approval of VT TMDL Implementation Projects

Motion: Alyson Eastman moved to approve the budget as presented. Kris Stepenuck offered a second on the motion.

Discussion on the motion:

Tom Berry offered some context around these TMDL implementation funds. The Appropriations language, over the past 2 fiscal years, has set these additional funds aside to implement the Phosphorus TMDL. Tom's feeling is that over the past couple of years, having made the investment to jump-start the TMDL. Going forward, it is possible that while there may still be appropriating language to support the TMDL, a larger percentage may go toward the broader priorities outlined in OFA. The projects were developed through the process that was developed and approved. Tom noted that his office is still reviewing the list of projects. If anyone is interested discussing the legislative context for this, please contact Tom.

Koon added that they hope to be able to implement the TMDL requirements in NY. NY is still trying to work on upgrades in WWTFs and in the agricultural sector. Koon appreciates the openness and willingness to discuss. Tom added that Congresswoman Stefanik played a significant role in the House appropriations process for FY19.

Andrew commented that he was excited to see the floodplain and wetland restoration project. Andrew is wondering if there is an attempt to document or estimate the impact of these projects to address the TMDL. Given Tom's comment, he would like to make sure that the motion that is offered on the table offers the flexibility to adjust the list of projects after today's meeting concludes. Julie added that the State is working on developing a tool to predict or estimate

phosphorus loading reductions from these projects; the tool is not quite ready for that today. Koon added that New York is doing similar work in other TMDL basins across New York.

Vote: All in favor.

None opposed, No abstentions.

12:00 Other business

Committee members felt that several of the presentations today felt rushed, but that it was important to hear all of the great work being done by LCBP staff and grant programs. It was helpful to hear about all of the successes, but also would be helpful to hear about the challenges as well. There was support to extend the 2-day meeting closer to a full 2-days if the agenda merits that amount of time.

Neil suggested that the TAC and the States work to develop high-level FY20 priorities over the next several weeks to have an informed discussion at the June 6 Steering Committee meeting. Julie, Bob and Koon agreed and will get together in the next month or so to have this discussion.

The June Steering Committee agenda will include an update from the IJC on their flood mitigation study and the water quality study, the discussion on FY20 priorities, and additional staff presentations on LCBP work. There also will be follow-up discussions in future agendas regarding the formula for calculating indirect as well as the structure of the LCBP budget.

12:15 ADJOURN

Meeting Outcomes:

1. *Approval of December 12, 2018 Meeting Minutes*
2. *Approval of Record of Decision for FY19 NY Agronomy Projects*
3. *Appointment of Advisory Committee memberships and TAC Chair*
4. *Approval of LCBP/CVNHP FY2019 budget*
5. *Approval of Record of Decision for FY19 TMDL Implementation Funds*

Lake Champlain Steering Committee meeting

Jurisdictional reports for Quebec

April 9th 2019, Bromont, Qc

- New Minister of the Environment and the Fight Against Climate Change: **Benoit Charette** appointed January 8th 2019
- Quebec provides \$ 8.5 Million to Regional County Municipalities (RCM) **to support water and wetland protection efforts**
 - This will be use for the development of their first regional wetland and water plan, which is a planning tool for wetland and water conservation actions in the territory of a RCM.
 - It determines the actions to be put forward in order to sustain the various benefits they bring to the community. It will contribute to achieving the principle of no net loss of these sensitive environments in Quebec
- **2019-2020 Budget: measures for adapting to climate change impacts**
 - \$21.1 million in adaptation measures for municipalities and living environments including;
 - \$2.2 million over three years for carrying out more projects for reducing the risks associated with extreme climate events faced by municipalities, such as shoreline erosion and flooding
 - \$2.4 million over three years to, in particular, continue implementing the automated telephone alert system for extreme heat waves and flooding, and assess health sector vulnerabilities to climate change impacts;
 - \$6.5 million over two years to increase the availability of quality year-round data in real time on the watercourse runoff plan, and produce more accurate and a greater quantity of hydrological forecasts, particularly during spring floods.
 - \$20.1 million to develop cutting-edge expertise and support the implementation of adaptation measures for reinforcing adaptation to climate change;
 - \$17.8 million to increase the government's climate expertise such as knowledge to support decisions related to climate and improve modelling tools and develop new ones;

- The National Assembly of Quebec will **examine the impacts of pesticides on public health and the environment**, as well as innovative alternative practices available and future in the agriculture and food sectors, and this in recognition of the competitiveness of the Quebec agri-food sector.
- **Enactment of the new Regulation respecting pits and quarries**
 - Will enter into force on April 18, 2019
 - Increases the protection of the environment while allowing the responsible exploitation of quarries and sand pits
 - Here's the link to the complete [regulation](#)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Regional Director, Region 5

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NYSDEC updates to the LCBP Steering Committee April 9-10, 2019

1. The NY State Budget was enacted this past week. It includes an additional \$500 M in clean water infrastructure, increasing the total investment to \$2.5 B since its inception. The Environmental Protection Fund includes record funding of \$300 M. The enacted budget also introduces legislation banning single-use plastic bags.
2. Last week, Governor Andrew Cuomo announced the release of a report by the Independent Advisory Committee on Applied Climate Assessment. This committee, disbanded in 2017, was reconvened by the Governor in 2018. The report includes recommendations to help federal, state, and local governments, communities, and the private sector plan for the effects of climate change.
3. Governor Andrew Cuomo announced at the beginning of the year the awarding of nearly \$8 million for environmental projects in the Lake Champlain Basin:

Water Quality Improvement Project Grants –

- **Wastewater – Total \$6.1M**

- City of P'burgh received \$750K for CSO work at Cumberland Ave Pump Station.
- Crown Point received \$1M for WWTP improvements including relocating the facility, install new primary treatment/sand filter system with UV disinfection. Project will phosphorus removal technology intended to reduce nutrient loadings to Lake Champlain.
- Moriah received \$2.5M for I&I work, 5 miles of new sewer, manholes, siphons, pump station upgrades.
- Lake George received \$657K for pump station upgrades, sewer lines, force mains
- Hague received \$231K for WWTP Pump Station improvements
- Bolton received \$1M for WWTP, Pump Station and, Collection system improvements

- **Engineering Planning Grants – Total \$300K**

- Granville, disinfection, \$25K
- Ausable Forks, disinfection, \$30K
- Lake George V, I&I Study, \$30K
- Valcour WWTP study, \$30K
- Saranac Lake WWTP study, \$30K
- St Armand, I&I, sewer district, \$100K
- Ticonderoga, WWTP study \$30K
- Willsboro, Decentralized System study, \$30K

- **Salt Storage – Total \$1.5M**

- Towns of Saranac, Dannemora, and Ellenburg all in Clinton County received \$500K each for salt/sand storage structures.



Department of
Environmental
Conservation

4. Currently announced funding opportunities for CAFOs & small Agricultural operations:

- Earlier in the year, Governor Cuomo announced the final round of a \$50 M CAFO Waste Storage and Transfer System Program. In the current round, \$18.4 M is being made available statewide for CAFO waste storage and transfer systems. Funding is through the NY Clean Water Infrastructure Act. Applications are due April 16.
- \$5M has been made available statewide for the Source Water Buffer Program for Agricultural lands. Funds may be used to purchase conservation easements to establish and protect riparian buffers along critical water resources. Applications for this program will continue until funds are exhausted.

5. Rural Roads Active Management Program (RRAMP)

- This was a LCBP funded project managed by CWICNY and was modeled after the Vermont Better Back Roads and Pennsylvania's Dirt & Gravel Roads Programs
- The project developed a manual for local officials, conducted workshops, developed and awarded planning and implementation grants to local DPWs for pollutant reduction projects.
- The project culminated in a Statewide meeting held in Cortland this past fall to present the project and garner interest from watersheds across the state to support a statewide initiative
- CWICNY representatives recently met with DEC Executive and Program Leadership in Albany where the project was favorably received.
- The State Soil and Water Conservation Committee has expressed Interest in using this project as a template to promote a statewide initiative.

6. NY Lake Champlain TMDL and wastewater treatment facility initiative

- NYSDEC has developed a strategy for modifying the permits of our wastewater treatment facilities to add in concentration limits for total phosphorus. Presently, most of the facilities have loading limits consistent with the waste load allocations assigned by the TMDL. Adding technology-based concentration limits will help to further manage effluent TP limits to lowest achievable levels. A prioritization scheme has been developed and staff are in the process of reaching out to facilities.

7. Crown Point Unit Management Plan

- NYSDEC and NYSOPRHP will be preparing a UMP for the combined State Parks Historic Site and the DEC campground and day use area to address future management of the combined 440 acres along the shore of Lake Champlain. A public meeting on the planning process was held at the Crown Point State Historic Site museum at the end of March. Comments on the draft UMP will be accepted through May 31.

8. Boat Launch Stewards

- The Adirondack Watershed Institute at Paul Smiths College is still seeking applicants for boat launch and decontamination stewards at several locations along Lake Champlain including Plattsburgh, Peru, Port Douglass, Willsboro, Ticonderoga and South Bay.

**Vermont Agency of Natural Resources Update
Lake Champlain Basin Program Steering Committee Meeting
April 9 and 10, 2019**

Clean Water Budget and Reports

- The **Vermont Clean Water Initiative 2018 Investment Report**, released January 15, 2019, summarizes state investments in clean water improvement projects for State Fiscal Years 2016-2018 and their results. Download the report at: <https://dec.vermont.gov/watershed/cwi/reports>.
- The **Interagency Clean Water Projects Dashboard**, launched in January, is an online, interactive platform that makes information on clean water projects funded by state agencies in State Fiscal Years 2016-2018 publicly available. Project details displayed include project type, funding, results, and nutrient reductions from the state's clean water tracking database. The dashboard was developed by the Agency of Natural Resources as part of the Governor's PIVOT Initiative. For more information and to access the dashboard visit: <https://dec.vermont.gov/watershed/cwi/projects>.
- Governor Scott's **State Fiscal Year 2020 Clean Water Budget** was presented January 24, 2019 and is pending legislative approval. It is posted on the Clean Water Fund webpage at: <https://dec.vermont.gov/watershed/cwi/cwf>.
- The **State Fiscal Year 2021 Clean Water Fund budget process** will kick off at the next **Clean Water Board meeting on April 25th, 2:30 – 4:30 pm** in the Catamount Room, Davis Building, National Life Complex, Montpelier. For more information visit: <https://dec.vermont.gov/watershed/cwi/cwf>.

Rule Changes

- The **Stormwater Permitting Rule** that now includes sites with 3 or more acres of impervious surface was approved by the Legislative Committee for Administrative Rules (LCAR) on February 14, 2019 and went into effect March 15, 2019. The Agency of Natural Resources has 120 days from March 15th to develop the permit. Issuance of the new general permit will include a 30-day public comment period. For more information visit: <https://dec.vermont.gov/watershed/stormwater/stormwater-rule-update>.

Funding Opportunities and Updates

- The **Clean Water State Revolving Fund (CWSRF)** Federal Fiscal Year 2019 Draft Intended Use Plan (IUP), which includes the State Fiscal Year 2020 Water Pollution Control Project Priority List (PPL), is available for public review and comment. The IUP details how the program intends to utilize the CWSRF fund and the Project Priority List contains a list of municipalities and private entities that have submitted applications for potential funding in the upcoming year. A public hearing will be held on May 1, 2019 at the Annex Building, 190 Junction Rd., Berlin at 10:00 and via Skype. This meeting is being held in conjunction with the Federal Fiscal Year 2019 Drinking Water State Revolving Fund IUP public hearing. The deadline for public comments, including additional priority

list applications, is May 15, 2019. The final IUP and PPL will be released June 14, 2019. For more information visit: <https://dec.vermont.gov/facilities-engineering/water-financing/cwsrf>.

- The **Water Infrastructure Sponsorship Program (WISPr)** is a new funding mechanism for natural resources restoration projects. Under this program, up to 10% of a municipality's clean water loan can be used to implement natural resources restoration. A reduced administrative fee over the life of the loan will cover the total value of the sponsored restoration project. Find out how to access this innovative and entirely new funding source for clean water. For more information visit: <https://dec.vermont.gov/facilities-engineering/water-financing/cwsrf/WISPr>.
- During the last **Ecosystem Restoration Grant** round, which closed March 18th, 36 applications, totaling more than \$2.5 million, were received. Award decisions are anticipated at the end of April. The next application review is anticipated in September. For more information visit: <https://dec.vermont.gov/watershed/cwi/grants/ecosystem-restoration>.
- An Ecosystem Restoration contract with EverBlue Solutions for the **Lake Carmi aeration project** has been fully executed, and the Department of Environmental Conservation (DEC) team, in coordination with both Fish and Wildlife and Forests, Parks, and Recreation, will be working with the contractor to install the project this spring. The team anticipates the aeration system will be operational in mid-June. This date is set to protect juvenile walleye during their earliest life stages. For updates visit: <https://dec.vermont.gov/watershed/cwi/restoring/carmi>.

Other Initiatives

- The **Resilient Right-of-Ways Project** is a USDA Forest Service-funded initiative that seeks to build greater understanding and capacity at the local level to plan, build, and maintain functional Green Stormwater Infrastructure (GSI) projects in both new development and redevelopment projects with a focus on downtowns and village centers. The Urban and Community Forestry team is supporting 10 Vermont municipalities within the Lake Champlain Basin. Thus far it has delivered 5 action plans and recommendations regarding vegetation preservation and planning along rural roads and offered a municipal bylaw review and three sets of photo visualizations of potential green stormwater infrastructure to urban partner communities. In 2018, the project worked in Milton, Shelburne, Williston, and funded an urban tree canopy assessment for Burlington. In 2019, they've completed work with Rutland City and West Rutland, have ongoing partnerships with Winooski and Colchester, and will begin work with Essex Junction and Montpelier in the coming months. For more information visit: <http://vtcommunityforestry.org/program/technical-assistance/resilient-right-of-ways/urban-rrow-call-partners>.
- The **Clean Water Lecture Series**, hosted by the Department of Environmental Conservation (DEC), highlights the Vermont's work to protect and restore clean water. Upcoming lectures include:
 - **Thursday, April 11 | WISPr, It's Louder Than It Sounds: Millions of Dollars Available for Natural Resources Restoration**
Ashley Lucht with DEC's Water Infrastructure Financing Program will discuss a new funding mechanism for natural resources restoration projects through the Water Infrastructure

Sponsorship Program (WISPr). This lecture will be in the Catamount Room (N215) at the National Life Building in Montpelier from 11:00 am - 12:00 pm.

- **Thursday, May 9 | Stormwater Update: What You Need to Know About the New 3-Acre General Permit**

Padraic Monks with DEC's Stormwater Program will offer details about the new Stormwater Permitting Rule that went into effect March 15, 2019. The Stormwater Program is now preparing a new general permit that will implement the rule, which will require sites with three or more acres of paved surfaces that lack a stormwater permit to treat their stormwater runoff. Learn about the timeline for adoption of the new general permit, application requirements, and treatments standards, as well as the use of stormwater impact fees. This lecture will be in the Winooski Room (M240) at the National Life Building in Montpelier from 11:00 am - 12:00 pm.

- **Thursday, June 13 | Lake Score Cards Highlight Restoration Progress and Protection Needs**

DEC Lakes and Ponds Program Environmental Scientist Leslie Matthews will review the lake score card, a user-friendly interface developed by the Vermont Lakes and Ponds Management and Protection Program. Leslie will also share available data on the overall health of Vermont's lakes. This lecture will be in the Winooski Room (M240) at the National Life Building in Montpelier from 11:00 am - 12:00 pm.

To attend in person, RSVP by emailing anr.cleanwatervt@vermont.gov. Links to past lectures are online at: <https://dec.vermont.gov/watershed/cwi/outreach/lecture-series>.

Agency of Agriculture, Food & Markets

Water Quality Division

Partner Update: April 2019

This update is meant to inform partners about the following items:

CSFO Certification Status and Deadlines.....	2
Outreach and Events	2
RAP Revisions for Subsurface Tile Drainage.....	2
RAP Implementation	2
BMP Grant Program	3
CEAP Grant Program	4
NMP Commission and TSP Certification.....	4
Partner Database	4
MFO General Permit	4
New Grant Programs	5
Vermont Phosphorus Innovation Challenge	6
VESP.....	6
Reports.....	6

AGRICULTURAL WATER QUALITY

The VAAFM Water Quality Division is responsible for administering the Vermont Agricultural Nonpoint Source Pollution Control Program. This includes:

- Farm Water Quality Inspections and Enforcement
- Education and Outreach to the Agricultural Community about Regulations and Requirements
- Technical and Financial Assistance to Achieve State Water Quality Goals

Vermont's Required Agricultural Practices are an important regulation designed to help farmers implement effective waste management practices that simultaneously promote the long-term viability of farms and the health of our state waterways. In this update, you'll find an evolving collection of resources aimed at educating farmers, landowners, and Vermonters-at-large about the Agency's water quality program. Updates are made on a continuous basis. If you have questions or would like to speak to a member of the Agency's water quality team, please call 802-828-2431.

CSFO Certification Status and Deadlines

The official deadline for CSFO Certification forms was January 31, 2019. All CSFOs are required to submit this form **annually** by January 31.

At this point, approximately 330 CSFO Certifications have been submitted to the Agency in 2018, and almost 200 so far in 2019.

Messaging around the need to certify to meet regulatory requirements for operations meeting the threshold of a CSFO occurred in Agriview, in addition to being sent directly to farmers via email or post. Direct outreach was sent to any operation that completed their initial CSFO Certification last year.

Go to <http://agriculture.vermont.gov/csfo> for more information or to access the CSFO Annual Certification Form. As you are working with farmers, please remember to mention this!

Outreach and Events

If your organization is hosting an event and you would like to apply for water quality educational credits, please apply at least 30 days in advance to receive approval for those WQ credits. The credit requirements and directions can be found here: <http://agriculture.vermont.gov/ResourcesForPartners>.

If there are events you wish to have advertised in Agriview, the Agency's Facebook, or online calendar, please email AGR.WaterQuality@Vermont.gov with the details of your event (WQ credit applications will automatically be advertised).

If you have farmers willing to tell their water quality story, the Agency is always looking for folks to feature in Agriview! You can reach out to Nina.Gage@Vermont.gov to refer farmers, or if you have a story you have written - we would love to feature it!

RAP Revisions for Subsurface Tile Drainage

The Tile Drainage revisions have been finalized and went into effect November 23, 2019. For the new RAP Rulebook please visit <https://agriculture.vermont.gov/2018-rap-rule-amendment-subsurface-tile-drainage-0>. There is also a handout with a summary of the changes available here <https://agriculture.vermont.gov/sites/agriculture/files/documents/Tile%20Revision.pdf>

RAP Implementation

Specific variance processes have been developed and approved which include:

1. Frequently Flooded Field Areas: For the reclassification of incorrectly mapped fields and/or the variance process for circumstances which made a farmer unable to meet manure application or cover cropping dates as outlined within the RAPs. The Agency has experienced inconsistent mapping of frequently flooded fields statewide and are in the process of re-assessing this process.
2. Stacking Site Variance: Go to <http://agriculture.vermont.gov/rap>, or directly to the form [here](#) to request a variance for any of the following items:
 - a. Siting Setback for Field Stacked Manure or Compost per RAPs § 6.02(f)
 - b. Siting Setback for Composting of Animal Mortalities per RAPs § 6.08(d)
 - c. Siting Setback for Burial of Animal Mortalities per RAPs § 6.08(d)
3. Winter Manure Spreading Exemption: Exemptions for winter manure spreading are available for emergency situations, such as structural failure of a waste storage facility. Farms interested in an exemption should contact their local farm coordinator to discuss the process of applying for a variance during the winter manure spreading

ban. LFO's are not allowed to receive spreading exemptions. [CSFO Farm Coordinators](#) / [MFO Farm Coordinators](#)

4. Farm Structure/Farm Determination Form: There are limits on the application of municipal land use regulations on farm operations regulated under the RAPs, including the construction of farm structures. When asked, the Agency will provide its opinion on whether the operation meets minimum thresholds for the applicability of the rule, and that the activities on the parcel are farming and agricultural practices. To access the Farm Determination Form and the Farm Structure Variance Form go to <https://vermontworkinglands.wufoo.com/forms/z45knbt0uvchmh/>
5. NMP Alternative for Vegetable Producers: This NMP pilot alternative has been developed by the Vermont Vegetable and Berry Growers Association and will provide an alternative standard for nutrient management planning on vegetable farms.

Variance processes currently in development include:

6. Site Specific Buffers: This variance process is in the developmental phase by VAAFm, but is anticipated to be in place by the Spring of 2019 and will provide a process for farmers to apply for a variance for buffer widths specific to a particular field topography.

Variances processes remaining to be developed include:

5. RAP Grazing management plans
6. Allowing grazing in areas where GMP are not effective
7. Alternatives to the floodplain maps
8. Seasonal spreading plans
9. Management plan to determine whether RAPs apply
10. Alternative cover crop planting dates
11. Removing a farm from SFO certification

BMP Grant Program

The priority deadline for applications to receive technical and financial assistance through the Agency of Agriculture's [Best Management \(BMP\) Program](#) was due **April 1, 2019**.

While BMP applications can be submitted at any time, applications received prior to April 1 will be given priority consideration for assistance in 2019. Due to the increased demand for BMP assistance, submission of an application does not guarantee grant funding or assistance. Applicants will receive a response from the BMP Program regarding their application status prior to August 2019.

Information about our services and *a new application for Engineering TA & FA* (previously the BMP application) can now be found online at [this link](#).

Take note that there are three services that a farmer can apply for to address water quality concerns:

1. **EQIP-Assist** – Applications reviewed on a rolling basis, farmers / planners are encouraged to submit an application when a farmer has ranked for an EQIP contract
2. **Technical Assistance** – Application reviewed on a rolling basis, unless otherwise noted
 - a. Design Services for a Farmstead BMP Project – April 1st application deadline
 - b. Engineering Consultations
 - c. Water Quality Compliance Consultation
 - d. State Permitting Consultation
 - e. State Variance Consultation

3. **Financial Assistance** – Priority given to applications received by April 1st, only Farmstead BMP projects that have a preliminary design and cost estimate prepared by a state engineer or by an independently hired design professional eligible to apply.

We highly recommend that farmers apply for technical assistance as soon as they are aware of a water quality concern that they would like to resolve. State Agricultural Engineers can assist in preparing a farmer to apply for design services before the next Farmstead BMP Program ranking cycle with an annual deadline of April 1.

Enrollment for design services and financial assistance in the Farmstead BMP Program is typically a two year process:

- 1st year - Planning and design
- 2nd year - Granting and implementation

If you have any questions or concerns, please contact your regional State Ag Engineer. Contact information can be found on the [AES webpage](#).

CEAP Grant Program

The Capital Equipment Assistance Program (CEAP) was opened for applications in October of 2018 for submission of applications by November 1, 2018. Overall, the agency has awarded 1.17 Million dollars towards 39 grants for innovative equipment purchases.

The agency anticipates offering this program in the fall of 2019, however, this will be dependent upon funding availability.

NMP Commission and TSP Certification

The Agency is facilitating a Nutrient Management Planning Commission. This Commission will explore the current State standards for Nutrient Management Planning as well as analyze nutrient management and technical service provider programs (TSPs) in various states. The Commission will identify opportunities to streamline and make nutrient management plans more implementable in Vermont while also demonstrating the options will address the water quality goals in Vermont.

Last year, the Vermont General Assembly passed a law requiring Agricultural TSPs to be certified by the Agency of Agriculture. The NMP Commission process will inform the development of the TSP Certification Process, and what the Certification Program will entail.

The Agency expects both the NMP Commission, as well as the development of a TSP Certification Program to work through all of 2019.

Partner Database

The long-awaited partner database is live and fully functional! The Agency will be organizing trainings for partners in early March to learn how to use this innovative platform. These invitations will be sent to your organization to sign up.

Users must attend a training in order to receive access to the partner database.

MFO General Permit

Every five years, this permit is revised. The new GP became effective last year, any farms meeting this threshold of 200-699 dairy cows need to seek coverage under this GP by submitting a new Notice of Intent to Comply (NOIC). Go to <https://agriculture.vermont.gov/mfo> for more information or to find the NOIC Form.

New Grant Programs

The Grassed Waterway and Filter Strip (GWFS) Program and the Pasture and Surface Water Fencing (PSWF) Program have been established to quickly identify areas of concern and provide technical assistance through contracted organizations that will help farms implement practices with funding through VAAFM. Please consider these programs when you are working with applicable farms!

Pasture and Surface Water Fencing Program

The PSWF Program provides pasture management technical assistance to Vermont farmers to improve water quality and on-farm livestock exclusion from surface waters statewide. Administration of the Program has been contracted to University of Vermont (UVM) Extension's Center for Sustainable Agriculture Pasture Program.

The folks from the Pasture Program and other grazing specialists will provide technical assistance to farmers to address and mitigate water quality concerns on their farms. While the Agency will manage implementation funds, the goal of this Program is for the contractors to reach out to farms and identify projects, in addition to providing technical service to farms that cannot, or choose not to, meet the requirements of other programs that promote livestock exclusion from surface waters, such as the Conservation Reserve Enhancement Program (CREP) and the Environmental Quality Incentives Program (EQIP). Providing pasture management assistance and grazing assistance where water quality benefits can be realized from improved management is also a large component of this Program. This two-year contract will result in outreach and technical assistance to 50 farms, in addition to implementation of 25 conservation projects on Vermont Farms.

For more information on the PSWF program please contact the UVM Center for Sustainable Agriculture at sustainable.agriculture@uvm.edu or call 802-656-5459.

Grassed Waterway and Filter Strip Program

The GWFS Program can provide technical and financial assistance to Vermont farmers for in-field agronomic best practices to address critical source areas, erosion, and surface runoff. This program can provide compensation to farmers via incentive payments for participation (\$500/acre) and cost-share to cover 90% of the installation costs for establishing perennially vegetated grassed waterways, filter strips, critical source area seeding, and associated infrastructure (e.g. erosion or grade control structures) if necessary on agricultural cropland adjacent to surface waters and ditches (6 V.S.A. § 4900). Contrary to similar existing financial assistance programs, the benefit of this program is that all of the practices implemented under GWFS can be harvested.

Administration of the Program, as well as technical assistance, has been contracted to both the Vermont Association of Conservation Districts and the Franklin and Grand Isle Farmers Watershed Alliance, while the Agency will manage implementation funds. The Program's goal is to reduce soil erosion and improve soil and water quality on cropland that contributes a disproportionately high level of nutrients through surface runoff. Such areas of cropland are considered "Critical Source Areas" (CSAs), representing a small proportion of the landscape, yet a high proportion of nonpoint source pollution loads.

For more information please contact either the Franklin and Grand Isle Farmers Watershed Alliance at farmerswatershedallianceNW@gmail.com or the Vermont Association of Conservation Districts at susie.walshdaloz@vacd.org

Vermont Phosphorus Innovation Challenge

The Vermont Phosphorus Innovation Challenge (VPIC) is in the midst of Stage Two, the business and prototyping phase for participants to test and show that effectiveness of their proposed projects. Six participants were selected from 27 to receive various allocations of funding to help with this development. Stage Two concludes on July 31, 2019, at which point in time one or more of the projects will be selected for full scale implementation within the State.

For more information on VPIC please visit: https://agriculture.vermont.gov/Vermont_Phosphorus_Innovation_Challenge or contact Kaitlin Hayes at (802) 622-4112 or Kaitlin.hayes@vermont.gov

Vermont Environmental Stewardship Program

The Vermont Environmental Stewardship Program (VESP) is currently under a pilot program, in which 8 farms of diverse types, sizes and locations are involved. VACD planners conducted field work, soil sampling and gathered the necessary information to evaluate a variety of crop fields and pasture using NRCS's Resource Stewardship Evaluation Tool (RSET). This web-based tool integrates multiple NRCS planning tools into one—evaluating management practices across five natural resource concerns (soil management, water quality, water quantity, air quality and wildlife habitat). VAAFM is currently assessing the results from RSET to determine if the national stewardship standards are appropriate for Vermont's landscape. The pilot program will also evaluate other assessment tools, data collection methods and workload assessment to fine-tune the full program before launching.

Legislative Reports

Since January 1, the following report has been released from VAAFM:

[Report on Agricultural Water Quality Technical and Financial Assistance
Farming Practices in Vermont Legislative Report \(2018, Act 168\)](#)

[Performance Measures for the MOU Between ANR and AAFM \(6 V.S.A. § 4810\(d\)\)](#)

Additionally, there are three one-page reports that have been developed and are attached to this update.

Any questions or concerns? Don't hesitate to reach out to any of us here at the agency, 802-828-2431.

Vermont Agency of Agriculture, Food & Markets

Water Quality Division

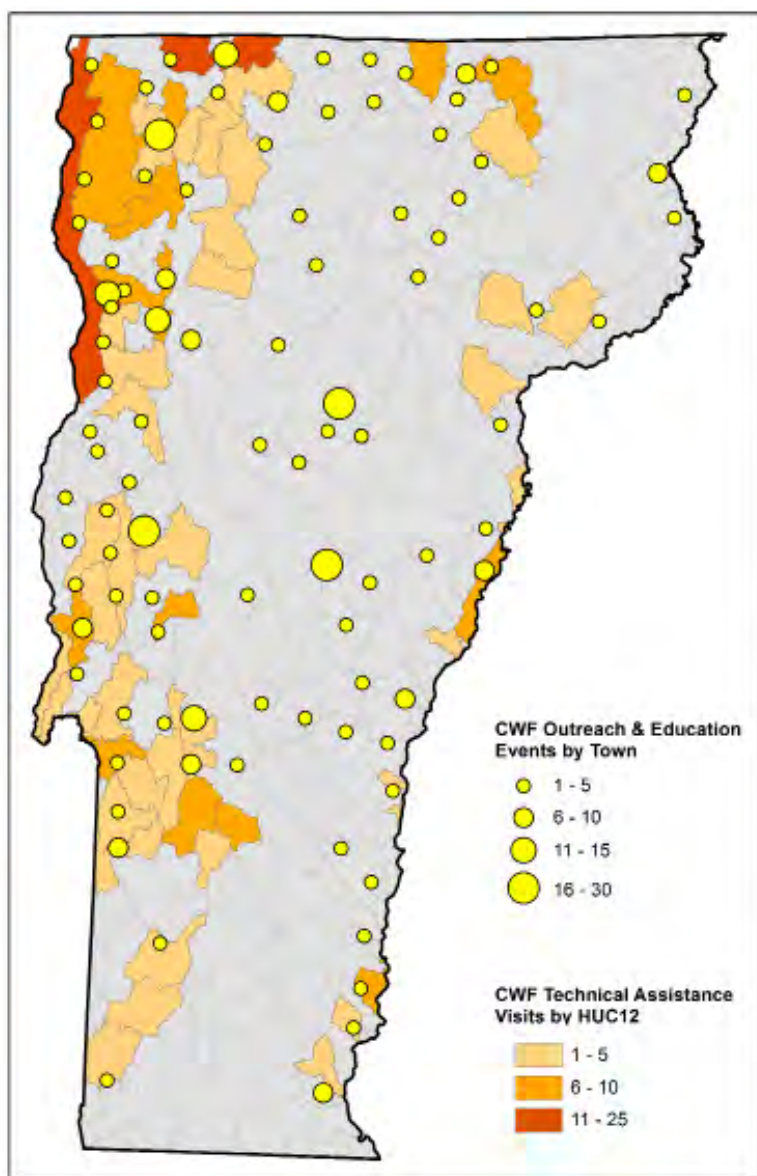
FY 2018 Education, Outreach and Technical Assistance Summary

The Water Quality Division within the Vermont Agency of Agriculture, Food and Markets (VAAFM or the Agency) is responsible for ensuring farms meet the State agricultural water quality non-point source regulations. The Agency performs this task through the use of regulatory, technical, and financial assistance programs provided to farmers and partner organizations.

Made possible by the Vermont Clean Water Fund, The Agricultural Clean Water Initiative Program (Ag-CWIP) represents the Agency of Agriculture, Food & Markets' effort to reduce nonpoint source nutrient pollution from agricultural land through grant awards for educational programs, innovative phosphorus reduction strategies and technical assistance to agricultural landowners.

In FY2018, the Water Quality Program invested \$1.3 Million in funding for local conservation efforts, educational programs, as well as technical assistance for Vermont farmers.

AGRICULTURAL CLEAN WATER INITIATIVE PROGRAM EDUCATIONAL EVENTS AND TECHNICAL ASSISTANCE STATEWIDE



PROGRAM IMPACT*:

15,420 ATTENDEES

REACHED THROUGH EDUCATIONAL EVENTS

1,112 HOURS

OF EDUCATIONAL OPPORTUNITIES FOR VT FARMERS

366 EVENTS

EDUCATIONAL EVENTS HELD STATEWIDE

5.8 FTE

PARTNER FULL TIME EQUIVALENT (FTE) EMPLOYEE

CAPACITY INCREASE

80 SERVICES

NEW OR EXPANDED PARTNER PROVIDED SERVICES

AVAILABLE TO VT FARMERS

**Program impact includes results from FY16-FY18.*



VAAFM Engineer provides educational outreach to members of the general public at Breakfast on the Farm event in the Lake Champlain Basin during the summer of 2018.



University of Vermont Extension Service and the Friends of Northern Lake Champlain hold a meeting in Franklin County to inform producers about regulatory requirements, best practices, and opportunities for technical and financial assistance.

AGRICULTURAL CLEAN WATER INITIATIVE PROGRAM GRANT SUMMARIES

UNIVERSITY OF VERMONT EXTENSION:

Comprehensive Extension Programming for education and outreach, certification programs, technical assistance for conservation implementation and funding opportunities, business planning, as well as research and development to support educational programs.

