

**Lake Champlain Basin Program
Technical Advisory Committee meeting
Wednesday, May 2, 2018, 10:00 AM – 3:00 PM**

Approved TAC meeting summary

TAC attendance: Bill Ardren, Fred Dunlap, Andrew Schroth, Angela Shambaugh, Ed Snizek, Jenn Callahan, Kris Stepenuck (in for Breck Bowden), Kevin Behm, Eric Young, Eric Perkins, Jamie Shanley, James Jutras, Dennis DeWeese (phone), Ryan Davies (phone), Laura DiPietro, Ryan Patch (in for Laura DiPietro for Newtrient workplan review), Neil Kamman (phone)

LCBP staff: Matthew Vaughan, Ellen Kujawa, Eric Howe

Guests: Gabe Bolin (Stone Env.), Dave Braun (Stone Env.), Jim Wallace (Newtrient), Bethany Sargent (VTDEC, phone)

10:00 AM Updates, announcements, and public comments

Bill Ardren: A wetlands ecologist from Wyoming will be joining the LC USFWS team this summer.

Ed Snizek: The 25th Adirondack Research Consortium is meeting May 22 – 23. Eric Howe will be presenting to the APA board next week on LCBP activities. Ed will be retiring on May 31 – he has been a TAC member on and off since 1997. Ed thanks the TAC for their great work over the years.

LCBP updates, LCBP staff

- Lake Champlain Steering Committee met April 10-11
 - o Approved an FY18 budget, including core projects and full task proposals.
 - o Approved two new TAC members: Ryan Davies and Bridget O'Brien. Welcome to the TAC Ryan and Bridget!
 - o Approved Record of Decision for NY Agronomy projects
- IJC Water Quality reference
 - o LCBP entered a contract with the IJC to assist with the Lake Champlain / Memphremagog water quality reference. Our main role is to work with OBVBM to complete a literature review. LCBP TAC will serve as an advisory committee for the project.
- Boat Launch Steward program will begin its 2018 season Memorial Day weekend following training sessions.
- Save the date: State of the Lake release and event on June 15 at LCBP office beginning at 10:30am
- Thank you to Ed Snizek
 - o Ed began his service in 1997 and has been central to the TAC for many years.
 - o He has been a member of the ANS Subcommittee, AIS Rapid Response Task Force.
 - o He has been instrumental in listening to challenges with AIS management and working with the APA to develop general permitting processes that accommodate invasive species management.
 - o Ed has served on numerous review committees and is very dedicated to the LCBP and the watershed approach to water quality management.
 - o Ed is a can-do guy and has always been interested and willing to engage to get projects and work done.

- Thank you and enjoy your retirement Ed!
- **Long-term monitoring sub-committee**
 - Matt will plan a workshop to discuss potential improvements to the long-term monitoring program. He will reach out to the following people: Angela Shambaugh, Pete Stangel, Neil Kamman, Fred Dunlap, Tim Mihuc, Luke Meyers, Breck Bowden, Andrew Schroth, and Laura DiPietro

Review and approve summary of previous TAC meeting

Angela moved to approve the summary. Seconded by Jenn. All in favor. Kris and Ed abstain because they were not present at the meeting.

10:30 AM Jewett Brook Treatment Train: Regulatory feasibility final report and technical feasibility workplan, *Dave Braun (Stone Env.)*

Matt explained the timeline and current funding scenario for this ongoing project. The TAC considered the regulatory feasibility (phase 1) final report and the technical feasibility (phase 2) workplan separately.

Regulatory feasibility final report

Gabe Bolin presented the regulatory analysis final report.

James Jutras asked what concentration or mass of P was removed in the Ohio system (only percentages were shown). Gabe explained that they still have not received this information from their contacts in Ohio. James also asked why only alum will be considered. Gabe explained that the term “alum” has been a placeholder for them, and that they plan to consider other chemical treatments.

Bill: What would the ownership structure for the treatment train be? Dave Braun: this has been discussed but it is still uncertain. There has been talk about developing a third-party entity to own and manage the system.

Neil: VTDEC is interested in moving this forward, and they think it is worth incremental investment.

Eric Perkins: 404 USACE permit is not listed. This is not an easy process. Gabe: Mike Adams (USACE) thought a 404 permit may not be necessary, depending on siting and design.

Neil moves to approve the final report with revisions addressed, giving TAC one week to submit feedback for consideration. James Jutras seconds. All in favor, no abstentions.

