

**Lake Champlain Basin Program**  
*Approved Executive Committee Meeting Summary*  
September 9, 2020 9:45 AM – 1:00 PM  
VIA WEBINAR/TELECONFERENCE

**Attendance -**

**Executive Committee Members** - Joe Zalewski (Meeting Chair, NYS DEC), Nathalie Provost (Quebec MELCC), Pete Laflamme (VT ANR for Julie Moore), Buzz Hoerr (Chair, E&O Committee), John Krueger (Chair, HAPAC), Neil Kamman (Chair, TAC), Vic Putman (Chair, NY CAC), Pierre Leduc (Chair, Quebec CAC), Mark Naud (Chair, VT CAC), MaryJo Feuerbach (EPA R1), Mario Paula (EPA R2)

**Additional Steering Committee Members** - Stephanie Mikesell (NYS Empire State Development), Laura DiPietro (VT AAFM), Daria Mazey (USACE)

**Staff** - Eric Howe, Colleen Hickey, Jim Brangan, Meg Modley Gilbertson, Matt Vaughan, Ryan Mitchell, Elizabeth Lee, Kathy Jarvis, Lauren Jenness, Mae Kate Campbell, Heather Radcliffe (NEIWPC), Susan Sullivan (NEIWPC), Lauren Townley (LCBP NY Coordinator, NYS DEC), Koon Tang (NYS DEC), Julie Berlinski (NYS DEC), Jean-François Cloutier (Quebec MELCC), Sarah Coleman (LCBP VT Coordinator, VT ANR) Bryan Dore (EPA R1)

**Guests** - Tom Berry (Sen. Leahy's office), Haley Pero (Sen. Sander's office), Brendan Newell (USACE), Maya Dehner (USACE), Daniel Hofman (City of Vergennes), Shahid Shaikh (USACE), Dag Madara (USACE), Dexter Lefavour (City of Vergennes), Rifat Salim (USACE),

*Joe Zalewski (NYS DEC) Chaired this meeting*

**Introductions**

Joe welcomed all participants.

**Approval of Minutes from Previous Meeting**

**ACTION ITEM** - Approve Meeting Minutes from May 14, 2020 Executive Committee Meeting

- Motion By - Neil Kamman
- Second by - John Krueger
- Discussion on the motion - Neil provided one minor correction on pg. 2, updates from VT ANR.
- Vote - All in favor
- Abstentions – none

*Public Comment*

No public comments were made.

## Brief Updates

### Congressional Updates

- Tom Berry: We are three weeks away from the end of the fiscal year with no spending bills adopted, however there is no indication that there will be a government shutdown. Negotiations around passing a clean Continuing Resolution Bill, specifically around how long to extend the CR for, are taking place and it will most likely be the last legislation passed ahead of the election. The National Flood Insurance Program and a few other key programs will be included. Tom will be able to report back on the numbers once the spending bills pass through the senate committees. The American Great Outdoors Act was recently passed, while the COVID-19 response bill has posturing on both sides with nothing firm in place.
- Haley Pero: We are working on initial negotiations for the COVID-19 relief package, however like Tom said, nothing substantive is in place. Direct funding for local governments and nonprofits is still in play, though they were a non-starter in the previous bill. Staff want to make sure that the COVID-19 package isn't framed as a 'relief' bill, but rather as a bill that should be happening regularly. Stimulus and infrastructure funding should be available from the federal government.
  - Water Resource Development Act (WRDA) is seen as a must-pass for the current Congress. However, if it doesn't get passed the next legislative session has the opportunity to pick up the bill using the same language and pass it.

### Updates from Partners

*NYDEC* – Joe Zalewski - LCBP coordinator position is posted, please pass on to your networks.

*VTDEC* – Pete Laflamme – Vermont ANR received letter from EPA R1 declaring the items in the Phase 1 Plan for the TMDL are complete with the issuance of the 3-acre permit. We are happy to have received the final report card and satisfied we've completed those requirements. The 3-acre permit goes into effect December 1st; it requires retrofit, stormwater treatment, and control. Its implementation is going to be based on a staggered schedule, allowing for 18 months for engineering review and 5 years for retrofits. Thousands of individual properties overall will be subject to these regulations. It will have a definite positive impact on runoff control and implementation of the TMDL.

Neil Kamman added that 3-acre permit is a major accomplishment. With regard to the money, for FY21 there was a lot of uncertainty around receipts into the Clean Water Fund. We had been looking at a possible 28% reduction relative to what we had anticipated pre-COVID. Looks like the number will be more like 15%. General assembly has a budget in front of it that is a 15% reduction from what was proposed, but is actually basically level funding from FY20. Long term funding is in place for the TMDL.

EPA R1 – MaryJo Feuerbach - EPA R1 issued the final report card on VT completion of Phase 1 milestones in the TMDL. We appreciate all the effort VT has made. This sets the lake up well to support restoration in the future. At our last meeting Bryan said he was

working on a competition extension - we received headquarters approval to avoid competition when providing funding to VTDEC, NYDEC, and NEIWPCC. We just received the VT updated 319 non-point management plan; we are reviewing it now and hope to approve it in the next couple of weeks if it meets all our criteria.

Bryan Dore added that in accordance with the competition exemption, awards for Lake Champlain have gone out for this fiscal year. Thanks to coordinators for putting together the final packages.

EPA R2 – Mario Paula - thanks to R1 for pushing through the competition exemption, it's an important piece of the funding mechanism. In terms of the NYDEC grant, the package has been finalized since mid-July, we think it will get out this week to complete the final piece of FY20 funding. Regarding our office situation, we entered phase 2 in NY city office so we are still encouraged to telework but are trying to get back into some semblance of normality. Glad to see the NY Coordinator position posted, we miss Fred and he did a great job, but it will be great to have a new team member.

QC MELCC – Nathalie Provost - there have been new regulations for the implementation of environmental authorization scheme adopted by the government. The regulations confirm the way we will apply the law that was adopted 2 years ago. The translated name of these new regulations is “Respecting the Regulation of the Environmental Quality Act”. There are two main important sections: the 1st regards risk management that we can now do to authorize projects. We had high, moderate, and exclusion categories, now we've broadened scope of that categorization. It will go into effect in December, we are now trying to create electronic service so people can apply using an e-form and we'll answer back automatically. In December 2021 when a request is complete people will be able to apply to be authorized to do a project with an e-form and be answered back electronically if they can do their project as well. Regulation respecting the regulatory scheme applying to activities on the basis of their environmental impact had been adopted on August 19, 2020 by the Québec government.

Jean-François Cloutier added that they spoke with their lieutenant minister and he told us that the shoreline protection regulations we have will be overhauled this autumn.

HAPAC – John Krueger - we had a meeting earlier in the summer that generated a concept I will try to pitch to you later. Jim has done a lot virtually.

Jim Brangan added that we have a new electronic newsletter, there's been some great feedback on that. The newsletter outlines what's been happening in the heritage area in the last 6 months. We have a new website with a record of all grants we've given out (\$1.3 million in grants which have generated \$2.3 million in match). We are developing workplans for ~20 projects approved by the Steering Committee. NPS funding came in early this year. This was the 100th anniversary of women's suffrage, unfortunately many projects we had planned for this year had to be virtual or presented to small audiences. We're planning to rally the groups that received funds that weren't able to reach out as planned this year in 2021 when we'll be focusing on prohibition, temperance, and smuggling. We have 3 virtual

workshops coming up. We aren't able to do the summit as we typically would but are holding the knowledge cafes - please sign up if you can attend. We would love to have Steering Committee input. HAPAC recommended for 2022 that LCBP and CVNHP focus on the 50th anniversary of the Clean Water Act.

NY CAC – Vic Putman - The committee has not met all summer. The Hamlet of Essex water sewer users were awarded a grant to help with water system treatment plant upgrades from the Northern Borders Commission.

VT CAC – Mark Naud - We're meeting on Monday and trying a virtual meeting.

QC CAC – Pierre Leduc – We will have a more complete update at the Steering Committee meeting. We completed our move to our new office, now we are all back to work in person. We can have face to face meetings for up to 12 people.

E&O Committee – Buzz Hoerr - We met in June to review the CBEI evaluation results. We talked a lot about the importance of grant writing. I want to highlight the art sail project and thank Mark and the Sailing Center for being great partners.

Colleen Hickey added that the Resource Room has been staffed for 10 weeks during COVID doing outreach to the public. They are entertaining UVM freshman in the Natural Resources 1 class. The Healthy Soils/Raise the Blade campaign has been going strong: we have 6 great partners. 8,500 people in Plattsburgh received a flyer, 2 new partners joined this summer, busses in Plattsburgh have ads on the side. Partners for NY and VT all have new yard signs, 180 people signed on this summer to win a mulching mower which got awarded yesterday. E&O stewards have been busy: they helped assist Jim with heritage activities, and done some outreach in NY and VT. I wanted to give NEIWPC a shout-out for asking us to write an article about CBEI which appeared in the most recent Interstate News.

TAC- Neil Kamman – Neil brought up TAC committee membership, as some long-term members are leaving us. We want to replace them mindfully with a DEI lens. TAC is considering holding off on filling membership until we get recommendations to round out inclusivity. One idea that has come up is going outside the Basin for expertise or doing a broader solicitation for TAC members.

Matt Vaughan added that we have some technical RFPs coming soon: local grants for PP, AIS, will be due in late October. Enhanced pollution prevention will be coming out in a week or so. Technical RFPPs will be coming out near the end of this month. TAC also had a summer hiatus. We met last week and began getting FY20 projects up and running. TAC reviewed 2 workplans focused on the NY side of the basin (SUNY ESF and Essex SWCD), reviewed USACE projects and core projects, and recommended priorities for FY21 RFPP priorities. In November, TAC will look at SOL for 2021 and review more FY20 projects.

USACE – Daria Mazey - We've been busy with the 542 program and have 2 ongoing projects. The first is the St. Alban's Bay phosphorus reduction study. The team is currently working towards existing conditions and trying to figure out if we can hold off on sampling

for now based on past data. The Waterbury Dam project is ongoing with the risk assessment. We had a stakeholder workshop for the Champlain barrier project, new alternatives were added and we're assessing how they could impact commercial shipping. We had 2 project proposals reviewed by TAC. From a funding perspective, we have enough to move things forward right now and start the Moon Brook study (city of Rutland). We are not going to have enough funding to initiate new proposals unless we get new appropriations. We are looking to hold first virtual workshop in October.

Tom Berry: Congress does not appropriate money to the 542 program, the Army Corps allocates funds and in FY20 \$0 were allocated to 542. We are hopeful that the Army Corps will include the 542 program in their work plan in FY21.

Daria: if these projects move forward, we'll be able to update our district capabilities, but headquarters makes the ultimate prioritizations.

Tom: I expect that Congress will express that funding the 542 program is highly desirable.

NEIWPCCC – Heather Radcliffe - see written update provided. Thanks to Joe for mentioning the Coordinator position. Heather thanked the 3 jurisdictions for the letter to Susan Sullivan recognizing NEIWPCCC's role and granting us non-voting status on the Steering Committee.

NPS – Christina - thanks to NEIWPCCC and the HAPAC for putting together this year's agreement on an accelerated schedule. There has been a change in NPS leadership in Washington. 2 local updates: Marsh-Billings-Rockefeller National Park hosts the steward institute to support technical development around community engagement. They will be hosting workshops on virtual engagement. For VT colleagues, MBR was selected to represent VT for the America the Beautiful quarter series for the US Mint.

#### *LCBP Updates – Eric Howe*

- The Steering Committee will have a brief discussion during their meeting later this month to discuss whether to move forward with the CAC coordinator position.
- Our recent AIS sail Our recent AIS sail event was a fantastic promotion of the project. It was a full-circle experience as the artist had taken a class on the R/V Melosira, remembered the impact of zebra mussels from that experience, created the artistic design, and got to go on the sailboat featuring her sail. The artist has also received requests from other groups.
- LCBP is continuing to work on DEI efforts within our organization and we are in the process of recruiting a consultant. Our DEI subcommittee is currently reviewing quotes for the consultant who would do an organizational assessment and help put together a strategic plan in the context of DEI, stay tuned!
- The LCBP Continuous process improvement project is complete. Thank you to our partners who helped by serving on the committee. A review of the calendar of updated budget processes steps will be later in the agenda.

- The LCBP COVID Emergency Grants to local partners are all wrapping up. They were awarded in May with a 90-day timeline. LCBP Staff haven't heard watershed groups indicating their need for a second round, however if the need does come up over the next several months, we can issue another round as we still have the same pot of funds available that we didn't spend down from the first round.
- The LCBP-hosted Grant Writing Workshop began yesterday afternoon and will continue tomorrow morning. There was a great turnout of up to 44 people. Sessions will be recorded and made available on the LCBP website.
- The IJC Flood Study Reference is hosting its annual public meetings at the end of this month. Details are included at the end of this meeting's agenda.
- Mae Kate is now serving as the Interim US Study Manager for IJC flood study through December. Rob Flynn had been in the role since the project started 4 years ago but transferred to another USGS region and needed to hand off that responsibility.
- The IJC agreement for LCBP funding is now in place for the next fiscal year. This funding includes Mae Kate's upcoming role and secretariat work and the contract with Behan Communications. This was the last agreement needed to execute for all of the pieces of LCBP funding (GLFC, EPA, NPS, IJC).

