

Paul and Peter Lakes: A Liming Experiment Revisited

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ABSTRACT: From 1951-1976, Peter Lake was limed periodically while neighboring Paul Lake was used as a reference ecosystem. We investigated the persistence and variability of the response of Peter Lake to liming by collecting all available historical data on the lakes and by monitoring the limnological properties of both lakes weekly from June-August, 1984. Physical and chemical changes in limed Peter Lake included increases in pH, alkalinity, dissolved inorganic carbon (DIC) concentration, transparency, oxygen content and summer heat content. These changes occurred rapidly in 1951 and have persisted with little variability until 1984. Several differences in algal and zooplankton community composition and dynamics were associated with the physical and chemical changes. Historical data and our observations indicate that the planktonic community structure of Peter Lake has been more variable than that of unlimed Paul Lake.