

**Late glacial sedimentary records from three lakes on the North Mountain,  
northwestern Nova Scotia: preliminary results**

Ian S. Spooner

*Department of Geology, Acadia University, Wolfville, Nova Scotia B0P 1X0, Canada*

A late-glacial cold period (Younger Dryas) has been recognized throughout Nova Scotia, in part through detailed analysis of pollen assemblages preserved in lake sediment cores. Many of these cores also record a sedimentary record of this oscillation. There is uncertainty at many sites as to whether this shift in sedimentation style is related to the instability of the local soil cover associated with climate deterioration or rejuvenation or regeneration of local ice masses. In northwestern Nova Scotia sedimentary records of late-glacial climate oscillation are sporadic and, in many cases, equivocal. Young Lake, Long Lake, and Sandy Lake in Annapolis County were cored in order to determine if a sedimentary record of the late glacial climate oscillation existed at these sites.

All lakes were cored in winter using the Reasoner coring system; at Young Lake 3 m of continuous sediment core was obtained. All sediment cores were stratified and exhibited a sharp contact between a basal diamict (LOI about 5%) and overlying organic sediment (LOI about 30%). Consis-

tently high LOI values (ca. 35%) are maintained throughout the core above this contact. At the Sandy Lake site the basal diamict was dense, contained angular, striated allochthonous gravel clasts which were suspended in a sandy silt matrix; and 60 cm of basal diamict was recovered. At the Young Lake site the basal diamict itself was similar to that observed at Sandy Lake but also contained thin layers of sorted sand and gravel. At the Long Lake site the diamict contained angular basaltic clasts.

The basal inorganic sediment is interpreted as till, which at Young Lake is overlain by a thin veneer of outwash sediment. The overlying organic sediment was deposited, as vegetation invaded the region following deglaciation. There is no sedimentary evidence at these sites of climate oscillation. These data indicate that either the basal diamict in each core post-dates the climatic oscillation or geological conditions were not suitable for deposition or preservation of a sedimentary record of the oscillation at these sites.