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Macrophyte and Algal Studies of Some Lakes in the Mackenzie Delta and on the Tuktoyaktuk Peninsula, 1985-86

P.S. Ramlal, C. Anema, E. Cummings, E.J. Fee, S.J. Guildford, K. Hallard, R.E. Hecky, R.H. Hesslein, S. Himmer, H. Kling, D. Mathew, D. Nernberg and E. Schindler

Central and Arctic Region
Department of Fisheries and Oceans
Winnipeg, Manitoba
R3T 2N6

1991

Canadian Data Report of Fisheries and Aquatic Sciences Report 839

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Canadian Data Report of

Fisheries and Aquatic Sciences 839

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MACROPHYTE AND ALGAL STUDIES OF SOME LAKES IN THE MACKENZIE DELTA AND ON THE TUKTOYAKTUK PENINSULA, 1985-86

by

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This is the 55th Data Report from

the Central and Arctic Region

PREFACE

This study was funded by the Northern Oil and Gas Action Program (NOGAP), through the Department of Fisheries and Oceans, Western Region. It is one of a series of studies belonging the NOGAP Project B.3, designed to study critical Western Arctic freshwater habitat.

Cat. No. Fs 97-13/0839E ISSN 0706-6465

Correct citation for this publication:

Ramlal,P.S., C. Anema, E. Cummings, E.J. Fee, S.J. Guildford, K. Hallard, R.E. Hecky, R.H. Hesslein, S. Himmer, H. Kling, D. Mathew, D. Nernberg, and E.Schindler. 1991. Macrophyte and algal studies of some lakes in the Mackenzie Delta and on the Tuktoyaktuk Peninsula, 1985-86. Can. Data Rep. Fish. Aquat. Sci. 839: v + 87p.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

Ramlal, P.S., C. Anema, E. Cummings, E.J. Fee, S.J. Guildford, K. Hallard, R.E. Hecky, R.H. Hesslein, S. Himmer, H. Kling, D. Mathew, D. Nernberg, and E. Schindler. 1991. Macrophyte and algal studies of some lakes in the Mackenzie Delta and on the Tuktoyaktuk Peninsula, 1985-86. Can. Data Rep. Fish. Aquat. Sci. 839: v + 87 p.

This report is a compilation of data collected regarding distribution, abundance and growth of macrophytes, nutrient status indicators of phytoplankton, epiphyton and epipelon, photosynthesis rates of epiphyton and epipelon, and biomass and cell number estimates of phytoplankton from study lakes in the Mackenzie Delta and the Tuktoyaktuk Peninsula during the open water periods of 1985 and 1986.

Key words: Canadian Arctic; photosynthesis; biological production; epiphyton; epipelon; macrophyton; phytoplankton; fresh water; Mackenzie River Delta.

RÉSUMÉ

Ramlal, P.S., C. Anema, E. Cummings, E.J. Fee, S.J. Guildford, K. Hallard, R.E. Hecky, R.H. Hesslein, S. Himmer, H. Kling, D. Mathew, D. Nernberg and E. Schindler. 1991. Macrophyte and algal studies of some lakes in the Mackenzie Delta and on the Tuktoyaktuk Peninsula, 1985-86. Can. Data Rep. Fish. Aquat. Sci. 839: v + 87 p.

Le présent rapport regroupe des données sur la distribution, l'abondance et la croissance des macrophytes, sur des indicateurs de l'état nutritionnel relatifs au phytoplancton, à l'épiphyton et à l'épipélon, sur les taux de photosynthèse de l'épiphyton et de l'épipélon ainsi que sur l'évaluation de la biomasse du phytoplancton et du nombre de cellules qui le compose. L'étude a été réalisée en 1985 et 1986 sur des lacs expérimentaux situés dans le delta du Mackenzie et la péninsule de Tuktoyaktuk durant les périodes ou les eaux étaient libres de glace.

Mots-clés: Arctique canadien; photosynthèse; production biologique; épiphyton; épipélon; macrophyton; phytoplancton; eau douce; delta du fleuve Mackenzie.

INTRODUCTION

In 1985 and 1986, as part of the Northern Oil and Gas Action Program (NOGAP), studies were commissioned to assess the limnological characteristics of lakes in the Mackenzie River Delta, and the Kukjuktuk drainage basin on the Tuktoyaktuk Peninsula, in Northwest Territories (Fig. 1). Reports have already been published on the water chemistry (Anema et al. 1990a,b) as well as phytoplankton primary production including related limnological data (Fee et al. 1988). The present report is a compilation of data collected regarding macrophytes, nutrient status indicators of phytoplankton, epiphyton and epipelon, photosynthesis rates of epiphyton and epipelon, and biomass and cell number estimates of phytoplankton. Frequently used abbreviations are presented in Table 1.

In the Mackenzie Delta (Fig. 2), most of the macrophyte studies were carried out in South Lake and Skidoo Lake. The purpose of these investigations was to examine the role of macrophytes in the biogeochemical dynamics of these lakes. The biomass of macrophytes was measured, both in established quadrats which were monitored throughout the open water period, and by harvesting additional material during the same period, randomly and along transects. Plants were also collected for identification, in order to detect the presence of fertile or sterile stems, and used for analysis of chemical composition. Macrophyte studies in the chosen lakes on the Tuktoyaktuk Peninsula (Fig. 3) were less intensive, involving random harvesting, visual survey by SCUBA diver, or harvesting along a transect.

Nutrient status indicators were used to determine whether the algal community being tested was deficient in a specific nutrient, usually phosphorus or nitrogen (e.g. Healey and Hendzel 1980). Alkaline phosphatase activity (APA) is a measure of the degree of P deficiency of the algae; the enzyme activity increases as the algae become more deficient. Phosphorus deficiency is also assessed by measuring the phosphorus debt (P-debt). Both P-debt and N-(nitrogen) debt are measured by adding an excess amount of P or N and calculating the amount taken up by the algae by measuring the amount of P or N remaining after 24 hours. Samples are also analyzed for the concentration of particulate carbon, nitrogen, phosphorus, iron, and chlorophyll, because the ratios of these measured values also provide an indication of the nutrient status.

Epiphytes, the algae growing on macrophyte surfaces were studied by placing artificial substrates (Plexiglas rods) in various locations in the Mackenzie Delta study lakes. The rods were used to simulate macrophytes. Segments taken from the rods were used to: 1) estimate biomass by chlorophyll measurements, 2) determine the nutrient status by APA, P-debt, N-debt and particulate carbon, nitrogen, phosphorus, iron, and chlorophyll analysis of particulate material, and 3) estimate photosynthetic rates by ^{14}C incorporation. While it is possible that the ^{14}C incubation of rod segments may overestimate photosynthesis by illuminating algae which normally would have been shaded, this is probably only a small contributor to the total error associated with the method.

Epipelon, the algae growing on the surface or within the top few centimetres of the sediments, was studied to determine its importance relative to the phytoplankton primary productivity of South Lake in the Mackenzie Delta. Epipelon from samples of surface sediments was trapped in tissue paper during incubations, and the trapped algae were submitted to the same analyses as was described for the epiphytes.

Phytoplankton species composition, biomass and cell numbers were estimated by microscopy.

This report serves to summarize data from various detailed botanical studies and to enable quantitative descriptions of the carbon cycle in Delta lakes.

METHODS AND MATERIALS

STUDY SITES

The study lakes on the Mackenzie Delta and the Tuktoyaktuk Peninsula (Fig. 1), are described in Fee et al. (1988). The lakes in the Mackenzie Delta have been described and categorized by a number of people (e.g. Mackay 1963; Marsh and Hey 1989) based on the extent of "closure" with respect to channels of the Mackenzie River. Of the study lakes in the Delta (Fig. 2), Skidoo and New Lakes have intermediate degrees of closure; South Lake, including South Lake Bay and Strange Bay have higher degrees of closure; and NRC Lake is the most closed of the study lakes in the Delta, connected to the Mackenzie only during spring flood stage (Fee et al. 1988).

On the Tuktoyaktuk Peninsula (Fig. 3) the lakes have a shorter open water period and the water level is fairly constant throughout this period. Lakes in this area are numbered and include Lake 7, 10, 18, and 28. Noell Lake was also sampled during 1986; it is more similar limnologically to lakes on the Peninsula than the Delta. Although it is only 15 km north of the study site in the Delta (Fee et al. 1988) it is geomorphologically and hydrologically separated from the Delta.

MACROPHYTE STUDIES: 1985

Macrophyte studies in 1985 concentrated primarily on the locations, numbers, and types of species and the chemical analysis of the plant tissues. Twenty-four "permanent" quadrats (0.25 m^2) were established on the bottom of South Lake (SL) and its largest bay, South Lake Bay (SLB), on July 9, 1985 (Fig 4). These quadrats were set along a northwest to southeast transect line in the lake proper (Fig. 4) near a large Equisetum sp. bed. Duplicate quadrats were set at depths of 0.5, 1.0, and 1.5 m ending at site A and 1.7, 1.0 and 0.5 m beginning from site B. In SLB at depths of 0.5, 1.0, and 1.5 m duplicate quadrats were also placed perpendicular to the western shore (Site C) and perpendicular to the south shore in a smaller adjoining bay (Site D). The locations were marked with floats. These quadrats were undisturbed until

they were harvested between August 7-9, 1985, when all macrophytes within the quadrat were collected; Equisetum sp. were harvested by cutting the stems as close to the sediments as possible; other plants were either cut or pulled off at the base. No attempt was made to recover root masses. For those quadrats deeper than 0.5 m, the vegetation was collected with the aid of SCUBA.

A total of 40 extra quadrats were harvested at random locations and depths both in SLB and SL. Ten of these quadrats were harvested in various densities of Equisetum sp. in the stands northeast of Site B in SL; they were taken on four different occasions at intervals of 7-10 days from July 10 to August 8, 1985. These were intended to detect seasonal biomass changes of this abundant species as well as to examine spatial variations in abundance. In addition, 12 extra quadrats were taken in other stands of Equisetum sp. Eighteen other random quadrats were harvested in areas not dominated by Equisetum and were intended to supplement data from the permanent quadrats for standing crop information on macrophytes growing in deeper water.

In the laboratory, all samples were rinsed, separated by species, tentatively identified, the excess water removed by spinning in a salad spinner and weighed wet. If a lot of material was harvested, subsamples were taken. All samples were dried (in an oven) at 60°C until a constant dry weight was attained. These results are listed in Table 2. Dried subsamples were finely ground prior to analysis of total carbon, nitrogen, phosphorus and iron (Table 3) by the methods outlined in Stainton et al. (1977).

In addition to the aquatic macrophytes identified from the quadrats, a reference collection of shoreline specimens was compiled. These samples were either floating, attached, submerged or seasonally emergent with the receding spring water levels. A total of 37 species were collected from South Lake and South Lake Bay and Lakes 18 and 35 on the Tuktoyaktuk Peninsula. More samples were added to the reference collection in 1986 and this collection was sent to the National Museum of Natural Sciences for identification (Table 4).

This reference collection is presently maintained in the herbarium of the University of Manitoba Department of Botany (Winnipeg, Manitoba R3T 2N2).

MACROPHYTE STUDIES: 1986

Permanent quadrats (marked with small floats) were established in areas of South Lake (Fig. 5) and Skidoo Lake (Fig. 6) in 1986. Two 0.25 m^2 permanent quadrats were placed in the Equisetum beds in Strange Bay, South Lake and Skidoo Lake (labelled Sites A and B) on June 20, 1986. Two 0.98 m^2 permanent quadrats were established in the Potamogeton sp. beds in nearby lake areas on the same date (labelled Sites C and D). Within the permanent quadrats of Strange Bay and South Lake 5 plants were flagged with fluorescent tape. In Skidoo Lake the number of flagged plants varied within each quadrat. Roughly every two weeks a SCUBA diver would measure the heights of the flagged plants as well as miscellaneous others (Table 5). The miscellaneous plants in the Equisetum sp. quadrats were measured in the southeast corner of the quadrat to be unbiased when sampling the quadrats. In the Potamogeton sites, other plant heights were measured but were chosen at random because the beds were not as dense as the Equisetum beds.

The total number of plants in a quadrat were counted at each visit. Significant errors were possible, especially in Equisetum beds where the plants were quite dense. Counting by sight was difficult in turbid waters, therefore counting estimates were done by "touch". The final counts, done August 21, 1986, were correct because the complete quadrat was harvested at this time.
Transects were placed at several locations in Skidoo (Fig. 6) and South (Fig. 7) Lakes during mid August to be able to assess the maximum biomass and plant distribution in these lakes.

Subsamples

Macrophytes were also harvested every two weeks by placing another quadrat near the permanent quadrat and removing all of the plants within with garden shears. The plants were cut close to the surface of the sediments, no roots were taken. In the laboratory, Equisetum samples were separated into fertile and sterile stems. They were counted and a subsample of approximately 10 plants was measured for height, maximum diameter and minimum diameter. From this data (Table 6) the surface area of Equisetum could be calculated. The plants were rinsed and centrifuged in a salad spinner. A total wet weight and subsample wet weights were taken. Samples were dried at 60°C until a constant weight was attained. Potamogeton samples were separated into different species. They were similarly rinsed, spun and dried, and measured. The total quadrat harvest was usually processed. A summary of the locations, weight and species of macrophytes in the Delta study lakes in presented in Table 7.

Lake 18: 1986

The entire sample from a given quadrat was weighed, then subsampled for dry weight measurements. The most abundant macrophytes from Lake 18 consisted of various species of mosses and Lemna. Of the mosses taken, ten pieces (from each sample) were measured for total length as well as the green tip length on the perennial stem. The samples were separated into Lemna, brown moss and the green moss tips. These were weighed separately for wet weight, then, because they were so small, dried in a desiccator until they reached a constant dry weight (Table 8). A profile map and qualitative description of the plants in the small bay of Lake 18 has been included (Fig. 8).

PHYTOPLANKTON NUTRIENT STATUS: 1985-86

Samples

Water samples were taken using the integrating sampler described by Shearer et al. (1985) fitted with a 4 L, dark brown polycarbonate bottle. Samples were integrated from the surface down to the depth where 1% of surface light occurred or to

within 0.5 m of the bottom, whichever was shallower. Subsamples were preserved in Lugol's solution for later taxonomic identification and enumeration.

Net samples

In addition to whole water samples, net samples of algae were taken at each station. In 1985 this was done by dragging a plankton net (mesh size 10 μ) back and forth through the water. In 1986, the net samples were collected by pouring 4 L bottles of surface water through the net until the net began to clog or until 20 L had passed through. Both net and water samples were transported to the laboratory in dark, insulated boxes. Net samples were filtered and analyzed for suspended C, N, P, Fe and chlorophyll (Tables 9 and 10; Stainton et al. 1977). The molar ratios of C/N, C/P, N/P and C/chlorophyll *a* are used as indicators of phytoplankton nutrient status (Healey and Hendzel 1980).

APA

Alkaline phosphatase activity (APA) was measured as an indicator of phosphorus deficiency (Healey and Hendzel 1979). Most phytoplankton species produce phosphatase enzymes capable of breaking down organic P compounds, enzyme activity increasing with P deficiency. The APA was measured by incubating water samples with *o*-methylfluorescein phosphate (OMFP) and observing the rate of appearance of *o*-methylfluorescein (OMF) which fluoresces when the phosphate bond is hydrolysed. Activity was measured in the whole water sample and in the filtrate of the sample (<0.45 μ), the difference is the activity associated with the phytoplankton and other seston. APA results were normalized by dividing by chlorophyll *a* concentration of the sample (Tables 9 and 10). Levels of 0.003-0.005 μmoles P·μg chl^{-1}·h^{-1} indicate moderate P deficiency. Levels greater that 0.005 μmole P·μg chl^{-1}·h^{-1} indicate severe deficiency. These values were suggested by Healey and Hendzel (1979) and are based on work using cultures and natural samples.

P and N debt

These nutrient status indicators are based on the methods of Healey and Hendzel (1980). Enough P or N is added to the water sample to saturate P or N uptake. The total P or N taken up is an indication of the degree of P or N deficiency. For P debt, immediately following the addition of KH_2PO_4 to 100 mL water samples to a final concentration of 10 μM, initial triplicate subsamples were taken and filtered. After 24 hours in the dark at room temperature final triplicate subsamples were taken, filtered and analyzed for soluble reactive P (SRP). The difference between initial and final concentration is a measure of P debt. The assay for N debt was similar except that NH_4Cl was added to achieve concentrations of 10 μM and initial samples were analyzed immediately. Levels greater than 0.075 μmole P·μg chl^{-1} indicate P deficiency and greater than 0.15 μmole N·μg chl^{-1} indicate N deficiency. In 1985, the N and P debt measurements were done on the whole water sample (Table 9); in 1986 they were measured on the net samples (Table 10).

PHYTOPLANKTON BIOMASS ESTIMATE: 1985-86

Subsamples (125 mL) from the 4 L samples were transferred to glass bottles, immediately fixed with Lugol's solution and later preserved in 2% formalin. Aliquots were settled in 2 or 10 mL counting chambers and 4-16 hours later enumerated using a Wild M40 inverted microscope following the Utermohl (1958) method as modified by Nauwerck (1963) (Tables 11-15). The 2 mL chambers were used when the material contained a lot of detritus, e.g. South and Skidoo Lakes in June 1986. Biomass was expressed as wet weight (mg·m^{-3}) based on measurements of linear dimensions using appropriate volume formulae and assuming a specific gravity of one. Chrysophyte lorica and gelatinous envelopes were excluded in volume estimates (Rott 1981). Scanning and transmission electron microscopes were used to identify as many scaled chrysophytes and diatoms as possible.

EPIPHYTES (ARTIFICIAL SUBSTRATES): 1985

Plexiglas rods (0.476 cm diameter) were used as an artificial substrate to imitate macrophytes and establish growth of epiphytic algae. The artificial substrates were similar to those described by Goldsborough and Robinson (1983). Sixteen rods were suspended in the water column at two separate sites in South Lake (A and B) and in South Lake Bay (C and D; Fig. 9). Substrates were installed on July 9, 1985. The depth of the water column at sites A, C, and D were 1.5 m, and 1.7 m at site B. The substrates were sampled on three occasions during 1985. On each sampling date three rods were removed from each site and 2 cm sections broken off and placed into 20 mL glass vials. The rods were analyzed for chlorophyll, particulate carbon, nitrogen, and phosphorus, primary production, APA, and phosphorus and nitrogen debt. Sections were also preserved in Lugol's solution for taxonomic identification.

Chlorophyll

Chlorophyll measurements were used to estimate algal biomass. Two methods of extracting chlorophyll from the artificial substrates were compared (Table 16). In this comparison, concentrations of chlorophyll were measured by adding the segments to a vial and adding methanol (the "direct" method) and by brushing material from the rods, filtering this material, then extracting the chlorophyll from the filter (the "filter" method). The results of this comparison lead to using on the "direct" method for measurement of chlorophyll concentration of the material on the segments. Three segments were taken from 18, 30 and 56 cm below the surface on each rod and placed into 20 mL vials. In the laboratory, 10 mL of 95% methanol was added to each vial. The vials were kept at 4°C in the dark for 24 hours, then the fluorescence of the extract was measured in a Turner™ fluorometer. Measurements and calculations were as described by Stainton et al. (1977). Results were expressed mg chlorophyll·m^{-2} (Table 17).

Particulate C, N, P, Fe and chlorophyll

Two 4 cm segments were taken from 32 and 64 cm below the water surface respectively from each of the three rods. In the laboratory the three segments from each depth were placed in a 500 mL beaker and the epiphyton scraped and rinsed into the beaker using a paint brush and distilled water. The mixture for each depth was divided into three equal parts and filtered through pre-ignited GFC filters. The filters were analyzed for particulate C, N, P, Fe, and chlorophyll (Table 18; Stainton et al. 1977). The ratios of the measured values were used as indicators of nutrient status.

APA

Segments (2 cm) were taken from 24 cm below the surface on two rods at each site and placed in glass vials (one segment per vial) containing 4 mL of filtered lake water. In the laboratory the content of each vial including the rod was poured into a glass cuvette, 0.5 mL of substrate was added, the contents were mixed and fluorescence was measured during the following hour. A cuvette containing 4 mL of filtered lake water, a clean piece (2 cm) of Plexiglas rod and 0.5 mL substrate was used as a measure of soluble APA. The inclusion of the rod in the vial did not interfere with the path of light in the fluorometer. The cuvettes were not mixed between readings because large particles of algae released from the rods would interfere with the measurements. Because of this incomplete mixing, the results may underestimate APA. Another problem encountered was that large clumps of epiphytic algae growing on the artificial substrate were released in the glass vials used to transport the sample and remained stuck on the glass vial when the substrate and filtered lake water were transferred to the glass cuvette. This problem would also cause APA to be underestimated. In 1986 this problem was avoided by placing the rod segments directly into cuvettes containing 4 mL of filtered lake water in the field. The rate of APA was normalized to the average of the two chlorophyll measurements from 18 and 30 cm below the surface (Table 18). Analysis of variance of chlorophyll concentration with depth showed no significant difference in the chlorophyll concentrations at these different depths.

P and N debt

For measurements of the these two indicators on the artificial substrates, 2 cm segments were taken from 26 and 28 cm below the surface on one rod at each site for N and P debt respectively. The segments were placed in glass vials containing 4 mL filtered lake water. The substrate and 4 mL filtered lake water were placed into 125 mL glass bottles and 96 mL filtered lake water was added. Reagents were added as previously described to give final concentrations of 10 μmole N or P/L. Results are expressed as μmole N or P removed from solution per substrate, and normalized to the chlorophyll concentration of each substrate (Table 18).

Photosynthesis

Two-2 cm segments were taken from 20 cm below the surface and two from 58 cm below the surface on each of three rods. The segments were placed in glass vials containing 5 mL filtered lake water. One of each set of two vials was wrapped in black tape to exclude light. In the laboratory, 10 mL of filtered lake water containing about 1 μCi ^{14}C were added to the vials. The methods used were the same as those outlined in Shearer et al. (1985). The samples were placed in a transparent test tube rack in a water bath incubator equipped with a light source, and incubated at irradiances expected to saturate photosynthesis. The mean light intensity for the three experiments was 1000 $\mu E \cdot m^{-2} \cdot sec^{-1}$. Temperatures were maintained at in situ levels. After about half the incubation time, the rack containing the vials was turned 180° to obtain even light exposure. Individual light readings were taken with a Biospherical QSL-100 irradiance meter. Average intensity was calculated for each position.

After approximately 2 hours, the samples were removed and 0.5 mL of 0.1 N HCl was added to each vial. On the first sampling occasion (July 23, 1985) the samples were bubbled for 30 minutes to remove dissolved inorganic carbon. The samples were filtered through 0.22 μ Millipore filters (cellulose acetate membrane), leaving the rod in the scintillation vial. The filter was transferred back into the vial and 15 mL of fluor was added (Beckman Ready Solv MP). On the two subsequent occasions, the samples were not bubbled; they were poured directly onto the filter and the vial contents were rinsed onto the filter with acid solution (15 mL of 0.1 N HCl). The filters and rods were returned to the vials and 15 mL of fluor added. Samples were analyzed for ^{14}C by liquid scintillation and rates of photosynthesis calculated (Table 19).

The concentration of DIC in the filtered lake water was measured as described by Stainton et al. (1977) (Table 19).

EPIPHYTES (ARTIFICIAL SUBSTRATES): 1986

Sites

The five artificial substrate sites for South Lake (Fig. 9) include two sites in Strange Bay, two sites in the South Lake main basin, and one in South Lake channel. The sites labelled A and C correspond with the permanent macrophyte locations. The artificial substrates were also established in Skidoo Lake (Fig.10) and the deepest site in NRC Lake. In the shallow sites the rods were pushed into the sediments, at the deeper sites rods were suspended from the water surface using a surface float that did not shade the rods. The rods were installed on July 3, 1986.

Sampling

Samples were taken on four occasions during 1986. Three rods were randomly selected from each site. Portions that protruded above the water surface or that were buried in the sediments were discarded. At several of the shallow stations on July 22, the three segments immediately above the sediments surface had darker, apparently heavier growth than the rest of the rod. These dark por

tions were not used because it would have been inconsistent with the rest of the rod. Prior to collecting the rods, a sample of lake water from each site was taken. This water was filtered through GFC filters, 5 mL was added to 20 mL vials labelled for photosynthesis, nitrogen debt (N debt), phosphorus debt (P debt) and taxonomic identification prior to addition of the segments. Segments taken for the analysis of alkaline phosphatase were put into sterile cuvettes, then 4.5 mL of the filtered water was added. Rods were removed from the water individually and using sharp cutters, scored segments (2 cm in length) were cut and dropped into the appropriately labelled vial or cuvettes, and transported back to the lab in coolers. The cuvettes were sealed with parafilm. The sampling scheme for each rod is presented in Table 20. Four segments were taken from each of three rods for both photosynthesis and chlorophyll, segments for P and N debt and phosphatase measurements were taken from one depth on two rods. On all three rods the remaining segments were kept for "scraping". Sections used for scraping were immersed in a known volume of filtered lake water from the appropriate site and brushed clean with a paint brush. The suspension was then divided into three equal parts and filtered for chlorophyll, carbon and nitrogen (filtered together), and phosphorus analysis (Table 21).

Chlorophyll

Chlorophyll was measured by adding 10 mL of 95% methanol to the vials containing a rod segment, refrigerated overnight and analyzed fluorometrically (Stainton et al. 1977; Table 21).

APA

The cuvettes were placed in a 35°C water bath for 5 minutes, then 0.5 mL OMFP was added, and the fluorescence read at five time at regular intervals during the next 90 minutes. Activity (μmole $P \cdot L^{-1} \cdot h^{-1}$) was normalized to chlorophyll concentration.

P and N debt

At each site one segment was removed from Rods I and II for N debt and one segment for P debt. For each analysis both segments from Rods I and II were placed in the same 125 mL autoclaved reagent bottle and the 5 mL from each vial was rinsed into the reagent bottle using 90 mL of filtered lake water from the appropriate site. Thus each site was represented by one bottle containing two segments and 100 mL of filtered lake water. The remainder of the P and N debt procedures are the same as those for a routine water sample: 0.5 mL of 1.0 mM N or P solution was added to each bottle, 3-10 mL subsamples were removed for initial N or P analysis. Bottles were incubated at room temperature in the dark for about 24 hours, 3-10 mL subsamples were removed for measurement of the final N or P concentration. The differences were calculated, corrected for the control, and normalized to the amount of chlorophyll present as previously described (Table 22).

Photosynthesis

Segments from four depths on three rods at each site were sampled for photosynthesis. A solution of ^{14}C-sodium bicarbonate was made using 1 mL of ^{14}C stock (10-20 $\mu Ci \cdot mL^{-1}$) diluted with 100 mL of filtered lake water for each of the eight artificial substrate sites. This is referred to as the "^{14}C inoculation solution". Two mL of this solution were added to each vial from a site. The 12 vials were arranged in the incubator in the same order for each site; Rod I depth 1 to Rod III depth 2 going from highest to lowest light intensity (Table 20). The last two depths of Rod III were incubated in the dark. Samples were incubated for 1.5 hours; light readings were made using the Biospherical light meter, removing each vial and inserting the sensor in it's place. Standards were made with each of the ^{14}C inoculation solutions by pipetting 1 mL of the solution to a liquid scintillation vial with 0.5 mL pH 10.0 buffer and 14.0 mL fluor. Four standards were made for each on the solutions. At the end of the incubation, vials were removed, placed in the bubbler tray and 1 mL of 0.1 N HCl added to each. (Note: this is twice the normal amount added). Samples were bubbled for at least 30 minutes to remove inorganic carbon. Fluor was added and samples were counted on the Beckman LS7500 liquid scintillation counter. Dissolved inorganic carbon (DIC) was also analyzed on the filtered lake water. Epiphyte photosynthesis was calculated and the results are presented in Table 23.

Taxonomy

One segment from each of Rods I and II were placed in separate vials in the field. In the lab 0.5 mL of Lugol's solution was added to one, and 0.5 mL of formalin; in later samples the amount of preservative was increased to 1 mL.

EPIPELON: 1985

The primary objective of the epipelon study was to determine the relative importance of the epipelon to the total primary productivity of South Lake in the Mackenzie Delta. The basic method used to sample the epipelon was the tissue trapping methods described by Eaton and Moss (1966), but modifications were made over the summer to adapt the method to our study. Sediments were sampled six times over the summer between July 9 and August 15, 1985 using an Ekman-Burton dredge. Samples were usually taken in the morning. Only the top few centimetres of organic flocculent material were removed. Three dredges were taken near the same site and the surface sediments were vacuumed into a single 500 mL polyethylene bottle. The bottle was capped and kept in the dark for transport. Subsamples of undisturbed surface sediments were also taken for taxonomic study. A water sample was also taken from each site, filtered through a GFC filter and a 0.22 μ polycarbonate filter for use in the laboratory procedures.

In the laboratory the two bottles from sites A and B (Fig. 9) were combined and mixed in a 1 L beaker and left to settle in the dark at room temperature for 7 hours. The same was done for the

combined sample from sites C and D (Fig. 9). After the sediments settled, the overlying water was removed. The sediments were mixed and spread evenly onto three petri dishes (14.2x2 cm) which were incubated overnight in the greenhouse of the Inuvik Science Resource Centre.

Squares of lens cleaning paper 2.25 cm^2, tissue traps, (pre-wetted in filtered lake water) were placed on top of the sediments in single layers to trap upwardly migrating algae. Additionally, two 3.24 cm^2 glass cover slips were placed on the sediments in each dish. The individual petri dishes were then surrounded by cardboard boxes approximately 20 cm high and open on the top (Eaton and Moss 1966). Tissue traps on petri dishes surrounded by tall boxes had higher chlorophyll concentrations and higher rates of primary production than tissue traps from dishes not surrounded by tall boxes.

Generally the petri dishes were not covered. However, at times when it appeared that the sediments were drying, clear plastic covers were placed on the dishes, with the lids ajar so air could circulate. The lids become covered with condensation, but it is not known whether this affected the light available to the epipelon.

Tissue traps were left in contact with the surface of the sediments overnight. The following morning, traps were checked for accumulation of excess water. If there was water on the sediment surface it was removed. It has been demonstrated that algae migrate from the sediment at different times during the day (Round 1981), therefore time course studies were done to determine the optimum time for harvesting tissue traps. Traps were removed for chlorophyll analysis at three times during the day, and until this optimum time could be determined, tissues for primary production and APA were harvested at 12:00 local time.

Chlorophyll

Three tissue traps were removed from each dish at about two hour intervals (09:30, 12:00, and 14:00 local time). The squares were peeled off the sediment using forceps and placed in glass vials with 10 mL of 95% methanol, shaken and kept at 4°C overnight. The next day the fluorescence of the extract was measured and results expressed as mg chlorophyll·m^{-2} (Table 24).

APA

Two tissue traps were removed from each petri dish and placed into glass test tubes containing 4.5 mL filtered lake water. The APA was analyzed as previously described (see EPIPHYTES: 1985), with similar limitations and results normalized to chlorophyll concentration (Table 24).

Photosynthesis

Epipelon photosynthesis was estimated by measuring the fixation of ^{14}C associated with the tissue traps incubated at four different light intensities (Table 25). At 12:00 (local time) 14 tissue traps were removed from each petri dish and placed in 20 mL vials containing 4 mL filtered water and ^{14}C. The vials were incubated in an incubator and processed as normal water samples.

EPIPELON: 1986

Three dredge samples were taken at six sites in South Lake, with the aim of studying epipelon along a gradient with respect to distance from the channel and to compare epipelon at different water depths. Surface material was removed from one dredge at each site using a Pasteur pipette and a 1 cc syringe corer. These small samples were put in LS vials and preserved with Lugol's solution. The dredge and sediment were kept in a bucket of water as it was lifted from the lake. Water in the dredge was siphoned off until the depth remaining was 1 cm. The epipelon corer (8.7 cm diameter) was inserted into the sediments and the top few centimetres of flocculent material were vacuumed into a 500 mL translucent, plastic bottle with a hand vacuum pump. All three dredges from each site were pumped into the same 500 mL bottle. The bottles were kept in the cooler and returned to the lab. An additional 2 L water sample was taken at each site.

In the lab the dredged material in each 500 mL bottle was thoroughly mixed and equally distributed into three 1 L beakers. The beakers had been prepared by covering the bottom and sides with black tape. The beakers were covered with a plastic petri dish and placed in a dark cupboard for at least 24 hours at room temperature. The two litre water samples were filtered through GFC glass fibre filters to remove any algae. The water was stored at 4°C until required.

At the end of the dark storage, water overlying the sediments in the beakers was siphoned off. Prior to incubation in the greenhouse, a cover slip was placed on the centre of the sediment (18 mm diameter), then pre-wetted lens paper (8.9 cm diameter) was placed on the top of the sediments in each beaker. Light inside the beakers was <2.6% of incident light.

After 16.5 hours in the greenhouse, the beakers were returned to the lab. The filtered lake water was brought to room temperature in a water bath. Cover slips from the beakers were put into vials and preserved with Lugol's solution. The lens papers (2/bottle) were added to 1500 mL of filtered lake water and gently mixed to remove algae. Samples were removed for DIC analysis, photosynthesis, APA and chlorophyll measurements as well as preservation in Lugol's solution. Photosynthesis was measured in the same manner as lake water (Fee et al. 1988). Measurements were normalized to chlorophyll concentration in the original sample (Table 26).

ACKNOWLEDGEMENTS

We especially thank John Ostrick and his staff at the Inuvik Scientific Resource Centre for their help in many aspects of our work. M. Allen assisted in the collection and analyses of some samples. The Analytical Unit of the Freshwater Institute performed many of the chemical analyses. G. Kelleher of the Department of Botany at the University of Manitoba and the National Museum of Natural Sciences in Ottawa provided identifications of the macrophytes. B. Fallis and L. Hendzel reviewed this report, providing numerous helpful comments which improved this data report. This study was funded by the Northern Oil and Gas Action Program (NOGAP) through the Department of Fisheries and Oceans, Central and Arctic Region. This report is one in the series of NOGAP B3, Critical Western Arctic Freshwater Habitat reports.

REFERENCES

Anema, C., R.E. Hecky, E.J. Fee, D. Nernberg, and S.J. Guildford. 1990a. Water chemistry of some lakes and channels in the Mackenzie Delta and on the Tuktoyaktuk Peninsula, N.W.T., 1985. Can. Data Rep. Fish. Aquat. Sci. 726: vii+73 p.

Anema, C., R.E. Hecky, S. Himmer, and S.J. Guildford. 1990b. Water chemistry of some lakes and channels in the Mackenzie Delta and on the Tuktoyaktuk Peninsula, N.W.T., 1986. Can. Data Rep. Fish. Aquat. Sci. 729: vi+63 p.

Eaton, J.W., and B. Moss. 1966. The estimation of number and pigment content in epipelic algal populations. Limnol. Oceanogr. 11: 584-596.

Fee, E.J., R.E. Hecky, S.J. Guildford, C. Anema, D. Mathew, and K. Hallard. 1988. Phytoplankton primary production and related limnological data for lakes and channels in the Mackenzie Delta and lakes on the Tuktoyaktuk Peninsula, N.W.T. Can. Tech. Rep. Fish. Aquat. Sci. 1614: v+62 p.

Goldsborough, L.G., and G.G.C. Robinson. 1983. The effect of two triazine herbicides on the productivity of fresh water marsh periphyton. Aquat. Toxicol. 4: 95-112.

Healey, F.P., and L.L. Hendzel. 1979. Fluorometric measurement of alkaline phosphatase activity in algae. Freshwater Biol. 9: 429-439.

Healey, F.P., and L.L. Hendzel. 1980. Physiological indicators of nutrient deficiency in lake phytoplankton. Can. J. Fish. Aquat. Sci. 37: 442-453.

