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BIOLOGICAL AND LIMNOLOGICAL DATA ON TEN LAKES SURVEYED IN THE NORTHWEST TERRITORIES, 1971-72

by

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ABSTRACT

Falk, M.R. 1979. Biological and limnological data on ten lakes surveyed in the Northwest Territories, 1971-72. Can. Fish. Mar. Serv. Data Rep. 129: v + 41 p.

Biological and limnological data collected from ten lakes in the Northwest Territories in 1971-72 are presented. Biological data include length, weight, age and sex characteristics of the fish species sampled. Limnological data includes bathymetric maps and physical and chemical characteristics of the lakes sampled.

Key words: angling; benthos; catch/effort; catch composition; fishery surveys; gillnetting; lake morphology; plankton; population structure; stomach contents; water quality.

RESUME

Falk, M.R. 1979. Biological and limnological data on ten lakes surveyed in the Northwest Territories, 1971-72. Can. Fish. Mar. Serv. Data Rep. 129: v + 41 p.

Sont présentées les données biologiques et limnologiques recueillies dans dix lacs des Territoires du Nord-Ouest en 1971-72. Les données biologiques comprennent les caractéristiques de longueur, de poids, d'âge et de sexe du poisson échantillonnée. Quant aux données limnologiques, il s'agit de cartes bathymétriques et des caractéristiques physiques et chimiques des lacs échantillonnées.

Mots-clés: pêche à la ligne; benthos; prise/effort; composition des prises; études sur les pêches; pèche au filet maillant; morphologie des lacs; plancton; structure de la population; contenu de l'estomac; qualité de l'eau.

INTRODUCTION

In 1971-72 a survey was carried out on ten lakes: Duncan, Harding, Indin, Lady Grey, Little Doctor, Markham, Nonacho North Henik, Stagg and Stark lakes (Fig. 1). The purpose of this survey was to provide baseline biological and limnological information on these lakes which were chosen randomly to represent an east-west cross-section of the Northwest Territories. This information was to be used in assessing the sport and/or commercial fishery potential of these lakes prior to exploitation.

This report was prepared to present data collected on lakes surveyed in the Northwest Territories during 1971-72 in a form suitable for use and distribution. The format for data presentation is similar to that used by Falk (1979) for other lakes in the Northwest Territories. Additional data on these and other lakes surveyed prior to 1970 for fish inspection and assessment purposes are provided in a separate report (Moshenko In prep.).

MATERIALS AND METHODS

Biological and limnological data were collected from ten lakes in the Northwest Territories during July 1971 and during June - July 1972 (Table 1). At each lake a four-person crew stayed four to six days to complete the baseline biological and limnological survey.

LIMNOLOGY

A partial understanding of the depth characteristics for most of the lakes surveyed was obtained by running transects using a Furuno FG 11/200 MK3 echo sounder. With the exception of Little Doctor Lake the lakes proved to be too large to conduct an adequate bathymetric survey during the time available. Depth soundings were plotted for all lakes except Markham and Nonacho. For Little Doctor Lake bathymetric contours were drawn at 20 m intervals. All maps were prepared from the Index Map of Canada, Mines and Technical Surveys, and scaled to a convenient size. Morphometric measurements consisting of area, mean and maximum depth, length, width, and shoreline development were determined for the lakes where data were available.

Physical and chemical data were collected only once during the survey at each lake. Water temperature and conductivity profiles were determined using a conductivity-temperature meter (Hydrolab Model TC-2). Water samples were collected from various depths with a Kemmerer (1200 mL) sampler. Dissolved oxygen and pH were determined in the field using a Hach Kit (Model AC-36B). Water transparency was measured with a Secchi disc (20 cm). In addition, water samples were taken from the lakes at various depths, kept cool (not preserved) and sent immediately to the Water Quality Branch, Environment Canada, Calgary for detailed chemical analysis.

BIOLOGY

At least three gillnet sets were made at each lake. Each gang of gillnets was 225 m long and 1.8 m deep and was composed of five meshes (38, 64, 89, 114, 140 mm stretched measure). Nets were set on the bottom at right angles to shore in different depths to cover a range of depths appropriate to the lake. Sets were usually 24 hours in duration and nets were set/lifted between 1100 and 1500 hours.

The catch composition of fish by species and mesh size was recorded as the nets were lifted. Individual fish were sampled for fork length ± 1 mm), round weight (± 20 g), scales and/or otoliths for later age determination, and sex and maturity. The relative state of maturity was determined from the condition of the gonads and coded by reference to a scale of maturity stages (immature, maturing, mature, ripe, spent) (Moshenko and Gillman 1978).

Small fish were collected from Little Doctor and Lady Grey lakes using a small mesh (5.4 mm) beach seine (ca. 10 m). The seine was "walked" about 10 m at an average depth of 1 m. Three such hauls were made at each lake.

Fish were also caught by angling from several lakes by survey personnel. Angled fish were sampled in the same manner as those caught in gillnets.

While scales and/or otoliths were taken for all species caught, age data are presented primarily for lake whitefish. Three or four scales from each fish were placed between two glass slides and the annuli counted on the image produced by a microprojector.

Length-weight relationships were determined for fish species where adequate sample sizes permitted by the following power equation:

$$\log_{10} W = a + b (\log_{10} L):$$

where W = round weight in grams

a = Y-intercept

b = slope of the regression line

L = fork length in millimetres

Stomach contents were collected from each of the first 20 fish of each species and every fifth fish thereafter. Contents were preserved in 10 percent formalin. In the laboratory, organisms were identified to various taxonomic groups depending upon difficulty of identification and condition of the individuals. Data from individual fish were pooled by species and by lake for analysis and presentation in tabular form.

Zoobenthos were sampled from most lakes using a 15 cm square Ekman dredge. Two groups of samples were taken: 1) at or greater than a depth of 10 m; and 2) less than 10 m. Samples were sieved through a 600 µ mesh screen prior to preservation in 10 percent formalin. Benthic organisms were sorted and identified to various groups, depending upon difficulty of identification. Data from individual samples were pooled

by lake for data analysis and presentation in tabular form.

Plankton samples were collected from all lakes with a 12 cm Wisconsin plankton net (No. 20 blotting silk; 68 threads • cm^{-1}). Two replicate samples were taken from each lake. One sample was taken from 9 m to the surface and the other from 25 m to the surface. Hauls were made at a rate of 1 m • sec^{-1}. Plankton samples were preserved in 4 percent formalin. In the laboratory a 1 mL. aliquot from each 40 mL. plankton sample was placed in a Sedgewick-Rafter counting cell and examined under a binocular microscope. Zooplankton were counted throughout the cell while phytoplankton were counted individually in ten random areas using an ocular micrometer. All individuals were identified to their respective taxonomic groups depending upon the ease of identification. Assistance in identifying the plankton samples collected in 1972 was provided by Alex Salki (zooplankton) and Hedi Kling (phytoplankton). Data from individual samples were pooled by lake for data analysis and presentation in tabular form.

Data collected during the survey were analysed using a programmable calculator (Hewlett-Packard model 9810-A).

Scientific names for the fish species sampled from lakes in the Northwest Territories 1971-72 are according to Scott and Crossman (1973) as follows:

Lake Whitefish	- *Coregonus clupeaformis* (Mitchill)
Round Whitefish	- *Prosopium cylindraceum* (Pallas)
Lake Trout	- *Salvelinus namaycush* (Walbaum)
Northern Pike	- *Esox lucius* Linnaeus
Walleye	- *Stizostedion vitreum* (Mitchill)
Longnose Sucker	- *Catostomus catostomus* (Forster)
White Sucker	- *Catostomus commersoni* (Lacépède)
Lake Cisco	- *Coregonus artedii* (Lesueur)
Stickleback	- *Pungitius pungitius* (Linnaeus)
Sculpin	- *Cottus* sp.
Burbot	- *Lota lota* (Linnaeus)
Arctic Grayling	- *Thymallus arcticus* (Pallas)
Spottail Shiner	- *Notropis hudsonius* (Clinton)

RESULTS

The lakes surveyed in 1971 and 1972 in the Northwest Territories are shown in Fig. 1. Sample dates, locations and frequency are summarized in Table 1. Limnological and biological descriptions of these lakes are provided in the following sections.

DUNCAN LAKE

Limnology

Duncan Lake (Fig. 2) is situated about 40 km northeast of Yellowknife and accessible by float-equipped aircraft. Morphometric characteristics of Duncan Lake are summarized in Table 2, while physical and chemical properties are shown in Tables 3 and 4. Vertical profiles for temperature, dissolved oxygen and conductivity are illustrated in Fig. 12.

Biology

Locations and results of gillnet sets are shown in Fig. 2 and Table 5, respectively. The catch included lake whitefish (29.2%) and lake trout (70.8%). Overall catch per unit of effort (CPE) of 0.67 fish per 100 m of gillnet per 24 hours. In addition, angling revealed the presence of Arctic grayling and northern pike (Table 15).

Length frequency distributions for lake whitefish and lake trout are presented in Tables 16 and 17, respectively. The mean length for lake whitefish was 576 mm (N = 7; range = 555- 600 mm), lake trout was 496 mm (N = 54; range = 295-733 mm) and Arctic Grayling was 321 mm (N = 10; range = 257-386 mm).

The length-weight relationship for lake trout is summarized in Table 20.

The age frequency distribution for lake whitefish is presented in Table 18. Lake whitefish averaged 15.0 yr (N = 7; range = 10-17) and Arctic grayling averaged 3.7 yr (N = 10; range = 2-6).

Male to female sex ratios were 1.3:1 for lake whitefish (N = 7), 0.9:1 for lake trout (N = 54) and 2.3:1 for Arctic grayling (N = 10).

Stomach contents from lake whitefish and lake trout from Duncan Lake are listed in Tables 22 and 23, respectively. Benthos, phytoplankton and zooplankton analyses are given in Tables 24, 26 and 28, respectively.

HARDING LAKE

Limnology

Harding Lake (Fig. 3) is located approximately 50 km east of Yellowknife and is accessible by float-equipped aircraft. Morphometric characteristics of Harding Lake are summarized in Table 2 and physical and chemical properties are shown in Tables 3 and 4. Vertical profiles for temperature and dissolved oxygen are illustrated in Fig. 12.

Biology

Three gillnet sets were made at three locations on Harding Lake (Table 1; Fig. 3). Percentage composition of the catch was: lake whitefish (67.7%), lake trout (14.5%) and northern pike (17.7%). CPE was 3.12 fish per 100 m of gillnet per 24 hours (Table 6).

Length frequency distributions for lake whitefish and lake trout are presented in Tables 16 and 17, respectively. Mean lengths for the major species caught by gillnet and angling from Harding Lake were 431 mm for lake whitefish (N = 42; range = 275-534 mm), 607 for lake trout (N = 9; range = 333-889 mm) and 576 mm for northern pike (N = 11; range = 499-700 mm).

Length-weight relationship statistics for lake whitefish are given in Table 20.

Age frequency and growth characteristics for lake whitefish are presented in Tables 18 and 19, respectively. Mean ages for the major species were 8.8 for lake whitefish (N = 42; range = 5-11) and 8.0 for northern pike (N = 11; range = 5-11).

Male to female sex ratios were 1.1:1 for lake whitefish (N = 42), 0.5:1 for lake trout (N = 6) and 2.3:1 for northern pike (N = 10).

Stomach contents from lake whitefish and lake trout from Harding Lake are listed in Table 21. Results of benthos, phytoplankton and zooplankton analyses are given in Tables 24, 25 and 27, respectively.

INDIN LAKE

Limnology

Indin Lake (Fig. 4) is located about 190 km north/northwest of Yellowknife. Morphometric characteristics of Indin Lake are summarized in Table 2. Physical and chemical properties are shown in Tables 3 and 4. Vertical profiles for temperature, dissolved oxygen and conductivity are illustrated in Fig. 12.

Biology

Three gillnet sets were made at three locations on Indin Lake, produced lake whitefish (49.4%) and lake trout (50.6%). Overall CPE was 2.39 fish per 100 m of gillnet per hour (Table 7). Angling also revealed the presence of Arctic Grayling (Table 15).

Length frequency distribution for lake whitefish and lake trout are presented in Tables 16 and 17, respectively. Mean length of lake whitefish was 505 mm (N = 39; range = 175-569 mm), lake trout was 561 mm (N = 53; range = 425-958 mm) and Arctic grayling was 282 mm (N = 42; range = 119- 439 mm).

Length-weight relationship statistics for lake whitefish, lake trout and Arctic grayling are summarized in Table 20.

Age frequency and growth characteristics for lake whitefish are presented in Tables 18 and 19, respectively. Average ages were 12.3 for lake whitefish (N = 36; range = 3-15) and 3.7 for Arctic grayling (N = 41; range = 2-7).

Male to female sex ratios were 0.9:1 for lake whitefish (N = 39), 0.8:1 for lake trout (N = 53) and 0.8:1 for Arctic grayling (N = 37).

Stomach contents from lake whitefish and lake trout from Indin Lake are listed in Tables 22 and 23, respectively. Benthos, phytoplankton and zooplankton analyses are given in Tables 24, 26, and 28, respectively.

LADY GREY LAKE

Limnology

Lady Grey Lake (Fig. 5) is situated about 250 km southeast of Yellowknife (Fig. 1). Morphometric characteristics of Lady Grey Lake are summarized in Table 2. Physical and chemical characteristics are shown in Tables 3 and 4. Vertical profiles for temperature, dissolved oxygen and conductivity are illustrated in Fig. 12.

Biology

Ninety-four fish were caught from four gill-net sets on Lady Grey Lake (Table 1; Fig. 5). The catch was composed of lake whitefish (73.2%), lake trout (23.4%), northern pike (3.2%) and longnose sucker (1.1%) (Table 8). CPE was 2.62 fish per 100 m of gillnet per 24 hours. Three beach seine hauls also revealed the presence of spottail shiner and ninespine stickleback.

Length frequency distributions for lake whitefish and lake trout are presented in Tables 16 and 17, respectively. Mean lengths for the major species caught by gillnet and angling from Lady Grey Lake were 471 mm for lake whitefish (N = 67; range = 176-568 mm), 613 mm for lake trout, N 25; range = 355-965 mm) and 698 mm for northern pike (N = 5; range 649-755 mm).

Length-weight relationship statistics for lake whitefish and lake trout from Lady Grey Lake are summarized in Table 20.

Age frequency and growth characteristics for lake whitefish are presented in Tables 18 and 19, respectively. The mean age for lake whitefish was 11.2 (N = 67; range = 2-19).

Male to female sex ratio were 0.6:1 for lake whitefish (N = 62) and 1.5:1 for lake trout (N = 25). All northern pike captured were females.

Stomach contents from lake whitefish and lake trout from Lady Grey Lake are listed in Tables 22 and 23, respectively. Benthos, phytoplankton and zooplankton analyses are given in Tables 24, 26 and 28, respectively.

LITTLE DOCTOR LAKE

Limnology

Little Doctor Lake (Fig. 6) is situated 100 km west of Fort Simpson (Fig. 1). Morphometric features of Little Doctor Lake are shown in Table 2. Physical and chemical characteristics are summarized in Tables 3 and 4. Vertical profiles for temperature and dissolved oxygen are illustrated in Fig. 14.

Biology

Three gillnet sets were made at three locations on Little Doctor Lake (Table 1; Fig. 6). The catch was composed of lake whitefish (17.5%), lake trout (15.9%), walleye (14.3%), longnose sucker (36.5%), lake cisco (1.6%), northern pike (6.3%) and white sucker (7.9%). CPE was 3.12 fish per 100 m of gillnet per 24 hours (Table 9).

Length frequency distributions for lake whitefish and lake trout are presented in Tables 16 and 17, respectively. Mean lengths for the major species caught by gillnet and angling from Little Doctor Lake were 318 mm for lake whitefish (N = 11; range = 170-509 mm), 523 mm for lake trout (N = 12; range = 442-580 mm), 476 for walleye (N = 9; range = 420-512 mm), 469 mm for longnose sucker (N = 23; range 297-625 mm) and 281 mm for Arctic grayling (N = 4; range = 151-400 mm).

Length-weight relationship statistics for longnose suckers from Little Doctor Lake are given in Table 20.

The age frequency distribution for lake whitefish is presented in Table 18. The mean age for lake whitefish was 10.0 (N = 10; range 5-13).

Male to female sex ratios were 4:1 for lake whitefish (N = 10), 0.1:1 for lake trout (N = 12), 0.3:1 for walleye (N = 9) and 3:1 for longnose sucker (N = 20).

Stomach contents for lake whitefish and lake trout from Little Doctor Lake are listed in Table 21. Results of benthos, phytoplankton and zoo- plankton analyses are given in Tables 24, 15 and 27, respectively.

MARKHAM LAKE

Limnology

Markham Lake (Fig. 7) is located 575 km east of Yellowknife on the Canadian Shield in the District of Mackenzie (Fig. 1). Morphometric characteristics of the lake are given in Table 2. Physical and chemical properties of Markham Lake are summarized in Tables 3 and 4. Vertical profiles of temperature and dissolved oxygen are illustrated in Fig. 13.

