

MEETING MINUTES
Vermont – Quebec Steering Committee for Lake Memphremagog
Hybrid Meeting – May 5, 2022 – Newport Vermont

Participants:

Robert Benoit, MCI	Daniel Tremblay, MELCC
Tom Berry, Office of US Senator Leahy	Frédérique Thibault-Lessard, MCI
Ben Copans, VT DEC	Michael Liatta, IJC USA
Mary Pat Goulding, MWA	Glen Benoit, IJC Canada
Bevin Barber Campbell, MWA	Patrick Hurley, MWA
Julie Grenier, COGESAF	Meg Carter, North Woods Stewardship Center
Céline Guéguen, Université de Sherbrooke	Jean-Pierre Fortier, City of Sherbrooke
Josiane K. Pouliot, Ville de Magog	Steve Garceau, MFFP
Pete LaFlamme, VT DEC	Ariane Orjikh, MCI
David Largy-Nadeau, MRC Memphremagog	Douglas Casson Coutts, MWA and MCI
Sophie Moffatt-Bergeron, MELCC	Wyatt Westover, legislative Assistant for Pascal St-Onge, Députée
Guy Parenteau, MELCC	Pierre Luc R. Levesque, City of Sherbrooke
Oliver Pierson, VT DEC	Ingrid Dubuc, City of Sherbrooke
Nathalie Provost, MELCC	Kendall Lambert, VHCB
Silas Rainville, VT AAFM	Jean Sébastien Messier, DGSMs-DGFa, Québec
Beth Torpey, NVDA	

1. Introduction

Pete LaFlamme and Nathalie Provost, co-presidents, greeted participants and kicked off the meeting.

2. Agenda adoption

The agenda for the meeting was adopted

3. Adoption of last meeting's minutes

The minutes from last meeting were adopted.

4. Round table

Participants were invited to present their organizations developments and actions since last meeting. Here is a summary of these contributions:

- **Natalie Provost:** Major flooding issues along Lake Memphremagog in the 2010's, and Quebec led to a review of the policy that addresses flooding, and they have adopted updated flood zone regulations to reduce damages. The Richelieu River study has helped to guide this study. The regulation impacts agriculture in the riparian zone.
 - Robert Benoit question - when is the study going to be made public? Temporary study is being done requiring the collection of data to support a permanent regime; there is no date for a permanent regime, but this will take 3–5-year timeframe to develop.
 - The ministry of municipal affairs is doing this study. All the flood zones will be reviewed over the next year along Lake Memphremagog, but this process takes a while to implement