Mackay, J.R. 1963. The Mackenzie Delta Area, N.W.T. Geol. Surv. Can. Misc. Rep. 23: 202 p.

Marsh, P., and M. Hey. 1989. The flooding hydrology of Mackenzie Delta Lakes near Inuvik, N.W.T., Canada. Arctic 42: 41-49.

Nauwerck, A. 1963. Die Beziehung Zwischenzooplankton und phytoplankton im See Erken. Symb. Bot. Upsal. 17: 163 p.

Rott, E. 1981. Some results from phytoplankton counting intercalibrations. Schweiz. Z. Hydrobiol. 43: 43-62.

Round, F.E. 1981. The ecology of algae. Cambridge University Press, Cambridge. 653 p.

Shearer, J.A. 1978. Two devices for obtaining water samples integrated over depth. Can. Fish. Mar. Serv. Tech. Rep. 772: iv+9 p.

Shearer, J.A., E.R. DeBruyn, D.R.Declercq, D.W. Schindler, and E.J. Fee. 1985. Manual of phytoplankton primary production methodology. Can. Tech. Rep. Fish. Aquat. Sci. 1341: iv+58 p.

Stainton, M.P., M.J. Capel, and F.A.J. Armstrong. 1977. The chemical analysis of freshwater. 2nd ed. Can. Fish. Mar. Serv. Misc. Spec. Publ. 25: 180 p.

Utermohl, H. 1958. Zur Vervollkommnung der quantitativen phytoplankton methodik. Mitt. Int. Ver. Limnol. 9: 1-38.

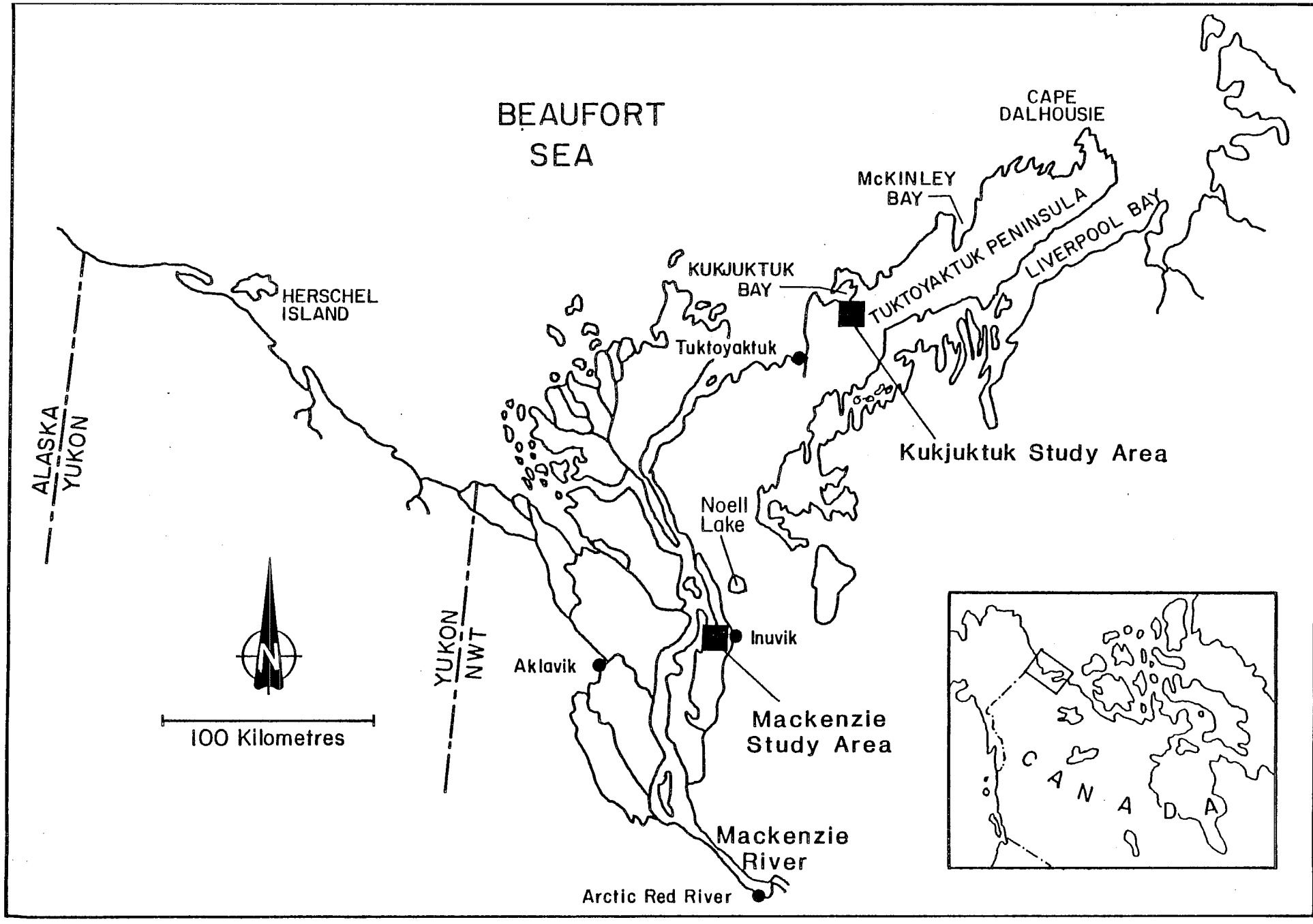

Fig. 1. Location of Mackenzie River Delta and Kukjuktuk Bay study areas.

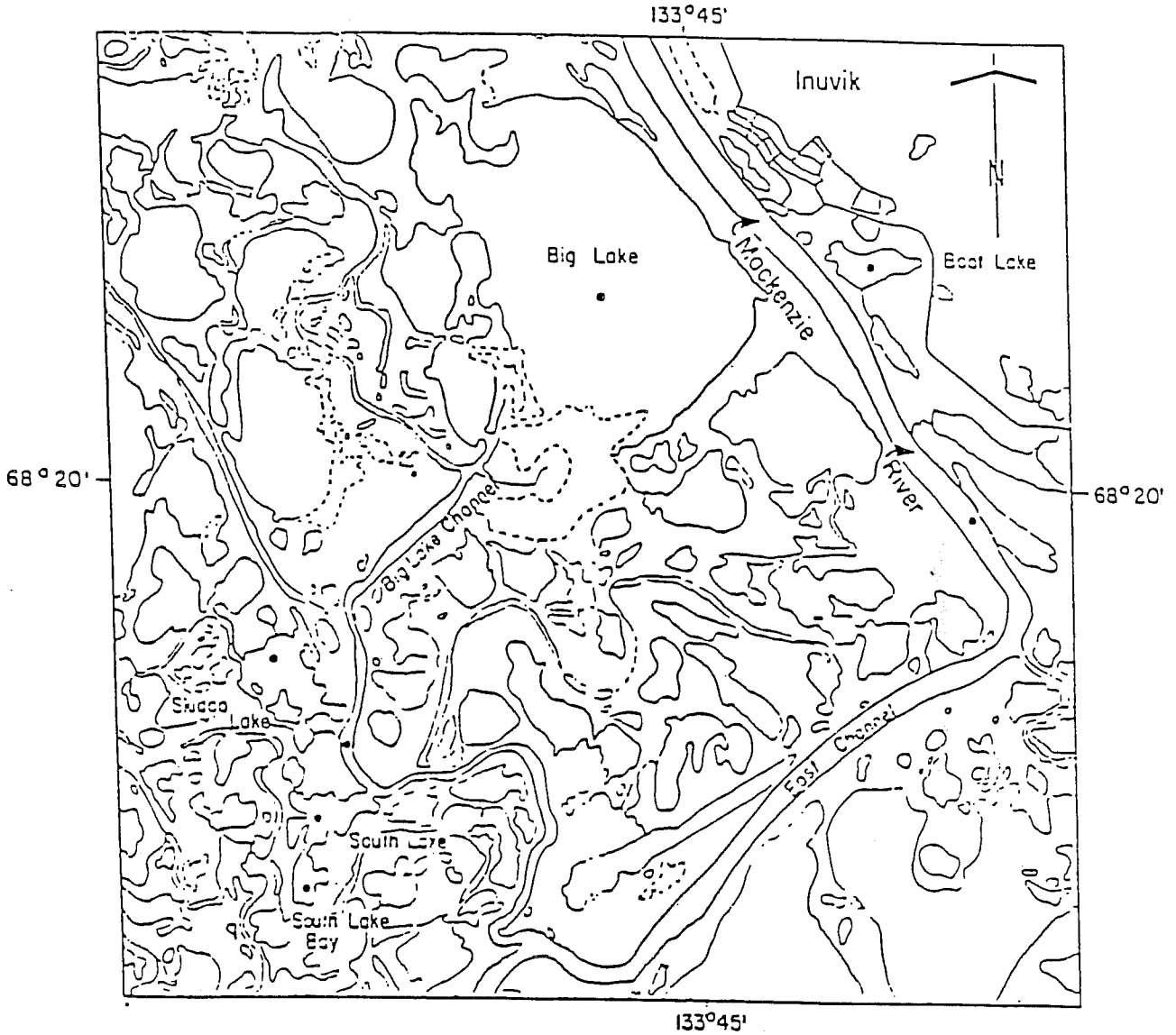

Fig. 2. Enlarged map of the Mackenzie River Delta study area.

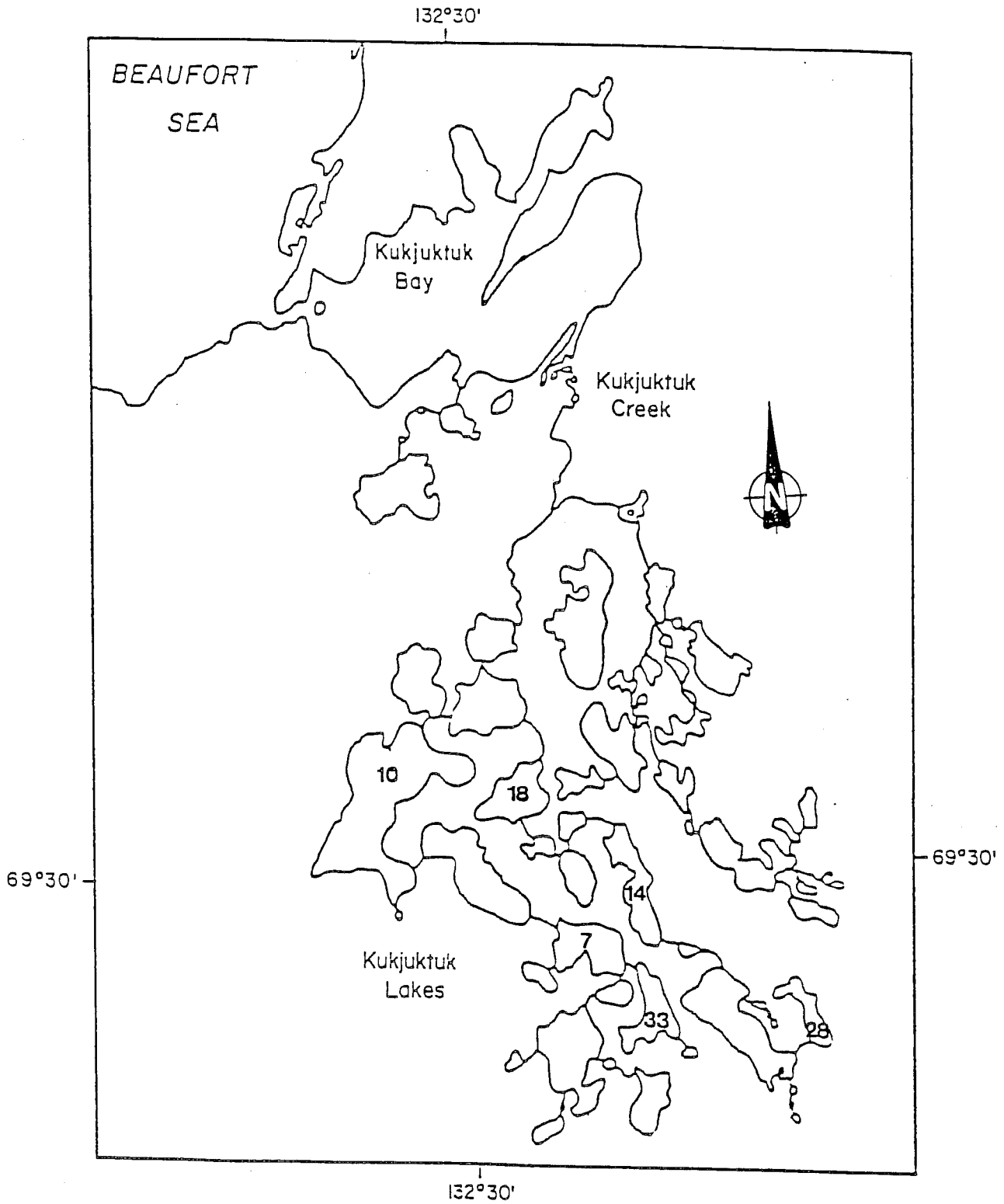

Fig. 3. Enlarged map of the Kukjuktuk Bay study area.

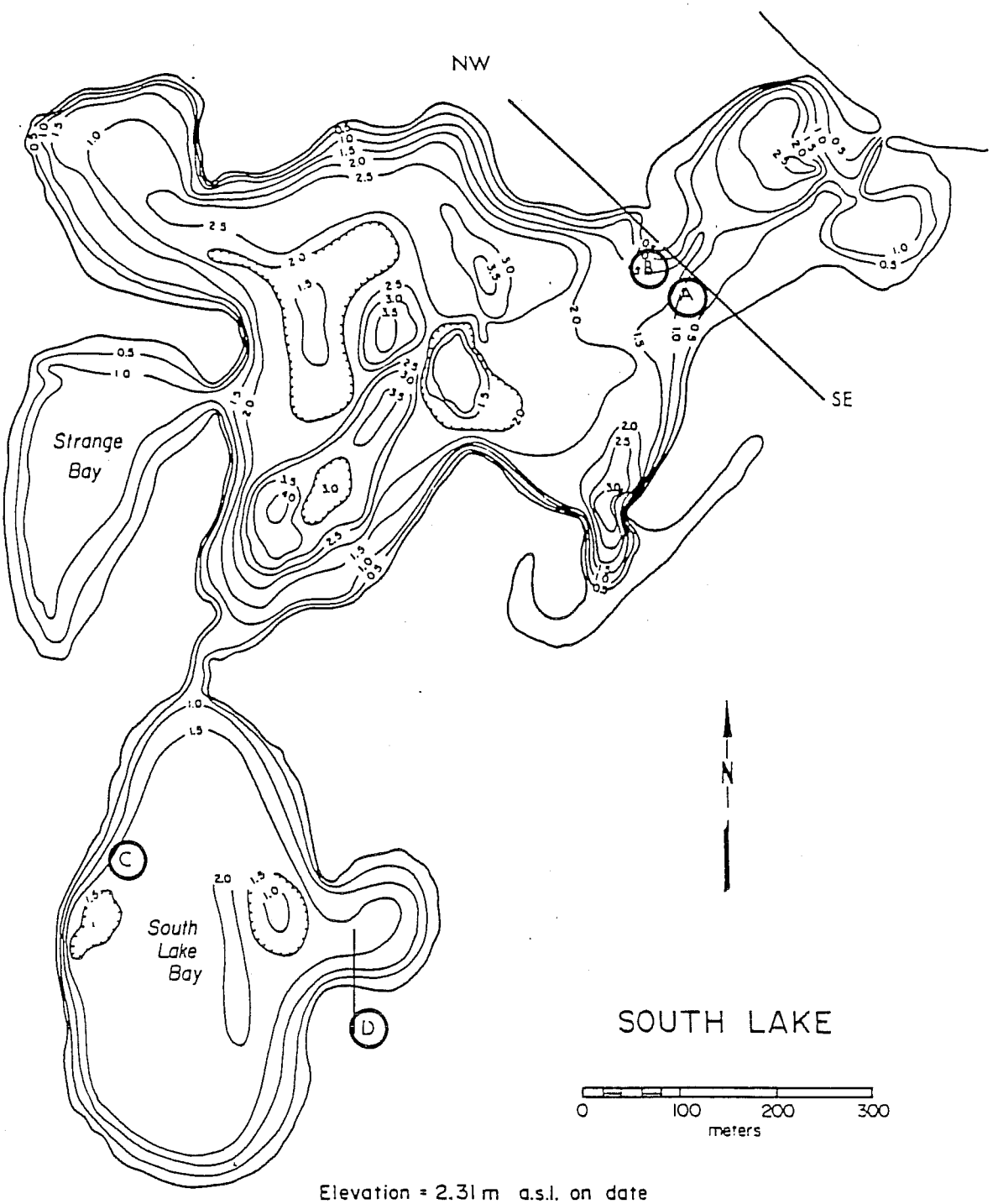

Fig. 4. Location of 1985 quadrat sites in South Lake.

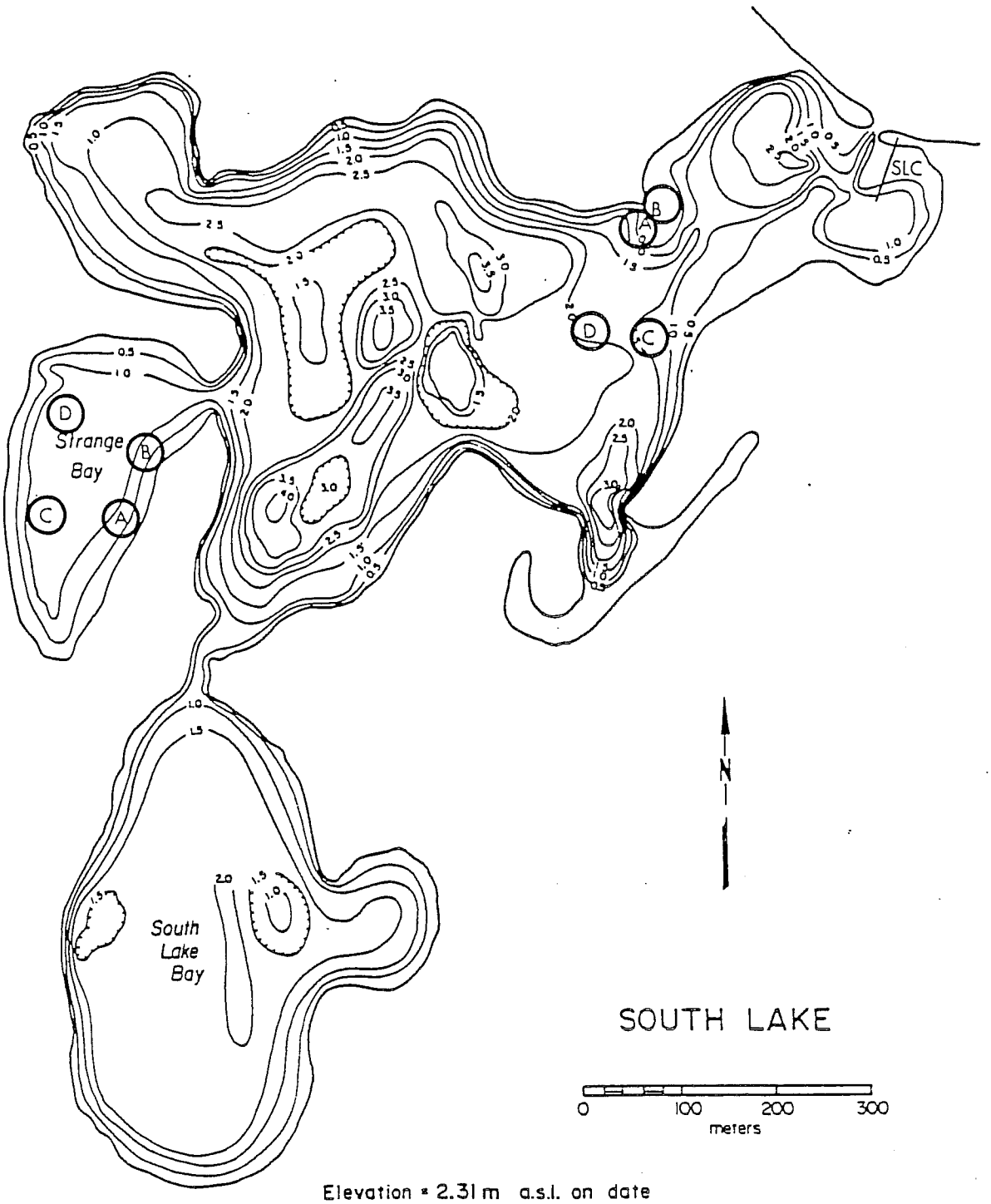

Fig. 5. Location of 1986 quadrat sites in South Lake.

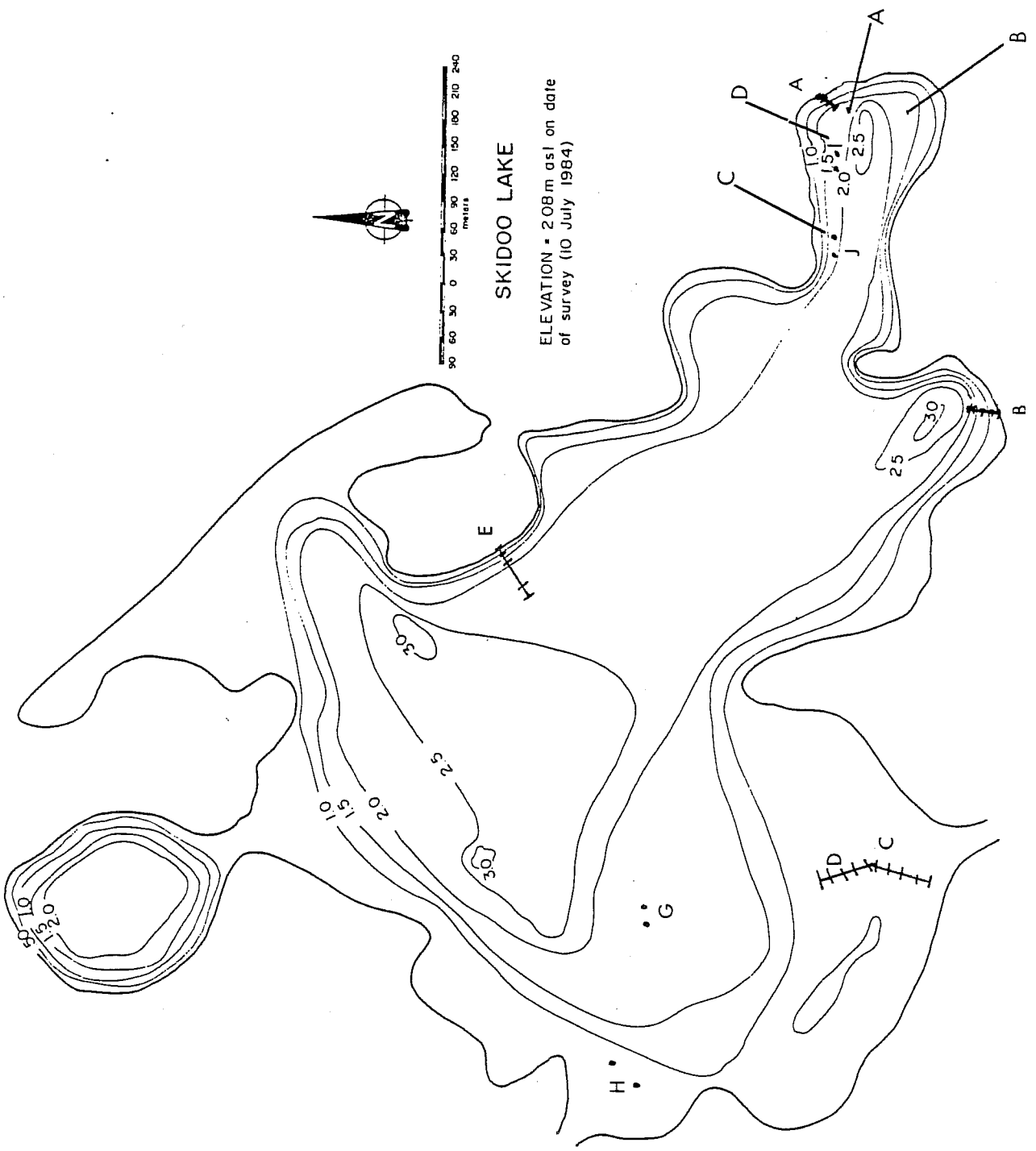

Fig. 6. Locations of permanent quadrats, transects and sites of biomass harvesting (August 15, 1986) in Skidoo Lake.

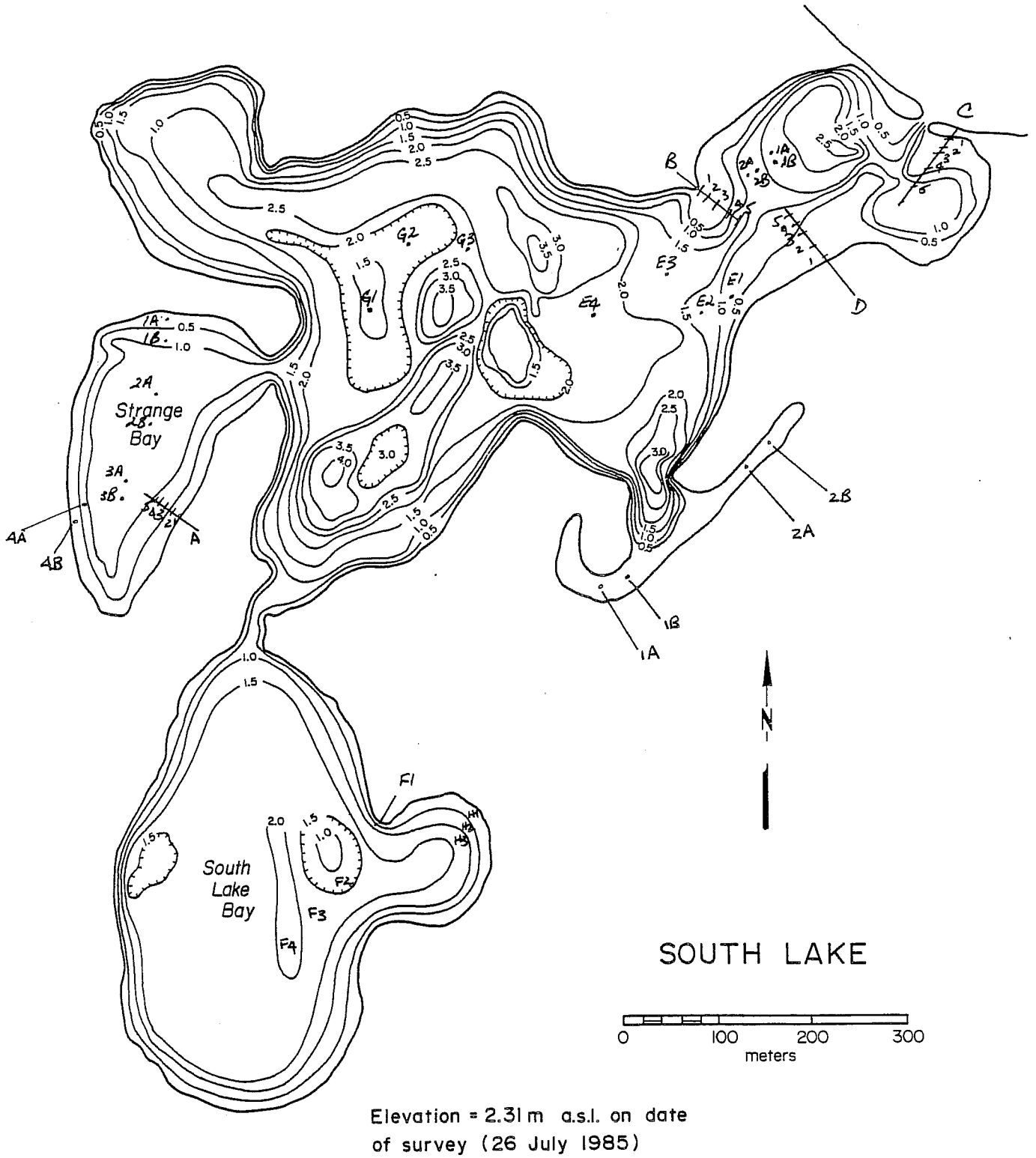

Fig. 7. Location of transects in South Lake where biomass harvest was done August 12 and 13, 1986.

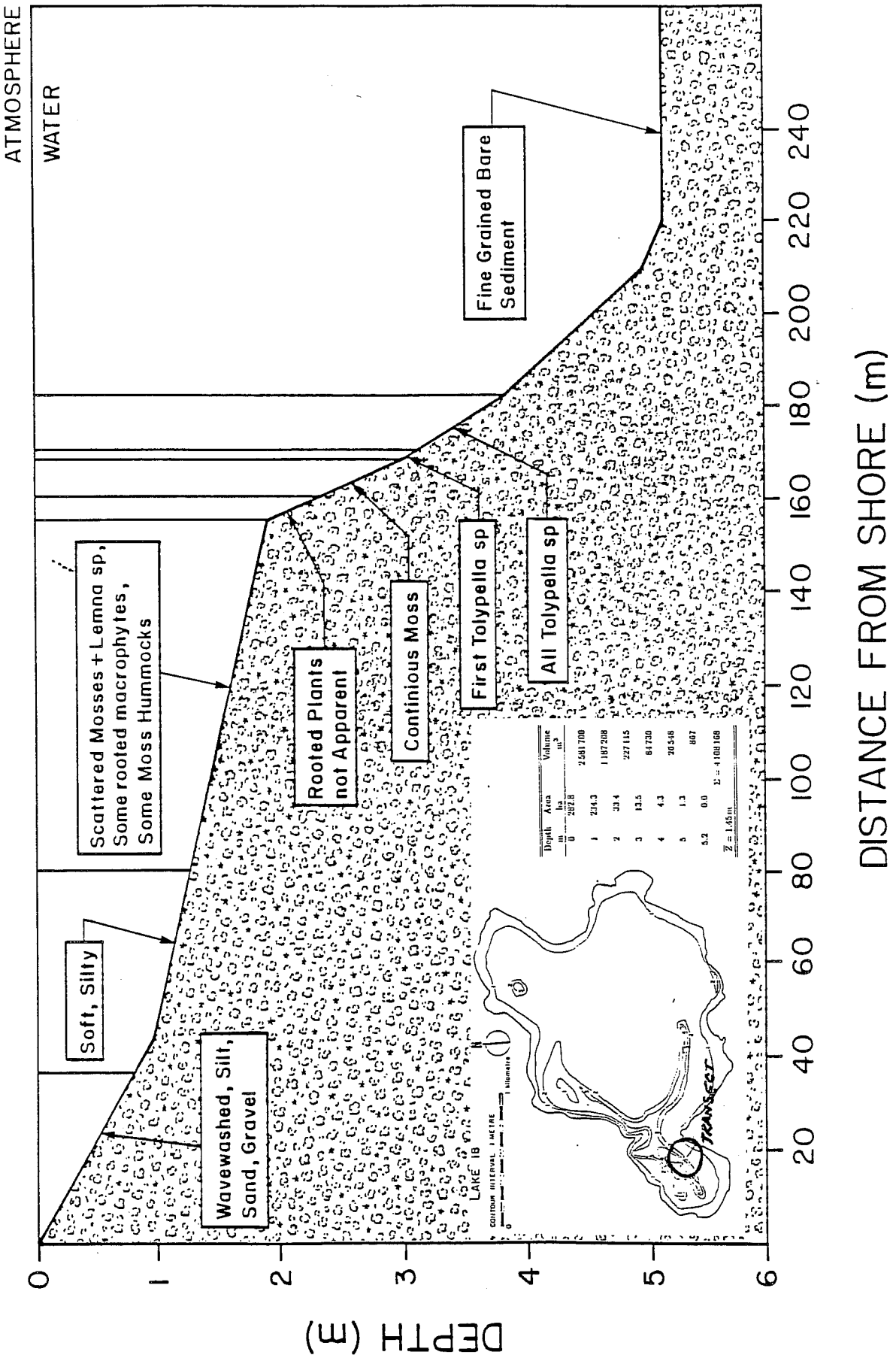

Fig. 8. Profile map of Lake 18, Tuktoyaktuk Peninsula, and description of the types of macrophytes found.

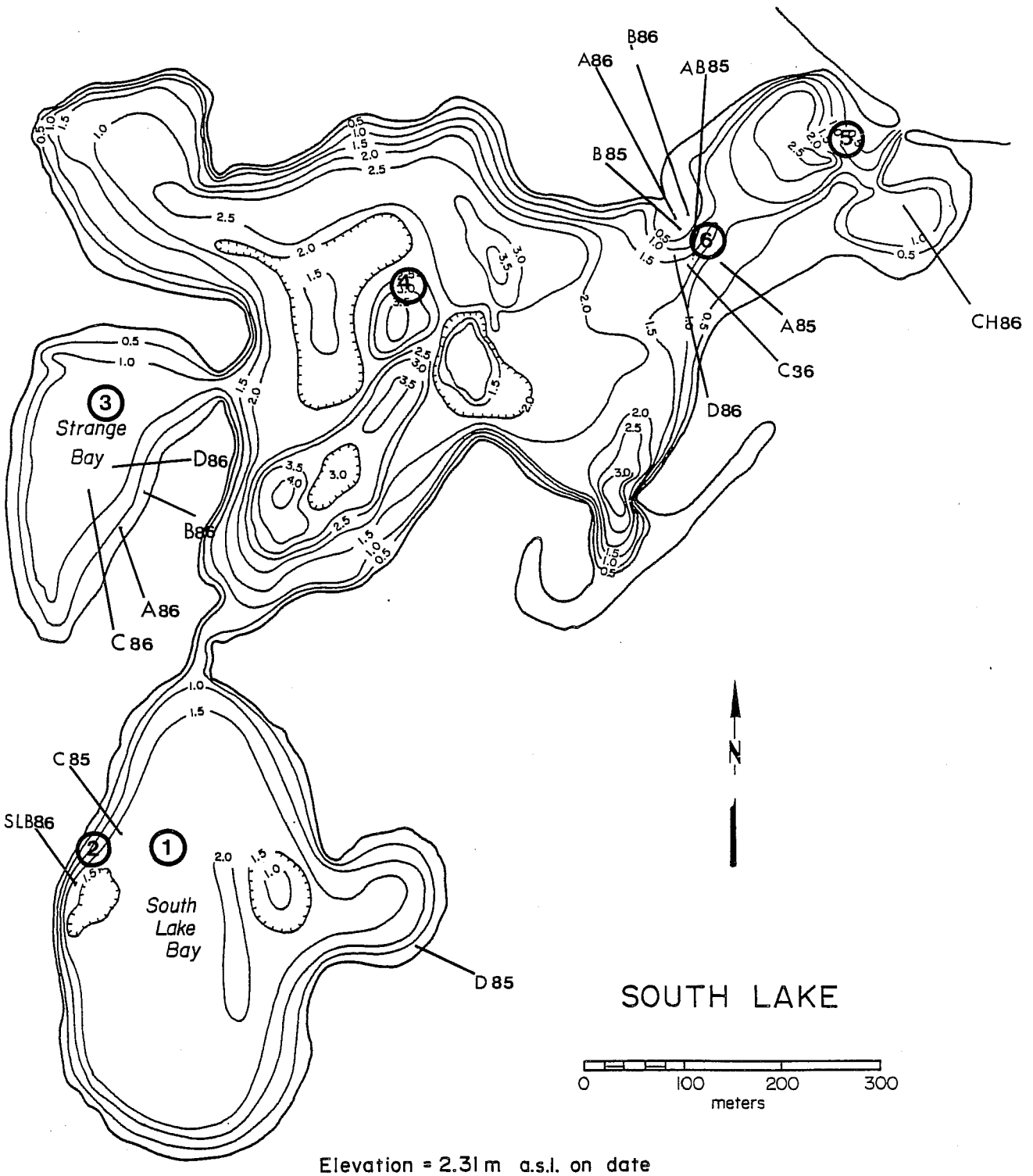

Fig. 9. Location of artificial substrates in South Lake in 1985 and 1986, and the epipelon sampling sites in 1986.

