

**Lake Champlain Basin Program
Technical Advisory Committee meeting
Wednesday, November 7, 2018, 9:30 AM – 3:00 PM**

TAC meeting summary

Attendees: Neil Kamman (VTDEC), Bryan Dore (EPA), Andrew Schroth (UVM), Fred Dunlap (NYDEC), Angela Shambaugh (VTDEC), Bridget O'Brien (VDH), Jennifer Callahan (VTRANS), Mindy Morales-Williams (UVM), James Jutras (Essex Junction), Mark Malchoff (LCSG), Leigh Walrath (APA), Curt Gervich (SUNY Plattsburgh), Eric Perkins (EPA), Bernie Pientka (VTFWS), Dennis DeWeese (NRCS, phone), Laura DiPietro (VAAF, phone), Steve Kramer (Miner Institute), Bill Ardren (USFWS)

Staff: Matthew Vaughan, Meg Modley, Ellen Kujawa, Bethany Sargent (VTDEC)

Guests: Eric Roy, Julie Follinsbee (phone), Levi Keszey (phone), Brian T. Fitzgerald, Nick Gianetti, Bob Fischer, Ashley Lucht

9:30 AM Executive session

Record of decision review: Rock River geomorphic assessment project

Potential new TAC member review

- Jennifer Callahan moved to approve the record of decision as drafted; Angela Shambaugh seconds. All in favor; motion is carried.

10:00 AM Updates, announcements, and public comments

- Angela Shambaugh: Attended NALMS in Cincinnati last week. The attendees were very excited for the 2019 NALMS in Burlington.
- Curt Gervich: The IJC's LCRR study held a technical working group meeting several weeks ago, and will be holding three public meetings this week. Tonight in St.-Jean-sur-Richelieu, tomorrow in Whallonsburg, and Friday in Burlington. This is an opportunity for the public to receive an update and share their feedback. In addition, a technical workgroup will be holding two focus group meetings on November 28th and 29th in St. Albans and Plattsburgh to reach out to elected officials, planners, and researchers.
- Mark Malchoff: Lake Champlain Sea Grant is reviewing proposals for their fall RFP. The award period will begin in February.
- Andrew Schroth: Congratulations to Matt Vaughan for successfully passing his doctoral defense. BREE team will be pulling monitoring buoys from St. Albans and Missisquoi Bays and from Lake Carmi.
- Leigh Walrath: APA and APIPP has piloted a lake aquatic plant management program for citizen scientists and lake stakeholders to use. Eventually, this will be used for tracking management success over time.
- Neil Kamman: Congratulations to Kari Dolan for winning a seat in the VT Legislature.
- Laura DiPietro: VAAF has revised their state rules on tile drainage; this draft has made it through VT legislature committee and will now be finalized.

Review and approve summary of previous TAC meeting

- Angela has specific comments on the ITRC cyanobacteria program; she will email them to Matt and Ellen.
- James Jutras moves to approve the summary as amended; Jenn Callahan seconds.

LCBP updates, LCBP staff

- Meg Modley: Hydrilla has been confirmed in the Connecticut River in Connecticut and Massachusetts; LCBP participated in a preliminary survey in the Vermont and New Hampshire portion of the River and did not find any Hydrilla. Sampling efforts will resume next fall. Last Tuesday, USACE, LCBP and several partners conducted a site visit of the Champlain Canal Barrier site – data collection and preliminary design drafting is underway. NEAPMS is meeting in Albany, NY in January, and the agenda was recently circulated. NALMS 2019 will be held in Burlington, VT from November 11-15 and will be cohosted by LCBP and VTDEC. Boat Launch Stewards season has concluded, and QC partners will likely run a BLS program next year as well, possibly adding a high pressure, hot water decontamination unit. New York has made great strides in data collection, and Vermont hopes to make similar advances this year.
- Matt Vaughan: LCBP currently has several RFPs open – local grants, enhanced BMP, and technical pre-proposals. TAC will review pre-proposals in December and determine which will move forward to full proposals. VDH hosted the cyanobacteria season wrap-up in Burlington yesterday, which provided updates on monitoring efforts. No cyanotoxins in drinking water, most blooms in Inland Sea, and *Scytonema* detections increased this summer. CVNHP held its annual summit in Burlington on Monday and discussed the 2019 Year of the Salmon activities, 2020 Women’s Suffrage theme, and future theme directions for the program. LCBP hosted a long-term monitoring workshop in October and discussed future directions for sampling efforts.