*USACE Section 542 Project Review (Meg Modley Gilbertson, Daria Mazey, And Project Applicants)*

- Meg: The Section 542 Program has a management plan for the Basin. This is the first time we are having a project proposed that we do not have the funding to complete. TAC recommended these projects to move forward. We would like the Executive Committee to listen to the projects and recommend if they should move forward, and also recommend which project should happen first. USACE is working hard to quantify water quality benefits to help the Steering Committee decide which should move forward first if the funding becomes available. There is the opportunity to divide these projects into phase 1 and phase 2. In the future if we have a string of projects lined up for review, the TAC will rank them.
- Daria: We have 2 things we're asking for a vote on: approving these projects for 542 funding in general, and prioritizing the projects, which only comes into play if we don't get enough funding for both. Hopefully we'll at least have enough funding to complete the design phase for both, which will make them a higher priority for headquarters.

Vergennes City WWTF

Daria Mazey, Dexter Lefavour, and Daniel Hofman presented the proposed USACE Section 542 project.

- Vic: What do residents in Vergennes pay now for sewer services? What kind of impact will the proposed project have on resident's ability to pay?
  - Daniel: The average resident pays \$125/quarter. The City has already increased the rate, there's the potential the rate will go up further.
  - Dexter: There could be a 50% increase in rates with this project. The current user fee (based on formula) is \$600/year. With 50% grant funding the user fee

would be \$1221/year (double). With 70% grant funding the user fee would be \$1047/year. With no grant funding the user rate would triple.

### Whitehall WWTF

Lauren Townley and Dag Madera presented the Whitehall Wastewater Treatment Facility USACE Section 542 Proposed Project.

- Vic: How many users are connected to the Whitehall WWTF and what is the impact of the cost of the project to the users? I'm trying to get a sense of the economic impact and cost of ecological services. Right now, with sewage overflows entering the basin, the environment is absorbing the cost. At the moment there is no cost to the people being served by the WWTF.
  - Vince: I don't have the exact figures on hand, but know that it would be impossible to raise sewer rates as it is a poor community. There are under 2,000 users.
- Meg: We will pull together this information for the Steering Committee meeting.

**ACTION ITEM** - To Move the Vergennes WWTF Project Forward as A Recommendation Within the USACE 542 Program.

- Motion By - Vic Putnam
- Second by - John Krueger
- Discussion on the motion - none
- Vote - All in favor
- Abstentions - Neil Kamman

**ACTION ITEM** - To Move the Whitehall WWTF Project Forward as A Recommendation Within the USACE 542 Program.

- Motion By - Vic Putnam
  - Second by - Neil Kamman
  - Discussion on the motion - none
  - Vote - All in favor
  - Abstentions - Neil Kamman
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- Vic commented that he would like to wait until the Steering Committee meeting to decide the ranking of the two projects until I know where the money is coming from besides the 542 Program.
  - Meg clarified that the 542 program has a 65/35 match component, where USACE needs 35% local match to do the project.
  - Daria added that USACE has discussed the cost-share with each project team already. Vergennes and Whitehall both have matching funds available through various means that can go towards their 35%. The project summaries were prepared separately and this is the first time USACE has ever had to prioritize projects. USACE is trying to come up with metrics for comparison to help with that, noting that it can be awkward.

Some ideas that are in the mix include: comparing cost at various increments, comparing the volume of annual sewage overflows, the cost per volume presented, and any ecological differences based on location in the watershed. USACE hasn't dug into any of those ideas yet, but we do have metrics for population (in this case the two projects are almost identical).

- Neil: I understand the need for ranking but propose that we recommend to the Steering Committee that both agreements be approved for design, and that whichever recipient gets their PPA signed first is first in line for the full value of their design work. Accordingly, the second group to sign will be in line for funding as appropriations allow. From a funding model, it's a great opportunity that we have through the 542 Program for co-funding, bringing in state programs, etc.

### **LCBP FY21 Budget Process**

#### **Review Calendar for Budget Process (*Eric Howe*)**

Eric shared a spreadsheet detailing the budget process. The new process is the result of the continuous process improvement initiative and is based off the process map that was developed. Eric asked Executive Committee members to review it. In the future, the TAC, E&O, and States will be developing priorities based on the outcomes of the new Steering Committee summit that to be held in June. Since we did not have the summit this year, priorities were developed based on our typical process. Going forward, Eric plans to review what's coming up in the budget process at each Executive Committee and Steering Committee meeting.

#### **HAPAC RFPP Priorities (*John Krueger, Jim Brangan*)**

- Jim Brangan reviewed the FY2021 grant workplan schedule (the projects that will take place in 2022).
- Jim gave an overview of the Champlain-Adirondack Biosphere Network: Jim serves as the co-chair of biosphere reserve, which has recently been reestablished after decades of non-movement after its creation by UNESCO in 1989. Jim is working to ensure the Network does not move toward the direction of creating another LCBP. Network will allow us to fill other gaps, like communications, youth involvement, climate change. The network is not binational, but efforts are underway to create partnerships with the biospheres in Québec. This was an error in 1989 when the CABR was created. However, UNESCO frowns upon redoing applications. The strength of our Steering Committee is to bring in the Québec perspective as well.
- Jim: Transitioning to other HAPAC priorities, the FY22 Clean Water Act networking partnership opportunity will be similar to the opportunities brought during the International Year of the Salmon in the FY18/ 2019 season.
- Neil: The HAPAC/CVNHP budget yields a lot of small projects. Have you contemplated a block grant model?
- Eric: We can look into it. There is potential to consolidate the administrative burden.

### **LCBP Core Projects**

Matt Vaughan and Meg Modley reviewed the FY21 Technical Task Descriptions including the Enhanced BMP grant program, Aquatic Invasive Species Rapid Response Fund, Lake Champlain Boat Launch Steward (Watercraft Inspection and Decontamination) Program, Lake Champlain Long-Term Water Quality and Biological Monitoring Program, Maintaining the sensor array for the Long-term Monitoring Program, Water Chestnut Management Partnership, NY Lake Champlain Basin Agronomy Support and Agriculture BMP Implementation, and the Lake Champlain Watershed Cyanobacteria Monitoring Program.

Neil added that TAC appreciated the descriptions and would recommend these projects moving forward.

**ACTION ITEM** - To Recommend the Core Projects as Presented to the Steering Committee for Review

- Motion By - Pete LaFlamme
- Second by - Vic Putman
- Discussion on the motion - none
- Vote - All in favor
- Abstentions - none

TAC RFPP Priorities (*Neil Kamman, Matt Vaughan*)

Matt Vaughan provided an overview of the RFPP process and Neil Kamman reviewed the TAC FY21 technical budget priority recommendations.

Neil: A starting point for this conversation was two recommendations that came from the IJC Missisquoi Bay Water Quality Reference. The first recommendation was to form an advisory committee for the creation of a bi-national task force. TAC endorses that idea but does not feel like it was the best fit for an RFP. The second recommendation is the first priority on TAC's list.

MaryJo: We have limited money to restore Lake Champlain and therefore always question the use of funds for research as opposed to looking at more direct contributors to the lake. What are you hoping to learn from the research on oligotrophic lakes, how will you translate that to Lake Champlain, and what are the benefits for restoring Lake Champlain?

The science behind this priority comes from EPA aquatic resource surveys. The idea is that lakes where we see increasing trends, we have no good reasons for the trend from a land use management perspective, so why is this happening? Research on this would help us get under the question: if this is happening in smaller lakes, is it also happening under the radar from a watershed perspective? If a research team found the answer it would be research-paper-worthy and for TAC it's a resonant topic. These are good concerns from the perspective of the Executive Committee and that is something that is not always on TAC's mind.

Pierre: I question the narrow focus for the 4th priority. Should the priority be changed from native species to endangered native species? Can you provide an example for a type of project that was funded from this priority?

SUNY ESF proposed a neat modeling/field work project that will map the NY portion of LCB to identify areas of habitat ready for restoration. The map will then be available to stakeholders online. A few more examples include a mudpuppy project, sturgeon project, and river corridor and floodplain assessments. Some proposals are broad and some are specific.

Tom: If we move forward with the Payment for Ecosystem Services priority, I suggest it be made more specific for the services that will be evaluated and the impacts on the Lake Champlain Basin. Climate mitigation, for example, is something important to do and something for PES to address, but is not exactly helpful to the more discrete goals of LCBP's Opportunities for Action. It would also be important to track what others are doing in this space. If there is capacity for others to get ahead of us, we would get an impact on our dollars spent.

The group agreed that this is an important topic that should be explored at some level for the Basin and for the LCBP. LCBP does have some funds set aside from the FY19 budget to coordinate a workshop around this concept.

Tom: Is there a reason why we wouldn't want to include the opportunity/priority for geomorphic assessments on both sides of the lake rather than just NY?

This priority can be rephrased to highlight underassessed areas across the basin.

Buzz: The last priority related to Environmental Sensitivity Index mapping should be kept and worked on.

The group agreed.

Eric: We are looking at a great suite of priorities. Our one request is that whatever suite of priorities the Executive Committee ends up finalizing, we make sure that there is genuine support for the projects that support each of the chosen priorities.

Pierre: Can you quickly review how targeting one priority helps applicants?

The priority list is a criterion for selection and if an applicant hits a priority their application gets more points. It's not a guarantee that the project will get funded. It's a way for the Executive Committee to think about what they want to see. Certain priorities can be weighted higher than other priorities. Concurrence with State priorities or other priorities also might be useful to consider in the scoring process.

MaryJo: I'm wondering if it makes more sense to focus on the priority item of communicating real time monitoring data in another year or two once we have looked at the benefits of new buoys, etc. Once we have this information the priority would make more sense.

TAC did discuss this and because it bridges the gap between old and new knowledge, versus communicating with the public, it had resonance. However, it may be early. In the past we have had a priority that looks at publicly available data. We could change language to refocus.

#### State Line Items (*NY DEC, VT ANR*)

- Sarah Coleman, Lauren Townley, and Meg Modley presented. The priorities are: a continuation of the forest phosphorus load allocation process, stormwater master planning and inland watershed action plans, development and review of interstate clean water project tracing and accounting methodologies, implementation of VT MRPG standards and NY rural roads active management program on non-regulatory road networks, enhanced agricultural BMP pilot projects, and the Lake Champlain ANSIS database.
- Mario commented that the ANSIS database would help keep things moving to have the infrastructure ready when VIDA funding becomes available.
- Neil: Question on ANSIS, years ago there was a USGS mapping resource for invasive species all over the US. Does this still exist or is ANSIS support to be an update/replacement?
- The USGS database still exists, GLANSIS harnessed that data into its own use for its own watershed. It expands to include risk assessment and helps generate information about species that should be on watch lists. We would be populating the Lake Champlain template off the GLANSIS model. The Champlain ANSIS is supported by the GLANSIS model. The user end will look different, but the Great Lakes ANSIS will serve as the back end of the Champlain ANSIS.
- Neil: these Line Items strike me as more implementation specific. The idea of NY also standing up a similar IT system to compute similar nutrient reductions would be great. That could be a technical project but it's so related to the similar infrastructure in VT that it might be better to stand alone. That said I think TAC has a role to play in understanding and being aware of work like this.
- The goal is to avoid trying to have a stand-alone RFP, but it would make sense for this IT project. There may also be interest in Québec in partnering on that which would be a huge opportunity to get us all on the same page with the P TMDL. The requested budget does not factor in potential Quebec costs to do this work.
- Neil: On the roads project, should there be some targeting in a different sub-watershed? Working in Carmi now, where else with the tools that are now built could be targeted with that funding?
- Pete: certainly a possibility, not to that level of specificity yet in this proposal. There are lots of subwatershed that do need this work.
- MaryJo: What's the background on why both states feel that the inland lakes should be a priority given the limitation of funding for Lake Champlain, are there particular lakes that you have in mind that would make it a higher priority?
- Pete: effects in watershed on inland lakes translate into Lake Champlain, we are looking not only at the exact perimeter of Lake Champlain but throughout the watershed. This component of this project was directed more towards VT where the

stormwater planning was directed more towards NY. In VT if there are unstable conditions that can be identified, those will have benefits to the ultimate receiving water body (Lake Champlain). I feel strongly that they'll have local benefits and basin-wide benefits, so it's a win-win.