Biology

Locations of gillnet sets are shown in Fig. 7. Results are listed in Table 11. CPE was 2.06 fish per 100 m of gillnet per 24 hours. Composition of the catch was lake whitefish (45.2%), lake trout (45.2%), longnose sucker (7.1%) and lake cisco (2.4%).

Length frequency distributions for lake whitefish and lake trout caught by gillnet from Markham Lake are presented in Tables 16 and 17, respectively. The mean length of lake whitefish was 359 mm (N = 19; range = 183-584 mm) and lake trout was 472 mm (N = 19; range = 198-874 mm).

Length-weight relationship statistics for lake whitefish and lake trout are provided in Table 20.

The age frequency distribution for lake whitefish is presented in Table 18. The mean age was 9.5 (N = 18; range = 4-15).

Male to female sex ratios were 1.2:1 for lake whitefish (N = 13) and 0.4:1 for lake trout (N = 17).

Stomach contents for lake whitefish and lake trout from Markham Lake are listed in Table 21. Benthos, phytoplankton and zooplankton analyses are given in Tables 24, 25 and 27, respectively.

NONACHO LAKE

Limnology

Nonacho Lake (Fig. 8) is located approximately 240 km east/southeast from Yellowknife (Fig. 1). Morphometric parameters of the lake are given in Table 2. Physical and chemical properties are summarized in Tables 3 and 4. Vertical profiles for temperature and dissolved oxygen are illustrated in Fig. 12.

Biology

Four gillnet sets were made at four locations on Nonacho Lake (Table 1; Fig. 8). The catch was composed of lake whitefish (45.9%), lake trout (43.5%), northern pike (9.4%) and burbot (1.2%). Overall CPE was 1.90 fish per 100 m of gillnet per 24 hours (Table 10).

Length frequency distributions for lake whitefish and lake trout are presented in Tables 16 and 17, respectively. Mean lengths for the major species caught by gillnet and angling from Nonacho Lake were 443 for lake whitefish (N = 39; range = 165-609 mm), 532 mm for lake trout (N = 62; range= 173-867 mm) and 651 mm for northern pike (N = 8; range=539-750 mm).

Length-weight relationship statistics for lake whitefish and lake trout are given in Table 20.

Age frequency and growth characteristics for lake whitefish are presented in Tables 18 and 19, respectively. The mean age for lake whitefish was 11.1 (N = 37; range = 4-20).

Male to female sex ratios were 0.9:1 for lake whitefish (N = 35), 1.3:1 for lake trout (N = 52) and 3:1 for northern pike (N = 8).

Stomach contents from lake whitefish and lake trout from Nonacho Lake are listed in Tables 22 and 23, respectively. The results from benthos, phytoplankton and zooplankton analyses are given in Tables 24, 26 and 28, respectively.

NORTH HENIK LAKE

Limnology

North Henik Lake (Fig. 9) is situated 200 km west of Eskimo Point in the District of Keewatin. Morphometric characteristics of the lake are given in Table 2. Physical and chemical characteristics of North Henik Lake are shown in Tables 3 and 4. Vertical profiles for temperature and dissolved oxygen are illustrated in Fig. 13.

Biology

Locations of gillnet sets are shown in Fig. 9. Results show that the catch was composed of lake whitefish (1.5%), lake trout (73.9%) and lake cisco (14.6%) (Table 12). CPE was 9.84 fish per 100 m of gillnet per 24 hours.

Length frequency distributions for lake whitefish and lake trout are presented in Tables 16 and 17, respectively. The mean length of lake trout caught by gillnet from North Henik Lake was 512 mm (N = 48; range = 268-779 mm).

Length-weight relationship statistics for lake trout are given in Table 20.

Male to female sex ratios were 0.5:1 for lake trout (N = 45) and 0.8:1 for lake cisco (N = 16).

The occurrence and percentage by weight of major food items in the stomachs of lake whitefish and lake trout from North Henik Lake are listed in Table 21. Benthos, phytoplankton and zoo-plankton analyses from North Henik Lake are summarized in Tables 24, 25 and 27, respectively.

STAGG LAKE

Limnology

Stagg Lake (Fig. 10) is located 75 km northwest of Yellowknife (Fig. 1). Morphometric characteristics are given in Table 2 while physical and chemical properties of the lake are listed in Tables 3 and 4. Vertical profiles of temperatures and dissolved oxygen are illustrated in Fig. 13.

Biology

During July of 1971 three gillnet sets were made at three locations on Stagg Lake (Table 1; Fig. 10). Composition of the catch was lake whitefish (69.2%), lake trout (6.5%), walleye (16.8%), northern pike (1.9%) and burbot (5.6%) (Table 13). CPE was 5.28 fish per 100 m of gillnet per 24 hours. Arctic grayling were also caught by angling (Table 15).

Length frequency distributions for lake whitefish and lake trout are presented in Tables 16 and 19, respectively. Mean ages for the major species caught by gillnet from Stagg Lake were 10.1 for lake whitefish (N = 73; range = 2-17), 10.7 for walleye (N = 13; range = 8-13) and 9.5 for burbot (N = 6; range = 7-12).

Male to female sex ratios for the major species caught by gillnet from Stagg Lake were 0.8:1 for lake whitefish (N = 68), 0.8:1 for lake trout (N = 7), 0.7:1 for burbot (N = 5) and 0.6:1 for walleye (N = 17).

Results from stomach content analysis on lake whitefish and lake trout are summarized in Table 21. Benthos, phytoplankton and zooplankton identified from samples taken from Stagg Lake are presented in Tables 24, 25 and 27, respectively.

STARK LAKE

Limnology

Stark lake (Fig. 11) is situated approximately 180 km east of Yellowknife. The lake lies adjacent to the East Arm of Great Slave Lake, connected only by the Stark River. Morphometric characteristics of Stark Lake are given in Table 2. Physical and chemical properties of the lake are summarized in Tables 3 and 4. Vertical profiles of temperature from two locations on Stark Lake are illustrated in Fig. 13.

Biology

Four gillnet sets at four locations on Stark Lake (Fig. 11) produced lake whitefish (38.3%), round whitefish (3.3%), lake trout (10.5%), northern pike (1.0%) lake cisco (39.7%), Arctic grayling (1.4%), longnose sucker (5.3%) and white sucker (0.5%). CPE was 23.13 fish per 100 m of gillnet per 24 hours (Table 14).

Length frequency distributions for lake whitefish and lake trout are presented in Tables 16 and 17, respectively. Mean lengths for the major species from Stark Lake were 372 mm for lake whitefish (N = 80; range = 169-554 mm), 616 mm for lake trout (N = 22; range = 361-849 mm and 209 mm for lake cisco N = 83; range = 165-345 mm).

Length-weight relationship statistics for lake whitefish and lake trout from Stark Lake are given in Table 20.

Age frequency and growth characteristics for lake whitefish are presented in Tables 18 and 19, respectively. The average age for lake whitefish was 9.5 (N = 76; range = 3-17).

Male to female sex ratios were 0.9:1 for lake cisco (N = 83), 0.8:1 for lake trout (N = 22) and 0.6:1 for lake whitefish (N = 79).

Major food items found in the stomachs of lake whitefish and lake trout from Stark Lake are summarized in Tables 22 and 23, respectively. Zooplankton identified from samples collected from Stark Lake are listed in Table 28.

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Table 1 . Summary of information on sample dates, locations and frequency for lakes surveyed in the Northwest Territories, 1971-72.

Lake	Gillnet			Plankton (Wisconsin)			Benthos (Ekman)			Water Chemistry (Kemmerer)		
	Dates (D/M/Y)	Locations	Sets	Dates (D/M/Y)	Locations	Hauls	Dates (D/M/Y)	Locations	Grabs	Dates (D/M/Y)	Locations	Samples
Duncan L. 62°51'N-113°58'W	27-28/6/72 28-29/6/72 29-30/6/72 30/6-1/7/72	G1 G2 G3 G4	4	27/6+2/7/72	P1,P2	2	27/6/72	B1-B3	12	2/7/72	W1	3
Harding L. 62°22'N-113°22'W	14-15/7/71 15-16/7/71 16-17/7/71	G1 G2 G3	3	14+25/7/71	P1,P2	2	-/7/71	B1,B2	8	15/7/71	W1	3
Indin L. 64°15'N-115°05'W	3-4/7/72 4-5/7/72 5-6/7/72	G1 G2 G3	3	5+9/7/72	P1,P2	2	3-6/7/72	B1-B3	12	6/7/72	W1	3
Lady Grey L. 60°54'N-110°32'W	17-18/6/72 18-19/6/72 19-20/6/72 20-21/6/72	G1 G2 G3 G4	4	20+23/6/72	P1,P2	2	19/6/72	B1-B3	12	20/6/72	W1	-
Little Doctor L. 61°53'N-123°15'W	3-4/7/71 4-5/7/71 5-6/7/71	G1 G2 G3	3	5+6/7/71	P1-P3	3	5-6/7/71	B1-B6	24	6/7/71	W1	3
Markham L. 62°30'N-102°35'W	24-25/7/71 25-26/7/71 26-27/7/71	G1 G2 G3	3	-/7/71	P1,P2	2	24/7/71	B1,B2	8	27/7/71	W1	2
Nonacho L. 61°42'N-109°40'W	10-11/6/72 11-12/6/72 12-14/6/72 14-15/6/72	G1 G2 G3 G4	4	11+16/6/72	P1,P2	4	13+16/6/72	B1-B3	12	16/6/72	W1	2
North Henik L. 61°45'N-113°22'W	21-22/7/71 22-23/7/71 23-24/7/71	G1 G2 G3	3	-/7/71	P1,P2	2	-/7/71	B1-B6	24	22/7/71	W1	3
Stagg L. 62°52'N-115°29'W	9-10/7/71 10-11/7/71 11-12/7/71	G1 G2 G3	3	9/7/71	P1	4	12/7/71	B1-B3	32	12/7/71	W1	3
Stark L. 62°27'N-110°20'W	23-24/6/72 24-25/6/72 25-26/6/72 27-28/6/72	G1 G2 G3 G4	4	28/6/72	-	-	-	-	-	23+25/6/72	W1,W2	2

Table 2 . Morphometric characteristics of lakes surveyed in the Northwest Territories, 1971-72.

Lake	Parameter								
	Lake Area (km^2)	Drainage Area (km^2)	Depth (m)		Max. Length (km)	Max. Width (km)	Shore Length (km)	Shoreline Development	Axis (True)
			Mean	Max.					
Duncan L.	71.6	10,437	28.7[d]	60[b]	22.8	6.1	94.3	3.13	NE - SW
Harding L.	26.3	172	29.0[d]	66[b]	22.5	6.6	61.1[c]	3.26[c]	N - S
Indin L.	122.9	-	39.0[d]	72[b]	16.9	11.3	367.0	9.34	SW - NE
Lady Grey L.	189.8	29,179	10.3[d]	40[b]	24.8	4.3	161.0	3.31	N - S
Little Doctor L.	21.6	662	67.0	120	10.5	5.2	23.2[c]	1.41[c]	E - W
Markham L.	97.8	1,070	15.0[d]	17[b]	21.5	13.5	143.6[c]	4.0[c]	N - S
Nonacho L.	655.8	22,897	14.0[d]	40[b]	85.3	28.2	99.7	-	SW - NE
North Henik L.	250.6	487	17.6[d]	-	28.2	28.2	149.1[c]	2.65[c]	N - S
Stagg L.	29.1	363	12.5[a]	-	20.9	3.8	74.2[c]	3.87[c]	N - S
Stark L.	177.1	13,421	30.5[d]	88[b]	27.4	11.1	326.6	-	NE - SW

[a] Middle Basin .

[b] Maximum Observed Depth .

[c] Includes Islands .

[d] Estimated .

Table 3 . Physical and chemical data from lakes surveyed in the Northwest Territories, 1971-72, as determined in the field.

Lake	Date (D/M/Y)	Secchi (m)	Depth (m)	Parameter				
				Temp (°C)	pH	DO		Conductivity (umhos/cm)
						mg/L	% Sat.	
Duncan L.	1/7/72	8.5	0(S)[a]	10.5	7.3	10	92	400.0
			22	8.8	7.1	10	89	400.0
			60	4.5	7.0	8	64	450.0
Harding L.	17/7/71	10.5	0(S)	16.5	7.9	11	114	204.0
			11	11.7	7.8	13	121	202.0
			27	5.5	7.4	13	104	206.0
Indin L.	6/7/72	6.0	0(S)	12.0	7.1	13	125	110.0
			15	9.0	6.9	11	98	100.0
			60	4.0	6.6	10	78	90.0
Lady Grey L.	20/6/72	6.3	0(S)	14.4	7.3	12	121	39.5
			2	12.1	7.2	12	118	38.0
			40	6.3	6.9	12	100	30.0
Little Doctor L.	6/7/71	2.5	0(S)	13.0	7.8	10	98	147.0
			19	5.4	7.4	11	90	155.0
			25	4.6	7.3	11	87	155.0
Markham L.	27/7/71	6.0	0(S)	13.0	7.2	9	83	38.9
			9(B)[b]	12.7	7.2	11	103	22.3
Nonacho L.	16/6/72	6.3	0(S)	6.5	7.5	13	108	28.0
			3	5.5	7.0	11	90	28.0
			35	4.5	-	10	80	76.0
North Henik L.	22/7/71	7.0	0(S)	9.4	7.1	14	125	19.2
			10	7.1	7.05	14	117	18.4
			25	6.4	7.0	9	75	18.3
Stagg L.	12/7/71	5.0	0(S)	18.4	7.6	11	117	-
			8	11.6	7.5	12	111	-
			25	5.5	7.1	12	97	-
Stark L.	25/6/72	3.7	0(S)	14.0	7.0	11	110	-

[a] Surface.

[b] Bottom.

Table 4 . Detailed chemical analysis of water samples from lakes surveyed in the Northwest Territories, 1971-72, as determined by the Water Quality Branch, Environment Canada, Calgary.

Lake	Date (D/M/Y)	Depth (m)	Parameter														
			Turbidity (JTU)	Colour (CU)	pH	TOC (mg/L)	Cl Diss. (mg/L)	Fe Diss. (mg/L)	Mn Diss. (mg/L)	N Tot. (mg/L)	PO_4 Tot. (mg/L)	K Diss. (mg/L)	Cond. (umhos/cm)	Hard. Tot. (mg/L)	Ca Diss. (mg/L)	SO_4 Diss. (mg/L)	Na Diss. (mg/L)
Duncan L.	2/7/72	0(S)[a]	0.8	5.0	7.2	0.0	0.5	0.01	0.01	-	0.008	0.4	26.8	15.5	2.8	1.8	0.4
		23	1.8	5.0	7.2	4.0	0.5	0.01	0.01	-	0.004	0.4	26.6	12.0	2.8	2.6	0.4
		50	0.8	5.0	7.0	4.0	0.3	0.01	0.01	-	0.005	0.2	15.2	8.0	2.0	1.1	0.4
Harding L.	17/7/71	0(S)	0.8	0.0	8.0	4.0	3.8	0.01	0.01	0.01	0.02	3.0	204.0	83.7	23.5	11.1	5.2
		11	1.3	0.0	8.0	3.0	3.8	0.01	0.01	0.01	0.02	3.0	202.0	83.1	23.5	11.1	5.2
		27	2.8	5.0	8.1	7.0	3.9	0.01	0.01	0.05	0.02	3.2	206.0	83.7	22.8	10.8	9.8
Indin L.	9/7/72	0(S)	0.7	20.0	7.2	6.0	-	0.01	0.01	0.41	0.006	0.5	19.1	9.7	1.5	2.4	0.8
		15	0.8	20.0	6.7	5.0	0.4	-	< 0.01	0.33	0.006	0.5	20.2	14.1	2.3	1.7	< 0.5
		40	0.7	10.0	7.7	5.0	0.5	0.03	< 0.01	0.38	0.005	0.5	20.1	8.3	1.8	0.8	< 0.5
Little Doctor L.	6/7/71	0(S)	1.7	55.0	7.7	13.0	0.8	0.07	-	0.36	0.02	0.8	147.0	72.3	20.5	7.9	2.1
		19	0.8	55.0	7.8	13.0	0.9	0.06	-	0.41	0.03	0.6	155.0	75.1	22.1	7.9	1.8
		25	0.7	65.0	7.6	11.0	0.9	0.07	-	0.48	0.01	0.5	155.0	75.0	22.0	8.0	1.8
Markham L.	27/7/71	0(S)	0.6	10.0	7.1	6.0	0.5	0.01	0.01	-	0.01	-	38.9	7.5	2.1	1.8	-
		9	0.5	7.0	7.0	5.0	0.4	0.02	0.01	-	0.02	-	22.3	7.6	2.1	1.8	-
Nonacho L.	16/6/72	0(S)	1.5	10.0	7.2	-	1.0	< 0.01	< 0.01	0.33	-	0.6	34.6	13.4	4.1	2.4	1.0
		30	4.5	10.0	7.0	-	1.0	0.01	< 0.01	1.00	-	0.7	36.4	13.2	3.6	1.4	1.0
North Henik L.	22/7/71	0(S)	0.3	8.0	6.8	6.0	0.5	0.01	0.01	0.10	0.01	0.4	19.2	7.2	2.1	1.4	0.5
		10	0.3	10.0	6.9	8.0	0.5	0.01	0.01	0.30	0.02	0.3	18.4	5.4	2.1	1.8	0.4
		25	0.4	7.0	6.9	5.0	0.4	0.01	0.01	0.11	0.03	0.4	18.3	7.7	2.1	0.5	0.5
Stagg L.	12/7/71	0(S)	0.5	5.0	7.8	6.0	2.9	0.01	< 0.01	< 0.01	0.03	1.3	77.0	31.8	8.0	3.9	2.7
		8	0.6	5.0	7.4	8.0	2.8	0.02	< 0.01	< 0.01	< 0.01	1.1	76.0	30.7	7.6	3.5	2.5
		25	0.8	5.0	7.7	8.0	2.4	< 0.01	< 0.01	0.01	0.02	1.1	65.0	27.6	7.2	1.6	2.7
Stark L.	30/6/72	0(S)	0.9	20.0	6.9	-	1.6	0.02	< 0.01	0.34	-	0.3	28.0	11.9	3.1	0.8	1.0

[a] Surface.