Update: VTDEC/LCBP RFPs, Bethany Sargent (VTDEC, LCBP)

- Bethany Sargent updated the TAC on the VTDEC/LCBP TMDL RFPs. There are five in total and the first review committee will meet on Friday. RFPs are summarized below:

Project	Status	Posted to Vermont Bid Notice System	Proposals Due	Comments
Ag BMP Challenge	Open	10/3/2018	11/19/2018	Review committee meets 11/27/2018. Draft record of decision to be reviewed at December TAC meeting.
WWTF Optimization	Closed	10/8/2018	11/2/2018	Review committee meets 11/13/2018.
Municipal Stormwater Assessments	Closed	10/5/2018	10/26/2018	Review committee meets 11/9/2018.
Wetlands Restoration	Open	10/23/2018	12/14/2018	Pre-bidders conference held on 11/5/2018.
GSI in CSO Areas	Open	10/16/2018	11/13/2018	Review committee meets 11/27/2018.

10:20 AM Workplan Review: Lake Champlain Cyanobacteria Monitoring Program (LCBP, LCC)

- Lori Fisher provided a review of the LCC’s cyanobacteria monitoring workplan. The major changes to the workplan are an increased budget to address the longer monitoring season. LCC also hopes to work more closely with NY’s new cyanobacteria effort.

- Angela Shambaugh moves to approve the workplan as written; Mark Malchoff seconds. All in favor; motion is carried.

10:30 AM Workplan review: Quantifying phosphorus retention in restored riparian wetlands of the Lake Champlain Basin, *Eric Roy (UVM)*

- Eric Roy presented a workplan for the riparian wetland phosphorus retention project. Although this project focuses on nutrient retention, riparian wetland conservation can have other benefits as well, such as floodwater retention. This project includes model development and calibration and two field seasons, and will be concluded in 2020. There are three sites: Malletts Creek watershed, Lewis Creek watershed, and Middle Otter Creek watershed; each site will have 4-6 individual study sites. This project aims to produce a dataset for P retention in riparian wetlands, a model of wetland P dynamics, and an assessment of model simulations that may be used to project P retention in other locations.
- Bernie: Any concern with the elevation of Malletts creek? Depending on Lake level, flooding may be extremely variable.
 - Eric: We're relying on the knowledge of site managers, who believe that we'll likely have access and some flooding at that site. Even if there are no floods or a constant flood, we'll likely collect good data at the Malletts Creek site.
 - Bernie: Suggest that you consider lake level flooding in your study design.
- Steve: How will ISCOs (automatic samplers) be programmed?
 - Eric: the goal is to sample over the rising of the hydrograph.
 - Neil: If you're looking at SRP, you have a very short sample viability time. How will you address this?
 - Eric: The goal is to have a well-trained team of graduate and undergraduate students to collect samples as soon as possible.
- Steve: When you're re-flooding samples with site water, are you using flood stage or pre-flood stage water?
 - Eric: We've used filtered, low-SRP, pre-flood stage water so far.
- Andrew: We've found that the fluctuation between oxygenated and anoxic water to be one of the most important aspects of our work on SRP.
 - Eric: We're questioning the methods of maintaining our aerobic core by bubbling it, and have settled on pulse bubbling these cores on a daily basis instead. We're hoping to move the focus to the organic matter content and dynamics. This is a topic for potential further discussion.
- Neil: You're studying how cores react to aerobic and anaerobic conditions, but the redox continuity may move – are you considering this in some way? Are you sampling for that redox continuity?
 - Eric: We don't have that as an aspect of this study, but it is a topic for further study in future years. We'll begin by looking at the sediment-water interface and will go from there.
- Andrew: You're targeting the spring snowmelt. Will you have any trouble with samplers freezing as temperatures change during this time?
 - Eric: This is a good point, and something we haven't explored in detail. We plan to set up meeting with winter fieldwork individuals to coordinate best practices.
- Eric Perkins: You mentioned wanting to gauge large flood and storm events in your modeling – what's the timing window there?
 - Eric Roy: We're not looking at any particular range of time and are instead hoping to get a range of flood conditions instead. Focusing on the regular – every year or two year – floods.

