

INFLUENCE OF SEASONAL TEMPERATURE ON THE TEMPERATURE OPTIMA OF BACTERIA IN SEDIMENTS OF LAKE GEORGE, NEW YORK

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Abstract: Temperature optima for the heterotrophic utilization of glucose and an amino acid mixture were determined throughout the year in sediments from Lake George, N.Y. The temperature optimum decreased with decreasing in situ temperature in the fall and winter, suggesting that selection for or adaptation by a psychrotrophic bacterial population occurred. Replicate plating of bacterial isolates from 3 and 20°C indicated that a psychrotrophic bacterial population was present in the sediments throughout the year. These results indicate that decomposition and nutrient cycling processes in the sediments within the littoral zone of Lake George were probably not completely inhibited by winter temperatures, although process rates were decreased.

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