Table 5 . Catch and size data for fish caught by gillnet from Duncan Lake, 1972.

Fish	Mean Length (mm)	Mean Weight (g)		Mesh Size 1.5 (in) 38 (mm)	2.5 64	3.5 89	4.5 114	5.5 140	Total	CPE[a]
Lake Whitefish	576	2939	No.	-	-	-	2	5	7	0.20
			%	-	-	-	28.6	71.4	29.2	
Lake Trout	474	1412	No.	-	5	7	3	2	17	0.47
			%	-	29.4	41.2	17.6	11.8	70.8	
Total				-	5	7	5	7	24	0.67

[a] Catch per unit of effort (No. fish per 100 m of gillnet per 24 hours).

Table 6 . Catch and size data for fish caught by gillnet from Harding Lake, 1971.

Fish	Mean Length (mm)	Mean Weight (g)		Mesh Size 1.5 (in) 38 (mm)	2.5 64	3.5 89	4.5 114	5.5 140	Total	CPE[a]
Lake Whitefish	431	1232	No.	5	15	10	6	6	42	2.16
			%	11.9	35.7	23.8	14.3	14.3	67.7	
Lake Trout	607	3209	No.	1	4	3	1	-	9	0.46
			%	11.1	44.4	33.3	11.1	-	14.5	
Northern Pike	576	1405	No.	1	7	2	1	-	11	0.56
			%	9.1	63.6	18.2	9.1	-	17.7	
Total				7	26	15	8	6	62	3.12

[a] Catch per unit of effort (No. fish per 100 m of gillnet per 24 hours).

Table 7 . Catch and size data for fish caught by gillnet from Indin Lake, 1972.

Fish	Mean Length (mm)	Mean Weight (g)		Mesh Size 1.5 (38)	2.5 (64)	3.5 (89)	4.5 (114)	5.5 (140)	(in) (mm)	Total	CPE[a]
Lake Whitefish	505	1935	No.	-	11	9	11	8		39	1.92
			%	-	28.2	23.1	28.2	20.5		49.4	
Lake Trout	580	2455	No.	1	2	11	17	9		40	1.97
			%	2.5	5.0	27.5	42.5	22.5		50.6	
Total				1	13	20	28	17		79	3.89

[a] Catch per unit of effort (No. fish per 100 m of gillnet per 24 hours).

Table 8 . Catch and size data for fish caught by gillnet from Lady Grey Lake, 1972.

Fish	Mean Length (mm)	Mean Weight (g)		Mesh Size 1.5 (38)	2.5 (64)	3.5 (89)	4.5 (114)	5.5 (140)	(in) (mm)	Total	CPE[a]
Lake Whitefish	471	1647	No.	18	27	9	4	10		68	1.90
			%	26.5	39.7	13.2	5.9	14.7		72.3	
Lake Trout	587	3521	No.	6	10	-	1	5		22	0.61
			%	27.3	45.5	-	4.6	22.7		23.4	
Northern Pike	715	2420	No.	-	1	-	2	-		3	0.08
			%	-	33.3	-	66.7	-		3.2	
Longnose Sucker	268	215	No.	-	1	-	-	-		1	0.03
			%	-	100.0	-	-	-		1.1	
Total				24	39	9	7	15		94	2.62

[a] Catch per unit of effort (No. fish per 100 m of gillnet per 24 hours).

Table 9 . Catch and size data for fish caught by gillnet from Little Doctor Lake, 1971.

Fish	Mean Length (mm)	Mean Weight (g)		Mesh Size 1.5 (in) 38 (mm)	2.5 64	3.5 89	4.5 114	5.5 140	Total	CPE[a]
Lake Whitefish	318	794	No.	4	3	2	1	1	11	0.55
			%	36.4	27.3	18.2	9.1	9.1	17.5	
Lake Trout	524	1365	No.	1	7	1	-	1	10	0.50
			%	10.0	70.0	10.0	-	10.0	15.9	
Walleye	476	1003	No.	1	3	1	3	1	9	0.45
			%	11.1	33.3	11.1	33.3	11.1	14.3	
Longnose Sucker	469	1278	No.	1	9	2	4	7	23	1.12
			%	4.3	39.1	8.7	17.4	30.4	36.5	
Lake Cisco	173	150	No.	1	-	-	-	-	1	0.05
			%	100.0	-	-	-	-	1.6	
Northern Pike	570	1513	No.	-	4	-	-	-	4	0.20
			%	-	100.0	-	-	-	6.3	
White Sucker	317	368	No.	-	5	-	-	-	5	0.25
			%	-	100.0	-	-	-	7.9	
Total				8	31	6	8	10	63	3.12

[a] Catch per unit of effort (No. fish per 100 m of gillnet per 24 hours).

Table 10 . Catch and size data for fish caught by gillnet from Nonacho Lake, 1972.

Fish	Mean Length (mm)	Mean Weight (g)		Mesh Size 1.5 (in) 38 (mm)	2.5 64	3.5 89	4.5 114	5.5 140	Total	CPE[a]
Lake Whitefish	443	1666	No.	7	15	7	10	-	39	0.87
			%	18.0	38.5	18.0	25.6	-	45.9	
Lake Trout	489	2134	No.	12	18	3	4	-	37	0.83
			%	32.4	48.7	8.1	10.8	-	43.5	
Northern Pike	651	2193	No.	-	3	2	3	-	8	0.18
			%	-	37.5	25.0	37.5	-	9.4	
Burbot	-	-	No.	-	-	-	1	-	1	0.02
			%	-	-	-	100.0	-	1.2	
Total				19	36	12	18	-	8 5	1.90

[a] Catch per unit of effort (No. fish per 100 m of gillnet per 24 hours).

Table 11 . Catch and size data for fish caught by gillnet from Markham Lake, 1971.

Fish	Mean Length (mm)	Mean Weight (g)		Mesh Size 1.5 (38)	2.5 (64)	3.5 (89)	4.5 (114)	5.5 (140)	(in) (mm)	Total	CPE[a]
Lake Whitefish	359	1159	No.	8	7	2	1	1		19	0.93
			%	42.1	36.8	10.5	5.3	5.3		45.2	
Lake Trout	472	2072	No.	6	7	4	2	-		19	0.93
			%	31.6	36.8	21.1	10.5	-		45.2	
Longnose Sucker	385	837	No.	1	-	1	1	-		3	0.15
			%	33.3	-	33.3	33.3	-		7.1	
Lake Cisco	155	125	No.	1	-	-	-	-		1	0.05
			%	100.0	-	-	-	-		2.4	
Total				16	14	7	4	1		42	2.06

[a] Catch per unit of effort (No. fish per 100 m of gillnet per 24 hours).

Table 12 . Catch and size data for fish caught by gillnet from North Henik Lake, 1971.

Fish	Mean Length (mm)	Mean Weight (g)		Mesh Size 1.5 (38)	2.5 (64)	3.5 (89)	4.5 (114)	5.5 (140)	(in) (mm)	Total	CPE[a]
Lake Whitefish	600	3750	No.	-	-	1	-	-		1	0.15
			%	-	-	100	-	-		1.5	
Lake Trout	512	1798	No.	16	17	4	7	4		48	7.26
			%	33.3	35.4	8.3	14.6	8.3		73.9	
Lake Cisco	218	138	No.	14	2	-	-	-		16	2.43
			%	87.5	12.5	-	-	-		24.6	
Total				30	19	5	7	4		65	9.84

[a] Catch per unit of effort (No. fish per 100 m of gillnet per 24 hours).

Table 13 . Catch and size data for fish caught by gillnet from Stagg Lake, 1971.

Fish	Mean Length (mm)	Mean Weight (g)		Mesh Size 1.5 (in) 38 (mm)	2.5 64	3.5 89	4.5 114	5.5 140	Total	CPE[a]
Lake Whitefish	392	921	No.	12	29	11	17	5	74	3.66
			%	16.2	39.2	14.9	23.0	6.8	69.2	
Lake Trout	575	2063	No.	-	2	1	2	2	7	0.36
			%	-	28.6	14.3	28.6	20.6	6.5	
Walleye	435	898	No.	6	8	-	4	-	18	0.90
			%	33.3	44.4	-	22.2	-	16.8	
Northern Pike	556	1038	No.	1	1	-	-	-	2	0.10
			%	50.0	50.0	-	-	-	1.9	
Burbot	572	1113	No.	-	2	-	4	-	6	0.26
			%	-	33.3	-	66.7	-	5.6	
Total				19	42	12	27	7	107	5.28

[a] Catch per unit of effort (No. fish per 100 m of gillnet per 24 hours).

Table 14 . Catch and size data for fish caught by gillnet from Stark Lake, 1972.

Fish	Mean Length (mm)	Mean Weight (g)		Mesh Size 1.5 (in) 38 (mm)	2.5 64	3.5 89	4.5 114	5.5 140	Total	CPE[a]
Lake Whitefish	372	941	No.	20	14	26	11	9	80	8.88
			%	25.0	17.5	32.5	13.8	11.3	38.3	
Round Whitefish	371	712	No.	1	2	3	1	-	7	0.78
			%	14.3	28.6	42.9	14.3	-	3.3	
Lake Trout	616	3285	No.	6	3	7	3	3	22	2.44
			%	27.3	13.6	31.8	13.6	13.6	10.5	
Northern Pike	626	2150	No.	-	-	2	-	-	2	0.22
			%	-	-	100.0	-	-	1.0	
Lake Cisco	209	96	No.	76	5	2	-	-	83	9.21
			%	91.6	6.0	2.4	-	-	39.7	
Arctic Grayling	408	710	No.	1	-	2	-	-	3	0.33
			%	33.3	-	66.7	-	-	1.4	
Longnose Sucker	423	1121	No.	-	4	3	2	2	11	1.22
			%	-	36.4	27.3	18.2	18.2	5.3	
White Sucker	541	2650	No.	-	-	1	-	-	1	0.11
			%	-	-	100.0	-	-	0.5	
Total				104	28	46	17	14	209	23.13

[a] Catch per unit of effort (No. fish per 100 m of gillnet per 24 hours).

Table 15. Angling data from lakes surveyed in the Northwest Territories, 1971-72.

Lake	Date (D/M/Y)	No. Anglers	Species	No. Caught	Hours Fished
Little Doctor L.	2/7/71	2	Arctic Grayling	3	4.0
	3/7/71	1	Lake Trout	1	0.5
	4/7/71	1	Arctic Grayling	1	0.5
Stagg L.	9/7/71	1	Northern Pike	2	0.5
Indin L.	2/7/72	4	Arctic Grayling	6	4.5
			Lake Trout	7	
	3/7/72	4	Arctic Grayling	7	8.0
			Lake Trout	2	
	5/7/72	3	Arctic Grayling	3	6.0
			Lake Trout	2	
	6/7/72	2	Arctic Grayling	20	6.0
	8/7/72	3	Arctic Grayling	6	
			Lake Trout	2	6.0
Duncan L.	26/6/72	3	Lake Trout	7	3.0
	27/6/72	3	Lake Trout	3	3.0
			Arctic Grayling	3	
	29/6/72	3	Lake Trout	11	7.5
	30/6/72	3	Lake Trout	12	9
	1/7/72	4	Lake Trout	7	8
			Arctic Grayling	7	
			Northern Pike	1	
Harding L.	14/7/71	2	Lake Trout	2	2
Nonacho L.	9/6/72	3	Lake Trout	4	5.5
	10/6/72	6	Lake Trout	9	14.75
	11/6/72	1	Lake Trout	4	2
	12/6/72	1	-	0	1
	15/6/72	2	Lake Trout	8	6.5
Lady Grey L.	19/6/72	3	Northern Pike	2	4.5
			Lake Trout	3	
	17/6/72	4	Lake Trout	2	4
			Northern Pike	2	

Table 16 . Length frequency distributions for lake whitefish from lakes surveyed in the Northwest Territories, 1971-72.

Length Interval (mm)	Duncan L.		Harding L.		Indin L.		Lady Grey L.		Little Doctor L.		Markham L.		Nonacho L.		North Henik L.		Stagg L.		Stark L.	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
160 - 169	-	-	-	-	-	-	-	-	-	-	-	-	1	2.6	-	-	1	1.4	1	1.3
170 - 179	-	-	-	-	1	2.6	1	1.5	3	27.3	-	-	-	-	-	-	1	1.4	1	1.3
180 - 189	-	-	-	-	-	-	-	-	1	9.1	1	5.3	-	-	-	-	-	-	7	8.8
190 - 199	-	-	-	-	-	-	1	1.5	-	-	3	15.8	-	-	-	-	1	1.4	1	1.3
200 - 209	-	-	-	-	-	-	1	1.5	-	-	-	-	2	5.1	-	-	-	-	2	2.5
210 - 219	-	-	-	-	-	-	1	1.5	-	-	2	10.4	1	2.6	-	-	-	-	2	2.5
220 - 229	-	-	-	-	-	-	3	4.5	-	-	1	5.3	-	-	-	-	-	-	-	-
230 - 239	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1.3
240 - 249	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1.4	1	1.3
250 - 259	-	-	-	-	-	-	1	1.5	-	-	-	-	-	-	-	-	1	1.4	2	2.5
260 - 269	-	-	-	-	-	-	-	-	-	-	1	5.3	-	-	-	-	-	-	2	2.5
270 - 279	-	-	1	2.4	-	-	-	-	-	-	-	-	-	-	-	-	2	2.7	-	-
280 - 289	-	-	2	4.8	-	-	-	-	-	-	1	5.3	-	-	-	-	1	1.4	3	3.8
290 - 299	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2.7	1	1.3
300 - 309	-	-	-	-	-	-	1	1.5	-	-	-	-	-	-	-	-	-	-	1	1.3
310 - 319	-	-	2	4.8	-	-	-	-	-	-	1	5.3	1	2.6	-	-	-	-	1	1.3
320 - 329	-	-	3	7.1	-	-	-	-	-	-	-	-	-	-	-	-	3	4.1	2	2.5
330 - 339	-	-	-	-	-	-	-	-	-	-	1	5.3	1	2.6	-	-	4	5.4	1	1.3
340 - 349	-	-	2	4.8	-	-	-	-	1	9.1	-	-	1	2.6	-	-	2	2.7	-	-
350 - 359	-	-	-	-	-	-	1	1.5	1	9.1	-	-	3	7.7	-	-	5	6.8	2	2.5
360 - 369	-	-	-	-	-	-	1	1.5	-	-	-	-	1	2.6	-	-	2	2.7	-	-
370 - 379	-	-	-	-	-	-	-	-	1	9.1	-	-	-	-	-	-	1	1.4	-	-
380 - 389	-	-	1	2.4	-	-	-	-	-	-	-	-	-	-	-	-	3	4.1	2	2.5
390 - 399	-	-	-	-	-	-	-	-	-	-	-	-	2	5.1	-	-	1	1.4	1	1.3
400 - 409	-	-	1	2.4	-	-	1	1.5	-	-	-	-	-	-	-	-	2	2.7	2	2.5
410 - 419	-	-	-	-	-	-	-	-	1	9.1	-	-	1	2.6	-	-	6	8.1	2	2.5
420 - 429	-	-	-	-	-	-	-	-	1	9.1	-	-	-	-	-	-	7	9.5	6	7.5
430 - 439	-	-	3	7.1	-	-	1	1.5	-	-	1	5.3	1	2.6	-	-	6	8.1	1	1.3
440 - 449	-	-	1	2.4	-	-	-	-	1	9.1	-	-	-	-	-	-	7	9.5	4	5.0
450 - 459	-	-	5	11.9	-	-	3	4.5	1	9.1	-	-	2	5.1	-	-	4	5.4	2	2.5
460 - 469	-	-	1	2.4	-	-	2	3.0	-	-	-	-	1	2.6	-	-	5	6.8	5	6.3
470 - 479	-	-	9	21.4	-	-	4	6.0	-	-	-	-	1	2.6	-	-	1	1.4	4	5.0
480 - 489	-	-	4	9.5	1	2.6	2	3.0	-	-	-	-	1	2.6	-	-	2	2.7	8	6.0
490 - 499	-	-	3	7.1	4	10.3	7	10.5	-	-	1	5.3	-	-	-	-	-	-	3	3.8
500 - 509	-	-	3	7.1	4	10.3	9	13.4	-	-	-	-	1	2.6	-	-	2	2.7	3	3.8
510 - 519	-	-	-	-	7	17.9	9	13.4	-	-	1	5.3	2	5.1	-	-	-	-	3	3.8
520 - 529	-	-	-	-	4	10.3	9	13.4	-	-	2	10.4	1	2.6	-	-	-	-	1	1.3
530 - 539	-	-	1	2.4	5	12.8	3	4.5	-	-	1	5.3	1	2.6	-	-	-	-	1	1.3
540 - 549	-	-	-	-	6	15.4	4	6.0	-	-	-	-	4	10.3	-	-	-	-	-	-
550 - 559	1	14.3	-	-	4	10.3	1	1.5	-	-	-	-	2	5.1	-	-	-	-	1	1.3
560 - 569	3	42.9	-	-	3	7.7	1	1.5	-	-	-	-	-	-	-	-	-	-	-	-
570 - 579	-	-	-	-	-	-	-	-	-	-	1	5.3	2	5.1	-	-	1	1.4	-	-
580 - 589	1	14.3	-	-	-	-	-	-	-	-	-	-	5	12.8	-	-	-	-	-	-
590 - 599	1	14.3	-	-	-	-	-	-	-	-	1	5.3	-	-	-	-	-	-	-	-
600 - 609	1	14.3	-	-	-	-	-	-	-	-	-	-	1	2.6	1	100.0	-	-	-	-
Total	7		42		39		67		11		19		39		1		74		80	
Mean	576		431		505		471		318		359		443		600		392		372	

Table 17. Length frequency distribution for lake trout from lakes surveyed in the Northwest Territories, 1971-72.

