PERIPHYTON INVENTORY AND MONITORING FOR WATER QUALITY CHARACTERIZATION IN SUBARCTIC STREAMS[1/]

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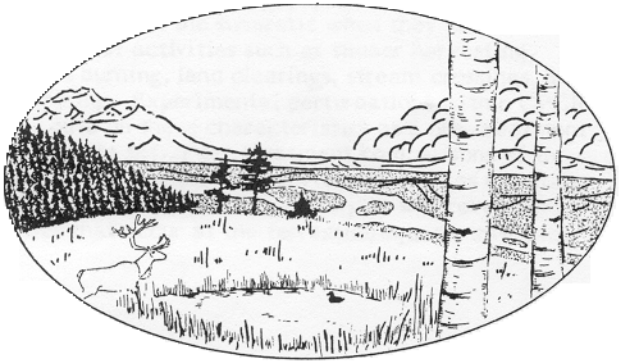

ABSTRACT.--The lotic periphyton community (algae attached to underwater surfaces in streams) is an important component of a vegetation ecosystem and can be the major source of autochthonous input to streams. The community has received little attention in high latitude areas of North America. Some characteristics of the periphyton community--standing crop, biomass accumulation rates, community structure, and the presence or absence of accepted "indicator taxa"--are used to assess water quality, stream conditions, and impacts on stream ecosystems. Studies of algae in the Caribou-Poker Creeks reseach watershed in central Alaska have focused on initial spatial and temporal periphyton characterization to collect baseline data and to assess the applicability of different sampling methods to the unique conditions of the subarctic. Results of these studies recommend a holistic approach to measurements of standing crop, productivity, taxonomic composition, and community structure of algae.