

LAKE CHAMPLAIN STEERING COMMITTEE MEETING SUMMARY

SEPTEMBER 23, 2020 9:45AM - 3:30PM (VIA WEBINAR/TELECONFERENCE, HOSTED BY QUEBEC)

ATTENDANCE:

STEERING COMMITTEE MEMBERS: Nathalie Provost (Meeting Chair, Quebec MELCC), Joe Zalewski (NYS DEC), Pete Laflamme (VTANR for Julie Moore), Vic Putman (Chair, NY CAC), Pierre Leduc (Chair, Quebec CAC), Mark Naud (Chair, VT CAC), Buzz Hoerr (Chair, E&O Committee), John Krueger (Chair, HAPAC), Neil Kamman (Chair, TAC), Mel Cote (EPA R1), Mario Paula (EPA R2 for Rick Balla), John Thurgood (NRCS VT for Vicky Drew), Christina Marts (NPS), Daria Mazey (USACE), Andrew Milliken (USFWS), Breck Bowden (Lake Champlain Sea Grant), Steve Garceau (Quebec Ministère des Fôrets, de la Faune et des Parcs), Gerardo Gollo Gil (Ministère de l'Agriculture, des Pecheries et de l'alimentation), Ryan Patch (VT AAFM for Alyson Eastman), Laura Trieschmann (VT ACCD), Craig DiGiammarino (VTRANS).

STAFF: LCBP: Eric Howe, Jim Brangan, Colleen Hickey, Ryan Mitchell, Elizabeth Lee, Meg Modley Gilbertson, Matthew Vaughan, Lauren Jenness, Mae Kate Campbell; Heather Radcliffe (NEIWPCC), Jean-Francois Cloutier (Quebec MELCC), Koon Tang (NYS DEC), Lauren Townley (NYS DEC), Julie Berlinski (NYS DEC), Sarah Coleman (LCBP VT ANR), MaryJo Feuerbach (EPA R1), Bryan Dore (EPA R1), Maya Dehner (USACE),

GUESTS: Tom Berry (Sen. Leahy's office), Chris Sabick (LCMM), Rifat Salim (USACE), Philip Smith (Mayor of Whitehall, NY USACE 542 Project), Daniel Hofman (USACE 542 Project), Dag Madara (Whitehall USACE 542 Project), Dexter Lefavour (USACE 542 Project) Stephen Couch (USACE), Brendan Newall (Whitehall USACE 542 Project)

Nathalie Provost (Quebec MELCC) Chaired this meeting

MEETING BEGINS INTRODUCTIONS.

10:00 AM

APPROVAL OF MINUTES FROM PREVIOUS MEETING

ACTION ITEM: APPROVE MEETING MINUTES FROM JUNE 11, 2020 STEERING COMMITTEE MEETING

- Motion By: Neil Kamman
- Second by: Mel Cote
- Discussion on the motion: Joe Zalewski, Neil Kamman, and Breck Bowden provided an attendance update and a few minor spelling/sentence flow corrections. Eric Howe incorporated the edits into the meeting minutes.
- Vote: all in favor
- **Abstentions:** John Krueger and Nathalie Provost abstained as they were not at the meeting.

USACE SECTION 542 PROJECT REVIEW (MEG MODLEY GILBERTSON, DARIA MAZEY, AND PROJECT APPLICANTS)

10:10 AM

Meg Modley and Daria Mazey introduced the projects. Both projects were reviewed by the LCBP TAC and Executive Committee and recommended for approval by the Steering Committee. The Steering Committee's objective is to approve the projects and make a prioritized recommendation for funding.

- The Committee recognized that too much stormwater entering WWTFs should be addressed and is a topic being discussed in the public.
- This project will make repairs to the existing sewer system and install many new components for the stormwater system. The goal of the project is to improve water quality in a cost-effective

manner. The detailed design will address how stormwater can be retained and be more complex than a simple separation between the stormwater and sewer systems.

 USACE will update the Steering Committee as the project progresses. It will be a phased implementation and construction will be under a different agreement unless USACE has the funding to do all at once.

WHITEHALL WWTF

• Dag Madara provided an overview of the stormwater/wastewater treatment facility project in Whitehall, NY proposed through the Section 542 Program.

VERGENNES CITY WWTF

Daria Mazey provided an overview of the City of Vergennes, VT wastewater and stormwater improvement project. No questions were asked by the Steering Committee

ACTION ITEM: TO APPROVE THE WHITEHALL PROJECT FOR SECTION 542 CONSIDERATION.

Motion By: Vic PutnamSecond by: John Krueger

• Discussion on the motion: none

Vote: All in favor.Abstentions: None.

ACTION ITEM: TO APPROVE CITY OF VERGENNES PROJECT FOR SECTION 542 CONSIDERATION.

Motion By: Breck BowdenSecond by: Buzz Hoer

• Discussion on the motion: none

• Vote: all in favor

• Abstentions: Neil Kamman

PUBLIC COMMENT 10:30 AM

None.

HISTORY OF THE STEAMBOAT PHOENIX (CHRIS SABICK, DIRECTOR OF RESEARCH AND ARCHAEOLOGY, LAKE CHAMPLAIN MARITIME MUSEUM)

Chris Sabick presented on the discovery of the paddlewheels from the Steamboat Phoenix and the history of the Phoenix itself.

- The *Phoenix* was the second commercial steamboat on Lake Champlain, built by the Lake Champlain Steamboat Company and launched in 1815. The steamboat ferried people and goods between Whitehall, NY and St. Johns, Quebec, making several stops at points along the route. The steamboat burned en route to Burlington from Plattsburgh, NY on September 4, 1819. Several lives were lost. The wreck is now part of the Lake Champlain Underwater Historic Preserve, maintained by the VT Department of Historic Preservation (VDHP) in partnership with the Lake Champlain Maritime Museum (LCMM). The paddlewheels were recently discovered in summer 2020. The LCMM, VDHP and partners have been conducting an archaeological investigation into this new expansion of the wreck site since confirming the discovery, and is developing a management plan for the protection and conservation of the paddlewheels.
- John Thurgood: Has the boiler been found?
 - o Jim: Yes. The steam engine and boiler were recovered and used for Phoenix II!



- **Buzz:** If you found 2 of the wheels really close to each other, can you tell what happened that would have made them drop off?
 - Chris: nothing obvious from what we've seen so far, assumption is as the boat was burning furiously, wheels were hanging off the side of the boat, as the center of the boat burned and those structures weakened, the wheels would have sagged and just fallen off. The boat must have been burning for a long time before the wheels fell off as the boat continued to burn and drift towards Colchester shoal.
- **Neil:** Really interesting, simple fact that this footage comes from 2 weeks ago is amazing. Would it be conceivable to drop an ROV under ice while the lake is calm and get better imagery?
 - Chris: discussed before, interesting idea but not one we've ground truthed. Visibility is often greatly increased through the ice in diving situations. Video we have so far has a lot of backscatter because the camera and light are right next to each other. Went back later and got slightly better footage. With proper technique I think we could get even better imagery without waiting for ice over.
- **Chris**: this is a great example of the working relationship we're trying to develop with organizations and lake researchers outside of the Basin. Our interaction with Gary on this case if proof that we've been making good efforts and they're starting to pay off.
- Eric: I will keep an eye out for opportunities to host the SC at Basin Harbor and offer a tour of the Maritime museum to the SC.
- Jim: The report can be downloaded here: https://www.lcbp.org/wp-content/uploads/2020/09/CVNHP-Phoenix-Paddlewheel-Discovery-Report.pdf
- Mel Cote: Great presentation I really appreciate learning more about the history of this region.

BRIEF UPDATES 11:05 AM

CONGRESSIONAL UPDATES

- Sen. Leahy's Office, Tom Berry: Fiscal Year 2020 ends Sept 30th and we have not made progress to adopt FY21 spending bills. The House sent a Continuing Resolution that would extend the budget through December 11th to the Senate and the Senate will vote on it. There is no appetite from Congress or the White House to shut down the government and the expectation had been that approval of CR would be straightforward. However, with the rush to approve a supreme court nominee with the President committed to nominating a justice this weekend and Republicans supporting this, Democrats are motivated to slow all process down to prevent this from happening, which may impact the timing of the CR, though it is still expected to pass. In addition, a new headquarters building for Green Mountain National Forest staff is being built on National Forest Service land in Mendon, VT.
 - For FY21, Senator Leahy's approach to language on TMDL funding would be to set aside funds for TMDL implementation with some of the funds going to the State of VT for that purpose, like in FY20. Hopefully the budget will be significant enough to fund FY21 at the same or greater amounts as FY20 for the geographic areas programs as well as the funds that go through the Steering Committee process for the LCBP. Staff do usually have the budget numbers now, but there has been no progress yet.
 - Should the US election move the Senate to a Democratic majority, Tom believes Leahy would move to be the Chair of the Appropriations Committee. That would mean that the opportunity for Leahy to influence appropriation bills would be at the highest it's ever been within the federal budget framework. It would be very good news for Lake Champlain.

UPDATES FROM PARTNERS

 USACE, Daria Mazey: Written updates will be circulated. I have accepted another USACE position in California and this will be the last Steering Committee meeting I attend. I will virtually pass name tag to Maya Dehner who will be taking over my role at both the Steering and Executive Committee meetings. Rifat Salim will continue to be involved. It's been a real pleasure working with all of you and I'm proud of the work that we've done to successfully move this program. Know that the work will continue in great hands. If you are in LA call!



- Committee members thanked Daria and wished her the best of luck. They appreciate the progress made with funding 542 projects in the Basin under her leadership and assistance.
- NYSDEC, Joe Zalewski: progress continues on hiring of Lake Champlain Basin coordinator. Hope we
 will have appointment in place before next the Steering Committee meeting. Thank Daria for her
 service.
- QC MELCC, Nathalie Provost: written updates have been provided.
- VTANR, Pete LaFlamme: written updates have also been provided. VTANR is still in telework environment through end of Dec. Have 2021 budget. Biggest news is issuance of 3-acre permit and completion of all out phase 1 tasks of TMDL
- **EPA R1, Mel Cote:** With the implementation of the 3-acre permit, EPA R1 sent a letter to the State congratulating them on that and giving passing grade on completion of milestones. EPA R1 also recently approved Vermont's 303d list and management plan update, VT did a great job.
 - Bryan Dore: thanks everyone on the hard work in getting funding applications in.
- **EPA R2, Mario Paula:** grants for this cycle should be out today or tomorrow. Happy to hear that there's good movement on getting the coordinator position filled.
- NRCS VT, John Thurgood: submitted written update. Coming onto end of fiscal year, have obligated 350 contracts totaling 11 million, close to all funds we've been given this year which is good. Field offices are open by appointment. Have been able to service and support farmers and forest landowners. Had a strong year with easements. USDA association of Africans living in Vermont have received urban agriculture grant to help new American farmer community in Burlington area to improve health of soil and nutrient management. Calls for establishment of mentors, look forward to the great work that will be happening. VT Ag received 7-million-dollar grant, for an alternative funding arrangement to pay for ecosystem services on the part of farmers, Vermont Pay for Phosphorus program. Planning for next year: working lands committee meeting Oct 6 and state technical committee Oct 21st.
 - Committee members requested more information be shared about the Pay for Phosphorus program at an upcoming meeting. This is the first time NRCS has implemented such a program.
- USFWS, Andrew Milliken: written updates have been submitted. Lake Champlain office field staff
 were able to get to field starting June 1 and were able to complete habitat restoration projects that
 were intended despite COVID. Salmon restoration, marking all salmon that are stocked in Lake
 Champlain, will allow us to fully understand how different stocking locations work to restore natural
 reproduction. Sea lamprey scheduled to move forward in four Vermont tributaries. Wanted to thank for
 help from MELCC, Meg Modley, Quebec colleagues. Hoping for more water because without it we
 can't do treatments and salmon can't return to river.
- NPS, Christina Marts: In August our inaugural Paul Bruhn Historic Revitalization Grant Program
 provided 4.8 million dollars nationally and the land trust of Vermont received some of the funding. The
 grant specifically supports historic preservation in rural communities and is structured to award grants
 to organizations that provide subgrants for community-based historic preservation efforts. The
 Saratoga National Historical Park will have new leadership in the coming year filling in behind Amy
 Bracewell who has taken a superintendent position at another site
- TAC, Neil Kamman: TAC is making great progress on projects for this year. Two big NY projects were approved. Approved budget summaries for core projects. Also looking at TAC vacancies, waiting for results of Basin programs DEI initiatives to apply to TAC.
- **E&O Committee Buzz Hoer:** Congrats to Colleen on EPA lifetime achievement award. We all appreciate it. See written submission. Main point is the success of the AIS art sail on the Burlington waterfront, great event, great news coverage.
 - Colleen: staff has been attending events in August and September, suffrage events.
 Resource room is open. Still been running full tilt despite COVID.
- **HAPAC, John Krueger:** Jim provided updates, want to highlight it's the 10th year of CVNHP's International Summits. This year it's gone virtual with 3 knowledge cafe sessions. First one was



successful. Information is in handout. On October 12th, 2021, the CVNHP will be grandfathered out of existence if things don't change.

- NYCAC, Vic Putman: The NYCAC has not met since the last Steering Committee Meeting. The next meeting is planned for November 30th.
- QCCAC, Pierre Leduc: given TAC priorities and Executive Committee discussion, approval process for binational analysis of P on Rock river decision expected by end of year. Our Boat Launch Stewards this season been very busy, started July 9th but almost had as many visitors as 3 previous years combined. That coupled with demo of boat washing station led us to organize meeting with towns around Lake to see what could be done to have common regulation and mandatory boat wash and a sticker to prove the boat has been washed. Will follow up in next few months.
- VTCAC, Mark Naud: Our first meeting was 9 days ago, had some good presentations. Welcomed Sarah Coleman. We are planning our next meetings as we prepare for delivery of legislative annual report. Special thanks to Lauren for all her help.

REVISIT LCBP CAC COORDINATOR POSITION (ERIC HOWE)

11:45 AM

Eric Howe stated that in the April meeting, the Steering Committee approved funding for a new Citizen Advisory Committee Coordinator position within the LCBP. The Steering Committee asked to revisit this budget item again during this September meeting, in case the budget outlook is not good. If it appears that there are a number of Steering Committee members who are still concerned about this position, we can ask for a new vote to support or remove the position from the budget.

NYS DEC was supportive of this position when we talked about it during the April Steering Committee as we believe it will be helpful to reinvigorate the committees and get more watershed stakeholders involved. NYSDEC is still voicing support for this position.

LUNCH 12:00 PM

LCBP UPDATES 12:30 PM

- Eric Howe: highlights from written updates include our Boat Launch Steward program is mostly wrapped up, a smaller number of staff are still working on weekends in high traffic areas. We have seen a large increase in traffic across the board at the launches, unsurprisingly, COVID relief grants are all wrapped up. We had extra funding for a potential second round, but we are hearing that watershed groups are in much better shape so not planning to issue another round of grants. Will continue to hold those aside in case something happens with the pandemic. Grant writing workshop was a huge success, thanks to Lauren.
- Mae Kate Campbell: LCBP has reached out to a number of DEI consultant groups and solicited scopes of work from two of them. A meeting will take place later this week to choose. The chosen consultant will help us with a cultural needs assessment of LCBP and develop a series of metrics for our organization and assistance in the creation of the strategic plan. Staff have been revisiting public safety messaging and identifying appropriate languages to translate in the basin. A group of UVM students in Natural Resources undergrad program will be exploring how marginalized communities can better connect to the lake. Staff will also be presenting to the Cultural Brokers program, hoping to gain resources from the group. Staff have also participated in a number of staff trainings and discussions, thank you to USDA-NRCS VT for hosting a very successful workshop.
- IJC flood study: Mae Kate has stepped into role of interim study manager for Rob Flynn. Study is holding public meetings next week (30th in English and 29th in French). A series of technical webinars will follow for the public, such as modeling work and proposed structural solutions to address flooding. The Study is looking at addressing structural solutions, diverting excess water through Chambly Canal and report on that will be released by the end of the year. Report findings based on modeling work indicate that there is not enough land area in the basin to address flooding



via wetlands. The Study is expected to make recommendation about preserving wetlands but will look at other types of floodplain storage options as well.

- A presentation on this study will be an agenda item at an upcoming Committee meeting.
- Committee members will be able to input public comments during the upcoming public
- Eric: recognition for Colleen Hickey was awarded EPA Lifetime Achievement award. EPA also put together video highlighting award recipients, links:
 - https://www.youtube.com/watch?reload=9&v=7MEFhVWnh-0
 - o https://www.epa.gov/environmental-merit-awards-new-england/2020-environmental-meritaward-recipients#LifetimeAchievement
 - o Committee members congratulated Colleen.
 - o EPA added that the lifetime achievement award is a very select group and we are happy to add Colleen to that prestigious list.

LCBP FY21 BUDGET PROCESS

12:45 PM

Eric Howe described that the FY20 budget process was wrapped up in April and since then advisory committees, staff, and partners have talked about budget priorities for FY21. The goal today is to have Steering Committee approval for the priorities listed within the HAPAC and TAC RFPPs. The Education and Outreach Committee is in the process of creating a new general RFP for their portion of the budget. The Steering Committee will also need to conditionally approve the core project and requested line items for the FY21 budget. Eric reviewed the calendar for this new budget process, as requested by the Executive Committee.

HAPAC RFPP PRIORITIES (JOHN KRUEGER, JIM BRANGAN)

John Krueger first described how the CVNHP legislation is sunsetting. Jim Brangan then described the HAPAC RFPP priorities.

- John: Before there was the Champlain Valley National Heritage Partnership (CVNHP) and a Heritage Area Project Advisory Committee (HAPAC), all of our money came from the EPA and it was only \$25-30K a year, mostly going to the Lake Champlain Maritime Museum. The creation of the CVNHP prompted the founding of the HAPAC. We have gotten a lot more money than the early days, but not anywhere near what was envisioned when the legislation was passed. GLFC has provided additional funding, allowing us to expand activities into Quebec. Unless things change, all this will come to an end next October. The CVNHP will no longer have NPS funding, this could very well be the last budget cycle that we participate in. We want the Steering Committee to be aware of the situation because many important decisions will have to be made. By Basin program standards, our modest budget has made an enormous difference over a very large area.
- Jim: since 2006 we operated the Heritage Area much the same was the Basin Program does, by getting the funds out to partners on the ground. We have awarded \$1.5 million and received \$2.5 in match. We will be working until the end, and hopefully we will get an extension from Congress. This year the heritage area is focusing on suffrage, next year we focus on temperance, prohibition, and smuggling. In 2022 we hope to emphasize the 50th anniversary of the passage of the Clean Water Act though our Conservation and Community theme. The CVNHP grant program will offer grants up to \$40K for programs that bring in all three CVNHP jurisdictions, and smaller grants for individual organizations and communities. We will plan to have a grant category for museum collections (inventory, UV protection, interpretation, etc.), a grant category focused on teaching students (going to historic sites in community and interpret through the arts, etc.) and lastly an internship grant program. Many organizations have directors and staff approaching retirement, so we want to fill those roles. I plan on talking to our federal partners about this topic and CVNHP will hold a knowledge cafe about the Clean Water Act for brainstorming how to talk about changes that have happened since 1972 in 2022.
 - Breck: the CVNHP and HAPAC have clearly been a huge complement. Is the sunsetting legislation a normal part of the process or a consequence of budgets?
 - Jim: when the partnership was established, they had a 15-year sunset. We have been acting as a fully funded heritage area since 2012. The sunset terminology is written into



- our legislation, and there are 30 other National Heritage Areas set to sunset in 2021 so those organizations are trying to get this legislation passed as well. There are only 2 heritage areas that do not have a build in sunset.
- Tom: Leahy was an original co-sponsor of this legislation. He will be tracking this going forward. There is always a chance to get a lot done at the end of a Congress, there might be a window to pass a bill then if there was unanimous consent. Otherwise it will be a priority for Leahy going into the next Congress. Sen. Sanders is an increasingly senior member of energy and NR committee and his staff is tracking this as well. We will do what we need to next year on this.
- **Jean Francois:** QC MELCC staff do not know much about culture, but we do know stuff about botanical endangered species. Perhaps the CVNHP could you reach out to the QC Culture Ministry? Maybe this could lead to some sort of partnership.
 - Nathalie: Yes, the Quebec government has some programs that could link with the work of the CVNHP. We should have a meeting together. We could create a little task force around John and Jim to see what we can do.
 - Pierre: Thanks for bringing this up. I was going to ask what we could do in Quebec to help.
- **Eric:** I will add that the HAPAC has been thinking about how a new part-time LCBP staff member could support Jim's work with the Champlain-Adirondack Biosphere Reserve. There may be opportunity to align that with CAC coordinator position. The sequencing is not quite right at the moment, but looking ahead to a year from now, if that suggestion were to move forward could be a way to turn the 80% CAC position into a 100% position.

EDUCATION & OUTREACH GENERAL RFP (BUZZ HOERR, COLLEEN HICKEY)

The E&O Committee was asked to come up with thematic ideas for the redevelopment of our budget process at our most recent meeting. We discussed that the biggest issue we would like to tackle would be how to communicate the great work we and our partners are doing to all partners and the public. LCBP does have a YouTube channel and in the past have funded movie theatre ads. For years we had a relationship with WPTZ for the "Champlain Connections" series. However, technology is now changing rapidly on social media, especially because of COVID. The use of videos on social media has exploded recently and people are transitioning to this method of communication to learn about many topics. We need a transition to social media to reach younger audiences, though I recognize we do not have a giant ad budget and LCBP staff are working full time on existing projects and programs. LCBP staff are well versed and have good connections with groups and it might be a good time to increase our capacity within the LCBP team to set up a system to better communicate to grantees and partners how to communicate successes and get the message out to the public. It may be best for LCBP to focus on the distribution aspects of this communication. The E&O Committee is going to flesh this out over the next few weeks and float ideas, which may include the recommendation to add an additional staff member. We will also be polling the committee to see if members have key priorities they would like to suggest and look for major themes. At this point we are leaning toward having a big grant packet as it is always good to have an open-ended grant program with priorities set. We request that the Executive Committee approves our priorities once they are summarized after our meeting.

TAC RECOMMENDED PRIORITIES (NEIL KAMMAN, MATT VAUGHAN)

Matt Vaughan provided background on the request to Steering Committee Members and Neil Kamman shared the TAC's recommended priorities.

