

**Lake Champlain Basin Program
Technical Advisory Committee meeting
Wednesday, April 5, 2023, 8:45 AM – 12:30 PM
Held remotely over MS Teams**

Approved TAC meeting summary

TAC Members: Jennifer Callahan, Bryan Dore, Laurie Earley, Neil Kamman, Steve Kramer, Margaret Murphy, Oliver Pierson, Andrew Schroth, Jamie Shanley, Lauren Townley, Daniel Tremblay

LCBP Staff: Mae Kate Campbell, Eric Howe, Meg Modley, Matthew Vaughan, Sarah Coleman, Sarita Croce

Guests: Erin White, Tim Howard, Laura Shappell, Brad Roy, Amy Conley, Don McFeeters, Alison Spasyk, Kent Henderson

1. Updates, announcements, public comments

- Matt: The TAC buoy subcommittee is scheduled for 5/4 @ 11am. This meeting is open to any TAC member. We will be discussing plans for deploying a monitoring buoy in the Northeast Arm.
 - Andrew: Do we want to wait to get the Missisquoi Bay and St. Albans buoys out until after that meeting?
 - Matt: No, those can advance.
 - Andrew: We'll communicate with Peter and Kelsey to get those out. The Carmi buoy is going to go out some time this month.
- Matt: The Lake Champlain Steering Committee is meeting next week to review and approve the LCBP fiscal year 2023 budget. Neil and I will present TAC's research recommendations. Thank you for your work in developing that. We are still considering the USGS line-item proposal. Thanks to those who provided feedback; if you haven't already, it's still welcome. The field season is kicking off and we have a lot of projects starting – thanks TAC members for their review of workplans and quality assurance project plans.
- Meg: In terms of round goby response, we are launching a baitfish sign spring campaign to raise awareness along the Champlain Canal corridor. LCBP and partners are collaborating with lock operators to get those posted. Both the Chambly and Champlain Canal are scheduled to open on 5/19. We've extended the US Geological Survey (USGS) monitoring contract; this year's monitoring will start as soon as streams are clear of ice. We've completed 4 of 6 planned monthly meetings with the Canal Corps and the NY State Department of Environmental Conservation (NYSDEC) and have drafted a scope of work for the Phase 2 Canal Barrier Study. The US Army Corps of Engineers (USACE) would like to execute the design agreement in June. LCBP and NYSDEC will be serving as local sponsors. LCBP is still hiring for boat launch stewards – please spread the word! Thank you to those who participated in our watercraft

inspection and decontamination summit meeting to inform plans for the VT side and share lessons learned from NY partners. Also, LCBP just released Bipartisan Infrastructure Legislation-funded requests for proposals (RFPs) for native tree nursery development, aquatic invasive species (AIS) equipment for monitoring and management, and NY wetland restoration. We also launched an RFP for an economic valuation study.

- Neil: The state of VT is working through our annual budget cycle; an increase for AIS management funding has been built into the proposed budget.
- Oliver: The increased AIS funding would be an addition to the base budget, so would hopefully reoccur on an annual basis. It also includes funding for 2 staff positions that had been lost over the past few years. The budget is in draft form, so we will see what happens if when it is finalized. There are two other legislative initiatives VTDEC is following: the first is a bill that would have created a moratorium on AIS control measures but has been reduced to a study committee. DEC does not support this bill because we have initiated draft rulemaking that would accomplish the same ends with a more robust advisory board. We will pivot our rulemaking effort in response as needed. VT has been trying to promote protection of waters using reclassification. One barrier has been a statute from the 1980s saying that class A1 waters must have limited new septic development. DEC has argued that septic technologies have advanced, and that the old rule is a barrier to lake reclassification and should be repealed. On wake boats, we are advancing to the first step of formal rulemaking on May 8th. The draft rule limits the use of wake boats to lakes that have at least 50 acres of water surface area that are 500 ft from shore and at least 20 ft deep. We are still deciding how to address the feedback we received in February from the public comment period.

Review and approve summary of previous TAC meeting

Motion: to approve the minutes from the March TAC meeting

By: Jenn

Second: Margaret:

Vote: All in favor

Abstention: Andrew

2. **Final report review: *Using multi-metric modeling, field surveys, and online spatial tools to support conservation and management for flood resilience, water quality, and native species habitat*** (Erin White and Tim Howard, New York Natural Heritage Program, SUNY ESF)

- Erin White presented. The goal of this project was to develop spatial modeling products for conservation and planning on the NY side of the Lake Champlain Basin. She provided information on each of the project objectives, including quality assurance project plan (QAPP) development, modeling stream water quality in the basin, modeling wetland capacity to intercept and desynchronize floodwater, modeling ecological conditions of all wetland complexes and validating with field sampling, and providing an interactive tool to decision makers and the public for viewing and using these data.

