



CARMI Communicator #3
June 2020



Dear Friends of Lake Carmi,

Welcome to the third edition of the Carmi Communicator, the Vermont DEC's efforts to keep Lake Carmi stakeholders better informed about ongoing efforts to improve water quality in the lake and its watershed. A lot has changed in the world since the last Carmi Communicator in February, and I sincerely hope that everyone reading this is in good health and able to spend some time out on the Lake this summer. While DEC's activities have slowed down a bit due to the COVID-19 Pandemic, we have managed to stay focused on improving Lake Carmi's water quality and wanted to provide this group with an update, particularly as some of the seasonal residents return to Vermont.

- **Aeration System Update:** On around June 2, the lake's dissolved oxygen concentrations fell below 5 mg/liter which is the threshold to start the aeration system. Fortunately, the team from Everblue Lake Systems performed system maintenance during the week of May 25, and the aeration system is scheduled to be turned on by Friday June 5, 2020. DEC will continue water quality monitoring to assess the impact of the system on oxygen and phosphorus levels in the lake (see below).
- **2019 Tributary Monitoring Results:** In 2019, Franklin Watershed Committee staff and volunteers sampled 8 Lake Carmi tributaries and the dam outlet at a total of 18 sites. Samples were collected every other week, spring through fall, for a total of 13 sample dates. Analysis of the samples for nutrients, including total nitrogen and total phosphorus, was supported through a DEC grant. The Franklin Natural Resource Conservation District is expected to have a report completed soon. Karen Bates compared the 2019 data (with help from the FNRC D draft report) to trends identified in Fritz Gerhardt's summary of 2015-2017 data (available [here](#)), and her analysis is summarized below:
 1. Hammond North Tributary, Alder Run, Dewing Brook, Dicky's Brook, Westcott Brook and dam outlet have low to moderate nutrient values. Hammond North tributary 2019 values compared to trends appear to be more consistently low.
 2. Values for Dicky's Brook above Middle Road show very low nutrient concentrations, but two very high values were obtained, possibly during low flow. In the past, high phosphorus readings do occur periodically, although one value was significantly higher than any past reading.
 3. High concentrations for both Nitrogen and Phosphorus were measured in Kane brook
 4. Sandy Bay Brook has high nutrient concentrations but had a lower average concentration at the mouth in 2019 compared to the 2015-2017 data. The south branch carries more flows than the north branch and contributes concentrations similar to those found at mouth.
 5. Marsh Brook continues to have high phosphorus concentrations, especially above State Park road.
- **Summer 2020 Water Quality Monitoring:** DEC staff, UVM staff, and lay monitoring program volunteer Pete Benevento will be collecting water quality data from within Lake Carmi and on five tributaries to the lake to keep a handle on phosphorus loading, in-lake conditions, and impact of the aeration system. We hope that UVM staff will be able to deploy a high-frequency monitoring buoy in the lake in the next week or two; this effort has been delayed by COVID-19 related restrictions.
- **Groundwater Study Update:** The Vermont Geological Survey plans to start its investigation entitled "How Does Groundwater Affect the Phosphorous and Nitrate Levels in Lake Carmi" in mid-late July. One of the tasks in this study is to sample groundwater from existing drinking water wells (or springs) around Lake Carmi and to analyze this water at the Vermont Agriculture and Environmental Laboratory (VAEL) in Randolph for phosphorous, nitrate, hardness, chloride, calcium, iron, sodium,

herbicides, and many other parameters. The water is sampled using a hose from an outdoor faucet (no filtration in place) or from the pressure tank (filtration in place). We are requesting volunteers to have their water sampled and tested, at no cost. Each well owner will receive a written report on their water chemistry. For more information, please contact Jon Kim at jon.kim@vermont.gov

- **Update on Private and Park Road Erosion Control Project:** With LCBP funds, the Northwest Regional Planning Commission and the Friends of Northern Lake Champlain are implementing a project to identify and fix Erosion Issues on Private and Park Roads in the Lake Carmi Watershed. The road erosion inventory will take place this summer, and more details are available [here](#).
- **Lake Carmi Clean Water Progress Report:** As part of our effort to improve communication and keep stakeholders apprised of our clean water project implementation progress, DEC just developed a “Lake Carmi Clean Water Progress Report” that summarizes projects within Lake Carmi and its watershed from 2016 to 2019, as well as progress towards meeting the Lake Carmi Phosphorus Total Maximum Daily Load target. We anticipate formally launching the report later this month.
- **State Route 236 Culvert Replacement Project Update:** DEC staff are working with Town of Franklin Select Board members and staff to move the State Route 236 Culvert Replacement project forward, with mobilizing funding for the planning phases the next step in the process. Construction is scheduled to take place in spring 2021.
- **Next Carmi Coordination Team Meeting:** The next Carmi Coordination Team meeting will take place on Wednesday, August 12, 2020 @ 4:45 PM either virtually or if circumstances allow, in the FELCO Room at the Franklin Homestead. We hope to “see” many of you there, and feel free to send me any agenda items you would like to discuss.

As always, we would love to hear from you, either during the Coordination Team Meetings or via email. I look forward to working with you on our shared goal of improving water quality in Lake Carmi and reducing nutrient runoff from the watershed.

Regards,

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