• Matt: We will review and approve the FY21 priorities for the RFPP. This is the 4th year we have gone through this process and TAC likes it and has worked out well. Through the RFPP we will ask partners to submit pitches for projects ideas addressing anything in LCBP's guiding document, Opportunities for Action. Today we are asking you all to identify priorities so applicants can see what you are asking for in any given year. I have the previous year's priorities if there are questions, otherwise we will forge ahead. TAC had a brainstorming session to think of knowledge gaps, the Executive Committee heard from the TAC about what they liked, the TAC looked at them again, and finally the Executive Committee finalized the list you are seeing. This is the FY21 budget cycle, for



- projects starting in winter 2021 to 2022. In the past this has totaled $\frac{1}{4}$ - $\frac{1}{3}$ of the entire LCBP technical budget.
- **Neil:** shared and walked through the priorities document. Neil noted that the TAC is interested in the creation of a binational committee targeted at Missisquoi Bay (a recommendation from the IJC report) but did not see the need to make it a priority in this RFPP.
 - Tom: It was announced last week that the State of Vermont is getting a \$7Million grant to demonstrate implementation for a Payment for Ecosystem Services (PES) for Phosphorus Reduction model. Would this change the TAC RFPP priority for PES?
 - Neil: that grant award announcement bumped that priority up in our conversation. That grant is for a pay for performance model, and the TAC wants to get beyond the quantified \$10 for gram of Phosphorus to have a payment schema for flood resilience, carbon sequestration, etc.
 - Ryan: This bullet point was articulated by the PES working group. Paying for phosphorus is a narrow slice of the work that farmers and stakeholders feel can be derived from managing cropland in a beneficial way to reach these goals. The grant will help advance part of this, but there exists a larger interest in the ag community for similar models focused on areas besides phosphorus.
 - Tom: We are diving strongly into PES focused on phosphorus. Flood resilience is worth looking into. However, I think we would want to be sure we would be adding value with the work we could do for carbon sequestration. We need to make sure any area we focus on is an OFA priority. I recognize it is important, but we need to keep the focus on what is doable with the resources we have in hand.
 - Andrew: I would like more information and an explanation of the background on the conservation and restoration research priority.
 - **Matt:** this is a copy and paste from last year's Steering Committee approved priority list. The priority attracted a lot of proposals even though it was a bit broad.
 - Meg: It would be fantastic to have more detail in this priority if Steering Committee members wish. While a broad scope can also be good, if there is something you would like to see added we can adjust the priority.
 - Andrew: I would need to talk with USFWS staff before making a suggestion.
 - Matt: The timeframe to do that is a bit tight as the goal of today's meeting is to have an approved set of priorities for the Technical RFPP which is set to be released on 9/29. If the Steering Committee would like to leave space for a specific species of interest LCBP staff can work with that if it's part of the motion.
 - Tom: At the Executive Committee meeting I raised the concern of having the priority of geomorphic assessments being put forward only to the NY side. At that meeting I got the background that there's greater need on the NY side, but that could be sorted out through a thoughtful review process. It might not be necessary to have any priority being exclusive to one side of the Basin. The phrasing should be changed to give the emphasis to areas in need, while not dismissing the idea that there could be a need to do the assessment on the VT side too. I strongly support the priority and thing that the stream geomorphic assessments are some of our best work in the basin.
 - Koon: I agree with Tom. I think originally, we were thinking just about streambank erosion, but Neil helped broaden to include downstream impacts. The questions is how do we highlight just enough priorities and get good proposals without letting a lot of people get disappointed when learning that their project that meets a priority doesn't get chosen for funding.
 - Tom: Would the reason to shorten this priority list be to help ensure we don't put people through the effort and then not fund the projects?
 - Matt: that is the main goal. We've had years when there were many broad priorities and applicants said it was difficult to hone in on. I'm encouraging you all to think about what you'd ultimately want to support when the time comes in April to approve the projects.
 - Tom: Studying de-icing alternatives in conjunction with Sea Grant is an area where
 we could have a significant impact. I also think the emerging contaminants priority is
 important. While funding is never unlimited, I am hopeful there might be an increase



to what the Steering Committee has to allocate, so we might have a reasonable opportunity to move a few notches further down the ranked list.

- Breck: I would like to speak to the last three of these priorities. Sea Grant has been working with partners on road de-icing alternatives. A major focus for the pending EPSCoR project has an emerging contaminants piece. While some of these listed priorities might be covered elsewhere, we could also consider this list as opportunities to leverage. The Federal Partners Workgroup has been exploring the idea of Environmental Sensitivity Index Mapping. If we didn't have an opportunity to solicit funding I'm not sure if we think that's a priority that we'd want to invest in at all, so strategically, is that something we want to keep there or not? I would encourage keeping the ESI priority on there. I'm not sure we need to wait a year to have the road de-icing priority but we could probably wait on the emerging contaminants one until the EPSCOR project results are in.
 - Andrew: I do think that the ESI priority could result in a reasonably low-cost proposal
 that would help us make progress on ESI. If the Steering Committee doesn't support
 it here, the Federal Partners might need to reconsider our approach.
 - Pierre: I want to add in my support for the ESI mapping priority. We had several QC CAC meetings a few years ago where this was always a big worry.
- Neil: I have a question for Koon and Pete: is there any desire to expand list of emerging contaminants of concern?
 - Pete: I think the list is broad and are the areas of interest. The research would be a significant undertaking and I wonder if the time is right given some of the other priorities. There is a lot of national research going on around these contaminants.
 - Lauren: Agree with Pete. There is a lot of NY research happening on PFAS. I would want to see the outcomes of that research before that gets prioritized in this Tech RFPP. Digging into existing NY research would be helpful.
 - **Neil:** I'm hearing that Tom wants to maintain this priority but I'm hearing from State partners that this might be covered.
- Andrew: I have a question for Breck: Are there ongoing Sea Grant projects that we should wait and see the results of before we make those topics Tech RFPP priorities?
 - Breck: Sea Grant is actively working with partners on education about road salt reduction, but not research on it per say.
- Tom: I'm wondering if the States are involved in microplastic research. PFAS is a large comprehensive concern not specific to the Lake. Plastics in general I think is something that could stand another look at on Lake Champlain as there is a lot of docking and mooring materials, and in other water bodies plastics are a known concern. Might have an impact on the scale of the watershed.
- Nathalie: from the Quebec point of view, we are interested regarding PFAS as it relates to an
 issue with Lake Memphremagog. If we learn something here we could import the research
 there. It might not be a first priority, but it remains of interest to Quebec.
- **Matt:** I'm looking for confirmation that the Steering Committee is comfortable advocating for 6 priorities, which is more than in previous years.
- **Neil:** I wonder whether the Steering Committee wants to consider giving enough points to priorities so that if we get a technically sound project that comes under one of these priorities, we would definitely fund it. This would make it so that people who put the time into addressing these priorities have a better shot at getting funding.
 - Tom: between the ever-increasing priority budget and the fact that we have some significant competitive grant programs that the Steering Committee has no role in, if we structure it in that way there's no point bringing it back to the Steering Committee. It seems like the Steering Committee has less and less each year where they are making the decisions. I would argue against that idea we convert it to competitive grant program and let the TAC administer.

(JUMP BACK TO TAC RECOMMENDED PRIORITIES)

Matt Vaughan presented the Steering Committee with an updated list of priorities based on the conversation.



- Andrew: I did have a couple quick conversations about the conservation and restoration priority, and I do not think we need to make it more specific.
- **Breck:** Is the focus of priority five really on mercury or should it be broadened to something like 'heavy metals'?
 - Neil: I do not think there should be a focus on mercury until the next mercury survey in 2022.
 - Breck: I would be interested in adding pharmaceuticals and personal care products. I
 would argue that mercury is not an emerging contaminant. What are we trying to learn?
 - Nathalie: I think this suggestion is very good.
 - Breck: I would endorse keeping it simple, can stop at contaminants.
 - Eric: these projects will start their field season in 2022.
 - Neil: That's a good point. If we want to do a survey on mercury, we should probably specifically do it not through this process. I know we do not want to go back to individual RFPs but that's another possibility.
 - Eric: every 5 years the basin program supports an assessment of mercury in sport fish tissue. This funding cycle will put us into 5 -year window. Might want to include a specific priority in this RFP about the Hg fish survey.
 - **Breck:** The point of this RFPP is to solicit ideas from the research community. Wouldn't it be handled by a specific RFP since it's not an idea we're soliciting, we want them to follow the same methodologies as before?
 - **Neil:** We could call out that idea specifically. We can craft the language offline, so we don't have to issue another RFP on top of this RFP.

TECHNICAL CORE PROJECTS (LCBP TECHNICAL TEAM)

Matt Vaughan and Meg Modley reviewed the Technical Core Projects FY21 Line-Item Requests.

- Full descriptions of the proposed Core projects are included as attachments to this meeting summary.
- The Committee discussed the accessibility of the Boat Launch Steward Program decontamination stations and Meg explained how LCBP is hoping to add a station at the high-trafficked Malletts Bay launch.
- The Committee requested an update on the results of the NY Agronomy Project and Lauren Townley agreed to help set that up.

REQUESTED LINE ITEMS (NY DEC, VT ANR, LCBP)

Sarah Coleman, Lauren Townley, and Meg presented the FY21 Line-Item Requests

- EPA Region 2 stated they are fully behind the ANSIS project as it will be a great underpinning to get things moving once VIDA appropriations are received.
- The Committee discussed the significant increase in the State line-item requests as compared to other years (\$1.4M in FY21, \$800,000 in FY20, and \$260,000 in FY19). Members advocated to move some of the requested projects into a competitive grant situation.
 - The Stormwater Planning and Inland Lakes Watershed Assessment line items can be listed as a Technical RFPP priority rather than a line item.
 - The Agricultural BMP line-item is a top priority for both States. It can be placed as a priority within LCBP's annually released Enhanced BMP grant category as long as (1) the total funding amount to that grant category is raised to accommodate an increase in projects being funded, (2) the grant category articulates the priorities of the States within the RFP and (3) the review process does not compete stormwater projects against agriculture projects.
 - The Committee advocated to keep the Forest P Load Allocation project within the State line-item budget.

 Over the next few months LCBP will work with the States on other priorities and create a cohesive and effective plan for the Executive Committee to review in March.

<u>ACTION ITEM:</u> TO APPROVE THE FY21 PRIORITIES FOR TAC AND HAPAC AND AUTHORIZE THE EXECUTIVE COMMITTEE TO APPROVE THE PRIORITIES FOR THE E&O REQUESTS FOR PROPOSALS. TO CONDITIONALLY APPROVE THE CORE AND LINE ITEM PROJECTS AS DISCUSSED.

- Motion By: Breck BowdenSecond by: Neil Kamman
- **Discussion on the motion:** There will be additional discussion on the agricultural bmp priorities and where that funding will come from.
- Vote: all in favorAbstentions: None

ADJOURN 3:30 PM

MEETING OUTCOMES:

- 1. Approval of the Meeting Summary from the June 11, 2020 Steering Committee meeting
- 2. Approval to support the two proposed projects for USACE Section 542 Program consideration
- 3. Approval of FY21 technical and heritage program budget priorities for the Requests for Preproposals
- 4. Authorization of the Executive Committee to approve the FY21 Education & Outreach budget priorities for the Request for Proposals
- 5. Approval of the Technical Core Project budget summaries
- 6. Conditional approval of the FY21 budget line items

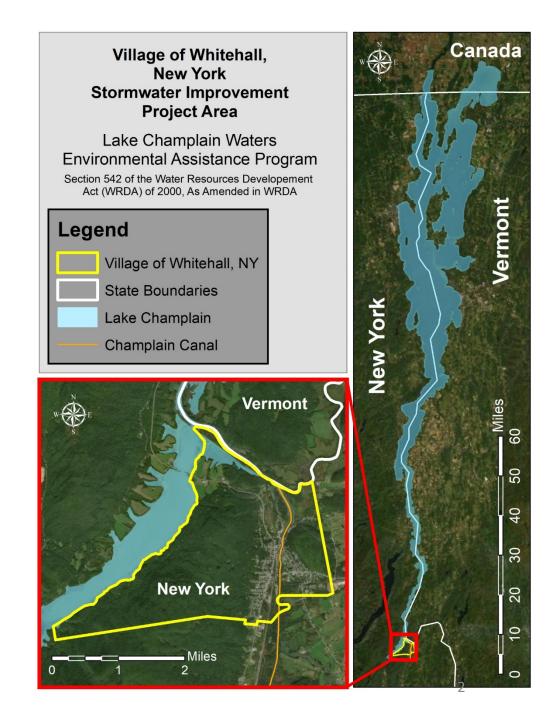
Section 542 Environmental Assistance Program Project Summary Briefing to LCBP Steering Committee Whitehall, NY - Stormwater Improvement Project

September 23, 2020

Presenter: Dag Madara (USACE)

Village of Whitehall, NY

- Population 2,558 (June 2020)
- Village was founded in 1759, and incorporated since 1806
- The historical birthplace of the U.S. Navy
- Geographic Location: Southern end of the Lake Champlain watershed in Whitehall, NY



Village of Whitehall, NY

- Sewage Collection System was built 1930s 1970s
- Sewer System is about 17 miles, 400 manholes
- Original sewer built to convey both stormwater and sewage w/o treatment
- Wastewater Treatment Plant was built around 1977
- Capacity = 0.6 mgd

The Problem

- Age of Sewer 50 to 90 years old
- Excessive infiltration due to leaky pipes and manholes
- Excessive inflow from basement sumps in areas with high groundwater
- Treatment plant often overwhelmed during rain causing bypass
- Sewers overwhelmed with stormwater causing overflow through manholes

Proposed Solution – Phase 1 Completed

- Proposed Solution includes a 4-phase plan to reduce inflow and infiltration
- Phase 1 was completed in 2019 reduced peak inflow by 28%
- Phase 1 work included:
 - Sanitary sewer system evaluation (2009)
 - Improved tracking of surcharging in manholes
 - Eliminated cross connections to reduce manhole surcharging
 - Replacement or installation of storm sewers at Elizabeth Street and Park Avenue
 - Rehabilitation of approximately 12,000 linear feet of sanitary sewer main
 - Preliminary design work for Phase 2

Proposed Solution – Phase 2

Phase 2 (this project) includes the following tasks:

- Design and construct new storm water sewer mains and extend storm sewer mains to intercept the new laterals
- Separate combined sanitary sewer and stormwater systems by rerouting stormwater laterals to new stormwater system
- Resin lining of existing sanitary sewers pipes to significantly reduce inflow and infiltration of stormwater
- Install 36 new manholes along existing sanitary sewer line to reduce long lengths of pipe between manholes and improve inspection and maintenance
- Geotechnical investigations, environmental coordination/compliance, engineering design, public engagement, and contract management will be included as they apply to the project tasks

Estimated Schedule & Budget

The project is estimated to take 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 and \$1,316,000 non-federal) for Phase 2.

Engineering predevelopment including: survey, mapping, and CCTV inspections	\$290,460.00
Engineering design of storm drain separations and improvements	\$225,600.00
Legal and administrative costs	\$211,300.00
Construction of system upgrades	\$2,820,790.00
Engineering and construction administration	\$211,850.00
Total	\$3,760,000.00

Water ean

Addressing Opportunities for Action

Whitehall Sewer Rehabilitation Project would address four OFAs:



- Eliminate raw sewage discharges & stormwater overflows
- Decrease disease carrying pathogens in lake which impair drinking water and recreation
- More than 145,000 people rely on Lake Champlain for drinking water



Ecosyste

Healthy

- Raw sewage & stormwater overflows carry pathogens & excess nutrients into lake
- Algal blooms associated with excess phosphorus lead to low oxygen concentrations & impaired aquatic life
- Project will improve aquatic habitat



Thriving

Communities Improved water quality supports swimming & fishing • Lake recreation is an important part of

Safe drinking water

regional economy

• 48% of Whitehall is low income –worse off in income than 78% of NYS

PUBLIC MEETING NOTICE

Public Engagement is included in this proposal

- Public complaints regarding sewage overflows
- Public concern over sewerage overflows entering canal
- Public support of the project

Public Involved 8

Section 542 Environmental Assistance Program Thank you very much.

Questions?

CITY OF VERGENNES

WASTEWATER & STORMWATER INFRASTRUCTURE IMPROVEMENT PROJECT

LCBP Executive/Steering Committee Briefings September 9 & 23rd, 2020

City of Vergennes, Vermont New York District Lake Champlain Basin Program

Section 542 Environmental Assistance Program for the Lake Champlain Watershed













GENERAL PROJECT OBJECTIVES





Improve water quality, ecosystem health, and public health by:

- Eliminating/reducing sewage overflows from city wastewater collection system
- Upgrading aging wastewater treatment facility

Note: This project would address a priority action identified in the Otter Creek Tactical Basin Plan that addresses sanitary sewer overflow in the collection system.



Pictured: Overflow into Otter Creek, VT

OVERFLOWS AND THE WASTEWATER COLLECTION SYSTEM





- Description of system
- 2019 Infiltration/Inflow (I/I) Study
- Ongoing Sewer System Evaluation Survey (SSES)
- Plan to build stormwater facilities with water quality controls (\$5.0 M)



SEWERSHED AREAS- VERGENNES







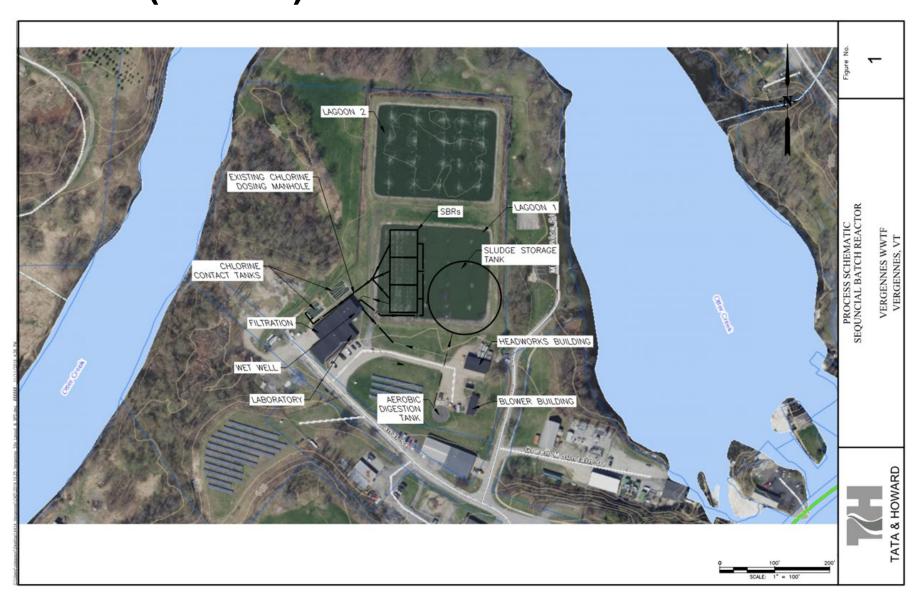
- Four sewershed areas are pictured
- Dots represent manholes
- Part of the yellow, purple, and most of the green areas drain into the overflow, contributing to combined sewer overflows.



EXISTING WASTEWATER TREATMENT FACILITY (WWTF)









I/I STUDY RESULTS





Table No. 3-7 Inflow Volumes (gallons)

Name	Canal	Water	Macdonough	Core	Total
April 9, 2019	97,684	380,764	94,698	113,646	686,792
April 19-20, 2019	290,750	720,517	277,396	811,503	2,100,167
April 26-27, 2019	216,590	589,347	205,090	329,556	1,340,583
Design Storm	391,112	1,037,118	372,563	880,156	2,680,948

Table No. 3-9 Drainage Area (acres)

Name	Canal	Water	Macdonough	Core	Total
April 9, 2019	10.28	40.07	9.96	0.41	87.03
April 19-20, 2019	9.73	24.12	9.29	3.07	90.85
April 26-27, 2019	9.28	25.24	8.78	1.31	78.44
Design Storm	9.60	25.46	9.15	3.38	86.35
Average	9.72	28.72	9.30	2.04	85.67



I/I STUDY RESULTS





Table No. 3-8 Direct and Indirect Inflow Volumes (gallons)

Name	Direct	Indirect	% Indirect	
Canal	176,177	114,573	39%	
Water	524,531	195,986	27%	
Macdonough	197,264	80,132	14%	

Table No. 3-10 2017 Annual I/I

Name	Flow
Average Annual Flow (gpd)	413,000
Base Sanitary Flow (gpd)	298,000
Average Annual Infiltration Rate (gpd)	52,000
Average Annual Inflow Rate (gpd)	62,000
Average Annual I/I Rate (gpd)	115,000
Peak Infiltration Rate (gpd)	177,000
Peak Infiltration Rate (gpd/idm)	3,468

Table No. 3-13 Pumping Costs

	Macdonough Drive	Filter Feed
Flow (mgd)	0.086	0.115
Pump Capacity (gpm)	1,600	775
Horsepower	15	10
Kwh per year	7,339	20,202
Cost	\$1,101	\$3,030

PROBLEM SUMMARY





Insufficient capacity to adequately manage stormwater leads to overflows of raw sewage and stormwater:

Excessive quantities of inflow (stormwater entering sewer) were verified by the temporary flow meters in both the Water and Macdonough sub-basins. Peak flows during a design storm event tributary to the Macdonough Pump Station exceed the capacity of the collecting sewers, overflow upstream of the pump station and cause overflows at the pump station. It is estimated that there may be up to 100 acres of surface area contributing runoff to the sewers.

Source: City of Vergennes, Phase 3 Interim Preliminary Engineering Report, Tata & Howard Inc., (DRAFT 01/10/20), Executive Summary



ADDRESSING OPPORTUNITIES FOR ACTION





Clean Water

- Reduction in phosphorous and e.coli discharges
- Elimination or reduction in raw sewage discharges

Healthy Ecosystems

Stormwater BMPs will remove sedimentation and nutrients to improve aquatic habitat

Thriving Communities

- Vergennes will be able to grow and prosper with modern and adequate stormwater infrastructure, including green infrastructure
- Remove the stigma of causing sewage overflows

Informed and Involved Public

- Public engagement is included in this proposal
- Public outcry regarding sewage overflows and phosphorus discharges to Lake Champlain is strong. Public support of the project is widespread.



SEWER SYSTEM EVALUATION SURVEY ESTIMATED COSTS





Table No. 3-11 SSES Estimated Costs

Task	Unit Cost	Units	Quantity	Cost
Night Time Flow Isolation	\$0.50	per LF	52,145	\$26,072
CCTV	\$2.00	per LF	26,072	\$52,145
Cleaning	\$3.00	per LF	6,518	\$19,554
MH Surface	\$75.00	per MH	377	\$28,238
MH internal	\$200.00	per MH	126	\$25,100
Smoke	\$0.55	per LF	104,244	\$57,334
Dyed Water Testing	\$1,200.00	per site	22	\$26,400
	\$234,843			
Engineering (15%)				\$35,226
Contingency (20%)				\$46,968
Estimated Total				\$317,038



542 PROJECT ESTIMATED COST & SCHEDULE





City of Vergennes			
Wastewater/Stormwater Project 2020			
Preliminary Project Cost Summary			
Stormwater			
Construction Subtotal	\$	5,000,000	
Contingency (15%) \$		750,000	
Engineering and other costs (30%)	\$ 1,725,000		
Project Total \$ 7,475,0			

- Estimated schedule is roughly two and a half years of study and design, including permitting and environmental compliance/public outreach and roughly two and a half years of construction.
- Total estimated project duration is five years.

QUESTIONS?