- **Sophie Moffatt-Bergeron:** MELCC is working on moving to online services and getting these to work smoothly. All engineers in the government are on strike for 2 weeks which may last for months and may delay some efforts.
- **Oliver Pierson:** Much of VT DEC Lakes and Ponds Program's efforts are on the agenda
 - DEC received a petition to requesting that the Department regulate a category of motorboats, specifically Wake Boats, on lakes and ponds below a certain size. We would be curious around any rules around wake boats in Quebec.
 - DEC hasn't made progress in terms of identifying research questions and finding funding for a High-Frequency Monitoring Buoy on Lake Memphremagog (in Vermont waters), but we are deploying a buoy at the mouth of Missisquoi which may help out to evaluate the utility and purpose of such a buoy, what research questions we can answer, and costs.
 - DEC compiled a list of grant funding options for shoreland restoration projects [here](#).
- **Mary Pat Goulding, Bevin Barber Campbell (New Executive Director for MWA) and Patrick Hurley:**
 - Five potential conservation projects in the works, some are conservation projects, and some will require some restoration, including three restoration projects in the Willoughby Falls WMA.
 - Still working with additional Johns River landowners - and moving efforts to the Clyde River
 - MWA will have Stormwater Runoff Reduction implementation project by fall 2023 and a project in Barton to improve seven acres of impervious surface.
 - MWA is also supporting outreach on wetland restoration projects.
- **David Largy-Nadeau:** Updating regional plan on wetlands and waters required by provincial government, which is used for integrated planning. Aim is to maintain benefits that wetlands provide, and Municipalities are supposed to apply this plan with local development. The project is a little behind and they may be able to present at the next steering committee or next spring.
 - WQ sampling program - 20+ sampling sites - and will be looking to revise the sampling program to look to a different sampling approach, and possibly add a spring sampling program. Measuring TP, TSS, and fecal coliform. Local municipalities are funding this program.
 - MRC is stepping back from Zebra mussel monitoring - and focusing on awareness campaigns. One adult zebra mussel was found near Eagle Pt
- **Frédérique Thibault-Lessard:** MCI is commemorating 50 years of patrols on the lake, with this year's patrols starting soon. MCI is studying zebra mussels and invasive snails, georeferencing milfoil beds to map this across the lake, and doing water quality sampling.
- **Josiane Pouliot:** Magog is running the water sampling program as usual, doing shoreline monitoring to ensure regulatory compliance, and has a new water station for boats. They are also working on a sediment budget for the Castle River with hydrogeomorphologist to link with the observatory and other studies going on and coordinate.
 - There are also new bylaws for septic systems over 35 years that provides some funding to help with updating systems via a tax reimbursement / loan approach.
 - Magog also noted an increase in boats from 4000 to 5000 boats docked on the shoreline and the boats are larger than before.
- **Julie Grenier:** COGESAF is developing a task force to move forward to implement the MRC to be able to establish a phosphorus concentration for the lake. The Task Force has had one meeting so far and VT DEC are welcome to share information from the TMDL.
- **Beth Torpey:** FEMA maps are being updated in the lake Memphremagog watershed

- **Robert Benoit:** MCI had a meeting with Cabinet minister to discuss Coventry and relation between two countries. Robert also mentioned that when a new minister got sworn in, one of the mandates that she got was to consider allow municipalities to have more regulatory authority, including over boating issues.
- **Ariane Orjikh:** Quebec water strategy funded efforts around road management, including two webinars around municipal roads and five around private roads , with 5 municipalities and 100+ attendees. There is also a new 45-acre wetland property that has been protected; Memphremagog wetlands foundation that is now the owner of the land, which is the third such project in recent years.
- **Michael Laitta and Glen Benoit:** IJC has completed the reference but have not received a formal response from the parties. They will draft a memo to the IJC to describe ongoing actions to improve water quality in the Lake Memphremagog watershed and to implement recommendations from the study. They are curious to see which recommendations are moving forward and believe that the ongoing work is sufficient so that a future mandate is not needed at this time. They are also looking for information on public engagement and receptivity - how are people responding to work that is going on – and water quality remains at the top of the list.
 - Who was this report sent to? State Department and Global Affairs Canada, who haven't responded formally to the IJC. Different meeting participants will follow up to ensure the final version of the study is sent to the relevant actors in Quebec and Vermont.
 - In Quebec there have been some discussions around St. Laurence but have not received any request to act upon the report or associated funding.
- **Celine Guéguen:** Regarding the Lake Memphremagog Observatory (in Canadian waters), one buoy has been in the lake for 9 months collecting data, including over the winter. When staff retrieved the buoy in February, the mooring was covered in zebra mussels. Magog bay grab sampling began a month ago, looking at TP, DOP, and SRP; we will have a report next time
- **Meg Carter:** North Woods Center is in the process implementing multiple grant-funded projects in Vermont, including a Great Lakes Fisheries Commission Grants to improve water quality on Vermont Fish and Wildlife lands, a Vermont DEC Clean Water Initiative grant to field a work crew to implement projects identified through the Lake Wise program, and a Tactical Basin Plan support grant to help update the Basin 17 plan.
- **Sylas Rainville:** Vermont AAFM is working to address agricultural non-point source pollution through the state of Vermont's required agricultural practices. The AAFM water quality division has hired four new permitting staff which has streamlined the enforcement and reporting work.
- **Douglas Coutts via Mary Pat Goulding:** There is a proposal for federal funding to create an education center at the Gateway Center; funding has not been awarded. Would be collaborative between several partners around the lake and may also interact with a project that Celine Guéguen is leading to involve students from Quebec and Vermont in lake monitoring.
- **Ingrid Dubuc, Pierre Luc R. Levesque, & Jean Pierre Fortier:** City of Sherbrooke is focused on issues / problem with Zebra mussels in the water treatment plans, which infestations of the mussels required manual removal. The city is investigating options to eradicate mussels around the water treatment plants, including chlorine shock treatment for the water pipes. They are also concerned with the lack of focus on phosphorus reduction in the lake from the Quebec side.