- MaryJo: Based on your explanation would I be accurate in saying that you would be prioritizing inland lakes that would have a more substantial impact on Lake Champlain?
- Pete: certainly, that would be one of the principal criteria, getting local support would be another. A lake that's disconnected per say would not be as ripe of a candidate, but it is the Lake Champlain 'Basin' Program so we are looking throughout the Basin too.
- MaryJo: Is this essentially the Lake Wise program or something different?
- Pete: different, Lake Wise focuses on restoring natural riparian conditions around the perimeter of the lake, but sometimes watershed inputs can be greater than riparian inputs. This would be action plans that look at those sources, identify what's contributing, and work on correcting those. That work has been successful in some places that we've used it already and we see it as effective.
- Eric: I think the inland lakes one is a nice option for SC to consider. This could benefit the Basin program because many of our smaller grant programs work on these smaller lakes. Having these watershed action plans could be helpful in that respect. I'm wondering if the plans would include invasive plants, AIS work could fit nicely into an action plan rather than solely focusing on nutrient reduction.
- Pete: good point, that wasn't an initial part of the focus, that said it could morph. That might lower the overall reach unless there is more funding.
- Eric: of the 5 projects that are proposed here, do you have a ranked list if the Steering Committee isn't able to support all of them or has to reduce funding for some of them?
- Pete: we don't have a prioritized listing in hand today, we could work with NY and come up with it. All of these projects we feel like are key areas of initiative and would be very effective in overall implementation work.
- Sarah: I would add that some of the funding requests reflect some of the planning as well as beginning the implementation, so if the funding requests need to be reduced, we could pare them down by phase accordingly.

ACTION ITEM - To Recommend the Technical Priorities and State Line Items to the Steering Committee for Review

- Motion By - Pete LaFlamme
- Second by - Neil Kamman
- Discussion on the motion - Neil - we may work with LCBP staff to make the TAC priorities more specific for review by the Steering Committee. Pete - we'll do the same with the joint state priorities working with our partners in NY.
- Vote - All in favor
- Abstentions - none

Adjourn - 3:30 PM

# Lake Champlain Basin Program Updates

Lake Champlain Executive Committee meeting, September 8, 2020

- Most LCBP staff continue to work remotely or in isolation due to COVID-19, although some staff do return to the office for scheduled time in Grand Isle as needed. All staff have been set up with necessary tools to complete their work remotely for the foreseeable future.
- Most LCBP Boat Launch Stewards closed out their season a few weeks earlier than normal this year, due to new requirements from their academic institutions to self-isolate or to return to campus earlier for isolation due to COVID-19 concerns. Boat traffic at public launches was greater than in previous years.
- The LCBP Continuous Process Improvement project has been completed. This project, sponsored by VT ANR, was initiated to look at our budget development process and resulted in some reductions in process and a few changes that will be implemented over the course of the next 9-12 months. Two major changes include a new “Steering Committee Summit” in June of each year to identify specific funding themes around each of the four OFA goals, and the E&O committee will transition to a competitive process.
- COVID relief grants – In Mid-May, LCBP awarded 14 small grants for emergency support related to COVID-19 budget gaps. These grants are nearly all wrapped up now. Most grant recipients have expressed gratitude for this support. LCBP staff have not heard from watershed groups that another round of emergency funding is needed at this time.
- LCBP worked with a consultant and with staff from New York DEC and Vermont ANR to develop a grant writing workshop. This multi-part workshop was kicked off on September 8, with over 40 participants from around the Lake Champlain basin. The workshop series addresses questions related to LCBP, VT, and NY state-supported grant programs, as well as general grant writing tips and tools.
- LCBP is in the process of recruiting a consultant to work with LCBP staff on diversity, equity, and inclusion (DEI) issues over the next several months. The consultant will conduct a cultural needs assessment of LCBP as an organization, and develop a series of metrics and goals for the organization to work toward, and assistance with development of a DEI strategic plan for LCBP.
- The inaugural Champlain Valley Heritage Times was launched on August 18. Check it out [here](#)!
- NEIWPC has posted the [NYS DEC Lake Champlain Coordinator](#) position, on behalf of NYDEC and LCBP. This position was vacated in May with Fred Dunlap’s retirement, and will be refilled as a NEIWPC-hosted position for NY DEC with LCBP funding. This opportunity closes September 18, with interviews anticipated to occur in mid-October.

## TAC Updates for the Executive Committee, September 9<sup>th</sup>, 2020

The TAC met once since the Steering Committee meeting in June.

### Reviews and Recommendations

- TAC reviewed and approved the workplan for the project “Using Multi-Metric Modeling, Field Surveys, And Online Spatial Tools to Support Conservation and Management for Flood Resilience, Water Quality, And Native Species Habitat”.
- TAC reviewed and approved the workplan for the project “Port Henry Stream Study”.
- TAC reviewed the project summaries of two US Army Corps of Engineers projects and recommended them for Executive Committee consideration:
  - Vergennes Stormwater Infrastructure Development Project
  - Village of Whitehall, New York Stormwater Improvement Project
- TAC reviewed and approved the budget summaries for the following FY21 core projects:
  - Boat Launch Steward Program
  - Aquatic Invasive Species Rapid Response Fund
  - Long-term Monitoring Program
  - Long-term Monitoring Program sensor array
  - Cyanobacteria Monitoring Program
  - Water Chestnut Management Program
- TAC formed recommendations for FY21 technical budget priorities, which are presented at the end of this document.
  - As part of this discussion, the TAC recommended that the Executive and Steering Committees initiate the formation of a task force focusing on Missisquoi Bay.

### Upcoming Work

- TAC is looking at several vacancies in the coming two to three months and has initiated discussions about areas of expertise needed.
- In line with the ongoing LCBP work to improve our efforts in the realm of diversity, equity, and inclusion (DEI), LCBP will be reviewing its membership selection process through a DEI lens. LCBP will be bringing on a DEI consultant in the coming months to assist with this effort; once the consultant is on board to provide guidance, TAC will review its membership selection process.

The following items are on the agenda for the October 7<sup>th</sup> TAC meeting:

- Review of remaining FY20 technical project workplans
  - Rapid Detection of Atlantic Salmon and Trout in the Boquet and Ausable Rivers using Environmental DNA
  - Conservation of the Lamoille River Mudpuppy (*Necturus maculosus*) Population Using Translocation and Monitoring
  - Lake Champlain Basin of NY Dam Screening Tool
- Review of the Vermont State Forest Allocation line item project
- Work to develop the 2021 State of the Lake Report

## TAC FY21 Technical Budget Priority Recommendations

- **Development of a comprehensive, binational phosphorus mass balance model for the Missisquoi Bay watershed, including all inputs and outputs.**
- **Research on Lake Champlain that combines new data sources (such as satellite observations, the upcoming Long-Term Monitoring Program sensor array data) with historic Long-term Monitoring Program data and communicates these data sources to the public**
- **Research on drivers of phosphorus concentration increases in oligotrophic lakes**
- **Conservation and restoration research and implementation to support water quality, flood resilience, native species and their habitats**
- Reviewing/evaluating Payment for Ecosystem Services (PES) tools
- Stream equilibrium and geomorphic assessment on the New York side of the basin: continuation of current efforts
- Research on road de-icing alternatives
- Research on emerging contaminants such as microplastics, atmospheric mercury, PFAS
- Environmental Sensitivity Index (ESI) mapping to prepare for a potential oil or chemical spill

## E&O Committee Report to the Executive Committee September 9, 2020

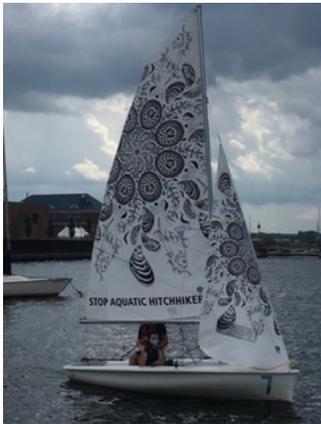
### E&O ADVISORY COMMITTEE

E&O Committee members met on June 25<sup>th</sup>. The committee reviewed the LEAN program with Eric Howe, listened to CBEI results for the spring evaluation of CBEI by Peer Associates, learned about the E&O grant project through LCMM's Education Director Elizabeth Lee from LCMM and reviewed project updates and outreach efforts. Our next meeting is scheduled for September 21<sup>st</sup>.

### ART SAIL

This project is now complete and will be visible on the Burlington waterfront at the Community Sailing Center for about three years. The Sail was unveiled on August 25<sup>th</sup> with very nice coverage about the sail, the partnership, the artist, Nikki Laxar, and AIS issues picked up by NECN which shared it with local stations. Elizabeth facilitated this project.

<https://www.necn.com/on-air/as-seen-on/vt-nonprofit-has-new-way-to-raise-awareness-of-invasive-species/2315440/>



### RESOURCE ROOM

The Resource Room reopened on June 27<sup>th</sup> in partnership with ECHO. After developing a COVID exposure plan and operations plan, the room has been staffed Friday – Monday. Though we have fewer visitors due to COVID restrictions, guests are appreciative of our outreach. We will



be assisting UVM's Natural Resource 1 program for incoming freshmen, likely with at least 8-12 programs. Resource Room staff continue to create new exhibit materials, hands on interactive experiences, and update public information. All E&O staff continues to field questions from the public.

**HEALTHY SOILS INITIATIVE-RAISE THE BLADE.** Monthly committee members continue to meet 1-2 times per month. In August more than 8,500 taxpayers in Plattsburgh received an announcement about the *Raise the Blade* campaign in their utility bill along with a note of support from the mayor. The Champlain Centre Mall in Plattsburgh and the Rock Point Community Center in Burlington are new partners to the *Raise the Blade* campaign. Sea Grant produces a weekly blog for their website as well. Ads are on the public busses in Plattsburgh. *The Other Paper* is promoting *Raise the Blade* and has asked that the partners write a monthly column about watershed issues. September will feature soil testing and P fertilizer reduction. The website was visited by 180 guests who signed up for the promotional mulching mower which will be awarded to a winner South Hero, VT via results of random drawing. Businesses and NGOs and South Burlington have been installing new yard signs on their properties this summer. Each can be tailored to include their logo.



**E&O STEWARDS AND OUTREACH**

Hannah Weiss has completed her full time efforts, but will remain with us for a few hours each week for outreach events. Hannah drafted 10-15 news story ideas which is currently under review to support on-the ground work of local grant recipients. Hannah assisted with two Suffrage exhibit events and completed four LCBP outreach events at Music in the Vineyard at Snow Farm Vineyard in South Hero during September. Sue Hagar continues to network in NY communities as well and has been representing LCBP at CWICNY meetings in NY. Sue is working with Jim on the CVNHP wayside exhibit inventory and replacement effort this summer



(Lauren Jenness too). Sue also staffed the Crown Point Suffrage event at Crown Point, and set up two LCBP/CVNHP mobile exhibits at Champlain Centre Mall.

**PUBLIC AWARENESS SURVEY RFP** The contract was awarded to the University of Vermont. The workplan has been received and is under review. A planning meeting with a project advisory group is scheduled for the coming weeks.

**STREAMWISE RFP** The contract was awarded to Fluid State Consulting; the first Project Advisory Committee meeting has occurred with local partners in NY, VT and QC. The remaining PAC dates have been set.

**CVNHP WEBSITE** Ryan worked with the contractor to design the CVNHP website and update content. The site was launched this summer and remains popular. The inaugural edition of the Champlain Valley Heritage Times e-newsletter was sent on August 18, the 100th Anniversary of

the ratification of the 19th Amendment of the United States Constitution, which gave women the right to vote. Stephanie continues to post to the CVNHP facebook page.

**VIDEO WORKSHOP** Ryan completed a series of workshops to improve video products in partnership with Peregrine Productions. About 51 participants from local watershed groups, cultural heritage groups and other partners participated in the first workshop. Multiple follow-up workshops allowed for direct feedback on video pieces that local groups are producing.

**VIDEO PRODUCTION:** The latest installment of the *Diving In* series highlights work by local organizations and volunteers to improve public access to rivers in the Basin. “Celebrating Salmon” documents the Lake Champlain Salmon Festival, a community celebration in Richmond, VT that capped the International Year of the Salmon events in the Basin. Ryan is working with Peregrine Productions to initiate a *Meet the Scientist* video series.

**GIANT MAP:** A 35’x27’ version of the Lake Champlain Basin sub-basin map was produced in partnership with LCMM and Castleton University. Watershed education curriculum using the map as a focal point will be developed and classroom programs conducted.

**CBEI PROFESSIONAL DEVELOPMENT** CBEI partners have been meeting to determine our best strategy for helping teachers during the 2020-2021 school year. CBEI was featured in a 7 page spread in the *NEIWPC Interstate News* in September, providing great coverage for the partnership and teachers for the six New England states and NY. CBEI was also summarized in NYSDEC’s outreach newsletter to teachers statewide.