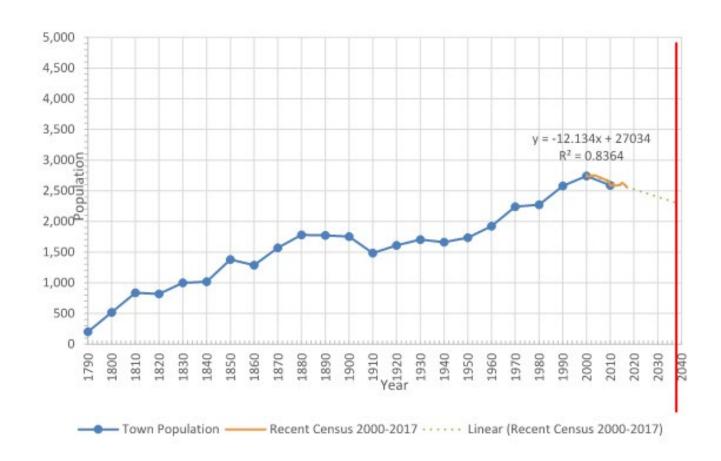








Figure No. 2-1 Vergennes Population Trends



The Discovery of the Paddlewheels from the Steamboat *Phoenix*



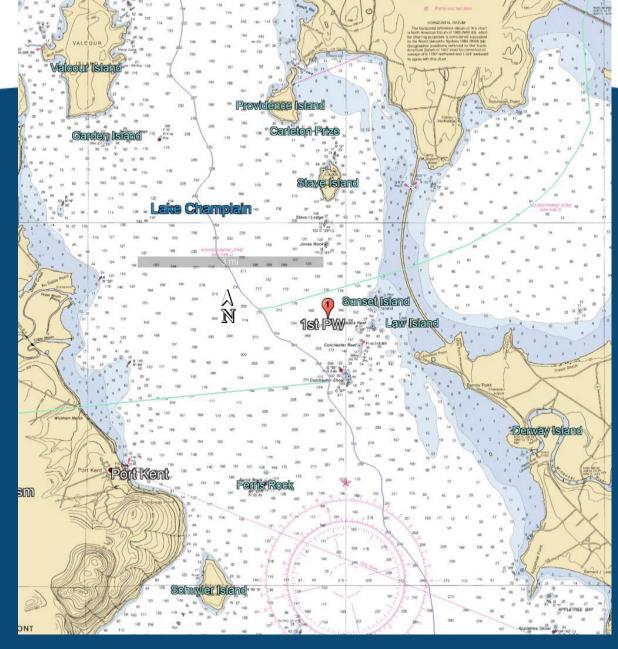
Chris Sabick Director of Research and Archaeology Lake Champlain Maritime Museum

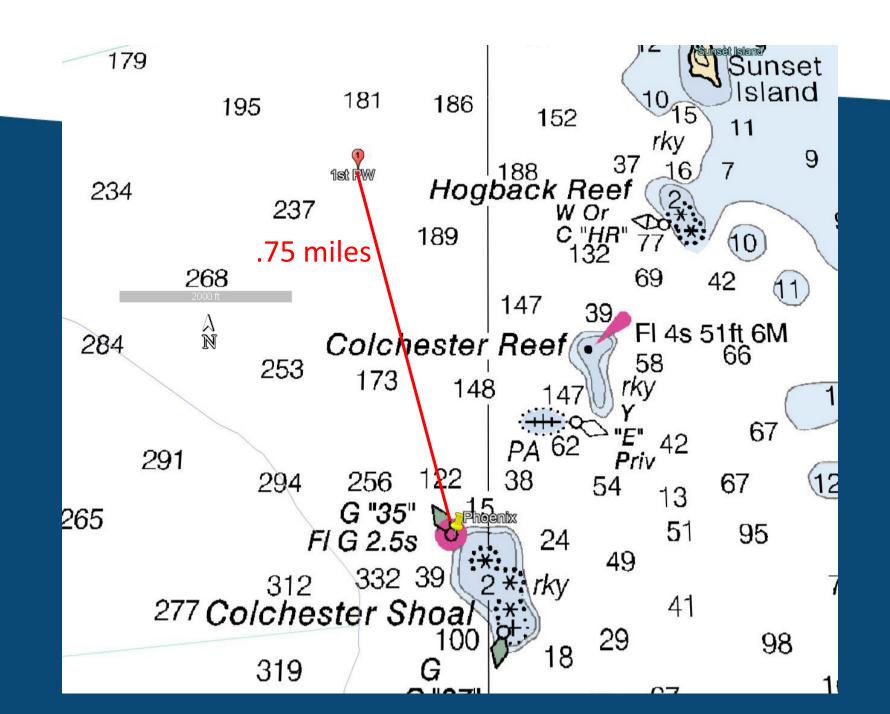


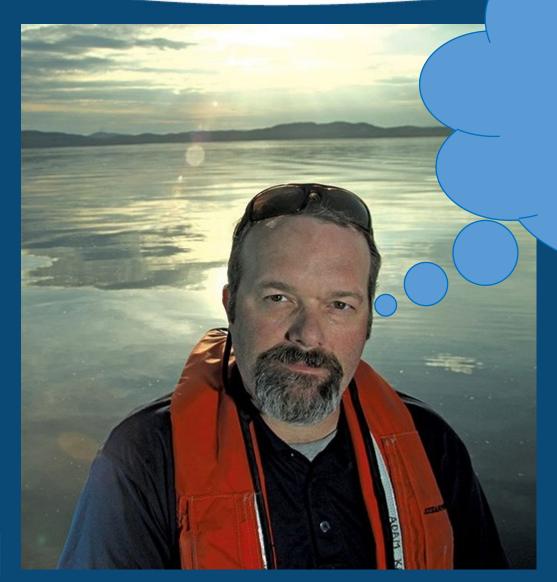


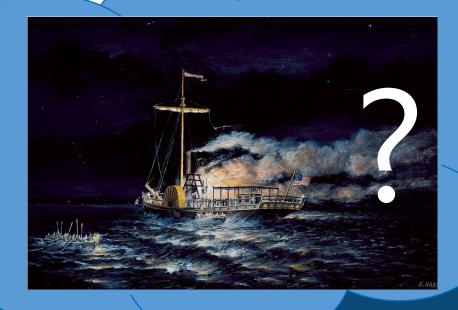










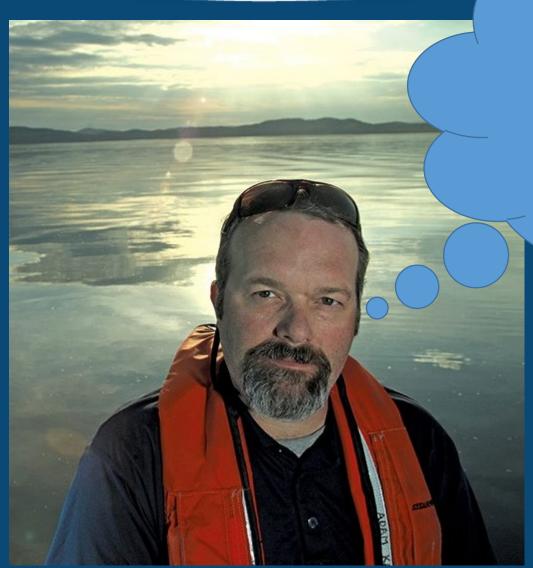






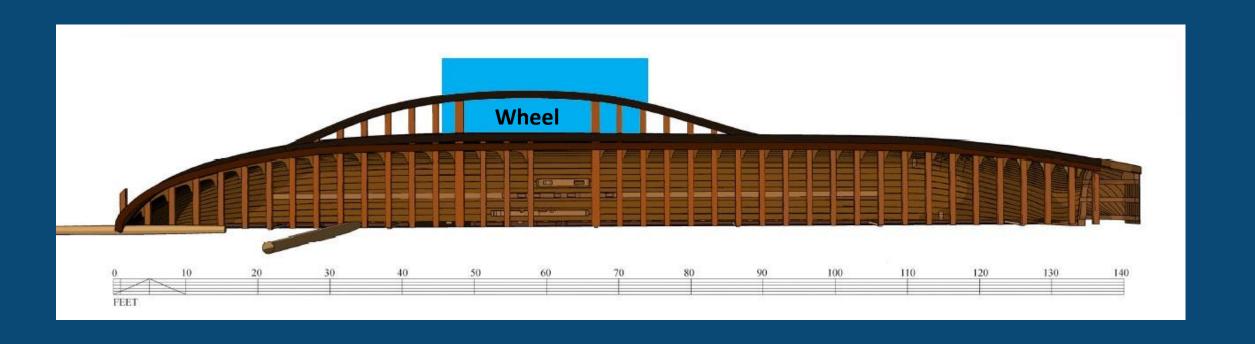










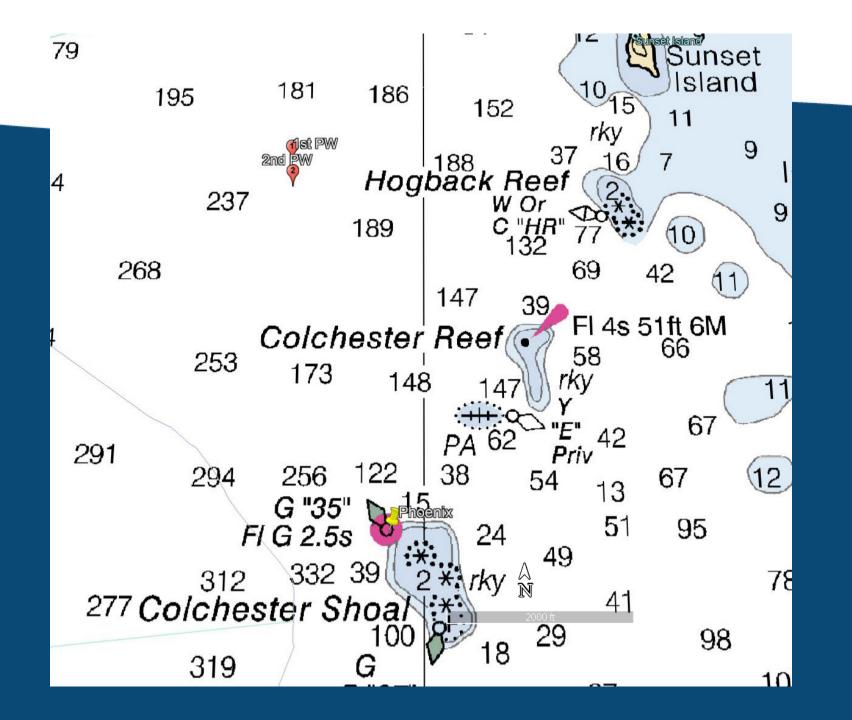


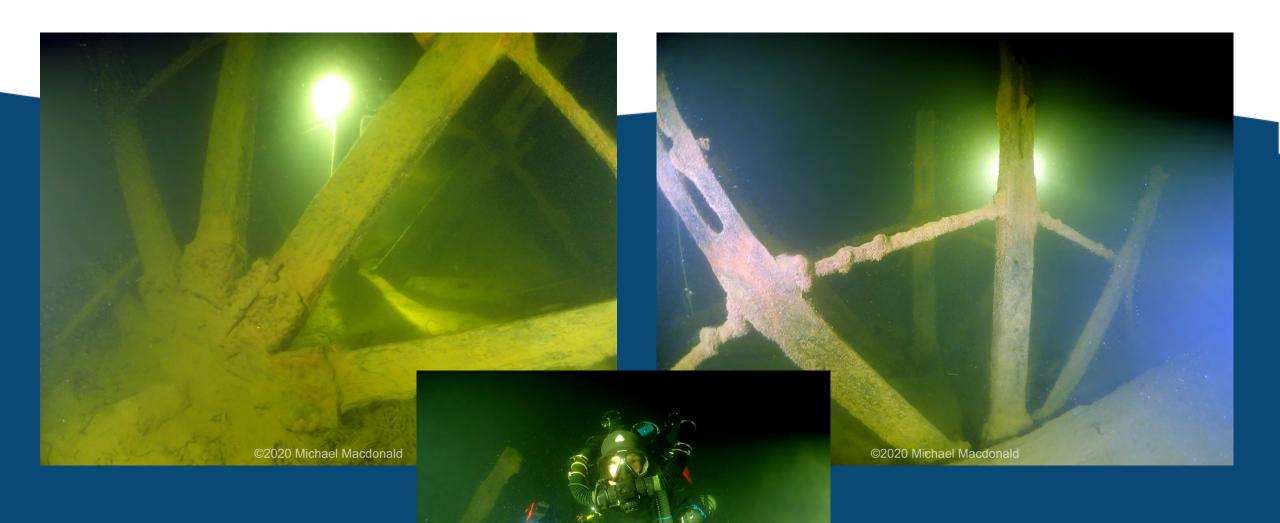


If Gary found one of the Paddlewheels from Phoenix...could the other one be there too?!?!?!



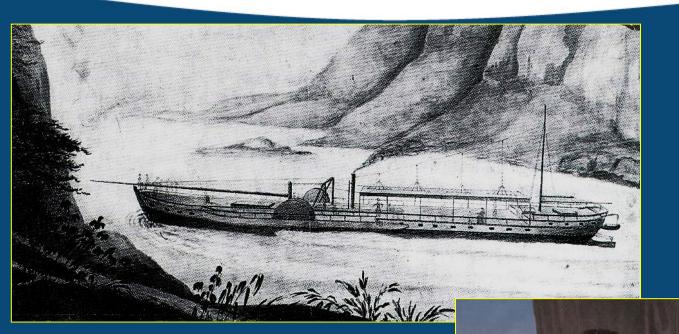


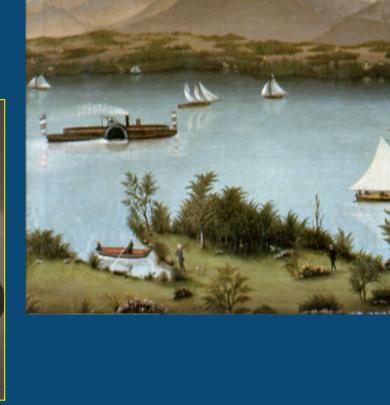




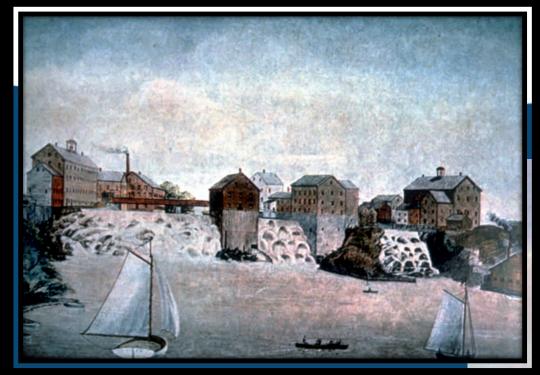


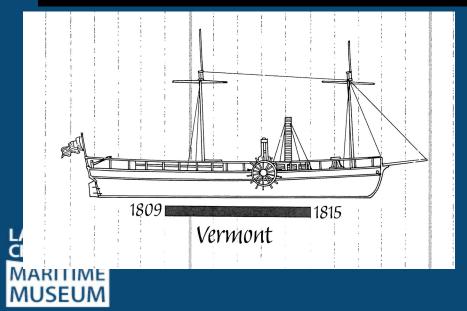
Importance of the Steamboat *Phoenix*







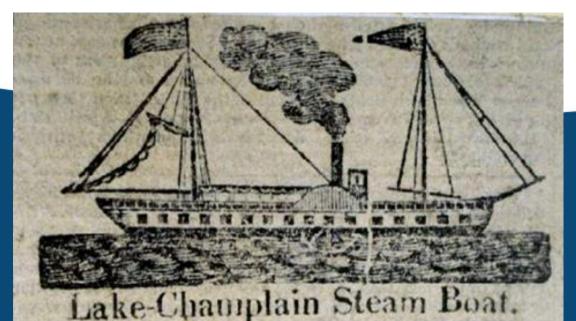












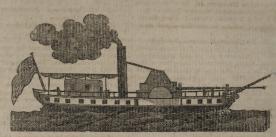
THE new SIEAM BOAT PHOENTS
THE NEW SIEAM BOAT PHOENTS
SHERMAN, Master, will leav
every Wednesday Morning, at
St. Johns every Sunday, Morning
hour; and will stop one hour at
passing each way.
Sententher 30, 1815.

From the Correspondent of the N. York Spectator.

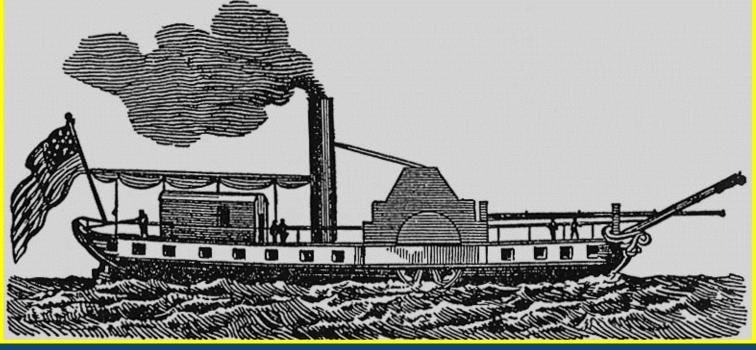
EXCHANGE COFFEE HOUSE,
And News Reading Stoom.
BOS FON, April 14.

Singular Phenomenon.—We have received the following (certified) statement, from the officers and passergers on board the sch. Only Son, arrived here this foreneon from Norfolk:

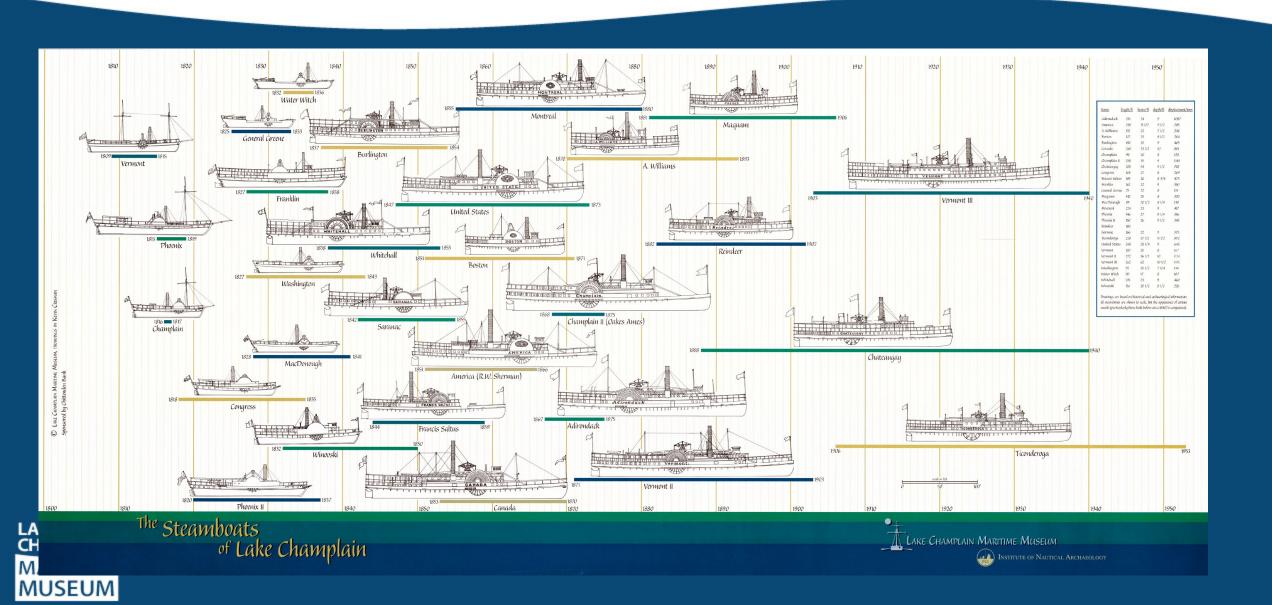
"On the 3d inst, at 9 P. M. Cape Henry Light bearing W. by S. about 7 leagues distant, the Mate's watch on deck, he heard strange noises in Mates watch on acce, the heart strange noises in the air, with distant thunder and lightning, black clouds rising at the same time from the North; he thought it prudent to call all hands on deck. although it was nearly calm at the time :- On coming on deck, every one on board beheld the maintopmast apparently all on fire. -The fire descending down the maintopmast-stay to the foremast head. from the ice down the jib stays, with a large blaze at the jib boom end same time, came trickling down the maintopmast, and ran across the fore and aft stay to the foretophead, and also descended down, the maintop-lift, to the outer end of main boom-all sails were down to the booms-but the appearance of fire aloft encreasing, all on board were fearful of a consuming are: but the clouds arose from the North, attended with thunder, lightning and rain; these fiery appearances (the duration of which was 30 minutes, and which had spread almost all over the rigging, though not quite to the decks,) were extinguished, and no damage done. The shove Phenomenon was the more alarming, from LAKE CHAMPLAIN STEAM-BOATS

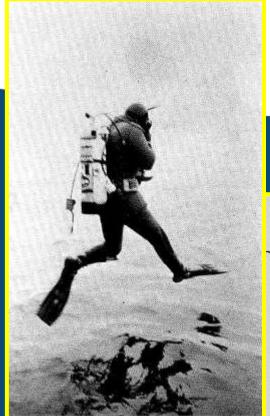


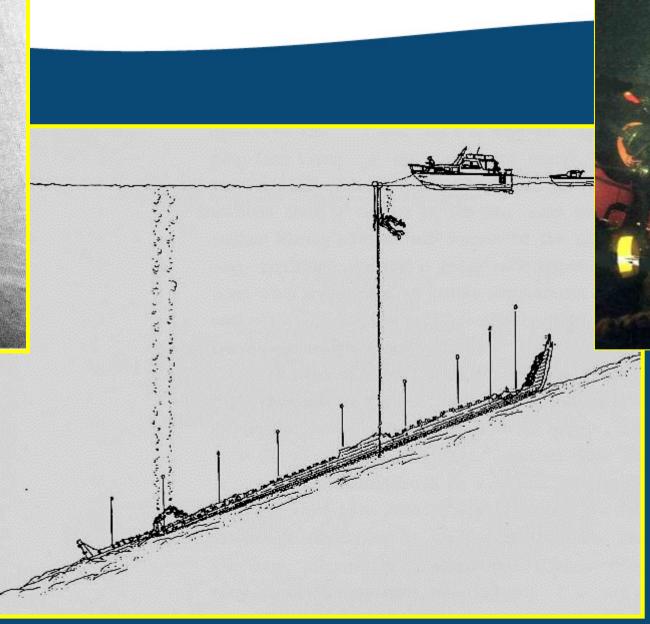
Phœnix & Champlain.