VERMONT ASSOCIATION OF CONSERVATION DISTRICTS:

Education and outreach, technical assistance, land treatment planning, and organizational capacity development.

NATURAL RESOURCES CONSERVATION COUNCIL:

Education and outreach for increased awareness of water quality regulations and best practices, technical assistance regarding conservation practices and funding opportunities, in addition to organizational development and capacity building to increase organizational effectiveness across ten state Natural Resource Conservation Districts.

VERMONT GRASS FARMERS ASSOCIATION:

Educational programming for Vermont farmers to undertake, improve and/or expand their grass-based livestock production, strategic planning and expanded membership benefits as well as outreach to increase Vermonters understanding, appreciation and adoption of livestock grazing best management practices that improve water quality.

VERMONT TECHNICAL COLLEGE: AGRICULTURAL INSTITUTE:

Education and outreach to Vermont Technical College students regarding nutrient management planning. This work will support regulatory compliance with Required Agricultural Practices and Medium and Large Farm Permits and Rules as applicable.

FARMERS WATERSHED ALLIANCE OF FRANKLIN AND GRAND ISLE:

Education and outreach activities to improve water quality focused on precision agricultural tools and technologies, conservation practices for water quality improvements, and regulatory compliance as well as organizational capacity development.

POULTNEY METOWEE NATURAL RESOURCES CONSERVATION DISTRICT:

Support for the Agronomy and Conservation Assistance Program (ACAP) in providing technical assistance in nutrient management planning and implementation of farm conservation practices, particularly targeted at small farms, to provide direct outreach to small producers who did not receive regular regulatory oversight prior to the Required Agricultural Practices, have limited on-farm labor and are less able to attend off-farm workshops or meetings.

FRANKLIN WATERSHED COMMITTEE:

Education and outreach regarding agricultural practices and their role in achieving TMDLs for Lake Carmi, the Pike River and Lake Champlain to help bring together a divided community of stakeholders, farmers, environmental entities, and the general public through enhanced understanding, goal setting, and improved communications about the role of agriculture and its ability to work in harmony with soil and water resources.

MISSISSQUOI RIVER BASIN ASSOCIATION:

Outreach programs to schools and community groups ensuring the importance of clean water is expressed to a wide range of watershed residents, one-on-one outreach through site visits, and focused on farm water sampling.

CHAMPLAIN VALLEY FARMERS COALITION:

Education and outreach, technical assistance, and leadership development and strategic planning to expand organizational capacity and development.

FRIENDS OF NORTHERN LAKE CHAMPLAIN:

Organizational capacity development to support existing and new services to farmers.

SCOTT MAGNAN'S CUSTOM SERVICE:

Education and outreach as well as technical assistance to producers in implementing and utilizing precision agricultural tools and technologies to more precisely apply and track nutrients applications.

Fiscal Year	State Expenditure
2016	\$112,000
2017	\$642,599
2018	\$1,321,928

Funding for education, outreach and technical assistance has significantly increased with the Clean Water Fund since FY2016.



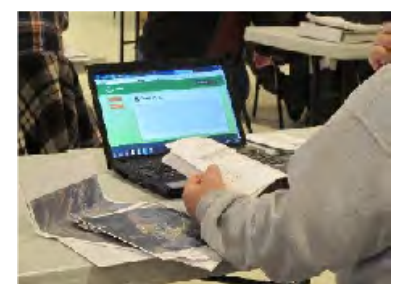
Technical assistance provided by the Orleans County Natural Resources Conservation District to a small farmer in the Lake Memphremagog watershed.



University of Vermont Extension Service hosts an on-farm educational event to discuss conservation practices and results with agricultural operators.



Participants review outreach materials at an on-farm workshop in Fairfax, VT



Farmer participant enters data into the goCrop program as they develop their farm Nutrient Management Plan through the UVM Extension course.

Vermont Agency of Agriculture, Food & Markets Water Quality Division

FY 2018 Financial Assistance for Farmers Summary

The Water Quality Division within the Agency of Agriculture, Food and Markets (VAAFAM) utilizes farmer assistance, education, research, regulations, monitoring, and compliance and enforcement programs that are designed to improve farm management in order to meet the State's goals in improving and protecting water quality.

In FY 2018, the Water Quality Program invested more than \$3.2 million of State funds in on-farm implementation of conservation practices to improve water quality. Vermont farmers invested just under \$1 million in cost-share contributions towards implementation of these projects.

FY18 ON-FARM IMPLEMENTATION BY MAJOR AND MINOR BASIN



7162 ACRES

IMPROVED WITH FARM AGRONOMIC PRACTICES

87 PRACTICES

BEST MANAGEMENT PRACTICES INSTALLED

\$3.2 MILLION

STATE EXPENDITURE FOR ON-FARM

IMPLEMENTATION

NEARLY \$1 MILLION

INVESTED BY VERMONT FARMERS



Before (above) and after (below) installation of heavy use area protection and clean water diversion project on a small farm in Swanton, VT completed through the BMP Program.



Implementation (below) of cover cropping after corn harvest with a No-Till Grain Drill acquired by a group of small farms in Craftsbury, VT, through the CEAP Program.



FINANCIAL ASSISTANCE PROGRAM DESCRIPTIONS

Farm Agronomic Practices FAP:

Financial assistance to Vermont farms for implementation of soil-based agronomic practices that improve soil quality, and reduce erosion.

BEST MANAGEMENT PRACTICES BMP:

Technical and financial assistance program to assist farmers with on-farm improvements designed to abate agricultural waste discharges into state waters.

CONSERVATION RESERVE ENHANCEMENT PROGRAM CREP:

Technical and financial assistance program designed to reduce sediment runoff and improve water quality by removing land from agricultural production and establishing vegetative buffers.

CAPITAL EQUIPMENT ASSISTANCE PROGRAM CEAP:

Financial assistance for new or innovative equipment that will aid in the reduction of surface runoff of agricultural wastes to state waters, improve water quality of state waters, improve manure management, separate phosphorus (P) from manure, and decrease greenhouse gas emissions.

GRASSED WATERWAY AND FILTER STRIP PROGRAM GWFS:

Technical and financial assistance to Vermont farmers for in-field agronomic best practices to address critical source areas, erosion, and surface runoff through establishment of perennially vegetated grassed waterways, filter strips, critical source area seeding, and associated infrastructure.

PASTURE AND SURFACE WATER FENCING PROGRAM PSWF:

Pasture management technical and financial assistance to Vermont farmers to improve water quality and on-farm livestock exclusion from surface waters statewide.



Before (above) and after (below) installation of heavy use area protection and clean water diversion project on a small farm in Georgia, VT through the BMP Program.



SUMMARY OF FY2018 FINANCIAL ASSISTANCE PROGRAMS

PROGRAM	STATE EXPENDITURE	TOTAL OBLIGATION	IMPACT
FAP	\$175,552	\$249,905	7162 Acres Improved
Sample FAP Practices Installed	3796 Acres : Cover Crop		Average 28% reduction in total P ¹
	716 Acres : Conservation Tillage		Average 27.5% reduction in total P ¹
BMP	\$2,516,842	\$2,875,230	87 Practices Installed
Sample BMP Practices Installed	20 Waste Storage Structures		42% reduction in total P ²
	2 Silage Leachate		1 acre of feed storage can lose as much nutrients as 120 acres of cropland ³
	15 Heavy Use Area Protection & 8 Clean Water Diversion		53% reduction in total P for barnyard runoff management ²
CREP	\$48,297	\$48,297	41.57 Acres of Cropland Buffer
Sample CREP Practices	22.1 Acres of Cropland Converted to Riparian Forest Buffer		40% reduction in total P, plus reduction from converting cropland to forest ¹
CEAP	\$469,275	\$902,400	43 Pieces of Equipment/Technology
Sample CEAP Equipment Aquired	6 Conservation Tillage Equipment		Average 27.5% reduction in total P ¹
	2 Silage Management Equipment		1 acre of feed storage can lose as much nutrients as 120 acres of cropland ³
	5 Cover Crop Equipment		Average 28% reduction in total P ¹
	1 Phosphorus Removal Technology		Estimated 86.7% removal by concentration of total P ⁴
GWFS	*New in 2018		
PSWF	*New in 2018		

¹Vermont Agency of Natural Resources, Department of Environmental Conservation - Current Methods to Measure Nutrient Pollutant Reductions

²A tool for estimating best management practice effectiveness for phosphorus pollution control. MW Gitau, WJ Gburek, AR Jarrett - Journal of Soil and Water Conservation, 2005.

³Evaluation of silage leachate and runoff collection systems on three Wisconsin dairy farms. A Wunderlin, E Cooley, B Larson, C Herron, D Frame, A Radatz, K Klingberg, T Radatz, and M Holly - Discovery Farms Wisconsin, 2016.

⁴DVO Phosphorus Recovery System Case Study-Edaleen Dairy. C Frear - Newtrient LLC, 2017.

Vermont Agency of Agriculture, Food & Markets FY 2018 Inspection and Enforcement Summary

The Vermont Agency of Agriculture, Food and Markets (VAAFM) has developed a comprehensive approach to the regulation of farms in the State in order to best protect water resources. The approach to regulating Vermont farms addresses all size farms, providing size specific regulatory oversight from a small farm subject to regulation under the Required Agricultural Practices (RAPs) Regulations, to a Medium Farm Operation (MFO) regulated under the state's MFO General Permit, to a Large Farm Operation (LFO) regulated under a LFO Individual Permit.

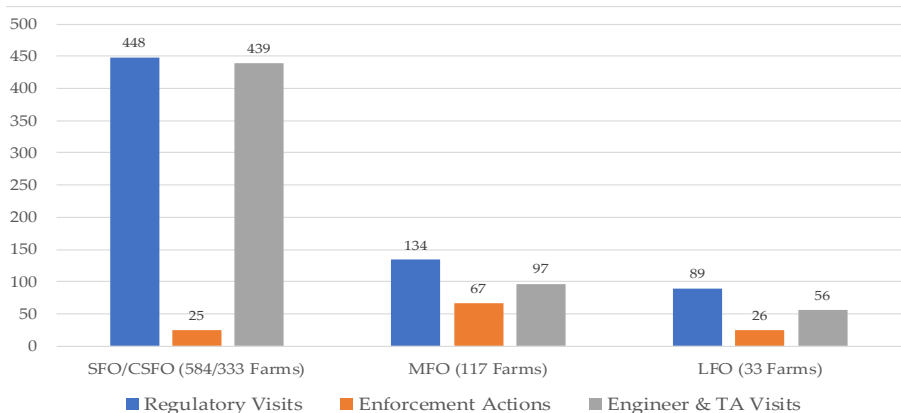
In fiscal year 2018, the Regulatory Program in the Water Quality Division at the Vermont Agency of Agriculture, Food & Markets made 652 water quality compliance visits and issued 118 enforcement actions for alleged violations.

SUMMARY OF ENFORCEMENT ACTIONS AND REFERRALS 2016-2018

YEAR	INVESTIGATIONS & INSPECTIONS	ENFORCEMENT ACTIONS	REFERRALS TO ATTORNEY GENERAL'S OFFICE	REFERRALS TO AGENCY OF NATURAL RESOURCES
2016*	379	38	1	1
2017*	505	82	2	18
2018	652	118	7	30

**Data reported for 2016 and 2017 reflect calendar year reporting, whereas 2018 data reflects state fiscal year data. Previous reporting for this work was done on a calendar year basis and is now transitioned into fiscal year reporting.*

FISCAL YEAR 2018 FARM VISITS AND ENFORCEMENT BY FARM SIZE



MONETARY PENALTIES ASSOCIATED WITH ENFORCEMENT ACTIONS

In FY 2018, VAAFM issued 118 enforcement actions of which 30 were Notice of Violations (NOVs) which assessed associated monetary penalties totaling \$69,000.

Thirty individual cases were referred to the Agency of Natural Resources, Department of Environmental Conservation (DEC). For accurate updates on penalty amounts it is best if you contact DEC directly as AAFM coordinates on the violation and solution as opposed to the penalty amounts being assessed by ANR.

In FY 2018, VAAFM referred 7 individual cases to the Vermont Attorney General's Office (AGO) which assessed associated monetary penalties of \$115,831.



VAAFM water quality farm specialist discusses farm practices with a farmer during an inspection.

5 FARM VISITS EVERY DAY

WATER QUALITY VISITS EVERY DAY ON AVERAGE

240 VIOLATIONS

ALLEGED VIOLATIONS ASSOCIATED WITH
118 ENFORCEMENT ACTIONS

333 CSFOs

UNDER THE NEW CERTIFIED
SMALL FARM OPERATION PROGRAM

88 APPLICATORS

CERTIFIED CUSTOM MANURE APPLICATORS

\$69,000 IN PENALTIES

PROPOSED PENALTIES FOR VIOLATIONS
ASSOCIATED WITH 30 NOTICES



VAAFM water quality farm specialist measures the distance of an annual crop field perennial buffer during an inspection.

EPA Region 1 Updates
Lake Champlain Basin Program Steering Committee
April 9-10, 2019

EPA Regional Reorganization

EPA has announced that implementation of the Regional office reorganization will take place on April 14. This has been an effort to establish a standard organizational structure for EPA's regional offices. In Region 1, the Office of Ecosystem Protection has been the home department of geographic programs, such as the Lake Champlain program. Going forward, OEP will be split into the Water Division and Air and Radiation Division. Ken Moraff, currently the Director of OEP, will lead the Water Division, and Lynne Hamjian, currently the Deputy Director of OEP, will serve as the acting director of the Air and Radiation Division.

Regional Administrator

Alexandra Dapolito Dunn, previously Region 1 Regional Administrator, was confirmed earlier this year by the United States Senate as the EPA Assistant Administrator for the Office of Chemical Safety and Pollution Prevention. Deputy Regional Administrator Deborah Szaro has been named as Acting Regional Administrator.

EPA Lake Champlain Vermont TMDL Report Card

EPA, in accordance with the schedule laid out by the Vermont Lake Champlain TMDL, will issue a report card this summer. In last year's report card, it was determined that Vermont met 25 out of 28 milestones in the TMDL's Accountability Framework and was assessed with a "provisional pass." In preparation for this update, EPA is tracking state efforts to complete the remaining milestones, including securing a long-term revenue source to support water quality improvements.

Research on the use of drinking water treatment residuals in stormwater management

Results from the column studies showed very good phosphorus sorption characteristics of all three of the residuals tested (Champlain Water District, Portsmouth, NH, and Durham, NH). Residuals from the CWD garnered significantly better results than the others, at least partly due to the greater surface area of residuals, however the two New Hampshire residuals also performed at high levels. The study team found these differences intriguing and EPA is applying for additional RARE funds to analyze a larger set of residuals to better understand this variation, and to prepare a database on residual quantity and type throughout New England. We won't learn of funding decisions until August. In the meantime, the field component of the existing study (testing the soil mix in bio-retention systems) will be starting in early May 2019 on the UVM campus.

U.S. Fish and Wildlife Service
Updates for Lake Champlain Basin Program Steering Committee
April 9, 2018, Bromont, Quebec

The Lake Champlain Fish and Wildlife Management Cooperative: (U.S. Fish and Wildlife Service, Vermont Fish and Wildlife Service, New York State DEC and partners) continue to make progress revising the Strategic Plan for Lake Champlain Fisheries this year with goal of a final draft plan in August, 2019.

Sea Lamprey control:

- This coming year the sea lamprey program will continue their assessment and trapping efforts throughout the Champlain Basin including at the Morpion Barrier at Notre-Dame-de-Stanbridge Quebec and will focus their treatments on six tributaries and one delta in the southern part of the lake from Lewis Creek south on the Vermont side and Mill Brook south on the New York side. This includes one additional tributary treatment - Hoisington Brook - pending the completion of an Environmental Assessment.
- The lamprey program is working with the state of Vermont and Town of Shelburne to design a barrier to prevent lamprey from going up (and preclude the need to treat) the LaPlatte River above the falls.
- Results of a lampricide toxicity study were released this month and will guide the Vermont Department of Health in setting water use advisory levels for Vermont tributaries.

A Radio Canada (CBC) story and video about Morpion lamprey barrier aired on October 13:

<https://ici.radio-canada.ca/tele/la-semaine-verte/site/segments/reportage/90430/lamproie-marine-poisson-parasite>

Riparian/Wetland Restoration/Aquatic Connectivity: In 2018, the Lake Champlain Fish and Wildlife Conservation Office/Partners for Fish and Wildlife completed 23 projects to restore or enhance 10 miles of riparian habitat, 8 acres of wetland habitat, 65 acres of upland habitat, and re-opened 252 miles of aquatic habitat to fish passage through the removal or modification of 15 barriers. The Partners Program also completed one Schoolyard Habitat project that included a riparian buffer and a pollinator meadow. FY18 projects leveraged over \$974,000 in partners' contributions.

A few examples of projects queued up for 2019 include:

- Mill Pond Dam Removal - Indian Brook in Colchester, VT. Project will involve the removal of the dam structure, 21,000 yards of material behind the dam, and re-construction of the stream channel. 20 acres of wetland habitat and 3000 feet of stream channel will be restored. Project partners include the landowner, Vermont Natural Resources Council, LCBP, Vermont DEC
- Lincoln Brook Culvert Replacement - Lincoln Brook in Warren, VT. Project will involve the replacement of an undersized culvert to improve infrastructure maintenance, flood resiliency, and aquatic connectivity (opens 3.5 miles of stream habitat). Project Partners include the Town of Warren, the Friends of the Mad River, US Forest Service, and Vermont ANR.
- Quesnal - Holstein Wetland Restoration - Brandon, VT. The project will involve the restoration of 100 acres of floodplain wetland along Otter Creek. Project components include ditch plugs, creation of micro-topography, and the establishment of native trees and shrubs. Project partners include USDA-NRCS and the landowner.

Hatcheries: The White River National Fish Hatchery now has three year classes in place for development of two brood stocks for landlocked Atlantic salmon that are genetically diverse and tolerant to thiamine deficiency complex caused by consumption of invasive alewife. These brood stocks will be used produce fish at Dwight D. Eisenhower National Fish Hatchery to help restore river run salmon in Lake Champlain tributaries in the future.

Salmon Restoration:

- The U.S. Fish and Wildlife Service (USFWS) will work with partners this spring to survey the Winooski and Boquet rivers for naturally reproduced salmon. Snorkeling surveys will be conducted to look for salmon young emerging from salmon redds (nests). Salmon redds were located last fall in the Richmond section of the Winooski River and in the North Branch of the Boquet River as well as below the cascade in Willsboro.
- The Service in cooperation with Vermont will again be deploying a rotary screw fish trap in the Huntington River to monitor out-migrating salmon smolts. These fish are originally stocked as fall fingerlings. Understanding the success of different stocking strategies help in the restoration of salmon to the Winooski River.
- The Boquet River habitat survey which was initiated in 2018, will continue this summer. The survey will provide baseline data of available salmon habitat and identify problem areas (stream bank erosion).
- U.S. Fish and Wildlife Service is continuing to work with the LCBP, Champlain Valley National Heritage Partnership, Lake Champlain Maritime Museum and others to plan a series of events and outreach materials for the International Year of the Salmon in 2019 and beyond. These events include the salmon-themed tour of the LCMM's replica canal boat Lois McClure to several locations around Lake Champlain.
- Dr. William (Bill) Ardren recently received the *Rachel Carson Award for Exemplary Scientific Accomplishment*. This national award recognizes scientific excellence through the rigorous practice of science applied to a conservation problem. Bill was specifically recognized for his work restoring landlocked Atlantic salmon to Lake Champlain.

Missisquoi National Wildlife Refuge:

- The refuge is in the process of hiring a seasonal Park Ranger who will fill in this summer for the loss of long time Park Ranger Dave Frisque
- The refuge will be hosting two sets of interns this summer; one group will be performing a National Refuge Visitor Use survey and the other will be helping map and control invasive species.
- The refuge is hosting a meeting from the National Wildlife Refuge Association in June
- There is a new Bald Eagle nest on the refuge, making three nests on refuge property and four on the Missisquoi Delta (the 4th is on State WMA land).
- We are waiting on the final report but initial results of last summer's native bumblebee survey have documented 10 species (4 rare and one not documented since the 1960's) on refuge land.

Québec Citizens Advisory Committee April 2019 Highlights

- OBVBM will hire 4 students this summer
 - 2 Boat Launch Stewards
 - Venise-en-Québec boat launch
 - Travelling steward – visit smaller lakes scattered throughout Missisquoi Bay basin
 - 2 Education and Outreach agents for new rainwater regulation in Bedford
 - Inform citizens of new duties and inspect location for further action by municipality
- Representative from Agriculture and Agri-Food Canada now on our board of directors
 - Already submitted 2 research projects for watershed
- APPLIED for provincial ecosystems improvement project in agriculture-intensive watersheds
 - MELCC partnering with MAPAQ and MFFP
 - Multi-year / multi \$M project providing technical, scientific and financial support
 - Work in the field, at the field / stream interface and streambank mobility
 - Work on socio-economic factors influencing decisions
 - Submitted 2 ideal candidate watersheds ready to work
 - Castor brook watershed – 14.6 ha – 28 farms
 - Walbridge brook watershed – 32.4 ha – 44 farms
- Continuing work on IJC Missisquoi Bay water quality mandate
 - Preliminary report available in French – Integration with LCBP / NEIWPCC report
 - Advisory Committee first full-day workshop developed preliminary recommendations
 - Results will be presented at May 8 Forum in Burlington
- OBVBM AGM will be June 20th in Notre-Dame-de-Stanbridge

Vermont Citizens Advisory Committee (VTCAC) Update LCBP Steering Committee Meeting – April 9 and 10, 2019

- **Legislative Day:** On February 12th, the VTCAC presented their 2019 Lake Champlain Action Plan at the State House to Governor Scott and Secretary Moore, Lieutenant Governor Zuckerman, and Senator Alice Nitka, Senate Appropriations Vice Chair. They also testified before House Agriculture and Forestry; House Natural Resources, Fish and Wildlife; Senate Agriculture; and Senate Natural Resources and Energy.
- **April 8th Meeting:** The VTCAC met April 8th to plan a June forum on public access and recreation in Vermont's Lake Champlain Basin. Details will be forthcoming.
- **May 13th Meeting:** The VTCAC meets next Monday, May 13th, 5:00 – 7:00 pm in Meeting Room 1 at the Shelburne Town Offices, 5420 Shelburne Road, Shelburne, Vermont. The focus of the meeting is to plan the summer annual retreat.
- **VTCAC Membership:** Senator Randy Brock (Franklin District) was appointed and Ginny Lyons (Chittenden District) was reappointed in February. Representative Carol Ode is continuing to serve until House appointments are made, which leaves one Representative vacancy. The VTCAC is discussing potential nominees to fill two public member vacancies.
- The **2019 Lake Champlain Action Plan** is available online at: <http://www.lcbp.org/wp-content/uploads/2019/02/2019-Lake-Champlain-Action-Plan.pdf>.
- Past approved **meeting summaries and materials** are posted at <http://www.lcbp.org/about-us/committees/citizen-advisory-committees/vermont-cac/>.



Lake Champlain Basin Citizens Advisory Committee of New York State

March 25, 2019 Meeting Summary
Prepared for the
Steering Committee April 9-10, 2019



- Current status on the IJC Lake Champlain/Richelieu River flood study was provided and discussed. The group enjoyed the 5-6 minute video produced by the IJC on this. Many had not yet seen this. The group thought it was well done and it sparked considerable discussion that ended up dominating the meeting. The consensus of the group was that non-structural recommendations should be the priority. In particular, they are in favor of:
 - More funds for property acquisitions (preemptive & post flood)
 - Stronger floodplain development regulations
 - Programs that protect/restore floodplains and wetlands
 - Better flood mapping
 - Improved awareness and training programs for local officials
- The listing of all the 2018 local grants awarded was reviewed. The CAC will be exploring ideas to increase both the number and quality of applications being submitted by NY partners.
- Miner Institute has 3 Edge of Field monitoring project underway. The CAC was invited to tour sometime in the near future (late spring/early summer)
- The marinas along the Great Chazy River are still exploring opportunities to have the river channel dredged. Larger boats and especially sail boats with keels are having a difficult time accessing this area. This is a USACOE navigational channel dredging project, however, O&M funds are never sufficient to pick up the smaller less significant projects around the country.
- The CAC was pleased to hear that work under the contract for the Champlain Canal Barrier feasibility study is underway. They look forward to more on this and hope they will be engaged in the process.

E&O Committee Report to the Steering Committee

April 9-10, 2019

The E&O Committee met twice since the December Steering Committee meeting, primarily focusing on the E&O budget modifications. A subset of the committee also met via skype with Iowa Lakeside Laboratory staff responsible for implementing their artist in-residence program. Jim Brangan, CVNHP, also reviewed an initial conceptual draft of the RFP for the committee.

COOL GRAHICS CREATED

Staff completed the *International Year of the Salmon* travel interpretive banners, the LCBP table top display, the Thank You Farmers poster board for the Farm Show, the *Love the Lake* flier (135 participants), a GLFC 4 page project summary, and one pagers for DC briefing to name a few.

RESOURCE ROOM

Resource room staff hosted about 3,000 visitors this first quarter of 2019, including many schools and college classes.

2018 ANNUAL REPORT OF ACTIVITIES

This 233 page document contains highlights work completed in FY 18 relevant to each of the major chapters of the 2017 *Opportunities for Action*, including grant highlights for both closed and open grants, externally managed contracts and staff activities.

2018 REPORT OF ACTIVITIES SUMMARY

This 8 page document provides an excellent starting point for helping people understand what the LCBP does each year. It's a popular piece with Congressional staff, committee members, the *Love the Lake* audience and visitors to the Resource Room. The summary was completed in January and is available in hard copy and on-line.

WATERSHED FOR EVERY CLASSROOM

Six educators are preparing their final work for the Watershed for Every Classroom course. Day 8 occurred in January, and included a review of student classroom work and a hands-on exploration of UVM Special Collections with geographer Jane Dorney. Educators chose topics relevant to their own final report for the class or particular questions their students have raised. Examples of the collections explorations included tracking historic waterborne diseases in the region and whether or not a sea horse was really been found in Lake Champlain shoreline sediment during a historic dig. The WEC program will conclude on May 3-4 in North Hero.

HEALTHY SOILS INITIATIVE-RAISE THE BLADE

More than 300 guests stopped by the *Raise the Blade* booth at the Flower Show March 1-3. Yard sticks were given to appreciative visitors and additional business partners were recruited. All Raise the blade partners assisted and two presented a Healthy Soils workshop during the event. The new exhibits created by Lake Champlain Sea Grant/UVM Extension showing actual root growth differences between grass that was mowed either to 3 inches or 2 inches gained lots of attention. Soon you will see *Raise the Blade* campaign signs on Chittenden County busses. More work will continue in Plattsburgh this spring. Residential customers and business in South Burlington, Plattsburgh and now likely St Albans are the target audiences.

DIVING IN VIDEO PRODUCTION

Released in February, a new *Diving In* video aired at the Champlain Basin Education Initiative's World Water Day event this year, focusing on the intersection of art and water. The video was distributed as part of the recruitment process for World Water Day, and featured a cool art-science project between JJ Flynn School and Generator in Burlington. The video also captured several simpler ways that schools could participate in the celebration. Additional videos are in production, including Atlantic salmon restoration efforts and invasive species. Link to the video: <http://www.lcbp.org/2019/02/diving-in-celebrating-art-and-water/>

YWCA/YMCA SUMMER CAMP WATERSHED EDUCATION PROGRAM

There is interest in completing a 2nd year w/ YMCA Camp Abnaki and YWCA Camp Hochelaga, perhaps with more support from an Education and Outreach Watershed Steward. We will assess our programming needs in April to reach up to 1200 new summer campers.

E&O INTERN

Applications have been received for the two Education and Outreach Stewards expected to be hired next month, anticipating that they will be with us mid-May until Sept. One primarily based in NY, one in VT.

WORLD WATER DAY EVENT MARCH 21

About 150 people attended the CBEI World Water Day event at Main Street Landing this year. Student work from 22 classrooms in NY and VT was celebrated. Awards included classroom resources, field trips, boat rides, and in class visits by resource specialists. LCBP paid for many awards but CBEI partners also contributed cool awards such as the Community Sailing Center's paddleboard class, a Saranac River exploration with Sea Grant to name a few.

VERMONT BOAT AND MARINE WORKSHOP

On March 29th, LCBP co-hosted the annual Vermont Boat and Marine Annual Workshop in Burlington. The LCBP, Sea Grant, and Vermont Boat and Marine Association gather each year on the last Friday of March -our only opportunity to meet with marina operators annually. Content focused on IJC work, pollution prevention spill equipment that has been prototyped by Sea Grant, CSO spills from Burlington, the Pumpout Navigational app, Residential and Commercial Wastewater System Rule Changes, and Vermont Green Business Program Updates, and funding for more pumpouts. The new Burlington and St Albans Marina operators attended this year.

ECHO STATE OF THE LAKE EXHIBITS/TMDL OUTREACH TOOLS

Staff assisted in developing and editing green stormwater messages as part of the ECHO exhibit about the *State of the Lake report*. The first exhibit phase will conclude in June. A new contractual award was also made to Peregrine Productions for designing TMDL outreach messaging.

HIGH SCHOOL STEWARDSHIP PROGRAM – LCBP and LC SEA GRANT/UVM EXTENSION

Staff is currently working on the curriculum requirements for the High School Watershed Stewardship pilot program now that Plattsburgh and South Burlington High Schools are firmly committed to the project. The program will launch in May for fall recruitment.



Champlain Valley National Heritage Partnership



Heritage Area Program Advisory Committee Report to the LCBP Steering Committee

April 9, 2019

The Gunboat *Spitfire*

Eric Howe and Jim Brangan attended a meeting to discuss next steps for the Revolutionary War-era gunboat, *Spitfire*, which sits on the bottom of Lake Champlain. The meeting was attended by representatives of the LCMM, Naval History and Heritage Command, the offices of Congresswoman Elise Stefanik and Senator Patrick Leahy, state archeologists from Vermont, the deputy commissioner of New York State historic sites, and the state historic preservation officers from New York, Dan McKay, and Vermont, Laura Trieschmann: members of the LCBP Steering Committee. The 4-hour meeting concluded with these next steps: develop an MOU between the LCMM, State of Vermont, New York State, and the LCBP among others that clearly identifies roles and responsibilities for the project; assist the U.S. Coast Guard in developing a regulated navigation area to protect the site; and begin the National Environmental Policy Act (NEPA) process, which will address Section 106 of the National Historic Preservation Act.

International Year of the Salmon

The LCBP developed three sets of traveling displays interpreting the natural and cultural heritage of the salmon, their early-19th century extirpation from Lake Champlain, the retrodiction of the fish in 1972, and the challenges facing biologists to keep the species healthy and viable in the lake. The exhibits have been featured at the Love the Lake Speakers Series, the Vermont State House, the Annual NEIWPC All-Staff Meeting, the Lake Champlain Fish and Wildlife Management Cooperative meeting, Paul Smith's College, and the Lake Between Conference. A set of exhibits will be displayed at Chimney Point State Historic Site for the summer season. The Lake Champlain Maritime Museum (LCMM) and the Ticonderoga Historical Society Museum will feature the exhibits in May and June. The LCBP is working with partners led by the U.S. Fish and Wildlife Service to plan events and programs associated with the International Year of the Salmon.

FY2019 CVNHP Workplan and Budget

Six reviewers from the HAPAC (two from New York, two from Quebec, and two from Vermont) assessed the 28 proposals—totaling \$261,130—for the FY2019 CVNHP Workplan and Budget. They recommend 17 proposals, which total \$149,630. These proposals will be presented to the LCBP Steering Committee on September 9, 2019.

TAC Updates, Lake Champlain Steering Committee meeting April 9-10, 2019

The TAC met three times since the December Steering Committee meeting. The March meeting was dedicated to FY19 technical proposal review. Thus, the TAC was quite busy during winter with a core group of dedicated members.

Reviews and recommendations

- Final report review: Tile drain monitoring phase 1 (Approved by TAC, currently in revision and review by LCBP staff). This report contains compelling and impactful results with immediate applicability.
- Review for feedback: FY19 Lake Champlain Phosphorus TMDL implementation projects. This will be discussed by the Steering Committee. Two projects will be proposed for TAC management.
- Review for feedback: IJC draft summary report, in-lake restoration techniques.
- LCBP technical report review: Concentration, loading, and trend estimates for nutrients, chloride, and total suspended solids in Lake Champlain tributaries, 1990 – 2017 (Approved)

Updates and presentations

- Update: US Army Corps of Engineers Champlain Canal Barrier Study
- Update: Boat launch steward program
- Discussion: FY19 technical budget development process
- Presentation: The Jefferson Project at Lake George: Advancing science and technology for ecosystem protection
- Update: Agriculture BMP multi-partner database
- Presentation: Lake Carmi modeling and aeration project

Grant proposal reviews

- TAC ranked and recommended FY19 Technical Proposals for Steering Committee approval (revised and approved by Executive Committee). These included some very compelling proposals that we will present later in the meeting.
- Enhanced Best Management Practices for Pollution Reduction record of decision (reviewed by TAC, approved by Executive Committee)
- Winter maintenance training for New York counties in the Lake Champlain Basin (approved by Executive Committee)
- Outreach Coordinator for Lake Champlain-Richelieu River Flood Study (approved by Executive Committee)

FY18 VT TMDL implementation Projects:

- **Developing Public-Private Partnerships (P3) to Meet the Stormwater General Permit for Parcels with ≥ 3 Impervious Acres** (Municipal Stormwater Assessments): VTDEC-managed; awarded \$224,445; agreement signed

- **Wetlands Conservation and Restoration:** VTDEC-managed, \$299,348 awarded; drafting agreements; \$425,652 remaining is proposed to be carried over to FFY19 VTFWD-managed wetlands restoration project
- **Wastewater Treatment Facility Optimization to Reduce Effluent Phosphorus:** VTDEC-managed; awarded \$130,000, agreement drafted
- **Using Green Stormwater Infrastructure to Mitigate Combined Sewer Overflows:** VTDEC-managed; awarded \$1,030,509; drafting agreement; \$219,490 remaining is proposed to be carried over to FFY19 VTDEC-managed GSI to mitigate CSOs project
- **Agricultural BMP Challenge for Agricultural Producers in the Lake Champlain Basin of Vermont:** VTDEC managed; no proposals awarded; \$250,000 remaining is proposed to be added to FFY18 VTAAFM-managed project for additional farm agronomic practices
- **Increased Implementation of Agricultural Water Quality Improvement Projects in the Lake Champlain Basin of Vermont:** In total, agronomic practices were implemented on 7,458.3 acres in the Lake Champlain Basin and \$198,707.60 were paid to farmers for these practices. The two positions are still awaiting Joint Fiscal Office approval.