Length Interval (mm)	Duncan L.[a]		Harding L.		Indin L.		Lady Grey L.		Little Doctor L.		Markham L.		Nonacho L.[a]		North Henik L.		Stagg L.		Stark L.	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
170 - 179	-	-	-	-	-	-	-	-	-	-	-	-	1	1.6	-	-	-	-	-	-
180 - 189	-	-	-	-	-	-	-	-	-	-	-	-	1	1.6	-	-	-	-	-	-
190 - 199	-	-	-	-	-	-	-	-	-	-	1	5.3	1	1.6	-	-	-	-	-	-
200 - 209	-	-	-	-	-	-	-	-	-	-	-	-	1	1.6	-	-	-	-	-	-
220 - 229	-	-	-	-	-	-	-	-	-	-	1	5.3	-	-	-	-	-	-	-	-
240 - 249	-	-	-	-	-	-	-	-	-	-	1	5.3	-	-	-	-	-	-	-	-
260 - 269	-	-	-	-	-	-	-	-	-	-	-	-	2	3.2	1	2.1	-	-	-	-
290 - 299	1	1.9	-	-	-	-	-	-	-	-	-	-	1	1.6	-	-	-	-	-	-
300 - 309	-	-	-	-	-	-	-	-	-	-	-	-	1	1.6	-	-	-	-	-	-
320 - 329	1	1.9	-	-	-	-	-	-	-	-	1	5.3	1	1.6	-	-	-	-	-	-
330 - 339	1	1.9	1	14.3	-	-	-	-	-	-	2	10.5	-	-	-	-	-	-	-	-
340 - 349	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4.2	-	-	-	-
350 - 359	-	-	-	-	-	-	1	4.0	-	-	-	-	-	-	4	8.3	-	-	-	-
360 - 369	-	-	-	-	-	-	-	-	-	-	1	5.3	1	1.6	1	2.1	-	-	1	4.6
370 - 379	2	3.7	-	-	-	-	-	-	-	-	1	5.3	1	1.6	1	2.1	-	-	-	-
380 - 389	-	-	-	-	-	-	-	-	-	-	1	5.3	3	4.8	1	2.1	-	-	-	-
390 - 399	1	1.9	1	14.3	-	-	-	-	-	-	-	-	1	1.6	2	4.2	-	-	-	-
400 - 409	-	-	-	-	-	-	-	-	-	-	-	-	2	3.2	-	-	-	-	-	-
410 - 419	2	3.7	-	-	-	-	-	-	-	-	1	5.3	-	-	-	-	-	-	-	-
420 - 429	1	1.9	-	-	1	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
430 - 439	-	-	-	-	-	-	-	-	-	-	1	5.3	-	-	-	-	-	-	2	9.1
440 - 449	1	1.9	-	-	1	1.9	-	-	-	-	-	-	1	1.6	1	2.1	-	-	-	-
450 - 459	1	1.9	-	-	1	1.9	-	-	-	-	-	-	-	-	1	2.1	-	-	-	-
460 - 469	2	3.7	-	-	2	3.8	-	-	-	-	1	5.3	1	1.6	-	-	-	-	-	-
470 - 479	1	1.9	-	-	3	5.7	-	-	2	20.0	1	5.3	-	-	-	-	-	-	-	-
480 - 489	4	7.4	-	-	5	9.4	-	-	-	-	-	-	-	-	2	4.2	-	-	-	-
490 - 499	7	13.0	-	-	3	5.7	1	4.0	1	10.0	-	-	-	-	-	-	-	-	-	-
500 - 509	7	13.0	-	-	2	3.8	-	-	2	20.0	-	-	1	1.6	3	6.3	-	-	-	-
510 - 519	4	2.4	1	14.3	2	3.8	-	-	-	-	1	5.3	1	1.6	-	-	-	-	-	-
520 - 529	6	11.1	1	14.3	6	11.3	1	4.0	1	10.0	-	-	1	1.6	1	2.1	-	-	-	-
530 - 539	3	5.6	-	-	3	5.7	3	12.0	-	-	-	-	2	3.2	-	-	-	-	-	-
540 - 549	2	3.7	-	-	2	3.8	-	-	1	10.0	-	-	3	4.8	4	8.3	2	33.3	1	4.6
550 - 559	3	5.6	-	-	3	5.7	-	-	-	-	-	-	2	3.2	1	2.1	-	-	1	4.6
560 - 569	-	-	-	-	2	3.8	-	-	1	10.0	-	-	4	6.5	1	2.1	1	16.7	2	9.1
570 - 579	1	1.9	-	-	2	3.8	1	4.0	1	10.0	-	-	3	4.8	3	6.3	-	-	-	-
580 - 589	-	-	-	-	3	5.7	2	8.0	1	10.0	-	-	3	4.8	-	-	1	16.7	1	4.6
590 - 599	-	-	-	-	2	3.8	2	8.0	-	-	-	-	2	3.2	-	-	1	16.7	-	-
600 - 609	-	-	-	-	-	-	2	8.0	-	-	-	-	2	3.2	4	8.3	1	16.7	1	4.6
610 - 619	-	-	-	-	-	-	1	4.0	-	-	-	-	1	1.6	-	-	-	-	-	-
620 - 629	-	-	-	-	-	-	2	8.0	-	-	-	-	-	-	5	10.4	-	-	2	9.1
630 - 639	-	-	-	-	2	3.8	3	12.0	-	-	-	-	4	6.5	1	2.1	-	-	2	9.1
640 - 649	-	-	1	14.3	-	-	2	8.0	-	-	-	-	2	3.2	1	2.1	-	-	-	-
650 - 659	1	1.9	-	-	-	-	-	-	-	-	-	-	3	4.8	-	-	-	-	-	-
660 - 669	1	1.9	-	-	-	-	1	4.0	-	-	-	-	-	-	1	2.1	-	-	2	9.1
670 - 679	-	-	-	-	1	1.9	-	-	-	-	-	-	-	-	3	6.3	-	-	2	9.1
680 - 689	-	-	-	-	-	-	-	-	-	-	1	5.3	1	1.6	-	-	-	-	1	4.6
690 - 699	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2.1	-	-	1	4.6
700 - 709	-	-	-	-	1	1.9	1	4.0	-	-	-	-	-	-	1	2.1	-	-	-	-
710 - 719	-	-	-	-	-	-	-	-	-	-	-	-	2	3.2	1	2.1	-	-	-	-
720 - 729	-	-	-	-	-	-	-	-	-	-	-	-	1	1.6	-	-	-	-	-	-
730 - 739	1	1.9	-	-	1	1.9	-	-	-	-	-	-	-	-	-	-	-	-	1	4.6
740 - 749	-	-	1	14.3	-	-	-	-	-	-	1	5.3	-	-	-	-	-	-	-	-
750 - 759	-	-	-	-	3	5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
770 - 779	-	-	-	-	-	-	-	-	-	-	1	5.3	-	-	1	2.1	-	-	-	-
780 - 789	-	-	-	-	-	-	-	-	-	-	-	-	1	1.6	-	-	-	-	1	4.6
790 - 799	-	-	-	-	-	-	-	-	-	-	-	-	1	1.6	-	-	-	-	-	-
810 - 819	-	-	-	-	-	-	1	4.0	-	-	-	-	-	-	-	-	-	-	-	-
830 - 839	-	-	-	-	-	-	-	-	-	-	1	5.3	-	-	-	-	-	-	-	-
840 - 849	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4.6
860 - 869	-	-	-	-	-	-	-	-	-	-	-	-	3	4.8	-	-	-	-	-	-
870 - 879	-	-	-	-	-	-	-	-	-	-	1	5.3	-	-	-	-	-	-	-	-
880 - 889	-	-	1	14.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
890 - 899	-	-	-	-	1	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
950 - 959	-	-	-	-	1	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
960 - 969	-	-	-	-	-	-	1	4.0	-	-	-	-	-	-	-	-	-	-	-	-
Total	54		7		53		25		10		19		62		48		6		22	
Mean	496		607		561		613		523		472		532		512		575		616	

[a] Includes angled and gillnet catch.

Table 18 . Age frequency distributions for lake whitefish from all lakes surveyed in the Northwest Territories, 1971-72.

Age Group	Duncan L.		Harding L.		Indin L.		Lady Grey L.		Little Doctor L.		Markham L.		Nonacho L.		North Henik L.		Stagg L.		Stark L.	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
2	-	-	-	-	-	-	3	4.5	-	-	-	-	-	-	-	-	1	1.4	-	-
3	-	-	-	-	1	2.8	4	6.1	-	-	-	-	-	-	-	-	1	1.4	3	3.9
4	-	-	-	-	-	-	2	3.0	-	-	2	11.1	1	2.7	-	-	-	-	8	10.5
5	-	-	1	2.4	-	-	-	-	1	10.0	1	5.6	-	-	-	-	4	5.5	3	3.9
6	-	-	3	7.1	-	-	-	-	2	20.0	3	16.7	-	-	-	-	5	6.8	2	2.6
7	-	-	2	4.8	-	-	-	-	2	20.0	3	16.7	3	8.1	-	-	11	15.1	6	7.9
8	-	-	11	26.2	1	2.8	2	3.0	-	-	-	-	7	18.9	-	-	4	5.5	6	7.9
9	-	-	12	28.6	1	2.8	3	4.5	1	10.0	1	5.6	2	5.4	-	-	9	12.3	8	10.5
10	1	14.3	7	16.7	1	2.8	7	10.6	1	10.0	-	-	2	5.4	-	-	8	4.1	6	7.9
11	-	-	6	14.3	2	5.6	11	16.7	1	10.0	1	5.6	4	10.8	-	-	5	6.8	9	11.8
12	-	-	-	-	13	36.1	13	19.7	1	10.0	-	-	7	18.9	-	-	9	12.3	11	14.5
13	-	-	-	-	8	22.2	3	4.5	1	10.0	2	11.1	5	13.5	-	-	8	11.0	5	6.6
14	-	-	-	-	5	13.9	5	7.6	-	-	2	11.1	1	2.7	-	-	8	11.0	4	5.3
15	2	28.6	-	-	4	11.1	1	1.5	-	-	3	16.7	2	5.4	1	100.0	3	4.1	3	3.9
16	3	42.9	-	-	-	-	2	3.0	-	-	-	-	1	2.7	-	-	2	2.7	-	-
17	1	14.3	-	-	-	-	2	3.0	-	-	-	-	-	-	-	-	-	-	2	2.6
18	-	-	-	-	-	-	6	9.1	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	2	3.0	-	-	-	-	1	2.7	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	1	2.7	-	-	-	-	-	-
Total	7		42		36		66		10		18		37		1		73		76	
Mean	15.0		8.8		12.3		11.2		7.5		9.3		11.1		15.0		10.0		9.5	

Table 19 . Growth characteristics of lake whitefish from selected lakes surveyed in the Northwest Territories, 1971-72.

Age Group	Harding Lake			Indin Lake			Stark Lake			Stagg Lake			Nonacho Lake			Lady Grey Lake		
	N	Mean Length (mm)	Mean Weight (g)	N	Mean Length (mm)	Mean Weight (g)	N	Mean Length (mm)	Mean Weight (g)	N	Mean Length (mm)	Mean Weight (g)	N	Mean Length (mm)	Mean Weight (g)	N	Mean Length (mm)	Mean Weight (g)
2	-	-	-	-	-	-	-	-	-	1	162	40	-	-	-	3	190	83
3	-	-	-	1	175	25	3	179	53	1	199	75	-	-	-	4	224	159
4	-	-	-	-	-	-	8	189	66	-	-	-	1	213	80	2	281	253
5	1	275	375	-	-	-	3	255	185	4	276	265	-	-	-	-	-	-
6	3	357	583	-	-	-	2	232	133	5	327	481	-	-	-	-	-	-
7	2	360	713	-	-	-	6	279	252	11	350	594	3	298	453	-	-	-
8	11	419	1127	1	503	1725	6	322	408	4	359	599	7	339	595	2	409	968
9	12	435	1306	1	493	1725	8	384	887	9	392	838	2	416	1325	3	476	1458
10	7	477	1643	1	484	1375	6	428	1034	3	422	1083	2	516	2050	7	479	1643
11	6	484	1596	2	495	1550	9	466	1516	5	440	1275	4	545	2419	11	494	1745
12	-	-	-	13	520	1967	11	465	1543	9	442	1206	7	521	2054	13	507	1882
13	-	-	-	8	536	2100	5	469	1421	8	440	1131	5	510	2042	3	510	2248
14	-	-	-	5	554	2225	4	513	1860	8	458	1319	1	587	3950	5	516	1909
15	-	-	-	4	538	2031	3	476	1550	-	-	-	2	579	2850	1	521	2360
16	-	-	-	-	-	-	-	-	-	3	464	1475	1	609	3100	2	527	2230
17	-	-	-	-	-	-	2	509	2375	2	447	1175	-	-	-	2	518	2113
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	527	2232
19	-	-	-	-	-	-	-	-	-	-	-	-	1	479	1640	2	530	2238
20	-	-	-	-	-	-	-	-	-	-	-	-	1	549	2210	-	-	-
Total	42			36			76			73			37			67		
Mean	8.8[a]	431	1254	12.3[a]	505	1935	9.5[a]	377	941	10.1[a]	392	921	11.1[a]	443	1666	11.2[a]	471	1647

[a] Indicates mean age.

Table 20 . Statistics from length-weight relationships for fish from lakes surveyed in the Northwest Territories, 1971-72.

Lake	Species	No.	Mean Length (mm)	Mean Weight (g)	Y-Intercept (a)	Slope (b)	s_b
Duncan L.	Lake Trout	53	489.3	1412.0	- 5.1719	3.0941	0.1552
Harding L.	Lake Whitefish	42	424.6	1095.9	- 5.0873	3.0925	0.0062
Indin L.	Lake Whitefish	39	512.5	1754.8	- 7.3275	3.9015	0.0083
	Lake Trout	54	554.7	1823.0	- 5.4137	3.1612	0.0998
	Arctic Grayling	41	275.8	236.9	- 5.0188	3.0293	0.0519
Lady Grey L.	Lake Whitefish	68	448.2	1275.1	- 5.3790	3.2000	0.0536
	Lake Trout	25	618.5	2840.4	- 5.2361	3.1130	0.7004
Little Doctor L.	Longnose Sucker	24	439.2	1008.6	- 5.1623	3.0901	0.0729
Markham L.	Lake Whitefish	19	334.8	643.0	- 4.0084	2.6999	0.2105
	Lake Trout	19	431.1	1009.3	- 3.9736	2.6485	0.1698
Nonacho L.	Lake Whitefish	39	433.6	1207.0	- 4.3868	2.8322	0.1604
	Lake Trout	62	499.4	1534.8	- 4.6621	2.9084	0.0633
North Henik L.	Lake Trout	48	516.3	1453.8	- 4.4031	2.7888	0.0718
Stagg L.	Lake Whitefish	74	382.6	796.1	- 2.7124	2.1734	0.1607
	Walleye	18	433.6	869.9	- 4.5502	2.8402	0.1656
Stark L.	Lake Whitefish	80	352.6	556.9	- 5.9379	3.4090	0.0478
	Lake Trout	22	605.3	2675.4	- 6.5026	3.5694	0.1543

Table 21 . Occurrence and percent by weight of major food items in the stomachs of lake whitefish and lake trout from lakes surveyed in the Northwest Territories, 1971.