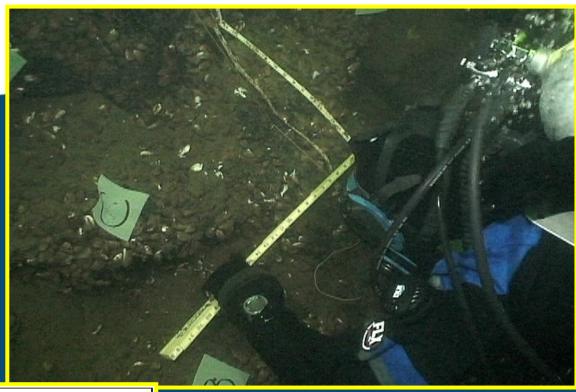


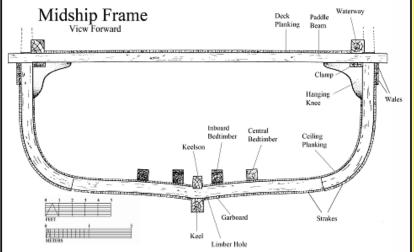




MARITIME MUSEUM









Lake Champlain Passenger Steamboat *Phoenix*

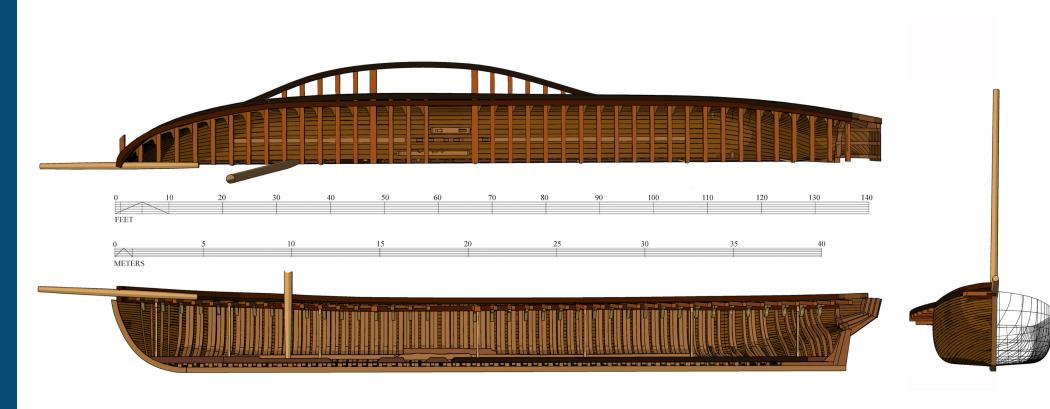




FIGURE 7-4. 3D conjectural reconstruction of *Phoenix* up to the main deck. (Model by Tiago Miguel Fraga and the author, 2012.)

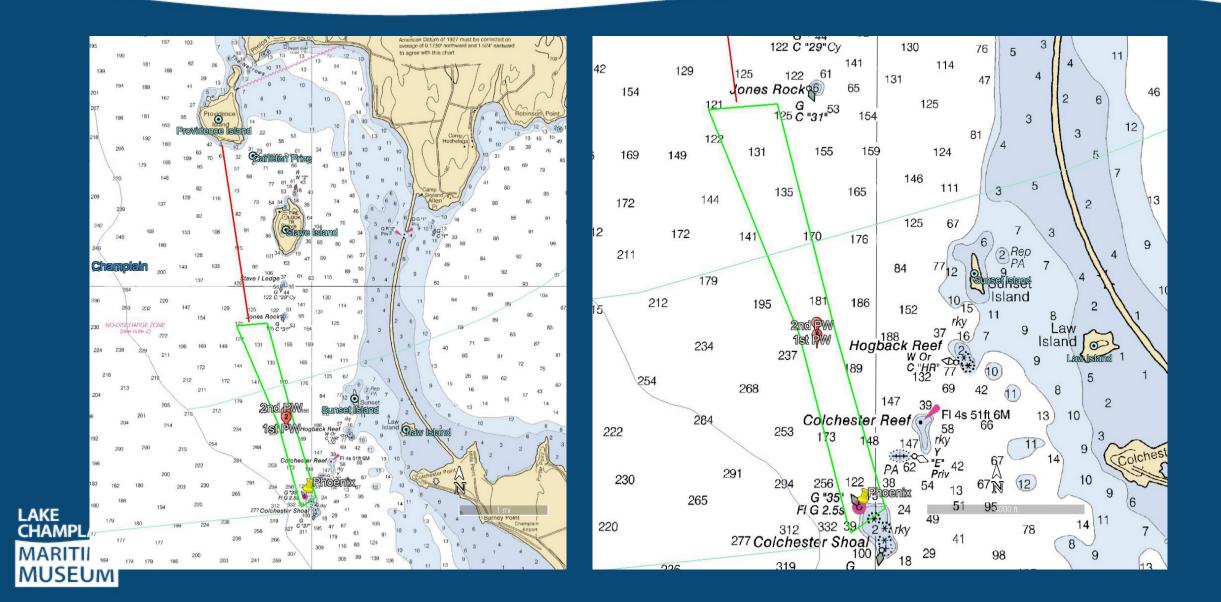
Phoenix Paddlewheels: Future Work

- ROV Based Documentation and Photogrammetry
 - Estimated budget: \$10,000-\$15,000

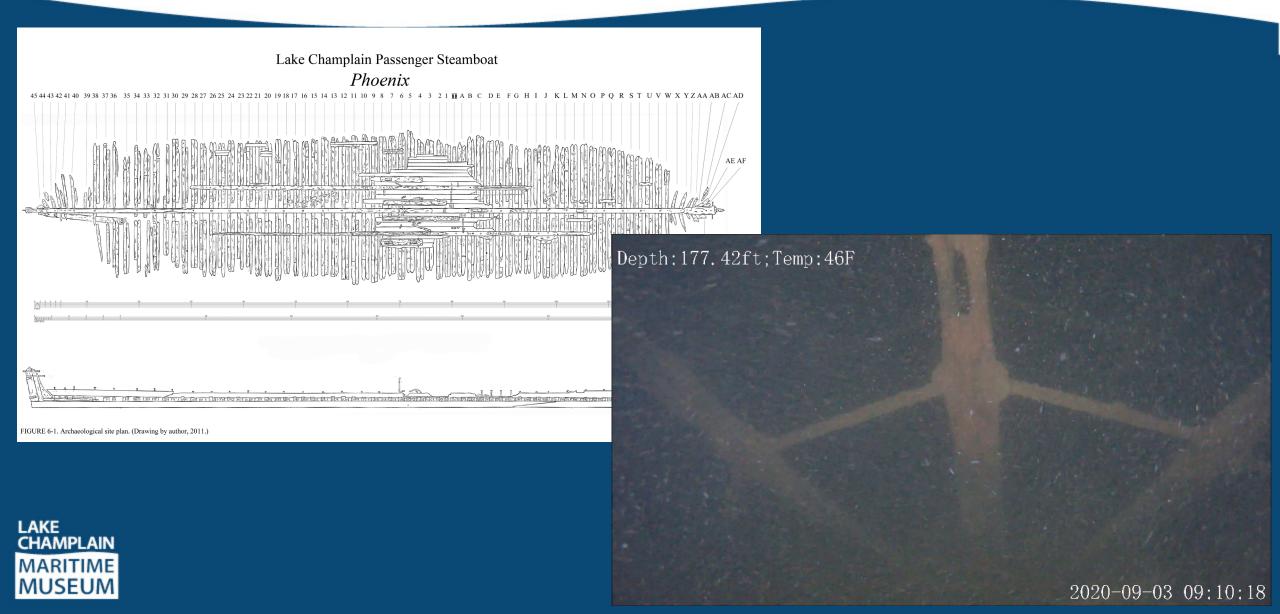




- Intensive Side Scan Sonar and Magnetometer Survey of the area
 - Estimated budget: \$15,000-\$20,000



Update National Register of Historic Places nomination for (1998)
 Estimated budget \$2,000-3,000





- For further information please contact:
 - Chris Sabick
 - Director of Research and Archaeology
 - Lake Champlain Maritime Museum
 - chriss@lcmm.org
- Thank you for the continued support!











Lake Champlain Basin Program Updates

Lake Champlain Steering Committee meeting, September 23, 2020

- Most LCBP staff continue to work remotely or in isolation due to COIVD-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!
- NEIWPCC posted the <u>NYS DEC Lake Champlain Coordinator</u> position, on behalf of NYDEC and LCBP. This
 position was vacated in May with Fred Dunlap's retirement, and will be refilled as a NEIWPCC-hosted
 position for NY DEC with LCBP funding. This opportunity closed September 18, with interviews anticipated to
 occur in mid-October.
- LCBP has launched the latest round of grant opportunities, supported primarily with FY20 funds that were
 approved by the Steering Committee last April. This includes the Enhanced BMP Implementation Grants and
 the smaller local grants for pollution prevention and habitat conservation as well as AIS spread prevention.
 Additional grant programs will be released later this fall. View the schedule and RFPs here.

Lake Champlain Basin Program

September 2020 Steering Committee

EPA Region 1 Updates

EPA Issues Final Report Card for TMDL Phase 1 Accountability Framework Milestones

The 2016 Lake Champlain TMDL for phosphorus includes an Accountability Framework containing 28 Phase 1 milestones. With its September 1st release of the so-called Three Acre Stormwater Permit, Vermont has successfully completed all Phase 1 Accountability Framework milestones. The completion of the Phase 1 milestones sets the wheels in motion for restoration of the Lake in the years to come. These milestones are key foundational building blocks, including, among other things, the adoption of new Required Agricultural Practices to reduce phosphorus from agricultural sources, the issuance of a series of new stormwater permits to reduce phosphorus from developed land, the establishment of a long-term funding source for clean water projects across the state, and the development of a tracking and accounting system to evaluate phosphorus reduction progress across all sectors. Completion of these milestones is a major accomplishment and EPA commends the State for its dedication to this work.

EPA Region 1 Remains in Phase 2 of COVID-19 Re-Opening Plan

As the COVID-19 pandemic continues to unfold, EPA Region 1 is following the White House re-opening plan. EPA continues to pay close attention to the evolving Coronavirus situation (COVID-19) and will follow the recommendations of CDC as well as state and local public health agencies where EPA offices are located. The Boston office remains in Phase 2 (of 3) which has most staff continuing to work remotely until conditions are met that justify moving to Phase 3, when staff will begin transitioning back to normal operations.

State of Vermont Section 303(d) List Approval

On September 17 the Water Division approved the 2020 CWA Section 303(d) list for the State of Vermont. The Section 303(d) list identifies impaired waters in the State which require the development of a Total Maximum Daily Load (TMDL).

State of Vermont Nonpoint Source Plan Approval

On Sept 22, EPA approved Vermont's Nonpoint Source Management Plan update for 2021-2025. This new plan incorporates the goals of new Vermont water quality laws, regulations and programs adopted since completion of the previous plan in 2015 and includes an updated milestone section with more streamlined and measurable actions. EPA is very pleased with the scope and quality of the updated plan.

Lake Champlain Competition Exemption Approved

EPA requires that grant programs that wish to issue grants without running a competition apply for and justify their standing to do so. As EPA believes was envisioned in the authorizing language of Clean Water Act Section 120, the Lake Champlain Basin Program/NEIWPCC and the states of Vermont and New York have been eligible for direct, non-competitive funding following the Steering Committee process since 2010. This was scheduled to sunset at the end of FY20, though EPA Regions 1 and 2 successfully retained this exemption in working with the Office of Grants and Debarment and the Office of Mission Support. The exemption is good through September 2030.

FY20 LCBP and VT DEC Awards Final

EPA Region 1's FY20 awards have been finalized and awarded to the Lake Champlain Basin Program and Vermont Department of Environmental Conservation. Many thanks to all who worked tirelessly to put together all the workplans, financial documentation, and required forms to make this year's process a smooth one!

Québec's National Assembly has adopted new legislation under the jurisdiction of the Ministry of the Environment and Fight Against Climate Change (MELCC).

On December 31st 2020, the new Regulatory Scheme Applying to Activities on the Basis of their Environmental Impact (REAFIE) will come into effect. Major changes include new Declarations of Conformity which aim to increase requester responsibility and reduce authorization analysis delay. A specific coercive program has been put in place to ensure user conformity at the onset of these new rules. This link provides a press release: http://www.environnement.gouv.qc.ca/dya/autorisations/reafie/fiches/fiche-re-n-pdf. This link contains the official legislation:

The Waterway, Shoreline and Floodplain Policy will also be updated. For example, the government is taking into account recent flooding events in the province with regards to the collective cost of building in floodplains since flooding indemnities come from provincial dollars. The official texts have yet to be announced.

The MELCC is in an ongoing process to streamline its customer service. The goal is to be more efficient, more clear and more predictable provincially.

Plans for provincial Highway 35 passing through Pike River were modified to expand the bridge crossing the rivière aux Brochets hence removing a potential hydraulic bottleneck of a Missisquoi Bay tributary.

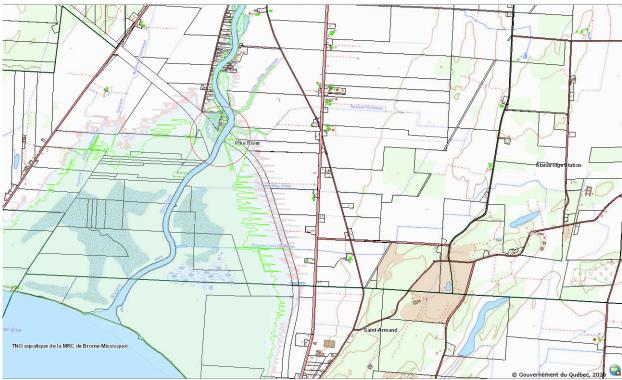


Figure 1: Bridge location identified by the red circle for future highway 35. (Data sources: topographical map, property lines, floodplain and littoral zone)

- 1) All field offices, with the exception of those in Chittenden County, are at "Phase II" of reopening, meaning that staff can work in the office but common areas are closed and farmers can visit by appointment only. Chittenden County offices (field and state office) remained closed with the exception of a handful of staff each day.
- 2) Services to customers have continued throughout the pandemic with little to no impact. Staff are making field visits as needed. In field training is still allowed with proper social distancing.
- 3) Coming to a close with FY 2020, including the obligation of approximately 350 contracts with farmers through either AMA, CSP or EQIP, totaling approximately \$11,000,000. Applications were down for funding to support agronomic practices, largely due to farmers already reaching their payment limitation cap in EQIP (\$450,000) and/or having already received funding from NRCS for 5 years (max length of time we can support cover crops). It remains to be seen if farmers will continue these practices on their own or turn to the VT Agency of Ag. for ongoing support (with a reduction in payment). For ACEP, NRCS entered into a purchase and sales agreement for 2 projects under WRE, and 2 under the Health Forest Reserve Program (HFRP). This was the first ever use of this program in Vermont. These projects are expected to close within the next 6 months to a year. In addition, NRCS partnered with VHCB to fund 19 conservation easements on farms through ACEP ALE. Total ACEP funding obligated in Vermont exceeded \$3.3 million
- 4) In FY 2020 NRCS soil conservationists wrote 440 conservation plans covering 61,200 acres.
- 5) NRCS selected three Conservation Innovation Grant proposals for funding in FY 2020. Two projects are with UVM Extension and are focused on demonstrating 1) corn spacing to facilitate mid season cover crop mixes, and 2) innovative manure injection strategies to maximize nutrient uptake. A third project is with the VT Agency of Ag and focuses on further calibration of the FarmPrep model to align with the TMDL.
- 6) In addition to CIG, at the national level, our agency announced the funding of two really significant projects:
 - a. Assisting Africans Living in Vermont (AALV) an outreach grant of \$300,000 through USDA to support accelerated training on soil health and nutrient management to member farmers at the Intervale, along with overall support to grow the program.
 - b. VT Agency of Ag \$7 million through RCPP AFA, funding to support a new Vermont Pay for Phosphorus Program that will reward farmers who achieve the highest level of stewardship on their farm. It will pay based on the modeled reduction of pounds of P leaving the farm, as compared to a baseline, that is above that required by state and federal regulations.
- 7) Looking forward to FY 2021, NRCS is working hard to look at trends in funding to various types of systems and practices over the past few years to predict our needs going forward. As previously mentioned, we saw a dramatic reduction in the need for NRCS support for agronomic practices. We will be working through our EQIP subcommittee and State Technical Committees to seek advice on how best to adapt to these changes. Should we focus more on farmstead improvements, high tunnels and specialty crops, forestry and wildlife, or greenhouse gas

- emissions? What other emerging trends are we seeing that could result in redirecting funds to other resource concerns?
- 8) With the exception of a retirement, and two recent transfers to other states, VT NRCS is fully staffed for the first time in many, many years. Approximately half of our staff has been onboarded in the last two years, which represents a huge training need to get our staff up to speed. We recently entered into a contract with Miner Ag Institute in NY to develop and deliver a course on basis agricultural sciences. Many of our new hires come to us with an environmental background and are not familiar with agriculture, so these courses will help fill the gap over the next five years. In addition, the agency has initiated a new Conservation Ag Mentoring Program, or CAMPS, that will place our staff in the field meeting with volunteer farmer mentors several times over the course of a few years. COVID has delayed the start of this program but we are looking forward to this getting started as soon as it is safe to do so.
- 9) Beginning in October, VT NRCS will be moving forward to develop a new strategic plan for the next five years. Both partners and employees will be consulted in identifying priority issues of concern and recommended actions for us to take to address those resource concerns. We expect to wrap up the development of the plan over the course of the next year.

U.S. Fish and Wildlife Service Updates for Lake Champlain Basin Program Steering Committee September 23, 2020

National Fish Hatcheries:

White River NFH:

- The White River NNFH will stock 200 adult salmon in the Saranac River during October. The fish will be monitored for making redds and spawning by the Lake Champlain Fish and Wildlife Conservation Office.
- For the second year, WRNFH will spawn thiamine deficiency tolerant salmon and maximum genetic diversity brood stocks this fall. Theses eggs will be shipped to the Dwight D. Eisenhower NFH for smolt production.

Dwight D. Eisenhower NFH:

- Will be marking landlocked salmon this fall to be stocked in the Winooski, Saranac and Boquet Rivers next spring. Fish stocked in the Winooski and Boquet will be part of a study comparing two new salmon broodstocks, the thiamine deficiency tolerant and maximum genetic diversity broodstocks.
- The hatchery will be assisting Vermont Fish and Wildlife Department by stocking landlocked salmon and brook trout in state waters to support recreational fishing.

Lake Champlain Fish and Wildlife Conservation Office (LCFWCO) Salmon Restoration

- Started radio telemetry projects on adult landlocked Atlantic salmon in the Winooski River and Boquet River. Goal of work is to evaluate fish passage and habitat use by spawners.
- Working with NYSDEC on salmon restoration projects in the Saranac River.
- Will be moving toward 100% marking of all stocked salmon into Lake Champlain via large scale parental based tagging (PBT) effort this fall. PBT will allow for evaluation of stocking locations and broodstock sources.
- Nick Staats retired in August after 27 years as a biologist in the Lake Champlain Fish and Wildlife Conservation Office. Hope to be able to replace his position this year if funding allows.

LCFWCO Sea Lamprey control:

- Work continues on the repair of the Great Chazy dam and the construction of the LaPlatte River Barrier. Both are expected to be completed by the end of this year and prevent lamprey spawning next spring and into the future, upstream of those two sites.
- Treatments are planned for this fall for the LaPlatte, Winooski, Lamoille and Missisquoi Rivers. The treatment of the Winooski River has already been delayed due to low flows.
- Sampling during the Missisquoi River treatment of water in Missisquoi Bay is being being planned with Vermont Fish and Wildlife Department and Quebec staff since U.S. Fish and Wildlife staff are still not allowed across the border due to COVID restrictions.

<u>LCFWCO/Vermont Partners for Fish and Wildlife Riparian, Wetland, and Aquatic Connectivity</u> Restoration

Habitat Program Summary for Fiscal Year 2020

- completed 35 projects
- 340 acres of wetland and upland habitat restored
- 9.5 miles of riparian habitat restored
- 10 barriers removed
- 50 miles of stream habitat opened
- leveraged \$1 million in non-Service partner contributions

Reconnecting Missisquoi Headwaters Streams

The New England Field Office (NEFO) and the Vermont Partners for Fish and Wildlife Program at the Lake Champlain Fish and Wildlife Conservation Office (LCFWCO), in collaboration with the State of Vermont, have been working with the Town of Lowell to implement two road crossing projects on tributaries to the Missisquoi River. NEFO and the State provided \$350,000 from the Vermont Asbestos Group (VAG) NRDAR settlement to implement the two culvert replacements and LCFWCO provided an additional \$200K through a cooperative agreement which allowed both projects to be completed. The new bridge structures re-connect 4.1 miles of stream habitat for fish, including Eastern brook trout. They also improve water quality and help to protect residents from floods. The Service and the State of Vermont received an \$850,000 NRDAR settlement related to the VAG asbestos mine in Lowell and Eden. The settlement is being used to fund stream restoration projects in the communities where the mine is located.

Trulland Brook crossing: pre- and post-restoration





Julie Butler is working with Trout Unlimited, the Ausable River Association, the Essex County, NY Soil and Water Conservation District, and the Adirondack Chapter of the TNC to bring the US Forest Service Stream Simulation Design Course to Lake Placid next Spring. Originally scheduled for October 2020 but pushed back because of COVID. The course focuses on developing natural stream channels at road/stream crossing - particularly culvert crossings.

Missisquoi National Wildlife Refuge:

The refuge partnered with the University of Maine, along with the U.S. Forest Service, the Vermont Fish and Wildlife Department, Nature Conservancy, Audubon Vermont and the Wildlife Management Institute to begin an American woodcock banding project in Vermont, starting with refuge lands. Biologists attached five woodcock with GPS receivers on the refuge in early September in order to provide information about habitat use and migration

patterns. The Nulhegan Division of the Silvio Conte NWR Complex and a Nature Conservancy property will also be targeted to band woodcock this fall.

Missisquoi NWR continued the Junior Waterfowl Hunt Training Program this year with an athome learning plan for the first time. Due to safety restrictions, in person training could not be completed this year. Interest was still strong with almost 30 juniors and their mentor's applying for and completing the at-home learning plan. This allows junior waterfowl hunters special access to waterfowl blinds on the refuge for the first four weekends of the season.

The refuge had three successful bald eagle nests on the refuge and successfully fledged 6 young this year. Bald eagles have nested at Missisquoi NWR since 2012.



Vermont Agency of Natural Resources (VT ANR) Update Lake Champlain Basin Program Steering Committee Meeting September 23, 2020

Legislative Updates

- The Vermont Legislature returned to session on August 25th to enact a restated FY21 budget, based on the best currently available information, and complete work on other key policy initiatives. They are expected to formally adjourn this Friday, September 25th.
- Act 250 update: The Senate Natural Resources and Energy Committee significantly amended the House-passed Act 250 overhaul (H.926), shrinking the bill to address only two topics:
 - 1. Forest fragmentation: The Bill expands Act 250 by adding two new sub criteria that restrict impacts to forest blocks and connecting habit. The forest fragmentation provisions require the Natural Resources Board (NRB) to establish rules for the implementation of the new criteria, which will not go into effect until 2022.
 - 2. Review of recreational trails that are part of the Vermont Trail System (VTS): The trail sections of the bill establish a two-year moratorium for new Act 250 regulation of VTS trails that were in use prior to Oct. 1, 2020. This two-year pause is intended to provide ANR, NRB and stakeholders time to develop an alternative regulatory framework for trails outside of Act 250 likely within ANR.

The Bill passed the Senate and is back with the House. The administration has testified in opposition to the current version because it lacks key elements the Governor is seeking in any Act 250 reform package, such as provisions to promote development in state designated downtowns and neighborhood development areas, support for the forest products processing sector and provisions to address the financial and operational impacts of the new criteria on ANR.

Agency and Staff Updates

• The majority of State of Vermont employees will continue to work remotely at least through December 31, 2020. ANR field work activities have resumed in a manner that mitigates risk presented by COVID-19.