Lake Champlain Basin Program Guiding Principles for Program Management

Approved: June 16, 2017

These guiding principles are intended to provide a framework for the proper and effective management of the Lake Champlain Basin Program (LCBP) and the Champlain Valley National Heritage Partnership (CVNHP). This document includes provisions relating to creation and development of the Program. In addition, this document addresses the roles and responsibilities of the Steering Committee and its Executive Committee, as well as several standing advisory committees, including the Technical, Education & Outreach, Heritage Area Program, and Citizen Advisory Committees. This document also outlines the roles of the Host Entity, the Program Director, and the staff of the Lake Champlain Basin Program and the Champlain Valley National Heritage Partnership. These guiding principles shall be adopted and periodically revised by the Steering Committee as needed and shall be reexamined in 2022 and every five years thereafter, unless deemed appropriate earlier. For purposes of this document, the Host Entity is the New England Interstate Water Pollution Control Commission (NEIWPCC).

Table of Contents

Creation of the Lake Champlain Basin Program	3
Funding and Oversight of the LCBP	3
Mission and Vision of the Lake Champlain Basin Program	5
LCBP Operating Structure, Committees, Host Entity, and Staffing	8
Background	8
Steering Committee Composition.....	9
Changes to the Steering Committee Composition	11
Committee Operating Protocols	12
Steering Committee Charge.....	13
Executive Committee	14
Executive Committee Membership	14
Executive Committee Charge.....	14
CAC Membership	15
The Role of the CACs.....	15
TAC Membership	16
The Role of the TAC.....	16
Heritage Area Partnership Advisory Committee (HAPAC).....	17
HAPAC Membership.....	17
The Role of the HAPAC.....	18
Education and Outreach Advisory Committee (E&O).....	19
E&O Committee Membership.....	19
The Role of the E&O Committee.....	19
Subcommittees and Ad Hoc Committees	20
The Host Entity.....	20
The Role of the Host Entity	21
LCBP and CVNHP Director	25
Funding Source Coordination	27
The Environmental Protection Agency	27
The Role of the EPA.....	27
Appendices.....	28

Creation of the Lake Champlain Basin Program

On November 5, 1990, the **Lake Champlain Special Designation Act** was signed into law under [Section 120 of the Clean Water Act](#). Sponsored by Senators Leahy and Jeffords from Vermont and Senators Moynihan and D'Amato from New York, this legislation designated Lake Champlain as a resource of national significance. The legislation authorized the assembly of the Lake Champlain Management Conference, a group organized and chaired by U.S. EPA Region I, and made up of federal, state, and local designees with expertise in various technical and policy areas. The goal was to bring together people with diverse interests in the Lake and to create a comprehensive plan for protecting the future of Lake Champlain and its surrounding watershed. The Act specifically required examination of water quality, fisheries, wildlife, recreational, and economic issues. The challenge has been both to identify particular problems requiring management action and to chart an integrated plan for the future of the Lake Champlain Basin. To address this challenge, the Special Designation Act established the Lake Champlain Basin Program and authorized funding support from the EPA to the States of Vermont and New York and the New England Interstate Water Pollution Control Commission (NEIWPCC) to implement that Lake Champlain Basin Program (LCBP).

The Lake Champlain Management Conference undertook a five-year program of resource evaluation and management plan development, culminating in the 1996 comprehensive management plan Opportunities for Action (OFA). The Lake Champlain Management Conference decided to assign oversight of the implementation work of the LCBP to the Lake Champlain Steering Committee, and identified the membership of the new Committee in the 1996 management plan.

Funding and Oversight of the LCBP

The Lake Champlain Steering Committee is comprised of a broad spectrum of representatives of government agencies with a stake in the basin and the non-governmental chairs of advisory groups representing citizen Lake users, scientists, and educators. The Lake Champlain Special Designation Act was reauthorized in 2002, with the **Daniel Patrick Moynihan Lake Champlain Basin Program Act** authorizing expenditures of up to \$11 million in EPA funds per year to accomplish this goal [www.lcbp.org/PDFs/H.R.1070_LCBPAuthorization_2002.pdf]. Recent annual appropriations have averaged a little over \$4 million, which support numerous LCBP programs and Lake Champlain Steering Committee priorities each fiscal year. In addition, the LCBP receives annual appropriations via the Great Lakes Fishery Commission (GLFC) and the National Park Service (NPS).

The Great Lakes Fishery Commission was established by the 1954 Convention on Great Lakes Fisheries to encourage cross-border collaborative management efforts to restore the fisheries of the Great Lakes, particularly for management of sea lamprey. The recognition of sea lamprey as a nuisance species in Lake Champlain opened an avenue for funding through the GLFC to support fisheries and water quality restoration work in Lake Champlain. The GLFC, the LCBP, and the U.S. Fish & Wildlife Service (USFWS) entered into a Memorandum of Understanding (MOU) on Native Species and Habitat Restoration and Water Quality Improvements in 2010. Approximately \$3 million is currently appropriated via the GLFC toward Lake Champlain work annually, a reflection of Senator Leahy's commitment to improving the Lake Champlain ecosystem. Roughly one-third of this appropriation is available to LCBP to support watershed restoration work in Lake Champlain, with the balance directed toward sea lamprey management, fisheries research, and other habitat restoration work conducted by the US Fish and Wildlife Service and fisheries research at the University of Vermont.

The Champlain Valley National Heritage Partnership (CVNHP) was established in 2006 as a part of the National Heritage Area (NHA) programs to recognize the importance of the historical, cultural, and recreational resources of the region and to assist efforts to preserve, protect, and interpret those resources. The Lake Champlain Basin Program (LCBP) is the managing entity of the CVNHP. The LCBP coordinates its work with its official liaison to the National Park Service (NPS), the Marsh-Billings-Rockefeller National Historical Park (MBRNHP) located in Woodstock, Vermont. The purpose of the NHA also is to enhance the quality of the tourism economy and to encourage working partnerships among state, provincial, and local governments and non-profit organizations in New York, Québec, and Vermont. As a NHA with an approved management plan, the Champlain Valley National Heritage Partnership (CVNHP) is authorized to receive up to \$1 million annually, and is typically appropriated \$300,000 from the National Park Service (NPS). The funds are allocated annually from the U.S. Department of Interior budget, which is determined by the U.S. Congress.

During the past two decades, the LCBP has sponsored a great variety of research, monitoring, and grants to regional organizations to promote water quality programs and install projects to improve water quality. LCBP has provided more than \$7 million to support over 1,000 small grants awarded to more than 600 local recipients to reduce pollution in the Lake, educate and involve the public, and gather and share information about Lake issues. The LCBP also has funded education, planning, demonstration, control, research, and monitoring projects to restore and protect water quality and the diverse natural and cultural resources of the Lake Champlain Basin.

As a partnership of provincial, state, interstate, and US federal agencies, the Lake Champlain Basin Program (LCBP) brings cross-boundary and multidisciplinary leadership experience to coordinating and implementing the plan. The LCBP works cooperatively with many partners to protect and enhance the environmental integrity and the social, cultural, and economic benefits of the Lake Champlain Basin. Lake Champlain Steering Committee membership from New York, Québec, and Vermont reflects each jurisdiction's commitment to the 2015 *Memorandum of Understanding on Environmental Cooperation on the Management of Lake Champlain among The State of New York, The State of Vermont and the Government of Québec*. It is this MOU that also describes the role, goals, and eligible membership of the Lake Champlain Steering Committee. US federal agency participation in the Lake Champlain Steering Committee, as described in the 2015 MOU, reflects the federal commitments established in the *Special Designation Act of 1990* and the *Daniel Patrick Moynihan Lake Champlain Basin Program Act of 2002*, which have enabled substantial US federal funds to be appropriated to support the work of the LCBP. These funds are made available to the LCBP to support operations and tasks that are consistent with the federal authorizations.

In 1996, the Lake Champlain Basin Program adopted the first *Opportunities for Action: An evolving plan for the Lake Champlain basin*. The plan was the result of six years of work by more than 100 partners representing US federal, New York and Vermont state government, Quebec provincial government, local municipalities, academic institutions, and numerous watershed organizations. OFA has subsequently been updated in 2003, 2010, and in 2017. The 2017 update of OFA reflects four core goals: clean water, healthy ecosystems, thriving communities, and an informed and involved public.

In 1992, the Lake Champlain Management Conference selected the New England Interstate Water Pollution Control Commission (NEIWPCC) to host the newly formed LCBP. See Section 6, The Host Entity for more. The role of NEIWPCC was further codified in the Great Lakes and Lake Champlain Act of 2002 (Clean Water Act §120), in which NEIWPCC was named alongside the States of Vermont and New York as an entity authorized to receive support from the U.S. EPA to implement the LCBP.

Mission and Vision of the Lake Champlain Basin Program

The mission of the LCBP is to coordinate and support efforts that benefit the Lake Champlain Basin's water quality, fisheries, wetlands, wildlife, recreation, and cultural resources by working in partnership with government agencies from New York, Vermont, and Québec, private organizations, local communities, and individual stakeholders.

These efforts are guided by OFA. The Lake Champlain Steering Committee and LCBP staff work with program partners, advisory committees, and local communities to implement this plan through a variety of federal, state, and local funds.

The Lake Champlain Steering Committee has identified key functions that must be accomplished to successfully implement the plan. These functions include the following:

COORDINATE PROGRAMS AND IMPLEMENTATION ACTIVITIES

Coordination among government agencies, regional and local governments, the public and private sectors, nonprofit organizations, residents, and visitors is critical to successful implementation of the plan. Coordination involves facilitating data management and information exchange, resource and data sharing, and improving efficiency among key partners while not duplicating programs or creating new layers of bureaucracy.

INFORM AND INVOLVE THE PUBLIC

Public information and involvement efforts are required for successful implementation of the plan. A public that understands the Basin's water quality and resource management issues can make informed choices about the long-term protection and restoration of the Lake. A commitment to lifelong education about Basin resources is needed to facilitate this process. Furthermore, involving the public in planning and implementation increases both the sphere of responsibility for action and support for recommended actions.

SUPPORT LOCAL LEVEL IMPLEMENTATION

Implementation at the local level is the cornerstone of successful plan implementation. Addressing pollution problems at the local level is important because those most affected by an issue are often best able to address that issue. Many communities have existing resources and organizations to help implement programs, but may lack technical expertise, adequate funding, or access to additional human and financial resources. Building local capacity for plan implementation requires strengthening technical assistance to community groups and may require additional financial support for local programs.

MEASURE AND MONITOR SUCCESS RELATIVE TO PLAN BENCHMARKS

A critical component of watershed planning is monitoring, which must accomplish two roles. First, it must be a source of information regarding the health of the Lake and Basin. Management capacity hinges on the availability and reliability of comprehensive monitoring of key ecosystem indicators. Second, monitoring must measure the success of management programs and ensure accountability to the public. Monitoring can help determine progress toward goals and whether or not priorities need to be adjusted.

CREATE LINKS WITH LEGISLATIVE BODIES

Successful plan implementation depends greatly on the ability to gain political support for recommended actions. A framework is needed to communicate needs and recommend actions concerning the Lake to legislative bodies who formulate federal, state, and local laws and appropriate funds to various programs.

CREATE LINKS WITH INTEREST GROUPS

Implementation of the recommended actions in the plan depends greatly on continued support from numerous individuals and groups. Decisions concerning the management of the resources in the Lake Champlain Basin should be made through a consensus-based, collaborative process that encourages the expression and understanding of diverse viewpoints. This process helps integrate economic and environmental goals into plan implementation and ensures that a focus on implementation at the local level is maintained.

CONDUCT RESEARCH

The plan identifies several areas in which research is needed. Research has been an important component of preparing and updating the plan and will continue to provide critical information as implementation evolves. Improved knowledge of the physical, chemical, biological, and social characteristics of the Lake and Basin will help resource managers make effective policy and management decisions in the future.

SECURE AND DIRECT FUNDING

The cost of implementing the plan is high, though not as high as the potential costs of failing to act. The ability to implement watershed programs rests heavily on the availability of and access to funding sources. A mechanism must be in place to seek public and private funding for program implementation as appropriate and to allocate resources to appropriate entities based upon recommended priorities. Refer to Strategies for Funding Implementation for a discussion of funding implementation efforts.

UPDATE PLAN RECOMMENDATIONS

Because environmental conditions in the Basin change over time and new technologies will be discovered, priorities for action in the plan may change. Some management programs may become more important, others less. The plan should be reviewed and updated periodically to reflect these changing conditions. Moreover, the Steering Committee periodically should identify new actions requiring implementation based on reports of emerging issues from advisory committees and the LCBP's adaptive management initiative.

ADVISE AND ENCOURAGE AGENCIES RESPONSIBLE FOR IMPLEMENTATION

As the plan evolves, various agencies will fulfill their responsibilities for implementing certain actions. Listed benchmarks provide gauges for monitoring success. Those

responsible for implementing actions must be encouraged to follow through with their commitments and reach these benchmarks. Regular reporting of accomplishments, presented with the plan on the LCBP website plan.lcbp.org will both document and communicate progress as it is achieved.

LCBP Operating Structure, Committees, Host Entity, and Staffing

Background

The US Environmental Protection Agency (USEPA), Great Lakes Fishery Commission (GLFC), and National Park Service (NPS) regularly enter into grant agreements with the New England Interstate Water Pollution Control Commission (NEIWPCC), Vermont, and New York on behalf of the LCBP to implement tasks according to a single coordinated LCBP workplan approved by the Lake Champlain Steering Committee. Most tasks are implemented by LCBP staff who, as NEIWPCC employees, provide management and continuity through annual budget cycles and who coordinate the advisory committees and procedures involved in annual operations.

The Lake Champlain Steering Committee is responsible for approving all workplans supported with LCBP funds. 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. Other work in the U.S. sector of the watershed is funded by federal appropriations to other federally funded agencies and commissions. EPA, GLFC, and NPS annual appropriations reflect both the executive branch priority as a line in the President's budget and the Congressional commitment, through substantial and continuing Congressional support.

Work in the Canadian sector of the basin is funded by provincial appropriations in the Canadian Province of Québec. Led by the Québec Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (Ministry of Sustainable Development, Environment and the Fight against Climate Change), the highest priorities of *OFA* are reflected in annual provincial ministry action plans.

Many essential research, monitoring, and resource management endeavors are developed with common methodologies on each side of the border so that data may be shared, analyzed, and reported easily. The successful experience of one jurisdiction is regularly shared with neighboring jurisdictions, and replication often is successful. Cross-marketing of programs, initiatives, and events and collaborative planning efforts are characteristic of the working relationships maintained by Steering Committee members. See Figure A1 for an outline of the LCBP Operating Structure.

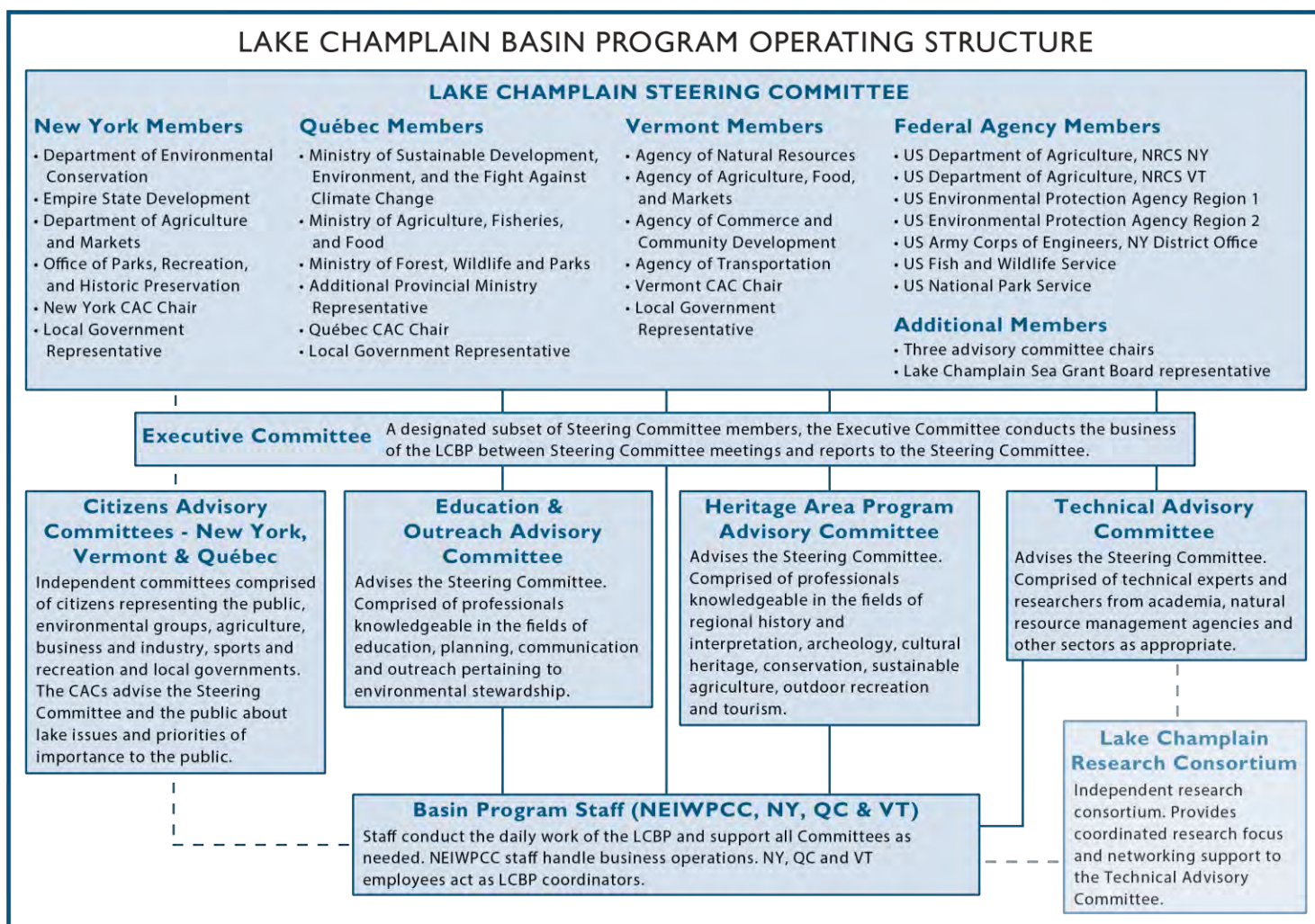


Figure A1. LCBP Operating Structure.

Lake Champlain Steering Committee

As affirmed through the *Memorandum of Understanding* signed by the Governors of New York and Vermont and the Premier of Québec in 2015, the Lake Champlain Steering Committee will continue its present role as a participatory forum in which key state, provincial, U.S. federal, and local leaders from New York, Québec, and Vermont can discuss issues of Lake Champlain and its watershed and coordinate policies and programs. As further codified by the *Daniel Patrick Moynihan Lake Champlain Basin Program Act of 2002* ([U.S. Public Law 107-303](#)), the LCBP is identified and authorized as the coordinated effort to implement OFA, with U.S. federal government participation and with federal funds.

Steering Committee Composition

The Steering Committee has been established to represent the wide range of state, local, federal and cross-jurisdictional interests and available resources in the basin to carry out OFA. Each (state and provincial) jurisdiction has identified its chief environmental delegate,

who hosts and chairs Steering Committee meetings in rotation; this pattern contributes to cross-boundary coordination and teamwork. The states of New York and Vermont and the province of Québec maintain the following (twenty-nine) partners on the Steering Committee to ensure a diversity of informed partners in the leadership of the LCBP.

Voting membership of the Lake Champlain Steering Committee includes:

- **Four New York State** agency representatives appointed by the governor: New York should consider the Department of Environmental Conservation (NYSDEC), Empire State Development (ESD), the Department of Agriculture and Markets (NYSDAM), and the Office of Parks, Recreation, and Historic Preservation (NYSOPRHP).
- **Four Vermont State** agency representatives appointed by the Governor: Vermont should consider the Agency of Natural Resources (VTANR), the Agency of Agriculture, Food, and Markets (VTAAFM), the Agency of Commerce and Community Development (VTACCD), and the Agency of Transportation (VTRANS).
- **Four Québec Provincial** representatives appointed by the Premier: Québec should consider three provincial representatives from the Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (Ministry of Sustainable Development, Environment and the Fight against climate change), Ministère Agriculture, Pêcheries et Alimentation du Québec (MAPAQ, Ministry of Agriculture, Fisheries, and Food of Québec), and Ministère des Forêts, de la Faune et des Parcs (QC MFFP, Ministry of Forest, Wildlife and Parks of Québec), and a fourth representative from provincial ministry leadership.
- **Three Local Government** representatives from municipalities in New York, Québec, and Vermont will ensure that Steering Committee decisions are well informed regarding local community interests. Local governments and the Steering Committee may nominate representatives and the corresponding governor or premier is encouraged to make a corresponding appointment.
- **Three Citizen Advisory Committee** chairs are Steering Committee members, one each from New York, Québec, and Vermont.
- **Three Advisory Committee** chairs, from the Technical Advisory Committee (TAC), Education and Outreach Advisory Committee (E&O), and Heritage Area Partnership Advisory Committee (HAPAC), are Steering Committee members.
- **One Lake Champlain Sea Grant** representative may serve as a member of the Steering Committee.
- **Seven US Federal Agency** representatives serve on the Steering Committee. Represented in these positions are:

- the US Department of Agriculture Natural Resources Conservation Service, New York State Conservationist;
- the US Department of Agriculture Natural Resources Conservation Service, Vermont State Conservationist;
- the US Environmental Protection Agency Region 1;
- the US Environmental Protection Agency Region 2;
- the US Army Corps of Engineers, New York District Office;
- the US Department of the Interior – Fish and Wildlife Service; and
- the US Department of the Interior – National Park Service.

Members of the New York and Vermont congressional delegation staff are Steering Committee members who serve a non-voting liaison role.

Changes to the Steering Committee Composition

The Lake Champlain Steering Committee may appoint new organizations to full membership in the Committee. Any changes to the composition of the Steering Committee shall be documented in the next subsequent revision of *Opportunities for Action*. The LCBP encourages participation from any organization regardless of formal voting membership on the Steering Committee. Eligible organizations to the Steering Committee are established by the most recent Memorandum of Understanding on Environmental Cooperation on the Management of Lake Champlain between New York, Québec, and Vermont. The following procedure outlines the process for appointing new organizations to the Steering Committee:

Any interested, eligible organization (eligibility is determined in the most recent [VT/NY/QC MOU](#)) must submit a letter of interest to the LCBP/CVNHP Director. The letter should:

- state the mission of the organization and how this mission relates to the mission of the Lake Champlain Steering Committee and the LCBP/CVNHP.
- describe how the organization's membership on the Steering Committee would further the mission of the LCBP and its priorities identified in OFA.
- clearly document what resources the group can bring to the Steering Committee in the form of direct funding support for Lake Champlain projects and programs that support *Opportunities for Action*.
- demonstrate how their interests are not represented by the current membership of the Steering Committee and how a voting membership by the new organization would change representation of these interests.
- clearly identify the person or position (e.g. Director or Program Manager) within the organization who would be formally representing the organization on the Steering Committee.

The LCBP/CVNHP Director will discuss the letter with the interested organization, reviewing the mission of the LCBP/CVNHP, the role and charge of the Steering Committee, and any other relevant information at that time.

The LCBP/CVNHP Director will then circulate the letter of interest to the Lake Champlain Steering Committee, and will confer with the Chair of the Executive Committee and the three Chairs of the Steering Committee (New York, Québec, and Vermont MOU designees) to review and discuss the letter of interest during the next convenient Executive Committee agenda. The Chair of the Executive Committee may request that a representative of the interested organization attend the meeting to respond to questions. The Executive Committee may elect to discuss the letter in Executive Session, according to the open meeting laws established for the jurisdiction in which the meeting is occurring. The Executive Committee will discuss the merits of the requested membership and may then choose whether to nominate the interested organization for appointment to the Steering Committee by simple majority vote.

If the interested party is nominated for appointment to the Steering Committee, a representative(s) from the party will attend the next convenient Steering Committee meeting to inform the Committee about their organization, reason(s) for interest in joining the Committee, and resources their party can contribute to the group. The Steering Committee may then choose to appoint the organization to the Committee following the same procedures described for the Executive Committee nomination process. If the Committee agrees to add the interested organization to the membership, an appropriate representative(s) of the organization will be added to all appropriate distribution lists at that time and informed of upcoming meeting schedules and other obligations of membership to the Steering Committee.

Committee Operating Protocols

- a) Steering Committee meetings are chaired by the member from the environmental agency of the jurisdiction hosting the meeting, QCMDDELCC, NYSDEC, or VTANR.
- b) All committees operate under the basic principles outlined in Robert's Rules of Order.
- c) The Steering Committee conducts all meetings in compliance with the open meeting laws of the host jurisdiction (State or Province) while
 - a. keeping meetings open and accessible to the public unless obligated to meet in executive session;
 - b. meeting in executive session only when considering confidential matters limited to:
 - review of competitive bids and awards,
 - personnel discussions related to appointment to or removal from a LCBP committee,
 - discussions related to nomination of new members to the Steering Committee and Advisory Committees.
 - LCBP human resource matters,
 - matters that would, in any of the three jurisdictions, be required by law to be maintained in confidence.
 - c. taking no formal actions while in executive session.

- d. All formal actions or decisions by the Steering Committee and all other LCBP committees will be based on simple majority vote by the members participating in the meeting.
- d) On a meeting-by-meeting basis, any Steering Committee member may, by written communication to the LCBP Director in advance of the meeting, designate another individual to participate in his or her stead at a Steering Committee meeting with proxy voting rights. Written proxy authorizations are maintained in the files of the LCBP.
- e) No votes *in absentia* are permitted; members participating in real-time through conference call or other electronic or internet media sharing are considered present.
- f) Steering Committee meeting draft agendas will be shared with all members, interested media, and members of the public at least one week prior to a regularly scheduled meeting.
- g) Meeting minutes will be posted on the LCBP website within approximately one week of approval.
- h) Committee members will be asked to review the *LCBP Conflict of Interest Guidelines for Committee Members and Peer Reviewers* (Appendix 1) to ensure close adherence to these guidelines during appropriate LCBP processes.

Steering Committee Charge

The charge of the Steering Committee includes:

- a) Provide a forum for discussion of policies and issues of mutual concern.
- b) Identify topics of mutual interest in which the exchange of information and coordinated actions will be beneficial.
- c) Oversee the implementation of the Lake Champlain long-term management plan *Opportunities for Action: An Evolving Plan for the Future of the Lake Champlain Basin (OFA)*.
- d) Identify key budget priorities annually to guide the early stages of draft budget development by LCBP committees and management, and identify additional resources necessary for plan implementation when possible.
- e) Review the progress of cooperative efforts for management of Lake Champlain and make recommendations for future activities.
- f) Seek the involvement of the public and appropriate academic institutions in the joint effort to guide management of the Lake.
- g) Promote interaction and coordination among regulatory and management programs in the review of developments that affect the Lake.
- h) Revise and update *OFA* on a five-year schedule.
- i) Negotiate partnerships and commitments among agencies and groups to further the implementation of *OFA*.
- j) Meet at least two times each year to facilitate communication and coordination among key partners working to implement *OFA*.
- k) Monitor and evaluate progress against plan benchmarks and communicate that information by periodically producing an annual implementation status report and other education and outreach tools.

- l) Select contractors and grant recipients for competed funds and approve Records of Decision as appropriate.
- m) Charge the Executive Committee and advisory committees with tasks as appropriate and form *ad hoc* subcommittees for special tasks as needed.
- n) Appoint chairs and members of the TAC, E&O, and HAPAC based, where possible, on nominations recommended by the Executive Committee and forwarded by its Chair.
- o) Oversee the coordination of cultural heritage and recreational resource enhancement and stewardship programs of the Champlain Valley National Heritage Partnership.
- p) Make adjustments in the composition of the Steering Committee as needed to achieve the goals of the plan.
- q) Provide assistance to NEIWPCC on the hiring process for the LCBP and CVNHP Director (see **LCBP Staff Management and recruitment processes**, below, for more details on this process).

Executive Committee

To increase its effectiveness, the Steering Committee has assigned eleven of its members to comprise an Executive Committee to meet four to eight times per year between Steering Committee meetings to conduct LCBP business on behalf of the Steering Committee. New York, Vermont, and the US Environmental Protection Agency (USEPA) share chairmanship of the Executive Committee in a two-year rotation; this pattern contributes to stability in operational guidance of the LCBP, with appropriate leadership duties provided by the jurisdictions in which the LCBP is principally funded and in which the office is located.

Executive Committee Membership

The Executive Committee includes Steering Committee representatives of the New York State Department of Environmental Conservation, Québec Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (Ministry of Sustainable Development, Environment and the fight against climate change), Vermont Agency of Natural Resources, USEPA Region 1, USEPA Region 2, and the chairs of the six advisory committees (New York, Québec, and Vermont Citizen Advisory Committees (CACs), Technical Advisory Committee (TAC), Education and Outreach Advisory Committee (E&O), and Heritage Area Partnership Advisory Committees (HAPAC)). These eleven members make up the regular voting membership of the Executive Committee. However, any Steering Committee member may participate in any Executive Committee meeting with the option of voting if present. Executive Committee meeting draft agendas are distributed to the full Steering Committee one week in advance of meetings. Executive Committee members may designate a proxy to serve in their capacity. Designations must be submitted in writing to the LCBP/CVNHP Program Director.

Executive Committee Charge

- a) Meet regularly to guide the work of the LCBP between Steering Committee meetings and provide interpretation of the intent of the Steering Committee to the LCBP management.

- b) Receive its charge for special tasks from the Steering Committee and report its actions to the Steering Committee, which has final authority on all LCBP policy matters. The Executive Committee is normally delegated to act between Steering Committee meetings with the full authority of the Steering Committee, and subject to Steering Committee guidance.
- c) Prepare the draft LCBP budget each fall based on task proposals recommended by LCBP management, and the chairs of TAC, E&O, and HAPAC. The Executive Committee Chair presents the recommended draft budget to the Steering Committee each winter for Steering Committee review, adjustment, and approval.
- d) Nominate chairs and members of the TAC, E&O, and HAPAC, based on recommendations from Steering Committee members and LCBP staff. The Executive Committee is the sole source of advisory committee nominations eligible for consideration and appointment by the Steering Committee. See below on CAC appointments.
- e) Consider potential contractors and grant recipients for competed funds based on LCBP staff reports of the competitive review processes and approve awards through **Records of Decision** as appropriate.
- f) Adhere to the meeting protocols applicable to Steering Committee meetings.

Citizen Advisory Committees (CACs)

The New York, Québec, and Vermont CACs serve as important liaisons to the public. As positions become available on the CACs, the states and province ensure that representatives from environmental groups, agriculture, business and industry, sports and recreation, and local governments are included to the extent practicable.

CAC Membership

Stakeholder groups may nominate representatives, and the persons or agencies in New York, Québec, and Vermont who have the authority to appoint CAC representatives should include those nominees in the pool considered for appointment. NY CAC appointments are made by the Commissioner of NYS DEC; VT CAC appointments are made by the Governor, and Quebec CAC appointments are made by the Minister of Environment. All members of the CACs serve up to three-year appointments that are renewable. The CACs elect their chairs, who serve as voting members of the Steering and Executive Committees.

The Role of the CACs

- a) Inform and involve the public on issues concerning the Lake and the Basin.
- b) Provide a regular forum for interest groups and local governments to discuss the issues facing the Lake and the Basin.
- c) Advise the Steering Committee about public concerns and interests.
- d) Provide a link between the Steering Committee and LCBP staff and governmental bodies and groups implementing the plan at the local level.
- e) Provide recommendations to the Steering Committee about evolving plan priorities.
- f) Advise and encourage agencies responsible for implementing plan actions to follow through with their commitments, for example, by presenting an annual report of recommendations to the legislatures.

- g) Participate in review panels for LCBP grant programs as requested.
- h) Host public meetings for information exchange regarding plan implementation.

Technical Advisory Committee (TAC)

The Steering Committee appoints (for staggered three-year terms that are renewable), a Technical Advisory Committee comprised of professionals from academia, natural resource management agencies, and other sectors as it deems appropriate.

TAC Membership

TAC is comprised of five jurisdictional members and additional members-at-large appointed to three-year terms that are renewable.