#### **UPCOMING:**

- **ARTISTS in RESIDENCE PROGRAM** The contractor, Friends of Winooski, has been chosen for the project which will also involve several schools throughout the Winooski watershed over the next two years.
- **E&O GRANT REVIEW** Work continues on 40+ E&O grants.
- **LCBP MAIN WEBSITE:** Ryan is leading this revision with the contractor and is targeted for completion later this fall.

<b>CVNHP Grant RFPP/RFP and Budget Process Timeline</b>		
<b>Action</b>	<b>Date</b>	<b>Meeting Agenda Includes:</b>
<b>Steering Comm. Meeting</b>	<i>Wednesday, September 23, 2020</i>	<i>Review CVNHP RFPP</i>
<b>RFPP Released</b>	<i>Thurs. September 24, 2020</i>	<i>RFPP's Include Collections, Internship, Local Heritage and Corridor of Commerce Interpretive Theme grants (2022 focus is on the Clean Water Act)</i>
<b>RFPPs Due</b>	<i>Monday, November 2, 2022</i>	<i>RFPP open for 5.5 weeks</i>
<b>RFPP Review Meeting</b>	<i>Friday, December 11, 2020</i>	<i>Review committee makes recommendations for the LC Steering Comm. for invitations to submit full RFPs</i>
<b>Steering Comm. Meeting</b>	<i>Tuesday, December 15, 2020</i>	<i>Review, discuss and approve full RFP invitations</i>
<b>RFPs Released</b>	<i>Wed. December 16, 2020</i>	<i>Full RFP applications sent to invitees</i>
<b>RFPs Due</b>	<i>Monday, January 25, 2021</i>	<i>RFPs Open for 5.5 weeks</i>
<b>RFP Review Meeting</b>	<i>Tuesday, February 16, 2021</i>	<i>Review committee discusses and ranks proposals</i>
<b>Executive Comm. Meeting</b>	<i>Wednesday, February 17, 2021</i>	<i>CVNHP 2022 project prioritization</i>
<b>Steering Comm. Meeting</b>	<i>Tuesday-Wednesday, April 13&amp;14, 2021</i>	<i>FY21 Budget review &amp; approval</i>



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## September 2020 Updates for LCBP Executive Committee Meeting

- General Updates
  - In the face of COVID-19, NEIWPCC continued to host weekly conference calls with the Executive Committee and EPA Regions I and II, highlighting and discussing issues common to all. NEIWPCC's September Executive Committee and Commission Meeting is being held virtually September 10-11 and will include such topics as the approval of our Water Program Priorities, revision to our bylaws, approval of our FY21 106 work plan and budget, and review of our recent work.
  - Fiscal: NEIWPCC utilizes 2 CFR § 200 to determine its indirect rate and submits the appropriate paperwork to EPA headquarters (our cognizant agency). The rate is approved annually by the NEIWPCC Executive Committee and Commission and EPA HQs. The indirect cost rate for fiscal year 2021 was submitted to EPA headquarters in March. The calculated rate was 19.35%. NEIWPCC applied for an indirect rate of 19.25% which was certified in July. Therefore, NEIWPCC's current approved indirect rate is 19.25% for FY 2021 (October 1, 2020-September 30, 2021). NEIWPCC does not charge indirect on individual contractual projects and subawards of \$100,000 or greater, office rent, participant support costs, or equipment. NEIWPCC charges its approved rate at the time that work occurs.
- Some interesting topics:
  - NEIWPCC Wastewater and Onsite [Training Calendar](#): The Fall 2020 schedule includes 33 remote learning opportunities and other offerings.
  - COVID-19 environmental surveillance in sewersheds has been a high-profile and rapidly developing topic during the pandemic. NEIWPCC's Executive Committee expressed immediate interest in and asked NEIWPCC to provide continued review, updates, and analysis. The EC received regular updates on each weekly call and a special focused meeting was held on July 31<sup>st</sup> to dig deeper into the topic and highlight a few regional projects. A follow-up meeting is scheduled for September 25<sup>th</sup> and will give the opportunity for states to hear about projects and provide updates about any state-led initiatives.
  - NEIWPCC has developed a proposal to conduct a study addressing regional sludge generation. We will be working in collaboration with





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NEBRA to administer the National Biosolids Survey to our member states. Working with an advisory committee, we will tailor the questions to ensure that the information collected is useful and beneficial to the states for the current and future needs. This project will be funded through contributions from EPA Regions 1 and 2, as well as NEIWPCC's member states.

- On August 20, NEIWPCC submitted a letter to EPA in response to their draft numeric nutrient criteria recommendations for lakes. The letter, NEIWPCC's second on this matter, asked for significant clarification, guidance, and training from EPA to aid states in understanding and implementing the recommendations. States also expressed concern that the draft criteria recommendations do not fully address natural variation in lake nutrient conditions, that the underlying data do not fully represent conditions in the Northeast, and that recommendations fail to address the combined impacts of climate change and nutrient loading on lake conditions.
  
- NEIWPCC staff training:
  - Some recent NEIWPCC staff training completed:
    - Reoccupying the Lowell office: Following MA guidance, all staff were required to participate in a training on social distancing and hygiene protocols before reoccupying the workplace (Lowell headquarters staff).
    - Introduction to Unconscious Bias: Unconscious bias is a part of the brain's decision making process but it can be damaging to our personal and professional relationships and goals when left unchecked. Instead of making decisions based in objective facts, stereotypes and prejudice may be reinforced. Staff participated in a conversations and viewed short videos to familiarize themselves with unconscious bias, to learn how to identify their own bias, and to learn how managing our unconscious bias can promote a diverse and inclusive workspace. (All staff invited)
    - Influencing for Impact: The goal for this workshop was to increase each participant's influence skills by helping them to gain flexibility in how they approach and influence a situation. Staff learned to determine their predominant influence style, strengths, and development opportunities; practiced how to choose the influence strategy with the highest probability of success for specific influence





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situations and determined an appropriate influence strategy for a current situation. (Lowell headquarters staff)

- Upcoming trainings include:
  - The Art and Science of Writing Comment Letters
  - Emotional Intelligence
  - An Introduction and Refresher to NEIWPC Contracts and MOAs
- NEIWPC [Positions Posted](#) in the Lowell office:
  - Human Resources Director—closed 9/4
  - Communications Director—posted until 9/11
  - Program Manager (Wastewater Division)—posted until 9/25
- Some of NEIWPC's LCBP-specific work:
  - Funding applications
    - GLFC MOU executed in June for \$664,500
    - EPA FY20 award issued in August for \$7,068,459 total budget (\$5,301,379 EPA funding and \$1,767,080 state match)
    - IJC contract executed in August for \$165,876
  - Hiring Processes
    - ESI intern hired in July to support foundational work for Environmental Sensitivity Index mapping
    - NY State Coordinator: The position is [posted](#) until September 23<sup>rd</sup>.
    - Position pending: LCBP CAC Coordinator
  - Contractual Processes
    - 79 agreements drafted since January 1, 2020 for a total of \$2,692,578 (as of 8/28/2020)
    - 12 amendments executed due to COVID-19
    - Staff submitted subaward reports to EPA in fulfillment of the federal funding accountability and transparency act (FFATA).
  - Quality Assurance
    - 23 QAPPs approved (21 by Lowell staff, 2 by delegated review) since January 1, 2020 (as of 9/9/2020)



LAKE CHAMPLAIN WATERSHED  
ENVIRONMENTAL ASSISTANCE PROGRAM  
SECTION 542 OF THE WATER RESOURCES DEVELOPMENT ACT (WRDA) OF 2000, AS  
AMENDED BY WRDA 2007

PROJECT SUMMARY  
SEPTEMBER, 2020

VERGENNES, VERMONT  
WASTEWATER & STORMWATER INFRASTRUCTURE IMPROVEMENT PROJECT

SPONSOR: City of Vergennes

PROJECT DESCRIPTION:

The City of Vergennes is seeking assistance from the U.S. Army Corps of Engineers (Corps) to develop stormwater infrastructure in downtown Vergennes in order to address water quality and environmental problems. The water quality problems and their related impacts are caused by overflows of sewage and phosphorus rich discharges (pictured in Figure 1) due to an inadequate stormwater infrastructure.



Figure 1 - Otter Creek Discharge to Lake Champlain

Vergennes is in Addison County, Vermont and it is located on Otter Creek, a tributary to Lake Champlain (Figure 2). It is a historic port with direct boat access to Lake Champlain via Otter Creek. Vergennes was the site of important shipbuilding during the Revolutionary War and the former capitol of Vermont.

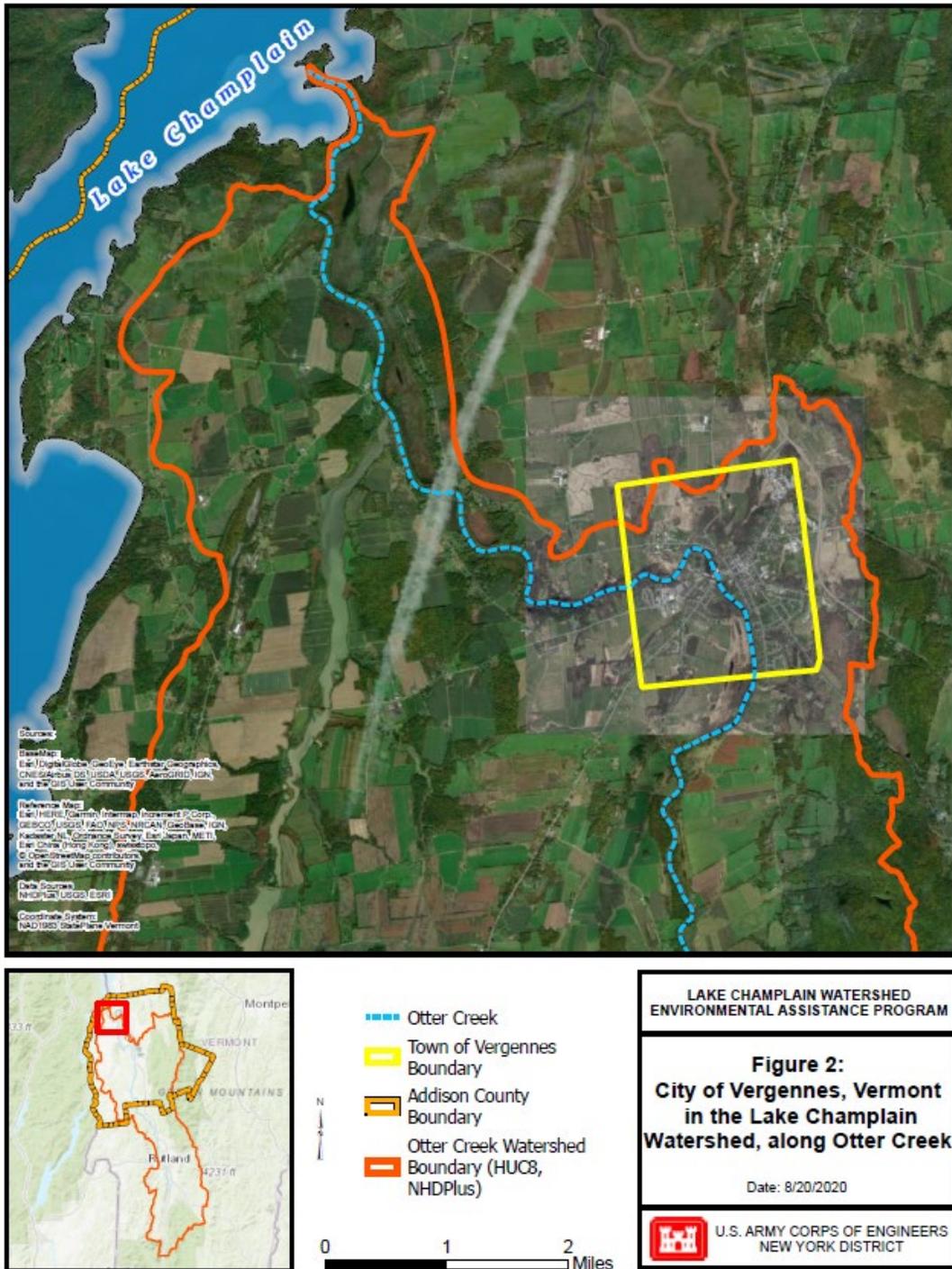


Figure 2. Project Area Location, Vergennes, Vermont on Otter Creek in the Lake Champlain Basin

Otter Creek bisects the City and flows generally west before flowing north to Lake Champlain (Figure 2). The Vermont Department of Environmental Conservation, Otter Creek Tactical Basin Plan, 2019 classifies the lower Otter Creek (below Vergennes) as “stressed” due to e. coli

contamination. The plan also indicates that sewage overflows and discharges containing phosphorous to Otter Creek contribute to degradation of water quality in Lake Champlain.