Clean Water Budget Process

- The Clean Water Fund-portion of the State Fiscal Year (SFY) 2021 clean water budget was revised August 2020 to address a \$3.16 million (17%) reduction in anticipated revenue due to COVID-19 economic impacts; even with the reduction, FY21 Clean Water Fund revenues are nearly equal to FY20 levels. The Legislature is reviewing the restated SFY21 budget with authorization needed by October 1, 2020. The Clean Water Initiative Program (CWIP) will issue its SFY21 Funding Policy and Spending Plan upon authorization of the SFY21 budget.
- The Clean Water Board approved the draft SFY22 clean water budget on September 16, 2020 to post for public comment. The draft SFY22 clean water budget will be posted for public comment October 1-30, 2020, including a mid/late-October public hearing. The draft SFY22 clean water budget anticipates \$18.4 million from the Clean Water Fund and \$11 million from the Capital Bill. Visit the Clean Water Board webpage for more information: https://dec.vermont.gov/water-investment/cwi/board.

Rule Updates

• Act 76 of 2019 Clean Water Service Provider rulemaking: Clean Water Service Providers (CWSPs) have been identified for all 6 Lake Champlain watersheds and Lake Memphremagog. CWSPs will have a lead role in prioritizing and supporting the implementation of natural



resources restoration projects necessary to achieve the water quality goals of the Lake Champlain TMDL. DEC is working with a large advisory group on the Act 76 rule that must be completed by November 1, 2020. Public comment will be taken on the rule in November 2020.

Regulatory Programs

- The Stormwater General Permit 3-9050 (i.e., "3-acre permit") was finalized and issued early September 2020. Under the terms of the permit, all landowners in the Lake Champlain and Lake Memphremagog watersheds with three or more acres of impervious surfaces must submit a notice of intent (NOI) to install stormwater retrofits, based on a phased schedule with the last applications due by the middle of Calendar Year 2023. After filing the NOI, applicants will be given 18 months to complete their engineering design work and obtain updated permit coverage. Permitted landowners will then have up to five years from permit coverage to construct the approved stormwater treatment practices. Work is underway to develop funding/financing programs to assist landowners in complying with the permit.
- The issuance of the 3-acre permit represents the final milestone and completes Phase 1 implementation of the *Phosphorus TMDLs for Vermont Segments of Lake Champlain*. Early this month ANR received a final report card documenting the successful completion of the 2016 TMDL Phase 1 Accountability Framework milestones.

Planning Initiatives

- The North Lake Champlain Direct Basin 5 Tactical Plan is in queue for approval.
- The final Nonpoint Source (NPS) Management Program Plan, covering FFY 2021-2025, was submitted to EPA for review and approval on September 4, 2020. After much coordination and collaboration with various departments of ANR and AAFM, the five-year NPS Management Plan has been comprehensively updated to reflect years of policy development in Vermont, which includes the Lake Champlain TMDL, the Vermont Clean Water Act (Act 64 of 2015), Clean Water Service Delivery Act (Act 76 of 2019), establishment of river equilibrium as State policy, the Shoreland Protection Act, and numerous smaller statutory actions. We await approval from EPA by the beginning of October 2020.

Reporting and Accountability

ANR-DEC published the 2019 Lake Carmi Clean Water Progress Report summarizing clean
water project investments, outputs, and associated estimated phosphorus reductions, SFY 20162019. The Report summarizes progress towards implementing the Lake Carmi Phosphorus
TMDL and the Lake Carmi Crisis Response Plan, as well as water quality trends since 1979.
Available at: https://dec.vermont.gov/watershed/restoring/carmi.

Other Initiatives

• Clean Water State Revolving Fund: The FFY 2020 Clean Water State Revolving Loan Fund Intended Use Plan has been adopted. In addition to listing many facilities in the Lake Champlain Basin that have applied for financing to upgrade infrastructure, the Plan also contains several new programs to support clean water. Four notable initiatives include: Village Wastewater Initiative to support development of decentralized treatment for underserved villages; Lakes in Crisis Initiative to support design and construction of nonpoint source clean water projects in the watershed of a designated Lake in Crisis; Lake Champlain TMDL Affordability Program to assist municipal borrowers in financing wastewater projects where multiple pollutants are required by permit to be treated, and where the post-implementation user rate will exceed four percent of median household income; and, a Farmland Futures Fund to create a revolving loan fund that can be accessed by Vermont Land Trust to purchase conserved farmland, effectuate all needed water quality



improvements, and re-sell that farm into a new generation of farmers while securing water protections permanently.

- Vermont Fish and Wildlife Department wetland acquisition: The Vermont Fish and Wildlife Department (VFWD) continues to make significant progress with this important natural resources restoration initiative, recently closing on three land acquisition projects totaling 360 acres. The three projects, Fitzgerald (143 acres) in Colchester, the Connor Farm (93 acres) in Addison and Derosia (124 acres) in Highgate, include an estimated 60% restorable wetland acreage or approximately 215 acres. Restoration plans for all three properties have been drafted with active restoration slated to start in FY21 and FY22. VFWD anticipates closing on two more projects at the end of September, Padvaiskas at East Creek Wildlife Management Area in Orwell and Jackson at Dead Creek in Addison.
- Waterbury Dam project: The Civilian Conservation Corps constructed Waterbury Dam between 1935 and 1938 under the supervision and technical guidance of the U.S. Army Corps of Engineers (USACE). It is one of three flood control dams built in the Winooski River Basin as a result of the 1927 flood. If Waterbury Dam failed, flooding would impact properties from Burlington to Middlesex and could result in significant injury or loss of life to 1000s. The Risk Assessment, the first step in the spillway rehabilitation project funded by Section 542, is being performed by the USACE and is well underway. This work included multiple site visits by USACE and State staff, intensive file review, and engineering analyses. In addition, a Probable Failure Mode Analysis and Risk Elicitation was performed to identify the greatest risk factors associated with the dam. Based on this work, approximately 50 potential dam failure modes were identified with three of the failure modes as well as the composite risk profile for the dam being determined to exceed tolerable risk criteria. This work is being documented in a report developed by the USACE that should be finalized by early 2021. The report will also inform the next step in the process, the Dam Safety Modification Study (DSMS), which will examine the impacts of a range of structural and nonstructural alternatives that could be implemented at the dam to reduce risk. Following the DSMS, rehabilitation design, permitting, and construction can be pursued.
- Cyanobacteria monitoring: Monitoring of Lake Champlain and Vermont's inland lakes for cyanobacteria has continued throughout the summer, with VTDEC, VTDOH, and LCC each playing their defined roles. The dry and warm summer led to mixed cyanobacteria conditions throughout the state, with persistent but localized blooms arising in certain zones of Lake Champlain (Inland Sea, Missisquoi Bay, and Main Lake North) and a few inland lakes, notably Lake Carmi, Lake Morey, and Shelburne Pond. Overall, it was a busy but quiet summer for the cyanotoxin monitoring, with weekly regular testing leading to just one instance of a toxin (microcystin) detected at 0.45 ng/mL on 9/15 in the raw water sample from Grand Isle Fire District 4. However, in this case, the finished water was <0.16 ng/mL, and when the confirmation samples were analyzed on 9/18 in the DOH laboratory, both raw and finished samples were below the threshold of 0.16 ug/ml for microcystin. Cyanobacteria monitoring will continue throughout the month of September, but it is expected that the occurrence of blooms will decrease as temperatures cool.
- Lampricide permitting: The VTDEC Lakes and Ponds program has put draft permits for lampricide applications on the Lamoille and Missisquoi rivers, as well as a permit amendment for the LaPlatte River, out on public notice. The permits applications were submitted by the US FWS, and the notice periods will all be complete by the end of September. The public notice period for ANR takings permits associated with these applications closed on 9/11. A planned lampricide treatment for 9/23 on the Winooski River has been postponed due to low water levels; US FWS is hoping to complete that treatment prior to the expiration of this permit on 10/9/2020.

E&O Committee Report to the Steering Committee September 23, 2020

E&O ADVISORY COMMITTEE

E&O Committee members met on September 21st and June 25th. On September 21st, the committee reviewed the E&O summer outreach tasks and outreach efforts. The discussed the upcoming RPF process. In June, the committee reviewed the LEAN program and budget timeframe 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.

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 25th 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 27th 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 was 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 inlc ude 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 and ENEWS Ryan worked with the contractor to design the CVNHP website and update content. The site was launched this summer. 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 regularly.

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. All content is available on the content on the Lake Champlain Basin Program YouTube channel Ryan is working with Peregrine Productions to initiate a *Meet the Scientist* video series.

SOCIAL MEDIA – Stephanie regularly posts to Facebook for the LCBP (daily), CVNHP 3-5X/ week), and Raise the Blade campaign (1X/week during the growing season.) Instagram is posted 3 times a week as well. *PLEASE SHARE OUR POSTINGS TO PROVIDE MORE VISIBLITY to the STEERING COMMITTEE'S EFFORTS.*

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 *NEIWPCC 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. The New RFPs for E&O and Organizational Support will be issued October 26th, due December 17th.
- **LCBP MAIN WEBSITE:** Ryan is leading this revision with the contractor and is targeted for completion later this fall.

Heritage Area Program Advisory Committee Report

September 23, 2020

HAPAC Meeting

The HAPAC met on July 28, 2020 on Zoom. The committee discussed Status of 2020 Workplan Items, including actions to extend the Centennial of Women's Suffrage into 2021. The group also received updates on the Champlain-Adirondack Biosphere Reserve (CABN) and the 250th Anniversary of the American Revolution. The committee also advised staff on the approach to the "Knowledge Cafés" that are taking the networking role of the 2020 CVNHP International Summit.

Knowledge Cafés

Every fall, the CVNHP convene dozens of partners, stakeholders and officials from Vermont, New York and Québec at locations around the region for its International Summit. Due to COVID-19, the 2020 meeting is virtual, with three facilitated virtual knowledge cafés. These hour-long virtual discussions include brief introductions and break-out sessions that allow partners to build stronger networks and help us better utilize the CVNHP Interpretive Themes in the coming years. The first café was held last week; 25 people attended the session that focused on refocusing on Women's rights 2021. Two additional cafés are scheduled (register here):

- 2021: Prohibition, Temperance and Smuggling (Thursday, September 24 at 10:00 a.m.) The CVNHP will mark the 100th anniversary of the 18th Amendment, which outlawed the manufacture, sale, and transportation of intoxicating liquors. The CVNHP awarded eight grants to mark this aspect of the *Corridor of Commerce* Interpretive Theme. Discussions will focus on how we can best utilize these projects and other opportunities to interpret the era of prohibition.
- 2022: The 50th Anniversary of the Clean Water Act (Thursday, October 8th at 10:00 a.m.) How do we best commemorate the Clean Water Act—a "watershed" moment for the environmental movement and a legacy for water quality the Lake Champlain Basin and upper Hudson River?

Champlain-Adirondack Biosphere Network

The LCBP staff continues to work in revitalizing the Champlain-Adirondack Biosphere Network (CABN). The chairs of the LCBP HAPAC and TAC met with Eric Howe and CABN co-chairs Kelly Cerialo and Jim Brangan to discussion how the LCBP and CABN can collaborate. The TAC will feature a CABN overview at a future meeting and Ms. Cerialo will present at the December meeting of the Steering Committee. The National Park Service is sending a documentary film crew to the area on October 11-16, 2020. The 10-minute film will highlight the work partners are doing (i.e. dam removal, salmon recovery, Adirondack Farmacy program, etc.) to achieve the UNESCO Sustainability Goals for the Man and the Biosphere Program.

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

The CVNHP Sunset

October 12, 2021

The Champlain Valley National Heritage Partnership (CVNHP) is approaching its "sunset" date: October 12, 2021. If the CVNHP sunsets, this National Heritage Area can no longer receive National Heritage Area funding from the National Park Service (NPS) and the NPS's role in the program will essentially end.

The CVNHP was established to:

- recognize the importance of the historical, cultural, and recreational resources of the Champlain Valley;
- to preserve, protect, and interpret those resources;
- to enhance the tourism economy;
- and to encourage partnerships among state, provincial and local governments and nonprofit organizations in New York, Quebec, and Vermont to carry out the purposes of the legislation.

The CVNHP includes the communities within the New York counties of Clinton, Essex, Washington, Warren and Saratoga, and the Vermont counties of Franklin, Grand Isle, Chittenden, Addison, Rutland and Bennington. The communities and sites within the Brome-Missisquoi, La Vallée-du-Richelieu, Rouville, Pierrede-Saurel, and Le Haut-Richelieu regional municipal counties of Quebec also are invited to participate in the CVNHP.

Established by the U.S. Congress on October 12, 2006, the CVNHP was authorized to receive up to \$10 million in NPS-NHA funding between 2006 and 2021. To date, the CVNHP has received \$3.4 million from the NPS since FY2007 to establish the CVNHP Management Plan (approved by the Secretary of Interior in 2011) and carry out the objectives, tasks and actions within the plan. These federal dollars have generated an additional \$5.6 million in matching funds.

Even with limited funding, the CVNHP has been effective in strengthening its partners through grant funding, technical support, and program coordination. The NPS funding for the CVNHP has been augmented with \$275,000 in Great Lakes Fishery Commission (GLFC) funding between fiscal years 2017-2020. These binational GLFC funds have been used to support additional grant programming across the CVNHP and expand the program into Quebec.

The CVNHP has provided \$1,330,160 for 194 grants since 2008. Those grants generated \$2,276,793 in documented matching funds (Note: this doesn't include the match for the 2020 and 2021 grants, which will establish a 2:1 match overall.)

The CVNHP has provided a tremendous amount of technical support for its partners. Some highlights include:

- Provided free design services for 113 wayside exhibits and provided free French translation for 49 of them between 2006 and today;
- Developed the Lake Champlain Bridge Quest, better linking state historic sites in Crown Point, Vermont, and Chimney Point, New York;
- Helped develop and provided design work for the Valcour Island Heritage Trail guide;
- Developed a NPS Passport Stamp program for locations in each of the 11 counties that make up the CVNHP;
- Supported water quality sampling on the Missisquoi and Trout Rivers Wild and Scenic Rivers;
- Developed interior interpretive panels for Kamp Kill Kare State Park, Chimney Point State Historic Site, Lake Champlain Visitors Center, and the Valcour Rest Area;
- Utilized the replica canal schooner, *Lois McClure*, in its annual tours of the interconnected waterways of Lake Champlain ranging from New York City to Lake Erie to Quebec City from 2008-2019 to promote the Champlain Valley;
- Developed interpretive exhibits and programming for the 2019 International Year of the Salmon;
- Hosted the annual CVNHP International Summit, which creates stronger relationships among the hundreds of partners within the national heritage area from 2010 to present.
- Established a regional stakeholders group in Quebec to enhance collaboration between partners in the U.S. and Canada;
- Helped expand the Lake Champlain Bikeways interpretive theme routes into Washington, Warren, Saratoga and Bennington counties. Today, in addition to the 363-mile route around the Lake, there are 54 Lake Champlain Bikeway theme loops;
- Collaborated with the Upper Housatonic National Heritage Area to establish the 380-mile Western New England Greenway bicycle route that connects Montreal to New York City;
- Developed interpretive exhibits for the 2020 Centennial of Women's Suffrage;
- Developed a dynamic, new website and established an electronic newsletter;
- Created a map guide to American Revolution sites in the CVNHP region.

Since it was established in 2006, the CVNHP has provided coordination for the following efforts that strengthen the cultural and natural heritage ties between Vermont, New York and Quebec:

- The Lake Champlain Quadricentennial (2009);
- The Bicentennial of the War of 1812 (2012-2014):
- The Sesquicentennial of the American Civil War (2011-2015):
- The 350th Anniversary of the "Valley of the Forts" (2016);
- The International Year of the Salmon (2019):
- The Centennial of the 19th Amendment of the U.S. Constitution.

Our plans include focusing on Temperance, Prohibition, and Smuggling in 2021; the 50th anniversary of the Clean Water Act in 2022; and marking the American Revolution in 2025-2028.

TAC Updates for the Steering Committee, September 23, 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:
 - o Vergennes Stormwater Infrastructure Development Project
 - o 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
 - o Long-term Monitoring Program
 - Long-term Monitoring Program sensor array
 - o 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 7th 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

<u>Draft FY21 priorities for Steering Committee consideration</u>

<u>September 23, 2020</u>

- Development of a comprehensive, binational phosphorus mass balance model for the Missisquoi Bay watershed, including all phosphorus inputs and outputs.
- Conservation and restoration research or implementation projects that support:
 - a) native species and their habitat,
 - b) water quality, and or
 - c) flood resilience.
- Development of Payment for Ecosystem Services (PES) tools that fill defined needs for partners implementing PES or Payment for Performance systems in the Lake Champlain Basin.
- Stream equilibrium and geomorphic assessments on the New York side of the basin: continuation of current efforts
- Research on road de-icing alternatives and de-icing pollution reduction
- Research on emerging contaminants such as microplastics, atmospheric mercury, or PFAS
- Environmental Sensitivity Index (ESI) mapping to prepare for a potential oil or chemical spill



Québec Citizens Advisory Committee September 2020 Highlights

- 3 project proposals submitted to the PSREE Decision expected by year end
 - 1. Boat washing station Municipality of Bolton East
 - 2. Phase 2 of Action Plan for Cleaning Lake Parker
 - Development of a Binational Mass Balance for Phosphorus Imports and Exports Rock river watershed
- Office relocation completed
 - Large open-space concept (2500 sq.ft.)
 - Physical distancing not an issue
 - All staff back to work and all activities have resumed
- Busy season for boat-launch stewards yearly high of over 1300 boats in shortened season
 - Demo of boat washing station in Venise-en-Québec 22 boats washed on Aug.22nd
- Held meeting with representatives of Venise-en-Québec, Clarenceville and St-Armand to explore common AIS prevention approach that could include:
 - Common regulation, common information and education
 - Mandatory boat wash for visitors
 - OBVBM will help with development of regulation and boat wash procurement, installation and funding
 - Representatives will review with City Councils
- Will meet with Lyne Bessette MP (Brome-Missisquoi) on Oct. 1st
 - Review of current projects and collaboration of Federal government
 - Review of IJC water-quality report on Missisquoi Bay



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September 2020 Updates for LCBP Steering Committee Meeting

General Updates

- In the face of COVID-19, NEIWPCC continued to host regular 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 was held virtually September 10-11 and included 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.
- The <u>September issue of Interstate Waters</u> reintroduces NEIWPCC amidst major changes in the way we work and interact in a post-COVID world. In Teaching the Teachers, Colleen Hickey (NEIWPCC/LCBP) describes A Watershed in Every Classroom, which trains school teachers in designing and delivering environmental education to the future stewards of the Lake Champlain watershed. Another story introduces some of the students and professionals whose lives have been touched by NEIWPCC's Youth and the Environment Program. A third feature introduces our new public identity and tells how the events of 2020 are reshaping NEIWPCC and challenging our states. Other reports detail the work of NEIWPCC workgroups, the status of federal legislation and regulation affecting water programs, and other news of water in the Northeast.





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Some interesting topics:

- NEIWPCC Wastewater and Onsite Training Calendar: The Fall 2020 schedule includes 33 remote learning opportunities and other offerings. Wastewater operators from around the region may participate from anywhere with a computer, smartphone, or tablet. Classes run between two and three-hours and training contact hours (TCHs) are available. Highlights include several introductory municipal and industrial treatment classes, basic math review, and multiple laboratory classes taught by NEIWPCC instructors, Don Kennedy and Tom Bienkiewicz, and Nora Lough of Clean Water Training and Solutions. Classes will focus on essential training for those new to the field and seeking to take a licensing exam.
- o COVID-19 environmental surveillance in sewersheds has been a highprofile 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 31st to dig deeper into the topic and highlight a few regional projects. A follow-up meeting is scheduled for September 25th 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 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.
- o 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.





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- 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 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 NEIWPCC Contracts and MOAs
- NEIWPCC Positions Posted in the Lowell office:
 - Human Resources Director—new director begins 9/28
 - Communications Director—interviews underway
 - Program Manager (Wastewater Division)—posted until 9/25





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- Some of NEIWPCC'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 23rd. Over 20 applications received to date.
 - Position pending: LCBP CAC Coordinator
 - **Contractual Processes**
 - 79 agreements drafted since January 1, 2020 for a total of \$2,692,578 (as of 9/17/2020)
 - 14 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)



LCBP Citizen Advisory Committee Coordinator Position

Background:

The mission of the Citizen Advisory Committees is to provide recommendations on the condition and management of Lake Champlain to the Steering Committee. The New York CAC has fourteen members appointed by the Commissioner of NYSDEC; the Vermont CAC has fourteen members appointed by the Governor and the Legislature; and the Québec CAC has 13 members appointed by their respective municipal, agricultural, economic, environmental, or community organizations. The CACs serve the following roles in implementing Opportunities for Action:

- provide a forum for citizens, interest groups, and local governments to discuss Lake issues;
- distribute funds to community-based projects through LCBP Partnership Program grants;
- advise the Steering Committee about public concerns;
- link the Steering Committee to state legislative bodies and local groups;
- make recommendations to the Steering Committee about Plan priorities;
- encourage agencies to follow through with their commitments to the Plan.

The role of the State Coordinators

LCBP has historically provided funding to the New York DEC and Vermont ANR to support a position within each entity to serve as a liaison, grant manager, and CAC coordinator. General workloads for these positions include management of Lake Champlain-related State grants, including EPA-sourced funds from the LCBP authorization, coordination of Lake Champlain-related work across their jurisdiction and the LCBP, and coordination of the CAC for that jurisdiction. Grant funding workloads have increased in both States in recent years as Federal- and State-level funding sources have been increased for Lake Champlain-related water quality work. This increasing demand for grant management has reduced the capacity of both State Coordinators to support their CACs. A summary of the current workplan/responsibilities for each State Coordinator is provided here, and complete 2019/2020 workplans for both positions are appended to this document.

Summary of NY State Coordinator responsibilities:

- Coordination with other State entities, including lands and forests, fish & wildlife bureaus
- Oversight of LCBP-funded NY agronomist
- Review and management of NYS-funded WQIP and other grant programs
- Managing South Lake water chestnut harvesting program,
- Coordinating the Long-Term Monitoring Program with SUNY Plattsburgh and annual workplan/contract with SUNY,
- Engagement with NYS DEC staff in Albany and policy formulation,
- WWTF permitting and point sources P management strategy.
- New/recent efforts that require additional effort and time of the Coordinator include working
 on a detailed watershed implementation plan for the NY basin, including highlight of non-point
 source projects.

 Coordination of NY CAC – includes agenda development, meeting logistics, meeting summaries and meeting promotion

Summary of VT State Coordinator responsibilities:

- Coordination with other State entities, including agriculture, transportation agencies and departments of Fish and Wildlife and Forest & Parks
- Review and management of VT ANR-funded Clean Water Fund grants and other grant programs
- Engagement with upper-level VT ANR staff and policy formulation,
- WWTF permitting and point sources P management strategy.
- New/recent efforts that require additional effort and time of the Coordinator include working on a detailed watershed implementation plan for the VT basin.
- Increasing workload in upcoming year(s) with new VT Clean Water Service Provider program management responsibilities
- Coordination of VT CAC includes agenda development, meeting logistics, meeting summaries and meeting promotion

Current CAC Coordination effort

The State Coordinators are responsible for coordination of the CACs for their jurisdiction. Coordination, at a minimum, includes membership development, agenda development, speaker recruitment, meeting logistics, and ideally development of CAC connections to policy and decision makers as well as stakeholder groups. Annual products typically include a 2-page annual CAC priorities document for both New York and Vermont.