- James Jutras moves to approve this workplan as written; Jenn Callahan seconds. All in favor; motion is carried. Abstentions: Mark Malchoff and Mindy Morales.

11:30 AM Workplan review: Dam removal in Vermont's Lake Champlain Basin, *Brian T. Fitzgerald (VNRC)*

- Brian (BT) Fitzgerald introduced the Vermont Natural Resources Council's dam removal project workplan. This project focuses on four dam sites in Vermont (one in Colchester, two in Northfield, and one in Castleton). Each dam removal requires pre-removal feasibility study, design, and permitting; dam deconstruction, and follow-up restoration and revegetation. Mill Pond project has received \$100,000 from an ERP grant and \$60,000 from another donor; VNRC would like to move money from the Pelletier project to the Mill Pond site in order to complete this dam's removal in 2019.
- Leigh: How much work is done to establish where pools, riffles, and meanders will be located? In past dam removal projects, I've witnessed a lack of planning for the actual channel location.
 - BT: In our experience, we've seen some meanders move after a dam is removed, but there are not usually major surprises.
- Mindy: What's the plan for relocating the removed sediment?
 - BT: We're looking now for a place to take it. Ideally, this will be a nearby gravel pit.
 - Mindy: Have the sediments been tested for toxics?
 - BT: Mill Pond has been, and no contaminants were found. Wihakowi has not been tested, and Pelletier's watershed is so minimally disturbed that no contaminant testing is required.
- Neil: Could you add the timeline diagram to the workplan itself?
 - BT: Yes
- Bill Ardren: Have you considered any community responses to dam removals, related to the work recently done by Dartmouth College?
 - BT: Yes, the researchers for that study are involved in the Vermont Dam Removal Task Force.
- Jenn Callahan moves to approve workplan with budget allocation shift; Leigh Walrath seconds. All in favor; motion is carried. Bernie Pientka abstains.

12:15 PM Lunch

1:00 PM Presentation: Wastewater treatment optimization for phosphorus removal, *Bob Fischer (South Burlington DPW) and Nick Gianetti (VTDEC)*

- Bob Fischer and Nick Gianetti provided the TAC with a review of wastewater phosphorus removal optimization efforts. Vermont has high standards for wastewater treatment facilities, but maintaining these high standards is expensive and time consuming. Nick covered VTDEC's TMDL efforts, particularly in collaboration with Vermont Rural Water Association.
- Steve: What's the plan for the sludge removed as part of the wastewater treatment facility process?
 - Nick: About 50% goes to the landfill and about 50% goes to beneficial reuse in Vermont.
 - Bob: Ideally, we'd be able to extract all the phosphorus and reuse it if needed, but it is an expensive process.

2:00 PM Presentation: State Revolving Funds to support Water Infrastructure Financing, and the new Water Infrastructure Sponsorship Program, Ashley Lucht (VTDEC)

- Ashley Lucht provided an overview of the state revolving fund program. This program is a cost-effective option for municipalities and organizations to implement projects to improve clean water infrastructure.
- Bridget: If we consider the wastewater bond passed in Burlington last night, how soon can they come to the revolving fund with an application?
 - Ashley: Since they have the funding in place and have much of their own engineering capacity already on retainer, they could come to the SRF soon.

3:00 PM Adjourn