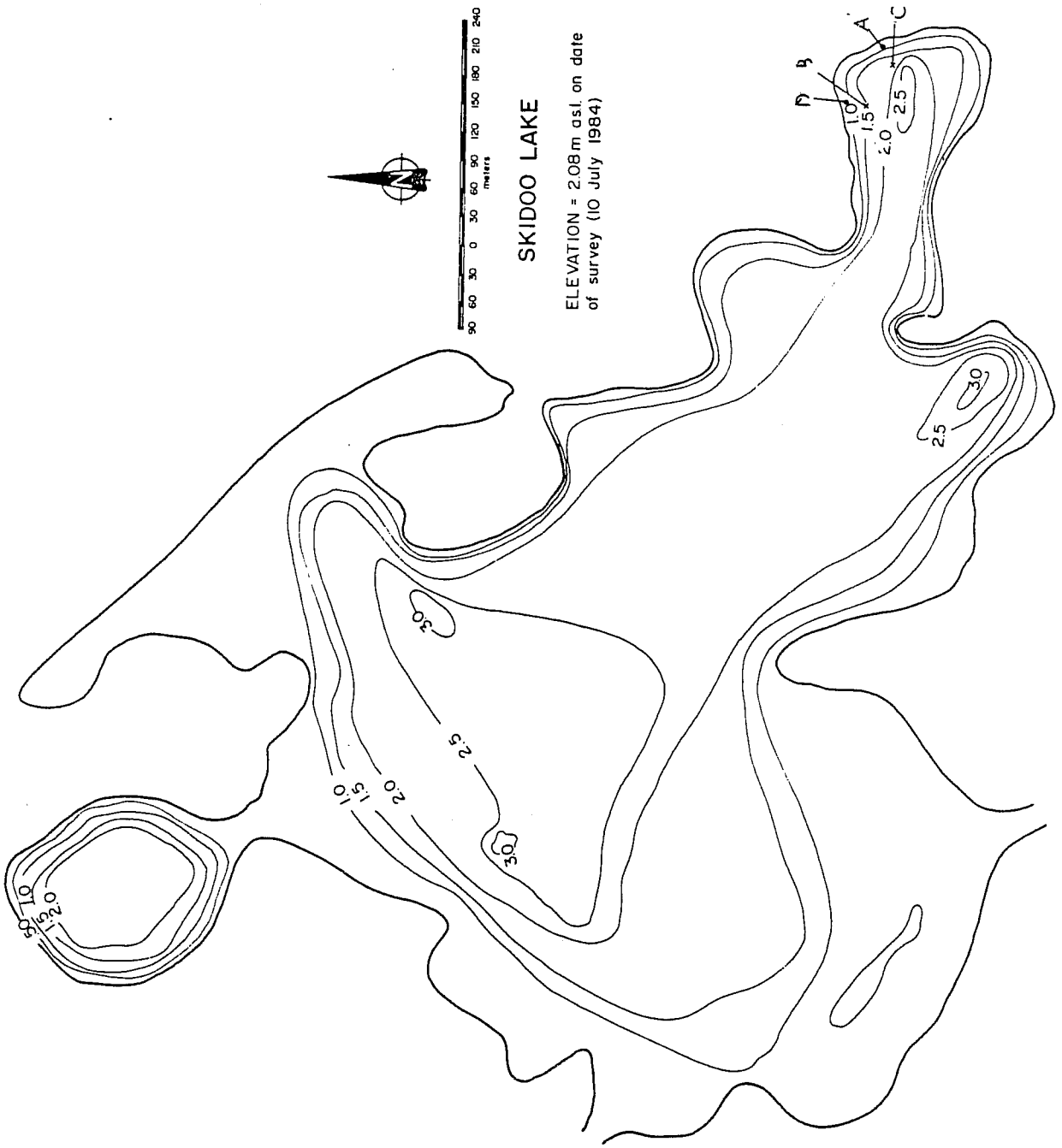

Fig. 10. Location of artificial substrates in Skidoo Lake, 1986.

Table 1. Abbreviations used in this report.

Abbreviation	Description
ND	No data
TNTC	Too numerous to count
JB	J-Bay, South Lake
L18	Lake 18, Tuktoyaktuk Peninsula
NRCL	NRC Lake
SB	Strange Bay, South Lake
SKL	Skidoo Lake
SL	South Lake
SLB	South Lake Bay
SLC or SLCH	South Lake Channel
Macrophyte Species:	
C.aquat.	*Carex aquatilis*
E.arv.	*Equisetum arvense L.*
E.fluv.	*Equisetum fluviatile*
E.sp.	*Equisetum sp.*
G.sp.	*Graminoid sp.*
L.tris.	*Lemna trisulca*
M.sib.	*Myriophyllum sibiricum Komarov (fM exalbescens Fern.)*
M.sp.	*Myriophyllum sp.*
P.fili.	*Potamogeton filiformis*
P.gram.	*Potamogeton gramineus L.*
P.pect.	*Potamogeton pectinatus*
P.pors.	*Potamogeton porsildiorum*
P.rich.	*Potamogeton richardsonii*
P.vag.	*Potamogeton vaginatus Turcz.*
P.zost.	*Potamogeton zosteriformis*
P.sp.	*Potamogeton sp.*
R.aquat.	*Ranunculus aquatilis*
T.intric.	*Tolypella intricata*
T.sp.	*Tolypella sp.*
U.vulg.	*Ultricularia vulgaris*
U.sp.	*Ultricularia sp.*
Phytoplankton Tables:	
Phyto	phytoplankton
Proto	*Protozoa*
Cyano	*Cyanophyta*
Chloro	*Chlorophyta*
Euglen	*Euglenaphyta*
Chryso	*Chrysophyceae*
Diatom	*Bacillariophyceae*
Crypto	*Cryptophyceae*
Peridi	*Dinophyceae*

Table 2. Location of quadrats, wet and dry weight and species composition of sites sampled for macrophytes in 1985.

Sample No.[1]	Date	Stn.	Quadrat Area m²	Site	Quadrat Code	Depth m	Total Wet Wt. g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m²	Dry Wt. g/m²	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
1.0	07/11/85	SL	0.25	NEAR B	SLQ1	0.40	464.90	64.58	7.30	1859.60	210.21	8.85	*E.fluv.*	*C.aquat.*				
1.1	07/11/85	SL	0.25	NEAR B	SLQ1	0.40	441.66	61.35	6.93	1766.64	199.56	8.85	*E.fluv.*					
1.2	07/11/85	SL	0.25	NEAR B	SLQ1	0.40	23.25	3.23	0.37	93.00	10.65	8.73	*C.aquat.*					
2.0	07/10/85	SL	0.25	A/B ONSHORE	SLQ2	0.40	632.30	94.83	11.18	2529.20	298.18	8.48	*E.fluv.*	*C.aquat.*				
2.1	07/10/85	SL	0.25	A/B ONSHORE	SLQ2	0.40	600.62	90.09	10.62	2402.48	283.21	8.48	*E.fluv.*					
2.2	07/10/85	SL	0.25	A/B ONSHORE	SLQ2	0.40	31.61	4.74	0.56	126.44	14.94	8.46	*C.aquat.*					
3.0	07/10/85	SLB	1.00	D	SLBQ3	0.80	29.53	29.53	1.61	29.53	1.61	18.34	*P.gram.*	*U.vulg.*	*E.sp.*			
3.1	07/10/85	SLB	1.00	D	SLBQ3	0.80	7.50	7.50	0.73	7.50	0.73	10.27	*P.gram.*					
3.2	07/10/85	SLB	1.00	D	SLBQ3	0.80	10.93	10.93	0.84	10.93	0.84	13.01	*U.vulg.*					
3.3	07/10/85	SLB	1.00	D	SLBQ3	0.80	11.10	11.10	1.08	11.10	1.08	10.28	*E.sp.*					
4.0	07/10/85	SL	0.25	B EQ. BED	SLQ4	0.50	673.90	142.89	14.11	2695.60	266.18	10.13	*E.fluv.*					
5.0	07/10/85	SL	0.50	NEAR B	SLQ5	0.50	688.30	142.62	14.90	1376.60	143.82	9.57	*E.fluv.*					
6.0	07/10/85	SL	0.25	NEAR A	SLQ6	1.10	595.63	ND	ND	2382.52	ND	ND	*E.fluv.*	*U.vulg.*				
6.1	07/10/85	SL	0.25	NEAR A	SLQ6	1.10	571.81	ND	ND	2287.24	ND	ND	*E.fluv.*					
6.2	07/10/85	SL	0.25	NEAR A	SLQ6	1.10	23.83	ND	ND	95.32	ND	ND	*U.vulg.*					
7.0	07/10/85	SL	ND	OFF EQ. BED	SLQ7	1.20	327.70	ND	ND	ND	ND	ND	*E.fluv.*					
8.0	07/17/85	SL	0.25	NEAR A	SLQ8	1.00	25.30	25.30	2.41	101.20	9.64	10.50	*P.gram.*	*P.rich.*	*P.vag.*			
8.1	07/17/85	SL	0.25	NEAR A	SLQ8	1.00	14.00	14.00	1.22	56.00	4.88	11.48	*P.gram.*					
8.2	07/17/85	SL	0.25	NEAR A	SLQ8	1.00	6.70	6.70	0.58	26.80	2.32	11.55	*P.rich.*					
8.3	07/17/85	SL	0.25	NEAR A	SLQ8	1.00	4.60	4.60	0.45	18.40	1.80	10.22	*P.vag.*					
9.0	07/17/85	SL	0.25	A	SLQ9	0.90	273.08	165.59	12.05	1092.32	79.49	13.74	*E.fluv.*	*P.rich.*				
9.1	07/17/85	SL	0.25	A	SLQ9	0.90	259.43	157.31	12.78	1037.72	84.31	12.31	*E.fluv.*					
9.2	07/17/85	SL	0.25	A	SLQ9	0.90	13.65	8.28	0.67	54.60	4.42	12.36	*P.rich.*					
10.0	07/17/85	SL	0.25	A/B	SLQ10	1.00	33.00	33.00	2.52	132.00	10.08	13.10	*P.gram.*	*P.rich.*	*P.vag.*	*U.sp.*		
10.1	07/17/85	SL	0.25	A/B	SLQ10	1.00	13.36	13.36	1.16	53.44	4.64	11.52	*P.gram.*					

Table 2. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m^2	Site	Quadrat Code	Depth m	Total Wet Wt. g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m^2	Dry Wt. g/m^2	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
10.2	07/17/85	SL	0.25	A/B	SLQ10	1.00	18.18	18.18	1.23	72.72	4.92	14.78	*P.rich.*					
10.3	07/17/85	SL	0.25	A/B	SLQ10	1.00	1.56	1.56	0.05	6.24	0.18	34.67	*P.vag.*					
10.4	07/17/85	SL	0.25	A/B	SLQ10	1.00	ND	ND	ND	ND	ND	ND	*U.sp.*					
11.0	07/17/85	SL	0.25	NEAR A	SLQ11	1.00	21.69	21.69	1.09	86.76	4.36	19.90	*P.rich.*	*P.vag.*				
11.1	07/17/85	SL	0.25	NEAR A	SLQ11	1.00	19.52	19.52	0.98	78.08	3.92	19.92	*P.rich.*					
11.2	07/17/85	SL	0.25	NEAR A	SLQ11	1.00	2.17	2.17	0.11	8.68	0.45	19.45	*P.vag.*					
12.0	07/17/85	SL	0.25	NEAR A	SLQ12	0.90	53.69	53.69	4.27	214.76	17.08	12.57	*P.rich.*	*P.gram.*	*P.vag.*			
12.1	07/17/85	SL	0.25	NEAR A	SLQ12	0.90	31.56	31.56	2.15	126.24	8.60	14.68	*P.rich.*					
12.2	07/17/85	SL	0.25	NEAR A	SLQ12	0.90	20.05	20.05	1.75	80.20	7.00	11.46	*P.gram.*					
12.3	07/17/85	SL	0.25	NEAR A	SLQ12	0.90	2.09	2.09	0.21	8.36	0.84	9.95	*P.vag.*					
13.0	07/17/85	SL	0.25	NEAR A/B	SLQ13	0.50	681.24	100.00	12.25	2724.96	333.81	8.16	*E.fluv.*					
14.0	07/17/85	SL	0.25	NEAR A/B	SLQ14	0.50	404.32	129.74	14.38	1617.28	179.25	9.02	*E.fluv.*					
15.0	07/25/85	SLB	0.25	WESTSIDE	SLBQ15	0.43	112.09	72.28	7.03	448.36	43.61	10.28	*U.vulg.*	*P.gram.*	*G.sp.*	*E.arv.*	*E.fluv.*	
15.1	07/25/85	SLB	0.25	WESTSIDE	SLBQ15	0.43	30.43	11.40	0.90	121.72	9.61	12.67	*U.vulg.*					
15.2	07/25/85	SLB	0.25	WESTSIDE	SLBQ15	0.43	7.92	5.85	0.46	31.68	2.49	12.72	*P.gram.*					
15.3	07/25/85	SLB	0.25	WESTSIDE	SLBQ15	0.43	21.45	17.28	1.62	85.80	8.04	10.67	*G.sp.*					
15.4	07/25/85	SLB	0.25	WESTSIDE	SLBQ15	0.43	19.99	16.10	1.69	79.96	8.39	9.53	*E.arv.*					
15.5	07/25/85	SLB	0.25	WESTSIDE	SLBQ15	0.43	32.30	21.65	2.09	129.20	12.47	10.36	*E.fluv.*					
16.0	07/26/85	SL	0.25	NORTHSHORE	SLQ16	0.40	233.07	83.35	9.71	932.28	108.61	8.58	*E.fluv.*	*P.gram.*	*E.arv.*	*U.vulg.*	*G.sp.*	
16.1	07/26/85	SL	0.25	NORTHSHORE	SLQ16	0.40	117.23	30.78	3.83	468.92	58.35	8.04	*E.fluv.*					
16.2	07/26/85	SL	0.25	NORTHSHORE	SLQ16	0.40	2.93	ND	ND	11.72	ND	ND	*P.gram.*					
16.3	07/26/85	SL	0.25	NORTHSHORE	SLQ16	0.40	32.47	26.32	2.76	129.88	13.62	9.54	*E.arv.*					
16.4	07/26/85	SL	0.25	NORTHSHORE	SLQ16	0.40	22.82	11.28	0.81	91.28	6.55	13.93	*U.vulg.*					
16.5	07/26/85	SL	0.25	NORTHSHORE	SLQ16	0.40	57.40	14.96	2.15	229.60	33.00	6.96	*G.sp.*					
17.0	07/26/85	SL	0.25	WESTSIDE	SLQ17	0.45	301.30	76.98	9.61	1205.20	150.45	8.01	*E.fluv.*					
18.0	07/26/85	SL	0.25	NEAR A	SLQ18	0.47	1275.89	99.37	13.67	5103.56	702.08	7.27	*E.fluv.*					
19.0	07/26/85	SL	0.25	S of CH.ENTRANCE	SLQ19	0.00	765.29	105.53	19.01	3061.16	551.43	5.55	*E.fluv.*	*C.aquat.*				
19.1	07/26/85	SL	0.25	S of CH.ENTRANCE	SLQ19	0.00	648.61	65.63	10.35	2594.44	409.15	6.34	*E.fluv.*					
19.2	07/26/85	SL	0.25	S of CH.ENTRANCE	SLQ19	0.00	116.68	39.90	8.22	466.72	96.15	4.85	*C.aquat.*					

Table 2. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m^2	Site	Quadrat Code	Depth m	Total Wet Wt. g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m^2	Dry Wt. g/m^2	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
20.0	07/26/85	SL	0.25	NORTH OF A	SLQ20	0.38	1316.92	95.45	12.08	5267.68	666.67	7.90	*E.fluv.*					
21.0	08/07/85	SL	0.25	NEAR B#10	SLQ21	0.31	543.08	84.25	11.14	2172.32	287.24	7.56	*E.fluv.*					
22.0	08/07/85	SL	0.25	NEAR A#4	SLQ22	0.30	456.07	123.67	16.42	1824.28	242.21	7.53	*E.fluv.*					
23.0	08/07/85	SL	0.25	NEAR B#9	SLQ23	0.33	556.18	127.91	18.05	2224.72	313.94	7.09	*E.fluv.*					
24.0	08/07/85	SL	0.25	A#1 ONSHORE	SLQ24	0.00	206.30	78.47	17.50	825.20	184.03	4.48	*C.aquat.*	*E.fluv.*				
24.1	08/07/85	SL	0.25	A#1 ONSHORE	SLQ24	0.00	168.22	50.90	12.75	672.88	168.55	3.99	*C.aquat.*					
24.2	08/07/85	SL	0.25	A#1 ONSHORE	SLQ24	0.00	38.08	27.57	4.74	152.32	26.19	5.82	*E.fluv.*					
25.0	08/06/85	SLB	0.25	D W.SHORE#15	SLBQ25	0.53	0.37	0.37	0.03	1.48	0.11	13.18	*R.aquat.*	*Moss sp.*				
25.1	08/06/85	SLB	0.25	D W.SHORE#15	SLBQ25	0.53	0.18	0.18	0.01	0.74	0.04	16.73	*R.aquat.*					
25.2	08/06/85	SLB	0.25	D W.SHORE#15	SLBQ25	0.53	0.19	0.19	0.02	0.74	0.07	10.88	*Moss sp.*					
26.0	08/06/85	SLB	0.25	D #22	SLBQ26	0.39	44.94	30.82	2.29	179.76	13.36	13.46	*U.vulg.*	*P.gram.*	*P.rich.*	*P.sp.*		
26.1	08/06/85	SLB	0.25	D #22	SLBQ26	0.39	25.79	20.63	1.54	103.16	7.70	13.40	*U.vulg.*					
26.2	08/06/85	SLB	0.25	D #22	SLBQ26	0.39	18.39	10.19	0.38	73.56	2.75	26.75	*P.gram.*					
26.3	08/06/85	SLB	0.25	D #22	SLBQ26	0.39	0.47	0.47	ND	1.90	ND	ND	*P.rich.*					
26.4	08/06/85	SLB	0.25	D #22	SLBQ26	0.39	0.39	0.39	ND	1.56	ND	ND	*P.sp.*					
27.0	08/06/85	SLB	0.25	C #14	SLBQ27	0.00	655.74	94.28	10.91	2622.96	303.53	8.64	*G.sp.*	*Moss sp.*	*E.arv.*	*P.gram.*	*U.vulg.*	
27.1	08/06/85	SLB	0.25	C #14	SLBQ27	0.00	298.05	65.66	9.09	1192.20	165.05	7.22	*G.sp.*					
27.2	08/06/85	SLB	0.25	C #14	SLBQ27	0.00	250.02	16.74	0.90	1000.08	53.77	18.60	*Moss sp*					
27.3	08/06/85	SLB	0.25	C #14	SLBQ27	0.00	0.17	0.17	0.03	0.67	0.13	5.09	*E.arv.*					
27.4	08/06/85	SLB	0.25	C #14	SLBQ27	0.00	0.35	0.28	0.03	1.40	0.12	11.20	*P.gram.*					
27.5	08/06/85	SLB	0.25	C #14	SLBQ27	0.00	107.15	11.43	0.55	428.60	20.62	20.78	*U.vulg.*					
28.0	08/06/85	SLB	0.25	D #20	SLBQ28	0.00	2.94	2.94	0.20	11.76	0.80	14.70	*Anabaena*	*Moss sp.*	*U.vulg.*			
28.1	08/06/85	SLB	0.25	D #20	SLBQ28	0.00	1.75	1.75	0.10	7.00	0.40	17.50	*Anabaena*					
28.2	08/06/85	SLB	0.25	D #20	SLBQ28	0.00	1.19	1.19	0.09	4.76	0.36	13.22	*Moss sp.*	*U.vulg.*				
29.0	08/06/85	SL	0.25	B #11	SLQ29	0.00	322.56	77.89	17.07	1290.24	282.76	4.56	*E.fluv.*	*C.aquat.*				
29.1	08/06/85	SL	0.25	B #11	SLQ29	0.00	145.06	46.01	8.29	580.24	104.55	5.55	*E.fluv.*					
29.2	08/06/85	SL	0.25	B #11	SLQ29	0.00	177.50	31.88	8.16	710.00	181.73	3.91	*C.aquat.*					
30.0	08/07/85	SL	0.25	S. SIDE #3	SLQ30	0.28	451.22	89.36	10.07	1804.88	203.39	8.87	*E.fluv.*					
31.0	08/07/85	L18	1.00	LAKE18	TUK31	1.60	2076.89	4.42	0.63	2076.89	296.03	7.02	*Moss sp.*	*L.tris.*	*M.sib.*	*P.sp.*		

Table 2. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m²	Site	Quadrat Code	Depth m	Total Wet Wt. g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m²	Dry Wt. g/m²	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
31.1	08/07/85	L18	1.00	LAKE18	TUK31	1.60	1653.65	1.23	0.27	1653.65	363.00	4.56	*Moss sp.*					
31.2	08/07/85	L18	1.00	LAKE18	TUK31	1.60	413.41	0.93	0.07	413.41	31.12	13.29	*L.tris.*					
31.3	08/07/85	L18	1.00	LAKE18	TUK31	1.60	4.85	1.16	0.15	4.85	0.63	7.73	*M.sib.*					
31.4	08/07/85	L18	1.00	LAKE18	TUK31	1.60	4.98	1.10	0.14	4.98	0.63	7.86	*P.sp.*					
32.0	08/07/85	L18	1.00	LAKE18	TUK32	1.50	479.78	149.41	14.93	479.78	47.94	10.01	*L.tris.*	*P.pors. F.*	*Moss sp.*			
32.1	08/07/85	L18	1.00	LAKE18	TUK32	1.50	191.91	ND	ND	191.91	ND	ND	*L.tris.*					
32.2	08/07/85	L18	1.00	LAKE18	TUK32	1.50	167.92	ND	ND	167.92	ND	ND	*P.pors.*					
32.3	08/07/85	L18	1.00	LAKE18	TUK32	1.50	119.95	ND	ND	119.95	ND	ND	*Moss sp.*					
33.0	08/07/85	L18	1.00	LAKE18	TUK33	3.75	528.59	150.60	15.25	528.59	53.53	9.88	*T.intric.*	*L.tris.*	*R.aquat.*	*P.sp.*		
33.1	08/07/85	L18	1.00	LAKE18	TUK33	3.75	523.30	150.60	15.25	523.30	52.99	9.88	*T.intric.*					
33.2	08/07/85	L18	1.00	LAKE18	TUK33	3.75	5.23	ND	ND	5.23	ND	ND	*L.tris.*	*R.aquat.*	*P.sp.*			
34.0	08/07/85	L18	1.00	LAKE18	TUK34	1.60	1244.25	153.02	18.70	1244.25	152.06	8.18	*L.tris.*	*P.pors.*	*Moss sp.*	*M.sib.*		
34.1	08/07/85	L18	1.00	LAKE18	TUK34	1.60	248.85	0.11	0.02	248.85	45.25	5.50	*L.tris.*					
34.2	08/07/85	L18	1.00	LAKE18	TUK34	1.60	124.43	0.40	0.06	124.43	18.66	6.67	*P.pors.*					
34.3	08/07/85	L18	1.00	LAKE18	TUK34	1.60	870.98	0.47	0.04	870.98	74.13	11.75	*Moss sp.*					
34.4	08/07/85	L18	1.00	LAKE18	TUK34	1.60	12.44	0.27	0.03	12.44	1.38	9.00	*M.sib.*					
35.0	08/07/85	L18	1.00	LAKE18	TUK35	1.00	2243.05	178.78	24.23	2243.05	304.00	7.38	*L.tris.*	*Moss sp.*	*P.pors.*	*M.sib.*	*P.sp.*	
35.1	08/07/85	L18	1.00	LAKE18	TUK35	1.00	443.76	1.30	0.13	443.76	44.38	10.00	*L.tris.*					
35.2	08/07/85	L18	1.00	LAKE18	TUK35	1.00	1518.17	0.99	0.23	1518.17	352.71	4.30	*Moss sp.*					
35.3	08/07/85	L18	1.00	LAKE18	TUK35	1.00	216.88	9.75	1.34	216.88	29.81	7.28	*P.pors.*					
35.4	08/07/85	L18	1.00	LAKE18	TUK35	1.00	3.31	0.80	0.13	3.31	0.54	6.15	*M.sib.*					
35.5	08/07/85	L18	1.00	LAKE18	TUK35	1.00	71.92	46.22	3.39	71.92	5.27	13.63	*P.sp.*					
36.0	08/08/85	SL	1.00	A	SLQ36	0.90	246.92	103.81	9.99	246.92	23.76	10.39	*P.rich.*	*P.gram.*	*P. sp.*	*R.aquat.*	*M.sib.*	*U.sp.*
36.1	08/08/85	SL	1.00	A	SLQ36	0.90	118.96	35.64	4.43	118.96	14.79	8.05	*P.rich.*					
36.2	08/08/85	SL	1.00	A	SLQ36	0.90	20.70	12.26	0.96	20.70	1.62	12.77	*P.gram.*					
36.3	08/08/85	SL	1.00	A	SLQ36	0.90	11.86	4.51	0.56	11.86	1.47	8.05	*P. sp.*					
36.4	08/08/85	SL	1.00	A	SLQ36	0.90	84.32	44.35	3.31	84.32	6.29	13.40	*R.aquat.*					
36.5	08/08/85	SL	1.00	A	SLQ36	0.90	8.26	4.50	0.39	8.26	0.72	11.54	*M.sib.*					
36.6	08/08/85	SL	1.00	A	SLQ36	0.90	2.82	2.55	0.15	2.82	0.17	17.00	*U.sp.*					

Table 2. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m^2	Site	Quadrat Code	Depth m	Total Wet Wt. g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m^2	Dry Wt. g/m^2	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
37.0	08/08/85	SL	0.25	A #6	SLQ37	1.50	135.70	93.23	11.38	542.80	66.26	8.19	*P.rich.*	*P.gram.*	*P.vag.*	*R.aquat.*	*U.vulg.*	
37.1	08/08/85	SL	0.25	A #6	SLQ37	1.50	119.93	82.54	9.93	479.72	57.71	8.31	*P.rich.*					
37.2	08/08/85	SL	0.25	A #6	SLQ37	1.50	5.29	5.08	0.47	21.16	1.96	10.81	*P.gram.*					
37.3	08/08/85	SL	0.25	A #6	SLQ37	1.50	4.24	3.58	0.31	16.96	1.47	11.55	*P.vag.*					
37.4	08/08/85	SL	0.25	A #6	SLQ37	1.50	0.79	0.43	0.08	3.16	0.59	5.38	*R.aquat.*					
37.5	08/08/85	SL	0.25	A #6	SLQ37	1.50	5.50	1.69	0.09	22.00	1.17	18.78	*U.vulg.*					
38.0	08/08/85	SL	0.25	D #24	SLQ38	1.50	17.91	15.86	1.60	71.64	7.23	9.91	*P.rich.*					
39.0	08/08/85	SL	0.25	D #23	SLQ39	1.50	29.01	22.24	1.47	116.04	7.67	15.13	*P.vag.*	*P.gram.*	*unknown*			
39.1	08/08/85	SL	0.25	D #23	SLQ39	1.50	25.87	21.92	1.42	103.48	6.70	15.44	*P.vag.*					
39.2	08/08/85	SL	0.25	D #23	SLQ39	1.50	3.13	0.25	0.04	12.52	2.00	6.25	*P.gram.*					
39.3	08/08/85	SL	0.25	D #23	SLQ39	1.50	0.11	0.08	0.01	0.44	0.06	8.00	*unknown*					
40.0	08/05/85	SL	0.25	A #5	SLQ40	1.50	93.86	80.47	5.76	375.44	26.87	13.97	*P.rich.*	*P.gram.*				
40.1	08/05/85	SL	0.25	A #5	SLQ40	1.50	61.28	52.32	4.16	245.12	19.49	12.58	*P.rich.*					
40.2	08/05/85	SL	0.25	A #5	SLQ40	1.50	32.58	28.15	1.59	130.32	7.36	17.70	*P.gram.*					
41.0	08/08/85	SLB	1.00	SLB	SLBQ41	1.35	294.56	134.20	11.00	294.56	24.14	12.20	*P.rich.*	*P.vag.*	*unkown*			
41.1	08/08/85	SLB	1.00	SLB	SLBQ41	1.35	140.58	99.86	9.01	140.58	12.68	11.08	*P.rich.*					
41.2	08/08/85	SLB	1.00	SLB	SLBQ41	1.35	36.62	23.68	1.62	36.62	2.51	14.62	*P.vag.*					
41.3	08/08/85	SLB	1.00	SLB	SLBQ41	1.35	17.37	10.66	0.14	17.37	0.23	76.14	*unkown*					
42.0	08/08/85	SL	0.25	B #8	SLQ42	1.00	32.92	30.18	1.70	131.68	7.42	17.75	*E.fluv.*	*P.vag.*	*P.rich.*			
42.1	08/08/85	SL	0.25	B #8	SLQ42	1.00	12.11	10.66	0.48	48.44	2.18	22.21	*E.fluv.*					
42.2	08/08/85	SL	0.25	B #8	SLQ42	1.00	3.43	2.97	0.31	13.72	1.43	9.58	*P.vag.*					
42.3	08/08/85	SL	0.25	B #8	SLQ42	1.00	17.38	16.55	0.26	69.52	1.09	63.65	*P.rich.*					
43.0	08/08/85	SLB	1.00	D	SLBQ43	0.90	46.71	36.99	2.77	46.71	3.50	13.35	*P.rich.*	*P.gram.*	*R.aquat.*			
43.1	08/08/85	SLB	1.00	D	SLBQ43	0.90	31.10	25.53	1.97	31.10	2.40	12.96	*P.rich.*					
43.2	08/08/85	SLB	1.00	D	SLBQ43	0.90	14.53	12.34	0.80	14.53	0.94	15.43	*P.gram.*					
43.3	08/08/85	SLB	1.00	D	SLBQ43	0.90	1.08	0.12	0.01	1.08	0.09	12.00	*R.aquat.*					
44.0	08/08/85	SLB	1.00	SLB D	SLBQ44	1.00	44.82	ND	ND	44.82	ND	ND	*P.rich.*	*P.gram.*	*R.aquat.*	*unknown*	*U.vulg.*	*unknown*
44.1	08/08/85	SLB	1.00	SLB D	SLBQ44	1.00	22.80	17.91	1.12	22.80	1.43	15.99	*P.rich.*					
44.2	08/08/85	SLB	1.00	SLB D	SLBQ44	1.00	16.01	13.87	0.68	16.01	0.78	20.40	*P.gram.*					

Table 2. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m²	Site	Quadrat Code	Depth m	Total Wet Wt. g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m²	Dry Wt. g/m²	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
44.3	08/08/85	SLB	1.00	SLB D	SLBQ44	1.00	0.81	ND	ND	0.81	ND	ND	*R.aquat.*					
44.4	08/08/85	SLB	1.00	SLB D	SLBQ44	1.00	5.06	ND	ND	5.06	ND	ND	*unknown*					
44.5	08/08/85	SLB	1.00	SLB D	SLBQ44	1.00	0.11	ND	ND	0.11	ND	ND	*U.vulg.*					
44.6	08/08/85	SLB	1.00	SLB D	SLBQ44	1.00	0.03	ND	ND	0.03	ND	ND	*unknown*					
45.0	08/08/85	SL	1.00	B	SLQ45	1.50	0.00	0.00	0.00	0.00	0.00	0.00						
46.0	08/08/85	SL	0.25	B #7	SLQ46	1.50	0.45	0.39	0.06	1.80	0.28	6.50	*P.vag.*					
47.0	08/08/85	SLB	1.00	?	SLBQ47	1.10	315.10	146.61	12.20	315.10	26.22	12.02	*P.rich.*	*P.vag.*	*P.pors.*	*P.gram.*	*R.aquat.*	
47.1	08/08/85	SLB	1.00	?	SLBQ47	1.10	229.36	97.66	8.08	229.36	18.98	12.09	*P.rich.*					
47.2	08/08/85	SLB	1.00	?	SLBQ47	1.10	83.52	46.99	3.83	83.52	6.81	12.27	*P.vag.*					
47.3	08/08/85	SLB	1.00	?	SLBQ47	1.10	0.99	0.88	0.14	0.99	0.16	6.29	*P.pors.*					
47.4	08/08/85	SLB	1.00	?	SLBQ47	1.10	0.81	0.70	0.10	0.81	0.12	7.00	*P.gram.*					
47.5	08/08/85	SLB	1.00	?	SLBQ47	1.10	0.43	0.38	0.03	0.43	0.03	12.67	*R.aquat.*					
48.0	08/08/85	SL	1.00	A	SLQ48	1.10	343.41	175.82	16.11	343.41	31.47	10.91	*P.rich.*	*P.gram.*	*R.aquat.*	*M.sib.*	*U.vulg.*	
48.1	08/08/85	SL	1.00	A	SLQ48	1.10	109.92	69.82	7.73	109.92	12.17	9.03	*P.rich.*					
48.2	08/08/85	SL	1.00	A	SLQ48	1.10	48.07	33.44	3.14	48.07	4.51	10.65	*P.gram.*					
48.3	08/08/85	SL	1.00	A	SLQ48	1.10	180.68	72.18	4.93	180.68	12.34	14.64	*R.aquat.*					
48.4	08/08/85	SL	1.00	A	SLQ48	1.10	2.00	0.13	0.02	2.00	0.31	6.50	*M.sib.*					
48.5	08/08/85	SL	1.00	A	SLQ48	1.10	2.74	0.26	0.02	2.74	0.21	13.00	*U.vulg.*					
49.0	08/08/85	SLB	1.00	SLB	SLBQ49	1.50	4.22	1.20	0.21	4.22	0.74	5.71	*P.vag.*	*P.rich.*				
49.1	08/08/85	SLB	1.00	SLB	SLBQ49	1.50	3.77	0.98	0.15	3.77	0.58	6.53	*P.vag.*					
49.2	08/08/85	SLB	1.00	SLB	SLBQ49	1.50	0.35	0.22	0.05	0.35	0.08	4.40	*P.rich.*					
50.0	08/08/85	SLB	1.00	SLB	SLBQ50	1.50	2.18	1.69	0.21	2.18	0.27	8.05	*R.aquat.*	*P.pors.*				
50.1	08/08/85	SLB	1.00	SLB	SLBQ50	1.50	1.08	0.89	0.07	1.08	0.08	12.71	*R.aquat.*					
50.2	08/08/85	SLB	1.00	SLB	SLBQ50	1.50	1.10	0.81	0.12	1.10	0.16	6.75	*P.pors.*					
51.0	08/06/85	SLB	0.25	C #17	SLBQ51	1.50	6.79	5.23	0.71	27.16	3.69	7.37	*P.rich.*	*Moss sp.*	*unknown*			
51.1	08/06/85	SLB	0.25	C #17	SLBQ51	1.50	6.33	5.00	0.67	25.32	3.39	7.46	*P.rich.*					
51.2	08/06/85	SLB	0.25	C #17	SLBQ51	1.50	0.20	0.16	0.03	0.80	0.15	5.33	*Moss sp.*					
51.3	08/06/85	SLB	0.25	C #17	SLBQ51	1.50	0.07	0.07	0.01	0.28	0.04	7.00	*unknown*					
52.0	08/06/85	SLB	0.25	SLB	SLBQ52	1.50	5.93	2.73	0.28	23.72	2.43	9.75	*P.rich.*	*P.pors.*	*M.sib.*			