- Margaret: Your wetland and stream access to wetland work – I like how you are looking at where barriers might be, but then you are only layering over wetlands, not riparian zones or areas that may have been wetlands. Is there any way to tease out areas that may have wetland potential, to identify where there are zones that we could restore to increase capacity?
 - Tim: Great questions. Our focal unit was the wetland, so in terms of actionable items, the first thing we would think about is looking at wetlands that score poorly and looking to see what that barrier exists that is causing that low score. We could also look at where there are rapid rises from a stream into a riparian zone – our data could certainly be used to perform that analysis.
- Matt: Same topic. I was curious – I think you are using the 1-meter digital elevation model (DEM), so with that data you are getting the top of the water surface. I am wondering if you thought about the sensitivity of the light detection and ranging (LiDAR) to the water surface and what conditions looked like when the flights happened.
 - Tim: We didn't think about bounce-back reflection off the water surface. A problem we had to deal with was addressing road crossings – that would be a fix we'd love to apply. For water level, you still have the banks adjacent to streams that generally come up, so I'd be less concerned about the water surface reflection.
 - Matt: The value of the DEM is where the water happened to be when the flight took place; the banks are fixed, but I was wondering if you took into account uncertainty for the water surface. But it sounds like you are looking at the difference between the two.
 - Tim: Unless you could get the surface below the water, it sounds like it would be hard to correct for.
 - Neil: I think it would be really hard, there are many differences stream-to-stream and within a stream from headwaters to base.
 - Laura: We did consider the water surface values a little bit when we did quality control – in the wetland functional assessment field sites I was able to look at that with on the ground measures.
- Margaret: Question on invertebrates as indicators of water quality. The Hilsenhoff Biotic Index (HBI) is good for understanding the impact of pollutants, but not necessarily for other water quality metrics. Are other factors accounted for by integrating other indicators you used? Did more weight get put on pollutant-related metrics?
 - Erin: The biologic assessment profile (BAP) does include other water quality measures, one is overall total species richness, the other metric is percent model affinity (how well does sample relate to what a reference site would look like). All water quality metrics were related to organic pollutants and getting at that question.
 - Tim: All biotic measures.
- Neil: Following up, in your analysis on the bugs did you use the percent model affinity?
 - Erin: We calculated it, but it didn't pass our validation, so we did not include it.
 - Neil: You are trying to model biologic condition as a function of watershed condition, which is a hard thing to nail down, so the extent that your analysis

produced some good outcomes is very exciting. I did notice that at a fundamental level, your worst quality site was still a pretty okay quality site.

- Erin: Overall we had slightly impacted to non-impacted sites. We had a poor site that I sampled, but there are a lot of great examples in the basin for sure. We worked with DEC folks to review these data.
- Jamie: Back to the hydrology – with the water quality metrics you were able to check how the model was doing. With hydrology, were you able to do any validation, maybe with remote sensing or model verification generally with the hydrology?
 - Tim: Yes and no. We did get out and were able to assess the function of the wetlands at field sites, but we did not validate what the DEM was saying about rise off the stream or things like that.
 - Jamie: Or verifying/observing where overland flow was occurring?
 - Tim: Good question, you could look at physical barriers to overland flow. That was beyond the scope of this project.
- Neil: Relating to water level at the time of the flight, was the approach you took similar to the Height Above Nearest Drainage (HAND) modeling that was used in VT for the Functioning Floodplains Initiative (FFI)?
 - Tim: I am not familiar with that analysis or what went into the FFI.
 - Neil: The approach that the VT team took for departure from water level to access to the floodplain.
- Neil: What you've done is really cool and provides new information on the NY side. Regarding the considerations that Matt and Jamie brought up, adding some discussion of the uncertainties related to the water surface and the sensitivity would be helpful.
 - Tim: If you could think on that and suggest how someone might address that, we can think about doing that too.

Motion: To approve the final report pending incorporation of comments received over the next week

By: Margaret

Second: Jenn

Vote: All in favor

3. **Final report review: *Geomorphic Assessments for Québec and Vermont Segments of the Rock River*** (Joe Bartlett, Fitzgerald Environmental)

- Matt introduced the project and noted how binational this effort was. He noted that quality assurance of the data from the state is ongoing.
- Joe presented. The project was a collaborative effort between Fitzgerald Environmental, L'Organisme de bassin versant de la baie Missisquoi (OBVBM), and Friends of Northern Lake Champlain (FNLC). Joe provided background on the project and the stream geomorphic assessment (SGA) methods, Phase 1 and 2 SGA assessment data, and priority projects identified. The Phase 1 assessment was conducted only on the Québec side, as that assessment had previously been conducted on the VT side. A portion of streams that were assessed in Phase 1 were selected for Phase 2 assessment. As part of the Phase 2 assessment, all stream-road crossings (bridges and culverts) are

assessed for aquatic organism passage (AOP) considerations and geomorphic compatibility. Joe shared examples of various stream conditions and classifications that were encountered during the assessment. Through the assessment, 69 potential restoration projects were identified. Recommended water quality improvement practices in this watershed include gully mitigation, small stream stabilization, cropping practices to reduce runoff, buffer establishment, and floodplain improvements.