The City has a sewage overflow that discharges to Otter Creek multiple times nearly every year as pictured in Figure 1. A 2019 report found that stormwater entering the wastewater collection system is the cause of the overflows. The City lacks stormwater infrastructure for 90% of its streets, as shown in the photo of Main Street (Figure 3). Stormwater is discharged directly to Otter Creek without treatment, except for small quantities of the runoff that make it to the City's wastewater treatment facility. Therefore, the lack of stormwater infrastructure causes sewage overflows and the discharge of stormwater containing phosphorous and e. coli to Otter Creek.



Figure 3 - Main Street Lacks Stormwater Infrastructure

Sewage releases severely impact aquatic ecosystems, including disruption of food chains, alteration of reproductive cycles and habitat disruption. The City of Vergennes was issued a 1272 Order on April 20, 2018 to address the one Sanitary Sewer Overflow in the collection system. The Order required the City to submit a completed Long-Term Control Plan with a list of projects and a timeline for implementation.

Three communities of Panton, Ferrisburgh and Vergennes border this section of Otter Creek and nearby Lake Champlain, with a population totaling approximately 6,040 in 2010. E. coli in sewage released to the creek threatens bathers at private beaches in Field’s Bay, where Otter Creek discharges to Lake Champlain. The Kingsland Bay State Park Beach and Ferrisburgh Town Beach are 1-1/2 miles north of the Otter Creek discharge, with several more private beaches in this reach of shoreline. The Lake Champlain Committee states: “*Excessive amounts of phosphorus in a lake can shift the biological community to domination by weeds and algae. Sediments can be a source of phosphorus and they also smother wildlife habitat.*” This project will focus on developing stormwater infrastructure to provide relief from stormwater overloading of City sewers and treatment of stormwater for phosphorous and e. coli using green stormwater infrastructure.

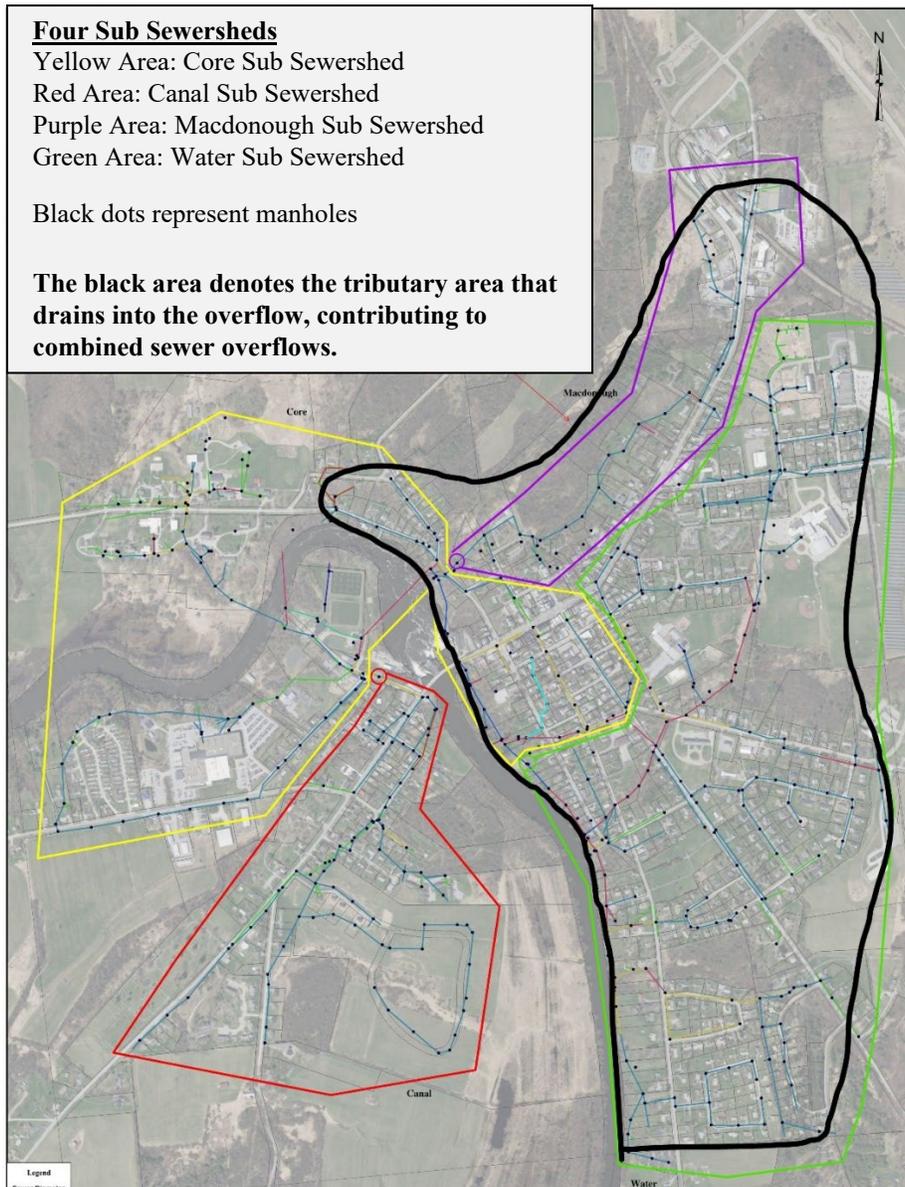


Figure 4. Stormwater Project Area by Sub Sewershed, City of Vergennes, Vermont (Source: Tata & Howard, July 2019)

Figure 4 shows the four sub sewersheds that comprise the City of Vergennes- Core, Macdonough, Canal, and Water. The black outlined area is the tributary area to the overflow. The black dots represent manholes and locations where stormwater enters the system. This drainage area is where the stormwater treatment will be focused in order to reduce or eliminate the combined sewer overflows.

## PROJECT'S RESTORATION GOALS/OBJECTIVES

The goal of the project is to improve water quality, aquatic habitat, and public health in Otter Creek and Lake Champlain by reducing or eliminating sewage overflows and providing stormwater infrastructure using Best Management Practices (BMPs). The City is proceeding with further investigations of the sources of stormwater entering the wastewater collection system through smoke testing, which will help to inform the proposed project. This project would investigate, design and construct an alternative means of stormwater collection and conveyance to carry and treat extraneous water from the existing sanitary sewer system. Green infrastructure measures will be investigated for inclusion in the new system, where appropriate, particularly in the upland to prevent stormwater from entering the sanitary sewer system, and to store and treat stormwater.

There is minimal stormwater infrastructure in most of the city, as pictured in Figure 3 so this project will investigate the development of new stormwater infrastructure. Further analysis is required to determine if the implementation of stormwater treatment BMPs will improve water quality in Otter Creek and Lake Champlain by removing e. coli and phosphorous from the stormwater discharges.

## DESCRIPTION OF HOW THE PROJECT ADDRESSES THE LAKE CHAMPLAIN BASIN PROGRAM'S OPPORTUNITIES FOR ACTION:

The Lake Champlain Basin Program (LCBP)'s 2017 *Opportunities for Action* management plan outlines its priority goals, objectives and strategies. The plan's four priority goals are Clean Water, Healthy Ecosystem, Thriving Communities, and an Informed and Involved Public. This project will all four goals: Clean Water – reduction in phosphorous and e. coli discharges and elimination of raw sewage discharges; Healthy Ecosystem – stormwater BMPs will remove sedimentation and nutrients to improve aquatic habitat; Thriving Communities – Vergennes is a thriving community that will be enabled to continue to grow and prosper with modern stormwater infrastructure and without the stigma of causing sewage overflows; and an Informed and Involved Public – public outcry regarding sewage overflows and phosphorous discharge to Lake Champlain is strong, public support of the project is widespread.

## ASSESSMENT OF SPONSOR'S ABILITY TO PAY:

The City of Vergennes and/or the State of Vermont are able to pay 35% of the total cost of the project with a combination of cash, in-kind services, and delivery of the land, easements, rights-of-way, and relocations necessary to carry out the project.

## SCOPE OF ASSISTANCE:

As mentioned above, the City of Vergennes is requesting assistance from the Corps through the Lake Champlain Watershed Environmental Assistance Program to complete the project. The City is moving on a parallel track to complete improvements to its existing wastewater treatment facility outside of the Section 542 Environmental Assistance Program. Improvements to the stormwater infrastructure described in this Project Summary would address the most pressing problems contributing to water quality degradation and are the focus of this proposed effort.

The remaining tasks the project are to:

- Continue facilities planning and preliminary engineering for stormwater improvements
- Topographic and utilities surveys
- Hydraulic and hydrologic modeling of the stormwater system
- Pollutant load modeling
- Design of new stormwater infrastructure
- Environmental compliance, permitting, and public outreach
- Preparation of an Environmental Assessment
- Construction of improvements
- Project management and coordination

## COST AND SCHEDULE:

The estimated total project cost is \$7,475,000, including engineering and other project costs (Source: Reference 2. Phase 3 Interim Preliminary Engineering Report, Tata & Howard Inc., January 2020). The estimated schedule to complete the project is approximately 5 years. A Project Cost Summary is provided below. The “Engineering and other costs” category include the above listed remaining tasks, such as surveys, modeling, and environmental compliance and are estimated as a percentage. Upon approval of the Project Summary and subject to available funds, the Corps will work with the City and State to better refine tasks, budget, and schedule through the development of a Project Management Plan.

City of Vergennes	
Wastewater/Stormwater Project 2020	
Preliminary Project Cost Summary	
	Stormwater
<b>Construction Subtotal</b>	\$ 5,000,000
<b>Contingency (15%)</b>	\$ 750,000
Engineering and other costs (30%)	\$ 1,725,000
<b>Project Total</b>	\$ 7,475,000

## REFERENCES

1. [https://dec.vermont.gov/sites/dec/files/wsm/mapp/docs/B3\\_TBP\\_FINAL\\_ARA.pdf](https://dec.vermont.gov/sites/dec/files/wsm/mapp/docs/B3_TBP_FINAL_ARA.pdf)
2. City of Vergennes, Phase 3 Interim Preliminary Engineering Report, Tata & Howard Inc., (DRAFT 01/10/20).

**LAKE CHAMPLAIN WATERSHED  
ENVIRONMENTAL ASSISTANCE PROGRAM**

SECTION 542 OF THE WATER RESOURCES DEVELOPMENT ACT (WRDA) OF 2000, AS AMENDED IN WRDA  
2007

**PROJECT SUMMARY**

**VILLAGE OF WHITEHALL, NEW YORK  
STORMWATER IMPROVEMENT PROJECT**

**SPONSOR:**

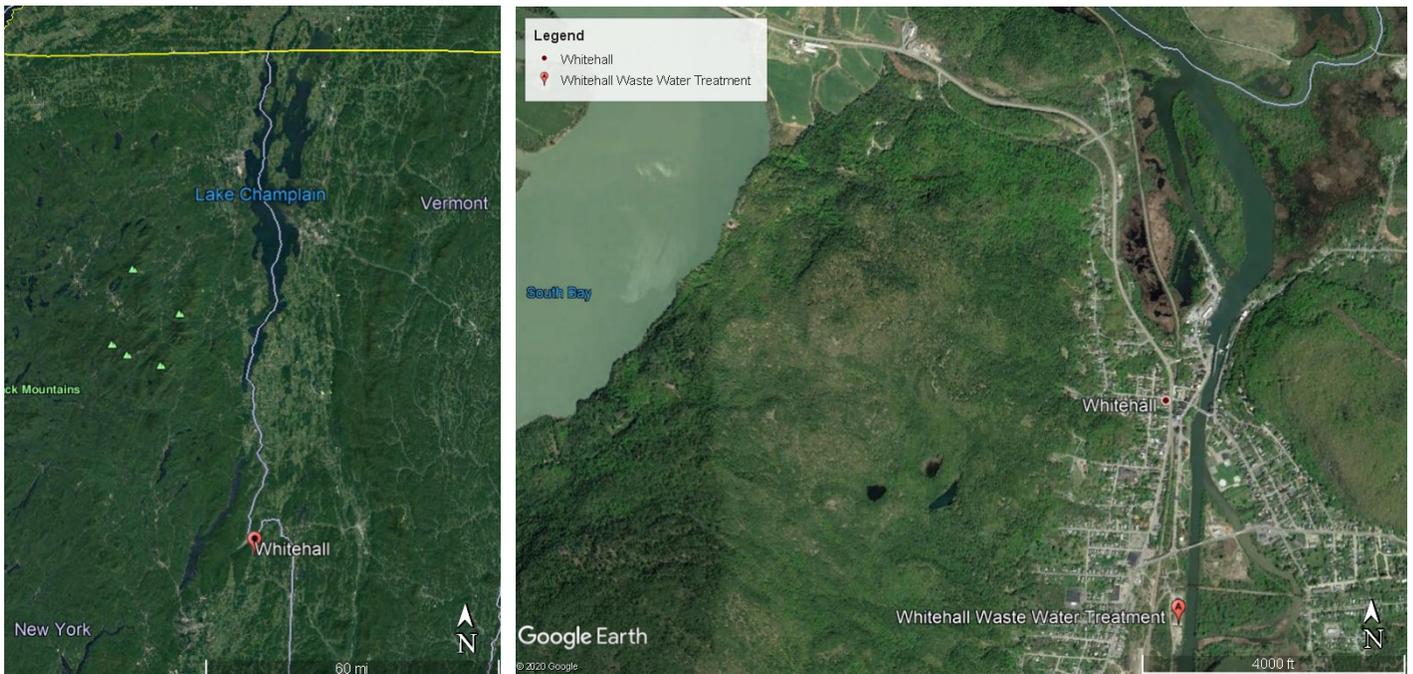
Village of Whitehall, NY

**POTENTIAL PARTNERS:**

State of New York, Department of Environmental Conservation (NYSDEC)

**PROJECT DESCRIPTION:**

The Village of Whitehall is requesting assistance from the U.S. Army Corps of Engineers (USACE) to reduce stormwater infiltration into the Village’s sanitary collection system. Whitehall is in Washington County, NY. The Village straddles the Champlain Canal, which drains into the Poultney River. The Poultney River is the Village’s eastern boundary, and drains into the South Lake section of Lake Champlain, which bounds Whitehall to the west. Whitehall is rich in history, it is the historical birthplace



**Figure 1: Location of Whitehall, NY. Left: Whitehall with Lake Champlain. Right: Whitehall shown with local waterways and the location of the Whitehall Waste Water Treatment Plant**

of the U.S. Navy, and it is home to many sites listed on the National Register of Historic Places, including portions of the Champlain Canal.