Table 2. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m²	Site	Quadrat Code	Depth m	Total Wet Wt. g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m²	Dry Wt. g/m²	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
52.1	08/06/85	SLB	0.25	SLB	SLBQ52	1.50	3.00	0.81	0.06	12.00	0.89	13.50	*P.rich.*					
52.2	08/06/85	SLB	0.25	SLB	SLBQ52	1.50	0.39	0.34	0.07	1.56	0.32	4.86	*P.pors.*					
52.3	08/06/85	SLB	0.25	SLB	SLBQ52	1.50	2.53	1.58	0.21	10.12	1.35	7.52	*M.sib.*					
53.0	08/06/85	SLB	ND	SLB C #8	SLBQ53	1.50	20.79	5.50	0.56	ND	ND	9.82	*P.rich.*	*P.fili.*	*M.sib.*	*unknown*		
53.1	08/06/85	SLB	ND	SLB C #8	SLBQ53	1.50	15.01	1.53	0.15	ND	ND	10.20	*P.rich.*					
53.2	08/06/85	SLB	ND	SLB C #8	SLBQ53	1.50	2.70	1.13	0.12	ND	ND	9.42	*P.fili.*					
53.3	08/06/85	SLB	ND	SLB C #8	SLBQ53	1.50	2.39	2.20	0.23	ND	ND	9.57	*M.sib.*					
53.4	08/06/85	SLB	ND	SLB C #8	SLBQ53	1.50	0.67	0.65	0.06	ND	ND	10.83	*unknown*					
54.0	08/07/85	SL	0.25	RANDOM Q #1A	SLQ54	0.37	551.84	99.54	9.70	2207.36	215.10	10.26	*E.fluv.*					
55.0	08/07/85	SL	0.25	RANDOM Q #2B	SLQ55	0.09	759.10	111.10	15.04	3036.40	411.05	7.39	*E.fluv.*					
56.0	08/06/85	SL	0.25	B NEAR EQ. BED	SLQ56	0.23	1286.84	157.62	21.87	5147.36	714.20	7.21	*E.fluv.*					
57.0	08/07/85	SL	0.25	RANDOM Q #2A	SLQ57	0.29	703.08	98.23	13.39	2812.32	383.36	7.34	*E.fluv.*					
58.0	08/07/85	SL	0.25	RANDOM Q #4A	SLQ58	0.42	921.12	146.25	19.64	3684.48	494.79	7.45	*E.fluv.*					
59.0	08/07/85	SL	0.25	RANDOM Q #1B	SLQ59	0.38	702.19	88.30	9.41	2808.76	299.33	9.38	*E.fluv.*					
60.0	08/07/85	SL	0.25	RANDOM Q #4B	SLQ60	0.47	1638.99	151.56	18.72	6555.96	809.76	8.10	*E.fluv.*					
61.0	08/07/85	SL	0.25	RANDOM Q #3B	SLQ61	0.23	852.42	131.30	18.13	3409.68	470.81	7.24	*E.fluv.*					
62.0	08/07/85	SL	0.25	RANDOM Q #3A	SLQ62	0.40	868.37	80.23	8.75	3473.48	378.82	9.17	*E.fluv.*					
63.0	08/06/85	SL	0.25	NEAR B	SLQ63	0.25	677.00	88.56	12.07	2708.00	369.08	7.34	*E.fluv.*					
64.0	08/06/85	SL	0.25	B #12	SLQ64	0.25	282.43	110.65	22.83	1129.72	233.09	4.85	*E.fluv.*	*C.aquat.*	*Moss sp.*			
64.1	08/06/85	SL	0.25	B #12	SLQ64	0.25	211.50	67.97	11.93	846.00	148.49	5.70	*E.fluv.*					
64.2	08/06/85	SL	0.25	B #12	SLQ64	0.25	51.09	26.23	8.06	204.36	62.80	3.25	*C.aquat.*					
64.3	08/06/85	SL	0.25	B #12	SLQ64	0.25	19.79	16.45	2.71	79.16	13.04	6.07	*Moss sp.*					
65.0	08/07/85	SL	0.25	A #2	SLQ65	0.00	161.88	67.03	12.29	647.52	118.72	5.45	*E.fluv.*	*C.aquat.*				
65.1	08/07/85	SL	0.25	A #2	SLQ65	0.00	61.70	30.46	6.98	246.80	56.55	4.36	*E.fluv.*					
65.2	08/07/85	SL	0.25	A #2	SLQ65	0.00	100.18	36.57	5.31	400.72	58.18	6.89	*C.aquat.*					
66.0	08/06/85	SLB	0.25	C #13	SLBQ66	0.00	146.82	82.60	17.38	587.28	123.57	4.75	*C.aquat.*	*U.vulg.*	*Moss sp.*			
66.1	08/06/85	SLB	0.25	C #13	SLBQ66	0.00	92.94	52.27	14.48	371.76	102.99	3.61	*C.aquat.*					
66.2	08/06/85	SLB	0.25	C #13	SLBQ66	0.00	53.88	30.33	2.90	215.52	20.61	10.46	*U.vulg.*	*Moss sp.*				
67.0	08/06/85	SLB	0.25	C #16	SLBQ67	0.41	98.94	ND	ND	395.76	ND	ND	*P.gram.*	*U.vulg.*	*E.arv.*	*Moss sp.*	*unknown*	

Table 2. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m²	Site	Quadrat Code	Depth m	Total Wet Wt. g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m²	Dry Wt. g/m²	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
67.1	08/06/85	SLB	0.25	C #16	SLBQ67	0.41	19.44	17.12	0.99	77.76	4.50	17.29	*P.gram.*					
67.2	08/06/85	SLB	0.25	C #16	SLBQ67	0.41	70.98	61.48	4.98	283.92	23.00	12.35	*U.vulg.*					
67.3	08/06/85	SLB	0.25	C #16	SLBQ67	0.41	3.97	ND	ND	15.88	ND	ND	*E.arv.*					
67.4	08/06/85	SLB	0.25	C #16	SLBQ67	0.41	1.63	ND	ND	6.52	ND	ND	*Moss sp.*					
67.5	08/06/85	SLB	0.25	C #16	SLBQ67	0.41	2.82	ND	ND	11.28	ND	ND	*unknown*					
68.0	08/08/85	SLB	0.25	D #19	SLBQ68	0.50	316.92	112.85	14.20	1267.68	159.51	7.95	*Moss sp.*	*U.vulg.*	*E.arv.*	*G.sp.*	*unknown*	
68.1	08/08/85	SLB	0.25	D #19	SLBQ68	0.50	299.48	100.64	12.26	1197.92	145.93	8.21	*Moss sp.*					
68.2	08/08/85	SLB	0.25	D #19	SLBQ68	0.50	6.11	2.05	0.25	24.44	2.98	8.20	*U.vulg.*					
68.3	08/08/85	SLB	0.25	D #19	SLBQ68	0.50	8.91	7.75	0.92	35.64	4.23	8.42	*E.arv.*					
68.4	08/08/85	SLB	0.25	D #19	SLBQ68	0.50	1.21	1.13	0.19	4.84	0.81	5.95	*G.sp.*					
68.5	08/08/85	SLB	0.25	D #19	SLBQ68	0.50	1.21	1.29	0.07	4.84	0.26	18.43	*unknown*					

[1]Sample No. refers to specific quadrat code; e.g. Sample No. 1.0 refers to all of SLQ1; No. 1.1 and 1. refer to individual species within the quadrat.

Table 3. Analysis of chemical composition of macrophytes from the lakes of the Mackenzie Delta and the Tuktoyaktuk Peninsula. Particulate carbon (C) and nitrogen (N) were measured once; subsamples of phosphorus (P) and iron (Fe) were measured twice.

Anal. No.	Quadrat Code	Plant Species	mmole/g dry weight C	N	P	Fe
300	SLQ1	*E.fluviatile*	32.3	1.60	0.13	0.030
301	SLQ2	*E.fluviatile*	33.0	1.58	0.12	0.018
302	SLQ9	*E.fluviatile*	32.0	1.62	0.15	0.017
303	SLQ13	*E.fluviatile*	31.6	1.21	0.12	0.016
304	SLQ14	*E.fluviatile*	33.1	1.59	0.11	0.010
305	SLQ17	*E.fluviatile*	34.1	2.16	0.11	0.018
306	SLQ18	*E.fluviatile*	32.2	1.64	0.09	0.016
307	SLQ19	*E.fluviatile*	31.3	1.17	0.07	0.018
308	SLQ20	*E.fluviatile*	32.0	1.51	0.11	0.073
309	SLQ21	*E.fluviatile*	31.1	1.94	0.14	0.012
310	SLQ22	*E.fluviatile*	32.6	2.12	0.17	0.017
311	SLQ23	*E.fluviatile*	32.1	1.58	0.11	0.047
312	SLQ24	*E.fluviatile*	31.6	1.36	0.09	0.014
313	SLQ29	*E.fluviatile*	32.3	1.58	0.07	0.024
314	SLQ30	*E.fluviatile*	31.9	1.89	0.17	0.016
315	SLQ42	*E.fluviatile*	31.7	2.63	0.16	0.013
316	SLQ54	*E.fluviatile*	32.5	2.16	0.14	0.014
317	SLQ55	*E.fluviatile*	31.2	1.59	0.10	0.015
318	SLQ56	*E.fluviatile*	31.6	1.32	0.10	0.020
319	SLQ57	*E.fluviatile*	36.0	1.51	0.10	0.010
320	SLQ58	*E.fluviatile*	31.6	1.76	0.13	0.055
321	SLQ59	*E.fluviatile*	33.6	1.74	0.15	0.016
322	SLQ60	*E.fluviatile*	30.2	2.11	0.09	0.016
323	SLQ61	*E.fluviatile*	31.5	1.59	0.09	0.064
324	SLQ62	*E.fluviatile*	30.5	1.86	0.12	0.017
325	SLQ63	*E.fluviatile*	32.1	1.49	0.10	0.081
326	SLQ64	*E.fluviatile*	30.6	1.22	0.07	0.011
327	SLQ65	*E.fluviatile*	29.6	1.40	0.09	0.022
328	SKD#2	*E.fluviatile*	28.5	1.79	0.11	0.020
329	SLBQ67	*E.arvense*	29.2	2.29	0.17	0.046
331	SLQ16	*E.arvense*	30.6	3.11	0.22	0.029
332	SLBQ68	*E.arvense*	31.0	2.48	0.13	0.028
333	SLQ16	*E.arvense*	31.4	1.77	0.10	0.010
334	SLBQ15	*Graminoid sp.*	36.0	1.69	0.05	0.019
335	SLBQ27	*Graminoid sp.*	37.3	4.19	0.09	0.016
336	SLQ16	*Graminoid sp.*	36.6	2.01	0.09	0.032
337	SLQ19	*C.aquatilis*	36.6	1.08	0.07	0.029
338	SLQ24	*C.aquatilis*	35.9	1.84	0.08	0.037
339	SLQ29	*C.aquatilis*	37.0	1.77	0.04	0.100
340	SLQ64	*C.aquatilis*	37.1	1.20	0.06	0.049
341	SLQ65	*C.aquatilis*	36.4	1.73	0.09	0.014
342	SLQ66	*C.aquatilis*	37.1	1.74	0.06	0.029
343	SKD#5	*C.aquatilis*	35.3	1.55	0.04	0.018

Table 3. cont.'d

Anal. No.	Quadrat Code	Plant Species	mmole/g dry weight C	N	P	Fe
344	SKD#10	*P.gramineus*	36.3	3.02	0.15	0.029
345	SLBQ15	*P.gramineus*	32.6	1.80	0.07	0.111
346	SLQ16	*P.gramineus*	33.2	1.97	0.08	0.063
347	SLBQ26	*P.gramineus*	35.2	2.49	0.09	0.039
348	SLQ36	*P.gramineus*	36.3	2.36	0.09	0.024
349	SLQ37	*P.gramineus*	34.9	2.61	0.11	0.043
350	SLQ39	*P.gramineus*	34.6	3.06	0.16	0.029
351	SLQ40	*P.gramineus*	36.2	2.79	0.12	0.025
352	SLBQ43	*P.gramineus*	37.0	3.68	0.17	0.019
353	SLBQ44	*P.gramineus*	36.0	2.99	0.14	0.017
354	SLQ48	*P.gramineus*	36.4	2.61	0.06	0.015
355	SLBQ67	*P.gramineus*	31.1	2.41	0.12	0.120
356	SLQ36	*P.richardsonii*	35.5	2.66	0.09	0.031
357	SLQ37	*P.richardsonii*	33.8	3.24	0.13	0.048
358	SLQ40	*P.richardsonii*	35.4	2.59	0.10	0.034
359	SLQ38	*P.richardsonii*	36.1	2.97	0.13	0.019
360	SLBQ41	*P.richardsonii*	34.5	2.50	0.12	0.049
361	SLQ42	*P.richardsonii*	36.3	3.27	0.15	0.020
362	SLBQ43	*P.richardsonii*	36.1	4.34	0.21	0.023
363	SLBQ44	*P.richardsonii*	37.3	3.07	0.10	0.014
364	SLBQ47	*P.richardsonii*	36.8	2.62	0.13	0.013
365	SLQ48	*P.richardsonii*	35.6	3.24	0.16	0.026
366	SLBQ51	*P.richardsonii*	34.7	3.51	0.19	0.024
367	SLBQ52	*P.richardsonii*	33.9	2.83	0.14	0.034
368	SLBQ53	*P.richardsonii*	33.1	3.14	0.19	0.035
369	SLBQ27	*Moss sp.*	24.0	0.81	0.04	0.587
370	TUKQ31	*Moss sp.*	26.7	1.39	0.06	0.320
371	TUKQ32	*Moss sp.?*	31.6	1.30	0.02	0.191
372	TUKQ34	*Moss sp.*	31.1	1.43	0.04	0.248
373	TUKQ35	*Moss sp.*	29.1	1.21	0.05	0.142
374	SLBQ66	*Moss sp.*	30.6	1.36	0.04	0.176
375	SLQ64	*Moss sp.*	29.0	1.63	0.06	0.177
376	SLBQ67	*Moss sp.*	27.5	1.31	0.03	0.301
377	SLBQ68	*E.arvense*	27.6	1.28	0.03	0.242
378	TUKQ31	*L.trisulca*	27.5	1.74	0.07	0.216
379	TUKQ32	*L.trisulca*	31.0	1.39	0.06	0.149
380	TUKQ34	*L.trisulca*	30.1	1.66	0.07	0.189
381	TUKQ35	*L.trisulca*	31.1	1.56	0.06	0.141
382	TUKQ31	*Potamogeton sp.*	32.2	2.48	0.10	0.138
383	TUKQ35	*Potamogeton sp.*	34.6	3.44	0.21	0.036
384	SLQ36	*Potamogeton sp.*	33.6	2.65	0.13	0.017
385	SLQ37	*P.vaginatus*	32.8	1.64	0.10	0.021
386	SLQ39	*P.vaginatus*	33.9	2.26	0.14	0.010
387	SLBQ41	*P.vaginatus*	33.6	2.39	0.19	0.014
388	SLBQ42	*P.vaginatus*	34.9	1.45	0.13	0.015
389	SLBQ47	*P.vaginatus*	34.7	2.34	0.15	0.013

Table 3. cont.'d

Anal. No.	Quadrat Code	Plant Species	mmole/g dry weight C	N	P	Fe
390	SLBQ49	*P.vaginatus*	34.1	1.86	0.19	0.009
391	TUKQ32	*P.porsildiorum*	35.2	1.90	0.15	0.078
392	TUKQ34	*P.porsildiorum*	35.1	1.38	0.14	0.039
393	TUKQ35	*P.porsildiorum*	34.6	2.01	0.14	0.041
394	SLBQ53	*P.filiformis*	30.6	1.59	0.16	0.368
395	TUKQ33	*Tolypella intricata*	29.6	1.29	0.11	0.134
396	TUKQ31	*M.sibiricum*	29.2	1.99	0.13	0.170
397	TUKQ35	*M.sibiricum*	29.4	1.59	0.12	0.074
398	SLQ48	*M.sibiricum*	33.3	1.91	0.09	0.066
399	SLQ36	*R.aquatilis*	25.8	1.66	0.12	0.033
400	SLQ48	*R.aquatilis*	34.3	1.87	0.11	0.025
401	SLBQ43	*R.aquatilis*	31.1	2.61	0.15	0.079
402	SLBQ15	*U.vulgaris*	30.7	1.35	0.05	0.149
403	SLQ16	*U.vulgaris*	28.6	0.89	0.10	0.145
404	SLBQ26	*U.vulgaris*	28.7	0.74	0.05	0.303
405	SLBQ27	*U.vulgaris*	29.5	0.89	0.06	0.695
406	SLBQ66	*U.vulgaris*	29.6	0.82	0.10	0.262
407	SLBQ67	*U.vulgaris*	30.1	0.71	0.05	0.317
408	SLQ37	*U.vulgaris*	29.8	1.36	0.14	0.079
409	SLQ48	*U.vulgaris*	33.6	1.98	0.16	0.059
410	SLBQ#3	*Alnus crispa*	38.4	1.39	0.05	0.014
411	SKD#7	*Alnus crispa*	39.9	1.31	0.03	0.006
412	SL_IS#17	*Alnus crispa*	38.9	1.56	0.05	0.006
413	BIG_L	*Alnus crispa*	38.7	1.81	0.04	0.011
414	NRS#8	*Alnus incana*	38.5	1.56	0.04	0.005
415	NRS#8	*Salix sp.*	38.1	1.54	0.10	0.006
416	BIG_L#18	*Salix sp.*	44.7	1.07	0.04	0.006
417	SL_IS#17	*Salix sp.*	38.8	1.23	0.04	0.008
418	SL_IS#17	*Salix sp.*	36.4	0.87	0.03	0.005
419	SLB#3	*S.planifolia*	38.4	1.41	0.06	0.006
420	SKD#7	*S.planifolia*	38.7	0.26	0.07	0.006

Table 4. List of species and sites sampled in the Mackenzie Delta and Tuktoyaktuk Peninsula during 1985 and 1986.

Sample No.	Genus	Species[1]	Lake	Description	Depth m	Date Sampled
1	*Potamogeton*	*gramineus*	South	near permanent quadrats C and D		08-Jul-86
2	*Potamogeton*	*richardsonii*	South	near permanent quadrats C and D		04-Jul-86
3	*Potamogeton*	*vaginatus Turcz.*	South	near sampled quadrats and C and D		08-Jul-86
4	*Potamogeton*	*richardsonii & vaginatus*	South	Strange Bay near site C	1.48	21-Jul-86
5	*Potamogeton*	*richardsonii*	South	Strange Bay near site D	1.30	21-Jul-86
6	*Potamogeton*	*pectinatus*	South	Strange Bay near site D (tentative)	1.30	21-Jul-86
7	*Potamogeton*	*richardsonii*	South	Strange Bay near site D	1.32	23-Jul-86
8	*Potamogeton*	*vaginatus Turcz.*	South	near site C	1.20	23-Jul-86
9	*Potamogeton*	*vaginatus Turcz.*	Skidoo	near site C	1.10	08-Aug-86
10	*Potamogeton*	*richardsonii*	South	near site C	1.04	08-Aug-86
11	*Potamogeton*	*vaginatus Turcz.*	South	near site C	1.04	08-Aug-86
12	*Potamogeton*	*richardsonii*	South	Strange Bay site D	1.15	07-Aug-86
13	*Potamogeton*	*gramineus*	South	near site D	0.98	08-Aug-86
14	*Potamogeton*	*gramineus*	?	?		07-Aug-86
15	*Potamogeton*	*vaginatus Turcz.*	South	?		07-Aug-86
16	*Potamogeton*	*vaginatus Turcz.*	?	#25		?
17	*Potamogeton*	*vaginatus Turcz.*	?	#25		?
18	*Potamogeton*	*richardsonii*	South	#2 SL and SLB submergent		09-Jul-85
19	*Potamogeton*	*gramineus L.*	South	#4 SL and SLB		09-Jul-85
20	*Potamogeton*	*filiformis*	South	#34 SLB Q53		06-Aug-85
21	*Potamogeton*	*porsildiorum Fern.*	Tuk	#20		01-Jul-85
22	*Myriophyllum*	*sibiricum Komarov (fM exalbescens Fern.)*	South	#6		09-Jul-85
23	*Myriophyllum*	*sibiricum Komarov (fM exalbescens Fern.)*	South	#6		09-Jul-85
24	*Sparganium*	*sp.*	?	?		?
25a	*Vaccinium*	*vitus-idaea*	?	#29		?
25b	*Arctostaphylos*	*rubra (Rehd & Wils) Fern.*	?	#29		?
26	*Cardamine*	*pratensis L.*	?	#30 tentative		?
27	*Fontinalus*	*hyproides*	?	#23		?
28	*Bryum*	*pseudotriquetrum*	?	#24		?

Table 4. cont.'d

Sample No.	Genus	Species[1]	Lake	Description	Depth m	Date Sampled
29	*Sparganium*	*sp.*	South	#36 SLB Q67 site C #16 (tentative)		06-Aug-85
30	*Agropyron*	*violaceum (Hornem) Lange*	South	#18		09-Jul-85
31	*Alnus*	*crispa*	South	#11		09-Jul-85
32	*Hedysarum*	*alpinum*	South	#12 (unconfirmed)		09-Jul-85
33	*Calamagrostis*	*canadensis (Michx) Beauv.*	South	#19		09-Jul-85
34	*Carex*	*sp.*	Skidoo	Skidoo Channel near Big Lake		29-Jun-86
35	*Carex*	*aquatilis*	South	#16 SL and SLB		09-Jul-85
36	*Eleocharis*	*palustris*	South	#17		09-Jul-85
37	*Equisetum*	*fluviatile*	South	SL 1 between sites A and B		08-Jul-86
38	*Equisetum*	*fluviatile*	South	SL 2 between sites A and B		08-Jul-86
39	*Equisetum*	*fluviatile*	Skidoo	Skidoo Channel grab sample		29-Jun-86
40	*Equisetum*	*fluviatile*	Skidoo	Skidoo Channel near Big Lake		29-Jun-86
41	*Equisetum*	*fluviatile*	Skidoo	SKL 2 between sites A and B		08-Jul-86
42	*Equisetum*	*fluviatile*	Skidoo	SKL 1 between sites A and B		08-Jul-86
43	*Equisetum*	*fluviatile*	South	SL transect	0.40	10-Jul-86
44	*Equisetum*	*fluviatile*	South	SL transect	0.60	10-Jul-86
45	*Equisetum*	*fluviatile*	South	Strange Bay between site A and B	1.13	21-Jul-86
46	*Equisetum*	*fluviatile*	South	Strange Bay between site A and B	0.97	21-Jul-86
47	*Equisetum*	*fluviatile*	Skidoo	near site A	0.79	23-Jul-86
48	*Equisetum*	*fluviatile*	South	near site A	0.89	23-Jul-86
49	*Equisetum*	*fluviatile*	Skidoo	near site A	0.90	08-Aug-86
50	*Equisetum*	*fluviatile*	Skidoo	near site B	0.65	08-Aug-86
51	*Equisetum*	*fluviatile*	South	near site A	0.60	08-Aug-86
52	*Equisetum*	*fluviatile*	South	near site B	0.67	08-Aug-86
53	*Equisetum*	*fluviatile*	South	near site B	0.64	07-Aug-86
54	*Equisetum*	*fluviatile*	South	#14		09-Jul-85
55	*Equisetum*	*arvense L.*	South	#15		09-Jul-85
56	*Equisetum*	*arvense L.*	South	#21		09-Jul-85
57	*Equisetum*	*fluviatile*	South	#13		09-Jul-85
58	*Hippuris*	*vulgaris L.*	?	#26		?

Table 4. cont.'d

Sample No.	Genus	Species[1]	Lake	Description	Depth m	Date Sampled
59	*Isoetes*	*sp.*	?	#28		?
60	*Salix*	*planifolia Pursh ssp. planifolia*	South	#10		09-Jul-85
61	*Salix*	*lanata L. ssp. richardsonii (Hook.) A. Skvortsov*	South	#3		09-Jul-85
62	*Salix*	*planifolia Pursh ssp. planifolia*	South	#7		09-Jul-85
63	*Salix*	*planifolia Pursh ssp. planifolia*	South	#9		09-Jul-85
64	*Ranunculus*	*flammula L. var. filiformis*	South	#8		09-Jul-85
65	*Ultricularia*	*vulgaris L.*	South	#5		09-Jul-85
66	*Ranunculus*	*aquatilis L.*	South	#22		09-Jul-85
67	*Rosa*	*acicularis Lindl*	South	#1		09-Jul-85
68	*Arctophylos*	*fulva (Trin.) Rupr.*	Skidoo			07-Aug-86
69	*Lemna*	*trisulca L.*	Lake 18	#27		07-Aug-85
T1a	*Drepanocladus*	*exannulatus (B.S.G) Warnst.*	Lake 18	#33 Tuk Q31 (Nat. Museum collection)[2]		07-Aug-85
T1b	*Fontinalus*	*hypnoides C.J. Hartm.*	Lake 18	#33 Tuk Q31 (Nat. Museum collection)[2]		07-Aug-85
T2a	*Drepanocladus*	*aduncus (Hedw.) Warnst.*	Lake 18	#32 Tuk Q35		07-Aug-85
T2b	*Drepanocladus*	*exannulatus (B.S.G) Warnst.*	Lake 18	#32 Tuk Q35		07-Aug-85
T2c	*Calliergon*	*megalophyllulm Mik.*	Lake 18	#32 Tuk Q35		07-Aug-85
T3	*Drepanocladus*	*exannulatus (B.S.G) Warnst.*	Lake 18	Clear Box	1.70	08-Aug-86
T4	*Tolypella*	*intricata*	Lake 18	#31 (Nat. Museum collection)[2]		?
T5	*Tolypella*	*intricata*	Lake 18	20 cm canopy (tentative)	3.05	18-Aug-86
T6	*Tolypella*	*intricata*	Lake 18	#31 (Nat. Museum collection)[2]		?
T7	*Potamogeton*	*friessii Rupr.*		#20 (tentative)		?
T8	*Potamogeton*	*vaginatus Turcz.*		#35 Tuk Q35		07-Aug-85

[1]Identified by the National Museum of Natural Sciences. Archived in the Department of Botany, University of Manitoba.

[2]Housed in the National Museum of Natural Sciences collection.

Table 5. Heights of flagged and miscellaneous plants in the permanent quadrats of South and Skidoo Lakes, 1986.

Stn	Site	Date	Depth m	Total Plants[1]		Height of flagged plants cm F1	F2	F3	F4	F5	X	S.D.	Miscellaneous Plant Heights (cm)																X	S.D.
SB	A	07/04/86	1.39	65		41	31	21	22	33	30	9	11	23	20	38	15	31	21	22	20	14	6	4					19	9
SB	A	07/21/86	1.06	81		70	50	77	73	86	71	15	44	42	74	43	58	57	59	44	63	64							55	11
SB	B	07/04/86	1.20	56		21	9	32	22	26	22	9	11	17	21	13	24	22	12	13	18	4	17						16	5
SB	B	07/21/86	0.99	76		87	74	99	68	99	85	16	58	59	67	93	78	56	70	71	83	66							70	11
SB	B	08/08/86	0.64	TNTC		112	91	127	93		106	20	100	107	115	100	70	90	104	83	71	90							93	14
SB	B	08/21/86	0.81	139		105	90	98	92	123	102	15																		
SB	C	07/04/86				nothing																								
SB	C	07/21/86	1.50	18	11P,7M	6	7	6	12	10	8	3	4	9	7	6	10	12											8	3
SB	C	08/07/86	1.19	40	20P,20M	12	12	19	54	25	24	20	27	16	24	24	81	10	16	20	17	12	11	16	14	5	5		20	17
SB	C	08/21/86	1.35	51		17	17	28	76	27	33	28																		
SB	D	07/04/86				nothing																								
SB	D	07/21/86	1.40	27	20P,7M	22	19	19	17	31	22	6	19	9	15	19	17	5	15	10	24	22							15	6
SB	D	08/07/86	1.05	TNTC		32	43	75	32	60	48	21	25	14	20	18	10	25	30	18	40	50							25	12
SB	D	08/21/86	1.20	79		32	25	72	61	32	44	23																		
SL	A	07/08/86	1.09	91		50	38	25	18	50	36	16	58	55	31	44	49	29	26	36	43	38							41	10
SL	A	07/23/86	0.91	117		109	83	63	71	94	84	21	70	88	90	87	76	90	114	56	66	93							83	16
SL	A	08/08/86	0.60			126	110	96	94	103	106	15	90	86	108	100	102	128	123	115	135								110	16
SL	A	08/21/86	0.78	102		126	110	95	96	102	106	14																		
SL	B	07/08/86	1.24	71	67E,4P	45	35	44	46	46	43	5	46	23	39	44	37	33	46	56	35	52							41	9
SL	B	07/23/86	1.08	102	94E,8P	92	87	86	74	67	81	12	56	38	90	107	94	68	85	26	94	108	Equisetum						69	34
SL	B	07/23/86	1.08										5	51	62	43	21	44	73	61			Potamogeton						40	24
SL	B	08/08/86	0.85	95	87E,8P	124	126	125	98	97	114	17	95	108	112	131	114	114	96	90	45	70							98	24
SL	B	08/21/86	0.90	97		126	131	125	96	102	116	18																		

Table 5. cont.'d

Stn	Site	Date	Depth m	Total Plants[1]	Height of flagged plants cm F1	F2	F3	F4	F5	X	S.D.	Miscellaneous Plant Heights (cm)											X	S.D.
SL	C	07/08/86		15	10	9	11	7	26	13	9													
SL	C	07/23/86	1.30	24 21P,3M	39	75	83	31	100	66	33	8	20	18	28	22	23	19	30				21	6
SL	C	08/08/86	1.01	33 25P,6M,2H	45(b)	77	101	46	104	82	31	36	35	53	12	42	30	44	33	55	45	39	38	11
SL	C	08/21/86	1.20	41	45(b)	77	101	59	104	85	25													
SL	D	07/04/86	1.83	5	12	10	8	7	6	9	3													
SL	D	07/08/86		11	12	10	8	7	6	9	3													
SL	D	07/23/86	1.50	22 13P,9M	100	38	100	100	99	87	31	53	83	34	15	100	98						64	32
SL	D	08/08/86	1.08	61 30P,31M	104	84	76	110	76	90	18	39	48	14	29	36	51	17	19	20	11		28	14
SL	D	08/21/86	1.25	63	106	84	88	123	96	100	18													
SKD	A	07/08/86			nothing																			
SKD	A	07/23/86	1.13	78	86	84	73	87	74	81	8	67	57	68	57	46	59	64	86	84	75		66	12
SKD	A	08/08/86	0.69	TNTC	119	86	96	121	106	106	17	97	90	82	87	91	90	90	90	84	83		88	4
SKD	A	08/21/86	0.92		91	114	89	99	107	100	12													
SKD	B	07/08/86				30	33	39	54	39	12													
SKD	B	07/23/86	0.94	85			65	67		66	2	60	76	75	40	55	87	83	80	70	47		67	15
SKD	B	08/08/86	0.63	TNTC			92		62	77	30	71	69	65	65	99	105	97	97	99	87		85	15
SKD	B	08/21/86	0.86				97	83		90	13													
SKD	C	07/08/86			48	47			29	41	13													
SKD	C	07/23/86	1.50		80	95	58	37	29	59	31	51	4	50	15	9							26	20
SKD	C	08/08/86	1.19			104	83			93	22													
SKD	C	08/21/86	1.13		119	116	98	93		106	15													
SKD	D	07/08/86					nothing																	
SKD	D	07/23/86	1.30				nothing																	
SKD	D	08/08/86	1.15	12 12E	114	104	83	69	19(b)	92	24	15	9	87	93	92	8	7					44	40

[1]P-Potamogeton sp., M-Myriophyllum sp., H-Hippuris sp., E- Equisetum sp.

Table 6. Harvest of macrophytes in South and Skidoo Lakes during July and August, 1986, including differentiation of fertile and sterile stems.