	Harding Lake		Little Doctor Lake		North Henik Lake		Markham Lake		Stagg Lake	
	Whitefish(8)[a]	Trout(4)	Whitefish(12)	Trout(9)	Whitefish(1)	Trout(12)	Whitefish(15)	Trout(12)	Whitefish(10)	Trout(2)
Crustacea	-	-	-	-	-	-	-	-	-	-
Amphipoda	22.5	-	-	-	-	-	-	-	-	-
Pontoporeia sp	7.8	-	-	-	-	-	-	-	6.1	-
Insecta	-	-	-	9.1	-	-	-	5.4	-	-
Diptera larvae	8.9	-	-	-	-	22.0	-	-	8.6	-
Trichoptera larvae	29.2	-	13.6	-	-	18.3	32.2	61.2	39.2	-
Coleoptera adult	-	-	6.5	-	-	-	-	-	-	-
Ephemeroptera larvae	-	-	8.7	14.3	-	-	-	-	-	-
Mollusca	12.5	-	-	-	-	-	-	-	-	-
Gastropoda	-	-	9.8	-	90.0	-	50.2	-	15.0	-
Pelecypoda	-	-	9.2	-	5.0	-	-	-	-	-
Sphaeridae	-	-	6.5	-	-	-	10.6	-	-	-
Hirudinea	3.2	-	-	-	-	-	-	-	-	-
Fish	-	100.0	33.3	76.6	-	42.2	4.3	33.5	6.3	100.0
Sculpin	-	-	-	-	-	-	-	-	-	-
Stickleback	-	-	-	-	-	-	-	-	-	-
Cisco	-	-	-	-	-	-	-	-	-	-
Remains	5.8	-	-	-	-	-	-	-	-	-
Organic Remains	3.9	-	3.7	-	5.0	-	-	-	8.2	-
Inorganic Remains	6.1	-	8.7	-	-	17.6	2.7	-	16.6	-

[a] No. Examined.

Table 22 . Occurrence (number and percent) and percent by weight of major food items in the stomachs of lake whitefish from lakes surveyed in the Northwest Territories, 1972.

Food Item	Duncan Lake (7)[a]			Indin Lake (30)			Lady Grey Lake (34)			Nonacho Lake (24)			Stark Lake (47)		
Occurrence:	N	% No.	% Wt.	N	% No.	% Wt.	N	% No.	% Wt.	N	% No.	% Wt.	N	% No.	% Wt.
Crustacea	6	86	4	27	90	2	34	100	1	18	75	1	32	68	1
Insecta	-	-	-	29	97	1	-	-	-	-	-	-	-	-	-
Larvae	7	100	1	-	-	-	29	85	2	2	8	2	45	96	14
Mollusca	6	86	35	30	100	35	33	97	42	22	92	57	45	96	42
Hirudinea	-	-	-	2	7	+[b]	19	56	1	5	21	+	-	-	-
Fish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stickleback	-	-	-	-	-	-	7	21	2	2	8	+	-	-	-
Remains	-	-	-	-	-	-	19	56	2	-	-	-	-	-	-
Organic Remains	6	86	55	30	100	60	34	100	49	24	100	39	47	100	43
Inorganic Remains	6	86	5	2	7	2	7	21	2	2	8	1	-	-	-
No. Examined		7			37			69			39			80	
No. With Food		7			34			68			32			63	

[a] Stomachs Analysed .

[b] <1% .

Table 23 . Occurrence (number and percent) and percent by weight of major food items in the stomachs of lake trout from lakes surveyed in the Northwest Territories, 1972.

Food Item	Duncan Lake (23)[a]			Indin Lake (15)			Lady Grey Lake (15)			Nonacho Lake (22)			Stark Lake (12)		
Occurrence:	N	% No.	% Wt.	N	% No.	% Wt.	N	% No.	% Wt.	N	% No.	% Wt.	N	% No.	% Wt.
Crustacea	5	22	+[b]	-	-	-	-	-	-	-	-	-	4	33	1
Insecta	-	-	-	6	40	1	-	-	-	-	-	-	-	-	-
Larvae	20	87	3	-	-	-	11	73	1	6	27	1	-	-	-
Mollusca	-	-	-	-	-	-	2	13	+	-	-	-	-	-	-
Hirudinea	-	-	-	-	-	-	7	47	1	5	23	2	-	-	-
Fish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sculpin	8	35	15	-	-	-	3	20	3	5	23	1	1	8	2
Cisco	5	22	12	7	47	56	6	40	51	12	55	34	2	17	5
Stickleback	-	-	-	-	-	-	5	33	6	-	-	-	1	8	2
Remains	10	43	45	8	53	16	14	93	21	18	82	58	9	75	78
Organic Remains	19	83	22	14	93	10	15	100	12	22	100	2	11	92	8
Inorganic Remains	5	22	3	4	27	17	4	27	4	3	14	1	4	33	5
No. Examined		54			53			26			66			22	
No. With Food		44			40			23			52			16	

[a] Stomach Analysed .

[b] < 1% .

Table 24 . Benthos from lakes surveyed in the Northwest Territories, 1971-72.

Taxa	Duncan L.		Harding L.		Indin L.		Lady Grey L.		Little Doctor L.		Markham L.		Nonacho L.		North Henik L.		Stagg L.	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda	208	62.5	-	-	49	19.8	181	64.0	-	-	-	-	195	68.4	-	-	-	-
Pontoporeia sp.	-	-	141	65.0	-	-	-	-	33	26.2	-	-	-	-	-	-	107	52.2
Hyalella sp.	-	-	-	-	57	23.1	-	-	-	-	-	-	-	-	-	-	22	10.7
Gammarus sp.	-	-	5	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mysidacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mysis sp.	-	-	1	0.5	7	2.8	-	-	-	-	-	-	-	-	-	-	-	-
Cladocera	-	-	-	-	2	0.8	-	-	-	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae	17	5.3	2	0.9	48	19.4	38	13.4	29	23.0	35	38.9	44	15.4	13	46.4	23	11.2
Tipulidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.5
Trichoptera	1	0.3	1	0.5	-	-	-	-	-	-	-	-	1	0.4	-	-	-	-
Ephemeroptera	-	-	46	21.4	-	-	-	-	-	-	-	-	-	-	-	-	6	2.9
Mollusca	73	22.9	-	-	75	30.4	27	9.5	-	-	-	-	35	12.3	-	-	-	-
Pelecypoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sphaeridae	-	-	12	5.5	-	-	-	-	20	15.8	35	38.9	-	-	11	39.3	19	9.3
Gastropoda	-	-	2	0.9	-	-	1	0.4	17	13.5	12	13.3	-	-	1	3.6	13	6.3
Oligochaeta	28	8.8	-	-	9	3.6	33	11.7	20	15.8	-	-	8	2.8	-	-	-	-
Nematoda	2	0.6	1	0.5	-	-	-	-	7	5.5	-	-	-	-	3	10.7	11	5.4
Hirudinea	-	-	6	2.7	-	-	3	1.1	-	-	-	-	1	0.4	-	-	-	-
Annelida	-	-	-	-	-	-	-	-	-	-	8	8.9	-	-	-	-	3	1.5
Hydra	-	-	-	-	-	-	-	-	-	-	-	-	2	0.7	-	-	-	-
Total	319		217		247		283		126		90		285		28		205	

Table 25 . Phytoplankton from lakes surveyed in the Northwest Territories, 1971.

Taxa	Percent Occurrence[b]									
	Harding Lake		Little Doctor Lake		Markham Lake		North Henik Lake		Stagg Lake	
	9m	25m	9m	26m	10m	17m	10m	25m	10m	25m
Chrysophyta										
Bacillariophyceae	-	2.4	-	0.9	-	2.2	0.2	-	0.9	-
Asterionella sp.	7.5	4.9	0.4	2.6	7.4	25.3	5.5	5.7	37.9	24.6
Synedra sp.	60.0	24.4	-	-	2.1	0.9	3.0	4.8	16.4	8.2
Fragilaria sp.	-	-	-	-	0.2	3.1	0.2	2.3	-	-
Tabellaria fenestrata	12.5	9.8	-	0.9	6.7	12.4	5.3	3.4	18.2	8.2
T. *fenestrata intermedia*	-	-	-	-	0.5	0.4	-	-	-	-
T. *flocullosa*	-	-	-	-	4.9	12.9	0.8	-	-	-
Cyclotella sp.	-	-	-	-	0.5	0.4	-	-	1.3	-
Melosira sp.	7.5	-	0.4	-	-	-	-	-	7.1	11.7
Chrysophyceae	-	-	-	-	-	-	-	-	-	-
Dinobryon sp.	-	7.3	98.0	95.2	49.4	35.1	64.3	55.8	6.3	14.0
Cyanophyta										
Anabaena sp.	-	14.6	-	-	-	-	-	-	9.7	20.4
Oscillatoria sp.	-	-	0.1	-	-	1.3	-	-	-	-
Aphanizomenan sp.	-	-	-	-	-	-	4.5	-	-	7.5
Chlorophyta										
Gymnozygon sp.	-	-	-	-	-	1.3	-	-	-	-
Zygnemales	-	-	-	-	25.1	0.7	-	-	-	-
Filamentous Algae	10.0	34.2	0.6	-	1.6	0.4	12.7	28.1	2.1	5.2
Colonial Algae	2.5	2.4	0.6	0.4	1.6	3.6	3.6	-	-	-
Desmids	-	-	-	-	20.1/L[a]	8.9/L[a]	2.8/L[a]	5.9/L[a]	-	0.3

[a] Calculated in Numbers per Litre.

[b] Total Vertical Haul.

Table 26. Phytoplankton from lakes surveyed in the Northwest Territories, 1972.

Taxa	Occurrence[a]							
	Duncan Lake		Indin Lake		Lady Grey Lake		Nonacho Lake	
	N	%[b]	N	%	N	%	N	%
Pyrrophyta								
Peridinium aciculiferum	-	-	-	-	-	-	4	0.4
Gymnodinium sp.	-	-	1	0.7	-	-	13	1.4
Ceratium hirundenella	4	1.2	1	0.7	-	-	12	1.3
Chrysophyta	62	19.3	8	5.5	21	3.6	130	14.3
Bacillariophyceae	-	-	-	-	-	-	-	-
Synedra sp.	14	4.3	-	-	-	-	40	4.4
S. ulna	-	-	-	-	26	4.5	20	2.2
S. acus	-	-	-	-	30	5.2	-	-
Oscillatoria sp.	3	0.9	-	-	17	2.9	5	0.6
Melosira sp.	2	0.6	-	-	-	-	-	-
M. ambigua	-	-	-	-	7	1.2	22	2.4
M. islandia	-	-	-	-	66	11.4	30	3.3
Tabellaria flocculosa	59	18.3	11	7.5	19	3.3	26	2.9
T. fenestrata	117	36.3	80	54.8	78	13.4	134	14.7
Cyclotella sp.	12	3.7	1	0.7	2	0.3	4	0.4
C. comta	2	0.6	-	-	-	-	-	-
Rhizosolenia longista	-	-	-	-	-	-	5	0.6
Diatomeae elongatum	-	-	-	-	-	-	8	0.9
Asterionella formosa	-	-	-	-	122	21.0	-	-
Chrysophyceae								
Dinobryon sp.	42	13.0	28	19.2	87	15.0	133	14.6
Botryococcus braunni	1	0.3	-	-	-	-	-	-
Chlorophyta								
Conjugatophyceae								
Staurastrum lunatum	-	-	1	0.7	-	-	1	0.1
Spondylosium planum	-	-	-	-		0.2	18	2.0
Xanthidium sp.	-	-	1	0.7	-	-	-	-
Gleococcus schroeteri	-	-	-	-	-	-	128	14.0
Chlorophyceae								
Chlamydomonas sp.	4	1.2	-	-	96	16.6	168	18.4
Cyanophyta								
Coelosphaerium maegelianum	-	-	-	-	1	0.2	1	0.1
Aphanizomenon sp.	-	-	-	-	6	1.0	-	-
Cryptophyta								
Cryptomonas ovata	-	-	1	0.7		0.2	-	-
Katablepharis ovalis	-	-	-	-	-	-	10	1.1
Filamentous Blue Green Algae	-	-	5	3.4	-	-	-	-
Total No. Genera	9		8		14		17	
Total No. Individuals	322		146		580		912	

[a] Total Vertical Haul.

[b] Percentage of Total Number.

Table 27 . Zooplankton from lakes surveyed in the Northwest Territories, 1971.

Taxa	No. Individuals per Litre[a]									
	Harding Lake		Little Doctor Lake		Markham Lake		North Henik Lake		Stagg Lake	
	9m	25m	9m	26m	10m	17m	10m	25m	10m	25m
Copepoda	28.5	6.4	11.6	6.5	3.8	16.2	32.4	7.5	75.4	30.0
Calanoida	75.6	0.3	4.0	4.2	-	-	30.7	5.3	19.7	15.5
Cyclopoida	9.2	-	-	-	0.2	0.1	14.4	6.0	81.6	31.6
Harpacticoida	-	-	-	-	-	-	-	-	1.3	-
Rotifera	36.7	17.3	227.3	61.3	2.1	1.2	26.7	11.1	140.7	85.4
Kellicottia	27.1	3.6	17.4	8.4	33.1	18.7	83.5	29.7	-	-
Keratella	3.8	0.7	1.2	1.1	8.7	3.6	3.0	1.5	-	-
Monostyla	2.4	-	-	-	2.1	-	0.2	-	-	-
Conchostraca	0.7	-	-	-	0.6	-	-	-	-	-
Ostrocoda	-	0.2	-	-	-	-	0.6	-	0.6	0.2
Cladocera	3.3	0.9	0.3	0.2	3.4	1.7	0.2	6.4	11.1	6.5
Dinoflagellates										
[illegible] sp.	28.7	9.7	33.7	20.9	0.6	-	0.2	-	73.3	7.1
Total	216.0	39.1	295.5	102.6	54.6	41.5	191.9	67.5	403.7	176.3

[a] Total Vertical Haul.

Table 28. Zooplankton from lakes surveyed in the Northwest Territories, 1972.

Taxa		No. Individuals Per Litre[e]				
		Duncan Lake	Indin Lake	Lady Grey Lake	Nonacho Lake	Stark Lake
Copepoda						
Calanoida						
Senecella calanoides Juday	C[b]	0.004	--	0.100	--	--
Epischura sp.	C	0.022	--	0.002	0.465	--
Limnocalanus macrurus Sars		0.261	0.088	0.020	1.240	--
Diaptomus pribilofenis Juday & Muttkowski	A	--	--	--	--	--
D. pribilofenis Juday and Muttkowski	N[c]	--	--	--	--	--
D. silicis S.A. Forbes	A[a]	0.176	0.132	0.010	--	--
D. silicis S.A. Forbes	C	2.460	--	--	--	--
D. silicis S.A. Forbes	N	3.696	--	--	--	--
D. ashlandi Marsh	A	--	0.044	0.100	0.155	0.044
D. ashlandi Marsh	C	--	--	--	5.270	0.088
D. ashlandi Marsh	N	--	--	--	0.930	4.000
Diaptomidae	C	--	1.100	6.180	--	--
Diaptomidae	N	--	0.176	--	--	--
Cyclopoida						
Cyclops scutifer Sars	A	0.968	1.980	0.210	0.470	0.400
C. scutifer Sars	C	--	0.396	0.820	0.780	1.410
C. vernalis Fischer	C[f]	--	0.044	--	0.155	--
C. bicuspidatus thomasi S.A. Forbes	A	0.264	0.044	2.880	0.775	0.044
C. bicuspidatus thomasi S.A. Forbes	C	--	0.396	2.580	5.270	--
Cyclopidae	C	9.770	--	--	--	--
Cyclopidae	N	0.704	--	0.210	1.240	4.310
Cladocera						
Leptodora kindtii (Focke)		--	--	0.004	0.002	--
Holopedium gibberum Zaddach		0.004	0.220	0.820	0.310	--
Daphnia longeremis Sars		--	--	0.210	0.155	--
Bosmina longirostris (O.F. Müller)		--	--	--	0.020	--
Eubosmina longispina Deevey		--	--	--	0.155	--
Total No. Species		11	8	11	11	3
Total No. Per Species[d]		18.33	4.62	14.74	17.99	10.30

[a] Adult.