- **Kendall Lambert:** VHCB is the clean water service provider (CWSP), implementing phosphorus reduction projects in the Memphremagog Basin. The Basin Water Quality Council has been formed and nine members met once in April and will be meeting on June 9th from 3-5 or possibly in person to get the program up and running. Meeting information is online. There is a website for the CWSP where people can find out about meetings and the CWSP is hoping to make its first grants in the fall.
- **Jean Sebastien Messier:** This is the first year after the regulation change on salmonids and perch that has been in place since April. The new regulation is based on several scientific works and will help to improve the quality of fishing in the lake. They will update 1995 survey spawning ground for Lake Trout. There is also a plan to do a white perch inventory 10 years after introduction to study any impact on Yellow Perch.
- **Wyatt Westover:** He is getting up to speed through public reports and conversations with MCI and other partners. He is interested in seeking funding for fresh waterbodies and studying the boating issues and opportunities for more local control. He is looking forward to informing the minister about this committee's work and priorities.

5. Discussion around potential revision to Lake Memphremagog's water levels

- Low water levels last year associated with the drought were a concern, and there is some potential for climate change to further impact water levels going forward. There have been ups and downs in lake levels over the years and concerns that the lake extremes are changing.
- Changing dam management can have upstream and downstream impacts on several natural systems and recreation.
- A Study by a Concordia University Professor (Dr. Amin Hammad) may help understand how climate change will impact water levels in the lake.
- MCI also got lots of questions about water level, for example questions about the amount of water being drawn for City of Sherbrooke water supply.
- IJC has a lot of expertise in addressing water level challenges and can provide informal expertise outside of a formal reference.
- Dr Ala?? - study - could present the data at the next meeting
- We could have a presentation at the next meeting on this topic and/or discuss it further in a technical committee meeting.
 - **ACTION ITEM: Convene a Memphremagog technical committee meeting to discuss this issue in greater detail.**

6. Update on Study to Determine the Cause of Malignant Melanoma on Brown Bullhead

- Tom Berry: Senator Leahy is retiring from the US Senate next year and relinquishing his role as the chair of appropriations committee. The US Senate just passed the FY 2022 spending bill which has added funding for USGS (\$250,000) to study for melanoma in the Brown Bullhead that Pete Emerson (VT F&W) has been tracking.
- FY2022 Great Lakes Fisheries Commission (GLFC) Funding has been continuing at \$500,000 and the total appropriation for "Vermont Lakes" has been increased to 9.5 million and that nine million can be in Lake Champlain OR Lake Memphremagog.
- A proposal has been submitted to a US Federal Funding Source by VHCB for a more significant project on Lake Memphremagog

- Funding Language is likely to stay the same for Fy2023 with 500k set aside for Memphremagog and \$9 million to cover activities to promote improved water quality in both lakes. The US Senate is also working to reauthorize funding for the Lake Champlain Basin Program which would authorize the GLFC to work in the Champlain and Memphremagog watersheds.