								Fertile				Sterile			
Date	Stn	Quadrat Area m^2	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Above Water Ht. cm	Below Water Ht. cm	Max. Diam. mm	Min. Diam. mm	Above Water Ht. cm	Below Water Ht. cm	Max. Diam. mm	Min. Diam. mm
07/03/86	SLC	0.25	Water Edge	T1	0.00	*E.fluviatile*		23.5		2.0		23.9		2.0	
								24.5		2.0		20.6		3.0	
								11.8		3.0		15.0		3.0	
								30.0		4.0		12.5		2.0	
												8.6		2.0	
												17.0		2.0	
07/03/86	SLC	0.25		T2	0.20	*E.fluviatile*		6.0	20.0	3.0	3.0		18.4	3.0	3.0
								2.0	20.0	2.0	2.0		13.5	2.0	2.0
								5.0	20.0	4.0	3.0		14.5	2.0	2.0
									17.5	3.0	3.0		14.0	3.0	2.0
									16.0	2.0	2.0		17.1	3.0	2.0
07/03/86	SLC	0.25		T3	0.40	*E.fluviatile*			39.5	4.0	3.0		33.7	3.0	2.0
									32.5	4.0	3.0		29.1	3.0	1.0
									27.2	5.0	3.0		29.7	3.0	1.5
									39.5	4.0	3.0		12.2	2.5	1.0
									30.4	3.5	3.0		11.5	2.5	1.0
07/04/86	SB	0.25	B	SB1	ND	*E.fluviatile*							22.8	5.5	3.0
													22.8	4.0	3.0
													12.5	4.5	3.0
													32.5	5.0	2.5
													26.6	5.0	3.5
													12.7	5.0	3.0
													18.9	5.5	4.0
													7.5	3.5	3.0
													24.1	4.5	3.0
													35.1	5.5	4.5

Table 6. cont.'d

Date	Stn	Quadrat Area m^2	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile				Sterile			
								Above Water Ht. cm	Below Water Ht. cm	Max. Diam. mm	Min. Diam. mm	Above Water Ht. cm	Below Water Ht. cm	Max. Diam. mm	Min. Diam. mm
07/04/86	SB	0.25	Between A&B	SB2	ND	*E.fluviatile*							30.1	4.5	2.0
													58.4	4.5	3.5
													25.2	4.0	2.0
													27.9	6.0	3.5
													17.9	6.5	5.5
													24.4	5.5	4.0
													38.3	5.5	2.5
													21.7	5.5	3.5
													30.9	4.0	2.0
													22.7	4.0	3.0
07/08/86	SL	0.25	Between A&B	SL1	ND	*E.fluviatile*			51.4	4.5	2.0		42.0	5.0	2.0
									19.0	4.0	2.0		61.9	4.0	1.0
									39.7	3.0	2.0		39.4	5.0	1.5
									49.8	5.0	3.0		45.4	5.0	1.0
									55.4	4.5	2.5		13.3	4.0	2.5
													37.4	3.0	1.5
													26.1	4.5	1.5
													20.6	5.0	1.0
													52.8	5.0	1.5
													58.7	5.0	2.0
07/08/86	SL	0.25	Between A&B	SL2	ND	*E.fluviatile*							27.8	5.0	2.0
													33.5	5.0	2.0
													42.0	4.5	2.0
													42.0	3.0	2.0
													33.7	4.5	2.0
													34.2	4.5	1.5
													45.8	5.5	1.0

Table 6. cont.'d

Date	Stn	Quadrat Area m^2	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile: Above Water Ht. cm	Fertile: Below Water Ht. cm	Fertile: Max. Diam. mm	Fertile: Min. Diam. mm	Sterile: Above Water Ht. cm	Sterile: Below Water Ht. cm	Sterile: Max. Diam. mm	Sterile: Min. Diam. mm
07/08/86 cont'd	SL	0.25	Between A&B	SL2	ND	*E.fluviatile*							39.4	4.5	1.5
													21.6	4.5	2.5
													10.8	5.5	3.5
													7.4	6.0	3.0
													14.4	3.5	2.5
													13.1	3.5	1.5
													31.0	5.0	1.5
													37.0	4.5	1.3
07/08/86	SL	0.98	Between C&D	SL1P	1.50	*P.richardsonii*	6		21.9	3.0	1.0				
	Not a subsample.[1]						8		13.3	2.0	1.0				
							7		20.5	2.0	1.0				
							8		8.8	2.0	1.0				
							8		11.3	2.0	1.0				
							4		14.0	3.0	1.0				
							3		11.8	2.0	1.0				
							6		4.6	1.5	1.0				
							5		11.1	2.0	1.0				
							6		6.0	2.0	1.0				
							4		5.0	2.0	1.0				
							3		6.0	2.0	1.0				
							3		6.5	1.5	1.0				
						P. obtusifolius	6		8.7						
						M. sibiricum			18.0						
07/08/86	SL	0.98	Between C&D	SL2P	1.50	*P.richardsonii*	6		15.7	2.0	1.0				
							5		8.0	2.0	1.0				
	Not a subsample.[1]						10		16.6	2.5	1.0				
							6		13.3	2.0	1.0				

Table 6. cont.'d

Date	Stn	Quadrat Area m^2	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile: Above Water Ht. cm	Fertile: Below Water Ht. cm	Fertile: Max. Diam. mm	Fertile: Min. Diam. mm	Sterile: Above Water Ht. cm	Sterile: Below Water Ht. cm	Sterile: Max. Diam. mm	Sterile: Min. Diam. mm
07/08/86	SL	0.98	Between	SL2P	1.50	*P.richardsonii*	4		10.1	2.0	1.0				
cont.'d			C&D				4		5.4	2.5	1.0				
	Not a subsample.[1]						3		8.0	4.5	1.0				
							4		4.0	1.0	1.0				
							4		4.6	1.0	1.0				
							4		3.0	1.0	1.0				
							3		4.0	1.5	1.0				
						P. obtusifolius	5		5.4	2.5	0.5				
							5		5.5	2.0	1.0				
							7		9.0	3.0	1.0				
07/08/86	SKL	0.25	Between	SKL1	1.12	*E. fluviatile*			37.6	3.0	2.0		34.2	3.5	1.5
			A&B						40.7	3.0	2.0		49.3	4.0	1.0
									45.6	4.0	2.5		42.0	3.0	1.5
									18.2	3.5	2.0		23.8	5.0	2.0
									14.5	3.0	2.0		49.4	4.0	1.5
													34.3	3.5	1.0
													28.7	5.0	2.5
													42.8	3.5	1.0
													30.8	5.5	2.0
													18.3	4.0	1.5
07/08/86	SKL	0.25	Between	SKL2	1.12	*E. fluviatile*							52.6	5.5	1.5
			A&B										49.5	4.5	1.5
													26.7	5.0	2.0
													17.6	4.5	3.0
													23.2	3.5	1.5
													15.7	5.0	2.0
													17.3	3.5	2.0

Table 6. cont.'d

Date	Stn	Quadrat Area m^2	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile Above Water Ht. cm	Fertile Below Water Ht. cm	Fertile Max. Diam. mm	Fertile Min. Diam. mm	Sterile Above Water Ht. cm	Sterile Below Water Ht. cm	Sterile Max. Diam. mm	Sterile Min. Diam. mm
07/08/86 cont.'d	SKL	0.25	Between A&B	SKL2	1.12	*E. fluviatile*							48.7	3.5	1.5
													25.5	3.5	2.0
													30.2	2.5	1.0
													49.7	4.0	1.5
													33.0	3.5	1.5
													21.6	4.0	3.0
													29.0	3.0	2.0
													13.7	3.5	2.5
07/08/86	SKL	0.98	Between C&D	SKL3P	1.70	*E. fluviatile*							7.9	2.5	2.0
													8.2	3.5	2.0
													7.3	4.0	2.5
07/10/86	SLC	0.05	Water Edge	T4	0.00	*E. fluviatile*		39.5		4.0	2.0	64.1		4.0	1.0
								39.0		3.0	2.0	36.7		3.0	1.0
								41.3		2.0	1.0	28.6		3.0	1.0
								42.0		2.0	1.0	36.2		4.0	1.0
								46.3		4.0	2.0	32.9		3.0	1.0
07/10/86	SLC	0.05	Water	T5	0.20	*E. fluviatile*		36.0	20.0	4.0	3.0	23.5	20.0	3.0	2.0
								45.5	20.0	5.0	3.0	33.5	20.0	3.0	1.0
								31.7	20.0	4.0	3.0	27.4	20.0	3.0	1.0
								46.4	20.0	4.0	3.0	10.0	20.0	3.0	1.0
								31.6	20.0	3.0	3.0	31.0	20.0	3.0	1.0
07/10/86	SLC	0.05	Water	T6	0.40	*E. fluviatile*		18.9	40.0	5.0	3.0	7.8	40.0	4.0	2.0
								33.2	40.0	5.0	3.0	8.4	40.0	3.0	1.5
								7.1	40.0	3.0	2.0	24.0	40.0	4.0	1.0
								12.8	40.0	4.0	2.0	13.4	40.0	4.0	1.0
								30.7	40.0	4.0	2.0	20.6	40.0	4.0	1.0

Table 6. cont.'d

Date	Stn	Quadrat Area m^2	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile: Above Water Ht. cm	Fertile: Below Water Ht. cm	Fertile: Max. Diam. mm	Fertile: Min. Diam. mm	Sterile: Above Water Ht. cm	Sterile: Below Water Ht. cm	Sterile: Max. Diam. mm	Sterile: Min. Diam. mm
07/10/86	SLC	0.05	Water	T7	0.60	*E. fluviatile*			53.9	5.0	3.0		49.1	4.0	1.0
								18.1	60.0	6.0	3.0	22.0	60.0	5.0	1.0
								22.4	60.0	7.0	3.0		50.1	4.0	1.0
								6.5	60.0	5.0	3.0	6.5	60.0	5.0	1.0
								13.5	60.0	5.0	3.0		53.2	5.0	1.0
07/21/86	SB	0.25	Between A&B	SB3	1.13	*E. fluviatile*			76.5	5.0	4.0		59.0	5.0	1.0
									82.5	4.0	4.0		77.0	4.0	1.0
									66.5	4.0	4.0		84.5	5.0	1.0
									73.5	4.0	4.0		67.0	5.0	1.0
													90.5	4.0	1.0
													108.0	5.0	1.0
07/21/86	SB	0.25	Between A&B	SB4	0.97	*E. fluviatile*			72.0	4.0	2.0		76.6	5.0	1.0
									58.4	4.0	4.0		86.0	6.0	2.0
									84.9	5.0	2.0		92.5	6.0	1.0
									48.0	4.0	3.0		66.0	4.0	1.0
									62.0	4.0	4.0		72.7	6.0	1.0
07/21/86	SB	0.98	Near D	SB1P	1.30	*P. richardsonii*	2		10.5	4.0	2.0				
	Not a subsample.[1]						2		9.5	2.0	2.0				
							6		5.2	3.0	2.0				
							5		4.9	3.0	2.0				
							5		5.2	3.0	3.0				
						P. obtusifolius	4		15.0	2.0	<0.9				
							4		26.0	2.0	1.0				
							2		16.0	1.0	1.0				
							2		9.0	1.0	<0.9				
							1		8.5	1.0	<0.9				
						P. filiformis	5		11.0	1.0	<0.9				

Table 6. cont.'d

Date	Stn	Quadrat Area m^2	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile: Above Water Ht. cm	Fertile: Below Water Ht. cm	Fertile: Max. Diam. mm	Fertile: Min. Diam. mm	Sterile: Above Water Ht. cm	Sterile: Below Water Ht. cm	Sterile: Max. Diam. mm	Sterile: Min. Diam. mm
07/21/86	SB	0.98	Near D	SB1P	1.30	*P. filiformis*	4		7.0	1.0	1.0				
cont.'d	Not a subsample.[1]						3		5.1	1.0	<0.9				
							3		6.0	1.0	<0.9				
							3		7.5	1.0	<0.9				
							4		3.0	<0.9	<0.9				
07/21/86	SB	0.98	Near D	SB2P	1.25	*P.pectinatus*	1		6.1	<0.9	<0.9				
	Not a subsample.[1]						2		5.1	<0.9	<0.9				
							2		5.1	<0.9	<0.9				
							3		6.0	<0.9	<0.9				
							3		6.0	<0.9	<0.9				
						P.richardsonii	12		22.1	3.0	3.0				
							8		32.0	2.0	1.5				
							7		27.1	2.0	2.0				
							9		20.1	2.0	3.0				
							5		15.1	2.0	3.0				
							2		5.0	1.0	2.0				
							4		12.0	1.0	1.5				
							9		9.1	2.0	3.0				
							12		20.0	2.0	3.0				
						P.gramineus	2		33.0	1.0	1.0				
							2		6.5	2.0	1.0				
07/23/86	SKL	0.98	Near D	SKL4P	1.45	*P.pectinatus*	3		7.1	1.0	1.0				
							1		7.1	1.0	1.0				
							3		8.0	1.0	1.0				
							2		7.0	1.0	<0.9				
							2		6.0	1.0	1.0				
						P.richardsonii	4		5.1	3.0	2.0				

Table 6. cont.'d

Date	Stn	Quadrat Area m²	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile: Above Water Ht. cm	Fertile: Below Water Ht. cm	Fertile: Max. Diam. mm	Fertile: Min. Diam. mm	Sterile: Above Water Ht. cm	Sterile: Below Water Ht. cm	Sterile: Max. Diam. mm	Sterile: Min. Diam. mm
07/23/86	SKL	0.98	Near D	SKL4P	1.45	*P.richardsonii*	7		18.0	3.0	4.0				
							8		11.0	2.0	3.0				
							5		11.0	3.0	3.0				
							4		5.0	3.0	3.0				
						E.fluviatile							25.3	3.5	2.5
													13.8	3.0	2.5
													26.6	3.5	2.0
													14.5	3.0	2.5
													12.0	3.0	2.0
													27.8	3.0	2.0
													8.5	4.0	3.5
													13.4	3.0	2.0
													10.6	4.0	2.5
													8.3	3.0	2.0
													10.8	3.0	2.0
													8.2	2.0	2.0
07/23/86	SKL	0.98	Near C	SKL5P	1.31	*P.richardsonii*	19		63.5	2.0	2.5				
	Not a subsample.[1]						11		49.0	1.0	2.0				
							6		13.5	2.0	2.0				
						P.pectinatus	5		23.5	3.0	1.0				
							5		30.0	2.0	1.0				
							4		32.0	2.0	<0.9				
							3		22.0	2.0	2.0				
							8		52.0	3.0	<0.9				
							6		36.5	2.0	<0.9				

Table 6. cont.'d

Date	Stn	Quadrat Area m^2	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile Above Water Ht. cm	Fertile Below Water Ht. cm	Fertile Max. Diam. mm	Fertile Min. Diam. mm	Sterile Above Water Ht. cm	Sterile Below Water Ht. cm	Sterile Max. Diam. mm	Sterile Min. Diam. mm
07/23/86	SL	0.98	Near C	SL3P	1.20	*P.pectinatus*	3		21.5	2.0	1.0				
	Not a subsample.[1]						4		11.5	2.0	1.0				
							1		9.0	1.0	1.0				
							3		7.5	1.0	<0.9				
							4		9.0	1.0	<0.9				
							4		13.0	1.0	<0.9				
							4		13.0	1.0	<0.9				
						U.vulgaris			32.5						
									22.0						
									6.5						
									5.5						
									10.5						
									17.0						
									7.0						
									19.5						
07/23/86	SKL	0.98	Near C	SKL5P	1.31	*E.fluviatile*							54.0	5.0	3.0
													72.0	6.0	4.0
													82.5	6.0	1.0
													61.5	6.0	4.0
													63.0	5.0	3.0
													67.0	3.0	1.0
													90.0	5.0	1.0
													69.0	4.0	1.0
													55.5	5.0	3.0
						P.gramineus	3		70.0	1.0	<0.9				
							5		16.5	1.0	2.0				

Table 6. cont.'d

Date	Stn	Quadrat Area m^2	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile Above Water Ht. cm	Fertile Below Water Ht. cm	Fertile Max. Diam. mm	Fertile Min. Diam. mm	Sterile Above Water Ht. cm	Sterile Below Water Ht. cm	Sterile Max. Diam. mm	Sterile Min. Diam. mm
07/23/86	SKL	0.25	Near B	SKL3	1.03	*E.fluviatile*							85.0	6.0	1.0
													60.5	3.0	1.0
													80.5	4.0	1.0
													66.5	3.0	1.0
													70.5	4.0	1.0
													62.0	4.0	1.0
													89.5	5.0	1.0
													87.0	5.0	1.0
													59.0	4.0	1.0
													42.5	4.0	1.0
07/23/86	SKL	0.25	Near A	SKL4	0.79	*E.fluviatile*			71.5	4.0	2.0		74.0	4.0	1.0
									49.8	3.0	2.0	0.5	79.0	4.0	1.0
									68.5	3.0	2.0		59.0	3.0	1.0
													69.8	3.0	1.0
												10.0	79.0	5.0	1.0
													64.0	3.0	1.0
													19.0	3.0	2.0
07/23/86	SL	0.25	Near A	SL3	0.89	*E.fluviatile*			45.5	5.0	5.0		72.0	6.0	1.0
								0.3	89.0	5.0	2.0		73.5	5.0	2.0
									82.0	4.0	2.0	0.5	89.0	5.0	1.0
													34.0	5.0	1.0
													83.5	5.0	2.0
													79.8	5.0	2.0
												8.0	89.0	5.0	1.0
07/23/86	SL	0.25	Near B	SL4	0.89	*E.fluviatile*			69.5	3.0	2.0	3.4	89.0	5.0	2.0
									82.9	5.0	3.0		75.0	3.0	1.0
													85.0	7.0	2.0

Table 6. cont.'d

Date	Stn	Quadrat Area m²	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile Above Water Ht. cm	Fertile Below Water Ht. cm	Fertile Max. Diam. mm	Fertile Min. Diam. mm	Sterile Above Water Ht. cm	Sterile Below Water Ht. cm	Sterile Max. Diam. mm	Sterile Min. Diam. mm
07/23/86 cont.'d	SL	0.25	Near B	SL4	0.89	*E.fluviatile*							49.5	6.0	2.0
													58.0	4.0	1.0
													86.5	4.0	1.0
													75.5	4.0	1.0
													60.5	5.0	1.0
07/23/86	SL	0.98	Near D	SL4P	1.32	*P. richardsonii*	3		30.0	1.5	1.0				
	Not a subsample.[1]						13		76.0	2.0	3.0				
							5		8.5	1.5	2.0				
							5		5.5	2.0	3.0				
							13		90.0	2.0	3.0				
							20		98.0	2.0	3.0				
							10		39.5	2.0	3.0				
							15		58.5	2.0	2.0				
							13		61.5	2.0	3.0				
							10		29.5	2.0	2.0				
						P. gramineus	11		63.0	1.0	1.0				
							2		32.5	1.0	1.0				
							12		52.5	2.0	1.0				
							2		15.0	2.0	1.0				
							2		45.0	2.0	1.0				
							2		6.0	1.0	1.0				
						U. vulgaris			12.0						
									23.5						
									21.5						
									13.5						
08/08/86	SKL	0.05	Near B	SKL5	0.65	*E. fluviatile*						29.5	65.0	4.0	1.0
												58.0	65.0	5.0	1.0

Table 6. cont.'d

Date	Stn	Quadrat Area m²	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile Above Water Ht. cm	Fertile Below Water Ht. cm	Fertile Max. Diam. mm	Fertile Min. Diam. mm	Sterile Above Water Ht. cm	Sterile Below Water Ht. cm	Sterile Max. Diam. mm	Sterile Min. Diam. mm
08/08/86 cont.'d	SKL	0.05	Near B	SKL5	0.65	*E. fluviatile*						28.5	65.0	4.0	1.0
												45.9	65.0	5.0	1.0
												51.7	65.0	5.0	1.0
												23.0	65.0	5.0	1.0
												25.3	65.0	4.0	1.0
												34.0	65.0	4.0	2.0
												36.0	65.0	5.0	1.0
												22.0	65.0	4.0	1.0
08/08/86	SKL	0.05	Near A	SKL6	0.90	*E. fluviatile*			75.5	6.0	3.0	38.7	90.0	6.0	1.0
												1.5	90.0	5.0	2.0
												17.0	90.0	7.0	1.0
												19.5	90.0	6.0	1.0
												9.0	90.0	4.0	1.0
												10.0	90.0	5.0	1.0
												23.3	90.0	5.0	1.0
													89.4	1.0	1.0
												5.0	90.0	4.0	1.0
													89.0	3.0	1.0
08/08/86	SKL	0.25	Near C	SKL6P	1.10	*E. fluviatile*							95.3	7.0	1.0
													93.5	5.0	1.0
													84.0	5.0	1.0
													95.0	7.0	1.0
						P.pusillus	10		91.0						
							7		58.0						
							5		36.0						

Table 6. cont.'d

Date	Stn	Quadrat Area m²	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile: Above Water Ht. cm	Fertile: Below Water Ht. cm	Fertile: Max. Diam. mm	Fertile: Min. Diam. mm	Sterile: Above Water Ht. cm	Sterile: Below Water Ht. cm	Sterile: Max. Diam. mm	Sterile: Min. Diam. mm
08/08/86	SKL	0.25	Near C	SKL7P	1.10	*P.pusillus*	6		85.8	3.0	1.0				
							6		104.2	2.0	1.0				
							5		52.0	1.0	1.0				
08/08/86	SKL	0.25	Near C	SKL8P	1.10	*P.pusillus*	6		85.0	2.0	1.0				
							5		35.0	1.0	1.0				
							10		87.0	2.0	1.0				
							10		100.0	2.0	1.0				
							6		78.2	2.0	1.0				
							8		62.0	2.0	1.0				
							4		77.8	2.0	1.0				
							7		94.0	1.0	1.0				
08/08/86	SL	0.05	Near A	SL5	0.60	*E. fluviatile*						26.9	60.0	5.0	1.0
												66.8	60.0	6.0	1.0
												42.0	60.0	5.0	1.0
												27.0	60.0	4.0	1.0
												48.0	60.0	5.0	1.0
												38.0	60.0	4.0	1.0
												41.0	60.0	5.0	1.0
												18.5	60.0	4.0	1.0
												56.5	60.0	5.0	1.0
												80.4	60.0	6.0	1.0
08/08/86	SL	0.05	Near B	SL6	0.67	*E. fluviatile*						62.6	67.0	6.0	1.0
												54.4	67.0	4.0	1.0
												39.6	67.0	5.0	1.0
												45.6	67.0	6.0	1.0
												7.5	67.0	3.0	1.0
												63.0	67.0	6.0	1.0

Table 6. cont.'d

Date	Stn	Quadrat Area m^2	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile: Above Water Ht. cm	Fertile: Below Water Ht. cm	Fertile: Max. Diam. mm	Fertile: Min. Diam. mm	Sterile: Above Water Ht. cm	Sterile: Below Water Ht. cm	Sterile: Max. Diam. mm	Sterile: Min. Diam. mm
08/08/86 cont.'d	SL	0.05	Near B	SL6	0.67	*E. fluviatile*						53.7	67.0	6.0	1.0
												58.0	67.0	4.0	1.0
												19.7	67.0	4.0	1.0
												57.6	67.0	7.0	1.0
08/08/86	SL	0.25	Near D	SL6P	0.98	*P.richardsonii*	124	47.5	97.5	2.0	1.0				
							119	26.0	97.5	2.0	2.0				
							114		91.0	2.0	1.0				
							86		89.0	2.0	1.0				
						P.gramineus	30		54.0	1.0	1.0				
							39	23.5	97.5	1.0	1.0				
							65		71.5	1.0	1.0				
08/07/86	SB	0.25	Near D	SB4P	1.15	*P.richardsonii*	29		67.0	3.0	3.0				
							24		68.0	3.0	2.0				
							8		7.5	3.0	2.0				
							7		5.5	3.0	3.0				
08/08/86	SB	0.05	Near B	SB5	0.66	*E.fluviatile*		28.5	65.5	5.0	3.0	17.5	65.5	5.0	2.0
												9.5	65.5	5.0	3.0
												20.5	65.5	4.0	2.0
													56.5	4.0	2.0
												31.5	65.5	5.0	2.0
												23.0	65.5	5.0	1.0
08/07/86	SB	0.05	Near B	SB6	0.64	*E.fluviatile*						18.0	64.0	3.0	1.0
													46.0	4.0	3.0
												33.7	64.0	4.0	2.0
												33.7	64.0	4.0	1.0
												10.5	64.0	4.0	2.0

Table 6. cont.'d

Date	Stn	Quadrat Area m²	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile Above Water Ht. cm	Fertile Below Water Ht. cm	Fertile Max. Diam. mm	Fertile Min. Diam. mm	Sterile Above Water Ht. cm	Sterile Below Water Ht. cm	Sterile Max. Diam. mm	Sterile Min. Diam. mm
08/07/86	SB	0.05	Near B	SB6	0.64	*E.fluviatile*						32.4	64.0	5.0	2.0
cont.'d												17.8	64.0	4.0	2.0
08/08/86	SL	0.25	Near C	SL5P	1.04	*P. richardsonii*	71	22.5	103.5	2.0	2.0				
	Not a subsample.[1]						51		83.5	2.0	1.0				
							80	9.5	103.5	2.0	1.0				
							94	6.5	103.5	2.0	2.0				
					1.04	*P.pectinatus*	10		57.0	2.0	1.0				
							7		41.0	2.0	1.0				
08/21/86	SKL	0.25	A		0.92	*E.fluviatile*						5.5	92.0	4.5	1.0
												0.2	92.0	3.0	1.0
													87.9	4.0	1.0
												11.5	92.0	6.0	1.0
												18.2	92.0	4.0	1.0
												2.0	92.0	4.0	1.0
												24.5	92.0	4.5	1.0
													85.2	3.5	1.0
												11.5	92.0	4.0	1.0
													83.0	3.5	1.5
08/21/86	SKL	0.25	B		0.86	*E.fluviatile*							83.2	3.0	1.0
												8.2	86.0	3.0	1.0
													85.9	4.0	1.0
													75.7	3.0	1.0
													70.0	4.0	1.0
													86.0	3.5	1.0
												23.4	86.0	4.5	1.0
												15.6	86.0	3.5	1.0
												7.0	86.0	4.5	1.0

Table 6. cont.'d

Date	Stn	Quadrat Area m²	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile: Above Water Ht. cm	Fertile: Below Water Ht. cm	Fertile: Max. Diam. mm	Fertile: Min. Diam. mm	Sterile: Above Water Ht. cm	Sterile: Below Water Ht. cm	Sterile: Max. Diam. mm	Sterile: Min. Diam. mm
08/21/86	SKL	0.25	B		0.86	*E.fluviatile*							86.0	3.0	1.0
08/21/86	SKL	0.98	C		1.13	*E.fluviatile*						3.0	113.0	5.0	1.0
													18.4	4.5	3.0
													18.2	4.5	3.0
													15.2	2.0	2.0
													8.9	4.5	3.0
08/21/86	SB	0.98	C		1.35	*P.richardsonii*			41.0	3.0	2.0				
	Not a subsample.[1]								15.5	2.0	2.0				
									19.6	2.0	2.0				
									45.0	2.0	2.0				
									9.0	2.0	2.0				
						M.sibiricum			11.0	1.0	1.0				
									14.0	1.0	1.0				
									18.0	1.0	1.0				
									17.0	1.0	1.0				
									9.0	1.0	1.0				
08/21/86	SB	0.25	B		0.81	*E.fluviatile*						5.0	81.0	4.5	1.0
												32.0	81.0	4.0	1.0
													73.5	4.0	1.5
												14.1	81.0	4.0	1.5
												10.3	81.0	5.0	1.5
												15.6	81.0	4.5	2.0
												29.3	81.0	4.0	1.0
												11.2	81.0	4.0	1.5
												18.4	81.0	4.0	1.0

Table 6. cont.'d

Date	Stn	Quadrat Area m^2	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile: Above Water Ht. cm	Fertile: Below Water Ht. cm	Fertile: Max. Diam. mm	Fertile: Min. Diam. mm	Sterile: Above Water Ht. cm	Sterile: Below Water Ht. cm	Sterile: Max. Diam. mm	Sterile: Min. Diam. mm
08/21/86	SB	0.98	D		1.20	*P.pectinatus*			32.0	1.0	1.0				
	Not a subsample.[1]								25.0	1.0	1.0				
									45.0	1.0	1.0				
									26.0	1.0	1.0				
									20.0	1.0	1.0				
									18.0	1.0	1.0				
									35.0	1.0	1.0				
									23.0	1.0	1.0				
									20.0	1.0	1.0				
									19.0	1.0	1.0				
						P.richardsonii			25.0	2.0	1.0				
									31.0	3.0	1.0				
									16.0	2.0	1.0				
									67.0	2.0	1.0				
									54.0	2.0	1.0				
						M.sibiricum			10.0	2.0	2.0				
									15.0	2.0	2.0				
									14.0	2.0	2.0				
									6.0	2.0	2.0				
									28.0	2.0	2.0				
08/21/86	SL	0.25	A		0.78	*E.fluviatile*						38.8	78.0	5.0	1.0
												30.4	78.0	6.0	1.5
												41.5	78.0	6.0	1.0
												33.4	78.0	5.0	1.0
												35.3	78.0	5.0	1.5
												40.4	78.0	5.0	1.0
												20.0	78.0	5.0	1.0

Table 6. cont.'d

Date	Stn	Quadrat Area m²	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile: Above Water Ht. cm	Fertile: Below Water Ht. cm	Fertile: Max. Diam. mm	Fertile: Min. Diam. mm	Sterile: Above Water Ht. cm	Sterile: Below Water Ht. cm	Sterile: Max. Diam. mm	Sterile: Min. Diam. mm
08/21/86	SL	0.25	A		0.78	*E.fluviatile*						23.3	78.0	5.0	1.5
cont.'d												33.6	78.0	4.0	1.0
												39.5	78.0	5.0	1.0
08/21/86	SL	0.25	B		0.90	*E.fluviatile*						11.0	90.0	4.0	1.0
												19.5	90.0	5.0	1.0
												30.5	90.0	4.0	1.0
												34.5	90.0	4.0	1.0
												16.4	90.0	4.0	1.0
												43.0	90.0	5.0	1.0
												18.2	90.0	4.0	1.0
												29.4	90.0	7.0	1.0
												21.7	90.0	4.0	1.0
												30.0	90.0	4.0	1.0
08/21/86	SL	0.98	C		1.20	*U.vulgaris*			76.0	2.0	1.0				
	Not a subsample.[1]					*M. sibiricum*			35.5	2.0	1.0				
						P.richardsonii			30.5	3.0	1.0				
									55.0	3.0	1.0				
									12.0	3.0	2.0				
									64.0	3.0	2.0				
									56.0	2.0	1.0				
						P.pectinatus			78.0	3.0					
									65.0	2.0					
									50.0	3.0					
									37.0	2.0					
									37.0	3.0					

Table 6. Harvest of macrophytes in South and Skidoo Lakes during July and August, 1986, including differentiation of fertile and sterile stems.

Date	Stn	Quadrat Area m^2	Site	Quadrat Code	Depth m	Species	No. of Branches or Leaves	Fertile Above Water Ht. cm	Fertile Below Water Ht. cm	Fertile Max. Diam. mm	Fertile Min. Diam. mm	Sterile Above Water Ht. cm	Sterile Below Water Ht. cm	Sterile Max. Diam. mm	Sterile Min. Diam. mm
08/21/86	SL	0.98	D		1.25	*M. sibiricum*			51.0	1.0	1.0				
	Not a subsample.[1]								14.5	1.0	1.0				
									21.0	1.0	1.0				
									17.0	1.0	1.0				
									23.0	1.0	1.0				
									66.0	2.0	1.0				
									87.0	2.0	2.0				
									64.0	2.0	1.0				
									25.0	2.0	1.0				
									38.0	2.0	1.0				
						P.pectinatus			16.0	3.0					
									73.0	2.0					
									14.0	1.0					
									10.0	2.0					
									64.0	3.0					

[1] 'Not a subsample' means that the contents of the entire quadrat have been included.

Table 7. Location of quadrats, wet and dry weight and species composition of sites sampled for macrophytes in 1986.

Sample No.[1]	Date	Stn.	Quadrat Area m^2	Site	Quadrat Code	Depth m	Total Wet Wt.[2] g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m^2	Dry Wt. g/m^2	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
69.0	07/03/86	SLC	0.25	WATER EDGE	T1	0.00	12.37	12.37	1.66	49.48	6.64	7.45	*E.fluv.*					
70.0	07/03/86	SLC	0.25	WATER	T2	0.20	32.97	32.97	4.82	131.88	19.28	6.84	*E.fluv.*					
71.0	07/03/86	SLC	0.25	WATER	T3	0.40	168.37	168.37	16.84	673.48	67.36	10.00	*E.fluv.*					
72.0	07/04/86	SB	0.25	B	SB1	ND	92.71	92.71	5.52	370.84	22.08	16.80	*E.fluv.*					
73.0	07/04/86	SB	0.25	BTWN A&B	SB2	ND	132.68	132.68	7.61	530.72	30.44	17.43	*E.fluv.*					
74.0	07/08/86	SL	0.25	BTWN A&B	SL1	ND	337.51	337.51	27.41	1350.04	109.64	12.31	*E.fluv.*					
75.0	07/08/86	SL	0.25	BTWN A&B	SL2	ND	237.86	237.86	17.70	951.44	70.80	13.44	*E.fluv.*					
76.0	07/08/86	SL	0.98	BTWN C&D	SL1P	1.50	6.34	6.34	0.40	6.47	0.41	15.85	*P.rich.*	*P.pect.*	*M.sib.*			
77.0	07/08/86	SKL	0.98	BTWN C&D	SL2P	1.50	4.74	4.74	0.21	4.84	0.21	22.57	*P.rich.*	*P.pect.*				
78.0	07/08/86	SKL	0.25	BTWN A&B	SKL1	1.12	262.82	262.82	23.18	1051.28	92.72	11.34	*E.fluv.*					
79.0	07/08/86	SKL	0.25	BTWN A&B	SKL2	1.12	213.58	213.58	17.92	854.32	71.68	11.92	*E.fluv.*					
80.0	07/08/86	SKL	0.98	BTWN C&D	SKL1P	1.70	0.00	0.00	0.00	0.00	0.00	0.00						
81.0	07/08/86	SKL	0.98	BTWN C&D	SKL2P	1.70	0.00	0.00	0.00	0.00	0.00	0.00						
82.0	07/08/86	SKL	0.98	BTWN C&D	SKL3P	1.70	1.41	1.41	0.12	1.44	0.12	11.75	*E.fluv.*					
83.0	07/10/86	SLC	0.05	WATER EDGE	T4	0.00	87.05	87.05	13.63	1741.00	272.60	6.39	*E.fluv.*					
84.0	07/10/86	SLC	0.05	WATER	T5	0.20	76.55	76.55	8.95	1531.00	179.00	8.55	*E.fluv.*					
85.0	07/10/86	SLC	0.05	WATER	T6	0.40	181.06	181.06	19.35	3621.20	387.00	9.36	*E.fluv.*					
86.0	07/10/86	SLC	0.05	WATER	T7	0.60	82.19	82.19	8.69	1643.80	173.80	9.46	*E.fluv.*					
87.0	07/21/86	SB	0.25	BTWN A&B	SB3	1.13	261.72	261.72	24.44	1046.88	97.76	10.71	*E.fluv.*					
88.0	07/21/86	SB	0.25	BTWN A&B	SB4	0.97	379.23	379.23	34.60	1516.92	138.40	10.96	*E.fluv.*					
89.0	07/21/86	SB	0.98	NEAR D	SB1P	1.30	1.75	1.75	ND	1.79	ND	ND	*P.rich.*	*P.pect.*	*P.fili.*			
90.0	07/21/86	SB	0.98	NEAR D	SB2P	1.25	10.22	10.22	0.49	10.43	0.50	20.86	*P.rich.*	*P.pect.*	*P.gram.*			
91.0	07/21/86	SB	0.98	NEAR C	SB3P	1.48	14.96	14.96	1.07	15.27	1.09	13.98	*P.rich.*	*P.pect.*				
92.0	07/23/86	SKL	0.98	NEAR D	SKL4P	1.45	12.61	12.61	0.58	12.87	0.59	21.74	*E.sp.*					
93.0	07/23/86	SL	0.98	NEAR C	SL3P	1.20	24.87	24.87	1.17	25.38	1.19	21.26	*P.rich.*	*P.pect.*	*U.vulg.*			
94.0	07/23/86	SKL	0.98	NEAR C	SKL5P	1.31	229.23	229.23	19.98	233.91	20.39	11.47	*E.fluv.*	*P.gram.*				
95.0	07/23/86	SKL	0.25	NEAR B	SKL3	1.03	159.05	159.05	15.05	636.20	60.20	10.57	*E.fluv.*					

