

TERAS Report for 2023

By Tim Richardson, Chair

During the winter of 2022/2023, the Temagami Environmental Research and Stewardship (TERAS) Board received and accepted a proposal to study the sediment at the bottom of Lake Temagami. The intent was to reconstruct the changing environmental history of the Lake over the past several-hundred years. In particular, it was designed to analyze chemical and physical characteristics of the Lake which have been altered by naturally-occurring, as well as human (anthropogenic), causes. Factors such as acid rain, atmospheric pollutants such as mercury, and tell-tale markers of climate change can be evaluated chronologically using radiocarbon dating and other laboratory analyses. This work will complement the water-quality-monitoring initiatives that TERAS (and, prior to that, the TLA) have been doing for over 15 years, by reconstructing the past 100 to 200 years of environmental change within the Lake.

A proposal from a Masters graduate student from the department of geography at Carleton University was chosen, and TERAS put aside \$10,000 to partially sponsor this project.

On July 19, 2023, Professor Jesse Vermaire of Carleton – a very experienced paleolimnologist – came to Lake Temagami, and Murray and Tim Richardson chauffeured him by boat to three different locations on the Lake. Using his very-specialized equipment, three long columns of lake-bottom sediment (hopefully, organically rich) were selected from the acquired samples. The tedious and time-consuming work of sub-sectioning and bagging the cores at five-mm intervals was completed in three hours – with each layer representing a specific time period. These samples will then be dried out, carbon dated, and analyzed by the graduate student over the months ahead. Anticipating that the cores will be rich with organic material, we are expecting a full report of the findings in 2024.

Study of the samples may show some fundamental changes in the Lake ecology over the past 200 years – or, perhaps, remarkable ecological resilience compared to much smaller lakes. Either way, we think this information will be of great scientific value to our community.

A streamlined water-sample collection effort was also completed this summer, and samples were sent to the Ministry of the Environment laboratory in Dorset for analysis.

You can support our efforts by: sending a cheque made out to “TERAS” to 10-44 King William Street, Huntsville, ON P1H 1G3; adding a contribution to the water-quality-monitoring fund on your TLA membership form; or, sending an e-transfer to teras1720555@gmail.com. Thank you!