- a) Five jurisdictional members: one technical expert each from: New York State Department of Environmental Conservation, Québec Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (Ministry of Sustainable Development, Environment and the fight against climate change), and Vermont Agency of Natural Resources, will be appointed by their respective jurisdictions to provide both objective technical and scientific expertise *and* representation of their respective jurisdictional perspectives on technical issues. These three memberships have voting capacity. In addition, U.S. Environmental Protection Agency Regions 1 and 2 each are represented on TAC, with nonvoting status, so that technical expertise from the primary funding agency is available in TAC discussions.
- b) All other TAC members are members-at-large. Members-at-large are appointed by the Steering Committee solely based on their technical and scientific expertise, in order to provide objective technical and scientific expertise needed by the TAC, but **not** to represent institutional or jurisdictional entities. No attempt is made to provide specific stakeholder representation on TAC, but balance of representation from jurisdictional areas may be considered. TAC members serve at the pleasure of the Steering Committee for three-year, renewable terms. Membership renewal is discussed with each individual member, the Chair of the TAC, the LCBP Technical Coordinator, and the LCBP/CVNHP Director. The LCBP/CVNHP Director has the authority to renew membership. The Chair of the TAC also is appointed by the Steering Committee and serves as a voting member of the Steering and Executive Committees.

The Role of the TAC

The role of the TAC includes the following:

- a) Present the Steering Committee and LCBP staff with objective information to be used in the decision-making process as requested, including:
 - i. emerging technical and scientific management issues,
 - ii. the necessary research or actions to address those issues, and
 - iii. draft task descriptions and funding recommendations.
- b) Provide professional review of proposals for LCBP-funded technical and scientific studies and projects, as requested.

- c) Evaluate interim and final products and reports for LCBP-funded technical and scientific studies and projects, as requested.
- d) TAC meetings are open and accessible to the public except when TAC is obliged to meet in closed executive session.
 - i. TAC will meet in closed executive session only when considering confidential matters limited to:
 - a. review of competitive bids and awards,
 - b. review of interim or final report drafts submitted to the LCBP by a subrecipient (contractor or subaward).
 - ii. TAC will take no formal actions while in closed session.
- e) On a meeting-by-meeting basis, any TAC member may, by written communication to the LCBP Director in advance of the meeting, designate another individual to participate in his or her stead at a TAC meeting with proxy voting rights. Proxy authorizations are noted in TAC meeting summaries.
- f) No votes *in absentia* are permitted; members participating in real-time through conference call or other electronic or internet media sharing are considered present.
- g) Committee members will be expected to review the *LCBP Conflict of Interest Guidelines for Committee Members and Peer Reviewers* (Appendix 1) to ensure close adherence to these guidelines during appropriate LCBP processes.

As organizations and partnerships established independently of the LCBP continue to address technical issues in the Basin and function in their own right, they also may provide important input to the TAC. These organizations include the Lake Champlain Fish and Wildlife Management Cooperative, the Aquatic Invasive Species Rapid Response Task Force, the Lake Champlain Research Consortium, Lake Champlain Sea Grant, and several other groups and partnerships.

Heritage Area Partnership Advisory Committee (HAPAC)

The Steering Committee appoints the Heritage Area Program Advisory Committee to provide advice concerning the implementation priorities for the [*Champlain Valley National Heritage Partnership Management Plan*](#).

HAPAC Membership

HAPAC is composed of professionals from public and private sectors knowledgeable in fields that address regional history, historical interpretation, archeology, cultural heritage, conservation, sustainable agriculture, outdoor recreation, and tourism. HAPAC appointments are made solely on the basis of professional expertise in order to provide objective guidance needed by the LCBP, but not to represent institutional or jurisdictional entities. HAPAC members serve 3-year, renewable terms. No attempt is made to provide stakeholder representation on HAPAC. HAPAC members serve at the discretion of the Steering Committee. Membership renewal is discussed with each individual member, the Chair of the HAPAC, the LCBP Cultural Heritage and Recreation Coordinator, and the LCBP/CVNHP Director. The LCBP/CVNHP Director has the authority to renew membership.

The chair of the HAPAC, appointed by the Steering Committee, serves as a voting member of the Steering and Executive Committees.

The Role of the HAPAC

The role of the HAPAC includes the following:

- a) Present the Steering Committee and LCBP staff with objective information to be used in the decision-making process as requested, including:
 - i. emerging heritage resource management issues,
 - ii. the necessary research or actions to address those issues, and
 - iii. draft task descriptions and funding recommendations.
- b) Provide professional review of proposals for LCBP-funded heritage-related implementation tasks as requested.
- c) Evaluate interim and final products and reports for LCBP-funded heritage-related studies and projects as requested.
- d) Advise the Steering Committee and staff regarding opportunities for trans-boundary partnerships, key partnerships, and cooperative projects both within the Champlain Valley National Heritage Partnership and adjacent areas.
- e) HAPAC meetings are open and accessible to the public except when HAPAC is obliged to meet in closed executive session.
 - i. HAPAC will meet in closed executive session only when considering confidential matters limited to:
 - a. review of competitive bids and awards,
 - b. review of report drafts submitted to the LCBP by a subrecipient (contractor or subaward).
 - ii. HAPAC will take no formal actions while in closed session.
- f) On a meeting-by-meeting basis, any HAPAC member may, by written communication to the LCBP Director in advance of the meeting, designate another individual to participate in his or her stead at a HAPAC meeting with proxy voting rights. Proxy authorizations are noted in HAPAC meeting summaries.
- g) No votes *in absentia* are permitted; members participating in real-time through conference call or other electronic or internet media sharing are considered present.
- h) Committee members will be asked to review the *LCBP Conflict of Interest Guidelines for Committee Members and Peer Reviewers* (Appendix 1) to ensure close adherence to these guidelines during appropriate LCBP processes.

As organizations and partnerships established independently of the LCBP to address cultural heritage and recreational issues in the Basin continue to function independently, they may also provide input to the HAPAC. These organizations include the regional marketing organizations and chambers of commerce, scenic byways programs, cultural

heritage tourism initiatives, arts councils in both states, and several other groups and partnerships.

Education and Outreach Advisory Committee (E&O)

The Steering Committee will appoint an E&O Advisory Committee comprised of professionals from educational institutions and organizations in the Basin and with representation from the CACs and other appropriate sectors.

E&O Committee Membership

The E&O Committee is composed of professionals from public and private sectors knowledgeable in fields that include education, public information technology, electronic and broadcast media, and outreach pertaining to environmental stewardship and related topics of the plan. The E&O members serve at the discretion of the Steering Committee. E&O appointments are made solely on the basis of professional expertise in order to provide objective guidance needed by the LCBP, but not to represent institutional or jurisdictional entities. No attempt is made to provide stakeholder representation on E&O. E&O members serve for three-year terms that are renewable. Membership renewal is discussed with each individual member, the Chair of the E&O Committee, the LCBP Education and Outreach Coordinator, and the LCBP/CVNHP Director. The LCBP/CVNHP Director has the authority to renew membership. The chair of the E&O Committee, appointed by the Steering Committee, serves as a voting member of the Steering and Executive Committees.

The Role of the E&O Committee

The role of the E&O Committee includes the following:

- a) Present the Steering Committee and LCBP staff with objective information to be used in the decision-making process as requested, including:
 - i. emerging educational and outreach opportunities and issues,
 - ii. the necessary programmatic actions to address those issues, and
 - iii. draft task descriptions and funding recommendations.
- b) Provide professional review of proposals for LCBP-funded education and outreach implementation tasks, as requested.
- c) Evaluate interim and final products and reports for LCBP-funded education and outreach tasks, as requested.
- d) Advise the Steering Committee and staff regarding opportunities for trans-boundary partnerships, key partnerships, and cooperative projects to enhance education and outreach program effectiveness.
- e) Advise the Steering Committee and staff regarding opportunities for the application of multimedia and multimodal technical tools to enhance education and outreach program effectiveness.

- f) E&O meetings are open and accessible to the public except when E&O is obliged to meet in closed executive session.
 - i. E&O will meet in closed executive session only when considering confidential matters limited to:
 - a. review of competitive bids and awards,
 - b. review of reports drafts submitted to the LCBP by a subrecipient (contractor or subaward).
 - ii. E&O will take no formal actions while in closed session.
- g) On a meeting-by-meeting basis, any E&O member may, by written communication to the LCBP Director in advance of the meeting, designate another individual to participate in his or her stead at an E&O meeting with proxy voting rights. Proxy authorizations are noted in E&O meeting summaries.
- h) No votes *in absentia* are permitted; members participating in real-time through conference call or other electronic or internet media sharing are considered present.
- i) Committee members will be asked to review the *LCBP Conflict of Interest Guidelines for Committee Members and Peer Reviewers* (Appendix 1) to ensure close adherence to these guidelines during appropriate LCBP processes

Subcommittees and Ad Hoc Committees

As deemed necessary, the Steering Committee may establish and populate additional subcommittees or ad hoc committees where membership may include Committee members as well as non-members. The Steering Committee may assign the LCBP Director the responsibility of identifying appropriate membership for ad hoc subcommittees. All subcommittees will operate according to the roles and responsibilities established for the standing committees, as outlined above. The role of subcommittee chairs in reporting to the Steering Committee shall be determined by the Steering Committee upon the creation of each subcommittee. Subcommittee chairs may report directly to the Steering or Executive Committee, to another standing subcommittee, or to the LCBP/CVNHP Director.

The Host Entity

In 1992, the Lake Champlain Management Conference selected the New England Interstate Water Pollution Control Commission ([NEIWPC](#)) to receive LCBP funding to serve as the Host Entity for the LCBP. NEIWPC is a congressionally authorized non-profit interstate organization, formed in 1947. NEIWPC's programmatic direction is decided by its Commission of 35 persons appointed by the governors of its member states; Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont.

The Commission serves its member states by coordinating efforts that encourage cooperation among the states, developing resources that foster progress on water issues,

representing the region in matters of federal policy, training environmental professionals, managing programs and administering grants, initiating and overseeing scientific research, educating the public, and providing overall leadership in water management and protection. NEIWPCC's core work covers a variety of topics related to clean water including wastewater and onsite systems, water quality standards, wetlands, pollution abatement, stormwater, source water and groundwater, climate change, and nonpoint source pollution. The Commission has its headquarters in Lowell, Massachusetts with various satellite offices throughout the region.

The Host Entity, in conjunction with the Program Director, is required to regularly report to EPA, GLFC, NPS, and other funding sources on the deliverables, outputs, outcomes, and financials in response to guidance and requirements.

The Role of the Host Entity

In accordance with NEIWPCC's annual work tasks for LCBP approved by the Lake Champlain Steering Committee, and the award workplans approved by the EPA, GLFC, and NPS, NEIWPCC's role as Host Entity is to:

- Assist and support the LCBP in implementing OFA.
- Provide programmatic advice; hire and supervise staff; manage subawards and contracts; and provide administrative, financial, and human resources support.
- Provide direction to the LCBP and the work of its staff.
 - Provide input to and oversight of the annual work plans and related program resource allocations in coordination with the Steering Committee and LCBP/CVNHP Director.
 - Contribute to and review technical and communications products to ensure appropriate deliverables.
 - Provide direction to the LCBP Director in consultation with the Lake Champlain Steering Committee.
 - Evaluate the LCBP's administrative structure and relationship in consultation with the Lake Champlain Steering Committee when necessary.

Collectively, specific tasks of NEIWPCC Lowell staff include, but are not limited to:

- Supervision of NEIWPCC-LCBP employees.
 - Supervise LCBP/CVNHP Director.
 - Communicate with the LCBP Director on a regular basis.
 - Evaluate the job performance of the LCBP Director. After developing a process in conjunction with NEIWPCC's human resources team, NEIWPCC will consult with the current Executive Committee Chair for feedback on the performance of the LCBP/CVNHP Director during the applicable review

- period. The Executive Committee chair may elect to coordinate feedback from the Steering Committee membership.
- Consult with the LCBP Director to evaluate the job performance of other LCBP staff.
 - Assist in other LCBP staff performance appraisals.
 - Approve timesheets, expense vouchers, and requests for leave.
 - Programmatic
 - Develop work plans and budgets for each annual funding source (EPA, GLFC, NPS, and others); coordinate same with LCBP Director.
 - Review and finalize quarterly progress reports provided by the Program Director that describe LCBP activities and outputs. Submit reports to appropriate funding source.
 - Jointly with LCBP Director and the Lake Champlain Steering Committee, ensure projects address priority topics outlined in OFA and support the mission of protecting and preserving Lake Champlain and its watershed through partnerships that conserve and restore natural resources, enhance water quality and promote community involvement.
 - Coordinate match documentation required to be eligible for funding from the EPA, NPS, and other funding sources as needed
 - Engage in program development.
 - Interfacing with EPA Region 1, the Great Lakes Fishery Commission, the National Park Service, and other funding sources (as the grant recipient)
 - Prepare grant applications to funding sources
 - Accept and administer the annual federal grants for LCBP/CVNHP funding.
 - Communicate with EPA Project Officer and other funding agents on a regular basis.
 - Meet with EPA Project Officer annually to coordinate issues between NEIWPC/VCB, the states, and EPA Regions 1 and 2.
 - Prepare required application, narrative and financial reports, and progress reports.
 - Human resources support
 -
 - Lead hiring process for staff positions: draft job descriptions, advertise the positions; collect and review all resumes and field all employment questions; coordinate and schedule interviews; conduct interviews and select the ideal candidate (in cooperation with search committees, as appropriate); conduct reference checks and offer employment; and conduct any other aspects of the hiring process. Work collaboratively with the LCBP Director throughout the process.

- For the LCBP/CVNHP Director position, NEIWPCC will consult with the current Chair of the Lake Champlain Executive Committee throughout the hiring process. The hiring committee, led by a NEIWPCC Human Resources designee, will be developed through consultation with the current Chair of the Lake Champlain Executive Committee. The EPA and NPS will have representation on the hiring committee; NEIWPCC and the Chair of the Executive Committee will be responsible for coordinating a maximum of two additional remaining representatives of the Steering Committee. The Position Description will be developed by the NEIWPCC HR designee in consultation with the other members of the hiring committee prior to issuance of a solicitation for applications. In addition, the hiring process may include the option of public presentations by the final candidates, on a topic selected by the hiring committee, with an opportunity for feedback from the participants.
- LCBP staff are managed day-to-day by the LCBP and CVNHP Director, or other designated supervisors. All staff positions subordinate to the Director are hired via a typical competitive process coordinated by NEIWPCC, according to their standard hiring procedures, in close consultation with the LCBP/CVNHP Director and other LCBP staff as appropriate. The Chair of the Technical, Education and Outreach, or Heritage Area advisory committees may participate in the hiring process for the Coordinators of the respective committees.¹
 - Job descriptions and specifications, salary scale, and all benefits follow NEIWPCC policies and procedures.
 - Provide all new employees with an orientation meeting in Lowell, Massachusetts. This orientation will serve to familiarize new employees with the NEIWPCC employee handbook, benefits, etc.
 - Address staff issues, as appropriate.
- Contractual and legal support
 - Act as contracting arm on behalf of LCBP efforts to accomplish OFA tasks.
 - Set up and manage agreements regarding office space arrangements and technical support.
 - Review and approve Requests for Proposals (RFPs) for third party contracts and participate in technical review of proposals, in accordance with

¹ Lake Champlain Coordinator positions for the three Jurisdictions (New York, Québec, and Vermont) are hired via typical processes within the respective jurisdictions, in consultation with the Chair of the Citizen's Advisory Committee for that jurisdiction and the LCBP/CVNHP Director.

NEIWPCC and LCBP templates and procedures. Post RFPs on NEIWPCC and LCBP websites.

- Execute and manage contracts/MOAs/subawards utilizing NEIWPCC standard templates; ensure compliance with contract terms and conditions.
- Provide liability coverage, as appropriate, for NEIWPCC and NEIWPCC staff, NEIWPCC officers, and NEIWPCC commissioners for involvement in performing work conducted under appropriate grants, cooperative agreements, and contracts.
- Provide recommendations to the Lake Champlain Steering Committee on improving contract scope, deliverables, and outcomes, or otherwise enhancing value and application of contracts and services, where appropriate.
- Financial
 - Prepare, maintain, and manage grant budgets; track expenditures by task, output and/or programmatic activity, planning, and work plan facilitation.
 - Process staffs travel reimbursements and timesheets.
 - Provide comprehensive bookkeeping and accounting services, including receipt and disbursement of funds, bill and invoice processing, and tax forms to personnel and independent contractors.
 - Ensure all relevant financial statements and tax documentation are prepared and filed.
 - Ensure all audited annual financial statements and unaudited quarterly financial statements are prepared and filed.
 - Provide all appropriate income tax reporting information/forms to personnel and independent contractors.
 - Submit the required financial reports to USEPA, including SF-334 “MBE/WBE utilization Under Federal Grants, etc.” as necessary, and program progress reports and final award report and SF-425 Federal Financial Report (FFR), including interim and final FFRs as necessary. Submit required financial reports to other funding agencies where applicable.
 - Enter data into the government’s Federal Funding Accountability and Transparency Act Subaward Reporting System, as required for EPA subawards.
- Quality Assurance
 - Provide a quality assurance program manager to review and approve Quality Assurance Project Plans. Provide guidance on which projects require QAPPs and how to develop QAPPs. NEIWPCC supports the goal of quality assurance and is committed to using only data of known and acceptable quality. NEIWPCC uses a quality management system, documented in an EPA-approved Quality Management Plan (QMP).

- Other
 - Facilitate coordination with other NEIWPCC activities as appropriate.
 - Provide assistance to LCBP to attract and direct federal and other resources to local needs, build needed scientific and watershed information, inform the public and policy makers, convene collaborative workgroups around key issues in the region, provide technical assistance for implementation actions of local grassroots-level organizations, promote an ecosystem perspective, and bring together funding, partners and projects to implement the defined goals and objectives of OFA.

LCBP and CVNHP Director

The Program Director serves many functions, including day-to-day management of LCBP/CVNHP activities, day-to-day staff supervision, providing administrative and technical support to Committees, conducting public outreach and education activities, coordinating and integrating activities with existing water quality and natural resource protection and restoration efforts in the region, and identifying partners that will advance OFA implementation. The LCBP/CVNHP Director ensures that all Committee decisions, including awarding of grants, are made in compliance with the LCBP Conflict of Interest Guidelines approved by the Lake Champlain Steering Committee (Appendix 1). In addition, the Program Director solicits local support for the Program, identifies additional sources of funding, and facilitates partner actions to help ensure there is no duplication of effort among partners.

Specific tasks of the LCBP/CVNHP Director include:

- Supervision
 - Supervise LCBP staff in consultation with NEIWPCC Lowell staff.
 - Evaluate the job performance of the LCBP staff, in consultation with NEIWPCC Lowell staff.
- Programmatic
 - Participate in and serve as primary staff support to the Steering Committee. Schedule meetings, develop agendas in coordination with the Chair, prepare reports on recent activity, provide technical support, channel information, and present recommendations to the Steering Committee for their approval. Ensure geographic balance of Steering Committee meeting locations in New York, Quebec, and Vermont.
 - Participate in and serve as primary staff support to the Executive Committee. Schedule meetings, develop agendas in coordination with the Chair, prepare reports of recent activity, provide technical support, channel information,

and present recommendations to the Executive Committee for their approval.

- Work collaboratively with NEIWPCC staff on development of specific work plans and budgets for submission to respective funding agencies, following approval of the annual budget and general workplan by the Lake Champlain Steering Committee.
 - Prepare and submit quarterly progress reports that describe LCBP/CVNHP activities, outcomes and outputs to NEIWPCC Lowell staff.
 - Assist and support LCBP in implementation of OFA.
 - Ensure annual budget workplans address priority issues in OFA.
 - Track and report to NEIWPCC and the Lake Champlain Steering Committee on progress toward completion of work plan deliverables.
 - Lead activities outlined in EPA, GLFC, NPS, and other work plan(s)
 - Strengthen partnerships and working relationships with key stakeholder organizations, including those involved with scientific research, advocacy, and industry. This includes state and federal agencies, municipalities, academic institutions, non-profit organizations, and industries.
- Interface with EPA Regions 1 and 2, GLFC, NPS, and other funding sources
 - In consultation with NEIWPCC, communicate with Project Officers at EPA, GLFC, NPS and other funding sources on a regular basis.
 - Jointly with NEIWPCC, meet with EPA Project Officers annually to coordinate issues between NEIWPCC/LCBP, the states, and the EPA.
 - If requested, prepare for and complete EPA Program Evaluations and site visits in consultation with Steering Committee and Host Entity.
 - Other
 - As an employee of NEIWPCC, and as a supervisor of other NEIWPCC staff, demonstrate a thorough understanding of NEIWPCC policies and procedures.
 - Demonstrate a thorough understanding of LCBP's programs, organization, and policies.
 - Identify the necessary skills and expertise for additional staff positions in consultation with NEIWPCC and the Lake Champlain Steering Committee.
 - Communicate all efforts to NEIWPCC and the Lake Champlain Steering Committee on a regular basis
 - Remain up to date on regional and national developments relevant to LCBP/CVNHP mission, programs and projects.
 - Represent the LCBP/CVNHP in regional and national forums.
 - Provide internal and external leadership for the program, ensuring focus and progress on strategic priorities, as well as effective communication and

collaboration with and among partner agencies, organizations, academic institutions, etc.

- Leverage LCBP/CVNHP resources, ensure best use of limited resources, minimize duplication of effort, and optimize public and community-based support.

Funding Source Coordination

NEIWPCC and LCBP staff will work with the assigned coordinators from each agency or organization providing funds to support the LCBP and Lake Champlain work via NEIWPCC. Typically, NEIWPCC and LCBP staff will ensure that workplan tasks are met according to the timelines established within each funding agreement. EPA staff provide a more involved role in the management of the Lake Champlain Steering Committee, the LCBP, and advisory Committees.

The Environmental Protection Agency

The EPA Regions 1 and 2 Offices and their Lake Champlain Basin Program staff Coordinators (the Coordinators) support the LCBP and NEIWPCC in many ways. A manager from EPA Region 1 and from Region 2 serves as a voting member of the Steering and Executive committees and the Lake Champlain Coordinators serve as the alternates on those committees. The Coordinators are non-voting members of the Technical Advisory Committee and may serve on other committees as deemed appropriate by the LCBP Director and the EPA. The Coordinators serve as the Project Officer and administer the Program's CWA Section 120 cooperative agreements, which includes reviewing work plans, reports, and participating in the program in a meaningful way. The Coordinators also serve as the primary contact between EPA and the LCBP, including serving as the liaison between LCBP and EPA Headquarters in the event of information requests, the program evaluation, and any other LCBP-related matters.

The Role of the EPA

Specific roles and responsibilities of the EPA Lake Champlain Basin Program Coordinators are as follows:

- Serve as the primary liaison between NEIWPCC, LCBP, and EPA:
 - Represent EPA priorities and programs as an alternate member of the LCBP Steering Committee and Executive Committee, and as an ex-officio member of the Technical Advisory Committee;
 - Serve as a conduit between the LCBP and EPA programs; identify opportunities for mutual assistance while also meeting individual program

- strategic goals.
 - Communicate LCBP interests during EPA Regional program decision-making to ensure decision makers understand implications for attainment of OFA goals and objectives.
 - Inform LCBP of EPA and other relevant initiatives that may affect LCBP study areas or OFA implementation.
 - Act as liaison to EPA programs to assist in meeting LCBP OFA goals and objectives.
 - Keep Region 1 and 2 management and staff informed about LCBP activities.
- Advise LCBP about EPA statutory and regulatory requirements.
- Facilitate networking and tech transfer; e.g., help inform LCBP about steps other programs are taking to address specific program elements or management issues.
- Assist NEIWPCC and LCBP with agreement/grant application, program management, and financial management requirements:
 - Serve as Project Officer and technical contact for the annual Section 120 cooperative agreement (review work plans; monitor performance; interface with Regional grants administration; notify NEIWPCC and LCBP of grant reporting requirements).
 - Inform NEIWPCC and LCBP about other core water program funding opportunities (grants and otherwise) that would support programmatic and implementation activities.
- Maintain contact and local presence with LCBP to support Lake Champlain management goals.
- Review, approve, and submit to EPA Headquarters reporting and budget data by the required deadline.
- In general, anticipate and respond to LCBP needs in a timely manner.

Appendices

1. Lake Champlain Basin Program Conflict of Interest policy

LAKE CHAMPLAIN BASIN PROGRAM and CHAMPLAIN VALLEY NATIONAL HERITAGE PARTNERSHIP

Policy and Guidelines on Conflicts of Interest

Revised September, 2017

The Guidelines below apply to all operations of the Lake Champlain Basin Program (LCBP) and Champlain Valley National Heritage Partnership (CVNHP), including the external review of funding proposals, and to members of the Committees of the LCBP and CVNHP who are involved in activities affecting funding decisions. These Guidelines are to be used when developing requests for proposals (RFPs), evaluating proposals, recommending funding awards, and developing budget priorities. Committee members who receive confidential information must take personal responsibility to avoid actual or potential conflicts of interest.

Introduction

The purpose of these Guidelines is to ensure that activities, particularly those related to the distribution of funds, are conducted in a fair manner and that there is neither a motivation, nor an appearance of a motivation, for private or personal gain.

This document addresses both actual and potential conflicts of interest. An actual conflict of interest could arise when an individual has a direct personal, familial, or financial relationship or connection with any of the activities, applicants, or proposals under review. The relationship shall not factor into the decision at hand, and if so, the individual shall not be part of the decision making process. While every effort has been made to characterize all potential conflicts of interest, it is incumbent on all those involved with LCBP/CVNHP to determine any conflicts of interest that may not be identified within this document using their best sound judgment and report them accordingly to the Director.

A member has a potential conflict of interest if s/he has a relationship with the activities, applicants or proposals being reviewed that could potentially cause the member's professional judgement or actions to be impaired, or could influence their objectivity or impartiality.

For the purposes of LCBP and CVNHP committee members, a conflict of interest occurs when an LCBP or CVNHP Committee or subcommittee member

- stands to receive a direct financial benefit from a matter under discussion,
- has a personal or familial interest that may be substantially affected by a matter under discussion by the committee,
- has any other personal or professional interest or obligation that may affect the member's judgment regarding a matter under discussion, or
- may benefit personally or privately from the outcome of a decision or discussion.

Guidelines

1. **All** LCBP and CVNHP Committee members (members) are responsible for adhering to this Policy and Guidelines on Conflicts of Interest, and are encouraged to consult with the LCBP and CVNHP Director and the general procurement standards and competition requirements outlined in the Uniform Grant Guidance at [2 CFR 200.318 – General Procurement Standards](#) and [2 CFR 200.319 Competition](#). If the ability of a committee member to be impartial in a decision is impaired, this individual has a conflict of interest and must discuss this conflict with the LCBP and CVNHP Director.
2. **Members of LCBP and CVNHP Advisory Committees.** Individuals who contribute to the development of an RFP shall not respond to that same request in any capacity, including the provision of letters of support or recommendation to any entity that submits or is included in a proposal. Employees from organizational entities that employ staff who assist in the development or drafting of specifications, requirements, statements of work, or invitations for bids or requests for LCBP or CVNHP proposals must be excluded from competing for such procurements. See [2 CFR 200.319 Competition](#).

Individuals shall not participate in any review of an LCBP-funded task undertaken by their employer or from the same organizational entity, specifically a:

- Department within an Agency (Vermont State Government),
- Ministry (Quebec Government),
- Division within a Department (New York State Government),
- Department within a Municipal or County Government,
- Academic department within a College or University,
- Institution, such as a Conservation District or a formal Coalition, or
- Organization, such as a Commission, Non-profit or For-profit Corporation,

that has submitted a proposal which is under consideration. Recusal from participation requires absence from the discussion; presence is considered participation.

3. **Members of the Lake Champlain Steering Committee and Executive Committee.**

Lake Champlain Steering Committee and Executive Committee members who represent government entities may be responsible for decisions that may affect their government organization; the knowledge they share is important to the successful outcome of program activities and as such these members will not be required to recuse themselves from the decision-making process. These members must disclose the nature of their relationship to the decision with other committee members and the LCBP and CVNHP Director as described in item # 4 below. However, any Lake Champlain Steering Committee member who may stand to benefit or gain personally or privately from the outcome of a decision will have a legal conflict of interest and will be recused from participation in that decision. All Steering Committee members who are employed by for-profit private entities (e.g., engineering or consulting firm) will be recused from discussion of budget items that may affect their organization, regardless of whether they stand to benefit or gain personally from the outcome of the decision.

- 4. Any member of LCBP Advisory Committees or subcommittees, or a non-governmental employee who is a member of the Lake Champlain Steering Committee, will be recused from the relevant discussion and decision if they have a conflict of interest.**

In addition, members must disclose a potential conflict of interest as soon as circumstances arise for it to become apparent. The individual shall contact the LCBP and CVNHP Director to discuss the issue; the Director may then choose to discuss the matter with the Chairs of the Steering Committee and Executive Committee. For example, a Committee member who is employed within an organization and involved in a decision regarding a different entity within the same organization shall notify the Director if s/he has an appearance or direct conflict of interest that could lead to bias in favor of the sister entity. LCBP and CVNHP staff will be responsible for maintaining all conflict of interest disclosures for each decision process and ensuring that the Steering or Executive Committee (whichever is tasked with the decision in the related process) is made aware of any disclosures associated with that process. The individual may be asked to recuse him or herself from the process if necessary, including for potential conflicts of interest. The Lake Champlain Steering Committee may also determine, by consensus, that a conflict of interest has occurred, and take appropriate steps to ensure that the issue is resolved appropriately.

- 5. Any Committee member whose organizational entity has submitted a workplan, report or other contractual deliverable to that Committee for review may participate in the discussion of the report, but shall abstain from voting on decisions related to the report.**

- 6. All LCBP Committee members and external peer reviewers must treat all materials related to an RFP, proposal for LCBP funding, technical work plan review, or grant review process as strictly confidential to the extent allowed by law.** Violation of that confidentiality constitutes a conflict of interest if it potentially gives an unfair advantage to any party **or** releases information pertaining to or the identities of applicants or confidential peer reviewers.

- 7. Statute of Limitations on Conflicts of Interest from previous places of employment.**

Members of the Lake Champlain Steering Committee or LCBP advisory committees and subcommittees will have a conflict of interest if, within one year of a committee member's departure from a previous place of employment, a prior employee participates in a decision that affects the previous employer. If termination of employment occurred more than one-year prior, the committee member may choose to recuse him/herself if s/he feels his/her prior employment would cause them to be biased.

- 8. Conflict of Interest disclosure form.** This guidance document shall be reviewed by each LCBP Committee and subcommittee member annually. The disclosure form (below) shall be signed by each individual who agrees to participate in each decision process for which they may have a potential conflict of interest.

Potential Conflict of Interest Disclosure (to be submitted on each occasion for which the member has a potential conflict of interest and believes it will not prevent their participation in a funding-related activity):

I, _____ have a potential conflict of interest in the following decision process: [describe decision]. The potential conflict of interest is: [describe the situation]. I feel that I should participate in the discussion of this matter and will not be influenced or biased by this potential conflict of interest. I have discussed this issue with the LCBP and CVNHP Director and the Chair of my LCBP Committee.

February 2019-April 2020

LCBP Steering and Executive Committee Meeting Schedule

Meeting	Date	Location	Preliminary Agenda Includes:
Executive	<i>Thursday, February 21, 2019</i>	Grand Isle	<i>FY19 Budget preparation (Key Functions), Grant Award decision</i>
Executive	<i>Thursday, March 21, 2019</i>	Grand Isle	<i>FY19 Budget preparation (Technical, HAPAC), Grant Award decisions</i>
Steering	<i>Tuesday & Wednesday, April 9 & 10, 2019</i>	Québec	<i>FY19 Budget review & approval</i>
Steering	<i>Thursday, June 6, 2019</i>	Vermont	<i>FY20 Budget priorities, Field trip, Grant updates</i>
Executive	<i>Tuesday, September 10, 2019</i>	Grand Isle	<i>FY19 budget update, FY20 Budget priorities, committee membership nominations</i>
Steering	<i>Wednesday, September 25, 2019</i>	New York	<i>FY20 Budget priorities, Approve release of FY20 RFPP for Technical Projects, Core projects, Heritage Budgets</i>
NALMS	<i>November 11-15, 2019</i>	Burlington, VT	<i>North American Lake Management Society Annual Conference</i>
Executive	<i>Wednesday, November 20, 2019</i>	Grand Isle	<i>Grant Award decisions</i>
Steering	<i>Tuesday, December 17, 2019</i>	Quebec	<i>FY20 pre-proposal technical budget review, grant award decisions</i>
Executive	<i>Thursday, January 23, 2020</i>	Grand Isle	<i>Grant Award decisions</i>
Executive	<i>Wednesday, February 19, 2020</i>	Grand Isle	<i>FY20 Budget preparation (Key Functions, E&O, HAPAC), Grant Award decision</i>
Executive	<i>Tuesday, March 24, 2020</i>	Grand Isle	<i>FY20 Budget preparation (Technical), Grant Award decisions</i>
Steering	<i>Tuesday-Wednesday, April 21&22, 2020</i>	New York	<i>FY20 Budget review & approval</i>

Draft LCBP FY2019 Budget:

Key Functions

1. Vermont Coordination EPA to VT

Status: The Steering Committee directs funds to VTANR to provide Vermont Lake Champlain Coordination to facilitate communication and coordination of LCBP and related Lake Champlain management actions that involve Vermont Agencies, provide operational support for the VT Citizens Advisory Committee concerning LCBP activities in Vermont, and assist the Program Director in coordinating Basin Program activities involving Vermont. In FY2018, funds were added to this task to include support for an 0.3 FTE position to provide assistance with grant management. This additional support was needed due to the increase in funding through the LCBP appropriation.