Table 7. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m²	Site	Quadrat Code	Depth m	Total Wet Wt.[2] g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m²	Dry Wt. g/m²	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
96.0	07/23/86	SKL	0.25	NEAR A	SKL4	0.79	219.73	219.73	22.90	878.92	91.60	9.60	*E.fluv.*					
97.0	07/23/86	SL	0.25	NEAR A	SL3	0.89	624.87	624.87	58.12	2499.48	232.48	10.75	*E.fluv.*					
98.0	07/23/86	SL	0.25	NEAR B	SL4	0.89	573.27	573.27	51.28	2293.08	205.12	11.18	*E.fluv.*					
99.0	07/23/86	SL	0.98	NEAR D	SL4P	1.32	23.24	23.24	1.22	23.71	1.24	19.05	*P.rich.*	*P.gram.*				
100.0	08/08/86	SKL	0.05	NEAR B	SKL5	0.65	105.69	105.69	11.13	2113.80	222.60	9.50	*E.fluv.*					
101.0	08/08/86	SKL	0.05	NEAR A	SKL6	0.90	127.83	127.83	12.99	2556.60	259.80	9.84	*E.fluv.*					
102.0	08/08/86	SKL	0.25	NEAR C	SKL6P	1.10	18.91	18.91	1.46	75.64	5.84	12.95	*E.fluv.*	*P.vag.*				
103.0	08/08/86	SKL	0.25	NEAR C	SKL7P	1.10	6.25	6.25	0.34	25.00	1.36	18.38	*P.vag.*					
104.0	08/08/86	SKL	0.25	NEAR C	SKL8P	1.10	14.82	14.82	1.03	59.28	4.12	14.39	*P.vag.*					
105.0	08/08/86	SL	0.05	NEAR A	SL5	0.60	151.94	151.94	16.99	3038.80	339.80	8.94	*E.fluv.*					
106.0	08/08/86	SL	0.05	NEAR B	SL6	0.67	180.57	180.57	18.33	3611.40	366.60	9.85	*E.fluv.*	*P.rich.*				
107.0	08/08/86	SL	0.25	NEAR C	SL5P	1.04	71.45	71.45	5.62	285.80	22.48	12.71	*P.rich.*	*P.pect.*	*U.vulg.*	*M.sib.*		
108.0	08/08/86	SL	0.25	NEAR D	SL6P	0.98	62.48	62.48	7.86	249.92	31.44	7.95	*P.rich.*	*U.vulg.*	*P.gram.*			
109.0	08/08/86	SB	0.05	NEAR B	SB5	0.66	107.11	107.11	11.41	2142.20	228.20	9.39	*E.fluv.*					
110.0	08/07/86	SB	0.25	NEAR D	SB4P	1.15	53.74	53.74	3.95	214.96	15.80	13.61	*P.rich.*	*P.fili.*	*P.vag.*	*M.sib.*		
111.0	08/07/86	SB	0.25	NEAR C	SB5P	1.27	18.33	18.33	1.37	73.32	5.48	13.38	*P.rich.*					
112.0	08/12/86	SB	0.05	NEAR B	SB6	0.64	96.41	96.41	10.46	1928.20	209.20	9.22	*E.fluv.*					
113.0	08/12/86	SLB	0.25	F4A	F4A	2.00	9.84	9.84	0.58	39.36	2.32	16.97	*P.gram.*	*P.rich.*				
114.0	08/12/86	SLB	0.25	F4B	F4B	2.00	49.03	49.03	3.01	196.12	12.04	16.29	*P.rich.*	*P.gram.*				
114.1	08/12/86	SLB	0.25	F4B	F4B	2.00	15.73	15.73	1.03	62.92	4.12	15.27	*P.rich.*					
114.2	08/12/86	SLB	0.25	F4B	F4B	2.00	33.30	33.30	1.98	133.20	7.92	16.82	*P.gram.*					
115.0	08/12/86	SLB	0.25	F1A	F1A	0.81	14.58	14.58	1.01	58.32	4.04	14.44	*P.rich.*	*P.pect.*	*M.sib.*			
115.1	08/12/86	SLB	0.25	F1A	F1A	0.81	4.55	4.55	0.34	18.20	1.36	13.38	*P.rich.*					
115.2	08/12/86	SLB	0.25	F1A	F1A	0.81	10.03	10.03	0.67	40.12	2.68	14.97	*P.pect.*	*M.sib.*				
116.0	08/12/86	SLB	0.25	F1B	F1B	0.83	26.78	26.78	2.29	107.12	9.16	11.69	*P.fili.*	*P.gram.*	*P.rich.*			
116.1	08/12/86	SLB	0.25	F1B	F1B	0.83	13.25	13.25	1.16	53.00	4.64	11.42	*P.fili.*					
116.2	08/12/86	SLB	0.25	F1B	F1B	0.83	9.56	9.56	0.89	38.24	3.56	10.74	*P.gram.*					
116.3	08/12/86	SLB	0.25	F1B	F1B	0.83	3.97	3.97	0.24	15.88	0.96	16.54	*P.rich.*					
117.0	08/12/86	SLB	0.25	F2A	F2A	1.50	118.16	118.16	9.96	472.64	39.84	11.86	*P.gram.*	*P.rich.*	*P.fili.*			

Table 7. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m^2	Site	Quadrat Code	Depth m	Total Wet Wt.[2] g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m^2	Dry Wt. g/m^2	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
117.1	08/12/86	SLB	0.25	F2A	F2A	1.50	84.12	84.12	7.85	336.48	31.40	10.72	*P.gram.*					
117.2	08/12/86	SLB	0.25	F2A	F2A	1.50	34.04	34.04	2.11	136.16	8.44	16.13	*P.rich.*	*P.fili.*				
118.0	08/12/86	SLB	0.25	F2B	F2B	1.50	72.44	72.44	6.62	289.76	26.48	10.94	*P.fili.*	*P.rich.*	*P.gram.*			
118.1	08/12/86	SLB	0.25	F2B	F2B	1.50	2.28	2.28	0.00	9.12	ND	ND	*P.fili.*					
118.2	08/12/86	SLB	0.25	F2B	F2B	1.50	20.99	20.99	1.78	83.96	7.12	11.79	*P.rich.*					
118.3	08/12/86	SLB	0.25	F2B	F2B	1.50	49.17	49.17	4.84	196.68	19.36	10.16	*P.gram.*					
119.0	08/12/86	SLB	0.25	F3A	F3A	1.72	160.36	160.36	14.29	641.44	57.16	11.22	*P.gram.*	*P.rich.*	*P.pect.*			
119.1	08/12/86	SLB	0.25	F3A	F3A	1.72	124.66	124.66	11.27	498.64	45.08	11.06	*P.gram.*					
119.2	08/12/86	SLB	0.25	F3A	F3A	1.72	20.79	20.79	1.77	83.16	7.08	11.75	*P.rich.*					
119.3	08/12/86	SLB	0.25	F3A	F3A	1.72	14.91	14.91	1.25	59.64	5.00	11.93	*P.pect.*					
120.0	08/12/86	SLB	0.25	F3B	F3B	1.81	75.84	75.84	5.91	303.36	23.64	12.83	*P.rich.*	*P.gram.*				
120.1	08/12/86	SLB	0.25	F3B	F3B	1.81	60.65	60.65	4.39	242.60	17.56	13.82	*P.rich.*					
120.2	08/12/86	SLB	0.25	F3B	F3B	1.81	15.19	15.19	1.52	60.76	6.08	9.99	*P.gram.*					
121.0	08/12/86	SB	0.05	A3	A3	0.71	95.99	95.99	13.62	1919.80	272.40	7.05	*E.fluv.*					
122.0	08/12/86	SB	0.04	A4	A4	0.78	219.57	219.57	26.63	5227.86	634.05	8.25	*E.fluv.*					
123.0	08/12/86	SB	0.05	A5	A5	0.98	178.19	178.19	18.02	3563.80	360.40	9.89	*E.fluv.*					
124.0	08/12/86	SB	0.04	A2	A2	0.66	96.98	96.98	12.66	2309.05	301.43	7.66	*E.fluv.*					
125.0	08/12/86	SB	0.05	A1	A1	0.12	18.95	18.95	3.00	379.00	60.00	6.32	*E.fluv.*					
126.0	08/12/86	SL	0.04	B5	B5	0.87	200.73	200.73	22.76	4779.29	541.90	8.82	*E.fluv.*	*P.gram.*				
127.0	08/12/86	SL	0.05	B3	B3	0.23	146.03	146.03	23.28	2920.60	465.60	6.27	*E.fluv.*					
128.0	08/12/86	SL	0.05	B1	B1	0.03	73.26	73.26	11.73	1465.20	234.60	6.25	*E.fluv.*	*Carex sp.*				
129.0	08/12/86	SL	0.05	B2	B2	0.45	146.26	146.26	20.14	2925.20	402.80	7.26	*E.fluv.*					
130.0	08/12/86	SL	0.04	B4	B4	0.67	105.21	105.21	14.93	2505.00	355.48	7.05	*E.fluv.*					
131.0	08/12/86	SL	0.05	D3	D3	0.55	136.00	136.00	18.60	2720.00	372.00	7.31	*E.fluv.*					
132.0	08/12/86	SL	0.05	D1	D1	0.26	122.41	122.41	18.12	2448.20	362.40	6.76	*E.fluv.*	*Carex sp.*				
133.0	08/12/86	SL	0.05	D2	D2	0.47	98.50	98.50	14.51	1970.00	290.20	6.79	*E.fluv.*					
134.0	08/12/86	SL	0.04	D5	D5	0.50	89.48	89.48	11.36	2130.48	270.48	7.88	*E.fluv.*	*P.gram.*	*P.rich.*			
135.0	08/12/86	SL	0.04	D4	D4	0.52	104.89	104.89	14.22	2497.38	338.57	7.38	*E.fluv.*					
136.0	08/12/86	SLC	0.05	C3	C3	0.09	185.31	185.31	31.00	3706.20	620.00	5.98	*E.fluv.*					

Table 7. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m^2	Site	Quadrat Code	Depth m	Total Wet Wt.[2] g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m^2	Dry Wt. g/m^2	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
137.0	08/12/86	SLC	0.04	C4	C4	0.31	258.98	258.98	37.01	6166.19	881.19	7.00	*E.fluv.*					
138.0	08/12/86	SLC	0.05	C1 ONSHORE	C1	0.00	46.45	46.45	8.45	929.00	169.00	5.50	*E.fluv.*					
139.0	08/12/86	SLC	0.05	C2 ONSHORE	C2	0.00	154.02	154.02	24.28	3080.40	485.60	6.34	*E.fluv.*					
140.0	08/12/86	SLC	0.04	C5	C5	0.81	82.35	82.35	9.81	1960.71	233.57	8.39	*E.fluv.*					
141.0	08/12/86	SL	0.25	E1B	E1B	0.96	15.05	15.05	1.29	60.20	5.16	11.67	*P.rich.*					
142.0	08/12/86	SL	0.25	E1A	E1A	0.80	35.70	35.70	2.82	142.80	11.28	12.66	*P.rich.*	*P.gram.*	*E.fluv.*			
142.1	08/12/86	SL	0.25	E1A	E1A	0.80	27.50	27.50	2.04	110.00	8.16	13.48	*P.rich.*	*P.gram.*				
142.2	08/12/86	SL	0.25	E1A	E1A	0.80	8.20	8.20	0.78	32.80	3.12	10.51	*E.fluv.*					
143.0	08/12/86	SL	0.25	E4A	E4A	2.10	97.57	97.57	8.46	390.28	33.84	11.53	*P.rich.*					
144.0	08/12/86	SL	0.25	E3B	E3B	1.75	46.65	46.65	4.13	186.60	16.52	11.30	*P.gram.*					
145.0	08/12/86	SL	0.25	E3A	E3A	1.70	84.93	84.93	8.14	339.72	32.56	10.43	*P.gram.*					
146.0	08/12/86	SL	0.25	E2A	E2A	1.20	51.75	51.75	5.42	207.00	21.68	9.55	*P.rich.*					
147.0	08/12/86	SL	0.25	E2B	E2B	1.07	29.19	29.19	2.47	116.76	9.88	11.82	*P.rich.*	*U.vulg.*				
148.0	08/12/86	SL	0.25	E4B	E4B	2.10	0.00	0.00	0.00	0.00	ND	ND						
149.0	08/13/86	JB	0.05	1A	1A	0.47	57.89	57.89	7.40	1157.80	148.00	7.82	*E.fluv.*					
150.0	08/13/86	JB	0.05	1B	1B	0.45	95.09	95.09	12.08	1901.80	241.60	7.87	*E.fluv.*					
151.0	08/13/86	JB	0.04	2A	2A	0.33	169.96	169.96	26.80	4046.67	638.10	6.34	*E.fluv.*					
152.0	08/13/86	JB	0.04	2B	2B	0.36	181.47	181.47	24.25	4320.71	577.38	7.48	*E.fluv.*					
153.0	08/13/86	SB	0.05	1B	1B	0.54	122.38	122.38	17.42	2447.60	348.40	7.03	*E.fluv.*					
154.0	08/13/86	SB	0.05	4A	4A	0.49	55.99	55.99	8.35	1119.80	167.00	6.71	*E.fluv.*					
155.0	08/13/86	SB	0.05	4B	4B	0.49	87.66	87.66	13.96	1753.20	279.20	6.28	*E.fluv.*					
156.0	08/13/86	SB	0.05	1A	1A	0.54	80.75	80.75	10.32	1615.00	206.40	7.82	*E.fluv.*					
157.0	08/13/86	SB	0.25	2B	2B	1.06	113.00	113.00	10.11	452.00	40.44	11.18	*P.rich.*	*P.gram.*	*M.sib.*	*P.fili.*		
157.1	08/13/86	SB	0.25	2B	2B	1.06	22.38	22.38	2.04	89.52	8.16	10.97	*P.rich.*					
157.2	08/13/86	SB	0.25	2B	2B	1.06	9.14	9.14	0.81	36.56	3.24	11.28	*P.gram.*					
157.3	08/13/86	SB	0.25	2B	2B	1.06	16.57	16.57	0.79	66.28	3.16	20.97	*M.sib.*					
157.4	08/13/86	SB	0.25	2B	2B	1.06	64.91	64.91	6.47	259.64	25.88	10.03	*P.fili.*					
158.0	08/13/86	SB	0.25	2A	2A	1.06	106.51	106.51	8.70	426.04	34.80	12.24	*P.rich.*	*P.fili.*	*P.pect.*			
158.1	08/13/86	SB	0.25	2A	2A	1.06	72.60	72.60	6.78	290.40	27.12	10.71	*P.rich.*					

Table 7. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m^2	Site	Quadrat Code	Depth m	Total Wet Wt.[2] g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m^2	Dry Wt. g/m^2	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
158.2	08/13/86	SB	0.25	2A	2A	1.06	13.23	13.23	0.83	52.92	3.32	15.94	*P.fili.*					
158.3	08/13/86	SB	0.25	2A	2A	1.06	20.68	20.68	1.09	82.72	4.36	18.97	*P.pect.*					
159.0	08/13/86	SB	0.25	3B	3B	1.23	37.13	37.13	3.21	148.52	12.84	11.57	*P.rich.*	*M.sib.*	*P.fili.*			
160.0	08/13/86	SB	0.25	3A	3A	1.22	34.66	34.66	2.52	138.64	10.08	13.75	*P.rich.*	*P.fili.*				
161.0	08/13/86	SLB	0.25	H3A	H3A	1.45	13.17	13.17	1.18	52.68	4.72	11.16	*P.rich.*	*M.sib.*	*P.fili.*			
162.0	08/13/86	SLB	0.25	H2B	H2B	0.97	9.13	9.13	0.44	36.52	1.76	20.75	*P.rich.*	*M.sib.*	*P.fili.*	*P.pect.*		
163.0	08/13/86	SLB	0.25	H1A	H1A	0.50	10.28	10.28	0.95	41.12	3.80	10.82	*P.gram.*	*P.fili.*				
164.0	08/13/86	SLB	0.25	H1B	H1B	0.47	7.71	7.71	0.38	30.84	1.52	20.29	*P.gram.*	*M.sib.*	*P.fili.*			
165.0	08/13/86	SLB	0.25	H2A	H2A	0.97	15.97	15.97	1.31	63.88	5.24	12.19	*P.gram.*	*M.sib.*	*P.fili.*	*P.pect.*		
166.0	08/13/86	SLB	0.25	H2B	H2B	1.45	26.88	26.88	2.19	107.52	8.76	12.27	*P.rich.*	*M.sib.*	*U.vulg.*			
167.0	08/13/86	SL	0.25	G1B	G1B	1.30	17.11	17.11	0.20	68.44	0.80	85.55	*P.rich.*	*P.pect.*	*M.sib.*	*P.gram.*		
168.0	08/13/86	SL	0.25	G2C	G2C	1.18	17.50	17.50	0.70	70.00	2.80	25.00	*P.pect.*	*M.sib.*				
169.0	08/13/86	SL	0.25	G1A	G1A	1.40	3.30	3.30	0.00	13.20	ND	ND	*M.sib.*	*P.gram.*				
170.0	08/13/86	SL	0.25	G2B	G2B	1.80	0.09	0.09	0.00	0.36	ND	ND	*M.sib.*					
171.0	08/13/86	SL	0.25	G2A	G2A	1.80	0.41	0.41	0.04	1.64	0.16	10.25	*M.sib.*					
172.0	08/13/86	SL	0.25	G3A	G3A	ND	0.00	0.00	0.00	0.00	ND	ND						
173.0	08/13/86	SL	0.25	G3B	G3B	ND	0.00	0.00	0.00	0.00	ND	ND						
174.0	08/13/86	SL	0.25	1A	1A	1.80	0.00	0.00	0.00	0.00	ND	ND						
175.0	08/13/86	SL	0.25	1B	1B	1.80	0.00	0.00	0.00	0.00	ND	ND						
176.0	08/13/86	SL	0.25	2A	2A	2.10	0.00	0.00	0.00	0.00	ND	ND						
177.0	08/13/86	SL	0.25	2B	2B	2.10	0.00	0.00	0.00	0.00	ND	ND						
178.0	08/15/86	SKL	0.05	C2	C2	0.08	54.02	54.02	9.12	1080.40	182.40	5.92	*E.fluv.*					
179.0	08/15/86	SKL	0.05	C1	C1	0.06	19.69	19.69	3.40	393.80	68.00	5.79	*E.fluv.*					
180.0	08/15/86	SKL	0.05	C4	C4	0.24	33.07	33.07	4.92	661.40	98.40	6.72	*E.fluv.*					
181.0	08/15/86	SKL	0.05	C3	C3	0.19	59.07	59.07	9.22	1181.40	184.40	6.41	*E.fluv.*					
182.0	08/15/86	SKL	0.04	C5	C5	0.23	20.50	20.50	2.54	488.10	60.48	8.07	*E.fluv.*	*Carex sp.*				
183.0	08/15/86	SKL	0.05	A3	A3	0.48	77.43	77.43	11.59	1548.60	231.80	6.68	*E.fluv.*					
184.0	08/15/86	SKL	0.05	A1	A1	0.00	48.12	48.12	9.98	962.40	199.60	4.82	*E.fluv.*	*Carex sp.*				
184.1	08/15/86	SKL	0.05	A1	A1	0.00	36.47	36.47	6.70	729.40	134.00	5.44	*E.fluv.*					

Table 7. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m²	Site	Quadrat Code	Depth m	Total Wet Wt.[2] g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m²	Dry Wt. g/m²	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
184.2	08/15/86	SKL	0.05	A1	A1	0.00	11.65	11.65	3.28	233.00	65.60	3.55	*Carex sp.*					
185.0	08/15/86	SKL	0.05	A2	A2	0.27	79.02	79.02	13.10	1580.40	262.00	6.03	*E.fluv.*					
186.0	08/15/86	SKL	0.04	A4	A4	0.60	79.82	79.82	10.82	1900.48	257.62	7.38	*E.fluv.*					
187.0	08/15/86	SKL	0.04	A5	A5	0.90	92.28	92.28	10.26	2197.14	244.29	8.99	*E.fluv.*					
188.0	08/15/86	SKL	0.04	D5	D5	0.44	16.39	16.39	2.20	390.24	52.38	7.45	*Carex sp.*					
189.0	08/15/86	SKL	0.05	D1	D1	0.35	7.62	7.62	1.03	152.40	20.60	7.40	*E.fluv.*	*Carex sp.*				
190.0	08/15/86	SKL	0.05	D2	D2	0.38	32.84	32.84	5.65	656.80	113.00	5.81	*Carex sp.*					
191.0	08/15/86	SKL	0.04	D3	D3	0.34	8.58	8.58	1.66	204.29	39.52	5.17	*Carex sp.*					
192.0	08/15/86	SKL	0.04	D4	D4	0.39	0.00	0.00	0.00	0.00	ND	ND						
193.0	08/15/86	SKL	0.04	B5	B5	0.49	48.81	48.81	4.19	1162.14	99.76	11.65	*P.gram.*	*E.fluv.*				
193.1	08/15/86	SKL	0.04	B5	B5	0.49	18.99	18.99	1.63	452.14	38.81	11.65	*P.gram.*					
193.2	08/15/86	SKL	0.04	B5	B5	0.49	29.82	29.82	2.56	710.00	60.95	11.65	*E.fluv.*					
194.0	08/15/86	SKL	0.05	B1	B1	0.00	25.80	25.80	4.25	516.00	85.00	6.07	*E.fluv.*	*Carex sp.*				
195.0	08/15/86	SKL	0.05	B2	B2	0.04	30.34	30.34	5.22	606.80	104.40	5.81	*E.fluv.*					
196.0	08/15/86	SKL	0.05	B4	B4	0.32	59.84	59.84	7.67	1196.80	153.40	7.80	*E.fluv.*	*Carex sp.*				
197.0	08/15/86	SKL	0.05	B3	B3	0.21	17.03	17.03	2.20	340.60	44.00	7.74	*E.fluv.*					
198.0	08/15/86	SKL	0.25	J2	J2	1.40	20.16	20.16	1.32	80.64	5.28	15.27	*P.pect.*					
199.0	08/15/86	SKL	0.25	J1	J1	1.40	0.00	0.00	0.00	0.00	ND	ND						
200.0	08/15/86	SKL	0.25	I2	I2	0.12	17.75	17.75	1.15	71.00	4.60	15.43	*P.pect.*					
201.0	08/15/86	SKL	0.25	I1	I1	1.20	11.41	11.41	0.86	45.64	3.44	13.27	*P.pect.*					
202.0	08/15/86	SKL	0.05	H1	H1	0.19	31.92	31.92	4.23	638.40	84.60	7.55	*Carex sp.*					
203.0	08/15/86	SKL	0.05	H2	H2	0.19	95.62	95.62	13.75	1912.40	275.00	6.95	*Carex sp.*					
204.0	08/15/86	SKL	0.04	F2	F2	0.37	46.59	46.59	5.81	1109.29	138.33	8.02	*E.fluv.*					
205.0	08/15/86	SKL	0.05	F1	F1	0.30	34.39	34.39	4.58	687.80	91.60	7.51	*E.fluv.*	*P.gram.*				
206.0	08/15/86	SKL	0.25	G1	G1	1.02	39.72	39.72	2.59	158.88	10.36	15.34	*P.gram.*					
207.0	08/15/86	SKL	0.25	G2	G2	1.03	7.86	7.86	0.36	31.44	1.44	21.83	*P.rich.*	*P.pect.*				
207.1	08/15/86	SKL	0.25	G2	G2	1.03	4.77	4.77	0.36	19.08	1.44	13.25	*P.rich.*					
207.2	08/15/86	SKL	0.25	G2	G2	1.03	3.09	3.09	0.00	12.36	ND	ND	*P.pect.*					
208.0	08/15/86	SKL	0.25	E4B	E4B	1.50	56.22	56.22	3.74	224.88	14.96	15.03	*P.pect.*					

Table 7. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m^2	Site	Quadrat Code	Depth m	Total Wet Wt.[2] g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m^2	Dry Wt. g/m^2	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
209.0	08/15/86	SKL	0.25	E4A	E4A	1.56	46.94	46.94	3.02	187.76	12.08	15.54	*P.pect.*					
210.0	08/15/86	SKL	0.25	E3A	E3A	1.35	0.00	0.00	0.00	0.00	ND	ND						
211.0	08/15/86	SKL	0.25	E3B	E3B	1.00	0.00	0.00	0.00	0.00	ND	ND						
212.0	08/15/86	SKL	0.25	E2A	E2A	1.00	0.00	0.00	0.00	0.00	ND	ND						
213.0	08/15/86	SKL	0.25	E2B	E2B	0.50	0.00	0.00	0.00	0.00	ND	ND						
214.0	08/15/86	SKL	0.25	E1A	E1A	0.50	0.00	0.00	0.00	0.00	ND	ND						
215.0	08/15/86	SKL	0.25	E1B	E1B	0.78	0.00	0.00	0.00	0.00	ND	ND						
216.0	08/21/86	SL	0.25	A	A	0.90	503.55	503.55	67.25	2014.20	269.00	7.49	*E.fluv.*					
217.0	08/21/86	SL	0.25	B	B	1.20	401.04	401.04	49.03	1604.16	196.12	8.18	*E.fluv.*					
218.0	08/21/86	SL	0.98	C	C	1.20	78.74	78.74	8.04	80.35	8.20	9.79	*P.rich.*	*P.pect.*	*U.vulg.*	*P.rich.*	*P.pect.*	*M.sib.*
218.1	08/21/86	SL	0.98	C	C	1.20	30.43	30.43	3.44	31.05	3.51	8.85	*P.rich.*	*P.pect.*				
218.2	08/21/86	SL	0.98	C	C	1.20	2.56	2.56	0.00	2.61	ND	ND	*U.vulg.*					
218.3	08/21/86	SL	0.98	C	C	1.20	20.01	20.01	2.32	20.42	2.37	8.63	*P.rich.*					
218.4	08/21/86	SL	0.98	C	C	1.20	23.50	23.50	2.28	23.98	2.33	10.31	*P.pect.*					
218.5	08/21/86	SL	0.98	C	C	1.20	2.24	2.24	0.00	2.29	ND	ND	*M.sib.*					
219.0	08/21/86	SL	0.98	D	D	1.25	78.31	78.31	7.70	79.91	7.86	10.17	*P.rich.*	*P.pect.*	*M.sib.*			
219.1	08/21/86	SL	0.98	D	D	1.25	53.57	53.57	5.88	54.66	6.00	9.11	*P.rich.*					
219.2	08/21/86	SL	0.98	D	D	1.25	18.10	18.10	1.63	18.47	1.66	11.10	*P.pect.*					
219.3	08/21/86	SL	0.98	D	D	1.25	6.64	6.64	0.19	6.78	0.19	34.95	*M.sib.*					
220.0	08/21/86	SB	0.98	D	D	1.20	187.05	187.05	18.86	190.87	19.24	9.92	*P.rich.*	*M.sib.*	*P.pect.*			
220.1	08/21/86	SB	0.98	D	D	1.20	82.64	82.64	8.65	84.33	8.83	9.55	*P.rich.*					
220.2	08/21/86	SB	0.98	D	D	1.20	15.37	15.37	1.06	15.68	1.08	14.50	*M.sib.*					
220.3	08/21/86	SB	0.98	D	D	1.20	89.04	89.04	9.15	90.86	9.34	9.73	*P.pect.*					
221.0	08/21/86	SB	0.98	C	C	1.35	59.16	59.16	4.43	60.37	4.52	13.35	*P.rich.*	*M.sib.*				
221.1	08/21/86	SB	0.98	C	C	1.35	44.44	44.44	3.82	45.35	3.90	11.63	*P.rich.*					
221.2	08/21/86	SB	0.98	C	C	1.35	14.72	14.72	0.61	15.02	0.62	24.13	*M.sib.*					
222.0	08/21/86	SB	0.25	B	B	0.81	479.34	479.34	59.43	1917.36	237.72	8.07	*P.rich.*					
223.0	08/21/86	SKL	0.25	A	A	0.78	303.85	303.85	36.10	1215.40	144.40	8.42	*E.fluv.*					
224.0	08/21/86	SKL	0.25	B	B	0.90	227.73	227.73	26.09	910.92	104.36	8.73	*E.fluv.*					

Table 7. cont.'d

Sample No.[1]	Date	Stn.	Quadrat Area m²	Site	Quadrat Code	Depth m	Total Wet Wt.[2] g	Subsamp. Wet Wt. g	Subsamp. Dry Wt. g	Wet Wt. g/m²	Dry Wt. g/m²	Wet/Dry	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6
225.0	08/21/86	SKL	0.98	C	C	1.20	28.87	28.87	1.71	29.46	1.74	16.88	*E.fluv.*					
226.0	08/21/86	NRCL	0.25	A	A	0.57	123.53	123.53	9.45	494.12	37.80	13.07	*Isoetes sp.*	*P.rich.*	*P.zost.*	*M.sp.*		
226.1	08/21/86	NRCL	0.25	A	A	0.57	48.67	48.67	1.82	194.68	7.28	26.74	*Isoetes sp.*					
226.2	08/21/86	NRCL	0.25	A	A	0.57	44.61	44.61	4.08	178.44	16.32	10.93	*P.rich.*					
226.3	08/21/86	NRCL	0.25	A	A	0.57	8.60	8.60	1.05	34.40	4.20	8.19	*P.zost.*					
226.4	08/21/86	NRCL	0.25	A	A	0.57	21.65	21.65	2.50	86.60	10.00	8.66	*M.sp.*					
227.0	08/21/86	NRCL	0.05	D	D	0.69	65.11	65.11	7.06	1302.20	141.20	9.22	*Isoetes sp.*	*P.rich.*	*P.zost.*	*P.pect.*	*M.sp.*	
228.0	08/21/86	NRCL	0.05	B	B	0.93	77.32	77.32	7.26	1546.40	145.20	10.65	*P.fili.*	*P.zost.*	*P.pect.*	*M.sp.*		
229.0	08/21/86	NRCL	0.05	C	C	0.63	153.56	153.56	22.99	3071.20	459.80	6.68	*P.rich.*	*P.zost.*	*P.fili.*	*T.sp.*	*M.sp.*	

[1] Sample No. refers to specific quadrat code; e.g. Sample No. 1.0 refers to all of SLQ1; No. 1.1 and 1.2 refer to individual species within the quadrat.

[2] A value of zero in the total wet weight column means the sediment was bare.

Table 8. Macrophyte biomass estimates for Lake 18, Tuktoyaktuk Peninsula, 1986.

Date	Area m^2	Quadrat Code	Depth m		Net Wet Wt. (g)	Net Dry Wt. (g)	% in Subsample	Total Wet g/m^2	Total Dry g/m^2
07/29/86	0.05	K1	1.60	Total	134.92	14.95		2698.49	299.00
07/29/86	0.05	K1	1.60	Subsample	121.39	11.33			
07/29/86	0.05	K1	1.60	Green	0.95	0.23	6.40	172.65	19.13
07/29/86	0.05	K1	1.60	Brown	7.54	2.99	82.76	2233.31	247.42
07/29/86	0.05	K1	1.60	Lemna	5.05	0.39	10.84	292.53	32.41
07/29/86	0.05	K2	1.60	Total	51.78	3.96		1035.52	79.18
07/29/86	0.05	K2	1.60	Subsample	45.77	2.47			
07/29/86	0.05	K2	1.60	Green	0.72	0.13	8.80	91.10	6.97
07/29/86	0.05	K2	1.60	Brown	2.95	0.89	59.91	620.34	47.43
07/29/86	0.05	K2	1.60	Lemna	2.34	0.47	31.30	324.08	24.78
07/29/86	0.05	K3	1.00	Total	75.82	7.69		1516.42	153.70
07/29/86	0.05	K3	1.00	Subsample	68.01	5.41			
07/29/86	0.05	K3	1.00	Green	0.62	0.16	6.99	105.98	10.74
07/29/86	0.05	K3	1.00	Brown	4.28	1.56	68.53	1039.16	105.33
07/29/86	0.05	K3	1.00	Lemna	2.91	0.56	24.48	371.27	37.63
07/29/86	0.05	K4	1.60	Total	49.70	2.90		994.06	58.00
07/29/86	0.05	K4	1.60	Subsample	40.89	1.18			
07/29/86	0.05	K4	1.60	Green	0.01	0.01	0.29	2.89	0.17
07/29/86	0.05	K4	1.60	Brown	0.82	0.40	22.97	228.29	13.32
07/29/86	0.05	K4	1.60	Lemna	7.98	1.32	76.74	762.88	44.51
07/29/86	0.25	K5	1.60	Total	223.16	25.51		892.64	102.02
07/29/86	0.25	K5	1.60	Subsample	217.15	23.40			
07/29/86	0.25	K5	1.60	Green	0.30	0.19	9.03	80.57	9.21
07/29/86	0.25	K5	1.60	Brown	5.41	1.34	63.42	566.11	64.70
07/29/86	0.25	K5	1.60	Lemna	0.30	0.58	27.55	245.95	28.11
07/29/86	0.05	K6	3.60	Total	35.71	1.84		714.16	36.76
07/29/86	0.05	K6	3.60	Subsample	29.11	1.00			
07/29/86	0.05	K6	3.60	Green	0.00	0.00	0.00	0.00	0.00
07/29/86	0.05	K6	3.60	Brown	6.50	0.82	97.61	697.12	35.88
07/29/86	0.05	K6	3.60	Lemna	0.10	0.02	2.39	17.04	0.88
07/31/86	0.05	K7	1.40	Total	80.83	9.63		1616.64	192.58
07/31/86	0.05	K7	1.40	Subsample	69.72	8.35			
07/31/86	0.05	K7	1.40	Green	0.14	0.00	0.00	0.00	0.00
07/31/86	0.05	K7	1.40	Brown	1.36	0.10	7.58	122.61	14.61
07/31/86	0.05	K7	1.40	Lemna	8.95	1.03	80.22	1296.85	154.49
07/31/86	0.05	K7	1.40	Other	0.66	0.16	12.20	197.18	23.49
07/31/86	0.05	K8	2.70	Total	80.88	7.05		1617.66	140.92
07/31/86	0.05	K8	2.70	Subsample	75.90	5.84			
07/31/86	0.05	K8	2.70	Green	0.26	0.08	6.38	103.28	9.00
07/31/86	0.05	K8	2.70	Brown	2.80	0.75	62.44	1010.03	87.99
07/31/86	0.05	K8	2.70	Lemna	1.07	0.24	19.65	317.90	27.69
07/31/86	0.05	K8	2.70	Other	0.85	0.14	11.53	186.45	16.24

Table 8. cont.'d

Date	Area m^2	Quadrat Code	Depth m		Net Wet Wt. (g)	Net Dry Wt. (g)	% in Subsample	Total Wet g/m^2	Total Dry g/m^2
07/31/86	0.05	K9	1.90	Total	142.45	17.54		2849.08	350.84
07/31/86	0.05	K9	1.90	Subsample	138.86	16.08			
07/31/86	0.05	K9	1.90	Green	0.50	0.15	10.47	298.16	36.72
07/31/86	0.05	K9	1.90	Brown	2.62	1.16	79.00	2250.81	277.17
07/31/86	0.05	K9	1.90	Lemna	0.47	0.15	10.53	300.11	36.96
07/31/86	0.05	K10	2.20	Total	223.71	18.14		4474.10	362.72
07/31/86	0.05	K10	2.20	Subsample	218.48	17.17			
07/31/86	0.05	K10	2.20	Green	0.89	0.12	12.42	555.79	45.06
07/31/86	0.05	K10	2.20	Brown	2.70	0.65	67.08	3001.26	243.32
07/31/86	0.05	K10	2.20	Lemna	1.64	0.20	20.50	917.05	74.35
08/08/86	0.25	K11	1.70	Total	633.19	81.50		2532.74	326.00
08/08/86	0.25	K11	1.70	Subsample	393.33	50.71			
08/08/86	0.25	K11	1.70	Subsample	232.14	29.03			
08/08/86	0.25	K11	1.70	Green	0.23	0.07	4.15	104.99	13.51
08/08/86	0.25	K11	1.70	Brown	2.65	0.70	39.98	1012.52	130.33
08/08/86	0.25	K11	1.70	Lemna	4.84	0.98	55.88	1415.23	182.16
08/08/86	0.25	K12	1.70	Total	336.50	45.69		1346.00	182.77
08/08/86	0.25	K12	1.70	Subsample	328.08	43.26			
08/08/86	0.25	K12	1.70	Green	0.39	0.18	7.61	102.39	13.90
08/08/86	0.25	K12	1.70	Brown	2.20	1.00	41.20	554.56	75.30
08/08/86	0.25	K12	1.70	Lemna	5.84	1.25	51.19	689.05	93.56
08/08/86	0.042	K13	2.90	P.rich.	1.00	0.06		23.79	1.33
08/13/86	0.04	K14	0.88	Obtusifolius	9.24	0.36		220.00	8.57
08/14/86	0.04	K15		Total	3.71	0.12		92.75	3.00
08/14/86	0.25	K16	0.88	Total	4.90	0.18		19.59	0.72
08/14/86	0.25	K16	0.88	Subsample	2.00	0.00			
08/14/86	0.25	K16	0.88	Green	0.45	0.03	14.53	2.85	0.10
08/14/86	0.25	K16	0.88	Brown	2.45	0.15	85.47	16.75	0.61
08/14/86	0.25	K17	0.88	Total	8.73	0.72		34.93	2.89
08/14/86	0.25	K17	0.88	Subsample	1.43	0.08			
08/14/86	0.25	K17	0.88	Green	1.27	0.10	15.81	5.52	0.46
08/14/86	0.25	K17	0.88	Brown	6.03	0.54	84.19	29.41	2.43
08/18/86	0.25	K18	1.00	Total	442.53	87.73		1770.12	350.91
08/18/86	0.25	K18	1.00	Subsample	426.15	85.52			
08/18/86	0.25	K18	1.00	Green	3.43	0.36	16.44	291.01	57.69
08/18/86	0.25	K18	1.00	Brown	10.08	1.65	74.77	1323.58	262.39
08/18/86	0.25	K18	1.00	Lemna	2.87	0.19	8.79	155.53	30.83
08/18/86	0.05		3.05	Tolypella	40.36	3.65		807.20	73.00
08/18/86	0.05		3.05	Tolypella	39.59	2.91		791.80	58.20

Table 9. Nutrient status indicators for phytoplankton collected during 1985.