[b] Copepodid.

[c] Nauplii.

[d] Represents Two Samples (Hauls).

[e] All Samples Pooled.

[f] Stage 1 copepodid.

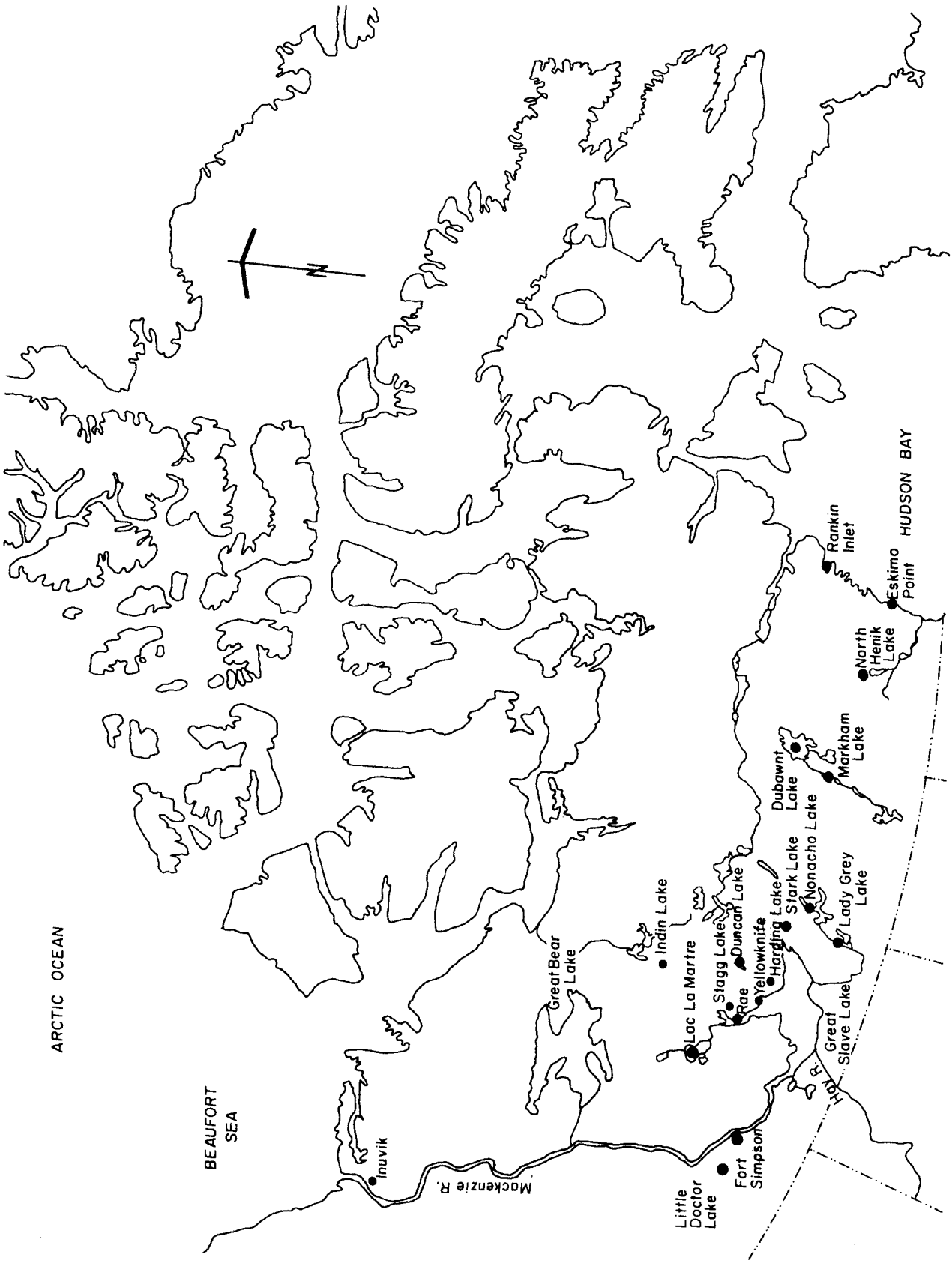

Fig. 1. Map of the Northwest Territories showing the lakes surveyed during 1971-72.

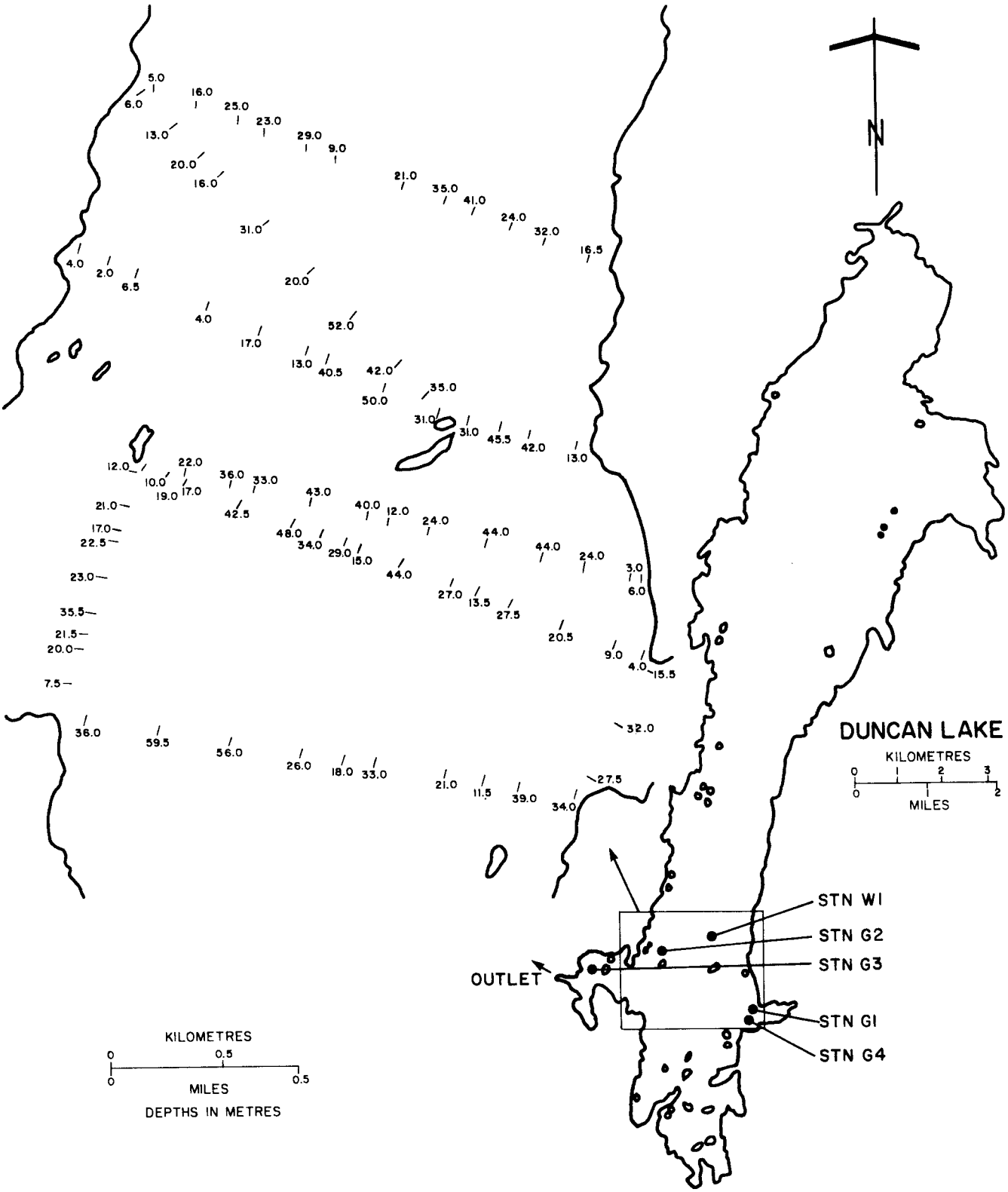

Fig. 2. Map of Duncan Lake showing depths and sampling locations.

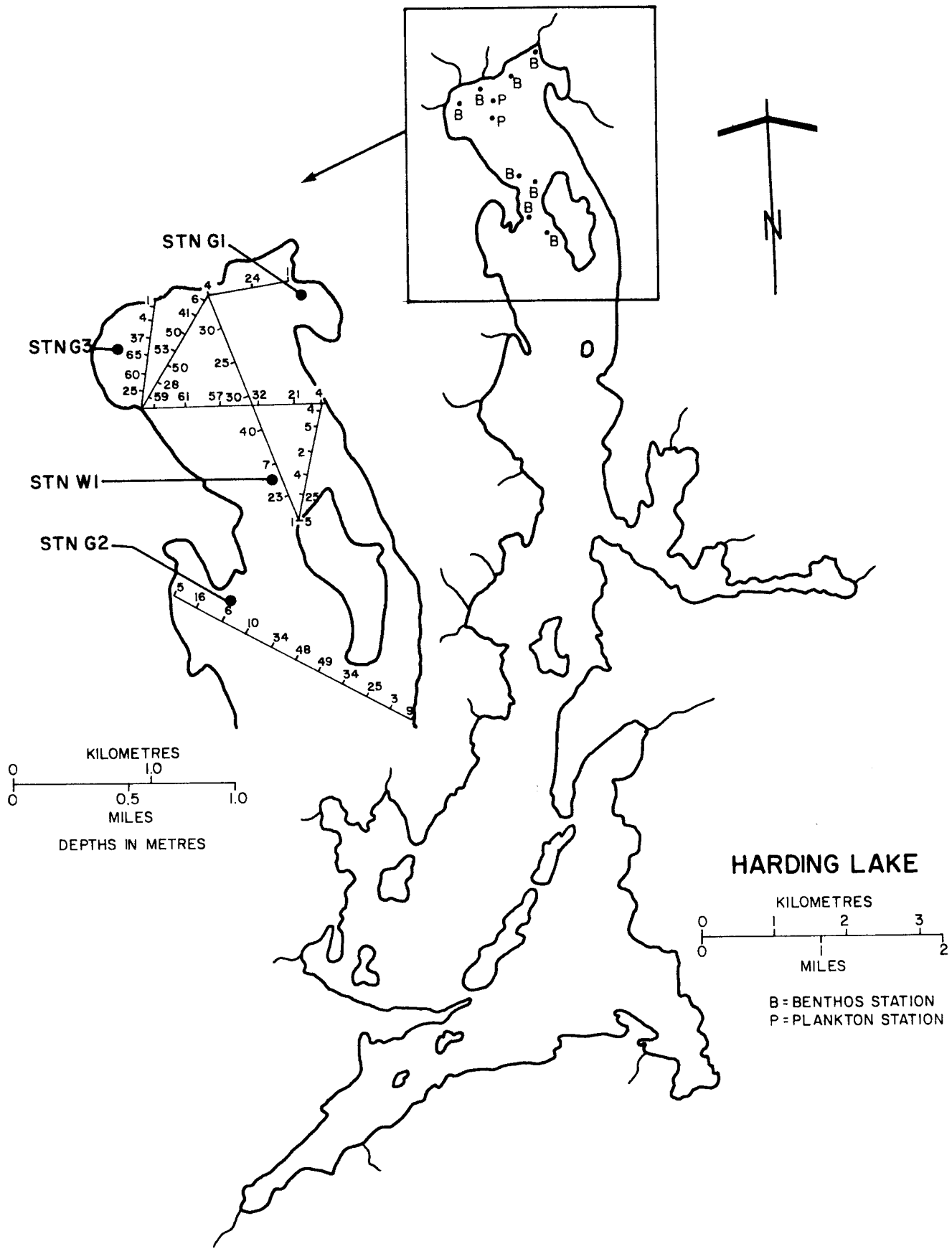

Fig. 3. Map of Harding Lake showing depths and sampling locations.

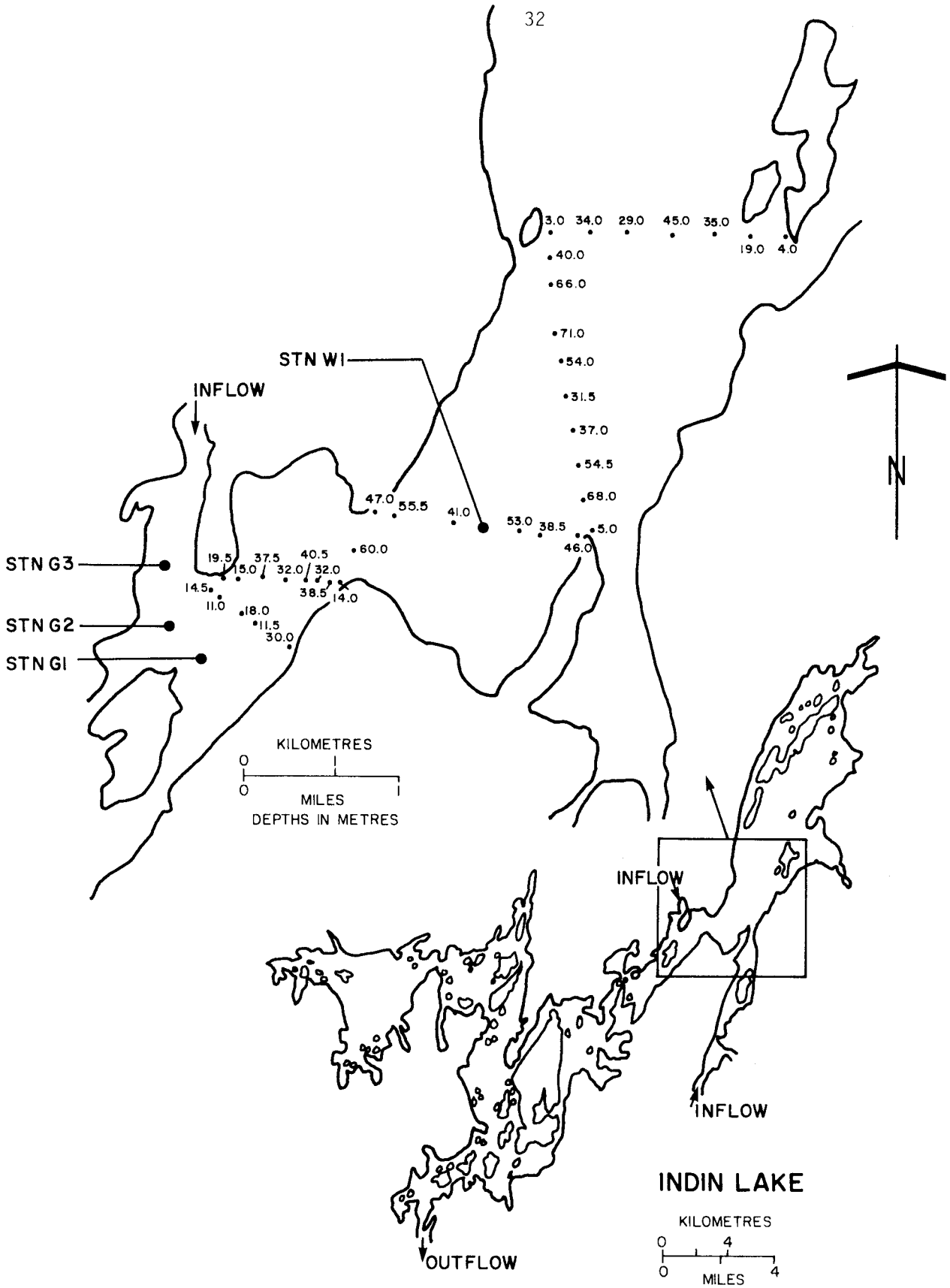

Fig. 4. Map of Indin Lake showing depths and sampling locations.