Description: This task supports the implementation of *Opportunities for Action* in Vermont ANR with a staff member assigned to work closely with the LCBP Staff Team, including coordination of and collaboration with educational and outreach activities. Duties of the Vermont Lake Champlain Coordinator are being revised by VT DEC and LCBP, but include:

- Provide liaison and staff support to the Commissioner of VT DEC on LCBP implementation activities, including those of the Ecosystem Restoration Program.
- Coordinate the work of VT agency staff on the implementation of LCBP projects and activities (VT agency work group) and facilitate liaison between LCBP Management and the Secretaries or Commissioners and staff of other Vermont state agencies on Lake Champlain-related activities.
- Provide support to the Vermont Citizens Advisory Committee on Lake Champlain's Future
- Present information about VT implementation activities to interested groups, the Legislature and at conferences.
- Assist the Program Director in coordinating funding for implementation activities in Vermont.
- Serves as a VT contact for the public in LCBP outreach and citizen involvement activities conducted in the VT portion of the Lake Champlain Basin.

Estimated Direct and Indirect Cost: \$161,427;

2. New York Coordination EPA to NYS

Status: The Steering Committee directs funds to NYS DEC for this position. The NYS Lake Champlain Coordinator provides coordination among New York State Agency staff to implement New York's portion of the Lake Champlain Basin Management Plan, and works with the Program Manager, Vermont Lake Champlain Basin Coordinator, EPA staff, and other staff to facilitate the smooth operations of the Program.

Description: This task supports the implementation of *Opportunities for Action* in New York DEC Region 5 with a staff member assigned to the LCBP Staff Team, including provision of grant and contract oversight as needed. Duties of the New York Lake Champlain Coordinator include:

- Provide liaison and staff support to the Regional Director and staff of NYS DEC with LCBP management regarding implementation activities.
- Coordinate participation by NYS DEC staff serving on LCBP technical committees.
- Facilitate Lake Champlain projects funded through the Clean Water/Clean Air Bond Act.
- Provide staff support for the New York Citizens Advisory Committee.
- Assist the Program Manager in ensuring coordinated efforts among State, Federal, and local agencies and organizations involved in LCBP actions occurring in New York.
- Assist the Program Manager in securing funding for implementation activities in New York from federal, state, local and private sources.
- Organize and administer the budget agreements for LCBP-funded projects in NY receiving support directly from EPA, and with tracking these projects in coordination with the Program Manager.
- Serve as a NY contact for the public in LCBP outreach and citizen involvement activities conducted in the NY portion of the Lake Champlain Basin.

Estimated Direct and Indirect Cost: \$195,850; (1 FTE)

3. Education and Outreach Coordination

EPA, GLFC (\$180,000) to NEIWPCC

Status: The E&O Coordinator is responsible for oversight for all education and outreach components of LCBP programs, including coordination of the efforts of other LCBP staff working on E&O tasks.

Description: This task is carried out by the Education and Outreach (E&O) Coordinator. It includes the following activities:

- assisting the LCBP Director in providing staff with program management guidance as requested,
- providing lead staff support to the Education and Outreach Advisory Committee,
- coordinating E&O staff implementation of activities defined in the annual workplan,
- delivering community and school presentations,
- drafting the annual E&O operating budget, administering budgeted projects, and assisting the LCBP Director in the financial tracking of E&O projects,
- coordinating opportunities for public involvement in LCBP programs and tasks,
- serving as a project officer for LCBP grant programs, developing RFPs, facilitating workplan development and final report approval, and administering grant programs in the E&O components of the budget,
- sharing LCBP media relations responsibilities,
- representing LCBP on external committees/community projects as assigned,
- coordinating educational initiatives and teacher training programs,
- recruiting, training and supervising E&O volunteers and interns; sharing staffing and supervision responsibilities for the Resource Room at ECHO at the Leahy Center
- serving as co-editor of *Casin' the Basin*, and
- sharing responsibilities for the *Champlain Connection* program development.
- Supervision of LCBP Communication and Publications staff
- Other duties as assigned
- This task line also includes 30% time (~12 hours weekly) for an E&O intern to provide assistance to E&O Coordinator position

Estimated Direct and Indirect Cost: \$180,000; (1.3 FTE + Fringe, Indirect, Travel, Professional development)

4. Communication and Publications Coordination

EPA, GLFC (\$275,000) to NEIWPCC

Status: The Communication and Publications Coordinator is responsible for most communications programs and publication of the LCBP, working under supervision of the Education and Outreach Coordinator and in coordination with other LCBP staff.

Description: This task includes (a) technical information system and web maintenance and presentation tasks and (b) the preparation of exhibits, publications, and communication through educational programs and (c) development and presentation of public educational programs as needed.

- (a) Technical web maintenance and web presentation of technical and scientific concepts:
- maintaining LCBP website; coordinating required ISP services and related IT consultants,
 - maintaining and updating the digital Lake Champlain Atlas project as needed,
 - managing production of E-NEWS, (*Casin' the Basin*) serving as co-editor and lead writer,
 - coordinating the graphic design and editing for most E&O publications,
 - editing communication products for special LCBP projects,
 - coordinating LCBP computer network maintenance with service consultants,
 - coordinating computer stations in Grand Isle and in the LCBP Resource Room,
- (b) The preparation of exhibits, publications, and communication through educational programs:
- responding to public and student information requests,
 - designing and completing LCBP website updates, and related content management,
 - writing and preparing exhibits for the Resource Room & ECHO on current LCBP-related research or local grants,
 - developing interactive exhibits for students in the Resource Room,
 - training staff and volunteers and sharing staffing and supervision for the Resource Room, and
 - presenting programs to school and community groups and LCBP committees on occasion.
 - This task line also includes 20% time (~8 hours weekly) for an E&O intern to provide assistance to the Communication and Publications Coordinators

Estimated Direct and Indirect Cost: \$275,000; (2.2 FTE + Fringe, Indirect, Travel, Professional development)

5. Coordination of Technical Tasks

EPA, GLFC (\$245,000) to NEIWPCC

Description: Activities in this task are carried out by the Technical Coordinator and Technical Associate. The Technical Coordinator provides staff support for the Chair of the Technical Advisory Committee, facilitates the work of the TAC and subcommittees, assists the Program Manager with policy and program development, and serves as the liaison between the LCBP and

other technical staff working on Lake Champlain basin issues at the local, state, and federal levels. The Technical Coordinator is supervised by the LCBP Director. The Technical Coordinator oversees the administration of technical grant programs supporting local projects and facilitates technical assistance to those projects and to other entities undertaking technical projects. The Technical Coordinator is project officer for larger technical tasks and is (or supervises) a NEIWPCC Quality Assurance Program Manager designee.

Duties of the Coordinator and technical staff include:

- Work with technical staff at all levels to synthesize and evaluate technical data.
- Coordinate Technical Advisory Committee meetings and Technical Workshops.
- Track review by technical and professional staff of completed technical contracts and technical publications, and arrange for LCBP publication of results, where appropriate.
- Guide special projects such as Ecosystem Indicators, LCBP Task Forces, Monitoring Programs, Climate Change and Flood Resilience, and other initiatives that may develop.
- Assist local groups and agencies to design local implementation projects and proposals.
- Develop requests for proposals for grant programs.
- Provide guidance to contractors preparing technical workplans and coordinate plan reviews.
- Provide or supervise assistance in development and implementation of all QAPPS for LCBP tasks.
- Coordinate the review and evaluation of technical grant proposals.
- Track local grants, provide technical assistance and assess products.
- Support all LCBP committees on technical issues as needed.

Estimated Direct and Indirect Cost: \$245,000; (2.1 FTE + Fringe, Indirect, Travel, Professional development)

6. Aquatic Nuisance Species Management Coordination

EPA (\$190,000) to NEIWPCC

Description: This task supports LCBP coordination of the *Lake Champlain Basin Aquatic Nuisance Species Management Plan* implementation and several related bi-state tasks. The ANS Management Coordinator facilitates the LCBP TAC Aquatic Nuisance Species Rapid Response subcommittee, which guides implementation of the management plan, to advise the TAC on budget priorities and emerging ANS issues, facilitates developing a rapid response protocol for the Basin, and strengthens ANS spread prevention efforts. The Coordinator also organizes and participates in field programs to implement Rapid Response actions to manage or control aquatic invasive species. The Coordinator also implements other tasks, funded by the USFWS grant to VTDEC, in both states and facilitates the implementation of numerous ANS management projects supported by the LCBP. This position also represents the LCBP on the national Aquatic Nuisance Species Task Force. The ANS Management Coordinator is supervised by the LCBP Director. The ANS Coordinator also provides support for the LCBP Director when needed. This task also supports 30% of an FTE (~12 hours weekly) support staff position to assist with coordination of the Lake Champlain Boat Launch Steward Program as well as other ANS-related tasks throughout the fiscal year.

Estimated Direct and Indirect Cost: \$190,000; (1.3 FTE + Fringe, Indirect, Travel, Professional development)

7. Administrative Assistance

EPA, GLFC, NPS (\$122,000) to NEIWPCC

Description: This ongoing task provides administrative assistance as part of the LCBP staff, dealing with administrative matters and with management of the program office in Grand Isle, VT. This task supports an Administrative Assistant responsible for day-to-day office coordination and management. Duties of the Administrative Assistance staff include:

- Assist the LCBP Director in administering the Lake Champlain Basin Program, including NEIWPCC cooperative agreements and contracts.
- Manage the LCBP office operations in Grand Isle.
- Prepare NEIWPCC invoices and timesheets and contract materials for approval by the LCBP Director, track office expenses, and assist in tracking project budgets.
- Assemble and review with the LCBP Director the NEIWPCC quarterly project status reports and monthly disbursement records to ensure accuracy in the assessment of project status.
- Review quarterly financial reports for accuracy and work with the LCBP Director and financial staff at NEIWPCC to make corrections and adjustments.
- Maintain a database of committees, constituent groups, interested citizens, and facilitate other needed information management tasks.
- Maintain a central calendar of meetings and activities.
- Coordinate monthly mailings to committees and newsletter distribution as needed.
- Coordinate logistics of the Steering and Executive meetings, ensuring that adequate notes are taken and preparing draft minutes for LCBP Director to review. Maintain a full set of hard copy and electronic records of Steering and Executive Committee meetings in the office files.
- Serve as a receptionist for office visitors & incoming phone calls during business hours.
- Respond to public requests for information.

Estimated Direct and Indirect Cost: \$122,000; (1 FTE + Fringe, Indirect, Travel, Professional development)

8. Basin Program Direction

EP, GLFC, NPS (\$160,000) to NEIWPCC

Description: The LCBP Director oversees the administrative functions of the program to maintain the effective operation of the LCBP, and to carry out management functions at the Basin Program Office in Grand Isle. Management duties include overall coordination and administration of an international and bi-state management program for the natural, recreational and historic resources of Lake Champlain. Extensive interaction occurs with scientific and technical experts, private citizens and with representatives of state and federal governments, businesses, universities, environmental and economic development organizations, and others. The Director is a NEIWPCC employee and reports to the Steering Committee and its Executive Committee on programmatic matters and to the Executive Director of NEIWPCC on administrative matters. The Director provides effective coordination with the Lowell office of NEIWPCC on administrative matters. Duties include the following tasks:

- Provide leadership of a team which includes the other LCBP staff, the New York/Vermont/Quebec Coordinators, and NEIWPCC staff based in Lowell track and approve disbursements;
- Review contracts and ensure compliance;
- Provide ongoing information to staff and committees about fiscal status;
- Serve as a liaison between federal agencies, International Commissions, NEIWPCC, the states and the LCBP.
- Serve as LCBP Staff Team Leader. (LCBP staff support includes EPA Project Officers, Vermont and New York Coordinators, Province of Quebec staff, and Technical, Education, Communications, and Cultural Heritage & Recreation Coordinator). Schedules and leads staff meetings monthly or as needed.
- Coordinates program planning involving staff, advisory committees, and Steering and Executive Committee,
- Coordinates Advisory Committee work on annual budget development and prepares draft budgets for Steering/Executive Committee review.
- Coordinates the Promotional Activities of the LCBP
- Designs and implements a planning process to actively involve the public in developing policies and strategies.
- Facilitates public meetings to maximize public participation and to determine public priorities.
- Works under the direction of the Steering Committee and the Executive Committee to develop policies for the management of the Lake's natural, historic and recreational resources.
- Works under the direction of the Steering Committee and the Executive Committee to support and coordinate *ad hoc* committees and workgroups concerning the implementation of *Opportunities for Action*.
- Works under the direction of the Steering Committee and the Executive Committee to develop and administer the LCBP budget.
- Coordinates federal and state legislative tracking and provides an information resource about resource management to federal and state officials and legislators.
- Oversees production of the *State of the Lake* report as required.
- Prepares press releases and serves as spokesperson to the media in coordination with LCBP partners and staff.
- Oversees newsletter production and promotion of special lake events.
- In cooperation with NEIWPCC's Lowell office, is responsible for overall direction of the LCBP office including:
 - supervision of LCBP staff,
 - coordination of an annual workplan preparations for federal funds,
 - administration of NEIWPCC cooperative agreements, contracts and amendments of LCBP projects,
 - oversight of quarterly reporting requirements,
 - oversight of financial aspects of projects.
 - oversight and final LCBP approval of Quality Assurance Project Plans
- Provides lead staff support to the Steering Committee and its Executive Committee, along with other LCBP staff.

- Secures funding for implementation activities from federal, state, local and private sources.
- Provides annual reports on the fiscal status of the LCBP to the Steering Committee and Executive Committee.
- Serves as *Director of the Champlain Valley National Heritage Partnership* with primary responsibility for communication with federal partners and oversight of implementation activities.
- Participates in organizing intergovernmental meetings and conferences.
- Coordinates with Quebec on program and policy matters affecting the Lake.
- Other duties as assigned.
- This task line also includes 0.1 FTE (~4 hours weekly) for a support staff position to the Program Director

Estimated Direct and Indirect Cost: \$160,000; (1.2 FTE + Fringe, Indirect, Travel, Professional development)

9. LCBP Office Operations

EPA, GLFC, NPS (\$80,000) to NEIWPCC

Description: This task includes normal operating expenses such as heat, electricity, insurance, telephone services, computer maintenance, lease or purchase agreements for copying, printing, postage, supplies, meetings, and publications. This task also includes the costs of Steering and Executive Committee meetings and professional consultation services related to office operations.

Estimated Direct and Indirect Cost: \$80,000

10. Resource Room Staffing

EPA (\$185,000) to NEIWPCC

Description: This task supports regular and part-time LCBP staff to assist the public for 7 days per week at the Resource Room within ECHO at the Leahy Center, augmented by volunteers when available. The Resource Room staff also deliver other Education and Outreach projects as time permits. LCBP operates and staffs the Resource Room during ECHO's normal business hours (usually 362 days a year plus for special events) with few exceptions. Visitors tend to view maps, ask questions about the Lake, use the computers for Lake research, peruse library books, videos and exhibits, and use the activity kits created by LCBP staff. Historically, up to 25% of all ECHO guests visit the Resource Room. Also supports time for an 0.2 PTE to provide assistance to Resource Room-related activities.

Estimated Direct and Indirect Cost: \$185,000; (1 FTE +3 PTE+ Fringe, Indirect, Travel, Professional development)

11. NEIWPCC Administration

EPA, GLFC, NPS (\$195,000) to NEIWPCC

Description: This task supports the direct NEIWPCC costs for the Program Manager and administrative staff in the NEIWPCC Lowell, MA office responsible for grant applications, tracking disbursements, reviewing and issuing task contracts and ensuring compliance, and providing general oversight of LCBP operations.

Estimated Direct and Indirect Cost: \$195,000; (0.75 FTE + Fringe, Indirect, Travel, Professional development)

12. CVNHP Administration

NPS, GLFC to NEIWPCC

Description: This task supports the Cultural Heritage and Recreational Resources Coordination staff tasked with implementing partnership programs of the ***Champlain Valley National Heritage Partnership (CVNHP)***. This position serves as the Assistant Director of the CVNHP and works in close collaboration and is supervised by the LCBP Director (who also is CVNHP Director) in the implementation of the CVNHP Management Plan. Tasks include:

- Work as a team member with LCBP staff in the course of implementing priorities of ***Opportunities for Action*** that highlight the importance of Lake water quality in the context of recreation and cultural heritage interests.
- Develop and maintains program partnerships to implement the CVNHP Management Plan, working in collaboration with the CVNHP Director.
- Serve as coordinator and project officer for LCBP program grants, prepare RFP language, coordinate the review of proposals and the development of workplans, track ongoing contract work and facilitate the final review of projects.
- Work with education and outreach staff on issues that pertain to cultural heritage and recreational enjoyment of the Lake and that leverage a broader public commitment to improved water quality in Lake Champlain.
- Provide lead staff support of on-going cultural heritage, recreation, and sustainable tourism programs such as the Lake Champlain Byway and the coordination of 400th Anniversary commemorations among VT, NY & QC entities.
- Coordinate the ***Wayside Exhibit Design*** Program.
- Assist the LCBP Director in the financial tracking of recreational and cultural heritage projects.
- Provide staff support for the ***Heritage Area Partnership Advisory Committee (HAPAC)***.
- Conduct research, analyze results and prepare reports and fact sheets in the course of implementing the related priority recommendations of ***Opportunities for Action***.
- Write, edit and prepare contract completion reports and materials for publication and distribution as needed.
- Attend public meetings concerning Basin Program interests in cultural heritage and recreational programs.
- Develop recreational and heritage resources for inclusion on the LCBP web site and ***E-news*** the LCBP newsletter.

Other duties as assigned.

Estimated Direct and Indirect Cost: \$165,000; (1.25 FTE + Fringe, Indirect, Travel, Professional development)

13. Gordon Center House Rent *EPA to VT*

Description: This task covers the cost of the annual rental agreement between NEIWPCC/LCBP and VT FWD for rental of office space for LCBP operations in the Gordon House in Grand Isle, VT. The agreement includes space for meetings for other organizations when available.

Estimated Direct and Indirect Cost: \$18,500

Funding Source: EPA to VT;

14. Local Implementation Grants – several targeted local grant programs:

EPA, GLFC (\$550,000) to NEIWPCC

Status: Implementation grants fund critical projects, including boots-on-the-ground and planning grants, to eligible applicants, including municipalities, not-for-profit organizations such as watershed organizations, schools, conservation districts and others specified in the Requests for Proposals, to implement in the basin.

Description: These funding lines will support implementation grants targeted in the following areas prioritized by the Steering Committee (amounts within each category are approximate to accommodate demand among the three categories):

- **Local Grants 1: Pollution Prevention** Projects approx. \$290,000
- **Local Grants 2: Aquatic Invasive Species Prevention** Projects approx. \$200,000
- **Local Grants 3: Organizational Support** Projects approx. \$40,000

Estimated Direct and Indirect Cost: \$550,000;

Task Management: NEIWPCC

15. Additional LCBP Office Space

EPA (\$15,000) to NEIWPCC

Status: The LCBP offices are currently located in Grand Isle, VT. The Program has outgrown this location and there are limited opportunities in the Grand Isle area to relocate to. The Lake Champlain Steering Committee is considering relocating the LCBP offices to the greater Burlington area.

Description: This task will provide additional funds made available in the FY18 budget (\$15,000) to assist with the relocation and lease costs for the initial year in the new location.

Estimated Direct and Indirect Cost: \$15,000

April 2019 **Draft FY2019 LCBP Budget**

TASK #	Key Functions	Task Management	Draft 2019 TASK Request	FY2018 Approved Budget	DRAFT TASK Cumulative Total	NPS Allocation	EPA Allocation	GLFC Allocation
KF-1	VT Coordination	VERMONT	\$ 161,427	\$ 161,427	\$161,427	\$0	\$161,427	\$0
KF-2	NY Coordination	NEW YORK	\$ 195,850	\$ 195,850	\$357,277	\$0	\$195,850	\$0
KF-3	E&O Coordination	NEIWPCC	\$ 180,000	\$ 168,000	\$537,277	\$0	\$126,000	\$54,000
KF-4	Communication and Publications	NEIWPCC	\$ 275,000	\$ 258,500	\$812,277	\$0	\$206,250	\$68,750
KF-5	Technical Coordination	NEIWPCC	\$ 245,000	\$ 225,000	\$1,057,277	\$0	\$220,500	\$24,500
KF-6	ANS Coordination	NEIWPCC	\$ 190,000	\$ 161,000	\$1,247,277	\$0	\$171,000	\$19,000
KF-7	Administrative Assistance	NEIWPCC	\$ 122,000	\$ 105,500	\$1,369,277	\$15,000	\$109,800	\$0
KF-8	Program Direction	NEIWPCC	\$ 160,000	\$ 160,000	\$1,529,277	\$18,000	\$128,000	\$16,000
KF-9	Office Operations	NEIWPCC	\$ 80,000	\$ 80,000	\$1,609,277	\$1,600	\$38,400	\$40,000
KF-10	Resource Room	NEIWPCC	\$ 185,000	\$ 190,000	\$1,794,277	\$0	\$185,000	\$0
KF-11	NEI Administration	NEIWPCC	\$ 195,000	\$ 105,000	\$1,989,277	\$8,000	\$156,000	\$29,250
KF-12	CVNHP Coordination (includes NHA Direction)	NEIWPCC	\$ 165,000	\$ 165,000	\$2,154,277	\$172,000	\$0	\$16,500
KF-13	Gordon Center House rent	VERMONT	\$ 18,500	\$ 18,500	\$2,172,777	\$0	\$18,500	\$0
-	LCBP Computer Hardware Upgrades	NEIWPCC	\$ -	\$ 35,000	\$2,172,777	\$0	\$0	\$0
KF-14	Local Implementation Grants PP (300k) / AIS (200k) / OS (50k)	NEIWPCC	\$ 550,000	\$ 530,000	\$2,722,777	\$0	\$275,000	\$275,000
KF-15	Additional LCBP office space	NEIWPCC	\$ 15,000	\$ 15,000	\$2,737,777	\$0	\$15,000	\$0
Funding Scenario FY2019		EPA FY19 base	\$4,395,000	\$2,573,777	Category Sum	\$214,600	\$2,006,727	\$543,000
		EPA-2016 TMDL	\$6,600,000					
		NPS (CVNHP)	\$332,097					
		GLFC	\$2,380,500					
		Total	\$13,707,597					

April 2019 **Draft FY2019 LCBP Budget**

	Heritage Area Tasks	Task Management	Draft 2018 TASK Request	FY2018 Approved Budget	DRAFT TASK Cumulative Total	NPS Allocation	EPA Allocation	GLFC Allocation
H-1	CVNHP Proposals	NEIWPCC	\$ 175,000	\$ -	\$2,912,777	\$74,375	\$0	\$100,625
H-2	Local Heritage Grants*	NEIWPCC	\$ -	\$ 36,000	\$2,912,777	\$0	\$0	\$0
H-3	Interpretive Theme Grants*	NEIWPCC	\$ -	\$ 36,000	\$2,912,777	\$0	\$0	\$0
H-4	Quebec Regional Stakeholder Coordination*	NEIWPCC	\$ 2,200	\$ 2,200	\$2,914,977	\$0	\$0	\$2,200
H-5	Wayside Exhibit Program Continuation*	NEIWPCC	\$ 10,000	\$ 12,000	\$2,924,977	\$10,000	\$0	\$0
H-6	Annual International Heritage Summit*	NEIWPCC	\$ 8,000	\$ 7,200	\$2,932,977	\$0	\$0	\$8,000
NHA Totals			\$195,200		Category Sum	\$84,375	\$0	\$110,825

April 2019 **Draft FY2019 LCBP Budget**

	Education & Outreach	Task Management	Draft 2018 TASK Request	FY2018 Approved Budget	DRAFT TASK Cumulative Total	NPS Allocation	EPA Allocation	GLFC Allocation
EO-1	E&O Grant Programs (Annual EO local grants (240k), Professional Development (14k), Enhanced Outreach Grants (120k), Boots-n-Bugs 24k)	NEIWPCC	\$ 550,500	\$478,000	\$3,483,477	\$0	\$385,350	\$165,150
EO-2	Champlain Basin Education Initiative (CBEI) & Authentic Student Learning	NEIWPCC	\$ 24,500	\$60,000	\$3,507,977	\$0	\$0	\$24,500
EO-3	High School Watershed Steward Certification Program, Year 3	NEIWPCC	\$ 15,000	\$48,000	\$3,522,977	\$0	\$0	\$15,000
EO-4	Healthy Soils Phase 3	NEIWPCC	\$ 72,000	\$0	\$3,594,977	\$0	\$72,000	\$0
EO-5	Bioengineering and Shoreland Best Management Practices to Restore Living Shorelands and Protect Water Quality	VERMONT	\$ 62,000	\$60,000	\$3,656,977	\$0	\$62,000	\$0
EO-6	Production of Clean Water Videos	NEIWPCC	\$ 35,000	\$24,000	\$3,691,977	\$0	\$0	\$35,000
EO-7	Lake Champlain Education and Outreach Stewards	NEIWPCC	\$ 60,000	\$60,000	\$3,751,977	\$0	\$60,000	\$0
EO-8	StreamWise Stewardship	NEIWPCC	\$ 61,000	\$0	\$3,812,977	\$0	\$0	\$61,000
EO-9	Economic Valuation of Clean Water and Healthy Watersheds	NEIWPCC	\$ 5,000	\$0	\$3,817,977	\$0	\$0	\$5,000
EO-10	Artist in Residence Program	NEIWPCC	\$ 25,000	\$24,000	\$3,842,977	\$0	\$0	\$25,000
E&O Total			\$ 910,000	\$754,000	Category Sum	\$0	\$579,350	\$330,650

April 2019 **Draft FY2019 LCBP Budget**

	Technical Tasks (Core Projects Approved 9/12/18)	Task Management	Draft 2018 TASK Request	FY2018 Approved Budget	DRAFT TASK Cumulative Total	NPS Allocation	EPA Allocation	GLFC Allocation
T-1	CORE PROJECT: Lake Champlain Boat Launch Steward Program 2018	NEIWPCC	\$ 138,050	\$135,000	\$3,981,027	\$0	\$121,484	\$16,566
T-2	CORE PROJECT: NEIWPCC-- Lake Champlain Long-Term Water Quality and Biological Monitoring (LTMP)	NEIWPCC	\$ 150,000	\$134,500	\$4,131,027	\$0	\$150,000	\$0
T-3	CORE PROJECT: VERMONT DEC - LTMP	VERMONT	\$ 267,629	\$239,478	\$4,398,656	\$0	\$267,629	\$0
T-4	CORE PROJECT: New York DEC/SUNY Plattsburgh LTMP	NEW YORK & SUNY-Plattsburgh	\$ 185,000	\$185,000	\$4,583,656	\$0	\$185,000	\$0
T-5	CORE PROJECT: Monitoring Cyanobacteria in Lake Champlain	NEIWPCC-LCC	\$ 80,000	\$72,000	\$4,663,656	\$0	\$80,000	\$0
T-6	CORE PROJECT: Water Chestnut Management Partnership - Lake Champlain Basin	VERMONT	\$ 90,000	\$75,000	\$4,753,656	\$0	\$0	\$90,000
T-7	CORE PROJECT: LCBP Enhanced Grant Awards for Pollution Prevention	NEIWPCC	\$ 625,000	\$464,256	\$5,378,656	\$0	\$468,750	\$156,250
T-8	CORE PROJECT: Aquatic Invasive Species Rapid Response Fund	NEIWPCC	\$ 69,900	\$75,000	\$5,448,556	\$0	\$0	\$69,900
T-9	CORE PROJECT: WWTF Optimization in Lake Champlain Basin	VT?/NY?	\$ 260,000	\$125,000	\$5,708,556	\$0	\$260,000	\$0
T-10	CORE PROJECT: NY Lake Champlain Basin Agronomy Support and Agriculture BMP Implementation	NEIWPCC	\$ 160,000	\$158,000	\$5,608,556	\$0	\$160,000	\$0
	TECHNICAL PROJECTS TBD					\$0	\$0	\$0

Tech Total \$ 2,025,579

Category Sum \$0 \$1,692,863 \$332,716

	Budget	Allocated	Balance
EPA FY19 base	\$4,395,000	\$ 4,278,940	\$116,060
EPA-2016 TMDL	\$6,600,000	\$ 6,600,000	\$0
NPS (CVNHP)	\$332,097	\$298,975	\$33,122
GLFC	\$2,380,500	\$1,317,191	\$1,063,309
	\$ 13,707,597	\$ 12,495,106	\$1,212,491

Lake Champlain Basin Program
(A) Conceptual Education and Outreach Task
Description FY2019 Budget

1. **Task Title:** Production and Distribution of Clean Water Videos
2. **One-sentence abstract of task:** The task would support the production of video shorts (less than 3 minutes each) on the value of clean water, along with target audience actions to protect clean water, and a plan for distributing the films.
3. **Submitted by:** Bethany Sargent, VT DEC and Ken Kosinski, NY DEC
4. **Describe the task and the specific work-product(s) or output that might result.**

This task would support the production of four to six short videos (less than 3 minutes each) on the value of clean water and target audience actions (e.g. homeowners, municipal officials, boaters, businesses) to protect clean water, and a plan for distributing the videos. Specific topics would be determined based on the results of an assessment of current needs and resources but could include: why wetland buffers are important and how to improve them; managing stormwater at your home or small business; and reconnecting rivers – actions that support connected, healthy rivers and floodplains. For additional examples, see the Chesapeake Bay Program videos at <https://www.chesapeakebay.net/discover/videos/recent>. Vermont and New York are proposing that LCBP manage the contract for video production and distribution, with support from a project committee.

This project addresses Opportunities for Action Goal IV: Informed and Involved Public, Objective IV.C.2.a: Outreach materials: Produce web content and print materials that describe lake-friendly products and practices; IV.B.1.e: Web/Electronic Outreach: Produce video and other dynamic media for LCBP website; and IV.C.1.a Web/Social Media outreach: Connect citizens with local organizations' volunteer programs.

Outcomes of the videos would be improved awareness and knowledge of actions that support clean water and the value of clean water in Vermont and New York.

5. **Please provide the estimated cost of this task, a timeframe (# months or years), and explain why this can't be supported by state funds.**

\$35,000 over 24 months (for production and distribution).

Vermont governmental agencies prioritize funding for clean water project implementation that involves nutrient and sediment pollution reduction. For more information, see the Ecosystem Restoration Funding Policy posted at: <https://dec.vermont.gov/watershed/cwi/grants/ecosystem-restoration>.

6. **Post-Project monitoring:** [Please provide a brief description of how the success of this program could be monitored/measured after the project is complete.]

Tracking analytics on LCBP webpage, YouTube channel, and other websites linked from videos.

Lake Champlain Basin Program
(C) Conceptual Education and Outreach Task
Description FY2019 Budget

1. **Task Title:** Encouraging communities to be Stream Wise by supporting good stewardship of lands along shared streams and rivers
2. **One-sentence abstract of task:** Develop and pilot social marketing campaign to educate and incentivize communities to engage in activities that support enhancement and protection of riparian water quality and aquatic habitat as well as the community's flood resilience.
3. **Submitted by:** Will Eldridge, VTDFW and Karen Bates, WSMD-VTDEC
4. **Describe the task and the specific work-product(s) or output that might result.**

Similar to the successful Lake Wise program administered by the VTDEC, the goal of Stream Wise is to establish a new normal of riparian landscaping that is proven to help protect streams and rivers. Social science research has shown that people are most influenced by their neighbors. An award program will be developed that presents properties that meet certain management conditions a Stream Wise award. These properties will then represent a "model" property that will in turn inspire others to make improvements so they too can earn the award and help protect their shared rivers and streams.

This program most closely aligns with OFA Task Area IV.C.3.a: Social Marketing - Implement social marketing techniques to foster sharing of information and stewardship ethic, and IV.C.2.a: Outreach materials - Produce web content and print materials that describe lake-friendly products and practices. Because this program would cross developed, agricultural and forestry lands, it would also touch on a number of other OFA task areas: II.A.1.a Support programs to expand protection of river corridors; I.C.1.b fund programs to protect or enhance river corridors for nutrient reduction and flood resilience; IC4c Educate and Assist Landowners to Promote Clean Water Regulations on Forested Lands; III.A.1.b: Technical Resources Provide technical assistance through meetings, workshops, and presentation; III.A.3.a: Outreach - Support and advise municipalities' efforts to educate residents about sound river/ floodplain management

Tasks and work products:

- a) Facilitate a team of experts who will develop criteria for award program as well as provide input in development of b-d. The work product would be meeting minutes and draft award criteria and the stream and community for the piloting of the program.
- b) Develop a social marketing campaign that will result in behavior change. It will include best management practices and fact sheets, education and technical assistance materials, lists of resources, and slogans that can be used across New York and Vermont
 - i) Identify audience and needed behavior change. The community as a whole will be one audience, while riparian landowners would be the second.
 - ii) Develop slogan, graphics (branding) for campaign
 - iii) Develop list of actions that could become part of an award program
- c) Develop communication plan to include social media and pilot the campaign in one area.

The Stream Wise materials, standards and criteria will be developed by a team of experts. The program itself will be run by local organizations (e.g., watershed groups or conservation districts)

who are well positioned to foster Stream Wise communities within the areas they serve. The project would include development of an outreach plan to connect with landowners. Municipalities will be encouraged to support the program by delivering Stream Wise material and other information that provides education and technical assistance on the social, ecological and economic value of Stream Wise, such as through revenue from anglers, or enhancing co-benefits like flood resilience or protection of swimming holes.