Technical feasibility workplan

Gabe Bolin presented the workplan for the technical feasibility (phase 2) project.

The workplan states that the QAPP will be for secondary data, but this should be revised to primary and secondary, since some survey work will be required.

Kevin: Will this analysis be based on the treatment train reducing all P required for the TMDL, or in combination with watershed BMPs? Gabe: They will aim to answer “how much P can we remove with this system.”

Suggested edits:

- Change “achieve” to “contribute to” for TMDL P reductions.
- Add details on treatability
- Add 2-4 coagulants in addition to alum

- Included details on how operation procedures will work with different flow patterns, etc.
- Page 5 says 2017, should be 2018.

Eric Young moves to approve workplan with suggested revisions. Seconded by Angela. All in favor, no abstentions.

11:15 AM Tile drain monitoring interim report, Dave Braun (Stone Env.)

Dave presented an interim report on the tile drain monitoring program, where 12 tile drains in the Jewett Brook watershed are monitored for phosphorus concentrations and loads. Approximately 70% of Jewett Brook watershed is tile drained, and this project is considering the implications of this land use practices. The TAC discussed interpretation of the preliminary results and looks forward to Stone presenting a final report with phosphorus loads estimated.

11:45 AM TAC Membership discussion

The TAC had a productive discussion regarding the potential TAC members. There was discussion about increasing diversity of TAC representation. TAC agreed that Matt and the LCBP team should review the list of names that was generated and reach out to people they think would be best. Any interested people will submit resumes for consideration by the Executive and Steering Committees.

12:15 PM Lunch

1:00 Refinement of critically needed assessment tools for tile drainage P loading to advance a Lake Champlain Basin clearinghouse program workplan, Jim Wallace (Newtrient)

Jim Wallace shared some background on Newtrient and presented the project workplan.

Neil: Will there be model validation with field data from farms? Jim: No, this will be a modeling effort only. TAC agreed that validation would be something to consider for a future project.

Jenn moved to approve the workplan with revisions submitted to Matt. Eric Young seconded. All in favor.

1:45 PM Cyanobacteria monitoring interim report and workplan, Angela Shambaugh and Lori Fisher

Angela and Lori covered the 2017 season for cyanobacteria monitoring and discussed plans for the 2018 season.

- After cool summer, we had a hot fall season with many cyanobacteria blooms when many park staff were gone. Busy late summer and fall for LCC staff and volunteers.
- Lake Carmi turned over at the end of August (very cool) and released nutrients to the water column. Still alert level in October into first week of November.
- No microcystin detections in 2016. There were several detections in 2017, though concentration never exceeded recreational guidance concentration.
- Angela will be covering Memphremagog volunteer training.
- Drinking water was tested for microcystin and cylindrospermopsin with LCBP funding in summer 2017. There were no detects in raw or finished water.

Jenn moves to approve the two final reports. Bill seconds. All in favor. Angela and Neil abstain.

Andrew moves to approve LCC workplan with information added about how to handle extended bloom seasons. Seconded by Ed. All in favor. Angela and Neil abstain.

2:30 PM Water chestnut interim report and workplan, Josh Mulhollem

Josh presented the water chestnut interim report and 2018 workplan.

Ed: Have you considered the biocontrol option for water chestnut? Josh: There is significant work being done here but to my knowledge, it wouldn't be a good application in Lake Champlain. We'll come back and discuss this again next year and may have more promising news.

Matt: Please explain how much of this project is supported by LCBP funds. Josh: about 45%, plus the UAS survey component for this coming year.

Lori: Are you aware of the LCC drone study, funded by LCBP? Josh: Yes – that was the basis for our efforts here. Lori: one of the weaknesses we found is that when you're in a very dense area, drones have a difficult time with overhanging vegetation and shoreline development. Josh: Agreed. There are several limitations for us to address, though we're still hoping to assign a metric of coverage.

Ed: Since we are unlikely to ever eradicate this species from the Basin, we're hoping just to lower maintenance needs. As I retire, the TAC should keep in mind that this effort should continue to be a priority.

Neil: Do you know if there will be multispectral imagery for the drone work, or just photography? Josh: the bid was for multispectral imagery and we are meeting next week to discuss. Neil: this may help to address Lori's concerns.

Ed moves to approve final report and workplan as presented. Jenn seconds. All in favor. Angela and Neil abstain.

3:00 PM Adjourn