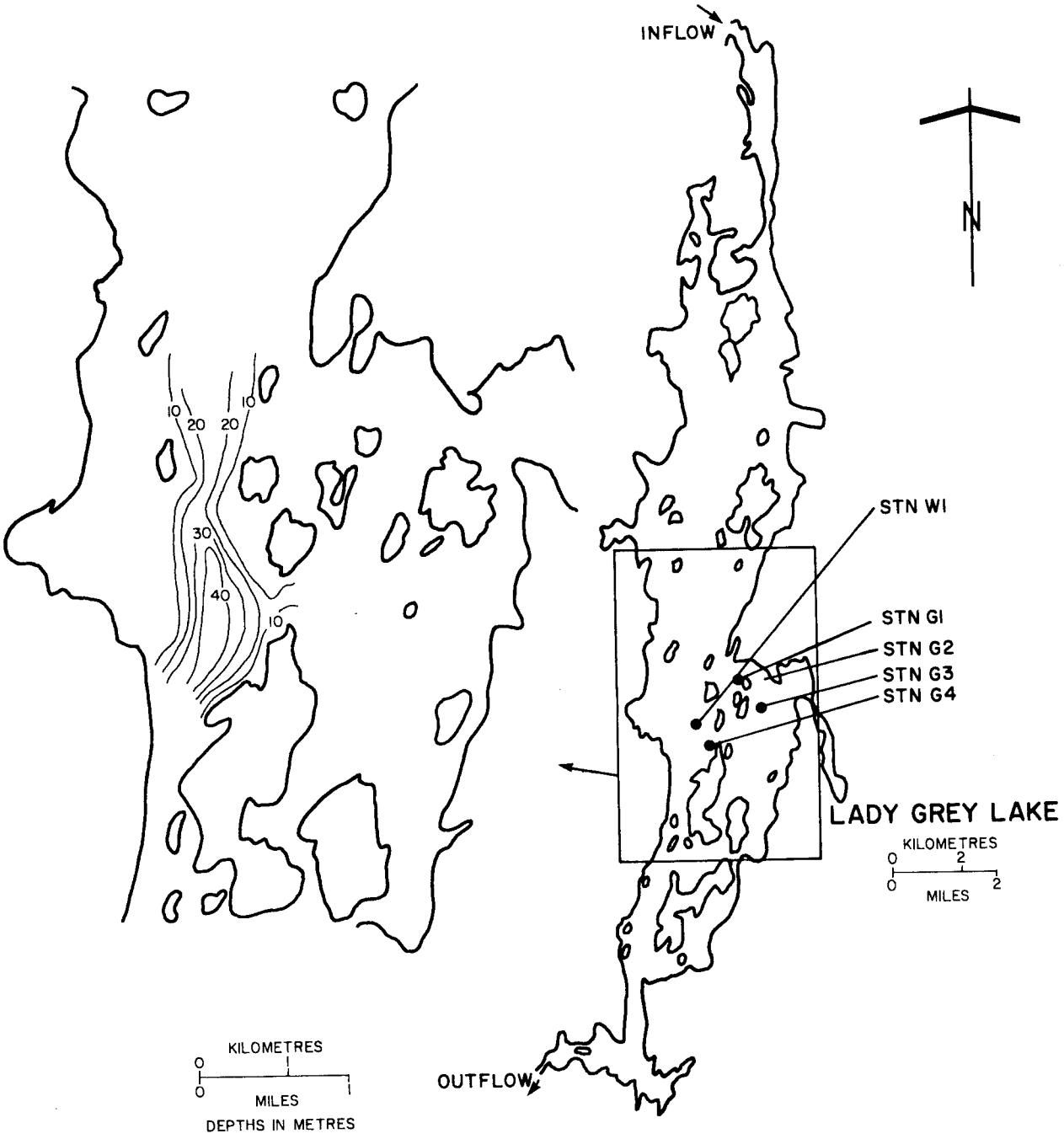

Fig. 5. Map of Lady Grey Lake showing depth contours and sampling locations.

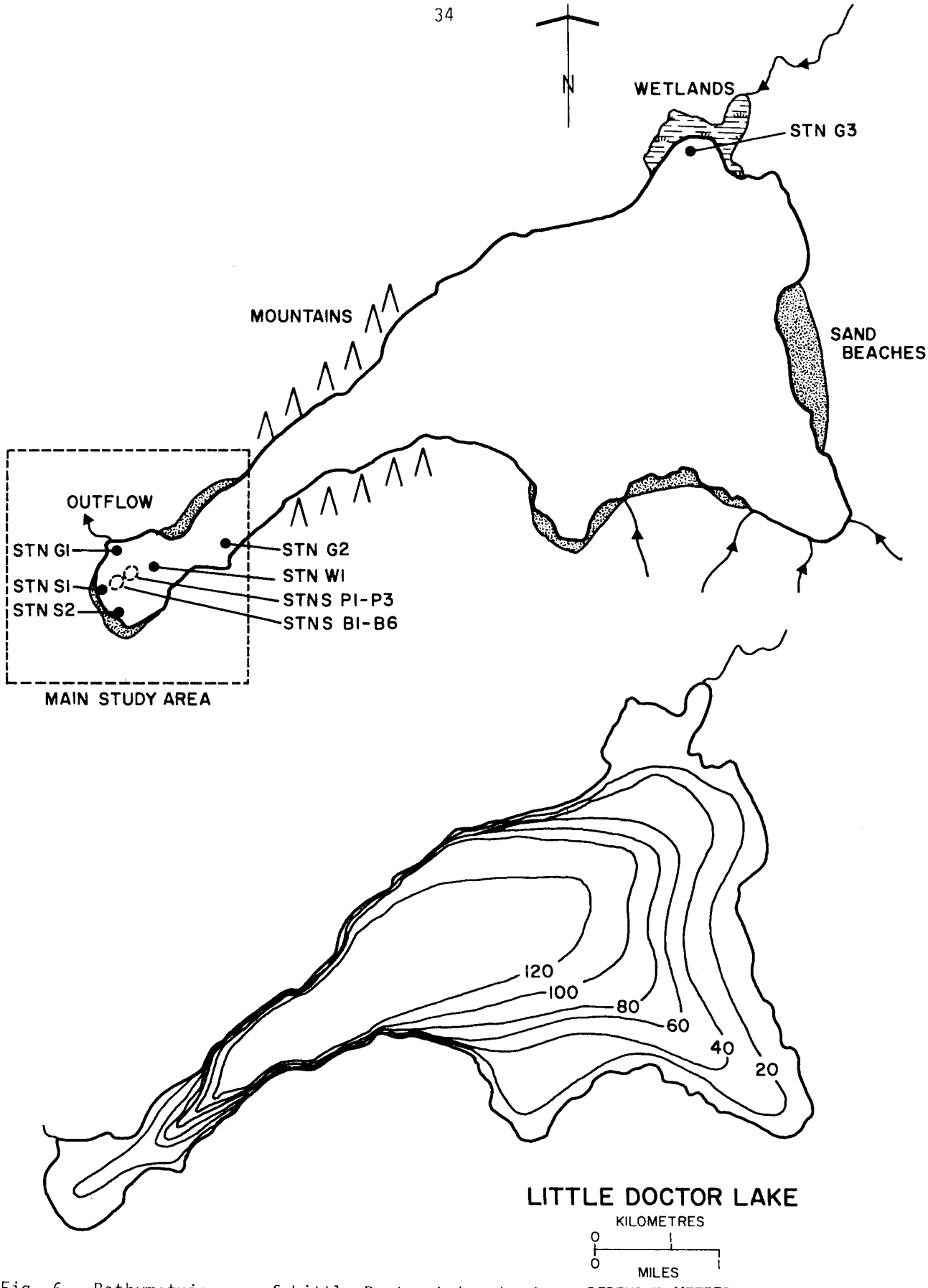

Fig. 6. Bathymetric map of Little Doctor Lake showing sampling locations.

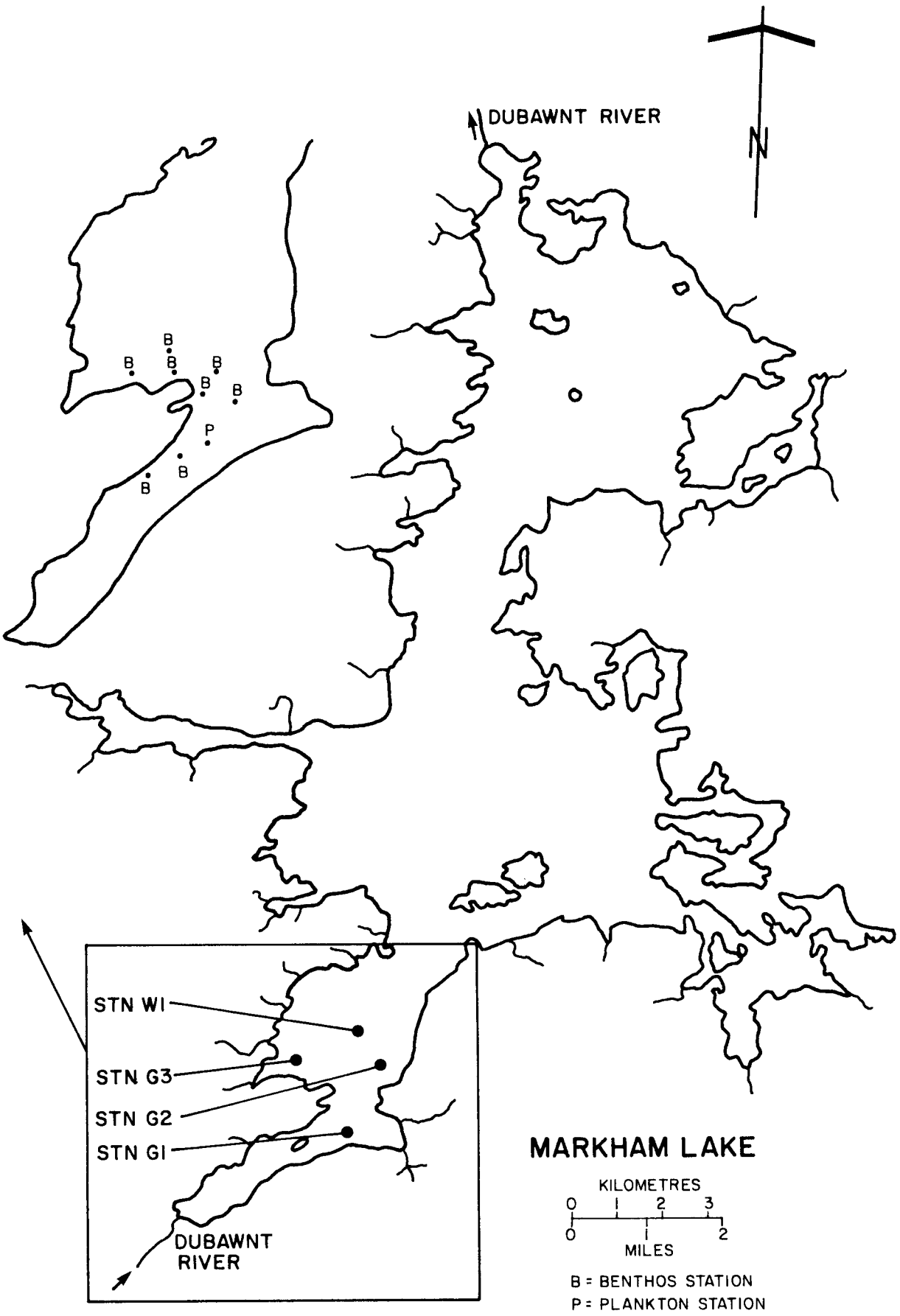

Fig. 7. Map of Markham Lake showing sampling locations.

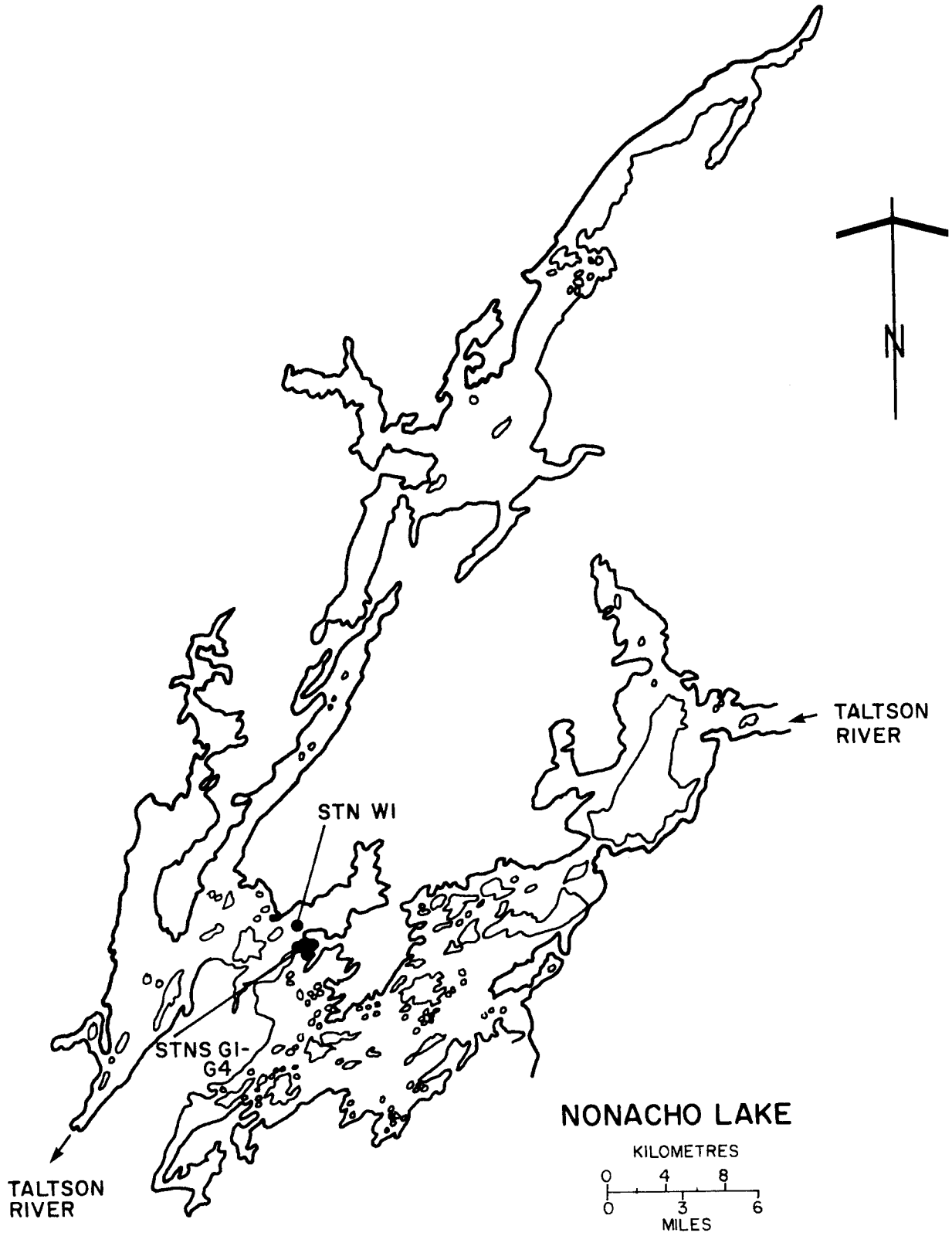

Fig. 8. Map of Nonacho Lake showing sampling locations.

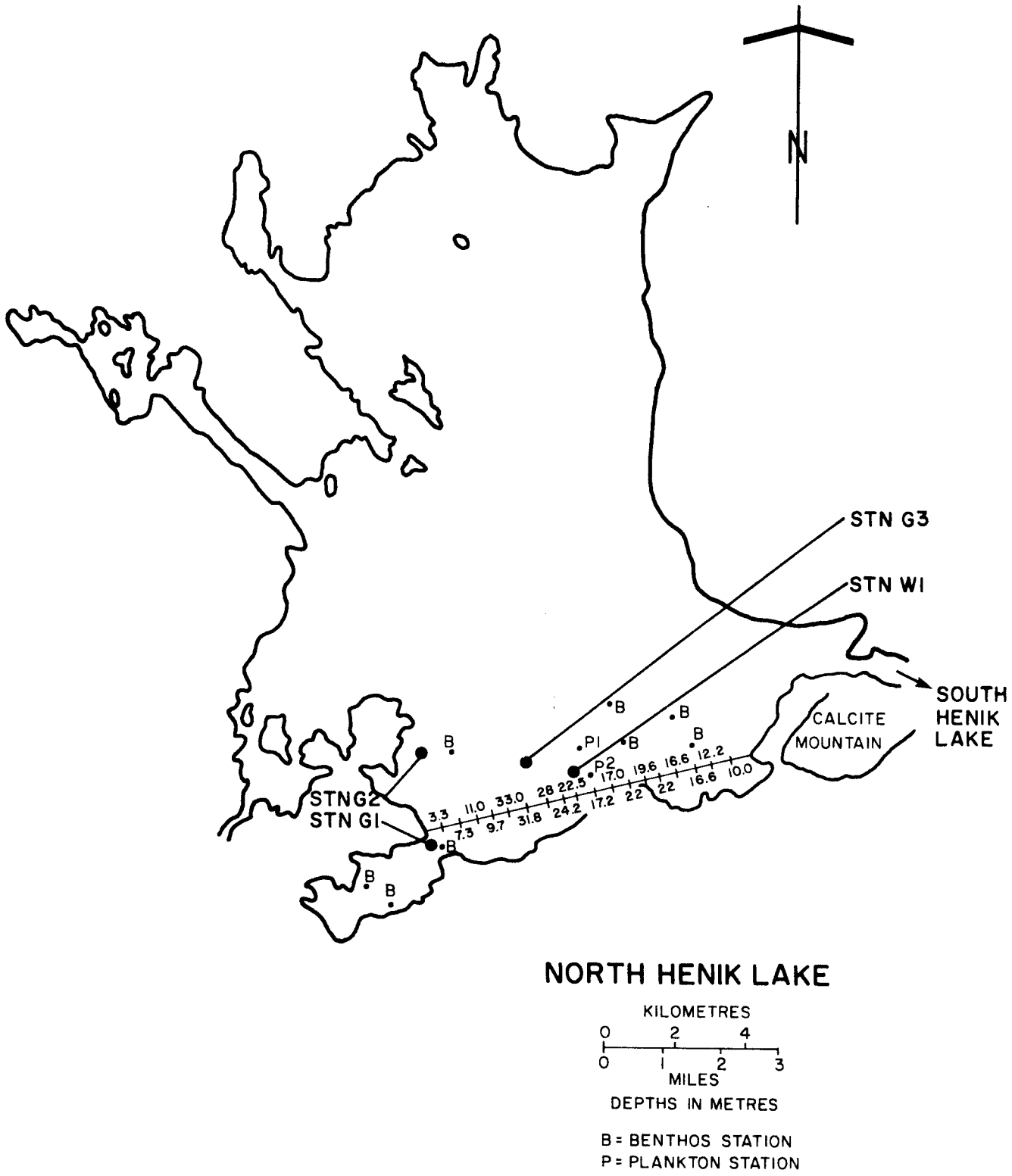

Fig. 9. Map of North Henik Lake showing depths and sampling locations.

