

MUNICIPALITY OF TEMAGAMI	
Report Prepared For:	Craig Davidson, CAO
Report Prepared By:	Suzie Fornier, Clerk
Subject:	Lake Capacity Study Cost Estimates
Report Date:	September 17, 2020

The Council for the Municipality of Temagami has requested staff obtain quotes to undertake Lake Capacity Studies for Lake Temagami, Cassels and Rabbit Lake and Net Lake in order to gain an understanding of the estimated study costs so that Council can determine if it would like to proceed with budgeting for the studies.

Lake Capacity Studies would be required to be undertaken in accordance with the 2010 Provincial Water Quality Model and would determine whether additional capacity for development exists on the three lakes and, if so, how much additional capacity.

Based on the health of the Temagami lakes, The Lakeshore Capacity Assessment needs to be completed to the stringent standards of MECP, MNRF and the Lakeshore Capacity Assessment Handbook (MECP, 2010) in order to evaluate the development capacities of Lake Temagami, Rabbit Lake, Cassels Lake and Net Lake, all of which are pristine, Lake Trout lakes and are afforded the highest level of protection in the Province. In order to meet these standards and protocol in the Lakeshore Capacity Assessment Handbook, the scope of the assessment needs to be larger than typical Lakeshore Capacity Assessments; specifically 1) all upstream lakes >25 hectares in size need to be included in the model, and 2) modelled and measured dissolved oxygen concentrations need to be assessed in terms of Lake Trout habitat requirements.

A multitude of lakes >25 ha are located upstream of each lake under investigation (e.g. >75 lakes upstream of Lake Temagami). Data on lake area, watershed area, wetland area, annual runoff and existing development for each of these lakes will be gathered and transferred into each whole watershed model.

The management threshold for Lake Trout habitat is 7 mg/L of dissolved oxygen. The average dissolved oxygen concentrations from the hypolimnion (i.e. bottom layer) of each lake need to be calculated and modelled reductions in dissolved oxygen need to be determined to define development capacities of each lake in relation to the 7 mg/L threshold.

Based on the information submitted by the two consultants, a total project budget of \$60,000 would be required with a lake specific budgets of \$25,000 for Lake Temagami; \$17,500 for Rabbit and Cassells Lakes and \$17,500 for Net Lake.

If Council would like to proceed with one of all of the Lake Studies, staff could prepare an RFP document for issue.

Respectfully Submitted,