The Village's wastewater treatment plant is often overwhelmed with stormwater during rain events, which forces the plant to shut off secondary treatment and release partially treated wastewater into the Champlain Canal, which flows generally north into the Poultney River, which then flows generally north to South Lake. In addition, there are sanitary sewer lines that run adjacent to the canal on both the East and West sides. During heavy rain events, it is common that numerous manholes discharge sewage directly into the canal from both sides.



**Figure 2: Left: Storm and sewer water surging out of a manhole in the Village of Whitehall during a storm event. Right: Sewage flowing overland to the Champlain Canal.**

NYSDEC and the Village entered into a consent decree on October 15, 2009 to resolve numerous violations of the Village's State Pollution Discharge Elimination (SPDES) permit due to releases of untreated sewage into the canal. These violations included exceedances of the discharge limits for Total Suspended Solids, Biological Oxygen Demand, and settleable solids. In addition to the violations of the SPDES permit, the consent decree includes violations of state law from the unpermitted discharge of untreated sanitary wastewater from manholes, which peaked at several million gallons a day. The consent decree has been amended three times, most recently on September 9, 2019.

The Village's sanitary sewer system includes approximately 17 miles of gravity sewer mains supported by 10 pump stations with forced mains in lower sections, and approximately 400 manholes. Most of the system was installed between the 1930s and 1970s. The gravity mains were originally built to convey both stormwater and sanitary sewage from catch basins and buildings throughout the Village to discharge directly into the Champlain Canal. The sanitary system was retrofitted from 1977 to 1979 to provide sewage treatment prior to discharge. The Village's wastewater treatment plant was also constructed during this time and operates using an extended aeration activated sludge process.

Although the Village has worked to separate the storm water flow from the sanitary system, excessive inflow and infiltration into the sanitary system regulatory occurs during rain events and/or periods of high water table elevation. Excessive inflow and infiltration is a widespread problem throughout the system, and system overflows are directly related to water quality issues in South Lake, including algal blooms associated with elevated levels of Phosphorus.

In 2009, as part of the consent decree, the Village and the NYSDEC agreed on a 4-phase plan to reduce inflow and infiltration. A 2009 engineering report estimated that the entire, 4-phase plan would cost the Village approximately \$20 million. In 2018 to 2019, Phase 1 of the plan was completed. Phase 1 reduced the peak inflow of the wastewater treatment plant approximately 28% and cost approximately \$4.6 million. The Village is scheduled to further upgrade the wastewater treatment plan by adding an ultraviolet disinfection system in 2020. The Village has funds to complete an engineering report and alternatives analysis and will be applying for grants to complete the upgrade. The Village of Whitehall and NYSDEC are requesting assistance from the USACE through the Lake Champlain Watershed Environmental Assistance Program to complete Phase 2, which includes rerouting storm laterals that are connected to the sanitary system, and extension of several storm sewer mains.

### **PROJECT'S GOALS/OBJECTIVES:**

The overall goal is to eliminate the discharge of untreated sewage from the Village of Whitehall into the Lake Champlain Basin. The objectives of Phase 2 are to decrease the inflow and infiltration of stormwater into the sanitary system and improve water quality, as well as human and ecological health.

### **DESCRIPTION OF HOW THE PROJECT ADDRESSES THE LCBP'S OPPORTUNITIES FOR ACTION:**

The LCBP's *Opportunities for Action* management plan identifies four priority goals to protect and restore ecological and cultural resources of the Basin while maintaining a vital economy for the region. This project addresses the first, second, and third priorities: Clean Water, Healthy Ecosystems, and Thriving Communities.

**Clean Water:** eliminating the discharges of raw sewage and stormwater overflow to the Champlain Canal will improve water quality in the waters around Whitehall and Lake Champlain as a whole. Elevated releases of sewage and stormwater can result in unsafe levels of disease carrying pathogens in the lake, impairing drinking water and recreational activities such as swimming and fishing. Clean water is critical for the region as more than 145,000 people rely on Lake Champlain as their source of drinking water and recreational use of the lake is an important part of the regional economy.

**Healthy Ecosystems:** Raw sewage and stormwater overflow carry pathogens and excess nutrients into the Lake Champlain system. Algal blooms associated with excess phosphorus lead to low oxygen concentrations and impaired aquatic life. Improving water quality, including the reduction in phosphorus and associated algal blooms, will improve aquatic habitat.

**Thriving Communities:** According to the USEPA EJ Screen tool, the 48% of the population of the Village of Whitehall is low income, ranking in the 78<sup>th</sup> percentile in the state for low income (as in they are worse off in income than 78 percent of the state), and 76<sup>th</sup> percentile nationwide. The Village is in the 74<sup>th</sup>

percentile in the nation on the USEPA Environmental Justice Index for Wastewater Discharge Indicator<sup>i</sup>, indicating that they are closer to the environmental justice community status than the baseline, though the Village of Whitehall is not rated as an environmental justice community by the EPA nor New York State. Assistance through the Section 542 Program will enable the village to comply with the NYSDEC consent decree. Further, reducing raw sewage and algal blooms in area waterways will improve quality of life in Whitehall, and will improve waterways for public use, both within Whitehall, and for downstream communities.

#### **ASSESSMENT OF SPONSOR'S ABILITY TO PAY:**

The Village of Whitehall and/or its non-federal partners are able to pay 35% of the total cost of the project with a combination of cash, in-kind services, and delivery of the land, easements, rights-of-way, and relocations necessary to carry out the project.

#### **SCOPE OF ASSISTANCE:**

As mentioned above, Whitehall is requesting assistance from USACE through the Lake Champlain Watershed Environmental Assistance Program to complete the Phase 2 of the NYSDEC-approved improvement plan.

Phase 2 includes:

- Geotechnical investigations: Review existing information for boring previously being conducted in the project vicinity. Conduct more borings if necessary and required to maintain the stability of the proposed utility features.
- Installation of 36 manholes (new precast and doghouse where necessary) along the sanitary sewer line: New manholes are being proposed along the existing sanitary sewer line. This shall reduce the single run of pipes between manholes, provide more room for inspection and maintenance.
- Lining (resin based and steam cured) approximately 5,600 linear feet of sanitary sewer to reduce inflow and infiltration: Interior of the existing sanitary sewer shall be lined to reduce the infiltration of the stormwater. Lining shall be installed in the similar make and type as installed in Phase 1.
- Separate combined sanitary sewer and stormwater systems within approximately 65 buildings: Existing building routes the stormwater runoff from the roof and from the sump pumps into the same sanitary sewer of the building. Inspections shall be conducted to these properties and the stormwater flow shall be re-routed from the sanitary sewer.
- Develop a conceptual design and cost estimate for the recommended alternative; and,
- Design and construct new storm water sewer mains, including approximately 3,500 linear feet of main and 17 structures: To reduce the load on the sanitary sewer, new stormwater main shall be installed to collect the stormwater from the buildings and street runoff. Runoff and sump discharge from the building along with the street runoff shall be routed to the main via a new collection system. Investigate the feasibility and cost effectiveness of creating rain gardens, wetlands, or other green infrastructure in order to improve water quality
- Project management and coordination;
- Environmental coordination and compliance work;
- Public engagement;

- Contract management, as applicable.

### **COST & SCHEDULE:**

The project will build on the progress that the Village made in Phase 1, beginning with study and design of Phase 2 system upgrades and then proceeding to construction. The project will take an estimated three years to complete with study, design, and construction of components of the project occurring in overlapping phases. The estimated total project cost is \$3,760,000 which would be subject to a 65/35 cost share (\$2,444,000 federal / \$1,316,000 non-federal) for Phase 2. An estimated cost breakdown is provided below.

- Engineering predevelopment including: survey, mapping, and CCTV inspections (\$290,460)
- Engineering design of storm drain separations and improvements (\$225,600)
- Legal and administrative costs (\$211,300)
- Construction of system upgrades (\$2,820,790)
- Engineering and construction administration (\$211,850)

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<sup>i</sup> Percentile in NY State not available for the Wastewater Discharge Indicator

Committee	May	June	July	August	September	October	November	December	January	February	March	April
<b>Steering</b>	no action	Summit to identify themes for upcoming budget cycle	no action	no action	Approve priorities for Technical, Heritage Requests for Pre-Proposals	no action	no action	conditionally approve line item priorities, core projects	no action	no action	no action	Approve full budget - Key Functions, Technical, E&O, Heritage, Line Items, TMDL
<b>Executive</b>	no action	Steering Committee Summit	no action	no action	Discuss priorities for E&O, Technical, Heritage RFPs, Participate in Steering Committee meeting	non-budget meeting	review line items and core projects for Steering Committee meeting;	Participate in Steering Committee meeting	Review LCBP Key Functions (base budget tasks), E&O priorities, TMDL projects	Rank Heritage, E&O proposals	Meeting 1: Review Technical full proposal advice from TAC; Meeting 2: full budget to prepare for Steering Committee	Participate in Steering Committee meeting
<b>TAC</b>	Summit preparation	Steering Committee Summit	Develop conceptual projects/priorities with Summit feedback	Develop conceptual projects/priorities with Summit feedback	Review priorities for technical RFP, Present to Steering Cmte, Issue RFP	non-budget meeting	Pre-proposals due, review begins	Meet to Review technical pre-proposals, full proposal notification	no action	Review TMDL projects in monthly meeting. Technical Proposals due; Review Technical Full proposals	Meeting to review and prepare ranking of full proposals for funding, present to Executive Committee	Present full technical budget to Steering Committee (core, RFP projects)
<b>E&amp;O</b>	Summit preparation	Steering Committee Summit	Develop conceptual projects/priorities with Summit feedback	Develop conceptual projects/priorities with Summit feedback	Initial E&O task priorities, present to Steering Cmte	develop E&O task priorities with feedback	Issue RFP	no action	review proposals from RFP, other E&O tasks for budget	Present task priorities to Exec Cmte	no action	Present full E&O budget to Steering Committee
<b>Heritage</b>	no action	No action	no action	no action	Review priorities for Heritage RFP, present to Steering Cmte, issue RFP	Heritage Summit to network priorities for next budget cycle	Pre-proposals due, review begins	Meet to Review Heritage pre-proposals for Steering Committee approval	no action	prepare and present Heritage proposal recommendations to Exec Cmte	no action	Present Full Heritage budget to Steering Committee
<b>State partner line items</b>	Summit preparation	Steering Committee Summit	develop line items with Steering Committee Summit feedback	develop line items with Steering Committee Summit feedback		Develop full task descriptions	Review line items with Executive committee	Present line items to Steering committee	no action	no action	no action	Review line items with Steering Committee
<b>TMDL priorities</b>	no action	no action	no action	no action	EPA communicates eligibility of projects to States	VT DEC develops projects with partner agencies	VT DEC develops projects with partner agencies	VT DEC develops projects with partner agencies	Convene TMDL Subcommittee to review projects; projects updated with Subcommittee feedback, review with TAC	Update projects with feedback from TAC	Review TMDL projects with Executive Committee (March Meeting 2)	Present TMDL projects to Steering Committee