Increasing workload demands have limited the ability of the State coordinators to allocate the amount of time needed to adequately support the NY and VT CACs. Available time is now limited to basic CAC meeting coordination elements, production of the annual priorities documents, and, for Vermont, coordination of a day of meetings with committees of the VT State legislature.

Currently, there is very little coordination among the NY, QC, and VT Citizen Advisory Committees, primarily due to lack of resources and time. All three groups have expressed an interest in collaborative work across all three groups, including an annual in-person meeting with membership representation from all three advisory committees to network, identify common priorities and develop approaches to collaborative messaging. This level of coordination cannot be supported in the current coordination model simply due to overburdened workloads of the State coordinator staff.

Proposed LCBP CAC Coordination

An LCBP CAC Coordinator dedicated to the work of the CACs will increase the efficacy of the CACs in their mission to promote the priorities of citizen groups at the Steering Committee level, while allowing the State Coordinators to continue to engage with the CACs at a higher level than they currently have the capacity to do, and continue to share information about State programs with the CACs.

The LCBP CAC Coordinator will not engage in advocacy or lobbying efforts.

The LCBP CAC Coordinator will do the following (incumbent on level of support provided for the position):

- Recruit speakers, secure meeting spaces, provide necessary meeting supplies, and develop and provide meeting documentation.
- Conduct outreach to communities to promote CAC meetings, activities, and annual goals or priorities.
- Work closely with New York and Vermont State staff to ensure coordinated messaging and communication between the States, LCBP, and the CAC membership.
- Arrange legislative days for CAC committee members to engage in discourse with State legislators and other officials.
- Attend the Quebec CAC (OBVBM) meetings on a regular basis.
- Coordinate one joint meeting among the three CACs annually to foster collaborative work, communication, and messaging across the jurisdictions of the Lake Champlain basin.
- Attend LCBP Committee meetings as appropriate.

State Coordinator workload shifts with LCBP CAC Coordination

If an LCBP-hosted CAC Coordinator is supported, this will relieve the State Coordinators of the logistical responsibilities that come with coordination of CAC meetings and allow them to engage more in LCBP-and State-funded programs focused on Lake Champlain work. Demands for this effort continue to increase as funding support for Lake Champlain water quality efforts increases.

Cost options for LCBP CAC Coordination:

Option A: Part-Time (less than 1,000 hours annually or 15-20 hours per week) \$66,000

General responsibilities would include coordination of NY and VT CACs, including working with Committee chairs to develop agendas, recruit speakers, and handle meeting logistics for each CAC and an annual joint CAC meeting for all three CACs. Arrange legislative days and coordinate development of annual priorities documents for NY and VT CACs. Attend LCBP Committee meetings as needed. Represent LCBP at additional watershed group meetings across the Basin and participate in outreach events as time allows.

Option B: 80% of Full-time (1664 hours annually or 32 hours per week) \$120,000

General responsibilities include all of Option A, increasing expectations for watershed group meeting attendance and participation in outreach events to average at least 4 per month outside of the CAC meetings, with office work to include follow-up work as outputs from those meetings. Anticipate additional publications and outreach to communities on behalf of the CACs.

Option C: Full time position (2080 hours annually, 40 hours per week) \$145,000.

- General responsibilities include all of Options A and B, increasing expectations for watershed group meeting attendance and outreach work. May include some grant management work or additional coordination support for LCBP-driven workgroups (e.g. Healthy soils, CBEI, others).

All options include:

- Salary, fringe, and indirect scaled to position level and number of work hours
- Travel support (mileage reimbursement, etc., also scaled to work hours)
- Supplies (publication/printing costs for CAC publications, meeting support supplies, computer support, etc.)

Alternative Approaches to the LCBP CAC Coordination:

- Plan B: Steering Committee creates CAC task line in LCBP Key Functions budget to provide
 additional support to CACs at lower funding level than needed for staff position. Funds could
 support printing of fliers, social media boosting, travel support for members and speakers, other
 CAC-driven activities and products. Funds would not support CAC coordination effort.
- Plan C: LCBP finds another partner that works across the Basin to share cost of this position and leverage funds. Position may or may not be hosted at LCBP.
- Plan D: Develop as a new grant opportunity and sub-contract out the position to a suitable organization under annual or multi-year agreement.
- Plan E: other alternatives not presented here?

Cautions, Caveats, and Opportunities to consider for this this new LCBP position:

- This position will not be recruited until EPA FFY20 funds are available after October 1, 2020. If approved now, the Steering Committee will have the opportunity to reconsider support for this task in September if there are changes in priorities or anticipated appropriations.
- VT ANR and NYS DEC both may be facing budget shortfalls due to COVID-19 pandemic; unclear how this will affect LCBP FY21 budget at this time
- Creates new position for LCBP that will obligate resources away from projects
- The LCBP CAC Coordinator presents several opportunities to build and strengthen
 - o connections between CACs and their stakeholder communities
 - o the voice and presence of CACs among decision and policy makers at State and local levels
 - o connections across the three CACs of the Lake Champlain Basin
 - o CAC membership in VT and NY
 - Provide the Steering Committee with a stronger, more informed voice from citizen stakeholders when considering priorities
 - Release State coordinators from CAC coordination obligations and allow to focus on building State grant programs

TITLE: ENVIRONMENTAL ANALYST I (CAC Coordinator)

EMPLOYER: NEIWPCC, Wannalancit Mills, 650 Suffolk Street, Suite 410, Lowell, MA 01854

LOCATION: Lake Champlain Basin Program office, 54 West Shore Road, Grand Isle, VT 05458

SALARY: Grade and Step dependent upon level of experience and qualifications

ADDITIONAL INFORMATION: Full-time benefits provided, but not included in salary range: vacation, personal and sick leave, health, life, disability, dental insurance, and retirement plan. This position requires the incumbent to work five days a week, 8 hours per day, except for approved compensatory time. [NOTE: This is written for a 100% time position. If approved at 80% time, this information will change slightly and the position description will remain more or less the same but with reduced expectations for workload outputs.]

BACKGROUND INFORMATION: NEIWPCC serves as a forum for interstate communication and coordination on water related pollution control efforts among all the New England States and New York State.

The Lake Champlain Basin Program (LCBP) coordinates and funds activities that protect and improve the natural and human resources of the Lake Champlain Basin. Partners in the program include the States of New York and Vermont, the Province of Quebec, NEIWPCC, the U.S. EPA, the U.S. National Park Service, and the International Great Lakes Fishery Commission. LCBP also collaborates with several other agencies and organizations at the federal, state, and local levels, including private firms and academic institutions.

JOB SUMMARY: The LCBP Citizen Advisory Committee Coordinator (CAC Coordinator) is responsible for coordination of the New York and Vermont Citizen Advisory Committees. Coordination includes working with Committees to establish meeting schedules, agendas, and annual goals for each committee. Incumbent will work with LCBP, New York DEC, and Vermont ANR to develop and fulfill committee membership for each jurisdiction. Incumbent will recruit speakers, secure meeting spaces, provide necessary meeting supplies, and meeting documentation. Incumbent will conduct outreach to communities to promote CAC meetings, activities, and annual goals or priorities. Incumbent will work closely with New York and Vermont State staff to ensure coordinated messaging and communication between the States, LCBP, and the CAC membership. Incumbent will arrange legislative days for CAC committee members to engage in discourse with State legislators and other officials. Incumbent will not engage in advocacy or lobbying efforts. Incumbent will attend the Quebec CAC (OBVBM) meetings on a regular basis. Incumbent will coordinate one joint meeting among the three CACs annually to foster collaborative work, communication, and messaging across the jurisdictions of the Lake Champlain basin. Incumbent will attend LCBP Committee meetings as appropriate.

DUTIES AND RESPONSIBILITIES:

Citizen Advisory Committee Coordination. The New York and Vermont Citizen Advisory
 Committees meet monthly, approximately 7-10 times per year. Work with Chairs of the New York
 and Vermont Citizen Advisory Committees to coordinate monthly meetings and ad-hoc meetings.
 Includes drafting agendas, recruitment of speakers, meeting facilitation, securing meeting space,
 provision of meeting documentation. Produces annual deliverables such as priorities fliers or action
 plans for each CAC. Work to build membership across both groups to represent diversity of interests

related to Lake Champlain basin. Arrange legislative days for CAC committee members to engage in discourse with State legislators and other officials. Attend the Quebec CAC meetings on a regular basis; serve as a liaison among the three jurisdictional CACs, the LCBP, and State Departments and Agencies. Build and improve connection between CACs and stakeholder groups within their respective jurisdictions. Meet regularly with staff from State environmental departments or agencies to build and strengthen connections and communication channels with the CACs. Organize annual meeting with membership from all three CAC groups to network and identify common annual priorities.

- Community and Stakeholder Outreach. Attend regular meetings for Champlain basin-focused
 watershed groups and other organizations. Share messaging and priorities from CACs to
 stakeholders, and bring key points and concerns back to CACs for discussion. Work with other LCBP
 outreach staff to develop outreach materials in digital and print form to promote work of CACs to
 stakeholder groups.
- Workgroups. In collaboration with the Education and Outreach Coordinator, provide support for LCBP-driven workgroups, including Healthy Soils, Champlain Basin Education Initiative, and others as needed. Support may include coordination of meeting logistics, agenda development, speaker recruitment, and follow-up work as outcomes from meetings.
- Programmatic topics. Provide regular updates on CAC activities to LCBP staff, and to LCBP committees as needed. Develop CAC-driven materials for outreach work. Assist the LCBP Education and Outreach Coordinator and LCBP E&O team in the implementation of LCBP outreach tasks and oversight of selected contracts, including evaluating deliverables, budgets, and workplans. Organize outreach workshops in coordination with the CACs to address water quality challenges in the Lake Champlain Basin. Develop and deliver effective presentations at stakeholder forums and other LCBP meetings. Serve on professional and advisory committees on behalf of LCBP.
- Website. Support development and content management of the LCBP website, including content
 for the CACs on www.lcbp.org. Provide data interpretation and assist with the development of
 infographics and other content for the State of the Lake Report and related LCBP outreach
 documents.
- Other duties as assigned.

The satisfactory performance of the above duties and responsibilities requires the incumbent to have a thorough understanding of NEIWPCC's and LCBP's programs, organization, and policies, to exercise initiative and resourcefulness in complicated situations, and to be able to work effectively with state and federal contacts at both staff top management levels, and with varied professional backgrounds. The ability to organize workload and perform tasks in an accurate, conclusive, and timely manner is required.

SUPERVISORY CONTROLS: Incumbent operates with substantial independence of action subject to the supervision of the LCBP Education and Outreach Coordinator who provides instruction on work, guidance and review of completed work to assure accuracy and adherence to established policy and requirements. Independently performs tasks in an efficient and effective manner, using good judgment. LCBP Education and Outreach Coordinator evaluates job performance in consultation with NEIWPCC

Lowell, Mass. staff.

The incumbent will rely on their ability, expertise, and commitment to excellence. The incumbent also will build NEIWPCC's culture which focuses on honesty, ethical behavior, personal integrity, respect for others, transparency, hard work, and collaborative teamwork.

RECOMMENDED QUALIFICATIONS:

Education

A bachelor's degree, in natural science, physical geography, or natural resource management is preferred.

Experience

Applicants must have at least (A) three years of full-time or equivalent part-time, technical or professional experience in the above-mentioned fields, of which (B) at least one year must have been in a professional capacity and (C) any equivalent combination of the required experience and the following substitutions.

Substitutions

- I. An associate's degree with a major in any of the field listed above may be substituted for a maximum of one year of the required (A) experience.*
- II. A bachelor's degree with a major in any of the fields above may be substituted for a maximum of one year of the required (A) experience.*
- III. A graduate degree with a major in any of the fields above may be substituted for a maximum of three years of the required (A) experience and one year of the required (B) experience.*

Personal Characteristics

- Think and act in a broad collaborative style. Care deeply about the health and impact of all of NEIWPCC and the Lake Champlain Basin Program
- Comfortable in group settings and welcomes collaboration
- Naturally prone to action with a focus toward continuous improvement
- Diplomatic and welcoming in their approach to others
- Able to manage change and articulate the need for that change
- Comfortable working in a very collaborative environment and oriented toward getting things done;
 able to bring perspectives and ideas to the table while remaining open to perspectives and ideas from others. Open to lively debates
- Inclusive and interested in helping others
- Capable of fostering and deserving of trust
- Accept responsibility and is accountable for results
- Ability to write concisely, to express thoughts clearly and to develop ideas in logical sequence

Special Knowledge and Skills

- Excellent verbal and written communication skills
- Excellent grammar and editing skills
- Knowledge of or experience with Lake Champlain Basin resource issues

^{*}Education towards such a degree will be prorated on the basis of proportion of the requirements actually completed.

- Experience working with communities or stakeholder groups, coordinating meetings and event planning
- Familiarity with technical data and systematic approaches to quality assurance and quality control
- Ability to work both independently and as part of a team
- Ability to establish and maintain effective working relationships within diverse groups
- Excellent computer skills, particularly word processing, spreadsheet and data analysis software, and geographic information systems
- Ability to exercise considerable tact and diplomacy
- Experience with or interest in technical data communication and infographic design
- Fluency or proficiency in French is desirable but not necessary

Requirements

Duties will be performed largely in an office setting, but may include outdoor field assignments, and will require travel to various meetings locations in Vermont, New York and Quebec, for which a private means of transportation and a valid passport or smart-license is required.

Attendance in the NEIWPCC Lowell office for a one-day orientation during the first two weeks of employment and at the annual All-Staff Meeting is mandatory.

2019 New York EPA Grant Application Lake Champlain Basin Program Workplan Narrative

New York Coordination Program and Long-Term Water Quality & Biological Monitoring Project

LCBP Task Area Framework for Implementing the Plan

<u>1. OBJECTIVE:</u> Describe the principal and subordinate objectives of the program/project. This should include relevant physical, economic, social, financial, institutional, or other problems requiring solution. Supporting documents from concerned interests other than the applicant may be used. Any relevant data based on planning studies should be included and footnoted.

The New York Lake Champlain Coordinator provides coordination among New York State Agency staff and watershed partners to implement the Lake Champlain Basin Management Plan, *Opportunities for Action* as well as, the NY Lake Champlain Phosphorus TMDL. The coordinator works with the Program Manager, the Vermont Lake Champlain Basin Coordinator, EPA staff, other Agency staff, and local interest groups to facilitate the smooth operation of the Program. This position works as a member of the LCBP Staff Team.

2. RESULTS OR THE BENEFITS EXPECTED: Identify results and/or benefits accruing from the program/project. [Important: include all primary and secondary benefits accruing to the Recipient, the population served, the public served, the public and the environment in general]; for example: compliance with water quality standards or ambient air quality standards, advancements in the state of the art of pollution abatement, etc.

Sustain and improve the effectiveness and efficiency of the Lake Champlain Basin Program by facilitating communication and the sharing of information and resources among the many partners working on implementing *Opportunities for Action*. Collaboration and coordination among the many environmental organizations working across the Basin is essential toward achieving the *Opportunities for Action* objectives of reducing phosphorus loadings, reducing toxic and other contaminants, preventing introduction and spread of non-native species, protecting native fish and wildlife, protecting and enhancing habitat, preserving and interpreting cultural and historic resources, and restoring and preserving ecosystem health.

3. APPROACH: A detailed work plan must be provided which includes:

a) How the program/project will be accomplished. Factors should be cited which might accelerate or decelerate the work activities. Describe why the approach has been taken rather than alternatives. Include a description of any unusual features of the project such as design or technological innovations, reductions in cost or time or extraordinary social and community involvement.

The New York Coordinator will perform the following:

- Provide ongoing support to the NYSDEC Region 5 Director and other Regional Senior staff (Environmental Quality, and Natural Resources), for ongoing and emerging LCBP issues. Develop regional updates, briefings, and other materials as needed for the Regional Director in preparation for Executive Committee and Steering Committee meetings. Prepare briefing materials for the Regional Director, Central Office Executive Staff, and the Governor's Office on key Lake Champlain Basin Program current and emerging issues and initiatives as necessary. Participate in routine and spontaneous conference calls and meetings with Central Office staff to provide updates and status of LCBP activities and issues. Attend LCBP Executive Committee and Steering Committee meetings and provide logistical support to the Regional Director as necessary. Provide direct input to the Executive and Steering Committees as requested.
- Provide ongoing coordination and collaboration with all NYSDEC program areas including Water, Fisheries, Wildlife, Lands & Forests, and Operations on issues of mutual or program specific importance within the framework of the LCBP and the management plan *Opportunities for Action*.
- Coordinate collection and compilation of materials and data from all NYSDEC program areas, as well as, partner organizations throughout the NY basin that feed into updates and tasks associated with the LCBP management plan, *Opportunities for Action* and periodic releases of the *State of the Lake*.
- Supervise and direct the activities of a LCBP funded agronomy conservation specialist staff position assigned to the DEC with funding approved in the LCBP budget through December 2019. This position is a New England Interstate Water Pollution Control Commission staff position established with LCBP grant funds managed through NEIWPCC. The objectives of the position are to directly engage the agricultural community and associated partners in developing and implementing BMPs intended to reduce phosphorus export while sustaining farm viability. The focus continues to be on demonstrating under-utilized practices having potential to be effective in the Lake Champlain Basin.
- Serve as a DEC primary contact for communication, review, and input on the feasibility study for a physical separation barrier on the Champlain Canal to prevent spread of aquatic invasive species between the Lake Champlain and

Hudson River Basins. This effort is underway via a contract between NEIWPCC and the USACOE along with a workplan agreement with NYS Canals.

- Continue to stay abreast of policy, programs, and regulations being developed in Vermont intended to facilitate implementation of the 2016 Vermont TMDL.
 Prepare briefing materials for NY Executive as questions or needs arise and coordinate NY participation in discussions concerning the interaction of the Vermont and New York TMDLs.
- Provide education and outreach to local partners and municipalities on the NY TMDL and its requirements/expectations for the various contributing land sectors (point sources, agricultural lands, developed lands, and forested lands) within each of the phosphorus management lake segments. Seek opportunities for phosphorus reduction initiatives and assist partners and municipalities with logistics of implementation.
- Coordinate activities of the NY Citizens Advisory Committee. Support the
 mission of the CAC in informing and involving the public on issues concerning
 the lake and the basin, providing a forum for interest groups and local
 governments, and maintaining a link to state legislative bodies and local groups.
 Guide the CAC with updates to its Strategic Plan and the development of annual
 priorities summaries suitable for public distribution.
- Actively participate as a member of the Lake Champlain Basin Program Technical Advisory Committee. Monthly meetings, as well as, special workgroup meetings are routinely conducted by the TAC. The TAC is responsible for reviewing current and emerging technical issues, advising the Steering and Executive Committees on technical priorities, and developing technical priorities for annual budget consideration. The TAC oversees and facilitates technical projects.
 - Actively participate on TAC sub-committees and workgroups. Includes participation and NY partner coordination on:
 - Aquatic Invasive Species Spread Prevention Workgroup
 - Rapid Response Task Force
 - Adaptive Management / Structured Decision Making Workgroup
 - Water Chestnut Workgroup
 - Toxics Workgroup
 - Grant Review sub-committees
- Actively participate with inter-basin efforts on aquatic invasive species spread prevention:

- Participate with Adirondack Park partners in supporting boat launch steward programs, and monitoring for aquatic invasive species
- Participate in the on-going development and implementation of a Parkwide boat inspection and decontamination program effort,
- Coordinate aquatic invasive species spread prevention training for DEC campground staff
- Remain engaged with the LCBP Education and Outreach Advisory Committee
 and relay information on emerging educational and outreach opportunities and
 issues among the LCBP and key constituent groups throughout the NY portion of
 the basin. Identify programmatic actions necessary to address E&O issues and
 participate in drafting task descriptions and funding recommendations.
 Participate on Education and Outreach local grants review committees.
- Remain engaged with the Heritage Area Partnership Advisory Committee and the implementation of the Champlain Valley National Heritage Partnership Management Plan approved in 2011 by the National Park Service. Provide linkages to local groups in areas of history, interpretation, archeology, cultural heritage, recreation, and tourism. Understand and relay information on emerging heritage resource management issues and the necessary actions to address issues. Participate in drafting task descriptions and funding recommendations. Seek opportunities to expand the wayside exhibit trail across the NY Basin.
- Participate in various capacities in the LCBP local implementation grants
 programs. May include participating in the preparation of Requests for Proposals
 for LCBP local grants and participating on review and scoring committees for
 various LCBP local grant programs including Pollution Prevention, Habitat
 protection, Aquatic Invasive Species Management, Education and Outreach,
 Organization Support, and Enhanced BMP grants.
- Participate in LCBP development of Technical projects concepts and priorities
 and the development of Request for Pre-Proposals soliciting project ideas for
 possible consideration for funding. Review and score pre-proposals received and
 concur on a sub-set to submit full proposals. Review and score full proposals
 received as part of the TAC process to recommend technical projects to the
 Steering Committee for funding and inclusion in the annual budget.
- Develop annual workplans and agreements and approve payment packages for NY water chestnut harvesting efforts in South Lake Champlain. Through a DEC contract utilizing Environmental Protection Funds, the Town of Dresden conducts mechanical harvesting utilizing NYS Canal Corporation owned harvesting equipment. The Project involves field surveys to identify harvesting locations, developing a workplan with the Town of Dresden, tracking progress, documenting harvested areas, reviewing and approving requests for

reimbursement. Project also involves securing necessary permits from DEC and the Adirondack Park Agency for harvesting and land disposal of water chestnut. Coordinate with the State of Vermont and the Lake Champlain Basin Program Aquatic Invasive Species Coordinator in scoping out an annual plan of work. Funding for the NY portion of this effort has been secured through the 2019 field season.

- Collaborate with partners across the Basin with Harmful Algae Bloom monitoring and reporting. Key partners include LCBP, NY and VT Departments of Health, NY and VT Departments of Environmental Conservation, NYS Office of Parks, Recreation, and Historic Preservation, Local Health Departments, and Lake Champlain Committee.
- Engage partners in both NY and VT with continued efforts to improve South Lake Champlain. Efforts include developing plans and actions to address issues of specific concern to the southern end of Lake Champlain. Priority areas include phosphorus loading and aquatic invasive species.
- Actively engage LCB partners and stakeholders in developing and implementing
 nonpoint source pollution reduction projects that fit within the framework, and
 work toward the goals, of a recently completed Non-Point Source Pollution
 Subwatershed Assessment and Management Plan (2018) that was funded with a
 NY Department of State grant. Prioritized rankings of reduction opportunities
 outlined in this plan will help guide NY TMDL implementation efforts.
- Collaborate with DEC Central Office staff and other Basin partners in advancing
 a preliminary Phosphorus Reduction Plan developed for the NY Basin toward a
 full Watershed Implementation Plan for the NY portion of the Lake Champlain
 Basin. This plan will further describe strategies and implementation opportunities
 and actions necessary to meet phosphorus loading criteria established in the Lake
 Champlain TMDL. Note that this activity may be supplanted with a full
 TMDL revision to be initiated by 2026 per Bi-State/EPA MOU.
- Work with local partners and municipalities to identify watershed restoration projects that may be eligible for consideration under the WRDA Section 542
 Program. Identify project partners, provide guidance on process and submitting letters of request, and facilitate interaction with USACOE and LCBP.
- Seek opportunities to align LCBP tasks and objectives with NYSDEC pollutant reduction programs and funding opportunities such as the Water Quality Improvement Project Program and the newly released Harmful Algae Bloom Action Plans for Lake Champlain and Lake George. Assist local municipalities and watershed groups and other eligible partners with funding opportunities and grant applications. Review/score applications, review/approve workplans,

conduct field visits, review/approve project reports and payment requests. as appropriate. Coordinate with LCBP on accounting for projects within the context of *Opportunities for Action*.