5. Please provide the estimated cost of this task, a timeframe (# months or years), and why this can't be supported with state funds.

1. Coordinating and facilitating meetings of self-selected committee of volunteers to include scientists, environmental interests, fisheries related businesses to identify audience and develop award criteria - \$20,000 – 6 months
2. Development of marketing materials - 8 months
 - a. focus group and data analysis - \$5,000
 - b. Outreach plan, marketing outreach materials, outline of slogans - \$10,000
 - c. development of branding - \$5,000
3. Printing of marketing materials - \$1,000
4. Piloting of a program in community where brook trout habitat is used by fishing guides, tourists, locals in New Y and in Vermont (- \$10,000 X 2) – 1 year

Total estimated cost: \$61,000

Vermont governmental agencies prioritize funding for clean water project implementation that involves nutrient and sediment pollution reduction. For more information, see the Ecosystem Restoration Funding Policy posted at: <https://dec.vermont.gov/watershed/cwi/grants/ecosystem-restoration>.

6. Post-Project monitoring:

Success of the development of the program would include:

1. Engagement of State, federal and NGOs in development of program: number of meetings, number of attendees and number of organizations represented.
2. Sufficient recruitment for focus group
3. Development of outreach plan, slogan and development of branding
4. Number of landowners who have increased forested riparian buffer and miles of riparian buffer increased in focus communities.
5. Number of landowners who have participated in award program, and number who have received awards.
6. Number of municipalities who recognize awards program in some way (to be determined)

Lake Champlain Basin Program
(D) Pre-Proposal to Implement *Opportunities for Action*
Submitted by Amy Picotte, VTDEC, Watershed Management Division Lakeshore Manager
Nov 2, 2018

Title: Bioengineering and Shoreland Best Management Practices to Restore Living Shorelands and Protect Water Quality.

Abstract: This proposal continues the momentum, interest, and training opportunities for restoring living shorelands and protecting water quality through bioengineering and shoreland best management practices and the maintenance and monitoring of these projects.

Contact:

Amy Picotte, VTDEC, Watershed Management Division
1 National Life Drive, Main 2
Montpelier, VT 05620
Amy.Picotte@Vermont.gov

This proposal is from the Lake Wise Program, which develops and coordinates science-based, lake friendly, shoreland methods for protecting water quality and habitat. The Lake Wise Program leads and partners with 100s of contractors, shoreland owners, NRCD Staff, Regional Planning Commissions, and Watershed Groups to teach and promote these practices for shoreland protection and restoration.

Project Description:

By 2019, several first time ever Bioengineering Projects and shoreland Best Management Practices will have been installed along Vermont shorelands. These practices, ecological techniques to protect water quality and wildlife habitat, will need monitoring and maintenance, and continued replication to spread awareness and understanding of their benefits.

This proposal aims to monitor and maintain existing installed bioengineering practices, while continuing to offer classroom as well as field opportunities to train and teach contractors, engineers, and landscape designers how to construct and install these ecological approaches to prevent erosion and manage stormwater runoff. There are multiple benefits to using bioengineering methods for water quality and ecosystem restoration, and more and more contractors, consultants, engineers, and shoreland owners (State Parks, Town Beaches, businesses and private shoreland owners) are eager to learn these techniques as noted by the full enrollment in the Natural Shoreland Erosion Control Certification trainings of which the LCBP is a partner and by 100 percent of all the participants (300+) highly recommending this training opportunity to others. Additionally, a common request from NSECC participants is for field opportunities in project installations to fully understand the construction of these restorative practices. Many partners have learned the importance of and the techniques for improved shoreland management through the Lake Wise Program's outreach opportunities such as the NSECC trainings, and the LCBP funds have been critical in supporting our leadership role with consistent, science-based methods and outreach to partners for restoring and

protecting living shorelands. The state commits funding to one full time employee, my Lakeshore Manager Position, to coordinate the Lake Wise Program and the NSECC trainings, but temporary staff is essential to achieving increased awareness of and participation in all aspects of lake-friendly shoreland development and management. The tasks outlined in this proposal are specific and discrete and not supported by general state funding and seem ideal for LCBP funding support.

This proposal meets all four of the key priorities for this grant funding as it will produce demonstration projects to reduce nutrient loading to Lake Champlain; is based on the Vermont Lake Score and Lake Wise Assessments, data supported by the LCBP and used to prioritize projects for mitigating stormwater and erosion; will restore living shorelands with native plants; and monitor existing and create new research sites for Bioengineering Best Management Practices.

Bioengineering practices are designed to protect water quality and habitat, which address the priorities listed in the Clean Water and Healthy Ecosystems Sections of the *Opportunities for Action*. These trainings are solutions for preventing stormwater runoff and erosion while restoring critical shoreland habitat because they connect contractors with new research in Green Stormwater Infrastructure, shoreland BMPs and Bioengineering, and with the methods, materials and skills to improve shoreland and lake management and protect water quality.

Outputs: Two Classroom Natural Shoreland Erosion Control Certification Trainings; One Field Erosion Control Training; Vermont's First Living Shoreland Webinar Series on Restoring Shorelands to Protect Water Quality; 10 Shoreland Sites Assessed; 10 Project Sites Identified; One Demonstration Project Installed; 20 Contractors Trained

Outcomes: Increased Partnership for Living Shorelands both in Vermont and Regionally; Web-Based Network for Living Shorelands; One Shoreland Site Restored; 20 Contractors Capable of Repeating Methods along Other Shores.

Total Request Amount: \$62,000

Budget Explanation:

November 2019 – December 2020

Personnel (Field Work, Analysis and Design, Communication and Coordination, Instructional Training, Implementation, Reporting)	28,000
Fringe	2,184
Travel	4,500
Supplies	12,120
Indirect	15,196

Technical References Cited:

Please visit the Science of lakes and shorelands, listed on the [Vermont Lake Wise Program's web site](#) and the [Natural Shoreland Erosion Control Certification Program](#).

Lake Champlain Basin Program
(E) Conceptual Education and Outreach Task Description
FY2019 Budget

1. Task Title:

Education and Outreach Grants

2. One-sentence abstract of task:

The task will support grants to support education and outreach efforts of partner organizations throughout the Basin.

3. Submitted by:

LCBP Staff

4. Describe the task and the specific work-product(s) or output that might result.

Four categories of grants will support education and outreach efforts within LCBP and by partner organizations in the Basin:

- i) Local Implementation Grants: Up to \$10,000 for general education and outreach projects that support objectives of Opportunities for Action. Total: \$240,000.*
- ii) Professional Development Mini-grants to watershed organizations: Up to \$500/year. Total: 14,400.*
- iii) Boots and Bugs: Fund a program for teachers/classrooms in grades K-8 for classroom supplies for studying the watershed. (waders, bug nets, etc). Total: \$24,000*
- iv) Enhanced E&O Grants: Larger grant awards for \$20,000-\$75,000, for areas where larger sums of funding would help build better watershed connections and offer outreach opportunities for the public. Total: \$272,100.*

5. Please provide the estimated cost of this task, and a timeframe (# months or years).

\$550,500

6. Post-Project monitoring: [Please provide a brief description of how the success of this program could be monitored/measured after the project is complete.]

Success of projects will be measured using a variety of methods, depending on specific programs. The ability of grant recipients to assess the effectiveness of their outreach efforts will be enhanced through implementation of proposed Task K: Outreach Evaluation Workshop for Outreach Partners.

Lake Champlain Basin Program
(F) Conceptual Education and Outreach Task Description
FY2019 Budget

1. **Task Title:** *High School Watershed Steward Certification Program – Year 3*
2. **1-Sentence abstract of project:** *This watershed steward certification would help students, grades 9-10, explore 10+ elements of the Lake Champlain watershed over two years.*
3. **Submitted by:** *LCBP Staff*
4. **Describe the project and the specific work-product(s) or output that would result.**

By the time they enter their junior year of high school (which is when they begin to explore career paths and/or complete college applications), this experience will help students make informed decisions regarding watersheds in their communities. Based on similar Adirondack programs, a series of programs, trainings and meetings will help build experience with water quality management issues. LCBP ECO Americorps member is working on a possible framework. UVM Extension/ Lake Champlain Sea Grant are possible partners. High School Career and Guidance counselors and teachers could also assist.

This task will fund the certification of 20 students resulting in 20 community-based projects to improve watersheds while creating a more informed student base.

This task addresses Task Areas IV.A.4.a (Community Service) and IV.A.4.b (Youth Volunteers)of OFA.
5. **Please provide the estimated cost of this task, and a timeframe (# months or years).**
\$15,000 over one year – expected to be part-time contractual along with stipends for key partners.
6. **Post-Project monitoring:** *Participants will be asked to complete a two-page narrative summarizing their experience upon certification. By then, they will have also completed a culminating service project in their own community and agree to brief follow-up in 2 years.*

Lake Champlain Basin Program
(G) Conceptual Education and Outreach Task Description
FY2019 Budget

1. **Task Title:** CBEI K-12 teacher training and Authentic Student Learning - One day teacher training summit (80 teachers) + 4 workshops (15 per workshop) + World Water Day Student Celebration 2020
2. **One-sentence abstract of task:** Champlain Basin Education and Outreach Initiative will train up to 140 teachers about watershed issues through a one day multi-track summit and 3-5 individual workshops (2 of which will be in New York.)
3. **Anticipated out puts:** One Multi-track summit for up to 80 teachers and four workshops with up to 15 participants will be developed and implemented with CBEI partners.
4. **Submitted by:** LCBP.
5. **Describe the task and the specific work-product(s) or output that might result.**
Task Areas in [Opportunities for Action](#) Informed and Involved Public

Expected outputs from the summit will be three fold: 1) linking teachers directly with field experts and resources about Lake Champlain watershed issues, 2) providing educators with hands-on opportunities to explore water quality, fish and wildlife, and heritage connections in the Champlain valley, and 3) to encourage and recruit teachers for additional watershed trainings through CBEI or partnerships. Expected outputs from the 4 workshops: 1) providing a deeper understanding of place basic education within specific communities, and how they link to appreciation and the Lake Champlain watershed and 2) linking teachers with local experts and scientists within their community.
6. **Please provide the estimated cost of this task, and a timeframe (# months or years).**
4,000 summit + 8,000 for workshops + \$2500 World Water Day 2020 + 6,000 for evaluation =
20,500 plus indirect =
\$24,500
7. **Post-Project monitoring:** CBEI events include an evaluation at the end of every teaching session. Key participants provided feedback through World Water day as well.

Lake Champlain Basin Program
(H) Conceptual Education and Outreach Task Description
FY2019 Budget

1. Task Title:

Artist in Residence

2. One-sentence abstract of task:

This task will fund the interpretation of watershed data and science through art.

3. Submitted by:

LCBP Staff

4. Describe the task and the specific work-product(s) or output that might result.

Creating opportunities to match at least two local artists with lake communities, utilizing artistic interpretation of science and data to share with the public and create dialogue with the public about watershed issues. Funding could be provided through an RFP or other mechanism to the artist. This could be implemented in NY, VT or Quebec. (will create a lasting community piece). Pertains to OFA IV.C.3.b: (Citizen Media Competition) and IV.B.1.c: (Personal Interpretation – face to face)

5. Please provide the estimated cost of this task, and a timeframe (# months or years). [Please note that funding for this task will likely not be available until at least 12 months from now.]

\$25,000 over 12-18 months.

6. Post-Project monitoring:

The success of the task could possibly be assessed, in part, through a web based mechanism...e.g. capturing public opinion or knowledge influenced by the art/dialogue with the artist.

Lake Champlain Basin Program
(I) Conceptual Education and Outreach Task Description
FY2019 Budget

1. Task Title:

Healthy Soils Phase 3

2. One-sentence abstract of task:

This project will build upon the LCBP-led initiative to promote healthy soil development continuing outreach to landscaping companies, and to at least one additional community in Vermont and one in New York. (Edited description to be added by the E&O Committee in December after additional input..)

3. Submitted by:

LCBP/Lake Champlain Sea Grant

4. Describe the task and the specific work-product(s) or output that might result.

This supports OFA task 4.5.5 to “use education to empower the general public to reduce phosphorus contributions.” After initially researching two specific audiences: landscaping company staff and people from Winooski, targeted social marketing campaigns will be developed to help promote development of healthy soils with these audiences. This can help reduce runoff, and therefore minimize phosphorus runoff to Lake Champlain. Deliverables will include written campaign plans as well as educational products that are developed as a component of each.

5. Please provide the estimated cost of this task, and a timeframe (# months or years). [Please note that funding for this task will likely not be available until at least 12 months from now.]

\$72,000

6. Post-Project monitoring: [Please provide a brief description of how the success of this program could be monitored/measured after the project is complete.]

Pre-assessment is necessary to be able to track behavior changes that may result. For the landscapers, the contact list will be a manageable size, thus a census of the population should be able to be completed before and after implementing outreach activities. For the next two communities, pre and post evaluations will be conducted for a subset of the population.(subject to edited description provided by the E&O Committee in December.)

Lake Champlain Basin Program
(J) Conceptual Education and Outreach Task Description
FY2019 Budget

1. Task Title:

Economic Valuation of Clean Water/Healthy Watershed

2. One-sentence abstract of task:

This task will support an assessment of the value of clean water across multiple economic sectors in the Lake Champlain Basin.

3. Submitted by:

LCBP

4. Describe the task and the specific work-product(s) or output that might result.

[Note: This task is very preliminary. If there is consensus to pursue it in the FY2019 budget cycle, staff will scope and refine the concept more fully.]

A key component of the Thriving Communities goal of *Opportunities for Action* is an assessment of the value of clean water to the regional economy (Strategy III.B.2). This task will support a scoping project to assess the need and opportunity for a more comprehensive future analysis of the economic impact of a healthy watershed in a variety of industries, including recreation and tourism, agriculture, timber, manufacturing, etc. This preliminary study could include a summary of existing studies, gaps in existing analyses, and potential model studies from other regions or sectors.

5. Please provide the estimated cost of this task, and a timeframe (# months or years).

\$5,000

6. Post-Project monitoring: [Please provide a brief description of how the success of this program could be monitored/measured after the project is complete.]

Lake Champlain Basin Program
(K) Conceptual Education and Outreach Task Description
FY2019 Budget

1. Task Title: *Lake Champlain Education and Outreach Stewards*

2. One-sentence abstract of task:

Lake Champlain education and outreach stewards will conduct outreach at public events in NY, VT and Quebec to inform the public and answer watershed questions and provide them with opportunities to take positive steps on behalf of Lake Champlain and its tributaries.

3. Submitted by: [Include name(s) and organization(s).]

LCBP Staff

4. Describe the task and the specific work-product(s) or output that might result.

Up to 4 individuals would be hired to expand the LCBP lake outreach from Memorial Day – Labor Day. There are many opportunities for expanding our reach, including farmers' markets, municipal, and lake events. They can visit state parks, river events, upper reaches of the watershed and downtown locations, answering questions about Lake Champlain and offering opportunities for citizen action. They might be recruited through AARP, work force development, watershed groups, etc. (e.g. Summit Stewards and similar programs.) they should be able to discuss a variety of watershed issues with the public and provide resources for getting involved or changing behavior to benefit the watershed. Outputs might include representation at 20 farmers markets, 80 additional summer events reaching up to 4,000 individuals over the summer period.

This task addresses Task Areas IV.B.1.c: Personal Interpretation of OFA.

5. Please provide the estimated cost of this task, and a timeframe (# months or years).

Estimate: \$60,000

6. Post-Project monitoring:

The success of the task would be assessed by tracking analytics (numbers greeted, etc) and possibly reported out on LCBP social media through YouTube or other mechanisms.

FY19 Champlain Valley National Heritage Partnership Core Projects

1. Wayside Exhibit Program Continuation

Recommended Budget (including 16.5% indirect): \$10,000 (National Park Service)

Funding will support the continuation of the CVNHP/LCBP wayside exhibit design program. Started in 2001, the program provides free design services (a \$600-\$700 value) to communities and organizations that wish to utilize the interpretive sign content detailed in the LCBP Wayside Exhibit Manual. This award-winning program has provided design services for more than 325 wayside exhibits since it began. The program will continue the replacement of damaged waysides and include the design of new exhibits.

2. Annual International Heritage Summit

Recommended Budget (including 16.5% indirect): \$8,000 (Great Lakes Fishery Commission)

The CVNHP hosted its initial annual summit of key stakeholders, state and federal agency representatives, and policy makers on May 17, 2010 in Montreal. The summit focused on how Vermont, New York and Quebec could work together on implementing the CVNHP Management Plan. In addition to identifying steps for implementing the plan, the summits create new and enhanced relationships among potential partners in the three jurisdictions. The 2019 CVNHP International Summit will be held in Quebec on October 7, 2019.

3. Quebec Regional Stakeholder Coordination

Recommended Budget (including 16.5% indirect): \$2,200 (Great Lakes Fishery Commission)

In 2017, the Steering Committee directed funds from the Great Lakes Fisheries Commission to support an regional stakeholder group in Quebec. The new group meets twice a year to learn about opportunities for cross-border collaboration among stakeholders in Quebec, New York and Vermont. Two grant projects successfully completed in 2018—The Loyalist Trail Project and Lake Champlain Region Border Map Project—illustrate the success of this effort.

**Lake Champlain Basin Program
FY19 Conceptual Technical Task Description**

TITLE: FY19 Aquatic Invasive Species Rapid Response Fund

ONE SENTENCE ABSTRACT: The Lake Champlain basin AIS Rapid Response Fund provides a reserve of resources that may be used at the recommendation of the Lake Champlain AIS Rapid Response Task Force to effectively contain, control or eradicate a new aquatic invasive species invasion in the basin.

POINT OF CONTACT: LCBP, Meg Modley. Aquatic Invasive Species Management Coordinator, 54 West Shore Rd., Grand Isle, VT 05458, (802) 372-3215, mmodley@lcbp.org

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, METHODS, AND TIMEFRAME:

The timing and location of the next harmful aquatic invasive species to the Lake Champlain basin is unknown. The Lake Champlain Aquatic Invasive Species Task Force is a dedicated group of experts from NY, VT, and QC that respond quickly to the report of a new infestation. The Lake Champlain Aquatic Invasive Species Rapid Response Plan approved in May 2009 by the Lake Champlain Basin Program Steering Committee contains clear steps for species confirmation, delineation of the infestation, notifying the public, species risk assessment, implementation for control and monitoring. A dedicated source of funding which is readily available to respond to a new invasive species threat is a critical component of any rapid response plan. As an example, Rapid Response funding could be used to help contain a new aquatic plant or fish, or be used for direct control and management of a new invasive species spread or arrival in the basin. The AIS Rapid Response Fund would provide a source of resources that could be used in a rapid fashion to support management, tools, and resources necessary to implement control when the Task Force deems it technically feasible. While \$75k is currently available* for the Task Force, the goal is to have \$150k available to respond to a new infestation. Outputs from the use of these funds would be measurable and the outcome of this funding would be that the basin is prepared to take steps to respond to new introductions rapidly.

*The funding available for the AIS Rapid Response Fund will expire 9/30/19. If unused by May 2019 the funds will be used to offset the cost of the 2019 boat launch steward program.

REQUEST AMOUNT: \$60,000 US dollars

TOTAL COST WITH NEIWPCC INDIRECT: \$69,900

BRIEF BUDGET EXPLANATION: Program funding is unknown but could be used for direct management to contain, control, or eradicate the introduction of AIS (contracted services, control materials, permitting, etc.)

Lake Champlain Basin Program FY19 Conceptual Technical Task Description

TITLE: Water Chestnut Management Partnership – Lake Champlain Basin

ONE SENTENCE ABSTRACT: Monitor, remove and dispose of water chestnut at over 80 Lake Champlain sites and 25 other Lake Champlain Basin waterbodies.

POINT OF CONTACT:

Josh Mulhollem, Vermont Department of Environmental Conservation (VTDEC) Lakes and Ponds Program
802-490-6121

Josh.mulhollem@vermont.gov

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, METHODS, AND TIMEFRAME:

This funding is sought to continue management efforts of the aquatic invasive plant water chestnut (*Trapa natans*) in the waters of Lake Champlain and the surrounding basin. These efforts have been ongoing for decades, and have successfully reduced the problematic infestation of this plant to a fraction of what it once was. While hand-pulling and mechanical harvesting efforts have had significant positive effects, it is currently crucial to continue those efforts, or the progress that has been made will be lost.

In 2019, VTDEC will continue to prioritize management of water chestnut on Lake Champlain and adjoining tributaries with a north-to-south approach with both removal by hand and mechanical control. VTDEC will seek collaboration from NYSDEC and the town of Dresden, NY for control in the Dresden region that also supports a north-to-south management program. A second VTDEC element that manages water chestnut in other Basin waterbodies in Vermont will also continue. To date, removal efforts in these other waterbodies involve only the use of water chestnut removal by hand, and no change in control methods is expected in 2019. The funds sought from the Lake Champlain Basin Program will support hand-harvesting efforts in the Basin only; the complementary mechanical harvesting element will be supported with other funding sources.

VTDEC also plans to expand the use of drone technology to monitor water chestnut populations, which was a new initiative in 2018. The pilot program in 2018 focused on exploring methods for how this technology can be used as part of our management program, and we have developed two ways in which drones will be used in 2019. In several large, complex sites with sporadic water chestnut populations that are currently harvested by hand, drones will survey those areas prior to in-the-water efforts. Those tactics proved effective in 2018 to focus the efforts of harvesters and led to drastically improved efficiency. We will also set up a variety of sites with varying degrees of harvesting efforts to monitor long-term impacts of harvesting and to track yearly differences in areas that are harvested as well as those that are currently not harvested. A portion of the funds sought from LCBP will contribute to this element.

This work significantly contributes to several goals outlined in *Opportunities for Action*. The aerial photography element is in line with tasks **I.A.1.a** and **I.A.1.b**, as it will provide the research community with datasets that will inform future management, and supports an innovative management approach that should prove invaluable in long-term monitoring efforts. Because the aerial photography will also be used to assess current management techniques, it satisfies task **II.B.1.d**. The water chestnut management project satisfies tasks **II.C.1.a-c** due to monitoring efforts for new populations and subsequent response. In-water harvesting also contributes to task **II.C.3.a**.

Project Outputs:

With anticipated 2019 management funds (including sources other than this request):

- Manage over 80 Lake Champlain water chestnut sites between St. Albans, VT and Dresden, NY on both sides of the lake by removal by hand, mechanical removal or a combination of the two methods. Dispose of collected material via composting or in approved, upland, non-wetland locations.
- Manage over 25 other waters within the Lake Champlain Basin in Vermont by the removal of water chestnut by hand. Dispose of collected material in approved, upland, non-wetland locations.
- Survey/search for water chestnut in other areas of Lake Champlain and in other Basin waters of Vermont. Implement a control response if water chestnut is found.
- Utilize aerial photography (drones) to assist with on-the-water monitoring efforts, and to gauge long-term success of the harvesting regime. This information will inform future harvesting plans.

Project Outcomes:

2019 harvesting efforts, hand and mechanical, will support existing water chestnut management goals: reduce densities, prevent further spread, shift Lake Champlain populations from dense mats in need of mechanical harvesting to populations harvested by hand, and continue surveillance. In addition, the use of aerial photography will help us make more informed management decisions in future and better gauge long-term success.

REQUEST AMOUNT: For the State's ongoing water chestnut management program in the Lake Champlain Basin, we request \$90,000 from the Lake Champlain Basin Program. We also anticipate receiving \$350,000 from the U.S. Army Corps of Engineers and \$20,000 from the U.S. Fish and Wildlife Service to assist in funding this initiative.

TOTAL COST WITH NEIWPCC INDIRECT: Total Project Cost = \$90,000 (No NEIWPCC Indirect costs)

BRIEF BUDGET EXPLANATION: \$75,000 of sought funds will be used to support roughly 40% of the estimated cost of contracted hand-pulling overseen by VTDEC. The remaining \$15,000 will be used to support the aerial photography component of the program. The balance of the hand-pulling contract (~\$110,000), the mechanical harvesting component (~\$300,000), composting of collected spoils (~\$7,000), access to southern Lake Champlain (~\$20,000), and VTDEC staff time (\$50,000) will be paid out of other State and Federal sources. Work occurs on both sides of Lake Champlain and in other Basin waterbodies in Vermont.

FY2019 LCBP Conceptual Budget Technical Task Description

TITLE: Lake Champlain Watershed Cyanobacteria Monitoring Program

ONE SENTENCE ABSTRACT: This project will support a cyanobacteria monitoring program to recruit, train and support a network of monitors to assess and report on water conditions; track frequency and distribution of blooms; and publicize conditions through a data tracking map and other outreach mechanisms during the 2020 year and field season.

POINT OF CONTACT:

Lake Champlain Committee
Lori Fisher, Executive Director
208 Flynn Avenue, Building 3, Studio 3F, Burlington, Vermont 05401
(802) 658-1421, lorif@lakechamplaincommittee.org

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, METHODS, AND TIMEFRAME:

Project Scope and Methods - The Lake Champlain Watershed Cyanobacteria Monitoring Program is focused on addressing Opportunity for Action (OFA) tasks 5.4 and 5.5 to “implement actions to monitor, investigate the causes of, and reduce the frequency of blue-green algae toxins in the Lake” and to “identify public health risks associated with toxic substances (including blue-green algae toxins) and communicate risk to the public through advisories from the three jurisdictions”

Monitoring of cyanobacterial blooms is critical to evaluate the success of management efforts to reduce those blooms. The Lake Champlain Committee (LCC) will recruit, train and support monitors to provide at least weekly assessments of water conditions from mid-June through early fall at over 100 sites on Lake Champlain and select Vermont inland lakes. Monitors will conduct qualitative visual assessments of the amount of cyanobacteria in the water. Visual assessments allow monitoring to be done over a broad spatial scale at low cost. The methodology for the qualitative assessments replicates the original surveys done to produce the water quality standards. A small subset of monitors will also collect laboratory samples in addition to completing visual monitoring. This monitoring program complements on-going analytical sampling and analysis conducted by the Vermont Department of Health (VDH) and Vermont Department of Environmental Conservation (VT DEC).

In addition to providing a dataset for long-term trend analysis, the program will provide weekly input during the summer and early fall recreation season about the location, density, and persistence of cyanobacteria blooms, allowing public health and recreation managers to make informed decisions about when and where blooms may require beach closings. Once vetted, the monitoring reports are also made publicly available via the online cyanobacteria data tracker map housed at VDH, through social media postings and through weekly reports to monitors and a list-serve of interested individuals. LCC will also provide regular reports to media throughout the monitoring season and develop outreach materials to help people identify, report and avoid blooms.

Continued monitoring of cyanobacteria blooms will allow the Lake Champlain Basin Program and state environmental agency staff to assess progress on OFA goals. Program data will help track changes in cyanobacteria bloom frequency or extent that may occur as a result of implementation of the TMDL or even independent of changes in phosphorus concentrations while continuing to provide important public health information. This project will provide funding for program development and updating, recruitment and training of volunteers, continued communication and troubleshooting with volunteers throughout the monitoring season, collection and processing of data from the volunteers, publicity about conditions, and ongoing outreach and educational materials focused on cyanobacteria and water quality.

Outputs: LCC will produce training and educational materials about cyanobacteria and conduct between 20 and 25 training sessions for volunteer monitors, recreational and health personnel throughout the watershed.

We will also provide the majority of the data for the cyanobacteria tracker map and contribute to the database of conditions, toxin concentrations and cyanobacteria composition. We will produce weekly email updates to monitors and a separate one for key stakeholders and citizens around the basin. We will also provide media updates as warranted throughout the season. In addition to providing information on weekly conditions, the emails will include educational information, links to resources and training materials to educate recipients about bloom causes, how to avoid exposure, and actions to take to protect water quality.

Outcomes: The program will help increase awareness of cyanobacterial blooms and potential health issues and improve understanding of the connection between water quality and bloom occurrence. Through ongoing education and outreach it will increase proactive response from municipal officials and the general public when they encounter blooms.

Timeframe: Program work is conducted year-round. Preparation for the monitoring season will take place from late fall through early spring with training sessions held during the spring and summer. Monitoring and reporting will be conducted during the summer and early fall.

Anticipated partnerships: Primary project partners are the Vermont Dept. of Environmental Conservation, Vermont Department of Health and the Lake Champlain Basin Program. We will also coordinate with New York state environmental, health and recreation agencies, the Vermont Department of Forests, Parks and Recreation, municipal recreation departments for lakeshore communities, public water supply operators, and recreation centers located on Lake Champlain to offer training and provide weekly information about bloom conditions.

REQUEST AMOUNT: \$80,000

TOTAL COST WITH NEIWPCC INDIRECT: \$95,600

BRIEF BUDGET EXPLANATION:

The budget has been increased from the 2019 levels to account for higher staffing and program expenses due to a longer season, increased support for monitors and additional educational materials.

Budget Expense	Task 1 Develop QAPP, training and education materials, recruit monitors	Task 2 Implement monitoring program	Task 3 Project assessment, reporting and future planning	LCBP Request Total & Budget Percentage
Personnel	\$14,000	\$26,000	\$13,500	\$53,500 (66%)
Total fringe	\$ 1,400	\$ 2,600	\$ 1,350	\$ 5,350 (7%)
Supplies	\$ 1,000	\$ 3,500	\$ 300	\$ 4,800 (6%)
Communications	\$ 1,000	\$ 4,000	\$ 800	\$ 5,800 (7%)
Insurance	\$ 3,000	\$ 0	\$ 0	\$ 3,000 (4%)
Travel	\$ 300	\$ 1,600	\$ 300	\$ 2,200 (3%)
Indirect	\$ 1,400	\$ 2,600	\$ 1,350	\$ 5,350 (7%)
Totals:	\$22,100	\$40,300	\$17,600	\$80,000

Personnel includes staffing to develop and update program materials, recruit, train and support the monitors, produce related education and outreach materials, and analyze and assess results.

Supplies include gloves, thermometers, jars, printed documents, and other toolkit materials for monitors along with training venue expenses, monitor T-shirts or hats, and materials to support field staff.

Communications include database, phone, email, website expenses associated with the monitoring program.

Insurance covers related program expenses for volunteer coverage.

Travel covers mileage and ferry expenses for recruitment, training and support of monitors along with regular site assessments.

DRAFT

Lake Champlain Basin Program FY19 Conceptual Technical Task Description

TITLE: NY Lake Champlain Basin Agronomy Support and Agriculture BMP Implementation.

ONE SENTENCE ABSTRACT: Agronomic assistance to agricultural producers to increase acceptance of, and implementation of, best management practices to reduce soil and nutrient losses to surface waters.

POINT OF CONTACT: NYSDEC, Fred Dunlap

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, METHODS, AND TIMEFRAME:

Continuation of services oriented program by providing technical assistance to farmers in the New York portion of the Basin and promoting implementation of Ag. BMPs intended to reduce P loadings to surface waters while sustaining on-farm productivity. Project will result in improved adoption of pollution prevention BMPs, improved utilization of available cost-share programs by producers, and improved farm sustainability. The Agronomists will provide direct one-on-one assistance regarding:

- Nutrient Management including farm nutrient mass balance, manure storage, milking center and silage leachate management, and nutrient management plans
- Conservation practices including cover crops, soil health, conservation tillage, field buffers, grass waterways, livestock exclusion, pasture improvement, field ditch improvements, rotational grazing
- Guidance towards state and federal cost-share programs
- Conduct on-farm workshops, demonstrations, and educational meetings.

This proposal is aligned with OFA Task Areas I.C.2.a: Provide Technical Assistance for Land Treatment Plans (LTPs) and Nutrient Management Plans (NMPs), I.C.2.b: Research and Promote Programs to Optimize Fertilizer Applications to Reduce Nutrient Load, I.C.2.d: Help farmers meet Clean Water regulations with targeted cost-share support for small farms, I.C.2.f: Research and support sustainable agricultural practices that address water quality concerns and also are economically sustainable. Expected outputs include targeted education and outreach to producers on BMPs intended to reduce P loadings, assistance with CNMP development, assistance with federal cost share programs, and organized demonstrations and workshops showing conservation practices. Outcomes will include increased acceptance and utilization of BMPs and reduction in nutrient losses from farms.

REQUEST AMOUNT: \$160,000

TOTAL COST WITH NEIWPCC INDIRECT: \$160,000

BRIEF BUDGET EXPLANATION: This project will support agronomic services to NY farmers to promote implementation of BMPs intended to reduce P loadings while sustaining farm viability.

TECHNICAL REFERENCES CITED:

**Lake Champlain Basin Program
FY19 Conceptual Technical Task Description**

TITLE: FY19 Enhanced Best Management Practices for Pollution Reduction: Implementation and Planning Grants

ONE SENTENCE ABSTRACT: Grant funds for two categories of pollution reduction projects: shovel ready, and planning/prioritization.

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, METHODS, AND TIMEFRAME:

These grants provide resources for local implementation or planning for projects that cause a direct reduction of pollution in the Lake Champlain Basin. The Pollution Prevention and Habitat Conservation category of the LCBP Local Implementation Grants has a maximum of \$25,000, so this provides an opportunity to fund larger-scale projects. A single RFP would be released for two categories of grants:

- A. Projects with a direct, on the ground, pollution abatement component would be eligible for grants of \$50,000 - \$125,000. Eligible projects in this category might include shoreline stabilization, green infrastructure project implementation, purchase of equipment to be shared among entities, or stormwater management projects at highway department facilities. Projects clearly identified in a municipal, regional, or similar plan would be favored.
- B. Projects that would provide planning and prioritization for future on the ground pollution reduction would be eligible for grants under \$50,000. Eligible projects in this category might include green infrastructure planning at a municipal level, combined sewer reduction strategies, or watershed scale assessments and prioritizations.