## TAC FY21 Technical Budget Priority Recommendations

- **Development of a comprehensive, binational phosphorus mass balance model for the Missisquoi Bay watershed, including all inputs and outputs.**
- **Research on Lake Champlain that combines new data sources (such as satellite observations, the upcoming Long-Term Monitoring Program sensor array data) with historic Long-term Monitoring Program data and communicates these data sources to the public**
- **Research on drivers of phosphorus concentration increases in oligotrophic lakes**
- **Conservation and restoration research and implementation to support water quality, flood resilience, native species and their habitats**
- Reviewing/evaluating Payment for Ecosystem Services (PES) tools
- Stream equilibrium and geomorphic assessment on the New York side of the basin: continuation of current efforts
- Research on road de-icing alternatives
- Research on emerging contaminants such as microplastics, atmospheric mercury, PFAS
- Environmental Sensitivity Index (ESI) mapping to prepare for a potential oil or chemical spill

## LCBP FFY21 Line Item Requests

<b>Project #</b>	<b>Requesting Organization(s)</b>	<b>Short Project Title</b>	<b>Funding Request</b>
1	NY/VT DEC	Forest P Load Allocation	\$300,000
2	NY/VT DEC	Stormwater planning & Inland Lake action plans	\$400,000
3	NY/VT DEC	Interstate Clean Water Accounting	\$100,000
4	NY DEC	MRGP and RRAMP Implementation	\$200,000
5	NY/VT DEC	Enhanced Agricultural BMPs	\$400,000
6	LCBP/LC Sea Grant	Lake Champlain ANSIS database	\$60,000

## Lake Champlain Basin Program FY21 Conceptual Technical Task Description

**TITLE:** Forest Phosphorus Load Allocation Developing Assessment and Planning Tools for Implementation of the Lake Champlain TMDLs (Forest Load Allocation)

**ONE SENTENCE ABSTRACT:** This project would assist Vermont and New York continuing its work in developing and piloting the framework for addressing the forestland load allocation of the Lake Champlain TMDLs through an assessment of managed forestland, the identification, design and construction of forestland BMPs, and development of accounting methods for forestland improvement practices in targeted basins of Lake Champlain.

**POINTS OF CONTACT:**

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New York State Department of Environmental  
Conservation (NYSDEC)  
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**DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, METHODS, AND TIMEFRAME:**

Forested lands compose 73% of land use in the Lake Champlain Basin and contribute 20% of total phosphorus loading to Lake Champlain. The Phosphorus TMDLs for Vermont Segments of Lake Champlain require a ~19% reduction in total phosphorus from forested land uses. The Missisquoi Bay lake segment is 62% forested land use and contributes the greatest mean annual phosphorus load from the Vermont portion of the Lake Champlain Basin (170 metric tons per year). Because the TMDL calls for the greatest phosphorus load reductions from forestland in the South Lake and Missisquoi sub-basins, these forestlands are prioritized for targeted BMP implementation in Vermont. The efforts complement water quality protections conferred by the recently revised (2017) Acceptable Management Practices for Logging Jobs in Vermont (VT AMPs), to prevent sediment, petroleum products, and woody debris (logging slash) from entering Vermont's waters.

Phosphorus reductions from forested land uses will primarily involve bringing forest trails, roads, and stream crossings into compliance with VT AMPs, remediating erosion and altered hydrology associated with forest trails and roads due to legacy timber management operations. Due to the remote nature of these sites, optimal locations for phosphorus-reducing best management practices (BMPs) or targeted acceptable management practice inspection are not easily identifiable without mapping and ground truthing.

New York and Vermont are seeking support for assessing forestlands to identify, prioritize, and implement water quality improvement projects to reduce phosphorus loading from forested land uses. This project could support the following phases and associated tasks:

*Phase 1* Identifying forestland in Vermont and New York, including managed<sup>1</sup> forestland parcels such as national forests, state forests, state parks, municipal parks, and Use-Value Appraisal lands (lands enrolled in current-use programs) and the current and historic activities within them that could contribute to loading (e.g., recreational trails, forest roads, timber harvesting, sugaring).

1. Determining erosion risk hotspots on managed forestlands, particularly legacy erosion associated with historic management practices such as hydrologically connected forest roads, streambank erosion, and BMPs to address them.

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<sup>1</sup> There is natural loading from non-managed forested lands outside of these areas, but no reasonable approach for dealing with diffuse, low level loading. For example, there is no BMP to apply in the case of a homeowner with 1.5 undisturbed acres of forest within a parcel boundary.

2. Develop a method to account for phosphorus reductions associated with the implementation of forestland AMP's and the remediation of legacy erosion.
3. Estimating interim phosphorus reduction targets by sub-basin (HUC—12 scale?), achieved through regulatory and non-regulatory means.
4. Develop accounting methodology to track and report on AMP compliance, and to identify and target high priority legacy erosion sites for restoration
5. Compile all the forestland parcels information, priority areas and recommended forestland BMPs in a final report that can be used to guide implementation.

*Phase 2*

1. Groundtruth landscape analysis to calibrate prioritization framework of critical source areas.
2. Develop prioritization framework to address legacy erosion in high priority basins (South Lake Champlain and Missisquoi Bay in Vermont) to achieve target load allocations for lake segments that won't meet through VT AMP compliance alone.
3. Groundtruth existing BMP implementation for recreation trails and other forestland uses calibrate BMP design life and O&M requirements,
4. Deploy these tools to enhance implementation of forestland BMPs projects using complementary funding initiatives as well as piloting a suite of forestland BMPs for design and implementation to reduce sediment erosion.

Project **outputs** for Phase 1 could include prioritized maps of disturbed areas and other areas at risk for erosion in managed forestlands; accounting methods for forestland BMP efficiencies; and interim targets for forested land uses by sub-basin, to be achieved through regulatory and non-regulatory means. Project outputs for Phase 2 include the design and implementation of forestland best management practices. The **outcomes** of this project are an increase in our understanding of phosphorus and sediment sources from forestland uses and how to address them, which will help to inform future state and federal investments to support TMDL implementation, resulting in reduced nutrient loading from forested land uses and improved surface water quality in the Lake Champlain Basin. Overall, this project will provide a framework for implementing the forestland load allocation of the Lake Champlain TMDLs.

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

Objective I.C: Reduce Nutrient Loading: Strategy I.C.4: Fund Programs to Reduce Nutrient Inputs from Forested Lands, Task Area I.C.4.a: Fund programs to promote forestry practices with water quality benefits.

Objective III.B: Support Water-Wise Economic Development: Strategy III.B.3: Support working landscapes that help protect water quality, Task Area III.B.3.a BMP Implementation

**Timeframe:** November 1, 2021 – October 31, 2023

**REQUEST AMOUNT:** \$300,000 (\$200,000 – VT, \$100,000 – NY)

**TOTAL COST WITH NEIWPCC INDIRECT:** \$300,000

**BRIEF BUDGET EXPLANATION:** Vermont has established an interdepartmental technical team and New York is assembling an interdisciplinary team within NYSDEC that will oversee preliminary assessment work related to this scope with state resources in SFY21, but additional resources will be required for further assessment, piloting methodology, and implementation. For FFY21 New York will mainly be continuing Phase 1 tasks while Vermont expects to be mostly done with Phase 1 and ready to focus on Phase 2 tasks.

**TECHNICAL REFERENCES CITED:**

Crosswalk between the Vermont Phase 1 Plan and EPA's BMP scenario identifying achievable phosphorus reductions

<https://www.epa.gov/sites/production/files/2015-09/documents/appendix-b-crosswalk.pdf>

Concentration, load, and trend estimates for nutrients, chloride, and total suspended solids in Lake Champlain tributaries, 1990 – 2017

[http://lcbp.org/techreportPDF/86\\_LC\\_Tributary>Loading\\_Report.pdf](http://lcbp.org/techreportPDF/86_LC_Tributary>Loading_Report.pdf)

**Lake Champlain Basin Program**  
**FY21 Conceptual Technical Task Description**

**TITLE:** Stormwater Master Planning and Inland Lake Watershed Action Plans

**ONE SENTENCE ABSTRACT:** This project proposes to further develop stormwater planning in non-regulated communities and Inland Lake Watershed Action Plans in New York and Vermont respectively.

**POINTS OF CONTACT:**

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

This project proposes to further develop stormwater planning in non-regulated communities and Inland Lake Watershed Action Plans in New York and Vermont respectively. Stormwater planning and lake watershed plans are critical steps in determining cost-effective approaches to mitigate negative impacts of stormwater, target pollution prevention, as well as identify opportunities for natural resource and habitat restoration projects. NYSDEC proposes to develop stormwater master plans for 1-2 non-regulated communities that have been identified in New York's draft Watershed Implementation Plan as needing assistance with stormwater infrastructure. Guidelines for stormwater master planning have been developed by VTDEC; similar guidelines will be followed for plans developed in New York. Communities that receive stormwater master plans will become eligible for further planning, design, and implementation funding through NYSDEC's water quality grant programs.

A Lake Watershed Action Plan (LWAP) is a comprehensive assessment of a lake watershed to identify areas of the watershed with the highest levels of nutrient/sediment pollution, stormwater runoff, and habitat degradation for targeting pollution prevention and natural resources restoration projects. Work includes project development and prioritization to target cost effective actions, via the identification of sources of water quality and habitat impacts, prioritizing these threats based on various environmental, economic, and social criteria, and designing projects to mitigate these threats. The LWAP results in a prioritized list of projects and strategies to address/mitigate stormwater runoff, nutrient pollution, and habitat degradation. The plan may also contain recommendations to preserve natural features and functions, encourage use of low impact green stormwater infrastructure, and maintain the aesthetic and recreational uses of lakes. The lake watershed areas that are assessed include, but are not limited to, tributary streams, roads, developed lands, lake shoreland, aquatic invasive species, and littoral habitat. To date, two LWAPs have been developed in Vermont (Lake Eden and Lake Elmore), and a number of other lake associations, including those representing lakes in the Lake Champlain Basin such as Lake St. Catherine and Lake Dunmore, have expressed interest in developing LWAPs. VTDEC Watershed Management Division views these plans as a useful tool to identify nutrient reduction projects in a watershed, support local organizations to implement these projects, and identify funding sources. LWAPs can also provide critical information to support local Harmful Algae Bloom (HAB) management plans. VTDEC has also modeled phosphorus reduction from lake-watershed management efforts in the Lake Champlain Basin, such as at Lake Carmi, and could provide estimated phosphorus reduction calculations for projects identified in these plans if

necessary. Any remaining funding in this project would go towards implementing identified projects. Additional implementation work may be proposed in future years as well to pursue the projects identified and prioritized in the planning activities described here.

Project **outputs** include development of Stormwater Master Plans (New York) and Inland Lake Watershed Action Plans (Vermont). Anticipated **outcomes** include reduced sediment and nutrient loading, and natural resource restoration after projects identified and prioritized in the plans are implemented.

**Timeframe**

October 1, 2021 – September 30, 2023

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

Objective I.B. Reduce Contaminants of Concern and Pathogens

Objective I.C: Reduce Nutrient Loading

Strategy I.C.3: Fund Programs to Reduce Nutrient Inputs from Developed Lands i. Task Area 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.

Objective II.A. Support Conservation of Vulnerable Habitat

Strategy II.A.1: Protect Important Riparian, Shoreland and Wetland Habitat Areas

**REQUEST AMOUNT:** \$400,000

**TOTAL COST WITH NEIWPCC INDIRECT:** \$400,000

**BRIEF BUDGET EXPLANATION:** Funds will be utilized for the development of Stormwater Master Plans (NY) and Inland Lake Watershed Action Plans (VT). Any remaining funding will be directed to implementation of priorities identified in the plans.

## **Lake Champlain Basin Program FY21 Conceptual Technical Task Description**

**TITLE:** Development and Review of Interstate Clean Water Project Tracking and Accounting Methodologies

**ONE SENTENCE ABSTRACT:** This project would support coordination and the development of a basin-wide approach for Clean Water Project Tracking and Accounting Methodologies that establish consistent pollution reduction values, phosphorus reduction estimates, as well as the Standard Operating Procedures.

**POINTS OF CONTACT:**

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Lauren Townley, New York State Department of Environmental Conservation  
(518) 402-8283  
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**DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, METHODS, AND TIMEFRAME:**

This project would support coordination and the development of a basin-wide approach for Clean Water Project Tracking and Accounting Methodologies that establish consistent pollution reduction values, phosphorus reduction estimates, as well as the Standard Operating Procedures for doing so. This project proposes to have an external review of Vermont and New York's Standard Operating Procedures that are under development. This assessment and review will identify where BMP tracking and accounting procedures could be better aligned between the two states so that Phosphorus reduction estimates and progress reporting for Lake Champlain is consistent and comparable across the entire basin.