- Actively participate (as time allows) in meetings and activities of local watershed groups throughout the NY portion of the Basin.
 - Participate in meetings of the Champlain Watershed Improvement Coalition of NY; this group, made up of the 5 county Soil & Water Conservation Districts, the 5 county Water Quality Coordinating Committees and the Lake Champlain-Lake George Regional Planning Board, is actively engaged in on-the-ground implementation efforts that help to deliver on the goals and objectives of *Opportunities for Action*.
 - O Participate in meetings of the County Water Quality Coordinating Committees, local county wide groups involving county, municipal, agency, and academic personnel, lake and river groups, and lay citizens working together to discuss problems and identify solutions to local water quality problems. Assist with seeking out grant opportunities for nonpoint source pollution abatement projects.
 - Participate in meetings of various lake and river associations as invited to discuss issues of mutual interest and provide linkages to opportunities for collaboration with the LCBP.
 - Continue to be engaged with the Technical Advisory Committees for the Ausable River and Boquet River Associations on developing and implementing Watershed Management Plans funded through NYS Department of State grants. Seek opportunities for start-up groups in other river basins.
 - Assist local municipalities and watershed groups on opportunities for nonpoint source pollution abatement grants through the NYSDEC water quality improvement grants program. Review and rank applications, review and approve project workplans, inspect on-going projects, and review payment packages.
- Coordinate NY Basin efforts in a new initiative involving wastewater treatment facility optimization. This project will provide professional technical assistance to operators of municipal wastewater treatment plants to seek opportunities to optimize existing infrastructure and operation processes. The goal is to improve treatment efficiencies, reduce the occurrence of problems, save money, and improve effluent quality without the need for large capital investments. A primary anticipated outcome is improved phosphorus removal by making

adjustments to process control and facility operation. Work elements associated with this task will include:

- Assist with development of an RFP seeking professional services in wastewater treatment facility operations.
- Identify wastewater treatment facilities that would most likely benefit from this outreach and coordinate with facility operators to gage interest and engage their participation. Provide input to the contractor on potential facility candidates for this work.
- Provide pertinent background information and data on wastewater facilities that may support the contractor's work.
- o Participate in on-site visits with wastewater facility operators and the contractor as needed.
- Review and comment on interim and final reports developed by the contractor. Identify opportunities to expand this effort to additional facilities. Track operational data as a measure of project benefit.
- Coordinate the NY activities associated with the joint NY-VT Long Term Water Quality and Biological Monitoring Project:
 - O Collaborate with Vermont DEC staff on necessary updates to the 5-year workplan and quality assurance project plan (expires 3/31/2023) for the LTM project. Inform the TAC of any changes to the project. Minor changes that do not alter the project design, objectives, intended uses of the data, nor the statistical continuity of the data generally will not require a full examination of the workplan/QAPP. All changes are noted in a cover memo provided to the project distribution list, including EPA project coordinators.
 - Collaborate with Vermont DEC staff on preparation of annual project accomplishments. Conduct joint annual presentations of LTM project accomplishments to the TAC for approval. Provide QAQC oversight of LTM field operations and data generated in NY to ensure project validity and to ensure data is formatted for integration into a joint NY-VT database. Ensure cumulative project data is accessible to the public via a Vermont DEC website.
 - Develop, implement, and oversee an MOU between DEC and SUNY
 Plattsburgh for work associated with the LTM project. Develop annual
 workplans for work conducted under the MOU. The Lake Champlain
 Research Institute at SUNY Plattsburgh conducts the field work associated
 with the lake monitoring activities at the 15 LTM lake stations and 9 tributary

stations. The LTM zooplankton samples are analyzed at the LCRI-SUNY facility. Zooplankton are identified to species, density information is developed, and samples are screened for invasive species. With the confirmation of spiny water flea, *Bythotrephes longimanus*, in 2014 and fishhook water flea, *Cercopagis pengoi*, in 2018 in the Lake, additional zooplankton sampling is continued as part of the program to determine dispersal and density information and assess ecological impacts. Beginning with the 2017 field season, analyses of phytoplankton samples collected as part of the program was switched from Vermont to the LCRI-SUNY facility. This will continue into the future. The workplan and MOU have been amended to reflect this additional work. Water chemistry samples are delivered to Vermont DEC staff for analyses at the VT Agriculture and Environmental Laboratory.

- Review monthly operating data from NY TMDL wastewater treatment facilities for flow and effluent total phosphorus. Input data into a master tracking database designed to develop loading data for each facility and lake segment. Prepare annual summary reports on NY wastewater treatment facility phosphorus loadings as a component of the LTM project and for TMDL tracking purposes. All data is incorporated into a joint NY-VT-Quebec database of wastewater treatment plant phosphorus loadings throughout the Champlain Basin.
- Update and maintain NYSDEC Standard Operating Procedure manual for conducting lake and tributary sample collection specific to the Lake Champlain LTM project.
- Update and maintain the NY Lake Champlain Basin Standard Operating Procedure manual for small watercraft operation, including towing, launching/retrieving, operation, safety, and maintenance. This is specific to DEC trailered boat assigned to the LCB, but could be easily adapted to additional watercraft.
- Coordinate any special sampling activities in the Champlain Canal System for screening and early detection of aquatic invasive species.
- Present summaries on the activities associated with the LTM program to various constituent groups as requested including the Champlain Watershed Improvement Coalition of NY, and the NYCAC.
- b) Describe all facilities presently available for use in carrying out the project.

Office space, vehicles, program support and all other necessary facilities and materials are provided by the NYS DEC.

c) List, by name, all non-Federal sources of funds and facilities to be utilized in the performance of the proposed program/project.

See the attached budget.

d) List, in chronological order, a schedule of accomplishments, progress, or milestones that are anticipated over the length of the program/project.

LCBP Staff meetings - Monthly

Technical Advisory Committee - Monthly

Executive Committee – Bi-monthly or as needed

NY Citizens Advisory Committee - Quarterly

Champlain Watershed Coalition of NY - Monthly

Track NY tasks/activities associated with goals and objectives of LCBP Management Plans and the P TMDL – Monthly

Manage NY water chestnut harvesting operations (monthly: spring through fall)

Steering Committee – Quarterly (or more as necessary)

Participation with the 5 County Water Quality Coordinating Committees – Quarterly.

Oversight of contracts associated with Local Implementation Grants - Quarterly

Oversight of NYDEC Water Quality Improvement Program grants/contracts – Quarterly Oversight of LCLGRPB 604b grant - Quarterly

Aquatic Invasive Species subcommittee, including the Rapid Response Task Force and Spread Prevention groups – Quarterly (Additional tasks dependent on new AIS discoveries.)

Adaptive Management/Structured Decision Making – Quarterly (irregular scheduling) State of the Lake Report Development – Latest release summer 2018.

Opportunities for Action – Latest release 2017.

NY Watershed Implementation Plan, Transition from Phosphorus Reduction Plan Final Draft completed in summer 2014. Progress on Phase II WIP ongoing and/or impending TMDL revision by 2026 per Bi-State/EPA MOU.

Oversight of the Long-term monitoring project – Monthly (more frequent as necessary)

e) Indicate by whom each element of the work plan will be carried out including supporting agencies, consultants and contractors.

The New York Lake Champlain Coordinator will perform and/or oversee all the various elements of the work plan.

SUNY Plattsburgh, working through an MOU with the DEC will perform the field sampling elements associated with the Long-Term Water Quality and Biological Monitoring Project. A scope of work for this project is included.

f) Describe sampling and data collections procedures analytical methods, and methods for evaluating the results and successes of the project.

The New York Coordinator participates in regular staff meetings with the LCBP Program Manager where coordination work is a regular topic of discussion. Additionally, the New York coordinator is subject to regular program evaluations by the regional director of NYSDEC.

Collaboration with SUNY Plattsburgh, Vermont DEC, and the Technical Advisory Committee will be conducted to assess results and successes of the Long-Term Water Quality and Biological Monitoring component.

Collaboration with the LCBP Program Manager and Technical Coordinator and NEIWPCC will be conducted to assess results and successes of the Agronomist position.

4. GENERAL PROGRAM/PROJECT INFORMATION:

a) Identify the kinds of data to be collected (and maintained) and discuss the criteria to be used to evaluate the results and successes of the project.

The position is heavily focused on maintaining coordination and collaboration among organizations and does not generally include the direct responsibility for data collection or analysis except for the Long-Term Water Quality and Biological Monitoring Project discussed below. The New York Coordinator participates in regular staff meetings with the LCBP Program Manager where coordination work is a regular topic of discussion. Additionally, the New York coordinator is subject to regular program evaluations by the regional director of NYS DEC.

Oversight of the Long-Term Water Quality and Biological Monitoring Project will follow the procedures outlined in the Workplan/Quality Assurance Project Plan and Standard Operating Procedures specifically developed for the project.

<u>5. QUALITY ASSURANCE REQUIREMENT:</u> If your program/project involves environmentally related measurements or data generation, you...

QAPP for the Long-Term Water Quality and Biological Monitoring Project is included with this workplan.

Vermont Department of Environmental Conservation (VTDEC) Workplan for Lake Champlain Basin Program (LCBP) Vermont Coordination (VTC, 1 FTE) and Grant Management (GM, 1 FTE) and Grant Administration (GA, 0.8 FTE) October 1, 2019 – September 30, 2020

Staff Responsible: Bethany Sargent

Problem Definition: Phosphorus levels in Lake Champlain and major tributaries exceed US Environmental Protection Agency (USEPA) defined phosphorus criteria

The VTC activities implements the LCBP 2017 management plan "Opportunities for Action" (OFA) by carrying out activities to achieve Goal III (Thriving Communities) and Goal IV (Informed and Involved Public), and by coordinating state and USEPA funded projects that address Task Areas I.A.1.a, I.A.1.c, I.A.2.a, I.A.2.b, I.A.2.c, I.B.1.b, I.B.1.c, I.C.2.d., I.C.2.d., I.C.3.b, I.C.3.c, II.A.1.b, II.B.1.a., II.B.1.c., II.C.1.a, and II.C.3.a.

Goal #1: Provide effective coordination between VTDEC, LCBP, and USEPA

OBJECTIVES	STRATEGY	OUTCOMES	TARGET TIMEFRAME (matches outputs)	OUTPUTS
1-1. In close cooperation with the VTDEC business office, assist with the management of VTDEC grant application processes to federal partners for LCBP targeted funds (through New England Interstate Water Pollution Control Commission or NEIWPCC)	Guide development of relevant FFY20 VTDEC/LCBP task descriptions and workplans, in coordination with the LCBP Director and Technical Coordinator, Clean Water Initiative Program (CWIP), USEPA, and NEIWPCC	USEPA award of LCBP funds to VTDEC for projects received	July – Sept. 2020	FFY20 Grant Application
1-2. Prepare and track grant agreements and contracts for relevant LCBP projects with the VTDEC business office and LCBP, including approving invoices, deliverables and semi-annual reports	Guide and synchronize development of relevant FFY19 project scopes of work, QAPPs, peer reviews, and RFPs in coordination with LCBP, VTDEC, USEPA, and NEIWPCC staff	Technical Advisory Committee approval of VTDEC workplans and final reports for LCBP/USEPA funded technical projects; and USEPA approval of QAPPs for LCBP/USEPA funded projects	As needed, per project timelines	Grant agreements, contracts, workplans, and/or QAPPs (as needed) for VTDEC- managed projects using LCBP funds
		LCBP and USEPA informed on key accomplishments and progress made during workplan timeframe	Semiannual, ongoing	Semiannual progress reports for USEPA/LCBP funded State of Vermont projects

1-3. Support DEC grant administration, management and agreement execution for federal and state funded Lake Champlain TMDL implementation projects	Coordinate and/or serve on grant review committees and as a project manager, assisting grantees through the grant process, tracking deliverables, and approving invoices	Projects implemented according to grants or contracts, including meeting performance measures and deliverables	Ongoing	Final performance reports for projects managed
	Manage requests for proposals process; assist with the grant review process; approve, issue, and manage grants and contracts, including processing invoices	Grants and contracts comply with state and federal policies	Ongoing	Grant agreements and/or contracts for VTDEC-managed projects using LCBP funds

Goal #1 DELIVERABLE: Semiannual progress reports (January and July 2020), Vermont Clean Water Initiative 2019 Performance Report

Goal #2: Provide effective coordination among Vermont Citizens Advisory Committee (VTCAC), VTDEC and LCBP				
OBJECTIVES	STRATEGY	OUTCOMES	TARGET TIMEFRAME (matches outputs)	OUTPUTS
2-1. Prepare annual Lake Champlain Action Plan on behalf of VTCAC for the Vermont Legislature, Governor, VTDEC, Vermont Agency of Agriculture, Food and Markets, and LCBP	Plan annual legislative day to release action plan to Vermont Legislature, including arranging meetings and/or testimony with multiple legislative committees and leaders	Governor, legislative committees, LCBP, and VTDEC are informed of VTCAC Lake Champlain Action Plan	January – March 2020 January – March 2020	Annual Action Plan online and in print Legislative Day agenda
2-2. Develop annual priority themes and then coordinate targeted meetings	Speakers, minutes, agendas, notices organized around priority themes for up to 6 meetings each year	VTCAC and the public are informed on Lake Champlain issues	Ongoing	4 – 6 public meetings annually, including annual VTCAC summer retreat

OBJECTIVES	STRATEGY	OUTCOMES	TARGET TIMEFRAME (matches outputs)	OUTPUTS
3-1. Clean Water Performance Report and supporting materials are accessible and effective at communicating progress toward meeting TMDL implementation milestones and phosphorus targets	Report on progress in state, federal and partner activities associated with the restoration of Lake Champlain	Targeted audiences are informed about Lake Champlain's restoration plan and the progress made in its implementation	January 2020	Vermont Clean Water Initiative 2019 Performance Report

Goal #3 DELIVERABLE: Vermont Clean Water Initiative 2019 Performance Report (January 2020)

Budget Summary

	EPA Grant	State Match
Personnel ¹	\$ 71,760	
Fringe ²	\$ 50,034	
Travel		
Equipment		
Supplies	\$ 2,306	
Contractual		
Other		
DEC CAP ³	\$ 20,051	
BGS Property Mgmt	\$ 1,506	
Fleet Lease Payments & Gas	\$ 2,109	
Telephone & Computer	\$ 1,404	
Other Services (printing, insurance,	\$ 15	
postage, etc.)		
DEC Lake Champlain Pollution		\$ 53,809
Control Grants		
Indirect ⁴	\$ 12,242	
Total	\$ 161,427	\$ 53,809

¹ The VTC budget Includes costs associated with 0.1 FTE that will manage and administer federal and state-funded Lake Champlain TMDL implementation projects, including supporting grant processes and providing technical project oversight, tracking, and accounting. The personnel costs for the 1.7 FTEs executing portions of the workplan above are included in the Using GSI (Green Stormwater Infrastructure) and Other Technologies to Reduce Combined Sewer Overflows (CSOs) project budget.

State Match for USEPA Award

DEC will be using State-funded Pollution Control Grants as state match for this award. Projects eligible for Pollution Control Grants include combined sewer overflow elimination/separation, removal of direct sewer connections to waters of the state, sludge handling and septage receiving facilities, and reduction of phosphorus discharges. Specific projects included as match will be in the Lake Champlain Basin of Vermont, and funds will be expended during the award period.

² Our past fringe calculations were based on a fixed average across all staff. Our current SF424 budget template uses actual fringe that is charged by DEC employees.

³ The DEC CAP is a department wide cost allocation plan that includes the proportionate share of the following costs: Commissioner's office, Compliance and Enforcement, Legal division, Environmental Assistance office, Geology and Administration and Innovation services. The calculation is \$27,752 per FTE and is allocated based on the proportionate share of salary dollars charged to each program.

⁴ Indirect rate dropped from 24.51% to 17.06%

Committee	May	June	July	August	September	October	November	December	January	February	March	April
Steering	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
Executive	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
TAC	Summit preparation	Steering Committee Summit	Develop conceptual projects/ priorities with Summit feedback	Develop conceptual projects/ priorities with Summit feedback	Review priorities for technical RFPP, Present to Steering Cmte, Issue RFPP	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	of full proposals	Present full technical budget to Steering Committee (core, RFP projects)
E&O	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
Heritage	no action	No action	no action	no action	Review priorities for Heritage RFPP, present to Steering Cmte, issue RFPP			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
State partner line items	Summit preparation	Steering Committee Summit	items with	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
TMDL priorities	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	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

FFY21 CVNHP Priorities

The LCBP is particularly interested in funding projects that address the following priorities:

CVNHP Special Program Funding Projects (\$10,000-\$40,000) will have an emphasis on any of the following:

• Serve the CVNHP *Conservation & Community* Interpretive Theme to encourage multijurisdictional, or regional projects that interpret, highlight, and support the observation of the 50th Anniversary of the Clean Water Act.

CVNHP Core Grant Program proposals may include: support

- Local Heritage Grants (up to \$4,000 for local projects; up to \$7,500 for regional, multijurisdictional projects)
- Conservation & Community Interpretive Theme Grants (up to \$7,500)
- Collections Grants (up to \$7,500)
- Internship Grants (up to \$5,000)

<u>Draft FY21 priorities for Steering Committee consideration</u>

September 23, 2020

- 1. Development of a comprehensive, binational phosphorus mass balance model for the Missisquoi Bay watershed, including all phosphorus inputs and outputs.
- 2. Conservation and restoration research or implementation projects that support:
 - a. native species and their habitat,
 - b. water quality, and/or
 - c. flood resilience.
- 3. Development of Payment for Ecosystem Services (PES) tools that fill defined needs for partners implementing PES or Payment for Performance systems in the Lake Champlain Basin, and that support the LCBP mission.
- 4. Stream equilibrium and geomorphic assessments in under-assessed areas of the Lake Champlain Basin, with priority given to subwatersheds that currently have significant gaps in assessment.
- 5. Research on contaminants such as plastics, heavy metals, pharmaceuticals, personal care products, or per- and polyfluoroalkyl substances; or work to replicate previous assessments for mercury concentrations in Lake Champlain fish tissue.
- 6. Environmental Sensitivity Index mapping to prepare for a potential oil or chemical spill.
- 7. Work that provides stormwater planning for non-regulated communities in the New York portion of the Lake Champlain Basin, and/or provides Lake Watershed Action Plans for inland lakes in the Vermont portion of the Lake Champlain Basin.

LCBP FFY21 Line Item Requests

Project #	Requesting	Short Project Title	Funding Request
	Organization(s)		
1	LCBP	Enhanced BMP	\$500,000-
		Grants	\$1,000,000
2	LCBP	AIS Rapid Response	\$90,000
3	LCBP	Lake Champlain Boat	\$220,000
		Launch Steward	
		program	
4	LCBP/NY DEC/VT	Lake Champlain Long-	\$618,199
	DEC	Term Monitoring	
5	LCBP/NY/VT DEC	LTMP Sensor Array	\$19,000
		maintenance	
6	VT DEC	Water Chestnut	\$90,000
		Management	
7	NY DEC	NY Agronomy	\$160,000
		Support	
8	LCBP	Cyanobacteria	\$100,500
		Monitoring	

TITLE: FY21 Enhanced Best Management Practices for Pollution Reduction: Implementation and Planning Grants

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

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

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

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

TOTAL COST WITH NEIWPCC INDIRECT: \$500,000 - 1,000,000

BRIEF BUDGET EXPLANATION:

This task was approved in the FY20 budget for \$615,717.

Total requested funds in 2016: \$1,065,000 Total requested funds in 2017: \$994,878 Total requested funds in 2018: \$1,278,433 Total requested funds in 2019: \$2,217,630

TITLE: FY21 Aquatic Invasive Species Rapid Response Fund

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

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

DESCRIPTION OF PROJECT SCOPE, OUTPUTS, OUTCOMES, METHODS, AND TIMEFRAME: The timing and location of the next harmful aquatic invasive species to the Lake Champlain basin is unknown. The Lake Champlain Aquatic Invasive Species Task Force is a dedicated group of experts from NY, VT, and QC that respond quickly to the report of a new infestation. The Lake Champlain Aquatic Invasive Species Rapid Response Plan approved in May 2009 by the Lake Champlain Basin Program Steering Committee contains clear steps for species confirmation, delineation of the infestation, notifying the public, species risk assessment, implementation for control and monitoring. A dedicated source of funding which is readily available to respond to a new invasive species threat is a critical component of any rapid response plan. As an example, Rapid Response funding could be used to help contain a new aquatic plant or fish, or be used for direct control and management of a new invasive species spread or arrival in the basin. The AIS Rapid Response Fund would provide a source of resources that could be used in a rapid fashion to support management, tools, and resources necessary to implement control when the Task Force deems it technically feasible. While \$75k is currently available* for the Task Force, the goal is to have \$150k available to respond to a new infestation. Outputs from the use of these funds would be measurable and the outcome of this funding would be that the basin is prepared to take steps to respond to new introductions rapidly. *Any AIS Rapid Response Funding that may expire will be used on the boat launch steward program. AIS Rapid Response funds were used to support the development of an eDNA monitoring tool for quagga mussel in the Lake Champlain basin in 2019. Due to the COVID-19 pandemic the LCBP Steering Committee redirected AIS rapid response funds to the COVID-19 emergency relief grant funding opportunity to keep watershed organizations operating in the spring and early summer.

REQUEST AMOUNT: \$75,000 US dollars

TOTAL COST WITH NEIWPCC INDIRECT: \$90,000

BRIEF BUDGET EXPLANATION: Program funding is unknown but could be used for direct management to contain, control, or eradicate the introduction of AIS (contracted services, control materials, permitting, etc.) This funding request will help build the fund up closer to the \$150k target of the AIS RR Task Force.

TITLE: FY21 Lake Champlain Boat Launch Steward (Watercraft Inspection and Decontamination) Program

ONE SENTENCE ABSTRACT: LCBP/NEIWPCC will hire 16 stewards to inspect and decontaminate, if necessary, boats launching and retrieving from Lake Champlain in NY, VT, and QC to prevent the introduction and spread of aquatic invasive species

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

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

The Lake Champlain Boat Launch Steward program will enter its fifteenth season in 2021 and will continue to prevent the introduction and spread of aquatic invasive species in the Lake Champlain Basin with watercraft inspection and decontamination as noted in the Healthy Ecosystems section of *Opportunities for Action* in partnership with NY, VT, and QC partners. Direct outputs from this program include the number of courtesy boat inspections and individuals that receive AIS messaging, summary of last body of water visited, number and types of organisms removed from boats and associated equipment, and percent of public that take certain types of AIS spread prevention measures. The public will be better informed and equipped with steps to help reduce the spread of AIS in the basin and resource managers will be better informed about where to place limited resources (stewards and decontamination stations) across the landscape to reduce landscape level spread of AIS.