TOTAL COST WITH NEIWPCC INDIRECT: \$625,000

BRIEF BUDGET EXPLANATION:

This task was approved in the FY18 budget for \$500,000.

Total requested funds in 2016: \$1,065,000

Total requested funds in 2017: \$994,878

Total requested funds in 2018: \$1,278,433

**Lake Champlain Basin Program
FY19 Conceptual Technical Task Description**

TITLE: FY19 Lake Champlain Boat Launch Steward (Watercraft Inspection and Decontamination) Program

ONE SENTENCE ABSTRACT: LCBP/NEIWPCC will hire 12-15 stewards to inspect and decontaminate, if necessary, boats launching and retrieving from Lake Champlain in NY, VT, and QC to prevent the introduction and spread of aquatic invasive species

POINT OF CONTACT: LCBP, Meg Modley, Aquatic Invasive Species Coordinator, 54 West Shore Rd., Grand Isle, VT 05458, (802) 372-3215, mmodley@lcbp.org; Frédéric Chouinard, Organisme de bassin versant de la baie Missisquoi

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, METHODS, AND TIMEFRAME:

The Lake Champlain Boat Launch Steward program will enter its thirteenth season in 2019 and will continue to prevent the introduction and spread of aquatic invasive species in the Lake Champlain Basin with watercraft inspection and decontamination as noted in the Healthy Ecosystems section of *Opportunities for Action*. Direct outputs from this program include the number of courtesy boat inspections and individuals that receive AIS messaging, summary of last body of water visited, number and types of organisms removed from boats and associated equipment, and percent of public that take certain types of AIS spread prevention measures. The public will be better informed and equipped with steps to help reduce the spread of AIS in the basin and resource managers will be better informed about where to place limited resources (stewards and decontamination stations) across the landscape to reduce landscape level spread of AIS.

The boat launch stewards will use tablets to collect data in the field using survey applications on iPads. The program will operate under an EPA and NEIWPCC approved quality assurance project plan. Stewards will be trained to operate boat decontamination stations where available to treat high risk watercraft.

*The QC portion of Lake Champlain on Missisquoi Bay implemented their first year of boat inspections in 2017 with support from LCBP. The program will be continued in 2019. LCBP provides training, French translated materials (uniforms, sandwich boards, handouts), and program support. QC stewards are supervised by Organisme de bassin versant de la baie Missisquoi and data is collected on LCBP iPads for review and quality assurance.

REQUEST AMOUNT: \$170,000 US dollars (\$20,000 of which for OBVBM contract for QC stewards; expiring rapid response funds in the amount of roughly \$65K will be used for the boat launch stewards if no RR actions are required by May 2019).

NOTE: Total amount request has been reduced; rapid response funds in the amount of \$60k that expire in 9/19 will be used for the program.

TOTAL COST WITH NEIWPCC INDIRECT: \$138,050

BRIEF BUDGET EXPLANATION: Program funding supports up to 15 stewards (2 in QC) most of which cover Memorial Day – Labor Day, four days a week. At sites where decontamination units are present double staffing is required for the launch and the decontamination unit. (Staff and indirect ~\$115k, supplies, field equipment and uniforms ~\$25k, OBVBM contract ~\$20k, program position advertising, training and travel budget, other program travel costs \$10k).

**Lake Champlain Basin Program
FY18 Conceptual Technical Task Description**

TITLE: Lake Champlain Long-term Water Quality and Biological Monitoring Program.

ONE SENTENCE ABSTRACT: Lake and tributary monitoring to detect environmental change, assess progress in TMDL implementation, detect/assess AIS introductions/spread, and support public health response in the event of cyanobacteria blooms.

POINT OF CONTACT:

Angela Shambaugh, Project Manager
VT DEC, Watershed Management Division
1 National Life Dr., Main 2
Montpelier VT 05620-3522
802-490-6130
Angela.shambaugh@vermont.gov

Fred Dunlap, Project Manager
NYS DEC
PO Box 296
Ray Brook, NY 12977
518-897-1262
Fred.dunlap@dec.ny.gov

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, METHODS, AND TIMEFRAME:

The primary purpose of the Long-term Monitoring Program (LTM) is to detect environmental change in the lake. It supports a key function of LCBP and OFA - measure and monitor success relative to benchmarks – as well as several strategies articulated as part of the Clean Water, Healthy Ecosystems, and Informed Public goals. This program is implemented each year during the ice-free periods.

The LTM consists of the following activities:

- Water quality monitoring: NYSDEC and VT DEC collect and analyze a suite of chemical, physical, and biological parameters from an established network of lake and tributary monitoring stations. Environmental indicators, monitoring stations, monitoring frequencies, and sampling procedures have all been specifically selected for this purpose, and statistical considerations were applied to optimize the design of the monitoring program.
 - Outputs - database that will serve to establish and interpret the relationship between water quality, the biological community, and lake environmental health; data to support the Champlain TMDL;
 - Outcomes – documentation of successes of OFA strategies/goals, identification of areas requiring additional effort to achieve goals, increasing public engagement in clean water goals around the Basin, cooperative efforts resulting in a healthier Lake Champlain.
- Champlain cyanobacteria monitoring network: Project partners VTDEC, VT Dept. of Health, and the Lake Champlain Committee monitor cyanobacteria conditions around the lake during peak recreational months. Data are shared with key public health stakeholders around the basin and used to inform public health response to bloom events.
 - Outputs – the Cyanobacteria Tracker map, weekly email updates to key stakeholders around the basin, outreach materials providing guidance for communities and the general public, and a database of conditions, toxin concentrations and cyanobacteria composition.
 - Outcomes – increasing awareness of potential health issues associated with cyanobacteria exposure, increased understanding of the connection between water quality and bloom occurrence, increased proactive response from town health officials and the general public when they encounter cyanobacteria outside of regularly monitored areas.
- Zebra mussel monitoring: The VT DEC monitors veliger populations around the lake and monitors susceptible inland lakes in VT for potential new invasions.

- Outputs – database of veliger densities on Champlain, support early detection efforts around Vermont, invasive species outreach materials
- Outcomes – increased understanding of the planktonic food web, better public understanding of the impacts of invasive species, support of the rapid response plan through early detection
- The Rock River Watershed Targeted Best Management Practice Implementation Project: VT DEC, VAAFM, and NRCS developed this project is to demonstrate water quality improvements from a focused agricultural BMP implementation effort in a small watershed where very high rates of phosphorus loading to Lake Champlain have been documented.
 - Outputs – database tracking water quality change in after coordinated implementation of agricultural best management practices,
 - Outcomes – increased understanding of ability of BMPs to improve water quality, increased usage of BMPs in the target watershed and beyond, improved water quality in a highly impacted area of the basin

REQUEST AMOUNT:

TOTAL COST WITH NEIWPCC INDIRECT: NA

BRIEF BUDGET EXPLANATION:

Category	EPA - VT	EPA - NY	NEIWPCC	TOTAL
Personnel	\$122,733	0		
Supplies	\$3,584	0		
Contractual	\$5,500	\$185,000 ^d	\$150,000	
Laboratory Services	\$66,655 ^c	0		
Administrative Direct	\$46,453	0		
Indirect Charges	\$22,704	0		
TOTAL	\$267,629	\$185,000	\$150,000	\$602,629

^a Includes salary and fringe for one full-time Environmental Scientist, managerial and administrative personnel support, and one six-month field assistant.

^b Includes contract for the Rock River monitoring project sampling and cost-share for one UVM summer student intern.

^c Includes \$2100 for laboratory services for Rock River monitoring project and DOC sampling at the 7 core stations.

^d Includes salary and fringe for field team to conduct tributary/lake sampling, laboratory analysis of biological (plankton) samples, supplies and materials.

**Lake Champlain Basin Program
FY19 Conceptual Technical Task Description**

TITLE: Municipal Wastewater Treatment Facility (WWTF) Optimization to Reduce Effluent Phosphorus.

ONE SENTENCE ABSTRACT: Optimization of internal process control, operations, and practices at municipal wastewater treatment facilities can help to improve facility efficiencies, lower phosphorus loads, and reduce costs associated with other phosphorus control strategies.

POINTS OF CONTACT:

Jessica Bulova, Vermont Department of Environmental Conservation
(802) 490-6181

Jessica.Bulova@vermont.gov

Ken Kosinski, New York State Department of Environmental Conservation
(518) 402-8110

Kenneth.kosinski@dec.ny.gov

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, METHODS, AND TIMEFRAME:

Phosphorus reduction at wastewater treatment facilities is an integral component of the phosphorus TMDLs for both New York and Vermont. Currently, most phosphorus reduction at WWTFs in the Basin is achieved through some means of chemical addition, settling, and solids removal. In some instances, chemical addition alone may not provide sufficient reduction to meet lower permit limits resulting from new TMDL requirements. In other facilities, phosphorus treatment infrastructure may be inadequate or the capacity to employ chemical addition may be limited. And in many facilities throughout the Basin, aging infrastructure challenges the capacity of wastewater treatment facilities to adequately and consistently treat to levels required to meet effluent limits. The ability to meet either lower permit limits or existing limits may require capital improvements at WWTFs which can be prohibitively expensive, especially for smaller rural communities. With the high costs associated with capital upgrades coupled with reductions in available funding, it is increasingly important that wastewater treatment facility operators look toward improving internal efficiencies and innovative solutions to help them achieve treatment necessary to meet permit limits. Wastewater treatment facility optimization offers the potential for innovative solutions to reduce effluent phosphorus loads by adjusting internal operations and process control within the existing treatment works with the added benefit in the potential for reduced operation and maintenance costs.

In addition to WWTF optimization, there is a significant need for on-going technical assistance in such areas as operator certification renewal, treatment, biological process control, laboratory procedures, collection systems, smoke testing, and industrial pretreatment. This technical assistance is important for many of the WWTFs in the rural communities to maintain the gain achieved through optimization in both Vermont and New York.

With the recent 2016 Vermont Lake Champlain Phosphorus TMDL Phase I Implementation Plan taking effect and Vermont WWTFs being issued new NPDES permits with decreased phosphorus limits Vermont contracted Vermont Rural Water Association (VRWA) in 2017 to assist WWTFs with technical support. VRWA has very successfully provided both one-on-one and collaborative technical support including innovative approaches to phosphorus reductions and helping municipalities draft phosphorus optimization plans. They have conducted numerous training sessions and roundtable events promoting collaboration and shared knowledge between municipalities.

This proposal is aligned with OFA Task Areas 1.A.1.b: Support innovative management approaches likely to succeed; and 1.A.1.c, Increase understanding of factors affecting BMP performance and

efficiency. Expected outputs include informing managers of innovative phosphorus reduction opportunities and demonstrating tools and techniques to reduce phosphorus loading from wastewater treatment facilities. Outcomes will include acceptance of new management approaches as well as utilization of improved optimization strategies to further reduce phosphorus loadings from wastewater treatment facilities.

REQUEST AMOUNT: \$260,000; to be managed by NY and VT states

TOTAL COST WITH NEIWPCC INDIRECT: \$260,000

BRIEF BUDGET EXPLANATION: This project will be contracted out to a qualified firm. Tasks will include working directly with wastewater treatment facility operators to evaluate existing treatment processes, examine individual components and determine phosphorus handling efficiencies, implement process control adjustments, and evaluate results. There are approximately 60 WWTFs in VT and approximately 30 WWTFs in NY. Funding will be utilized to work with all these facilities on a prioritized fashion on optimization. Technical assistance will be available to all facilities on an as needed basis. It is expected the largest share of the budget will be for direct professional engineering services. Other costs will include those associated with collecting data necessary to recommend and evaluate process adjustments, developing written operating procedures to assist the operator with optimization, conducting education and outreach to the governing boards and wastewater treatment facility staff, and preparing guidance documents that may be shared with other similar facilities in the Basin.

TECHNICAL REFERENCES CITED:

Case Studies on Implementing Low-Cost Modifications to Improve Nutrient Reduction at Wastewater Treatment Plants. August 2015. USEPA

https://www.epa.gov/sites/production/files/2015-08/documents/case_studies_on_implementing_low-cost_modification_to_improve_potw_nutrient_reduction-combined_508_-_august.pdf

Aging Wastewater Treatment Infrastructure – NYS Dept of Environmental Conservation

<http://www.dec.ny.gov/chemical/69446.html>

WWTF Optimization for Phosphorus Removal – Minnesota Pollution Control Agency

<https://www.pca.state.mn.us/sites/default/files/wq-wwtp9-03.pdf>

Weaver, Grant PE. Implementing & Optimizing Phosphorus Removal at Activated Sludge Wastewater Treatment Plants

<http://www.cleanwaterops.com/wp-content/uploads/2014/03/TechWebinar02-P-Removal-at-AS-wwtps-Feb-2014.pdf>

LCBP 2016 TMDL Implementation Funds Process

Timeline Updated January 30, 2019

Lake Champlain TMDL implementation projects will be developed and approved for funding through the following process:

- VT DEC's **Water Innovations Team**, with input from the Agency of Agriculture, Food, and Markets, and the DFW, and DFPR develops a package of priority TMDL implementation projects. LCBP SC will have an opportunity to provide selection criteria priorities for the projects – December 2018
- **LC TMDL Subcommittee** of the LCBP Steering Committee reviews the package to ensure projects meet the established TMDL implementation project criteria for EPA approval (see attached) – January 2018
- **LCBP TAC** (and other committees as appropriate) review the project package and provide comments/suggestions to promote alignment with the larger work of the Basin Program – February 2019
- **Water Innovations Team** updates project package based on committee review and prepares a final package of priority TMDL implementation projects. VT ANR will provide context (e.g., state resources available for TMDL implementation) for the projects selected for LCBP TMDL funding to EC and SC – March 2019
- **Executive Committee** reviews the project package and LCBP committee input and makes a recommendation for allocation of project lead, and attendant budget, between the State of Vermont and LCBP – March 2019
- **Steering Committee** reviews allocation of projects, and attendant budget, recommended by the Executive Committee and votes on final project package – April 9-10, 2018

LCBP 2016 TMDL Implementation Funds

Activities eligible for Lake Champlain Basin Program funding for Lake Champlain 2016 TMDL implementation

Expected appropriation language: The bill provides \$X (may be up to \$11M) for the Lake Champlain program. From within the amount provided, \$4,399,000 shall be allocated in the same manner as fiscal year 2017 and \$X (may be \$6.6M) shall be for otherwise unmet needs, necessary to implement the Agency's 2016 Phosphorus Total Maximum Daily Load Plan for Lake Champlain for projects and work identified in the State implementation plan.

Priority should be given to cost-effective projects that are expected to significantly reduce phosphorus loading to Lake Champlain.

TMDL implementation activities must:

- Help achieve implementation of goals, objectives and strategies in Opportunities for Action, An Evolving Plan for the Future of the Lake Champlain Basin (2017);
- Help to achieve implementation activities in the Vermont Lake Champlain Phosphorus TMDL Phase 1 Implementation Plan (Phase 1 plan) or Lake Champlain TMDL-related measures in the Phase 2 Tactical Basin Plans (Phase 2 plans);
- Include measurable outputs and outcomes;
- Address unmet needs necessary to implement the Vermont Phase 1 or Phase2 plans.

Eligible activities include:

- Installation of best management practices, improvement to wastewater practices, or the restoration of natural processes that are expected to achieve a quantifiable reduction of phosphorus loading into Lake Champlain (Recommended priority for use of funds);
- Planning and/or design projects necessary to carry out activities in Phase 1 and Phase 2 plans that will lead to implementation and anticipated reductions;
- Education and outreach tasks that are identified in the Phase 1 plan, or that are included as a project component, if necessary, to carry out the installation or effective use of phosphorus reduction practices;
- Applied research to evaluate the effectiveness of, or further develop and demonstrate, promising new or innovative phosphorus reduction technologies or approaches, with preference for those that are likely to have immediate applicability for Lake Champlain.

Funds may not be used to implement activities required by a federal Order.

**Lake Champlain Basin Program
FFY19 LC TMDL Implementation Project Description**

TITLE: Floodplain Restoration and Functional Assessment

ONE SENTENCE ABSTRACT: Develop and apply an integrated tool to improve identification and prioritization of natural resource conservation and restoration projects in a publicly accessible mapping platform, culminating in a demonstration project in the Missisquoi River basin.

POINT OF CONTACT: Mike Kline, VTDEC Rivers Program Manager, (802) 490-6155, mike.kline@vermont.gov

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, AND TIMEFRAME:

The Lake Champlain TMDL identifies unstable streams as the source of approximately 20% of the nutrient loading causing water quality impairment in segments of the lake. Vermont's extensive stream geomorphic assessments indicate channel incision and the loss of floodplain and wetland function are the primary causes of stream instability. Nutrient loading is attributable to both the reduction in fine sediment deposition on floodplains at or above the annual flood stage and the increased vertical and lateral channel adjustments that occur when larger floods are contained within incised and steepened streams.

Tens of millions in public and private dollars are spent on an average annual basis in the Lake Champlain Basin trying to keep streams and rivers from moving and contain them within the channel during floods to keep adjacent lands dry and protect property and infrastructure placed in the river corridor. The socio-economic drivers that led to these drainage practices have been the settlement of riversides for arable land and the development of mill works, roadways, and other settlements. This decades-long effort to reduce inundation flooding by blocking floodplains and draining the land has significantly increased fluvial erosion.

Resource managers have seen the benefit-cost of stream channelization shift in recent decades – the benefits of functioning floodplains, such as hazard mitigation, fish and wildlife habitat, and water quality benefits have become clearer as the costs of repeated channel dredging, berming, and armoring have become untenable to the landowner. An innovative application of the natural and social sciences is being proposed in Vermont, as an advancement of its Lake Champlain TMDL Phase 1 Implementation Plan, with the goal of shifting annual public and private expenditures in river and floodplain management from post-flood channelization and structural stormwater practices to the reconnection of streams and rivers with functioning floodplains and wetlands. The strategic divestiture and restoration of key floodplains and riparian wetlands to reduce flood damage and attenuate storm-related sediment and nutrient loads will be accelerated through this project.

The River and Floodplain Management Section of the Phase 1 Implementation Plan centers on resolving conflicts between human investments and the dynamics of rivers in an environmentally and economically sustainable manner (see pp. 70-76). It specifically identifies “managing rivers toward equilibrium conditions and allowing access to floodplains by avoiding the development of buildings, roads, and other investments in the floodplain or river corridor, provides for climate adaptation and reduces sediment transport and phosphorus pollution.” In addition, this project directly aligns with the 2016 Missisquoi Bay Tactical Basin Plan, Table 16. Summary of Implementation Actions, River Corridors Section (see p. 100).

This project contributes to OFA goals IA1a. Increase accessibility of data on Lake Champlain – by increasing accessibility to much needed improved floodplain data. Additionally, goals IC1a. Fund projects to improve bank stability in critical areas of the watershed and IC1b. Fund programs to

protect or enhance river corridors for nutrient reduction and flood resilience – will be addressed by identifying areas in need of restoration and implementing two demonstration projects.

Outputs:

- **Develop floodplain functions maps.** Using remote sensing, field, and modelling data¹ develop four base map products for the Lake Champlain Basin in Vermont: (1) Floodplain (Vertical/Lateral) Connectivity; (2) Stream (Longitudinal) Connectivity; (3) Floodplain-Channel Hydrology and Hydraulics; and (4) Floodplain Wetlands, Soils, and Geology). These layers will facilitate the evaluation of the ten natural floodplain functions² and their associated socio-economic values.
- **Identify strategic floodplain/wetland restoration and protection practices.** Further parameterize the floodplain functions base maps to identify key watershed opportunities to reconnect rivers and floodplains and restore the natural landscape processes that attenuate stormwater, sediments, and nutrients.
- **Conduct socio-economic evaluations and public outreach.** Develop, using ARC-GIS, those metrics that would allow the public to see and understand the existing status and potential value of functioning floodplain, wetlands and equilibrium (stable-least erosive) stream conditions in their watershed and the benefit-cost of strategic restoration and protection practices³.
- **Implement two floodplain/wetland restoration and protection practices** in cooperation with VTtrans and a municipality in meeting their obligations to remediate stormwater-related nutrient loading. These projects could serve as proof of concept for a program that would provide stormwater treatment credits through the restoration of natural floodplain and wetland functions, which could be an innovative mechanism in Vermont's efforts to retrofit existing impervious surfaces and implement nutrient TMDLs.
- **Estimated phosphorus load reductions achieved through floodplain/wetland restoration and protection.** While we do not yet have the capacity to account for the phosphorus load reduction achieved through floodplain and wetlands restoration, we will track the necessary data and anticipate this capacity within the project timeline.

Outcomes:

Anticipated environmental outcomes include a reduction in phosphorus loading, increased flood resilience, improved fish and wildlife habitat, and enhanced public recreational opportunities. In addition, this project will improve public and partner knowledge of the benefits of implementing strategic floodplain/wetland restoration and protection practices.

Timeline: October 1, 2019 – September 30, 2022

REQUEST AMOUNT: \$600,000

¹ Research is either underway or conceptualized (seeking additional funding) to provide the correlations between modelled floodplain and channel hydraulics data, the erosion and deposition of sediments (and nutrients), and more readily available stream geomorphic data. With these relationships, Vermont may be able to infer hydraulic characteristics with less expensive remote sensing and field collected data.

² Ten natural floodplain functions include: 1) maintaining water quality, 2) connecting organisms, 3) moving materials, 4) mitigating flood stage, 5) dissipating energy, 6) stabilizing riverbanks, 7) groundwater exchange, 8) accommodating movement, 9) habitat mosaics, 10) carbon storage

³ This has been previously described in part as the “Reconnect Vermont Rivers Campaign.”

**Lake Champlain Basin Program
FFY19 LC TMDL Implementation Project Description**

TITLE: Using GSI (Green Stormwater Infrastructure) and Other Technologies to Reduce Combined Sewer Overflows (CSOs)

ONE SENTENCE ABSTRACT: The purpose of this project is to employ new best management and technological approaches to reduce or improve the quality of stormwater runoff from developed lands that drain into or from combined sewer systems (CSS) areas.

POINT OF CONTACT: Vermont Department of Environmental Conservation, Terisa Thomas, Water Infrastructure Finance Supervisor, 802-249-2413, terisa.thomas@vermont.gov

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, AND TIMEFRAME:

The purpose of this project is to employ new best management and technological approaches to reduce or improve the quality of stormwater runoff from developed lands that drain into or from combined sewer systems (CSS) areas. Stormwater treatment practices designed to treat runoff separated in conjunction with or after CSS separation projects or Sanitary Sewer Overflow (SSO) remediation projects also would be eligible for funding assistance on a competitive basis. Finally, technologies such as Smart Data Infrastructure/real time control (RTC) or Hydraulics and Hydrology (H&H) studies to inform RTC, roof disconnection surveys as well as associated green roofs, blue roofs or cisterns/alternate roof drain plumbing would be eligible for funding assistance. Typical grey infrastructure such as underground detention tanks and associated piping would not be eligible for funding under this RFP.

Combined sewer separation is expensive and CSO Long Term Control Plans (LTCP) can utilize GSI to disconnect and infiltrate stormwater runoff before runoff enters CSSs, which can minimize risk of CSOs in a cost-effective manner. Green roofs and blue roofs can hold and detain rainfall releasing it slowly into a CSS decreasing the frequency of CSO events. RTC monitoring can lead to collection system optimization again reducing or eliminating the occurrence of CSO events.

All projects supported with these funds serve the primary purpose of implementing the 2016 Lake Champlain TMDLs to reduce phosphorus. An average 20% developed land phosphorus reduction is required in these Lake Champlain segments from developed lands and this RFP will help achieve that reduction by providing stormwater treatment for developed lands currently untreated. The City of Burlington is required to reduce their CSO phosphorus load from the Main WWTP by 11%. Table 12 of the Phase 1 Implementation Plan summarizes the TMDL implementation activities to be tracked and accounted for in the Wasteload and Load Allocation categories. Included among these are the annual average load reduction achieved through stormwater best management practice implementation in CSO drainage areas relative to the Developed Lands Baseload and CSO Wasteload Allocation. This project will provide funding for a second two-year period following a first RFP: *Using Green Stormwater Infrastructure (GSI) to address Combined Sewer Overflow (CSO) Mitigation*.

This project will target developed lands draining to CSSs. Seven of the 14 towns with CSOs or SSOs in Vermont are in the Lake Champlain basin. In 2017 (last full year of record) 159 of 161 (99%) CSO or SSO events statewide occurred in the Lake Champlain basin. As of 9/1/2018 114 of 118 events (97%) occurred in the Lake Champlain Basin. CSO events release phosphorus and pathogen pollution into Vermont's surface waters, trigger beach closures, increase the health risk to the public, and violate Vermont Water Quality Standards.

Outputs

- Complete final design plans and specifications (as needed) and bid and construct GSI or other rainwater harvesting stormwater treatment practices that slow, infiltrate, and/or treat stormwater runoff from roads and other impervious developed lands and/or disconnect impervious surfaces from CSS areas.
- Acquire and install monitoring and smart valve equipment for RTC.
- Conduct H&H studies or roof top disconnection studies to inform LTCPs.
- Report stormwater treatment practice construction to the State using the State-provided reporting templates.
- Identify responsible party to operate and maintain stormwater treatment practices for a minimum of ten years and submit signed operation and maintenance agreement to the State for approval.

Municipalities would be eligible to respond to the RFP, with the State prioritizing municipal proposals that utilize existing CSO LTCPs, H&H studies or stormwater assessments for project selection; involve construction of projects with the greatest phosphorus pollutant reduction potential; comprehensively integrate GSI into the practice design; and are cost-effective. The State would track projects constructed and estimate phosphorus pollutant reductions accomplished by stormwater treatment practices.

Pollutant reductions would count toward the State's phosphorus reduction targets and support municipalities implementing CSO Long Term Control Plans under the Vermont Lake Champlain Phosphorus Total Maximum Daily Loads (TMDLs) Phase I Implementation Plan (Phase 1 Plan). This proposal also aligns with the Phase 1 Plan, Table 1b. Vermont Phase 1 TMDL Plan Summary of Vermont Commitments, Section B. Non-regulatory Stormwater Management, task Use Green Stormwater Infrastructure to reduce impacts from stormwater runoff on page 14.

This proposal supports the Lake Champlain Basin Program Opportunities for Action (OFA) objective 1.C. to reduce nutrient loading through strategy I.C.3. to fund programs to reduce nutrient inputs from developed lands under the following task areas:

- I.C.3.b: Fund research and implementation programs to reduce effective impervious surface area. Address nutrient runoff from impervious surface areas in critical watersheds, incorporating predicted effects of climate change on precipitation events.
- I.C.3.c: Fund design and implementation of GSI/low impact development (LID) projects in critical areas. Support a grant program targeting design and installation of GSI projects in critical watersheds.

Outcomes

- Reduced stormflows and associated phosphorus pollution from developed lands.
 - 15-20 acres of impervious surface treated¹, with a reduction of 7-9 kilograms of total phosphorus load delivered to Lake Champlain per year²
- Reduced CSO events and associated beach closures, bacteria pollution, and violation of Vermont Water Quality Standards.
- Reduced flooding associated with stormflows from developed lands.
- Reduced urban heat effect.
- Improved urban environmental quality.

¹ Estimated by assuming cost of \$50,000 per acre of impervious treated and based on \$912,500 available.

² Estimated by assuming treatment of 15-20 acres of impervious treated based on developed lands impervious pollutant loading rates in the Main Lake segment with stormwater treatment practices designed to achieve minimum of 50% annual average reduction in total phosphorus load. Actual estimated phosphorus pollutant reductions will range depending on practice type, specifications (e.g., storage volume, area treated, infiltration rates), and location.

Timeframe: October 1, 2019 – December 31, 2021

REQUEST AMOUNT: \$1,100,000

BRIEF BUDGET EXPLANATION: \$912,500 would be available through the RFP, with the remaining \$187,500 for personnel to support LC TMDL implementation project management and administration.

BRIEF BUDGET EXPLANATION:

	Federal Funds Requested	Ecosystem Restoration Funds (State) Secured
• Develop Floodplain Functions Maps	\$200,000	\$50,000
• Identify Strategic Floodplain/Wetland Restoration and Protection Practices	\$50,000	\$50,000
• Conduct Socio-Economic Evaluations and Public Outreach	\$75,000	
• Implement Two Floodplain/Wetland Restoration and Protection Practices	\$275,000	

**Lake Champlain Basin Program
FFY19 LC TMDL Implementation Project Description**

TITLE: Internal Loading Assessment and Modeling Study on Missisquoi Bay

ONE SENTENCE ABSTRACT: Identify phosphorus-rich areas within the riverine deltas and elsewhere in Missisquoi Bay and evaluate options for in-lake phosphorus management to reduce ongoing loading from these sediments.

POINT OF CONTACT: Perry Thomas, VTDEC Lakes and Ponds Program Manager,
perry.thomas@vermont.gov, (802) 490-6198

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, AND TIMEFRAME:

Intense, prolonged cyanobacteria blooms in Lake Champlain's Missisquoi Bay during the summers of 2017 and 2018 not only caused major disruptions to recreation but also produced cyanotoxins that are a threat to the health of humans, domestic animals, and wildlife in both the U.S. and Canada. High phosphorus concentrations are likely the primary cause of these cyanobacteria blooms. Limnotech's (2012)¹ mass balance model for Missisquoi Bay indicated a substantial phosphorus release from the sediment each summer (26 metric tons, see below).

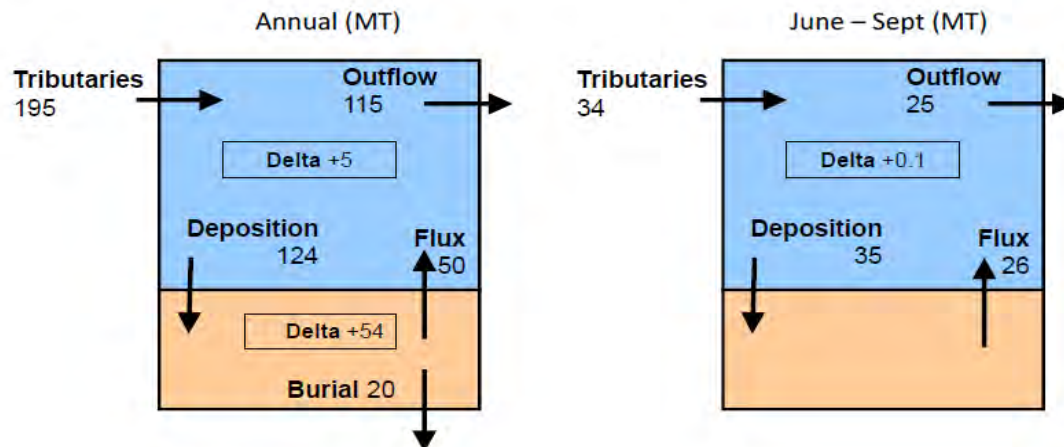


Figure 1. Summary of average mass balance model for 2001 - 2010 (from Limnotech 2012).

VTDEC proposes a scoping study to: 1) evaluate alternative approaches to managing internal phosphorus loading in Missisquoi Bay and 2) provide estimates of when in-bay treatments would be appropriate given projections for reduction of watershed loading.

This project is similar in concept to the phosphorus management study of inner St. Albans Bay, as recently contracted with the U.S. Army Corps of Engineers and described in the Lake Champlain TMDL Phase 1 Implementation Plan, Chapter 6, Section G, pages 123–125. In the case of Missisquoi Bay, the plan of approach is informed by Limnotech's 2012 analysis and recommendations.

Outputs

1. A map of potential phosphorus hotspots in the bay based on expanded water sampling data and sediment core analyses.
2. Hydrologic and hydraulic analyses of the Missisquoi River and Bay to support modeling of phosphorus dynamics.

¹ Limnotech (2012). Development of a phosphorus mass balance model for Missisquoi Bay. Technical Report No. 65. Lake Champlain Basin Program.

3. Determination of how high phosphorus concentrations are attenuated through the bay, based on intensive monitoring during high flow events.
4. An integrated model, linking the watershed model with the bay model.
5. Evaluation of alternative approaches for removal/treatment of phosphorus.
6. Assessment of external load reduction scenarios to determine a practical timeline for deployment of in-bay phosphorus removal/treatment approach(es).

Outcomes

Visualization tool(s) that allow(s) lake managers to select and optimize strategies for mitigation of internal phosphorus loading in Missisquoi Bay under different watershed loading scenarios.

Timeline

October 1, 2019 – September 30, 2021

Year 1: Field and laboratory work, analysis of data, initial modeling

Year 2: Modeling, visualization, and reporting

This project aligns with Opportunities for Action Objective I.A. Improve scientific knowledge and understanding of water quality conditions and trends in Lake Champlain and the effectiveness of management approaches, Strategy I.A.1: Fund and Interpret Management-oriented Research, Task Areas I.A.1.a: Increase accessibility of data on Lake Champlain and I.A.1.b: Support innovative management approaches likely to achieve results.

The Lake Champlain TMDL Phase 1 Implementation Plan describes the need for enhanced implementation in the Missisquoi Bay watershed to achieve the 25 µ/L water quality criterion in the bay due to high rates of present-day phosphorus loading from the watershed and legacy phosphorus in the bay's sediment. This study would allow lake managers to select and optimize strategies to mitigate this internal phosphorus loading. In addition, this project aligns with the 2016 Missisquoi Bay Tactical Basin Plan Table 16. Summary of Implementation Actions, Other: Monitor and assess surface waters to gain better understanding of condition and potential pollution sources, including internal phosphorus loading in lakes (see page 102).