- Neil: When do you expect the project packets will be ready?
 - Joe: There are a few pieces awaiting quality assurance; we expect to have drafts in the next month or two.
- Matt: It was great to get a tour through a watershed like this – that’s not something TAC gets to see every day. Great to get a reminder on these methods as well. Thank you, Joe.
- Andrew: Being involved with another FNLC project focused on monitoring, this assessment could be a powerful tool for future monitoring. Do you have thoughts on areas where more monitoring data would be useful?
 - Joe: A new project focusing on small and perennial streams in the Rock is getting started, and I have passed on this information and made recommendations to help guide that project.
- Kent: This work has really informed what FNLC is doing. We are in the process of selecting test sites, and that process is well-informed by the results of this assessment. The area where livestock exclusion is not being observed, we want to set up pre and post monitoring sites on. These projects are going to work together.
 - Neil: I appreciate the connection between FNLC, the science in this project funded by LCBP, and information flowing to the Clean Water Service Providers.

Motion: To approve the report pending completion of quality assurance by the state.

By: Jenn

Second: Andrew

Vote: All in favor

4. **Presentation: Justice40 implementation at LCBP** (Mae Kate Campbell, LCBP)

- Mae Kate presented on the background of Justice 40 initiative and how it applies to LCBP. 40% of Bipartisan Infrastructure Legislation funding should go to supporting outcomes that benefit disadvantaged communities in the Lake Champlain Basin. LCBP is voluntarily applying this to other funding sources as well. LCBP has been working to develop a definition of “disadvantaged community” following EPA guidance and has developed a mapping tool to help identify where communities meeting this definition are located. 11 criteria are included in the interim definition of disadvantaged community. For funding purposes, the highest priority will be projects that are actively working with members of disadvantaged communities (“meaningful involvement”), not simply working within the geography.
- Neil: Great work, seen this a few times and it’s been helpful to state process.
- Oliver: Have you gone back and seen which past / existing LCBP projects would qualify as having outcomes that benefit disadvantaged communities?

- Mae Kate: Yes, we've looked at projects that take place in geographies that would qualify, and also projects that clearly benefit disadvantaged communities but not necessarily due to location (e.g., informational videos translated to multiple languages).
- Oliver: It will be interesting to see any intended and unintended effects this has on where applicants are trying to do work. For example, will we see a large increase in proposals in certain areas?
- Sarah: I'm excited to learn more about the liaison grant program to build capacity. That will be informative for Vermont's capacity building initiatives. I would like to keep communicating on this topic as it develops.
 - Mae Kate: I agree and would like to keep lines of communication open, and will continue to make this as effective as possible, both in definition and in how it's rolled out in the granting process.
- Neil: Great work. It will be interesting to see how typical projects we might do (e.g., river easements) might fit into this framework.

5. Interim report and workplan review: Water Chestnut Management Program (Kim Jensen, VTDEC)

- Matt noted that water chestnut management is an LCBP core project. TAC will hear more core project round-ups in May.
- Oliver: VTDEC really appreciates LCBP's support of this important work.
- Kim presented field results from the 2022 season and an overview of the field season planning for 2023 for the water chestnut management program in Lake Champlain. She reviewed areas where hand harvesting and mechanical harvesting management efforts are occurring, challenges associated with hand-harvesting operations, new water chestnut infestations that were identified in 2022, and trends in the number of rosettes harvested over a ~10 year period.
- Neil: I am mindful that this is a comprehensive report. I am wondering if there's an opportunity to adopt a model closer to the Long-Term Monitoring Program report to free up your capacity to do other project management work?
 - Kim: I think it's difficult because the sites are unique, so looking site-by-site at the data can be really useful. We now do this one comprehensive report instead of multiple reports for different groups.
- Meg: Thank you Kim for all your efforts. This is a very active partnership between many management groups; it's a big effort and a great example of how all areas of our watershed are contributing. I get concerned that the public loses site of the project and its great work and success over the years. I think we should work to share more information with the public and perhaps produce simpler graphics for that use. Across the AIS management board, we are concerned that there aren't enough contractors doing AIS management work – there is a need.
 - Kim: Building up contractor capacity has been challenging. I did request funds to go towards hand-pulling operations, but may have to switch those funds to supporting a technician if I don't receive a bid.

- Neil: We have new Clean Water Service Providers for the South Lake watershed. Maybe a conversation with those folks to identify opportunities could help.
 - Kim: I reached out and the folks said they were at capacity with other projects.
- Sarah: Let's talk about potential changes to the workplan if needed.

Motion: To approve the report and workplan

By: Margaret

Second: Jenn

Vote: All in favor

Abstention: Oliver