7. Update on [VTDEC 2021 PFAS Monitoring Report](#)

- The Final Report is on the DEC website at the link above. Pete LaFlamme presented a summary of the report which in general had good outcomes for Memphremagog with very low and in most case undetectable PFAS concentrations in surface water and low fish tissue concentrations. Effluent samples were also relatively low (double digits from Newport, Barre, and Montpelier in terms of PFAS concentration in parts per trillion), very low levels in comparison to other regions of the country.
- Working with VDOH on any need for a fish consumption advisory for other waterbodies (not Lake Memphremagog)
- Robert Benoit asked for any update on the leachate treatment pilot project in Newport associated with the Coventry facility. Pete LaFlamme mentioned that there are two treatment projects: 1) an underdrain treatment project that is moving forward using granulated activated carbon treatment and 2) a pilot project for pretreatment to remove more PFAS from leachate. received lots of comments received to respond. These responses should be addressed in a month. Pilot is going to run through all seasons and then upscaled when we see efficiencies The leachate is still traveling to Montpelier for treatment at this point. The next permit cycle is in 2026 which could change the location of leachate pretreatment.
- Looking to survey sources and move upstream where we have high levels. See PFAS coming in from residential areas - water proof clothing- detergents - floor wax. VT DEC is focused on PFAS source identification and removal.

8. VT Basin 17 Tactical Basin Planning Process & Phosphorus Loading from Tributaries

- DEC has estimated loading levels using a new loading estimation software called Weighted Regression on Time, Discharge and Season that is used to estimate loading and loading trends of tributaries to Lake Champlain. The data is not yet sufficient to estimate trends for the four tributaries in the Vermont portions of the Lake Memphremagog Basin, but we hope to be able to do so by the end of 2023.
- Low estimates of loading from tributaries in 2021 driven by low flow conditions were not seen as lower concentrations in Lake Memphremagog which suggests that there could be an internal loading source during a year with low flow conditions.
- The Tactical basin planning process is moving along and the key water quality concerns have been identified across the watershed.
- Load reductions have been presented for Lake Memphremagog in the [2021 annual performance report](#) which show increased reductions over time but these have fallen off for federally funded agricultural BMP programs in SFY 2019 and 2020.
- A new [Basin 17 reporting tool](#) using the power BI software shows the watersheds where agriculture loading has been reduced the most and which watersheds still need more work, which will be the focus for agricultural outreach, technical assistance, and BMP implementation.
- The tactical basin planning process will continue through this summer, with the development of targeted strategies to improve water quality conditions, the development of a draft plan by late

summer, and then a public comment process in the fall where the public can comment on the draft plan.

- People are encouraged to fill out a survey at [this link](#) if they have not already to provide feedback on issues that should be the focus for the plan as well as to provide local insight.

9. Update on Memphremagog Water Quality & Invasive Species Monitoring

- Incorporation of 2021 lake monitoring data showed some deterioration in Lake Memphremagog water quality observed via a now significantly decreasing water clarity trend for the first time.
- No Zebra Mussels found in US waters in 2021, but some were found just north of the border.
- VT DEC has a new Vermont Invasive Patroller for Animals Program; see [here](#) for more info.
- 2021 had more high alert cyanobacteria blooms recorded than any previous year; monitoring will expand in 2022.
- DEC is looking to support more greeter programs at access areas on Lake Memphremagog in 2022 but funding is very limited.
- VT DEC is developing lake watershed actions plans on two lakes in the basin (Shadow and Willoughby) and looking to protect high quality waters through lake reclassification on three lakes in the basin (Shadow, Willoughby, and Echo-Charleston).

10. Conclusions & Next Steps

- A water level technical committee meeting will be scheduled by VT prior to the next meeting.
- IJC Members and Tom Berry will follow up with relevant federal authorities to move receipt, review, comment, and implementation of IJC reference on Memphremagog forward.

11. Adjournment and next meeting planning

- The next meeting will be held in Quebec on **November 10, 2022**. Additional details will be provided closer to the event.

Annexes

- Basin 17 Water Quality Monitoring and Tactical Basin Planning Update
- Lake & Tributary Water Quality Trends & Vermont Aquatic Invasive Species Update
- 2021 Vermont PFAS Monitoring Report