REQUEST AMOUNT: \$250,000

BRIEF BUDGET EXPLANATION:

Fieldwork:	10% or \$25,000
Laboratory analyses:	20% or \$50,000
Analysis:	20% or \$50,000
Modeling:	30% or \$75,000
Visualization:	10% or \$25,000
Reporting:	10% or \$25,000

Lake Champlain Basin Program FFY19 LC TMDL Implementation Project Description

TITLE: Design and Construction of Green Stormwater Infrastructure at Public Schools in the Lake Champlain Basin in Vermont

ONE SENTENCE ABSTRACT: Public schools will be incentivized to comply with the state's upcoming 3-acre impervious surface stormwater general permit by designing and constructing green stormwater infrastructure (GSI), resulting in reduced phosphorous loading to Lake Champlain. Schools will be required to integrate into their teaching curriculum the role of GSI in improving water quality.

POINT OF CONTACT: Vermont Department of Environmental Conservation, Terisa Thomas, Water Infrastructure Finance Supervisor, 802-249-2413; Terisa.Thomas@vermont.gov

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, AND TIMEFRAME:

The State of Vermont is preparing to release the three-acre or greater impervious surface stormwater permit for managing phosphorus and sediment discharges from properties in the Lake Champlain Basin. Over eighty K-12 public schools may be affected and therefore would need to start complying with the permit requirements by 2023. Developing the general permit to address stormwater from existing developed lands equal to or greater than three acres is a commitment outlined in Table 1a of the Phase 1 Implementation Plan.

To help schools prepare, VTDEC has allocated \$100,000 to conduct stormwater assessments in 2019 at "early adopter" schools that wish to take advantage of this funding. At no cost to the schools, these assessments will collect stormwater-related information about the entire property and determine what next steps, if any, would be needed to comply with the 3-acre permit.

This LCBP funding would support additional assessment and preliminary design and final design and construction of green stormwater infrastructure (GSI) at schools in the Lake Champlain Basin in Vermont that are ready to proceed with meeting the permit requirements. Some schools may already have designs in place and therefore only need funds for implementation; other schools may be starting from scratch.

The Facilities Engineering Division (FED) within DEC will manage the Green Stormwater Schools Initiative, providing outreach and technical assistance based on each school's needs for permit compliance. The program will also work with schools and their partners to explore educational opportunities related to the installation of green stormwater infrastructure, such as an outdoor classroom.

Outputs

- 26 schools in the Lake Champlain Basin in Vermont make progress toward complying with the 3-acre permit through design and/or construction of GSI
 - Assessment and preliminary design
 - Final design and construction of stormwater treatment practices for a minimum of 6 public school systems

Outcomes

The resulting outcomes will be phosphorus reduction at those schools where construction is completed, and progress toward phosphorus reduction at schools that complete stormwater designs in compliance with the 3-acre permit. An anticipated total phosphorus load reduction achieved, once all projects are constructed, for 25 schools treating a minimum of 3 impervious acres (75 impervious acres total minimum) is estimated at 70 kg/year baseload (based on Main Lake direct drainage loading rate for developed impervious), assuming a minimum BMP efficiency of 50% would result in a minimum of 35 kg/yr total phosphorus reduction once all projects are constructed.

An additional outcome is students, teachers, and administrators increase knowledge of GSI as a means to address stormwater runoff.

This proposal supports the Lake Champlain Basin Program Opportunities for Action (OFA) objective 1.C. to reduce nutrient loading through strategy I.C.3. to fund programs to reduce nutrient inputs from developed lands under the following task areas:

- I.C.3.b: Fund research and implementation programs to reduce effective impervious surface area. Address nutrient runoff from impervious surface areas in critical watersheds, incorporating predicted effects of climate change on precipitation events.
- I.C.3.c: Fund design and implementation of GSI/low impact development (LID) projects in critical areas. Support a grant program targeting design and installation of GSI projects in critical watersheds.

Timeframe

October 1, 2019 – September 30, 2022

REQUEST AMOUNT: \$1,100,000

BRIEF BUDGET EXPLANATION:

Assessment and Preliminary Design¹ – \$200,000

Final Design and Construction² – \$900,000

¹ Estimated using an average of \$10,000 for assessment and preliminary design per school.

² Estimated by assuming a cost of \$50,000 per acre of impervious treated.

**Lake Champlain Basin Program
FFY19 LC TMDL Implementation Project Description**

TITLE: Implementation Support Program for Forestry Accepted Management Practices for the Lake Champlain Watershed

ONE SENTENCE ABSTRACT: Enhance implementation of the Accepted Management Practices (AMPs) for forestry through: development handheld mobile application and improved mapping for AMP implementation and tracking; expanding a cost share program for skidder bridges; targeted replacement of certain prioritized culverts and bridges; and related outreach/training work.

POINT OF CONTACT: Vermont Department of Forests, Parks and Recreation (FPR), Dave Wilcox, Watershed Forester, 802-793-0265, david.wilcox@vermont.gov

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, AND TIMEFRAME:

This support program will augment existing outreach, education and grant programs available to Vermont's forest economy. There are three main target areas for increasing implementation of AMPs.

1. Equip logging contractors, foresters and landowners to increase the understanding, skill and accuracy with which they implement practices and standards. This will be accomplished by use of technology, physical equipment such as temporary skidder bridges and training in practices that promote protection of water quality in terms of hazardous materials used in logging operations.
2. Improve landowner, forester, and logging contractor awareness of forestry practices that protect water quality through contracted outreach by partners.
3. Replace undersized culverts, bridges and other infrastructure that are currently causing erosion on state forestland to reduce risks of future discharges and improve stream habitat, while maintaining public access for recreation and forest management operations.

Outputs

- The development of a technical mobile application that would allow digital access to the AMP manual in the field, as well as allow the user to complete calculations for permanent and temporary bridge and culvert installations and water-bars using a smart phone for readings, measurements and GPS capabilities. Additionally, it will also include a mapping component to increase AMP planning and implementation.
- Increase availability and ownership of temporary skidder bridges by logging contractors by adding more steel bridges that have a longer lifespan and can be utilized in diverse applications.
- Provide supplies and training in materials that are related to the safe use, storage and cleanup of hazardous materials. These materials will include oil spill kits, compost filter socks, straw wattles, and straw stabilization mats.
- Contracted outreach by partners to increase awareness of forestry practices that protect water quality.
- FPR's watershed forester has identified five priority projects in the Lake Champlain drainage area with aging or inadequate infrastructure that are currently causing erosion on state forestland and will be replaced.

Outcomes

- Increase the understanding, skill, and accuracy of logging contractors, foresters and landowners in forestry practices and standards by using technology to improve adherence with AMPs along with improved equipment.
- Promote a culture of the safe use, storage, and cleanup of hazardous materials used in logging operations by logging contractors so that water quality is protected.
- Improve landowner, forester, and logging contractor awareness of forestry practices that protect water quality.
- Reduce risks of future discharges and improve stream habitat while maintaining public access for recreation and forest management operations on state forestland by upgrading infrastructure.

Timeframe

October 1, 2019 – September 30, 2022

This project is aligned with OFA Task Areas I.C.4.a: Fund programs to promote forestry practices with water quality benefits and III.B.3.b: Support working landscapes the protect water quality – Outreach Assistance. The Lake Champlain TMDL Phase 1 Implementation Plan highlights forests as an important area for reducing phosphorus loading to state waters, representing 75% of Vermont's total land base. The AMPs and the portable skidder bridge initiative area are described in the Vermont Lake Champlain Phosphorus Total Maximum Daily Loads (TMDLs) Phase I Implementation Plan Table 1b. Vermont Phase 1 TMDL Plan Summary of Vermont Commitments, Section D. Forest Management, for the following tasks: provide education on AMPs and enhance forest cover to improve watershed health (see page 16). The revised AMPs became effective in August 2018.

REQUEST AMOUNT: \$443,600

BRIEF BUDGET EXPLANATION:

- Technical mobile application for AMPs – \$100,000
- Temporary skidder bridges cost share programs and replace deteriorating bridges currently in service – \$87,600
- Hazardous materials training and supplies – \$10,000
- Contracted outreach by partners – \$10,000
- Replace infrastructure on state forestland – \$236,000

Lake Champlain Basin Program FFY19 LC TMDL Implementation Project Description

TITLE: Nutrient Load Source Identification in Lake Carmi Watershed

ONE SENTENCE ABSTRACT: Integrated monitoring and inventory program for identification and prioritization of potential sources of phosphorus loading in the Lake Carmi watershed, including: near-lakeshore groundwater sources, tributary streams, tile drains, and private roads.

POINT OF CONTACT: VTDEC, Perry Thomas, Lakes and Program Manager

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, AND TIMEFRAME:

Ten years into the Carmi TMDL, we need to reevaluate the state of implementation. It is important to have current data to measure the relative phosphorus contributions from such sources as agricultural land, forested areas, and inputs from shoreline development and to assess the effects of best management practices implemented over the last decade.

Groundwater Monitoring

This project will build on work from a preliminary study (Phase 1) that will test the hypothesis that phosphorus input from groundwater is negligible. Initial results of the Phase 1 study are anticipated this summer. If the Phase 1 study shows greater phosphorus concentrations than previously assumed, then Phase 2 would involve installing a second, expanded set of test wells designed to allow an accurate assessment of relative phosphorus contributions from shoreland properties and the larger watershed. One of the main objectives is to further clarify the difference between 'natural' and anthropogenically influenced phosphorus in groundwater. The results of this study will inform not only work on Lake Carmi, but also work on other lakes in the basin where groundwater comes into play.

Ambient and Surface Water Monitoring

Through expanded, targeted monitoring of tributaries, we anticipate developing a more nuanced accounting of phosphorus sources across the watershed to support prioritization of actions across the landscape. DEC and local volunteers have performed extensive in-lake monitoring at established sites for 40 years. In addition, during the 2018 field season, DEC partnered with the University of Vermont to deploy and maintain buoys at two sites on the lake to monitor temperature and dissolved oxygen concentrations at 15-minute intervals.

Volunteers from the Franklin Watershed Committee (FWC) regularly collect samples from 19 sites on nine tributaries of Lake Carmi, with support from the LaRosa Partnership Program, which provides sample analysis services to the volunteer group through a grant program. In 2018 and 2019, FWC began to expand this sampling program to collect samples above and below newly installed best management practices.

We propose collaborating with FWC to continue expansion of tributary monitoring above and below potential phosphorus and sediment loading sites throughout the watershed, including tile drains.

Private Road Erosion Inventory

The third component of this project is to develop a road erosion inventory (REI) survey form for privately owned lake roads. The inventory entails the following steps:

- 1) Review the Stone Environmental road segmentation process so that privately owned roads in close proximity to Lake Carmi's shores will be fully "segmented" into 100-meter segments with unique identification numbers.
- 2) Develop an REI survey form app to evaluate the condition of these roads. A Survey123 application has previously been developed by the Agency of Digital Services (ADS) and DEC

for the DEC Municipal Roads General Permit. The MRGP Survey form will be slightly modified for this purpose.

- 3) Using DEC's P-tracking and load reduction estimates based on REI scores, private road improvement projects will be prioritized for funding and P-reductions tracked.

Development of the Private Road Erosion Inventory app is a high priority of watershed associations within the Lake Champlain Basin, and piloting its use in the Lake Carmi watershed will be an important step toward making it more widely available.

Mapping and Prioritization

Finally, data from enhanced monitoring and inventorying will be aggregated as layers on the new digital watershed map (developed as a Critical Path Project—see the Carmi Crisis Response Plan).

Outputs

- Ongoing source identification and prioritization
- Private Road Erosion Inventory app
- Prioritized map of phosphorus/sediment sources for remediation

Outcomes

- Refined understanding of phosphorus loading from groundwater
- Clear priorities for funding of restoration and remediation projects in the Lake Carmi watershed
- New tools for use in achieving targets of the Lake Champlain phosphorus TMDLs

Timeframe

October 1, 2019 – September 30, 2022

This proposal aligns with OFA Task Areas 1.A.1.c. Increase understanding of factors affecting BMP performance and efficiency; 1.A.2.b: Expand sub-watershed monitoring to inform targeted watershed objectives; and 1.A.2.c: Assess progress of existing water quality management programs. It also aligns with the Lake Champlain TMDL Phase 1 Implementation Plan Chapter 4, Section H and Chapter 6, Section F, which address current and future commitments for upland lake protection and management. Also, the project supports the implementation of the 2016 Missisquoi Bay Tactical Basin Plan. See Table 16. Summary of Implementation Actions, Lake and Shoreline: Monitor and assess surface waters to gain better understanding of condition and potential pollution sources, including internal phosphorus loading in lakes (page 102).

REQUEST AMOUNT: \$200,000

BRIEF BUDGET EXPLANATION:

Expanded Groundwater Monitoring: \$70,000 (drilling) + \$29,000 (sample analysis) = \$99,000

Expanded Tributary Monitoring: \$25,000 (time and travel) + \$36,000 (sample analysis) = \$61,000

Private Road Erosion Inventory: \$10,000 (app development) + \$15,000 (time and travel) = \$25,000

Mapping and Prioritization: \$15,000

Lake Champlain Basin Program FFY19 LC TMDL Implementation Project Description

TITLE: Increased Support for Farm Agronomic Practices (FAP) Program

ONE SENTENCE ABSTRACT: This project would provide funding for farms to implement soil-based agronomic practices to improve soil quality, increase crop production, and reduce erosion and agricultural discharges; additional services for expanded program opportunities and implementation of the Conservation Reserve Enhancement Program (CREP) on critical agricultural lands; and additional engineering services to increase installation of production area practices such as manure storage facilities, heavy use areas, barnyards and silage leachate treatment.

POINT OF CONTACT: Agency of Agriculture, Food, and Markets, Laura DiPietro, Director of Water Quality, laura.dipietro@vermont.gov, 802-595-1990

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, AND TIMEFRAME:

The objectives of this project are to provide:

1. Additional services for expanded program opportunities and implementation of the Conservation Reserve Enhancement Program (CREP) on critical agricultural lands;
2. Increased implementation of Farm Agronomic Practices (FAP) such as cover crops, reduced tillage, alternative manure incorporation, and crop rotation; and
3. Additional engineering services to increase installation of production area practices such as manure storage facilities, heavy use areas, barnyards and silage leachate treatment.

Conservation Reserve Enhancement Program (CREP)

The CREP program is administered through the USDA Farm Service Agency. In Vermont, CREP is targeted to streamside agricultural land and compensates producers for removing this land from production and converting it primarily to riparian forested buffers as well as grass filter strips and grass waterways, under 15-year contracts. Over 2,500 acres have been enrolled in CREP since its inception, mostly with forested buffers.

The state Required Agricultural Practice updates, put into law in December 2015, require expanded vegetative buffers on many streams and new buffers on ditches. This workplan will result in additional farmer implementation of riparian forested buffers which will increase the phosphorus reduction value above the regulatory vegetative requirement. Funding will be used to work with farmers to finalize contracts to remove streamside agricultural land from production and cover those lands to riparian forested buffers. In addition, AAFM will broaden the use of CREP in Vermont beyond the current practices, expanding beyond riparian buffers, and increasing the protection of environmentally sensitive land.

Farm Agronomic Practices (FAP) Program

The Farm Agronomic Practices (FAP) Program utilizes state funding to help Vermont farms implement soil-based agronomic practices that improve soil quality, increase crop production, and reduce erosion and agricultural waste discharges. Eligible practices include cover cropping, crop rotation, strip cropping, cross-slope tillage, conservation tillage, and manure injection.

NRCS Engineering Services

USDA/Natural Resources Conservation Service funding is the primary source of cost-share assistance available to farmers, and is especially essential when larger, more complex projects such as manure storage facilities, barnyards, or silage leachate treatment systems are required. NRCS engineers must develop a Manure and Waste Water Handling Plan (MWWHP – a key part of a full

Comprehensive Nutrient Management Plan) to evaluate the resource needs, priorities and costs, design practices that are contracted for funding, and oversee contract implementation. Due to federal restrictions on rehiring of NRCS staff, NRCS is missing several key engineering positions and has developed an extensive backlog of engineering need. Currently more than 60 MWWHPs are needed and over 1,300 engineering practices are waiting engineering with over \$11 million in committed funding. Providing additional engineering support will increase design and implementation of practices, as well as higher quality applications. This will reduce the likelihood of contract cancellation by farmers, which can result in critical NRCS funds being returned to the federal level. During this time of high-water quality improvement needs, it is essential that all available funds are contracted and implemented in a timely and successful manner.

Outputs

Anticipated outputs include increased implementation of verified and critical best management practices for nutrient reduction and prevention from farms. Estimated target outputs include:

- A minimum of 30 acres of riparian agricultural land will be removed from production and converted to riparian forested buffers and/or grassed filter strips.
- 1 FTE of engineering support resulting in 8 practice installations, 10 designs, and 3 manure and wastewater handling plans.
- An additional 2,500 acres of conservation practices on agricultural fields. Conservation practices will include cover crops, reduced tillage, crop rotations, grassed waterways, and alternative manure incorporation, all of which have proven effective in reducing phosphorus from entering Lake Champlain, and for which interest exceeds available resources.

The phosphorus load reduction achieved through these activities will be estimated.

Outcomes

Outcomes are improved water quality through implementation of production area and field best management practices and reduced nutrient loading to surface waters.

Timeline

October 1, 2020 – September 30, 2021

The activities that will be carried out through this workplan support the following LCBP goals, strategies and tasks in Opportunities for Action: OFA I.C.2.a.: Provide technical assistance for Land Treatment Plans and Nutrient Management Plans; 1.C.2.d.: help farmers meet Clean Water regulations with targeted cost-share support for small farms; 1.C.2.f.: Research and support sustainable agricultural practices that address water quality concerns and are also economically sustainable.

This project addresses the Vermont Lake Champlain Phosphorus TMDL Phase 1 Implementation Plan Table 1b. Vermont Phase 1 TMDL Plan Summary of Vermont Commitments, Section A. Agriculture, Nutrient Management Planning and Additional Efforts in Critical watersheds for the following tasks: increase NMP efforts, expand implementation efforts, increase implementation in critical watersheds, increase technical assistance in critical watersheds (see pages 12 and 13).

REQUEST AMOUNT: \$475,000

BRIEF BUDGET EXPLANATION:

- \$100,000 for a CREP position
- \$275,000 for FAP
- \$100,000 for an Engineer position

Lake Champlain Basin Program FFY19 LC TMDL Implementation Project Description

TITLE: Program to Expand and Accelerate Wetland Conservation and Restoration in Vermont's Lake Champlain Basin

ONE SENTENCE ABSTRACT: Enhance implementation of land conservation projects directed at sites in the Lake Champlain Basin where land management changes can be made to enhance and restore wetlands that will have a myriad of benefits including but not limited to water quality enhancements, wildlife habitat improvements and increased public access opportunities.

POINT OF CONTACT: Vermont Fish and Wildlife Department (VFWD), Jane Lazorchak, Land Acquisition Coordinator, 802-505-0561, jane.lazorchak@vermont.gov

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, AND TIMEFRAME:

The VFWD has a long, successful history of conserving, managing and restoring wetland habitat in Vermont. In fact, the first state-owned Wildlife Management Area (WMA) established in the eastern United States was Sandbar WMA, established as a refuge for migratory waterfowl in Milton, Vermont in 1920. Nearly 100 years later, VFWD has conserved nearly 30,000 acres of some of the largest, most significant wetland systems in Vermont and is the largest owner of wetland habitat in the state. In 1986 VFWD established the Vermont Duck Stamp Program to enhance the Department's wetland conservation efforts. The Vermont Duck Stamp program has been responsible for some of our state's greatest wetland conservation success stories, raising \$4.5 million for the conservation of nearly 12,000 acres on 93 separate projects. Over the past 10 years, VFWD, in conjunction with partners such as the federal Natural Resources Conservation Service (NRCS) and US Fish & Wildlife Service (USFWS), has restored nearly 50 acres of wetlands on WMAs. However, hundreds of acres of wetlands restored through NRCS via the Wetland Reserve Program, with the critical support of USFWS and Partners in Fish and Wildlife, have been added to WMAs to ensure long-term, effective stewardship. VFWD owns 98 WMAs constituting 145,000 acres of outstanding wildlife habitat with the majority of those areas supporting wetland habitat. This illustrates a long-standing commitment by the VFWD for conserving, restoring and stewarding wetland habitat throughout Vermont.

The VFWD plans to develop a focused land acquisition program around wetland acquisition and restoration with these funds in order to advance projects which will include land management changes. This will include projects such as state acquisition of farms in strategic areas where the farms are retired to implement wetland restoration in collaboration with our partners. Currently, VFWD supports one full-time employee whose primary responsibility is to acquire land. Many other Department staff work on this effort as well and other land conservation efforts. While many of these projects are focused on wetland conservation, there are a wide range of conservation projects and needs. VFWD proposes to create staff capacity through existing limited service positions and contractual services to work under the guidance of the land acquisition coordinator and a project management team. VFWD staff and contractors responsible for implementing this effort will focus specifically on wetland conservation and restoration projects in priority areas in the Lake Champlain Basin. VFWD staff responsible for this effort will coordinate closely with a range of partners to identify, develop and implement wetland conservation and restoration projects that would ultimately result in VFWD ownership and long-term management.

Some projects are already underway and will be accelerated towards completion through additional staff capacity and contractual services supported by these funds. VFWD staff currently close between 7-10 land acquisition projects a year. We anticipate by creating a focused program, we can close an additional 3-5 projects annually. VFWD anticipates that a minimum of 40% of those projects land area

will include changes in land management practices (e.g. corn production to floodplain forest).

Tasks

- Create a focused wetland acquisition program within the VFWD to enhance wetland acquisition projects in the Lake Champlain Basin, building off a successful track record of wetland conservation and management for the past 100 years.
- Implement necessary contractual agreements to advance land acquisition projects in the Lake Champlain Basin including but not limited to appraisals, surveys, title work and administrative support.
- Coordinate with key wetland conservation partners to strategically identify and acquire wetland conservation projects such as Vermont Department of Environmental Conservation, The Nature Conservancy, NRCS, Ducks Unlimited and the USFWS.
- Implement wetland restoration projects on VFWD-owned land through the development of a wetland restoration program, in coordination with our partners. This work will be done both in-house and through contractual agreements managed with our partners to bring added capacity.

Outputs

- Completion of 3-5 wetland acquisition projects in the Lake Champlain Basin with a minimum of 40% of the total land acquired including a change in land management strategy.
- Hydrologically restore 100 acres through the implementation of a restoration program by the VFWD. While we are not yet able to estimate phosphorus load reductions from wetlands restoration, we will track the data necessary to do this in future.

Outcomes

Anticipated outcomes of the project include:

- Improving functions and values of existing, degraded wetland acres in the Lake Champlain Basin, such as surface water nutrient retention, stormwater retention, filtration, and gradual discharge, groundwater recharge, reduced soil erosion, floodwater attenuation, and habitat for diverse communities of wildlife, fish, and plants.
- Improving coordination of wetland acquisition and restoration projects for efficiency and more effective use of federal and state resources.
- Increasing the myriad of benefits these projects have on the landscape including enhancement of wildlife habitat, public access, flood protection, and wildlife-based recreation.

Timeframe

October 1, 2019 – September 30, 2020

This project supports the Lake Champlain Basin Program Opportunities for Action (OFA) Objectives I.C. Reduce Nutrient Loading (Strategies I.C.1. and I.C.4.); II.A. Support Conservation of Vulnerable Habitat (II.A.1.); and II.B.1. Preserve and Enhance Biodiversity (II.B.1.c); III.D.1 Provide sustainable and accessible recreational opportunities for everyone within the CVNHP (III.D.1.b).

This project aligns with the Vermont Lake Champlain Phosphorus Total Maximum Daily Loads (TMDLs) Phase I Implementation Plan Table 1b. Vermont Phase 1 TMDL Plan Summary of Vermont Commitments, Section E. Wetland Protection and Restoration, for the following tasks: Coordinate wetland restoration projects and expand technical, educational and regulatory assistance (see page 16).

REQUEST AMOUNT: \$1.325 million

BRIEF BUDGET EXPLANATION:

The total LCBP TMDL implementation budget for this project is \$1.75 million, which includes \$425,000 remaining in the Wetlands Easements and Restoration Project (FFY18 Lake Champlain TMDL Implementation).

- VFWD Staff Capacity – \$100,000
- Contractual Services to Administer Land Acquisition Projects – \$100,000
- Land Acquisition of sites by the FWD – \$1,200,000
- Restoration Planning and Implementation of Sites – \$350,000

Lake Champlain Basin Program FFY19 LC TMDL Implementation Project Description

TITLE: Municipal Roads Grants-In-Aid Program

ONE SENTENCE ABSTRACT: Enhanced funding for an existing grants-in-aid program to bolster funds for municipalities in the Lake Champlain Basin in Vermont to expedite implementation of road runoff and erosion remediation best management practices (BMPs) necessary to meet the Municipal Roads General Permit and implement the Phosphorus Total Maximum Daily Loads for Vermont Segments of Lake Champlain.

POINT OF CONTACT: Emily Bird, VTDEC, Clean Water Initiative Program, Assistant Program Manager and Nonpoint Source Coordinator, 802-490-4083, emily.bird@vermont.gov

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, AND TIMEFRAME:

The Municipal Roads Grants-In-Aid Program is a new and innovative funding initiative to provide funding to municipalities through regional planning commission, without reliance on a grant program, to implement BMPs on municipal roads for compliance with the state Municipal Roads General Permit (MRGP). For the first two years, the program has achieved municipality participation rates of 75% and 81%. The initiative provides funds directly, via Vermont's regional planning commissions, to those Vermont municipalities who voluntarily sign up to participate and be reimbursed 80% of their project costs to implement the road-related BMPs. Projects eligible for funding are located on hydrologically connected road segments (i.e., adjacent to or intersecting surface waters) that bring whole road segments into full compliance with the MRGP. The standards and prioritization elements of the Program will help jumpstart restoration efforts to address the high priority road segments that have become large and chronic sources of phosphorus pollution.

The program has familiarized municipalities with road BMPs and equipment necessary for compliance expectations associated with the MRGP. DEC data demonstrates road runoff is one of the largest phosphorus sources per acre, and road-related projects are among the most phosphorus-reducing and cost-effective actions to implement. The BMPs supported by the project also improve local resilience to large storm events and will help save municipalities money in the long run in operations and maintenance needs.

Two years of piloting this program have demonstrated numerous advantages. Municipalities do not need to submit a grant application to participate, which helps small, rural communities with limited staff capacity. DEC makes funds available to all 260 municipalities required to comply with the MRGP, of which approximately 129 are in the Lake Champlain Basin.¹ Funds are dispersed based on a formula and hydrologically connected municipal road segments. Municipalities enroll voluntarily through local regional planning commissions. Regional planning commissions assist participating municipalities with project and BMP selection and track and report BMP data to DEC, which allows DEC to fully quantify phosphorus reductions achieved by the participating municipalities.

While the BMPs are cost-effective in achieving pollutant reductions, DEC anticipates that municipalities will need to significantly augment their level of implementation to be compliant with the MRGP. Additional funding will enhance municipalities' understanding of and capacity to comply with the MRGP. The MRGP is also one of the first stormwater regulatory programs rolled out under the Lake Champlain TMDL Phase 1 Implementation Plan and providing regulatory financial and technical assistance is key to its success. This project addresses the Vermont Lake Champlain TMDL Phase 1

¹ Estimated based on municipalities with majority area in the Lake Champlain Basin. Additional municipalities that overlap the Lake Champlain Basin may be eligible to enroll for Lake Champlain Basin program funds.

Implementation Plan, Table 1a. Vermont Phase 1 TMDL Plan Summary of Point Source Commitments, Section B. Stormwater Management, Task: Implement Municipal Roads Stormwater General Permit (see page 9).

Only municipalities located in the Lake Champlain Basin in Vermont would be eligible for these funds.

This project contributes toward Lake Champlain Basin Program's *Opportunities for Action (OFA)* through the following objectives, strategies and task areas:

- I. Objective I.C: Reduce Nutrient Loading
 - a. Strategy I.C.3: Fund Programs to Reduce Nutrient Inputs from Developed Lands
- II. Objective III.B: Support Water-Wise Economic Development
 - a. Task Area III.B.3.a: BMP Implementation Provide Financial and Technical Assistance to Support Practices that Help Protect Water Quality.

Outputs

- Approximately 129 municipalities in the Lake Champlain basin are eligible to enroll.
- 16 miles of road drainage improvements completed²

Outcome

- 90 kilograms per year total phosphorus load reduction achieved by road best management practices²

Timeframe:

January 1, 2020 – September 30, 2021 (aligns with State Fiscal Year 2021 Grants-in-Aid Program July 1, 2020 – June 30, 2021)

REQUEST AMOUNT: \$1,000,000 to complement state funds (for reference: approximately \$3.2 million state funds planned for State Fiscal Year 2020)

BRIEF BUDGET EXPLANATION: \$850,000 (85%) will fund BMPs to municipal road segments into full compliance with the MRGP and address stormwater abatement goals; \$150,000 (15%) for program delivery. Minimum 20% local match/in-kind requirement would raise additional \$212,500 toward BMPs for a total minimum of \$1,062,500 toward BMP construction.

² Estimated based on proposed Lake Champlain Basin Program dollars and cost effectiveness of year 1 of the Grants-in-Aid Program results.

**Lake Champlain Basin Program
FFY19 LC TMDL Implementation Project Description**

TITLE: Enhanced Implementation of Vermont Environmental Stewardship Program (VESP)

ONE SENTENCE ABSTRACT: Enhance pilot program evaluation tools for VESP to ensure farm assessments and standards are tied to state water quality standards; add additional metrics to quantify associated ecosystem services, provide valuation for ecosystem services.

POINT OF CONTACT: Agency of Agriculture, Food, and Markets, Ryan Patch, Deputy Director of Water Quality, ryan.patch@vermont.gov, 802-272-0323

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, AND TIMEFRAME:

The Vermont Environmental Stewardship Program (VESP) is a voluntary program that encourages and supports local agricultural producers to achieve environmental and agricultural excellence. VESP's goal is to accelerate water-quality improvements through additional voluntary implementation efforts, and to honor farmers who have already embraced a high level of land stewardship.

The State of Vermont has launched a pilot program enrolling 10 farms across the state to conduct on-farm natural resource assessments and Cornell soil health tests. VESP applicants will be evaluated by a team of conservation planners and technical service providers to ascertain current land-use practices. The resulting data is used to set customized environmental goals for the farm and to enact a long-range plan encompassing a full range of regenerative farming practices.

Outputs

Funding is needed to expand the VESP pilot. The pilot program needs to integrate a secondary evaluation tool and methodology to ensure participant farms are meeting State water quality goals. The output of this pilot program will include water quality and ecosystem service valuation criteria and proposals for incentives - or payment for ecosystem services - tied with a farms level of achievement as an environmental steward.

Outcomes

The anticipated outcomes of VESP are to (1) enhance the economic viability of farms in Vermont; (2) improve the health and productivity of the soils of Vermont; (3) encourage farmers to implement regenerative farming practices; (4) reduce the amount of agricultural waste entering the waters of Vermont; (5) enhance crop resilience to rainfall fluctuations and mitigate water damage to crops, land, and surrounding infrastructure; (6) promote cost-effective farming practices; (7) reinvigorate the rural economy; (8) sequester carbon in Vermont's agricultural soils; and (8) help the next generation of Vermont farmers learn regenerative farming practices so that farming remains integral to the economy, landscape, and culture of Vermont.

This project contributes toward the Lake Champlain Basin Program's *Opportunities for Action (OFA)* through the following objectives, strategies and task areas:

- I. **Objective I.C:** Reduce Nutrient Loading
 - a. **Strategy I.C.2:** Fund Programs to Reduce Nutrient Inputs from Agriculture Refine mechanisms to reduce pollutant loads from agricultural sources
 - i. **Task Area ** I.C.2.b:** Research and Promote Programs to Optimize Fertilizer Applications to Reduce Nutrient Load.
 - ii. **Task Area I.C.2.d:** Help farmers meet Clean Water regulations with targeted cost-share support for small farms.

- iii. **Task Area I.C.2.f:** Research and support sustainable agricultural practices that address water quality concerns and also are economically sustainable.
 - II. **Objective III.B:** Support Water-Wise Economic Development
 - a. **Strategy III.B.3:** Support working landscapes that help protect water quality
 - i. **Task Area III.B.3.a:** BMP Implementation.
 - ii. **Task Area III.B.3.c:** Awards Program.
 - b. **Strategy III.B.6:** Foster a sustainable relationship between people and the natural and cultural resources of the CVNHP
 - i. **Task Area III.B.6.c:** Promote sustainable agriculture practices in the CVNHP.

This project addresses the Vermont Lake Champlain Phosphorus TMDL Phase 1 Implementation Plan Chapter 4, Current program capacity to reduce nonpoint source pollution, Section D, “Vermont Agency of Agriculture, Food and Markets” and Chapter 6, Vermont commitments to further reduce nonpoint source pollution, Section A, Agricultural programs, “Agricultural Management.” A specific reference to successful piloting of VESP is also included in Table 1b. Vermont Phase 1 TMDL Plan Summary of Vermont Commitments on page 13 of the Phase 1 Plan.

Funding is needed to expand the VESP pilot, to enroll new farms in the program and ensure successful completion of the pilot project so VESP can be launched in a full program within two years.

Timeline

October 1, 2019 – September 30, 2021

REQUEST AMOUNT: \$100,000

BRIEF BUDGET EXPLANATION:

P Model Enhancement
 Calibration
 Model Implementation
 Data Analysis

Total: \$100,000