Station[1]	Location	Date	1[2] Chl	2 APA tot	3 APA sol	4 APA part	5 P-debt	6 N-debt	7 C/Chl	8 C/P	9 N/P	10 C/N
85-052	KUK BAY	18-Jul-85	0.9	0.141	0.011	0.144	0.40	0.05	62	143	19	8
85-068	KUK BAY	31-Jul-85	1.3	0.198	0.009	0.145	0.18	0.00	36	130	20	7
85-084	KUK BAY	15-Aug-85	1.9	0.241	0.053	0.099	0.11	0.28	25	ND	ND	7
85-098	KUK BAY	27-Aug-85	1.5	0.102	0.000	0.068	ND	ND	41	170	26	7
85-118	KUK BAY	12-Sep-85	1.3	0.026	0.000	0.020	ND	ND	70	167	19	9
85-030	KUK LAKE 10	01-Jul-85	6.9	0.093	0.000	0.013	ND	ND	14	193	24	8
85-053	KUK LAKE 10	18-Jul-85	11.6	0.066	0.011	0.005	0.06	0.03	13	130	14	9
85-069	KUK LAKE 10	31-Jul-85	5.5	0.035	0.013	0.004	0.02	0.00	19	175	23	8
85-085	KUK LAKE 10	15-Aug-85	6.1	0.173	0.068	0.017	0.04	0.06	19	ND	ND	7
85-097	KUK LAKE 10	27-Aug-85	5.8	0.193	0.034	0.028	ND	ND	16	ND	ND	6
85-119	KUK LAKE 10	12-Sep-85	5.3	0.046	0.012	0.006	ND	ND	17	195	28	7
85-032	KUK LAKE 14	01-Jul-85	4.9	0.046	0.000	0.009	ND	ND	30	143	18	8
85-055	KUK LAKE 14	18-Jul-85	2.5	0.071	0.014	0.023	0.00	0.00	30	127	20	6
85-071	KUK LAKE 14	31-Jul-85	2.6	0.111	0.029	0.032	0.02	0.00	33	140	21	7
85-088	KUK LAKE 14	15-Aug-85	3.5	0.143	0.070	0.021	0.06	0.00	14	ND	ND	6
85-094	KUK LAKE 14	27-Aug-85	3.4	0.075	0.040	0.011	ND	ND	23	126	20	6
85-122	KUK LAKE 14	12-Sep-85	4.4	0.079	0.018	0.014	ND	ND	15	164	24	7
85-031	KUK LAKE 18	01-Jul-85	3.4	0.098	0.000	0.029	ND	ND	26	149	18	8
85-054	KUK LAKE 18	18-Jul-85	3.2	0.038	0.000	0.012	0.00	0.00	26	120	20	6
85-070	KUK LAKE 18	31-Jul-85	2.6	0.041	0.022	0.007	0.06	0.00	26	114	16	7
85-086	KUK LAKE 18	15-Aug-85	3.2	0.166	0.061	0.033	0.07	0.19	53	ND	ND	9
85-096	KUK LAKE 18	27-Aug-85	3.9	0.073	0.019	0.014	ND	ND	58	151	24	6
85-120	KUK LAKE 18	12-Sep-85	3.1	0.050	0.010	0.013	ND	ND	22	176	27	7
85-034	KUK LAKE 28	01-Jul-85	2.0	0.121	0.000	0.061	ND	ND	36	154	21	7
85-057	KUK LAKE 28	18-Jul-85	1.8	0.121	0.036	0.047	0.00	0.00	25	149	22	7

Table 9. cont.'d

Station[1]	Location	Date	1[2] Chl	2 APA tot	3 APA sol	4 APA part	5 P-debt	6 N-debt	7 C/Chl	8 C/P	9 N/P	10 C/N
85-073	KUK LAKE 28	31-Jul-85	1.6	0.100	0.048	0.033	0.00	0.34	30	136	18	7
85-089	KUK LAKE 28	15-Aug-85	2.0	0.189	0.062	0.063	0.02	0.30	22	ND	ND	7
85-093	KUK LAKE 28	27-Aug-85	1.8	0.101	0.022	0.044	ND	ND	30	155	24	6
85-123	KUK LAKE 28	12-Sep-85	1.8	0.098	0.014	0.047	ND	ND	21	196	25	8
85-035	KUK LAKE 7	01-Jul-85	2.5	0.098	0.000	0.039	ND	ND	23	167	21	8
85-056	KUK LAKE 7	18-Jul-85	5.0	0.149	0.023	0.025	0.00	0.02	19	144	22	7
85-072	KUK LAKE 7	31-Jul-85	4.1	0.084	0.038	0.011	0.17	0.00	19	133	21	6
85-087	KUK LAKE 7	15-Aug-85	4.4	0.293	0.092	0.046	0.07	0.11	25	139	20	7
85-095	KUK LAKE 7	27-Aug-85	3.5	0.185	0.038	0.042	ND	ND	17	157	25	6
85-121	KUK LAKE 7	12-Sep-85	3.9	0.120	0.024	0.025	ND	ND	15	206	27	8
85-011	SKIDOO LAKE	18-Jun-85	5.3	0.088	0.068	0.004	ND	ND	20	178	20	9
85-017	SKIDOO LAKE	23-Jun-85	4.5	0.074	0.026	0.010	ND	ND	32	109	9	12
85-026	SKIDOO LAKE	28-Jun-85	5.1	0.145	0.033	0.022	ND	ND	14	154	19	8
85-038	SKIDOO LAKE	03-Jul-85	4.3	0.144	0.000	0.033	0.10	0.00	20	167	22	8
85-048	SKIDOO LAKE	15-Jul-85	3.5	0.045	0.000	0.013	0.30	0.09	28	93	14	7
85-064	SKIDOO LAKE	29-Jul-85	3.9	0.133	0.012	0.031	0.11	0.00	11	141	21	7
85-080	SKIDOO LAKE	13-Aug-85	2.3	0.201	0.054	0.064	0.15	0.24	25	145	20	7
85-100	SKIDOO LAKE	29-Aug-85	1.9	0.068	0.011	0.030	ND	ND	36	147	20	7
85-112	SKIDOO LAKE	10-Sep-85	2.9	0.287	0.047	0.083	ND	ND	31	139	15	9
85-013	SOUTH LAKE	18-Jun-85	3.5	0.126	0.000	0.036	ND	ND	35	155	19	8
85-019	SOUTH LAKE	23-Jun-85	7.9	0.081	0.025	0.007	ND	ND	17	133	18	8
85-028	SOUTH LAKE	28-Jun-85	5.1	0.165	0.064	0.020	ND	ND	26	191	20	10
85-040	SOUTH LAKE	03-Jul-85	5.8	0.134	0.000	0.023	0.04	0.00	19	173	22	8
85-050	SOUTH LAKE	15-Jul-85	4.1	0.142	0.039	0.025	0.08	0.00	15	149	23	6
85-066	SOUTH LAKE	29-Jul-85	3.5	0.107	0.000	0.031	0.10	0.00	17	123	20	6
85-082	SOUTH LAKE	13-Aug-85	3.6	0.234	0.062	0.048	0.06	0.00	17	150	21	7
85-103	SOUTH LAKE	29-Aug-85	3.5	0.130	0.023	0.031	ND	ND	15	137	21	7
85-116	SOUTH LAKE	10-Sep-85	3.0	0.390	0.036	0.118	ND	ND	19	136	20	7

Table 9. cont.'d

Station[1]	Location	Date	1[2] Chl	2 APA tot	3 APA sol	4 APA part	5 P-debt	6 N-debt	7 C/Chl	8 C/P	9 N/P	10 C/N
85-012	SOUTH LAKE BAY	18-Jun-85	4.0	0.136	0.082	0.014	ND	ND	29	149	19	8
85-018	SOUTH LAKE BAY	23-Jun-85	8.2	0.084	0.037	0.006	ND	ND	13	128	15	9
85-027	SOUTH LAKE BAY	28-Jun-85	5.7	0.194	0.062	0.023	ND	ND	29	193	23	9
85-039	SOUTH LAKE BAY	03-Jul-85	5.2	0.205	0.000	0.039	0.06	0.00	38	157	23	7
85-049	SOUTH LAKE BAY	15-Jul-85	4.1	0.182	0.039	0.035	0.13	0.00	21	138	21	7
85-065	SOUTH LAKE BAY	29-Jul-85	3.1	0.131	0.026	0.034	0.08	0.00	17	133	21	6
85-081	SOUTH LAKE BAY	13-Aug-85	4.5	0.260	0.064	0.044	0.05	0.00	11	168	23	7
85-102	SOUTH LAKE BAY	29-Aug-85	2.9	0.149	0.020	0.044	ND	ND	15	161	23	7
85-115	SOUTH LAKE BAY	10-Sep-85	2.5	0.287	0.031	0.102	ND	ND	19	150	22	7

[1] Station refers to stations found in Fee et al. 1988.

[2] 1 Whole water chlorophyll: μg/L

2 Alkaline phosphatase activity (total): μmole P/L/hr

3 Alkaline phosphatase activity (soluble): μmole P/L/hr

4 Alkaline phosphatase activity (particulate): μmole P/μg chlorophyll/hr; 0.003-0.005=moderate deficiency, >0.005=severe deficiency

5 Phosphorus debt: μmole P/μg chlorophyll; >0.075=P deficiency

6 Nitrogen debt: μmole N/μg chlorophyll; >0.15=N deficiency

7 Net particulate carbon/chlorophyll: μmole C/μg chlorophyll; 4.2-8.3=moderate, >8.3=severe general deficiency

8 Net particulate carbon/particulate phosphorus: μmole C/μmole P;129-258=moderate, >258=severe P deficiency

9 Net particulate nitrogen/particulate phosphorus: μmole N/μmole P; >22=P deficient

10 Net particulate carbon/particulate nitrogen: μmole C/μmole N; 8.3-14.6=moderate, >14.6= severe N deficiency

Table 10. Nutrient status indicators of phytoplankton collected during 1986.

Station[1]	Location	Date	1[2] Chl	2 APA tot	3 APA sol	4 APA part	5 Pdebt	6 Ndebt	7 C/Chl	8 C/P	9 N/P	10 C/N
86-029	KUK LAKE 10	02-Jul-86	3.3	0.116	0.018	0.030	0.12	0.00	5	81	6	13
86-037	KUK LAKE 10	07-Jul-86	2.2	0.072	0.013	0.015	0.18	0.00	6	89	9	10
86-046	KUK LAKE 10	14-Jul-86	0.7	0.042	0.010	0.047	0.06	0.03	13	137	13	11
86-060	KUK LAKE 10	29-Jul-86	9.2	0.138	0.022	0.013	0.08	0.00	20	149	16	9
86-090	KUK LAKE 10	25-Aug-86	46.5	0.392	0.047	0.007	0.03	0.01	9	165	19	9
86-106	KUK LAKE 10	04-Sep-86	42.1	0.269	0.056	0.005	0.03	0.00	7	170	23	7
86-047	KUK LAKE 18	14-Jul-86	5.9	0.078	0.011	0.011	0.17	0.00	15	113	12	9
86-059	KUK LAKE 18	29-Jul-86	3.2	0.038	0.009	0.009	0.09	0.00	55	127	17	7
86-091	KUK LAKE 18	25-Aug-86	4.6	0.082	0.013	0.015	0.05	0.00	12	131	15	9
86-107	KUK LAKE 18	04-Sep-86	3.6	0.098	0.033	0.018	0.08	0.01	14	129	15	8
86-010	NEW LAKE	16-Jun-86	1.5	0.097	0.044	0.035	0.25	ND	13	42	4	10
86-017	NEW LAKE	23-Jun-86	5.3	0.086	0.051	0.007	0.22	ND	13	100	10	10
86-024	NEW LAKE	30-Jun-86	5.8	0.066	0.013	0.009	0.05	0.00	ND	ND	ND	ND
86-053	NEW LAKE	17-Jul-86	4.9	0.081	0.013	0.014	0.05	0.00	12	106	10	11
86-067	NEW LAKE	05-Aug-86	6.2	0.327	0.084	0.039	0.03	0.00	9	95	11	8
86-083	NEW LAKE	18-Aug-86	5.0	0.165	0.049	0.023	0.04	0.00	9	105	11	9
86-094	NEW LAKE	28-Aug-86	4.1	0.046	0.022	0.006	0.04	ND	13	80	8	11
86-030	NOELL LAKE	02-Jul-86	1.1	0.039	0.008	0.029	0.00	0.00	56	96	9	11
86-038	NOELL LAKE	07-Jul-86	2.1	0.040	0.009	0.027	0.28	0.29	96	141	14	10
86-045	NOELL LAKE	14-Jul-86	3.1	0.054	0.012	0.014	0.18	0.00	36	214	16	13
86-058	NOELL LAKE	29-Jul-86	1.2	0.060	0.023	0.030	0.21	0.20	54	208	20	10
86-089	NOELL LAKE	25-Aug-86	1.4	0.083	0.020	0.046	0.07	0.07	14	177	16	11
86-105	NOELL LAKE	04-Sep-86	1.6	0.078	0.028	0.031	0.06	0.09	13	219	19	12
86-005	NRC LAKE	12-Jun-86	6.0	0.348	0.080	0.044	ND	ND	6	69	8	9
86-013	NRC LAKE	16-Jun-86	9.0	0.323	0.127	0.022	0.13	ND	5	91	10	10
86-020	NRC LAKE	23-Jun-86	5.8	0.135	0.100	0.006	0.09	ND	16	90	11	8

Table 10. cont.'d

Station[1]	Location	Date	1[2] Chl	2 APA tot	3 APA sol	4 APA part	5 Pdebt	6 Ndebt	7 C/Chl	8 C/P	9 N/P	10 C/N
86-027	NRC LAKE	30-Jun-86	3.4	0.065	0.015	0.015	0.07	0.00	21	129	14	10
86-056	NRC LAKE	17-Jul-86	2.0	0.180	0.015	0.084	0.09	0.08	38	138	13	11
86-070	NRC LAKE	05-Aug-86	2.1	0.050	0.019	0.015	0.00	0.00	47	129	16	8
86-086	NRC LAKE	18-Aug-86	2.0	0.058	0.035	0.012	0.05	0.00	27	181	18	10
86-097	NRC LAKE	28-Aug-86	3.1	0.054	0.033	0.007	0.02	0.00	11	112	13	9
86-003	SKIDOO LAKE	12-Jun-86	1.0	0.074	0.033	0.040	ND	ND	80	41	3	13
86-011	SKIDOO LAKE	16-Jun-86	1.1	0.093	0.044	0.046	0.27	ND	17	41	4	11
86-018	SKIDOO LAKE	23-Jun-86	5.1	0.085	0.053	0.006	0.12	ND	12	118	12	10
86-025	SKIDOO LAKE	30-Jun-86	6.2	0.068	0.015	0.009	0.05	0.00	13	175	17	10
86-054	SKIDOO LAKE	17-Jul-86	5.4	0.080	0.017	0.012	0.05	0.00	12	107	10	11
86-068	SKIDOO LAKE	05-Aug-86	4.7	0.099	0.010	0.019	0.00	0.00	35	86	10	9
86-084	SKIDOO LAKE	18-Aug-86	5.7	0.097	0.016	0.014	0.03	0.00	8	113	12	10
86-095	SKIDOO LAKE	28-Aug-86	3.1	0.037	0.021	0.005	0.03	0.00	18	70	6	12
86-002	SOUTH LAKE	12-Jun-86	0.9	0.118	0.038	0.087	ND	ND	75	37	3	11
86-009	SOUTH LAKE	16-Jun-86	0.7	0.094	0.044	0.074	0.41	ND	26	39	4	11
86-016	SOUTH LAKE	23-Jun-86	6.2	0.086	0.056	0.005	0.09	ND	21	203	19	11
86-023	SOUTH LAKE	30-Jun-86	11.8	0.140	0.030	0.009	0.04	0.00	ND	ND	ND	ND
86-052	SOUTH LAKE	17-Jul-86	4.3	0.151	0.029	0.028	0.07	0.00	15	122	15	8
86-066	SOUTH LAKE	05-Aug-86	3.1	0.077	0.014	0.021	0.04	0.00	13	121	15	8
86-082	SOUTH LAKE	18-Aug-86	3.8	0.087	0.025	0.016	0.02	0.00	11	119	13	9
86-093	SOUTH LAKE	28-Aug-86	4.4	0.066	0.026	0.009	0.03	0.00	11	86	10	9
86-001	SOUTH LAKE BAY	12-Jun-86	1.2	0.114	0.034	0.068	ND	ND	71	38	3	11
86-008	SOUTH LAKE BAY	16-Jun-86	1.0	0.097	0.043	0.056	0.33	ND	24	42	4	11
86-015	SOUTH LAKE BAY	23-Jun-86	4.4	0.085	0.053	0.007	0.13	ND	18	150	13	12
86-022	SOUTH LAKE BAY	30-Jun-86	8.2	0.137	0.028	0.013	0.05	0.00	10	115	13	9
86-051	SOUTH LAKE BAY	17-Jul-86	2.7	0.195	0.042	0.055	0.07	0.00	15	123	16	8
86-065	SOUTH LAKE BAY	05-Aug-86	3.6	0.134	0.019	0.032	0.02	0.00	13	106	14	8

Table 10. cont.'d

Station[1]	Location	Date	1[2] Chl	2 APA tot	3 APA sol	4 APA part	5 Pdebt	6 Ndebt	7 C/Chl	8 C/P	9 N/P	10 C/N
86-081	SOUTH LAKE BAY	18-Aug-86	4.2	0.116	0.044	0.017	0.07	0.00	11	144	16	9
86-092	SOUTH LAKE BAY	28-Aug-86	3.0	0.081	0.031	0.017	0.05	0.00	9	131	16	8

[1] Station refers to stations found in Fee et al. 1988.

[2] 1 Whole water chlorophyll: μg/L

2 Alkaline phosphatase activity (total): μmole P/L/hr

3 Alkaline phosphatase activity (soluble): μmole P/L/hr

4 Alkaline phosphatase activity (particulate): μmole P/μg chlorophyll/hr; 0.003-0.005=moderate deficiency, >0.005=severe deficiency

5 Phosphorus debt: μmole P/μg chlorophyll; >0.075=P deficiency

6 Nitrogen debt: μmole N/μg chlorophyll; >0.15=N deficiency

7 Net particulate carbon/chlorophyll: μmole C/μg chlorophyll; 4.2-8.3=moderate, >8.3=severe general deficiency

8 Net particulate carbon/particulate phosphorus: μmole C/μmole P;129-258=moderate, >258=severe P deficiency

9 Net particulate nitrogen/particulate phosphorus: μmole N/μmole P; >22=P deficient

10 Net particulate carbon/particulate nitrogen: μmole C/μmole N; 8.3-14.6=moderate, >14.6= severe N deficiency

Table 11. Summary of phytoplankton biomass and cell numbers in South Lake during the open water periods of 1985 and 1986.

		Biomass mg/m³		% Composition based on Biomass							²Cell No./m³		% Composition based on Cell Number						
Date	Sta.¹	Phyto	Proto	Cyano	Chloro	Euglen	Chryso	Diatom	Crypto	Peridi	Phyto	Proto	Cyano	Chloro	Euglen	Chryso	Diatom	Crypto	Peridi
18/06/85	13	315	190	0.0	5.9	0.0	41.7	11.1	34.4	6.9	2.68E+06	12730	0.0	6.8	0.0	55.3	1.2	36.6	0.1
23/06/85	19	588	106	0.0	0.4	0.8	30.8	6.3	45.9	15.8	4.01E+06	13490	1.1	0.6	0.0	56.5	2.6	38.0	1.3
28/06/85	28	609	67	0.1	0.8	0.0	77.8	7.6	13.6	0.0	7.61E+06	5700	0.0	0.5	0.0	85.3	1.2	12.9	0.0
03/07/85	40	730	71	0.0	0.2	1.1	83.3	2.8	5.8	6.8	7.45E+06	7030	0.0	0.1	0.0	91.3	0.9	7.6	0.0
15/07/85	50	708	70	1.1	0.5	1.9	83.6	2.5	8.7	1.6	9.52E+06	9310	0.1	0.4	0.0	96.1	0.6	2.9	0.0
29/07/85	66	861	159	4.2	3.7	0.6	77.2	2.7	4.0	7.5	1.13E+07	19380	13.2	0.6	0.0	84.9	0.5	0.7	0.0
13/08/85	82	991	116	1.1	10.3	0.5	74.0	7.1	2.3	4.7	2.45E+07	11210	60.6	0.6	0.0	37.7	0.5	0.6	0.0
29/08/85	103	775	225	2.3	0.2	0.0	78.3	1.6	0.8	16.8	2.16E+07	7030	68.5	0.1	0.0	30.8	0.1	0.4	0.1
10/09/85	116	622	34	2.1	0.4	0.1	85.3	2.2	4.1	5.9	2.63E+07	3990	71.3	0.6	0.0	27.2	0.2	0.5	0.2
12/06/86	2	1060	107	8.3	0.0	0.0	88.5	1.9	1.1	0.1	6.91E+07	11590	77.7	0.0	0.0	21.7	0.1	0.5	0.0
16/06/86	9	994	135	0.3	1.9	0.0	60.8	35.2	1.3	0.6	1.21E+07	14440	1.0	0.3	0.0	74.7	22.9	1.0	0.0
23/06/86	16	778	73	0.0	0.3	0.0	59.6	22.8	15.7	1.5	6.77E+06	3420	0.0	0.2	0.0	77.7	13.6	8.1	0.4
30/06/86	23	1213	113	0.1	0.5	0.0	54.8	3.0	34.5	7.0	1.09E+07	31586	0.0	0.4	0.0	75.8	1.4	21.7	0.6
17/07/86	52	592	26	3.9	2.8	0.2	75.2	15.0	2.0	0.9	1.18E+07	1520	2.6	41.6	0.0	51.3	3.0	1.4	0.0
05/08/86	66	6540	190	1.1	2.3	0.3	74.0	13.0	2.3	6.9	1.81E+07	2470	59.6	3.8	0.0	33.7	1.7	0.7	0.5
18/08/86	82	594	40	2.1	0.6	0.9	83.0	10.1	0.4	2.9	1.99E+07	37440	69.6	0.6	0.0	28.1	1.6	0.1	0.0
28/08/86	93	1043	33	2.1	0.6	0.0	90.7	1.3	4.0	1.3	3.25E+07	6000	49.9	0.6	0.0	46.4	0.8	2.2	0.0
07/09/86	109	606	20	0.4	2.6	0.0	67.7	10.7	6.0	12.6	9.67E+06	2470	35.1	4.6	0.0	49.4	3.9	6.7	0.3

¹Sta. refers to stations used in Fee et al. 1988.

²E+06 means x 1,000,000

Table 12. Summary of phytoplankton biomass and cell numbers in Skidoo Lake during the open water periods of 1985 and 1986.

		Biomass mg/m³		% Composition based on Biomass							²Cell No./m³		% Composition based on Cell Number						
Date	Sta.¹	Phyto	Proto	Cyano	Chloro	Euglen	Chryso	Diatom	Crypto	Peridi	Phyto	Proto	Cyano	Chloro	Euglen	Chryso	Diatom	Crypto	Peridi
23/06/85	17	1241	170	0.1	1.2	0.0	66.7	3.6	12.3	16.0	1.45E+07	78490	0.1	0.5	0.0	85.6	1.7	11.1	1.0
28/06/85	26	331	42	0.0	6.7	1.0	20.4	11.6	57.3	3.0	3.23E+06	4054	0.0	1.6	0.0	31.4	1.7	64.9	0.5
03/07/85	38	805	130	1.2	0.3	0.3	56.8	2.8	24.2	14.5	1.15E+07	50894	19.7	0.6	0.0	64.3	2.8	12.0	0.7
15/07/85	48	2474	74	0.3	0.8	0.1	82.1	1.2	15.5	0.0	4.54E+07	4180	16.8	0.2	0.0	73.3	0.5	9.2	0.0
29/07/85	64	606	69	2.4	11.2	2.8	67.8	1.6	7.5	6.7	9.02E+06	3610	24.7	1.3	0.0	68.2	0.5	5.0	0.2
13/08/85	80	470	64	0.6	2.4	0.4	85.4	3.6	3.0	4.5	6.46E+06	3990	15.6	2.9	0.0	78.9	0.4	2.1	0.0
29/08/85	100	830	27	13.4	1.7	0.0	69.1	0.5	12.9	2.4	9.86E+06	68456	14.9	1.0	0.0	73.2	0.2	10.8	0.0
10/09/85	112	816	271	0.4	1.6	0.6	79.0	2.4	14.5	1.5	1.16E+07	24592	7.5	1.8	0.0	81.6	0.2	9.0	0.0
16/06/86	11	2091	107	0.2	0.7	0.0	83.4	0.1	15.5	0.1	3.49E+07	8170	3.9	2.0	0.0	86.3	0.0	7.8	0.0
23/06/86	18	617	100	0.1	0.6	0.0	58.4	0.3	35.5	5.1	5.39E+06	40290	0.0	0.6	0.0	72.4	0.2	25.3	1.5
30/06/86	25	607	98	0.2	0.2	0.0	78.0	1.3	13.3	7.0	8.96E+06	4940	6.7	0.9	0.0	80.3	0.2	11.3	0.6
05/08/86	68	487	44	0.3	0.5	1.7	81.4	0.5	13.8	1.9	5.46E+06	3990	1.1	2.5	0.0	86.7	0.2	9.5	0.0
18/08/86	84	685	35	2.4	1.1	1.1	86.7	0.6	5.2	2.9	9.81E+06	2090	4.0	3.1	0.0	83.8	0.1	9.0	0.0
28/08/86	95	795	15	0.2	0.3	2.3	73.8	0.0	21.7	1.7	1.66E+07	1710	21.6	1.7	0.0	64.3	0.0	12.5	0.0
07/09/86	111	621	218	4.8	1.6	2.3	62.6	0.5	12.3	16.0	6.85E+06	8170	1.2	4.9	0.0	76.1	0.0	16.4	1.4

¹Sta. refers to stations used in Fee et al. 1988.

²E+06 means x 1,000,000

Table 13. Summary of phytoplankton biomass and cell numbers in Lake 10 during the open water periods of 1985 and 1986.

		Biomass mg/m³		% Composition based on Biomass							[2]Cell No./m³		% Composition based on Cell Number						
Date	Sta.[1]	Phyto	Proto	Cyano	Chloro	Euglen	Chryso	Diatom	Crypto	Peridi	Phyto	Proto	Cyano	Chloro	Euglen	Chryso	Diatom	Crypto	Peridi
01/07/85	30	937	119	1.7	12.4	1.0	57.4	16.0	2.2	9.3	1.30E+07	4370	12.5	13.5	0.2	52.3	19.5	1.2	0.9
18/07/85	53	2141	239	12.0	44.3	0.0	40.2	1.3	1.7	0.4	3.04E+07	8740	37.5	13.2	0.0	47.1	0.8	1.4	0.1
31/07/85	69	895	6	38.5	15.2	0.0	44.6	0.0	1.8	0.0	7.55E+06	2090	11.1	9.3	0.0	78.7	0.0	0.9	0.0
15/08/85	85	1224	90	29.2	10.9	0.0	59.2	0.1	0.5	0.2	9.69E+06	950	22.2	5.9	0.0	70.9	0.1	1.0	0.0
27/08/85	97	1466	24	8.6	4.6	0.0	84.7	0.0	1.1	1.0	6.17E+07	1330	72.8	0.7	0.0	26.1	0.0	0.4	0.0
12/09/85	119	574	49	31.1	19.9	0.0	49.0	0.0	0.0	0.0	1.04E+07	1520	71.3	6.0	0.0	22.7	0.0	0.0	0.0
02/07/86	29	1003	115	1.7	0.7	0.0	74.9	2.0	1.0	19.7	1.49E+07	2850	37.1	3.6	0.0	53.5	3.7	0.9	1.3
07/07/86	37	692	97	4.4	0.4	0.5	76.2	2.7	13.9	2.0	1.25E+07	1710	44.0	0.9	0.0	49.9	2.0	3.1	0.0
14/07/86	46	717	137	0.6	15.5	0.0	82.2	1.3	0.4	0.0	1.23E+07	31206	44.5	11.1	0.0	43.5	0.3	0.7	0.0
29/07/86	60	1366	168	66.5	7.5	0.0	25.8	0.0	0.3	0.0	6.18E+06	33106	22.8	8.7	0.0	68.1	0.0	0.5	0.0
25/08/86	90	10663	117	59.0	10.5	0.0	26.3	0.1	4.1	0.0	1.02E+07	5000	46.6	10.3	0.0	36.0	0.2	7.0	0.0
04/09/86	106	6483	93	83.0	6.4	0.0	6.5	0.0	3.5	0.5	1.53E+07	3040	26.1	32.7	0.0	30.8	0.1	10.2	0.1

[1]Sta. refers to stations used in Fee et al. 1988.

[2]E+06 means x 1,000,000

Table 14. Summary of phytoplankton biomass and cell numbers in Lake 18 during the open water periods of 1985 and 1986.

		Biomass mg/m³		% Composition based on Biomass							²Cell No./m³		% Composition based on Cell Number						
Date	Sta.¹	Phyto	Proto	Cyano	Chloro	Euglen	Chryso	Diatom	Crypto	Peridi	Phyto	Proto	Cyano	Chloro	Euglen	Chryso	Diatom	Crypto	Peridi
01/07/85	31	689	7	3.2	2.7	2.9	67.3	8.9	9.6	5.5	5.73E+06	1520	4.3	1.5	0.0	87.3	1.9	4.9	0.1
18/07/85	54	682	19	0.3	3.9	0.7	92.1	1.4	0.5	1.1	7.56E+06	7220	0.1	2.7	0.0	95.9	0.6	0.7	0.0
31/07/85	70	545	32	0.3	11.3	0.0	77.1	0.0	1.1	10.2	6.32E+06	6460	3.1	4.5	0.0	91.2	0.0	1.1	0.1
15/08/85	86	520	20	3.2	22.1	0.0	69.8	0.1	1.5	3.4	3.05E+07	4940	76.8	7.5	0.0	15.4	0.0	0.3	0.0
27/08/85	96	1231	24	1.1	13.9	0.0	76.1	0.1	1.4	7.4	3.51E+07	6080	63.0	9.7	0.0	26.3	0.0	0.8	0.1
12/09/85	120	630	17	0.2	25.7	0.0	63.1	0.1	6.7	4.2	1.02E+07	3040	18.5	32.2	0.0	44.7	0.2	4.4	0.0
14/07/86	47	1133	12	9.3	1.8	0.0	80.4	4.9	0.3	3.2	3.98E+07	1900	67.0	1.1	0.0	30.0	1.6	0.2	0.1
29/07/86	59	798	3	4.2	1.2	0.5	79.8	6.6	5.0	2.6	3.81E+07	1140	73.2	1.2	0.0	24.5	0.5	0.4	0.1
25/08/86	91	812	4	13.4	5.1	3.1	66.4	2.7	4.1	5.2	7.94E+07	190	88.2	1.6	0.0	9.7	0.1	0.4	0.1
04/09/86	107	919		4.2	9.7	0.0	67.4	1.7	4.6	12.4	3.04E+07		65.2	4.2	0.0	29.0	0.5	1.0	0.2

¹Sta. refers to stations used in Fee et al. 1988.

²E+06 means x 1,000,000

Table 15. Summary of phytoplankton biomass and cell numbers in Noell Lake during the open water periods of 1985 and 1986.

		Biomass mg/m³		% Composition based on Biomass							[2]Cell No./m³		% Composition based on Cell Number						
Date	Sta.[1]	Phyto	Proto	Cyano	Chloro	Euglen	Chryso	Diatom	Crypto	Peridi	Phyto	Proto	Cyano	Chloro	Euglen	Chryso	Diatom	Crypto	Peridi
02/07/86	30	190	44	1.6	5.6	0.0	54.2	8.0	8.2	22.5	3.05E+06	8170	17.2	2.0	0.0	71.5	3.0	6.0	0.3
07/07/86	38	213	19	0.5	5.1	0.0	52.5	13.5	6.2	22.2	8.60E+06	3610	64.9	1.2	0.0	27.5	3.3	3.0	0.1
14/07/86	45	184	21	1.8	6.2	0.0	50.5	15.8	12.3	13.5	6.33E+06	3610	58.4	3.4	0.0	30.9	2.9	3.9	0.5
29/07/86	58	121	11	0.8	1.4	0.0	56.1	10.8	4.4	26.5	2.56E+06	2470	11.5	2.8	0.0	78.5	2.6	4.5	0.1
25/08/86	89	104	113	14.4	17.3	0.0	37.2	9.2	5.6	16.3	5.02E+06	6840	68.6	3.3	0.0	24.8	1.2	2.0	0.1
04/09/86	105	147	62	1.0	8.8	0.0	48.8	6.6	5.2	29.7	7.08E+06	3040	65.3	2.3	0.0	29.5	1.5	1.4	0.0

[1]Sta. refers to stations used in Fee et al. 1988.

[2]E+06 means x 1,000,000

Table 16. Comparison of chlorophyll concentrations on artificial substrates located in South Lake, 1985.

Site	Date	mg chlorophyll/m² [1]	
		Direct	Filter
A	07/23/85	1.20	0.50
A	08/05/85	0.33	0.17
A	08/19/85	0.47	<0.17
B	07/23/85	1.61	0.94
B	08/05/85	3.51	1.61
B	08/19/85	3.61	2.44
C	07/23/85	3.28	2.78
C	08/05/85	1.64	0.17
C	08/19/85	0.94	0.17
D	07/23/85	2.88	2.44
D	08/05/85	0.23	<0.17
D	08/19/85	0.57	0.17

[1]Concentrations were measured by direct extraction and by brushing the material from the rods and filtering, then extracting the filters. "Direct" chlorophyll values are the average of segments 30 and 56 cm below the water surface; "filter" values are the average of segments from 32 and 64 cm below the water surface.

Table 17. Chlorophyll concentration (mg chlorophyll/m²) in epiphytes from segments of artificial substrates placed in South Lake, 1985.

Site	Depth cm	July 23/85 I	II	III	MEAN	August 5/85 I	II	III	MEAN	August 19/85 I	II	III	MEAN
A	18	1.99	2.39	1.91	1.49	0.41	0.26	0.14	0.30	0.29	0.88	0.45	0.49
A	30	1.51	1.00	0.71		0.59	0.15	0.23		0.40	0.59	0.42	
A	56	1.31	1.68	0.94		0.46	0.27	0.23		0.40	0.46	0.49	
B	18	1.37	1.59	1.05	1.52	2.88	2.65	2.80	3.28	6.81	7.17	3.60	4.34
B	30	1.40	1.54	1.25		3.33	3.11	3.49		9.32	4.55	3.52	
B	56	2.05	2.36	1.03		3.52	3.71	4.02		1.34	0.73	2.06	
C	18	2.05	3.64	2.80	3.11	3.79	2.35	2.88	2.08	0.62	0.53	2.05	0.98
C	30	2.34	3.64	3.11		3.33	2.42	1.45		2.62	0.54	0.39	
C	56	2.39	3.49	4.55		0.34	1.71	0.43		1.22	0.43	0.43	
D	18	2.11	2.39	3.41	2.52	1.82	1.14	0.51	0.55	1.59		1.00	0.75
D	30	2.08	1.88	2.96		0.18	0.24	0.53		0.34	0.51	1.51	
D	56	3.03	2.42	2.42		0.09	0.15	0.28		0.48	0.31	0.29	

Table 18. Chemical analysis of combined rod scrapings and nutrient status indicator[1] measurements of individual rod segments from artificial substrates installed in South Lake, 1985. The depths of samples for suspended particulates (combined rod scrapings, analyses done in duplicate) were 32 and 64 cm, for APA 24 cm, for P-debt 26 cm, and for N-debt 28 cm.