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

*The QC portion of Lake Champlain on Missisquoi Bay implemented their first year of boat inspections in 2017 with support from LCBP. The program will be continued in 2021. LCBP provides training, French translated materials (uniforms, sandwich boards, handouts), and program support. QC stewards are supervised by Organisme de basin versant de la baie Missisquoi and data is collected on LCBP iPads for review and quality assurance.

REQUEST AMOUNT: \$200,000 US dollars

An additional amount of \$20k for OBVBM to support boat launch stewards = \$220,000

TOTAL COST WITH NEIWPCC INDIRECT: \$222,000 (with indirect on OBVBM contract) *other if NEI charges indirect on the \$200,000

BRIEF BUDGET EXPLANATION: Program funding supports up to 18 stewards (2 in QC) most of which cover Memorial Day – Labor Day, four days a week. At sites where decontamination units are present double staffing is required for the launch and the decontamination unit.

Increases to the budget include raising the starting wage to \$15/hr, increasing coverage to 5 days a

week, and increasing the number of stewards to 16. This will allow two stewards to be stationed at the Shelburne, Malletts Bay, and South Hero launches where there is the greatest amount of traffic.

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

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

POINT OF CONTACT:

Oliver Pierson, Interim Project Manager VT DEC, Watershed Management Division 1 National Life Dr., Davis 3 Montpelier VT 05620-3522 802-490-6198 Oliver.pierson@vermont.gov

Robert Streeter, Interim Project Manager NYS DEC 232 Golf Course Road Warrensburg, NY 12885 518-623-1221 robert.streeter@dec.ny.gov

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

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

The LTM consists of the following activities:

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

- Outputs Database of veliger densities on Champlain, early detection, invasive species outreach materials
- Outcomes Increased understanding of the planktonic food web, better public understanding of the impacts of invasive species, support of the rapid response plan through early detection
- The Rock River Watershed Targeted Best Management Practice Implementation Project: VT DEC, VAAFM, and NRCS developed this project is to demonstrate water quality improvements from a focused agricultural BMP implementation effort in a small watershed where very high rates of phosphorus loading to Lake Champlain have been documented.
 - Outputs Database tracking water quality change in after coordinated implementation of agricultural best management practices and Vermont's Phase I Implementation Plan
 - Outcomes Increased understanding of ability of BMPs to improve water quality, increased usage of BMPs in the target watershed and beyond, improved water quality in a highly impacted area of the basin. Data collected from the Rock River project contribute to understanding effectiveness of BMP implementations to improve instream water quality.
- High Frequency Monitoring and Sensor Array: In 2021, the LTM project will install and operate
 a paired lake buoy and tributary sensor system to monitor basic water quality parameters
 (dissolved oxygen, temperature, pH, turbidity, chlorophyll, phycocyanin). The paired sensors
 will be placed in Malletts Bay and the Lamoille River. An operating budget for FFY21 has been
 submitted as a separate budget request.

REQUEST AMOUNT: \$618,199

TOTAL COST WITH NEIWPCC INDIRECT: NA

BRIEF BUDGET EXPLANATION:

Costs include staff, supplies/materials/equipment, laboratory analyses, data management, and reporting.

Category	EPA- NEIWPCC	EPA-VT	EPA-NY	TOTAL
Personnel	129,820	116,002	0	245,822
Travel	2,000	0	0	2,000
Supplies	6,000	3,292	0	9,292
Equipment		0	0	0
Contractual		6,000	194,250	200,250
Laboratory Services		78,350	0	78,350
Administrative Direct		44,732	0	44,732
Indirect Charges	26,627	11,126	0	37,753
TOTAL	\$164,447	\$259,502	\$194,250	\$618,199

TITLE: Maintain sensor array for the Long-term Monitoring Program

ONE SENTENCE ABSTRACT: This project would maintain modernization upgrades to the LCBP Long-term Monitoring Program to collect more useful and accessible data on Lake Champlain and its tributaries to better inform management decisions.

POINT OF CONTACT: Matthew Vaughan, LCBP

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

The Long-term Monitoring Program (LTMP) has provided high quality environmental data on Lake Champlain and its tributaries for 30 years. The resulting dataset has been enormously useful to inform management decisions and to guide LCBP's pressure-state-response adaptive management strategy. The strength of this dataset is in its consistency and longevity. The traditional LTMP approach has limitations, however. Because samples are collected by hand, 10-20 measurements per year are made at each site. This relatively low sampling frequency can introduce significant errors when estimating environmental conditions that change on much shorter timescales.

Water quality monitoring technology has developed greatly since the advent of the LTMP. Researchers can now measure several key water quality parameters remotely at sub-hourly frequencies, and transmit data in real-time to stakeholders. Online tools can present real-time data graphically so the public can interact with, learn from, and react to measurements as they are collected. The goal of this project is to leverage newer technologies to improve our understanding of the LCB ecosystem while maintaining the strength and longevity of the LTMP. This work would support *Opportunities for Action* Strategy I.A.2: Fund and Interpret Monitoring Programs and Task I.A.1.a: Increase accessibility of data on Lake Champlain.

The Lake Champlain Steering Committee approved upgrades for the Long-term Monitoring Program in April, 2020 to be installed in the 2021 field season. This task will provide ongoing support and maintenance for the sensor array during the 2022 field season. Further upgrades may be considered for FY22.

Maintenance support for data buoy and sensor array (physical and chemical parameters)

This will support deployment and maintenance of one buoy that would measure all parameters listed above and the following at a 15-minute frequency with remote data access online:

- Temperature
- Conductivity
- pH
- Dissolved oxygen
- Turbidity
- Phycocyanin (and/or Chlorophyll as options)

Total buoy annual maintenance cost: \$11,000

Includes: Ten-year replacement cost, cellphone plan, labor, and incidental costs.

Tributary monitoring:

This will also support maintenance of the Lake Champlain tributary monitoring station, which is planned to be positioned on a river that drains to an area where a buoy is installed. A monitoring system would measure the following parameters a 15-minute frequency with remote data access online:

Water

- Temperature
- Conductivity
- pH
- Dissolved oxygen
- Turbidity
- Nitrate (possible addition)

Weather

- Wind speed
- Wind direction
- Barometric pressure
- Air temperature
- Precipitation

Total tributary station annual maintenance cost: \$8,000 Includes: Ten-year replacement, cellphone plan, labor, incidental costs.

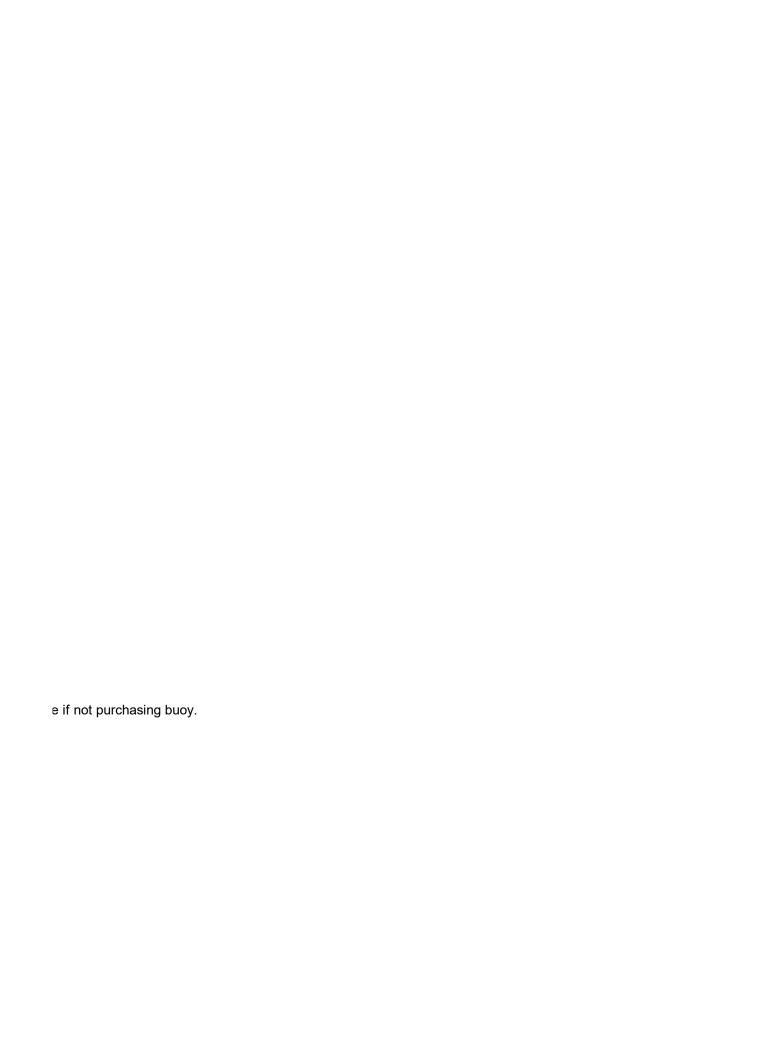
REQUEST AMOUNT: \$19,000

Notes:

- This complements the task description for the Lake Champlain Long-term Monitoring Program.
 They have been kept separate for clarity in the budget development process, but will be managed together in practice.
- In addition to staff time listed here, the NEIWPCC portion of the LTMP budget and LCBP staff will also contribute as personnel resources to deploy and maintain the LTMP sensory array.

Buoy monitoring system						
Capital or						
ltem		Cost	Annual	Notes		
Fondriest 450 buoy	\$	7,000	Capital			
Weights, moorings, lines	\$	3,000	Capital			
Batteries	\$	800	Capital			
Datalogger	\$	3,000	Capital			
Marine safety light	\$	600	Capital			
Deployment pipe	\$	200	Capital			
Eureka sonde (Temperature, conductivity,						
pH, optical DO, turbidity)	\$	7,800	Capital			
Sonde cable	\$	400	Capital			
Phycocyanin probe	\$	2,370	Capital			
Weather station (wind speed, wind						
direction, atmospheric pressure, air						
temperature, solar radiation)	\$	3,122	Capital	Includes mounting supplies		
Thermister chain	\$	7,225	Capital	\$355 per meter, 20 meters + mooring line (\$		
Freight	\$	500	Capital			
Additional 5% for incidental costs	\$	1,776	Annual			
Ten-year replacement cost	\$	3,602	Annual			
Cellphone plan	\$	360	Annual			
Labor	\$	5,000	Annual			
Total	\$	46,755				

Tributary monitoring system							
Capital or							
Item		Cost	Annual	Notes			
Tribtuary monitoring station	\$	3,150	Capital	_			
Eureka sonde (Temperature, conductivity,							
pH, optical DO, turbidity)	\$	7,800	Capital				
Cables and connectors	\$	2,000	Capital				
Deployment supplies	\$	1,000	Capital				
Weather station (wind speed, wind							
direction, atmospheric pressure, air							
temperature, precipitation)	\$	2,500	Capital				
Freight	\$	-	Capital	Included in buoy freight cost. Would increase			
Additional 5% for incidental costs	\$	823	Annual				
Ten-year replace cost	\$	1,645	Annual				
Cellphone plan	\$	360	Annual				
Labor	\$	5,000	Annual				
Total	\$	24,278					



TITLE: Water Chestnut Management Partnership – Lake Champlain Basin

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

POINT OF CONTACT:

Kimberly Jensen
Lakes and Ponds Management and Protection Program
Vermont Department of Environmental Conservation (VTDEC)
(802) 490-6120
kimberly.jensen@vermont.gov

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

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

In 2021, VTDEC will continue to prioritize management of water chestnut on Lake Champlain and adjoining tributaries with a north-to-south approach with both removal by hand and mechanical control. VTDEC will also collaborate with NYSDEC and the town of Dresden, NY for control in the Dresden region that supports a north-to-south management program. A second VTDEC element that manages water chestnut in other Basin waterbodies in Vermont will also continue. To date, removal efforts in these other waterbodies involve only the use of water chestnut removal by hand, and no change in control methods is expected in 2021. The funds sought from the Lake Champlain Basin Program will support hand-harvesting efforts in the Basin only; the complementary mechanical harvesting element will be supported with other funding sources.

VTDEC also plans to expand the use of drone technology to monitor water chestnut populations, which was a new initiative in 2018. The pilot program in 2018 focused on exploring methods for how this technology can be used as part of our management program. In 2020, we have attempted to continue to improve the methods by using a motorboat to access water chestnut populations that were not accessible by the former contractor. In doing so, contractors are capturing drone images in challenging and unharvested locations, i.e. wetlands, along edges of cattail stands, etc., where the mechanical harvesting operations are unable to harvest. In 2021, VTDEC will utilize these drone services with a new handpulling initiative to capture pre-and-post harvesting efforts as below.

In 2021, VTDEC will initiate a new handpulling operation that will target these unharvested and challenging locations by using motorboats rather than kayaks, to access and hand harvest dense mats of water chestnut that are mixed with native plants. This operation will work in concert with the mechanical harvesting operators, and load spoils onto the transporter. A portion of the funds sought from LCBP will contribute to this element.

This work significantly contributes to several goals outlined in *Opportunities for Action*. The aerial photography element is in line with tasks **I.A.1.a** and **I.A.1.b**, as it will provide the research community with datasets that

will inform future management, and supports an innovative management approach that should prove invaluable in long-term monitoring efforts. Because the aerial photography will also be used to assess current management techniques, it satisfies task **II.B.1.d**. The water chestnut management project satisfies tasks **II.C.1.a-c** due to monitoring efforts for new populations and subsequent response. In-water harvesting also contributes to task **II.C.3.a**.

Project Outputs:

With anticipated 2021 management funds (including sources other than this request):

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

Project Outcomes:

2021 harvesting efforts, hand and mechanical, will support existing water chestnut management goals: reduce densities, prevent further spread, shift Lake Champlain populations from dense mats in need of mechanical harvesting to populations harvested by hand, and continue surveillance. In addition, the use of aerial photography will help us make more informed management decisions in future and better gauge long-term success.

REQUEST AMOUNT: For the State's ongoing water chestnut management program in the Lake Champlain Basin, we request \$150,000 from the Lake Champlain Basin Program. We also anticipate receiving \$450,000 from the U.S. Army Corps of Engineers and \$30,000 from the U.S. Fish and Wildlife Service to assist in funding this initiative.

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

BRIEF BUDGET EXPLANATION: The request for \$90,000 for FFY21 (as outlined in the table below). Within each season, \$75,000 of requested funds will be used to support roughly 40% of the estimated cost of contracted hand-pulling overseen by VTDEC. The remaining \$15,000 will be used to support the aerial photography component of the program. The balance of the hand-pulling contract (~\$110,000), the mechanical harvesting component (~\$300,000), access to southern Lake Champlain and disposing of collected spoils (~\$7,500), and VTDEC staff time (\$50,000) will be paid out of other State and Federal sources. Work occurs on both sides of Lake Champlain and in other Basin waterbodies in Vermont.

Workplan Timeline	FFY18	FFY19	FFY20	FFY21	Total
July 1, 2019 – June 30, 2020	\$30,000	\$60,000			\$90,000
July 1, 2020 – June 30, 2021		\$30,000	\$60,000		\$90,000
April 1, 2021 – June 30, 2022			\$90,000		\$90,000
April 1, 2022 – June 30, 2023				\$90,000	\$90,000
Total		\$90,000	\$150,000	\$90,000	

DRAFT

Lake Champlain Basin Program FY21 Conceptual Technical Task Description

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

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

POINT OF CONTACT: NYSDEC, Robert W. Streeter, Region 5 Water Program Manager

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

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

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

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

REQUEST AMOUNT: \$160,000

TOTAL COST WITH NEIWPCC INDIRECT: \$160,000

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

TECHNICAL REFERENCES CITED:

FY2021 LCBP Conceptual Budget Technical Task Description for the 2022 Year

TITLE: Lake Champlain Watershed Cyanobacteria Monitoring Program

ONE SENTENCE ABSTRACT: This project will support a cyanobacteria monitoring program to recruit, train and support a network of monitors to assess and report on water conditions; track frequency and distribution of blooms; and publicize conditions through a data tracking map and other outreach mechanisms during the 2022 year and field season.

POINT OF CONTACT:

Lake Champlain Committee
Lori Fisher, Executive Director
208 Flynn Avenue, Building 3, Studio 3F, Burlington, Vermont 05401
(802) 658-1421 direct office line | (802 238-8321 cell phone | lorif@lakechamplaincommittee.org

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

Project Scope and Methods - The Lake Champlain Watershed Cyanobacteria Monitoring Program is focused on the broad goals of Opportunities for Action (OFA) of "Clean Water", "Healthy Ecosystem", "Thriving Communities", and "Informed and Involved Public". By training and supporting community science and volunteers to assess conditions at over 100 Lake Champlain and inland waterway locations and broadly disseminating information, the program will help meet the following OFA objectives:

- Objective I.A. Improve scientific knowledge and understanding of water quality conditions and trends in Lake Champlain and the effectiveness of management approaches
- Objective IV.A. Enhance formal learning at all educational levels
- Objective IV.B. Build awareness through informal learning of Lake Champlain Basin issues across all age groups.
- Objective IV.C. Facilitate changes in behavior and actions of citizens

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

In addition to providing a dataset for long-term trend analysis, the program will provide weekly input during the summer and early fall recreation season about the location, density, and persistence of cyanobacteria blooms, allowing public health and recreation managers to make informed decisions about when and where blooms may require beach closings. Once vetted, the monitoring reports will be made publicly available via the online cyanobacteria data tracker map housed at VDH, through social media postings and website listings and through weekly reports to monitors and a list-serve of interested individuals. LCC will also provide regular reports to media throughout the monitoring season and develop educational materials to help people identify, report and avoid blooms. We will seek to strengthen and build outreach to under-served communities and the agencies that support them as part of LCC's ongoing work to better meet goals of diversity, equity, and inclusion (DEI).

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

Outputs: LCC will produce training and educational materials about cyanobacteria and conduct between 20 to 25 in-person sessions or a minimum of 10 online training sessions for volunteer monitors, recreational and health personnel throughout the watershed. The types of trainings offered will be based on monitor preference and health and safety protocols. We will also provide the majority of the data for the cyanobacteria tracker map and contribute to the database outlining conditions, toxin concentrations and cyanobacteria composition. During bloom season, we will capitalize on increased public interest and host additional cyanobacteria information sessions to help raise awareness about blooms and educate people on how to recognize, avoid and report them. We will also expand partnerships to reach disadvantaged communities who may not have easy online access to reporting results or the cyanobacteria data tracker and will seek outside funding to do this. To support monitors throughout the season we will produce weekly email updates and also be in contact by phone, email and in person as conditions warrant. A separate weekly email will be produced for key stakeholders and interested citizens who subscribe to our cyanobacteria list-serve. In addition to providing information on weekly conditions, the emails will include educational information, links to resources and training materials to educate recipients about bloom causes, how to avoid exposure, and actions to take to protect water quality.

Outcomes: The program will gather information about water conditions at specific locations on Lake Champlain and inland lakes, help increase awareness of cyanobacterial blooms and potential health issues and improve understanding of the connection between water quality and bloom occurrence. Through ongoing education and outreach it will increase proactive response from municipal and state officials and the general public when they encounter blooms.

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

Anticipated partnerships: Primary project partners are the VT DEC, VDH and the Lake Champlain Basin Program. We will also coordinate with New York state environmental, health and recreation agencies, the Vermont Department of Forests, Parks and Recreation, municipal recreation departments for lakeshore communities, public water supply operators, and recreation centers located on Lake Champlain to offer training and provide weekly information about bloom conditions. We will also seek to establish or strengthen partnerships to help us reach disadvantaged and under-served communities.

REQUEST AMOUNT: \$100,500

TOTAL COST WITH NEIWPCC INDIRECT: \$100,500

BRIEF BUDGET EXPLANATION:

The budget is the same as 2021 levels. While LCC plans to expand communication and outreach to reach under-served communities we will seek non-LCBP funding to conduct this important work.

Budget Expense	Task 1 Monitoring program development, coordination	Task 2 Implement monitoring program	Task 3 Project assessment, reporting and future planning	LCBP Request Total & Budget Percentage
Personnel	\$16,000	\$40,000	\$14,000	\$ 70,000 (69%)
Total fringe	\$ 1,600	\$ 4,000	\$ 1,400	\$ 7,000 (7%)
Supplies	\$ 1,000	\$ 4,000	\$ 0	\$ 5,000 (5%)
Communications	\$ 1,000	\$ 4,000	\$ 500	\$ 5,500 (5%)
Insurance	\$ 3,500	\$ 0	\$ 0	\$ 3,500 (4%)
Travel	\$ 350	\$ 2,000	\$ 150	\$ 2,500 (3%)
Indirect	\$ 1,600	\$ 4,000	\$ 1,400	\$ 7,000 (7%)
Totals:	\$25,050	\$58,000	\$17,450	\$100,500

Personnel includes staffing to develop and update program materials, recruit, train and support the monitors, run cyanobacteria information sessions for the general public, produce related education and outreach materials, and analyze and assess results.

Supplies includes gloves, thermometers, jars, masks, printed documents, portfolios, and other monitor toolkit materials along with training expenses (Zoom and/or venue fees), monitor T-shirts or hats, Abraxis strips, sanitization equipment, and materials to support field staff.

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

Insurance covers related program expenses for volunteer coverage.

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

TECHNICAL REFERENCES CITED: 2018 - 2023 Lake Champlain Cyanobacteria Monitoring QAPP

LCBP FFY21 Line Item Requests

Project #	Requesting Organization(s)	Short Project Title	Funding Request
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

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:

Vermont Department of Environmental Conservation (VTDEC) Ethan Swift 802-490-6141 Ethan.Swift@vermont.gov New York State Department of Environmental Conservation (NYSDEC)
Lauren Townley, Chief, Watershed Section A (518) 402-8283
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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 managed¹ 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.

¹ 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

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.

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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.

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.

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:

Helen Carr, Vermont Department of Environmental Conservation 802-490-6115 Helen.Carr@vermont.gov

Lauren Townley, New York State Department of Environmental Conservation (518) 402-8283

<u>Lauren.Townley@dec.ny.gov</u>

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 NEIWPCC 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 comply¹ with the MRGP:

Cost of road inventories per mile: \$287²

• Cost of improvements per linear mile: \$68,490³

• Cost per TP load reduction unit (kg/yr): \$11,8384

¹ Includes both change from not meeting to fully meeting standards and partially meeting to fully meeting standards.

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

³ Based on SFY 2018 Municipal Roads Grants-In-Aid results

⁴ Based on SFY 2018 Municipal Roads Grants-In-Aid results

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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Lauren Townley, New York State Department of Environmental Conservation (518) 402-8283 lauren.townley@dec.ny.gov

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 buffers¹. 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.

¹ 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/

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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Dr. Rochelle Sturtevant
GLANSIS Program Manager
NOAA Great Lakes Environmental Research Laboratory
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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 NEIWPCC 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/