Under the Clean Water Service Delivery Act (Act 76 of 2019), Vermont is required to publish methods to estimate phosphorus reductions for all clean water project types in the Lake Champlain and Lake Memphremagog basins by November 1, 2021. To meet Act 76 requirements and centralize all of Vermont's TMDL tracking and accounting methods, VTDEC's Clean Water Initiative Program (CWIP) has been developing TMDL Tracking and Accounting Standard Operating Procedures (SOPs) for each land use sector (developed lands, agriculture, wastewater, and natural resources). After the initial publication of Tracking and Accounting SOPs in late 2021, the state is required to periodically review accounting methods at least every five years to determine the adequacy or accuracy of pollutant reduction values and design lives. NYSDEC is concurrently developing a statewide BMP tracking database with SOPs that will account for project implementation in the Lake Champlain basin. While the database is being finalized, New York's SOP will be complete.

This project proposes to have an external review of the published Tracking and Accounting SOPs assessing the adequacy of pollutant reduction values, similar to the peer review process for scientific journals after Vermont's first publication of its SOPs. A comparison between NYSDEC and VTDEC's Tracking and Accounting SOPs will be needed to ensure basin-wide consistency. The states could use this external review to inform future revisions to SOPs and improve the state's overall TMDL tracking and accounting methods. This project would be able to build off of existing efforts and collaborative initiatives including LCBP projects that address accounting of soil and sediment phosphorus reductions, agricultural BMPs, as well as broader collaborative efforts such as the work of

the NEIWPCC Tracking and Accounting Collaborative to establish consistent methodologies within the region.

The **outputs** of the external review will identify where BMP tracking and accounting procedures could be better aligned between the two states so that Phosphorus reduction estimates and progress reporting for the Lake Champlain TMDL is consistent and comparable across the entire basin to support **outcomes** of regional coordination for consistent tracking and accounting methodologies to support informed decision-making and progress in meeting clean water targets for Lake Champlain Basin.

**Timeframe**

October 1, 2021 – September 30, 2023

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

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.c:  
Increase understanding of factors affecting BMP performance and efficiency. I.A.2.c: Assess progress of existing water quality management programs.

**REQUEST AMOUNT:** \$100,000

**TOTAL COST WITH NEIWPCC INDIRECT:** \$100,000

**BRIEF BUDGET EXPLANATION:** Funds will be utilized to implementation and external review of VTDEC and NYSDEC Tracking and Accounting SOPs, and pollution reduction estimates.

## **Lake Champlain Basin Program FY21 Conceptual Technical Task Description**

**TITLE:** Implementation of VT Municipal Roads General Permit (MRGP) Standards and NY Rural Roads Active Management Program (RRAMP) on Non-Regulatory Road Networks

**ONE SENTENCE ABSTRACT:** As a continuation of previous work completed to inventory and prioritize projects locations on non-regulatory road networks in both NY and VT, this initiative will support implementation of identified projects in high priority subwatersheds and any additional inventory work not covered under the pilot phase of this project.

**POINTS OF CONTACT:**

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

In FFY20, the Lake Champlain Basin Program funded the adoption of the MRGP inventory methodology for non-regulatory road networks (e.g., rural and municipal roads in New York and state forest, state park, and private roads in Vermont) to identify and prioritize best management practices (BMPs) to reduce phosphorus loads to Lake Champlain. The initiative proposes FFY21 funds to continue to support any additional inventory phases from the FFY20 project as well as be directed to implement the resulting prioritized projects. Inventory and implementation work will be targeted geographically to priority subwatersheds.

Vermont DEC's Municipal Roads General Permit (MRGP) program is a streamlined process for inventorying roads and prioritizing and constructing projects to improve water quality. This relatively simple framework was adopted in FFY20 with funding from the Lake Champlain Basin Program to incentivize road best management practices (BMPs) outside of the MRGP in Vermont. Vermont is adopting this framework on roads not covered by the MRGP, which represent 30% of Vermont road miles, including state forest roads and private roads. VTDEC data demonstrates unpaved road runoff is one of the largest phosphorus sources per acre, and road-related projects are among the most cost-effective actions to address loading from developed lands. In addition, road best management practices improve road resilience to large storm events. New York state is adopting a similar framework in partnership with Soil and Water Conservation Districts and municipalities, building upon the existing Rural Road Active Management Program (RRAMP).

Project outputs include construction of road best management practices to improve water quality and inventories of additional sub-watersheds.

Anticipated outcomes include reduced sediment and nutrient loading from road networks and access areas not covered by the Vermont MRGP and all the unregulated roadways in New York within the Lake Champlain Basin.

**Timeframe**

October 1, 2021 – September 30, 2023

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

Objective I.C: Reduce Nutrient Loading

Strategy I.C.3: Fund Programs to Reduce Nutrient Inputs from Developed Lands

Objective III.B: Support Water-Wise Economic Development

Strategy III.B.3: Support working landscapes that help protect water quality

Task Area III.B.3.a: BMP Implementation. Provide Financial and Technical Assistance to Support Practices that Help Protect Water Quality.

**REQUEST AMOUNT:** \$200,000

**TOTAL COST WITH NEIWPC INDIRECT:** \$200,000

**BRIEF BUDGET EXPLANATION:** Funds will be directed to implementation and additional inventories. The cost effectiveness of roads BMPs on hydrologically connected road miles to fully comply<sup>1</sup> with the MRGP:

- Cost of road inventories per mile: \$287<sup>2</sup>
- Cost of improvements per linear mile: \$68,490<sup>3</sup>
- Cost per TP load reduction unit (kg/yr): \$11,838<sup>4</sup>

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<sup>1</sup> Includes both change from not meeting to fully meeting standards and partially meeting to fully meeting standards.

<sup>2</sup> Based on VTrans-funded inventories and performance measures reported voluntarily by Regional Planning Commissions.

<sup>3</sup> Based on SFY 2018 Municipal Roads Grants-In-Aid results

<sup>4</sup> Based on SFY 2018 Municipal Roads Grants-In-Aid results

## **Lake Champlain Basin Program FY21 Conceptual Technical Task Description**

**TITLE:** Enhanced Agricultural Best Management Practice (BMP) Pilot Projects

**ONE SENTENCE ABSTRACT:** Development and implementation of several BMP pilot projects to fill gaps in existing state and federal funding opportunities.

**POINTS OF CONTACT:**

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

Agriculture provides one of the greatest sources of phosphorus loads in the basin. While many state and federal programs exist to assist agricultural operations, there are gaps in funding opportunities to achieve greater load reductions in the agricultural sector. The VTDEC and NYSDEC propose to support the development and implementation of several agricultural BMP pilot projects that will supplement other state and federal funding initiatives.

Addressing gaps in existing funding opportunities in Vermont could include BMPs such as enhanced agricultural land buffers. The phosphorus reduction benefits of riparian wooded buffers along agricultural fields are well known; not only do wooded buffers improve filtration, infiltration and uptake of field runoff, woody vegetation decreases erosion and the loss of legacy phosphorus from streambanks. While multiple programs exist to identify sites and plant trees (Trees for Streams, CREP, NRCS riparian buffer practice), there is very limited support available for the long-term comprehensive management of these buffers<sup>1</sup>. The ongoing success of a buffer is contingent on the implementation of multiple best practices including mitigation of deer browse and management of weeds. Additionally, the success of buffers may be increased by innovative planting methods, including denser populations, hydroseeding, diversification of species and greater preparation of the planting area.

New York proposes a pilot watershed-wide cover crop program. Existing federal and state programs in NY have not been effective for the implementation of cover crops. Cover crops require specialized equipment and short contract terms only encourage implementation for a 2-3-year period. Under these contracts, farmers are usually responsible for planting the cover crops themselves. The need for a regional cover cropping program was identified in the Lake Champlain Nonpoint Source Pollution Subwatershed Assessment and Management Plan. NY has piloted watershed-wide cover crop programs in the Chesapeake Bay, Genesee River, and Finger Lakes watersheds where federal or state funding has been dedicated to purchase or retrofit equipment that is shared across multiple counties and funds Soil and Water Conservation District staff time to plant cover crops on behalf of farmers. NY proposes to replicate and pilot this program in the Lake Champlain watershed.

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<sup>1</sup> USF&W Partners for Fish and Wildlife Program concluded 10 years of monitoring and reported that on average, only 48% of plantings survived on the 18 sites monitored across VT and also found that survivorship varied greatly across sites.

Project **outputs** would include implementation of agricultural BMPs that maximize phosphorus reduction that otherwise would not be implemented due to funding gaps.

Anticipated **outcomes** from this project include phosphorus reductions from one of the largest loading sectors and providing cost share to farms that otherwise may be unable to afford to implement BMPs due to the current state of the agricultural economy.

**Timeframe**

October 1, 2021 – September 30, 2023

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

Objective III.B: Support Water-Wise Economic Development

Strategy III.B.3: Support working landscapes that help protect water quality

Task Area III.B.3.a: BMP Implementation. Provide Financial and Technical Assistance to Support Practices that Help Protect Water Quality.

**REQUEST AMOUNT:** \$ 400,000

**TOTAL COST WITH NEIWPCC INDIRECT:** \$400,000

**BRIEF BUDGET EXPLANATION:**

It is expected the largest share of the budget will be for services/time provided by soil and water conservation staff and direct implementation project costs.

**TECHNICAL REFERENCES CITED:**

Lake Champlain Non-Point Source Pollution Subwatershed Assessment and Management Plan:  
<https://lclgrpb.org/blog/lake-champlain-non-point-source-pollution-subwatershed-assessment-and-management-plan/>

**Lake Champlain Basin Program  
FY21 Conceptual Technical Task Description**

**TITLE: Lake Champlain Aquatic Nonindigenous Species Information System Creation**

**ONE SENTENCE ABSTRACT:** Support the creation of a Lake Champlain equivalent of the Great Lakes Aquatic Nonindigenous Species Information System to enable geographic mapping and query of ANS in the Lake Champlain basin.

**POINT OF CONTACT:**

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

The creation of the Lake Champlain Aquatic Nonindigenous Species Information System requires a two-year graduate level student commitment to conduct literature reviews, herbarium and collections research and species first detection verification to populate and map data for the Lake Champlain watershed. Lake Champlain Basin Program and Lake Champlain Sea Grant propose to share support of the grad student and house the student at the University of Vermont.

The Lake Champlain ANS Information System will be created equivalent to Mills 1993 (the baseline research paper used as the initial quality baseline in creating Great Lakes Aquatic Nonindigenous Species Information System (GLANSIS) lists for the Great Lakes), brought to the present time -- preferably with earliest dates for each of the HUC8 level watersheds of the Lake Champlain basin. The graduate student will be required to conduct direct investigation of local museum/herbarium collections and enter findings into the Lake Champlain template model that mirrors GLANSIS. Dr. Rochelle Sturtevant has agreed to serve as a project advisor to the student/project. Dr. Kris Stepenuck will serve as the Lake Champlain Sea Grant project advisor. An initial evaluation and location of existing species specimen collections will need to be identified and investigated.

The project idea has been recommended by a collaborative effort between the Lake Champlain Basin Program and EPA Region 1, 2 and the Great Lakes office as a result of increased communications

about the geographical region's respective aquatic invasive species programs due to the passage of the Vessel Incidental Discharge Act in December 2018. The Act authorizes the Great Lakes Lake Champlain Aquatic Invasive Species Program.

In order for the student to provide the actual map data for the system, the individual would simultaneously collate the actual georeferenced species records into a database format. The U.S. Geological Society that operates the Nonindigenous Aquatic Species (NAS) national database is available to provide training and data-entry password to the database or can import data from a spreadsheet format.

If any species are identified that are not in common with the Great Lakes, impact assessments and additional information will need to be gathered to build species profiles. The profiles will be built off literature reviews. NOAA Library Research Service access will be provided to the student to conduct species profiles as necessary (for consistency, initial searches for species information for GLANSIS are conducted through this system with results in EndNote libraries to which grey literature from local agencies is added to write up syntheses) and NOAA GLERL can provide the templates (specific questions/methods for the assessments and an outline of the 'core information types' gathered consistently).

The master's student will work with LCBP and LCSG committees to review and evaluate the work product and coordinate with NOAA GLERL and USGS for technical support. The student will be asked to present project to regional stakeholders and travel to MI for professional development/GLANSIS model training.

**REQUEST AMOUNT: \$50,000 (total cost \$100K split between LCSG and LCBP)**  
Master's level student for two years

LCBP Cost break out:

\$25k for cost for master's student

\$8k

25.7 indirect

Travel

**TOTAL COST WITH NEIWPC INDIRECT: \$60,000**

**BRIEF BUDGET EXPLANATION:** Funding will support a MS-level student hosted by Lake Champlain Sea Grant at the University of Vermont for two years. Includes salary, travel, other related costs.

**TECHNICAL REFERENCES CITED:**

Great Lakes ANSIS: <https://www.glerl.noaa.gov/glansis/>