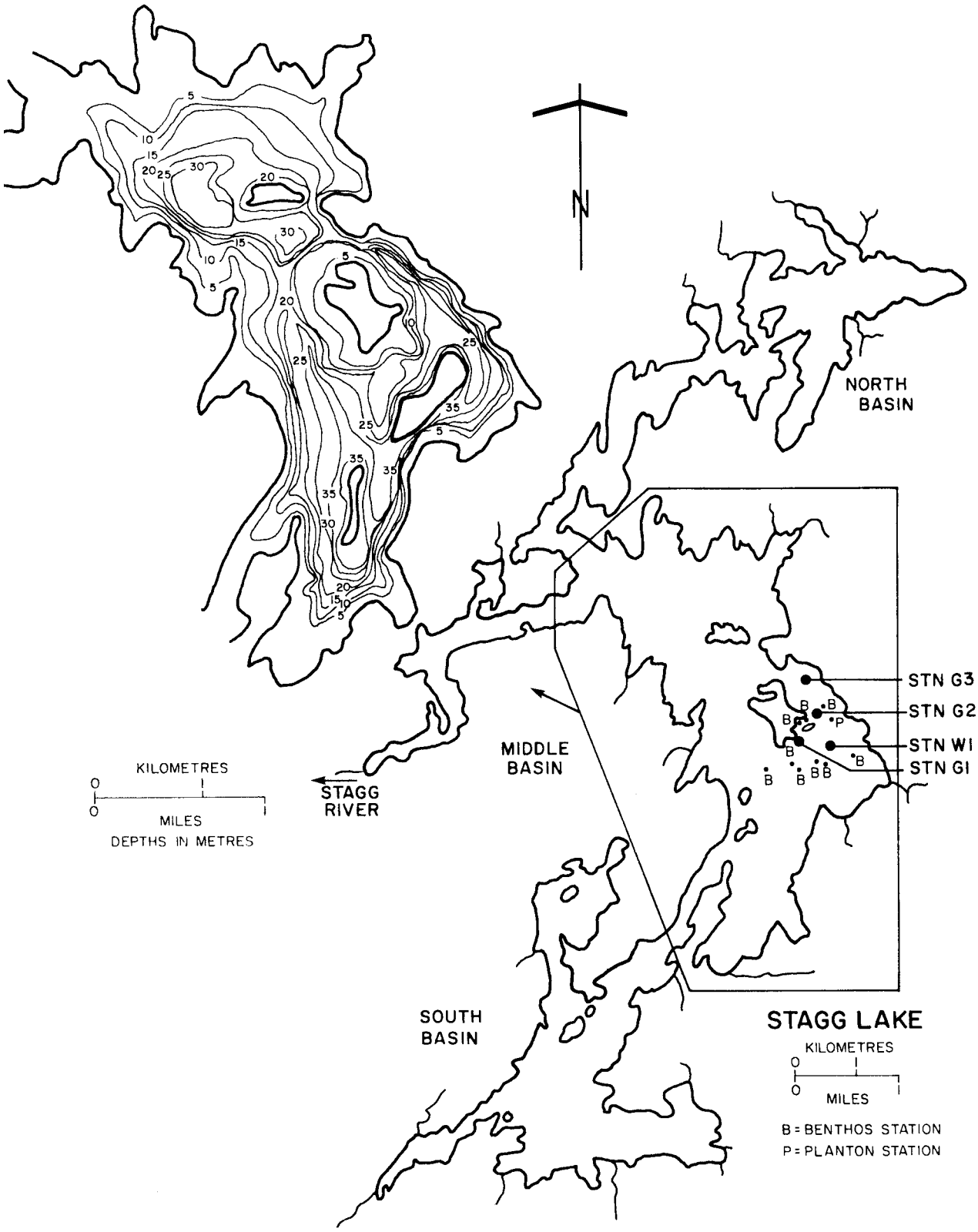

Fig. 10. Map of Stagg Lake showing depth contours (middle basin) and sampling locations.

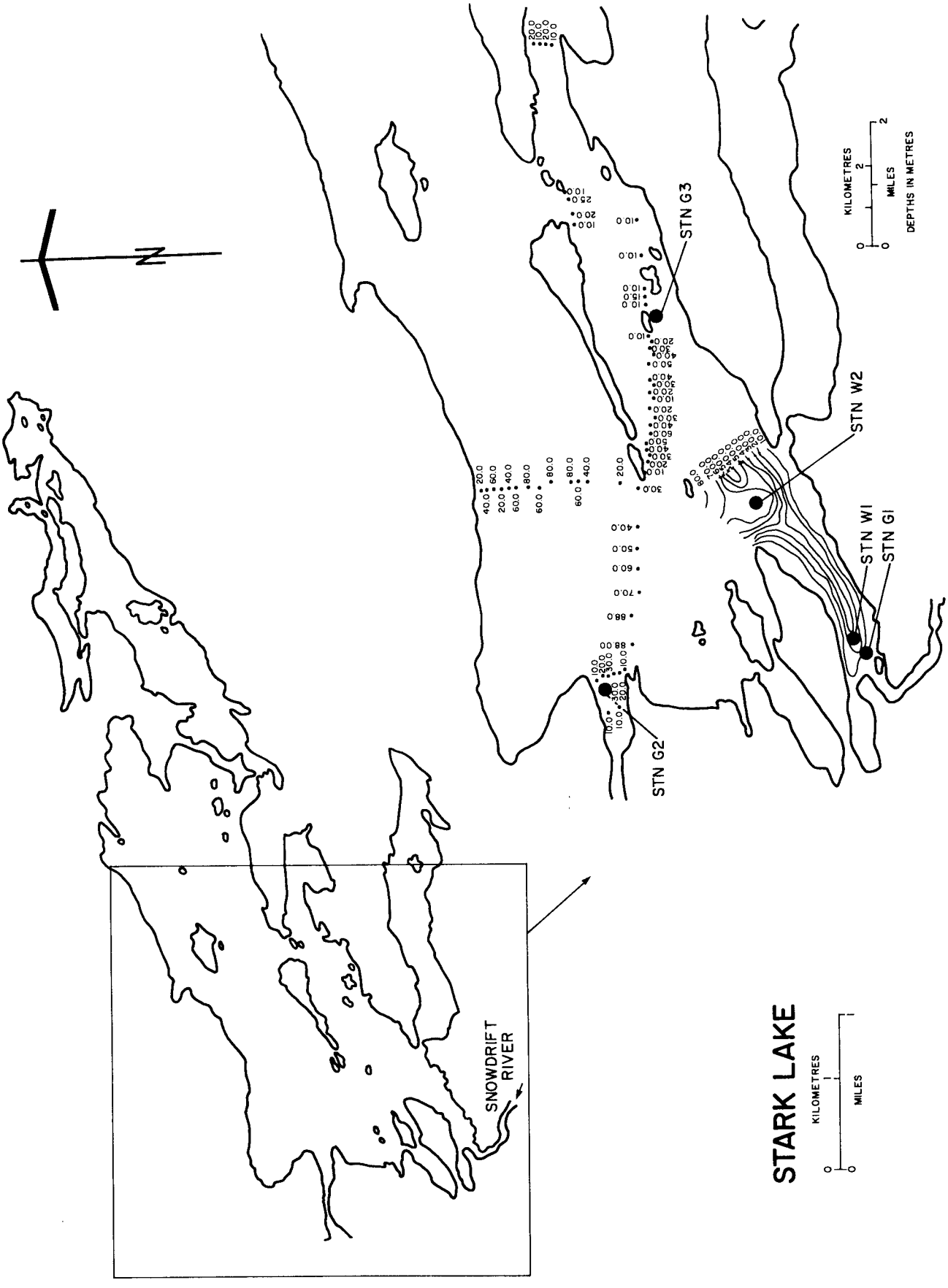

Fig. 11. Map of Stark Lake showing depths and sampling locations.

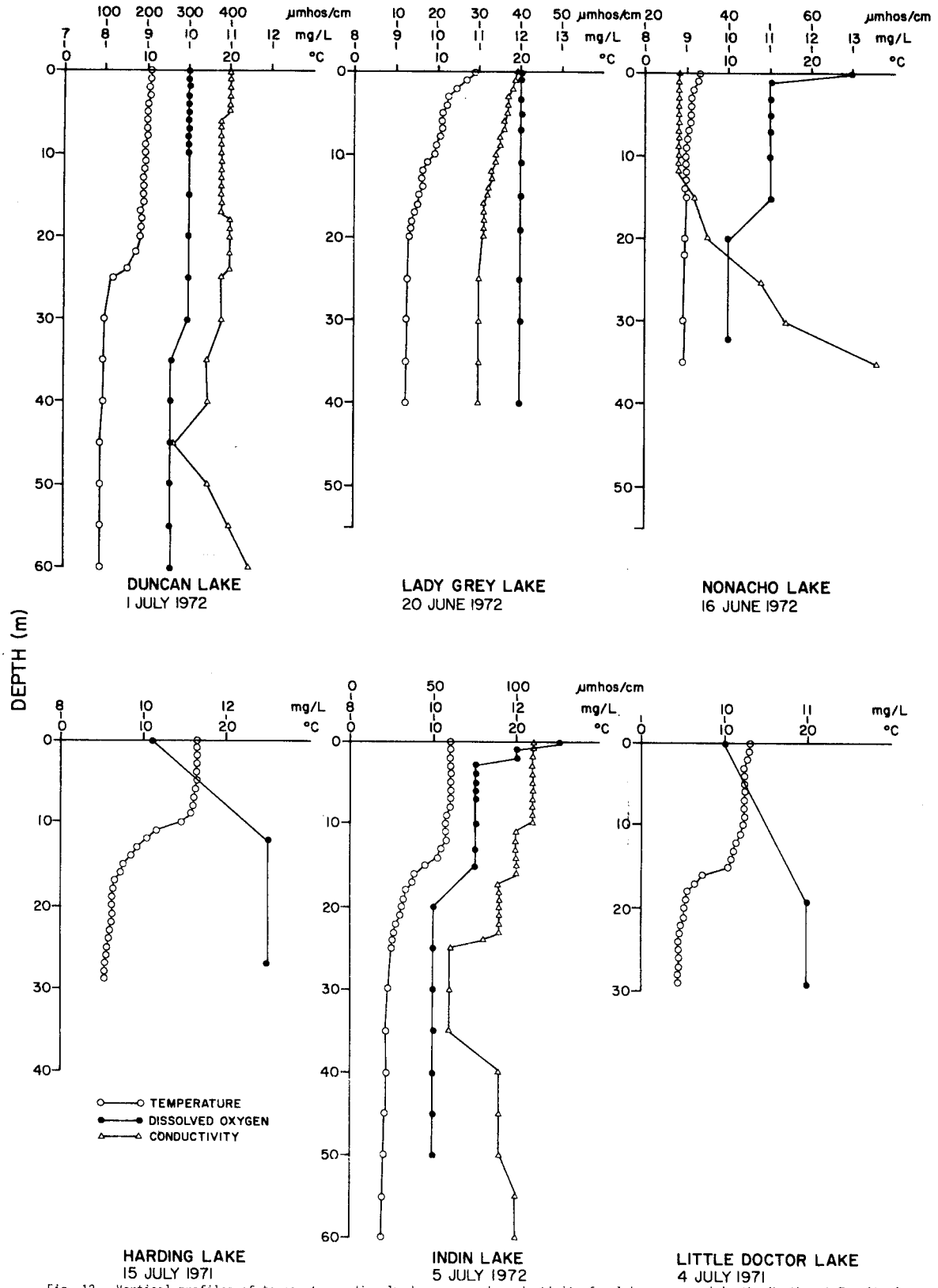

Fig. 12. Vertical profiles of temperature, dissolved oxygen and conductivity for lakes surveyed in the Northwest Territories, 1971-72.

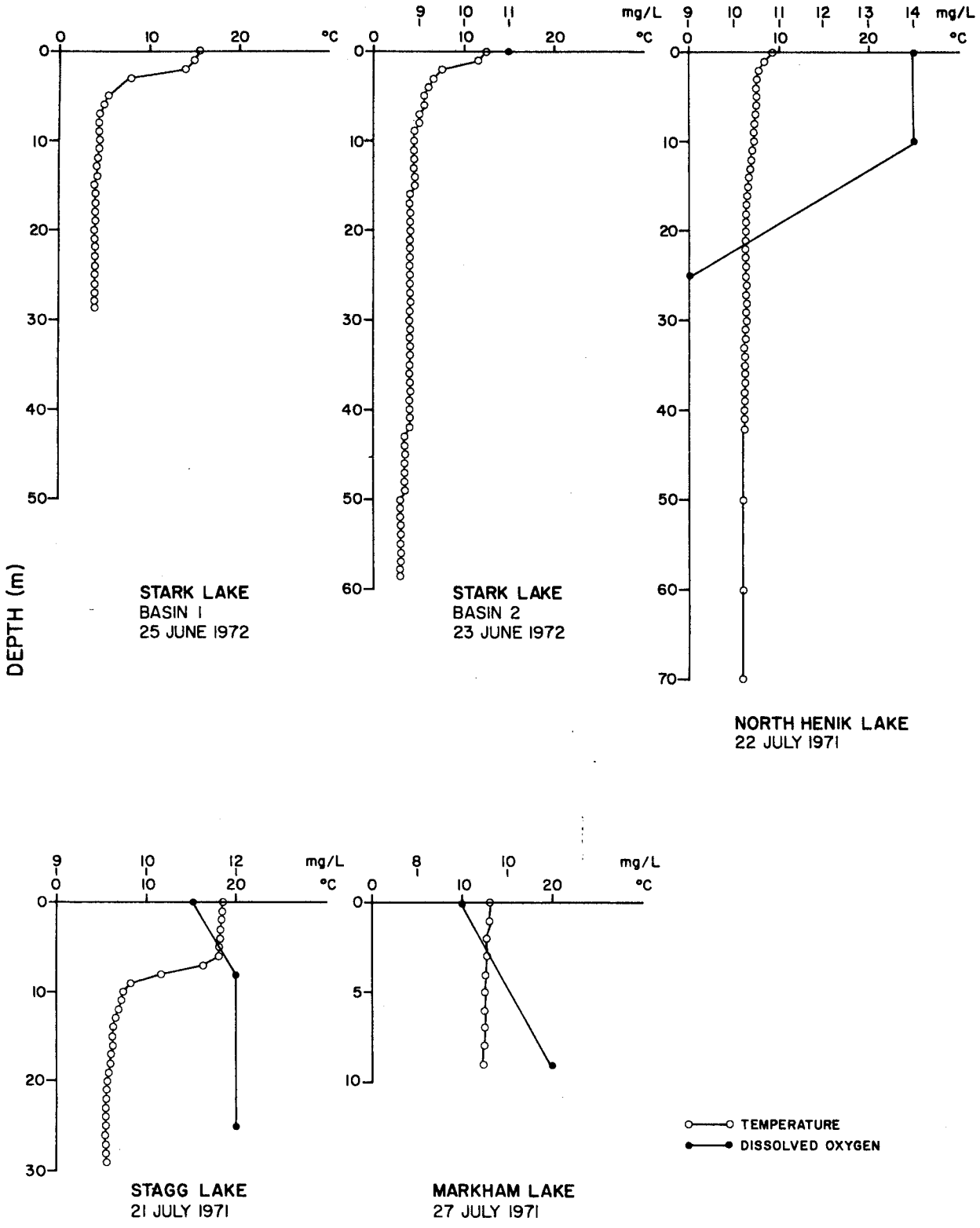

Fig. 13. Vertical profiles of temperature and dissolved oxygen for lakes in the Northwest Territories, 1971-72.