		Combined Rod Scrapings											
		P	N	C	Fe	Chl						P-debt	N-debt
Date	Site	mmole/m²	mmole/m²	mmole/m²	mmole/m²	mg/m²	C/N	C/P	N/P	C/Chl	APA	μmole P or N/μg chlor	
07/23/85	A	0.108	2.029	27.847	0.78	0.502	13.7	257.9	18.8	55.5	0.030	0.629	0.199
07/23/85	A	<0.049	1.194	21.582	0.63	0.502	18.1	440.4	24.4	43.0	0.050		
08/05/85	A	<0.049	0.716	18.797	0.57	0.167	26.2	383.6	14.6	112.4	0.023		
08/05/85	A	<0.049	1.671	32.721	0.66	0.167	19.6	667.8	34.1	195.7	0.037	0.247	0.214
08/19/85	A	<0.049	0.716	12.531	0.39	<0.151	17.5	255.7	14.6	83.0	0.024	0.191	0.572
08/19/85	A	<0.049	0.716	12.531	0.42	<0.151	17.5	255.7	14.6	83.0	0.029		
07/23/85	B	0.162	3.700	41.075	1.47	1.171	11.1	253.6	22.8	35.1	0.035	0.375	0.330
07/23/85	B	0.162	3.342	38.986	1.02	0.669	11.7	240.7	20.6	58.3	0.031		
08/05/85	B	0.594	10.384	112.086	9.16	1.505	10.8	188.7	17.5	74.5	0.011		
08/05/85	B	0.810	15.756	148.288	10.18	1.672	9.4	183.1	19.5	88.7	0.007	0.175	0.022
08/19/85	B	1.242			15.15	4.181					0.013	0.085	0.089
08/19/85	B	0.162	2.148	28.544	2.81	0.669	13.3	176.2	13.3	42.7	0.015		
07/23/85	C	0.378	9.429	78.669	3.53	3.512	8.3	208.1	24.9	22.4	0.013		
07/23/85	C	0.378	7.281	68.922	3.56	2.007	9.5	182.3	19.3	34.3	0.019	0.143	0.098
08/05/85	C	0.270	6.207	73.100	4.58	1.171	11.8	270.8	23.0	62.4	ND	0.110	0.150
08/05/85	C	<0.049	0.716	13.924	0.54	0.167	19.4	284.2	14.6	83.3	ND		
08/19/85	C	<0.049	2.148	21.582	1.20	0.334	10.0	440.4	43.8	64.5	0.051	0.270	0.237
08/19/85	C	<0.049	0.955	18.797	0.63	0.334	19.7	383.6	19.5	56.2	0.083		
07/23/85	D	0.324	5.013	50.822	2.60	2.843	10.1	156.9	15.5	17.9	0.039	0.183	0.301
07/23/85	D	0.216	5.610	57.087	2.10	2.007	10.2	264.3	26.0	28.4	0.029		
08/05/85	D	<0.049	0.716	13.228	0.45	0.167	18.5	270.0	14.6	79.1	0.018	ND	-0.098
08/05/85	D	<0.049	0.358	12.531	0.18	<0.151	35.0	255.7	7.3	83.0	0.020		
08/19/85	D	<0.049	1.074	13.228	0.57	0.167	12.3	270.0	21.9	79.1	0.041	0.041	0.253
08/19/85	D	<0.049	0.477	9.747	0.33	0.167	20.4	198.9	9.7	58.3	0.106		

[1]Alkaline phosphatase activity (particulate): μmole P/μg chlorophyll/hr; 0.003-0.005=moderate deficiency, >0.005=severe deficiency

Phosphorus debt: μmole P/μg chlorophyll; >0.075=P deficiency

Nitrogen debt: μmole N/μg chlorophyll; >0.15=N deficiency

Net particulate carbon/chlorophyll: μmole C/μg chlorophyll; 4.2-8.3=moderate, >8.3=severe general deficiency

Net particulate carbon/particulate phosphorus: μmole C/μmole P;129-258=moderate, >258=severe P deficiency

Net particulate nitrogen/particulate phosphorus: μmole N/μmole P; >22=P deficient

Net particulate carbon/particulate nitrogen: μmole C/μmole N; 8.3-14.6=moderate, >14.6= severe N deficiency

Table 19. Rates of photosynthesis on artificial substrates in South Lake, 1985. Average light intensity for the incubations was 1000 uE/m/sec. Rate of photosynthesis (P.S. Rate) measured in mg C/m²/h.

		July 23			August 5			August 19		
Site	Depth cm	P.S. Rate	Temp. °C	DIC µmole/L	P.S. Rate	Temp. °C	DIC µmole/L	P.S. Rate	Temp. °C	DIC µmole/L
A	20	1.16	12.5	1961	0.30	14.0	2041	0.22	10.0	2030
A	60	1.05	12.5	1961	0.26	14.0	2041	0.03	10.0	2030
B	20	1.00	12.5	1961	1.96	14.0	2041	2.79	10.0	2030
B	60	0.97	12.5	1961	2.22	14.0	2041	0.70	10.0	2030
C	20	2.28	12.5	1961	2.97	14.0	2041	0.88	10.0	1787
C	60	2.58	12.5	1961	0.73	14.0	2041	0.74	10.0	1787
D	20	1.52	12.5	1961	0.77	14.0	2041	0.73	10.0	1787
D	60	1.54	12.5	1961	0.13	14.0	2041	0.20	10.0	1787

Table 20. Artificial substrate sampling protocol (1986) for rod replicates I and II. Rod III was sampled in the same way except that the segments 9–12 were used for scraping. Segment length was 2 cm. Segment numbering started from just below water surfac The arrow in the light level column refers to the vial position in the incubator, going from highest to lowest light intensity.

Segment		Rod	Rod Depth	Light Level
1	Scraping	I	1	Highest Light
2	Scraping	I	2	
3	Scraping	I	3	
4	Scraping	I	4	
5	Scraping	II	1	
6	Scraping	II	2	
7	Chlorophyll depth 1	II	3	
8	Primary Prod. depth 1	II	4	
9	P debt	III	1	
10	N debt	III	2	Lowest Light
11	APA	III	3	Dark
12	Taxonomy	III	4	Dark
13	Chlorophyll depth 2			
14	Primary Prod. depth 2			
15	Scraping			
16	Scraping			
17	Scraping			
18	Scraping			
19	Scraping			
20	Scraping			
21	Chlorophyll depth 3			
22	Primary Prod. depth 3			
23	Scraping			
24	Scraping			
25	Scraping			
26	Scraping			
27	Scraping			
28	Scraping			
29	Chlorophyll depth 4			
30	Primary Prod. depth 4			

Table 21. Chlorophyll concentration (mg chlorophyll/m²) in epiphytes from segments of artificial substrates placed in South, Skidoo, and NRC Lakes, 1986.

			07/22/86				08/07/86				08/20/86				09/02/86			
Stn.	Site	Depth	I	II	III	MEAN	I	II	III	MEAN	I	II	III	MEAN	I	II	III	MEAN
NRCL		1	0.35	0.31	0.33	0.51	0.50	0.74	0.77	0.92	0.95	1.03	1.19	1.49	0.43	0.23	0.82	0.72
NRCL		2	0.36	0.28	0.34		0.85	0.97	0.52		0.66	1.03	0.92		0.59	0.49	1.03	
NRCL		3	1.16	0.56	0.49		2.68	0.81	0.40		1.26	0.92	1.13		1.03	0.18	1.37	
NRCL		4	1.00	0.37	0.57		1.26	0.65			2.87	1.42	4.53		0.30	0.67	1.49	
SB	A	1	0.86	1.19	3.29	1.74	1.34	1.95	2.76	5.30	0.76	4.98	1.16	9.01				
SB	A	2	0.66	0.91	1.16		4.00	5.96	9.60		5.78	7.38	6.14					
SB	A	3	1.29	1.13	3.16		5.87	5.78	4.98		10.66	8.36	9.87					
SB	A	4	2.39	2.13	2.71		9.73	7.65	4.00		20.80	13.33	18.93					
SB	C	1	1.16	1.36	1.45	1.58	5.42	8.93	4.89	7.34	2.85	2.07	2.71	3.45	1.54	0.87	0.24	1.90
SB	C	2	1.74	2.19	1.07		10.53	4.53	6.67		3.20	2.26	3.38		4.98	0.82	1.93	
SB	C	3	2.00	1.03	1.78		8.00	12.26	5.47		5.25	2.74	5.60		2.85	2.26	2.92	
SB	C	4	2.16	1.65	1.42		11.06	7.56	2.80		5.25	2.19	3.91		0.73	1.39	2.27	
SL	A	1	0.57	0.40	0.75	0.68	1.00	0.76	0.52	1.61	0.64	0.57	0.74	3.46				
SL	A	2	0.67	0.47	0.74		1.61	1.57	1.06		2.18	2.13	3.45					
SL	A	3	0.75	0.67	0.92		1.53	2.07	1.09		4.98	2.36	7.16					
SL	A	4	0.89	0.69	0.61		4.09	2.55	1.48		5.61	5.64	6.03					
SL	C	1	3.38	2.19	3.47	3.01	1.81	0.57	1.48	0.91	0.50	0.91	0.53	0.58	2.12	3.07	6.94	1.88
SL	C	2	2.93	2.26	3.38		1.23	0.94	1.03		0.95	0.72	0.51		1.02	0.93	3.88	
SL	C	3	2.93	3.56	2.00		0.59	0.89	0.72		0.87	0.63	0.22		0.89	0.61	1.24	
SL	C	4	3.29	3.38	3.29		0.69	0.42	0.60		0.49	0.39	0.30		0.78	0.52	0.63	
SLCH		1	0.24	0.19	0.51	0.34	0.28	0.39	0.47	1.05	0.30	0.40	0.73	1.73				
SLCH		2	0.31	0.37	0.43		1.08	1.06	1.39		1.11	2.78	0.58					
SLCH		3	0.58	0.37	0.22		1.04	1.23	1.23		2.58	3.31	1.26					
SLCH		4	0.13		0.35		1.69	1.29	1.47		3.27	3.11	1.32					

Table 21. cont.'d

			07/22/86				08/07/86				08/20/86				09/02/86			
Stn.	Site	Depth	I	II	III	MEAN	I	II	III	MEAN	I	II	III	MEAN	I	II	III	MEAN
SKL	A	1	1.48	1.94	1.68	2.06	0.89	0.79	0.82	1.71	0.73	0.29	0.17	1.68	3.25	3.56	2.66	4.33
SKL	A	2	1.74	1.39	1.65		1.48	1.39	0.85		1.57	0.47	0.37		3.04	2.85		
SKL	A	3	2.00	1.74	1.58		1.74	1.81	1.45		2.13	0.97	2.36		2.71	10.58		
SKL	A	4	3.65	2.74	3.16		4.00	3.07	2.19		4.53	1.63	4.89		5.56	4.79		
SKL	C	1	2.81	2.67	2.03	3.69	2.58	2.93	1.69	2.77	0.55	0.28	0.23	0.87	0.24	0.27	0.17	0.53
SKL	C	2	2.84	4.71	2.68		1.81	3.47	4.93		1.00	1.00	0.28		0.65	0.60	0.15	
SKL	C	3	4.62	3.91	5.16		0.94	1.55	4.53		1.57	1.00	0.34		0.59	0.64	0.38	
SKL	C	4	3.38	5.51	3.91		2.52	1.48	4.80		1.44	1.94	0.87		0.70	0.74	1.19	

Table 22. Chemical analysis of combined rod scrapings and nutrient status indicator measurements of individual rod segments from artificial substrates installed in South, Skidoo, and NRC Lakes, 1986.

			Combined Rod Scrapings								Mean of Individual Rods			
Date	Station	Site	P mmole/m²	N mmole/m²	C mmole/m²	Chl mg/m²	C/N	C/P	N/P	C/Chl	Chlor mg/m²	APA	P-debt	N-debt
07/22/86	NRCL		0.019	0.363	4.601	0.203	12.7	246.4	19.4	22.6	0.510	0.020	0.064	0.184
08/07/86	NRCL		0.013	0.543	7.606	2.370	14.0	572.7	40.9	3.2	0.921	0.016	0.062	0.126
08/20/86	NRCL		0.029	0.860	9.923	3.045	11.5	348.1	30.2	3.3	1.494	0.010	0.098	0.000
09/02/86	NRCL		0.015	0.563	6.387	1.732	11.3	417.9	36.9	3.7	0.718	0.025	0.016	0.310
07/22/86	SB	A	0.068	1.121	19.717	0.670	17.6	290.9	16.5	29.4	1.741	0.008	0.063	0.005
08/07/86	SB	A									5.301	0.003	0.014	0.011
08/20/86	SB	A	0.079	1.836	21.050	0.891	11.5	266.8	23.3	23.6	9.012	0.002	0.010	0.008
07/22/86	SB	C	0.167	2.153	21.261	1.167	9.9	127.4	12.9	18.2	1.584	0.014	0.098	0.067
08/07/86	SB	C	0.405	8.456	81.335	6.156	9.6	200.6	20.9	13.2	7.344	0.005	0.033	0.040
08/20/86	SB	C	0.570	22.436	184.01	2.567	8.2	322.7	39.3	71.7	3.450	0.009	0.048	0.000
09/02/86	SB	C	0.052	1.256	12.695	2.312	10.1	246.2	24.4	5.5	1.899	0.010	0.083	0.084
07/22/86	SL	A	0.082	1.006	10.312	0.442	10.2	125.4	12.2	23.3	0.676	0.026	0.139	0.091
08/07/86	SL	A+C	0.093	1.606	17.534	3.179	10.9	188.5	17.3	5.5	1.610	0.019	0.086	0.000
08/20/86	SL	A	0.036	0.681	7.860	0.696	11.5	220.4	19.1	11.3	3.456	0.006	0.035	0.000
07/22/86	SL	C	0.206	4.431	ND	2.202	ND	ND	21.5	ND	3.005	0.008	0.137	0.141
08/07/86	SL	C									0.914	0.026	0.198	0.297
08/20/86	SL	C	0.030	0.535	5.534	0.439	10.3	187.2	18.1	12.6	0.584	0.025	0.207	0.000
09/02/86	SL	C	0.060	1.166	11.681	5.053	10.0	194.7	19.4	2.3	1.885	0.010	0.134	0.073
07/22/86	SLCH		0.016	0.328	8.150	ND	24.9	520.4	20.9	ND	0.336	0.042	0.224	0.145
08/07/86	SLCH										1.051	0.016	0.093	0.045
08/20/86	SLCH		0.113	1.746	24.070	2.328	13.8	212.8	15.4	10.3	1.730	0.001	0.022	0.000

Table 22. cont.'d

			Combined Rod Scrapings								Mean of Individual Rods			
			P	N	C	Chl					Chlor			
Date	Station	Site	mmole/m²	mmole/m²	mmole/m²	mg/m²	C/N	C/P	N/P	C/Chl	mg/m²	APA	P-debt	N-debt
07/22/86	SKL I	A	0.012	2.123	23.922	ND	11.3	1995.6	177.1	ND				
07/22/86	SKL(II+III)	A	0.047	1.054	11.922	ND	11.3	252.6	22.3	ND				
07/22/86	SKL	A	0.073	2.772	31.292	1.450	11.3	431.4	38.2	21.6	2.063	0.010	0.101	0.000
08/07/86	SKL	A									1.707	0.010	0.044	0.045
08/20/86	SKL	A	0.034	0.759	8.173	1.737	10.8	243.7	22.6	4.7	1.675	0.007	0.045	0.039
09/02/86	SKL	A									4.332	0.003	0.035	0.046
07/22/86	SKL	C	0.102	2.445	21.218	2.762	8.7	207.4	23.9	7.7	3.686	0.005	0.071	0.000
08/07/86	SKL	C	0.119	4.721	36.025	2.545	7.6	302.5	39.6	14.2	2.770	0.018	0.096	0.000
08/20/86	SKL	C	0.086	1.047	10.750	1.989	10.3	124.9	12.2	5.4	0.874	0.019	0.153	0.109
09/02/86	SKL	C	0.032	0.478	4.788	0.772	10.0	150.5	15.0	6.2	0.527	0.016	0.121	0.176

[1]Alkaline phosphatase activity (particulate): μmole P/μg chlorophyll/hr; 0.003–0.005=moderate deficiency, >0.005=severe deficiency

Phosphorus debt: μmole P/μg chlorophyll; >0.075=P deficiency

Nitrogen debt: μmole N/μg chlorophyll; >0.15=N deficiency

Net particulate carbon/chlorophyll: μmole C/μg chlorophyll; 4.2–8.3=moderate, >8.3=severe general deficiency

Net particulate carbon/particulate phosphorus: μmole C/μmole P;129–258=moderate, >258=severe P deficiency

Net particulate nitrogen/particulate phosphorus: μmole N/μmole P; >22=P deficient

Net particulate carbon/particulate nitrogen: μmole C/μmole N; 8.3–14.6=moderate, >14.6= severe N deficiency

Table 23. Photosynthesis response curves, and photosynthetic parameters, PBm and alpha, and chlorophyll concentrations for artificial substrates installed in South, Skidoo, and NRC Lakes, 1986.

Station	Date	Site	Chl	Incubator Light (uE/m²/sec)										Photosynthesis rates – (mg C/m²/h)											
			mg/m²	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	PBm[1]	alpha[2]
NRCL	07/22/86		0.51	7.3	10.5	16.8	26.7	40.0	75	142	283	617	1350	-0.09	-0.11	-0.04	-0.01	-0.06	-0.03	0.19	0.63	0.39	0.09	0.94	1.51
NRCL	08/07/86		0.92	8.8	11.5	18.3	25.8	46.7	65	143	217	600	1200	0.09	0.04	0.39	0.17	0.22	0.22	0.66	1.01	0.67	0.56	0.81	2.07
NRCL	08/20/86		1.49	7.7	10.7	20.0	24.2	41.7	55	117	172	392	783	-0.11	-0.01	0.00	0.05	0.09	0.07	1.12	0.89	0.88	0.95	0.65	1.58
NRCL	09/02/86		0.72	13.8	18.3	27.2	33.3	53.3	77	138	208	533	1033	0.04	0.04	0.04	-0.01	0.13	0.07	0.29	0.51	0.36	0.19	0.47	1.12
SB	07/22/86	A	1.74	6.3	9.2	15.0	23.0	35.0	65	123	230	467	783	-0.01	-0.02	0.05	0.05	0.01	2.41	1.45	0.99	0.64	0.42	0.60	3.95
SB	08/07/86	A	5.3	9.2	12.2	19.2	25.3	45.0	65	142	217	600	1300	0.45	-0.36	1.23	0.68	0.79	0.62	-0.36	3.48	2.79	2.87	0.57	1.32
SB	08/20/86	A	9.01	6.7	8.3	15.0	24.2	39.2	52	125	183	417	850	0.15	-0.35	0.95	0.48	0.79	0.35	5.24	6.71	6.15	1.38	0.74	1.53
SB	07/22/86	C	1.58	5.5	8.2	13.0	21.2	32.5	62	118	200	375	700	0.04	-0.05	0.00	0.23	0.08	0.27	1.39	2.08	1.38	1.05	0.94	2.42
SB	08/07/86	C	7.34	9.2	12.0	18.3	25.0	46.7	67	143	217	633	1367	-0.32	2.04	0.50	1.08	0.88	2.81	4.30	3.11	8.75	9.56	1.24	1.05
SB	08/20/86	C	3.45	5.3	6.2	13.3	18.3	35.8	47	120	167	333	617	0.77	3.06	0.38	2.69	0.77	2.40	0.84	1.48	2.81	3.18		
SB	09/02/86	C	1.9	12.7	15.8	24.5	29.2	50.0	67	123	183	400	700	-0.06	-0.02	0.13	-0.01	0.09	0.16	0.43	0.73	1.65	1.00	0.67	0.81
SL	07/22/86	A	0.68	7.0	10.7	16.7	25.0	37.5	72	135	275	600	1400	0.02	0.08	0.04	0.02	0.05	0.08	0.33	0.56	0.59	0.75	1.00	1.13
SL	08/07/86	A	1.61	8.3	10.8	18.3	24.2	43.3	63	125	183	433	817	0.07	-0.09	0.16	0.04	0.76	0.37	2.06	1.66	1.87	2.27	1.28	2.91
SL	08/20/86	A	3.46	8.0	10.0	17.5	24.2	40.0	57	132	192	550	1317	0.04	-0.16	0.58	0.29	0.72	0.30	3.73	4.05	4.25	1.54	1.28	2.50
SL	07/22/86	C	3.01	6.5	9.8	15.8	23.7	36.2	68	130	253	533	1150	-0.03	0.08	0.07	0.18	0.14	0.41	1.91	1.41	2.78	3.17	0.99	0.92
SL	08/07/86	C	0.91	8.7	11.3	18.3	25.0	45.0	63	133	200	517	1067	0.40	0.16	0.15	0.19	0.27	0.20	0.46	0.85	1.77	2.81	2.06	1.65
SL	08/20/86	C	0.58	7.2	9.7	15.8	24.2	41.7	58	123	192	417	1133	-0.16	-0.08	-0.07	-0.13	0.24	0.29	0.30	1.01	1.15	1.70	2.82	2.28
SL	09/02/86	C	1.88	12.2	16.2	25.3	31.7	51.7	73	123	200	500	1000	0.18	0.26	-0.02	-0.05	0.19	0.95	0.43	0.37	0.73	1.60	0.30	2.02
SLC	07/22/86		0.33	7.3	10.8	16.7	25.8	40.0	72	142	283	633	1517	-0.04	-0.03	-0.01	0.02	0.02	0.04	0.28	0.19	0.33	0.38	1.05	1.17
SLC	08/07/86		1.05	7.0	9.5	17.5	22.5	40.0	57	118	167	350	517	0.13	0.18	0.11	0.30	0.50	0.39	-0.22	0.73	1.04	1.21	1.01	2.35
SLC	08/20/86		1.73	6.5	9.0	17.5	22.5	40.0	53	117	158	313	550	0.07	0.06	0.10	0.45	0.61	0.19	0.83	1.12	1.52	0.29	0.86	1.63
SKL	07/22/86	A	2.06	6.5	10.2	17.2	26.7	40.0	75	138	242	458	750	-0.17	-0.16	0.08	0.13	0.13	0.36	1.53	1.52	2.71	2.10	1.16	1.37
SKL	08/07/86	A	1.71	7.8	10.7	17.5	23.3	45.0	62	147	200	483	1067	0.17	-0.10	0.49	0.12	0.28	0.22	1.92	1.23	1.21	1.07	0.68	1.49
SKL	08/20/86	A	1.68	8.0	10.7	20.0	25.8	43.3	57	120	183	475	1033	-0.19	-0.28	0.08	0.19	0.14	-0.22	2.29	3.43	3.96	1.40	2.43	3.95
SKL	09/02/86	A	4.33		1.7		32.0		77		208	567	1200		0.27		0.26		1.34		1.01	1.09	1.44	0.28	1.39
SKL	07/22/86	C	3.69	7.0	10.2	16.7	26.7	40.8	75	147	275	550	1067	0.01	0.05	0.21	0.43	0.51	0.59	2.61	4.59	4.02	2.64	1.18	1.73
SKL	08/07/86	C	2.77	6.2	8.7	15.0	20.0	41.7	57	143	187	400	617	0.00	-0.08	-0.10	-0.20	0.55	0.67	1.49	0.77	1.69	2.96	0.47	1.68
SKL	08/20/86	C	0.87	8.2	11.3	19.2	25.8	40.0	53	122	200	533	1267	-0.13	-0.08	0.07	0.01	0.31	0.01	2.42	2.13	1.88	1.18	2.09	5.73
SKL	09/02/86	C	0.53	13.7	1.8	28.0	33.0	53.3	77	135	208	567	1233	0.14	-0.03	0.06	1.16	0.37	0.19	0.69	0.55	0.39	0.22	0.98	3.39

[1] PBm: Rate of photosynthesis at saturating irradiances per unit of chlorophyll (mg C/hr/mg chl)

[2] alpha: Slope of photosynthesis vs light curve at low irradiances (mg C/mg chl/Einstein·m²)

Table 24. Epipelon chlorophyll and alkaline phosphatase activity measurements on samples from South Lake, 1985. Date is sampling date, time is time of day tissue traps were removed from sediments

Site	Date	Time	Chlorophyll $\mu g/cm^2$	Time	APA[3] μmoles P/μg chl/h
D	07/11/85	11:00	0.103	11:00	0.004
		13:30	1.026	12:00.	0.002
		15:30	0.714	13:15	0.001
C[1]	07/16/85	14:05	0.087	15:00	0.009
		16:38	0.123	15:00	0.007
				15:00	0.002
C	07/23/85	09:15	0.082	13:45	0.010
		11:10	0.070		
		13:40	0.083		
B,C[2]	08/01/85	09:10	0.158		
		10:33	0.164		
		11:36	0.216		
		12:21	0.665		
A,B	08/05/85	09:30	0.116	13:07	0.004
		12:01	0.171		
		14:00	0.392		
C,D	08/05/85	09:30	0.192	13:07	0.001
		12:01	0.433		
		14:00	0.824		
A,B	08/19/85	09:20	0.128	13:41	0.002
		12:15	0.336		
		14:00	0.475		
C,D	08/19/85	09:20	0.29	13:41	0.001
		12:15	0.959		
		14:00	1.479		

[1]These values are the average of dredge samples from 0.5, 1.0.and 1.75 m.[1]

[2] These values are the average of dredge samples from sites B and C.

[3]Alkaline phosphatase activity (particulate): μmole P/μg chlorophyll/hr; 0.003-0.005=moderate deficiency, 0.003-0.005=moderate deficiency, >0.005=severe deficiency

Table 25. Epipelon photosynthesis, light and chlorophyll measurements from South Lake, 1985

Site	Date	Chlor mg/m²	Incubator Light (μE/m²/sec) L1	L2	L3	L4	Photosynthesis rate (mg C/m²/h) P1	P2	P3	P4
D	07/11/85	5.65	3900	500			4.68	6.46		
C[1]	07/16/85	0.87	1577	390			1.53	1.02		
C	07/23/85	0.83	2332	909			0.65	0.45		
A,B	08/05/85	1.71	2025	425	143	87	0.38	0.27	0.14	0.09
C,D	08/05/85	4.33	2025	425	143	87	0.55	0.44	0.23	0.17
A,B	08/19/85	3.36	1378	315	100	33	7.00	6.82	2.52	1.02
C,D	08/19/85	9.59	1378	315	100	33	18.89	9.61	5.28	1.78

[1]These values are the average of dredge samples from 0.5, 1.0 and 1.75 m.

Table 26. Photosynthesis irradiance curves, photosynthetic parameter PBm and alpha, chlorophyll and APA for epipelon trapped from South Lake, 1986.

			Chl	APA	Incubator Light (μE/sec/m²)										Photosynthesis rates (mg C/m²/h)											
Stn.	Site	Date	mg/m²	μmol/h/μg	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	PBm[1]	alpha[2]
SLB	1	07/08/86	16.6	0.001	17.4	26.6	49.8	66.4	98.0	132.9	232.6	307.3	415.3	514.9	0.37	0.41	0.91	1.57	2.51	4.09	5.21	6.73	6.18	8.33	0.50	0.54
SLB	1	07/23/86	10.0	0.002	19.9	34.9	56.5	79.7	119.6	167.8	255.8	345.5	451.8	611.3	0.84	1.51	1.92	2.06	4.17	5.16	7.47	16.46	9.05	17.31	0.73	0.94
SLB	1	08/06/86	11.5	0.001	24.9	34.9	54.8	73.1	121.3	157.8	267.4	323.9	415.3	514.9	0.59	0.85	1.21	2.22	1.98	5.82	5.41	8.39	17.83	9.03	0.48	0.50
SLB	1	08/20/86	18.2	0.001	18.3	24.9	48.2	64.8	106.3	142.9	240.9	290.7	465.1	564.8	0.65	1.31	2.76	3.61	6.49	8.81	13.04	15.47	13.79	15.99	0.77	1.14
SLB	1	09/01/86	10.5	0.001	20.3	26.6	42.4	54.8	91.4	119.6	204.3	269.1	407.0	448.5	0.43	0.71	0.97	1.68	3.14	3.64	6.02	5.92	6.29	5.48	0.47	0.91
SLB	2	07/08/86	7.5	0.002	20.8	30.7	51.5	68.1	104.6	141.2	224.2	323.9	481.7	697.7	0.18	0.29	0.43	0.66	1.16	1.47	2.33	3.04	4.26	3.84	0.54	0.51
SLB	2	07/23/86	7.7	0.004	21.6	39.9	61.5	79.7	127.9	169.4	257.5	372.1	611.3	877.1	0.31	0.55	0.85	1.12	2.03	2.11	3.04	3.63	4.70	5.39	0.48	0.48
SLB	2	08/06/86	11.0	0.001	33.2	41.5	64.8	83.1	119.6	166.1	280.7	365.4	614.6	863.8	0.44	1.17	1.44	1.91	2.21	4.14	4.34	6.17	6.68	5.94	0.61	0.72
SLB	2	08/20/86	4.5	0.003	21.6	29.1	51.5	66.4	108.0	147.8	249.2	340.5	631.2	764.1	0.27	0.41	0.73	0.96	1.46	1.98	2.31	3.31	3.25	3.51	0.60	0.79
SLB	2	09/01/86	4.3	0.002	21.9	27.9	42.4	56.5	94.7	122.9	207.6	294.0	473.4	647.8	0.12	0.42	0.52	0.55	0.84	1.80	2.43	2.72	1.91	2.30	0.45	0.87
SB	3	07/08/86	15.4	0.001	22.4	33.2	51.5	69.8	109.6	146.2	224.2	323.9	531.6	847.2	0.07	0.27	0.79	1.06	1.81	2.00	5.09	6.66	7.42	8.40	0.54	0.45
SB	3	07/23/86	17.9	0.001	23.3	39.9	63.1	79.7	127.9	172.8	265.8	385.4	730.9	1142.8	1.35	1.93	3.01	4.55	5.50	7.28	12.88	17.75	14.70	18.82	0.73	0.82
SB	3	08/06/86	15.0	0.001	34.1	44.0	64.8	84.7	132.9	166.1	290.7	373.7	747.5	1162.8	0.64	1.17	1.61	3.00	1.83	3.63	5.26	5.89	10.40	2.97	0.62	0.70
SB	3	08/20/86	7.4	0.002	22.8	29.9	51.5	66.4	106.3	146.2	257.5	365.4	747.5	1262.4	0.48	0.54	1.73	1.46	2.25	3.33	3.74	4.83	6.08	5.55	0.61	0.75
SB	3	09/01/86	15.4	0.001	21.6	27.9	43.7	56.5	96.3	117.9	209.3	282.4	498.3	764.1	0.54	0.64	1.76	1.92	3.43	4.06	5.90	7.73	6.85	8.72	0.41	0.64
SL	4	07/08/86	13.5	0.001	23.3	33.2	54.8	73.1	113.0	149.5	230.9	323.9	531.6	863.8	0.25	0.41	0.66	1.05	2.86	1.81	1.63	3.73	3.69	6.07	0.44	0.31
SL	4	07/23/86	5.7	0.005	24.9	43.2	63.1	83.1	129.6	177.7	279.1	385.4	770.8	1169.4	0.35	0.87	0.71	1.28	2.04	2.40	3.50	3.21	3.99	3.53	0.52	0.78
SL	4	08/06/86	8.1	0.001	33.2	40.7	59.8	81.4	124.6	166.1	290.7	382.1	714.3	1162.8	0.45	-0.13	1.55	1.87	1.34	3.59	-0.13	6.50	6.05	6.16	0.78	0.86
SL	4	08/20/86	2.1	0.008	23.3	31.1	51.5	68.1	117.9	151.2	262.5	373.7	714.3	1328.9	0.22	0.38	0.55	0.77	1.36	1.50	2.02	1.66	1.89	1.87	0.72	1.58
SL	4	09/01/86	8.3	0.001	20.3	26.9	42.0	56.5	91.4	119.6	204.3	282.4	498.3	797.3	0.41	0.96	1.36	1.47	3.68	3.48	4.43	6.21	5.39	4.92	0.53	1.08
SLC	5	07/08/86	1.6	0.009	21.1	30.2	53.2	74.7	113.0	149.5	225.9	323.9	481.7	714.3	0.10	0.14	0.33	0.28	0.47	0.45	0.64	0.73	0.96	0.94	0.52	0.53
SLC	5	07/23/86	13.4	0.004	23.3	39.9	63.1	83.1	129.6	176.1	270.8	385.4	637.9	930.2	0.34	0.23	1.99	2.18	2.90	5.57	5.44	6.73	7.85	5.52	0.48	0.56
SLC	5	08/06/86	9.6	0.000	29.9	34.9	54.8	73.1	119.6	149.5	279.1	352.2	631.2	897.0	0.45	0.65	0.61	1.44	1.35	1.85	3.40	2.82	2.32	4.49	0.23	0.43
SLC	5	08/20/86	9.6	0.000	22.4	31.1	51.5	69.8	114.6	152.8	257.5	357.1	664.4	930.2	0.28	0.58	0.77	1.13	2.40	2.85	3.24	4.48	2.78	4.25	0.36	0.53
SLC	5	09/01/86	15.4	0.000	19.6	25.7	41.5	54.8	89.7	119.6	201.0	270.8	465.1	647.8	-0.13	0.20	0.63	0.88	2.00	1.12	4.78	5.85	4.98	6.00	0.33	0.45
SL	6	07/08/86	10.3	0.001	18.3	26.6	54.8	74.7	113.0	147.8	232.6	315.6	431.9	531.6	0.11	0.44	0.71	1.30	2.09	2.57	5.30	4.69	6.06	8.17	0.60	0.66
SL	6	07/23/86	6.9	0.005	19.9	34.9	61.5	79.7	127.9	167.8	265.8	345.5	478.4	637.9	0.10	0.27	0.69	1.15	1.66	2.97	6.46	5.94	6.71	8.76	0.95	0.85
SL	6	08/06/86	6.1	0.001	24.1	29.9	53.2	74.7	116.3	141.2	257.5	323.9	465.1	598.0	0.41	0.45	0.78	1.12	2.04	2.77	2.95	2.74	3.53	5.32	0.41	0.86
SL	6	08/20/86	2.5	0.002	18.4	25.7	51.5	68.1	109.6	146.2	257.5	332.2	481.7	614.6	0.16	0.24	0.47	0.71	1.15	1.63	2.04	2.91	2.38	2.48	0.82	1.23
SL	6	09/01/86	6.3	0.001	18.9	24.6	41.5	59.8	89.7	117.9	196.0	262.5	415.3	481.7	0.31	0.63	0.80	1.02	1.47	1.43	3.12	3.72	2.75	3.17	0.41	0.78

[1]PBm: Rate of photosynthesis at saturating irradiances per unit of chlorophyll (mg C/hr/mg chl)

[2]alpha: Slope of photosynthesis vs light curve at low irradiances (mg C/mg chl/Einstein·m²)