

Limnological Survey of Water Bodies of the Sikkim Himalayas, India

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ABSTRACT A two long investigation (1981-1983) was taken up on seven lotic systems and five lentic systems in Sikkim Himalayas for limnological investigation. Results tabulated under three seasons, viz., Pre-monsoon, Monsoon and Post-monsoon seasons indicate there is significant variation seasonally in nutrients such as calcium, magnesium, chlorides, sulfates etc. Total solid content is very high in these waters adding much abiotic turbidity. In spite of the richness of the nutrients, these waters exhibit poor planktonic concentrations. Productivity studies indicate, these exhibit lower production figures ranging between 0.810 and 2.27 gO₂ m⁻² day⁻¹ which could be comparable to that of Kashmir Himalayan lakes. The lower production and poor planktonic growth attribute to the lower temperature, poor light condition, abiotic turbidity and speedy flow of the waters. Nutrient concentration and production status indicate the oligotrophic nature of these waters. As far as water quality status is concerned, total coliform counts and BOD appear to be high when compared with tolerance limit set by ISI for category 'A' water. All other parameters stand much below the tolerance limits. Plankton analyses at five sites of Rangpo stream which was subjected to the effluents reveal that the plankton concentration was high at site V followed by site III where the inflow of effluent is much diluted.