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Fish Resource Data from Indin Lake, Northwest Territories

E.F. Jessop, K.T.J. Chang-Kue
and G. MacDonald

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

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E.F.Jessop, K.T.J. Chang-Kue and G. MacDonald

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The fish populations in Indin Lake, Northwest Territories were sampled from June to September 1976 with experimental gillnets and stream sampling gear. Biological data on length, weight, age, sex, maturity and stomach contents are presented for lake trout (*Salvelinus namaycush*), lake whitefish (*Coregonus clupeaformis*), Arctic grayling (*Thymallus arcticus*), lake cisco (*Coregonus artedi*), round whitefish (*Prosopium cylindraceum*), northern pike (*Esox lucius*) and longnose sucker (*Catostomus catostomus*). Summaries of catch per mesh size, angling data, and the season's catch of juveniles and small fish in eight inlet streams are also included. A tagging program released 701 tagged fish, mostly lake trout (68%) and grayling (21%). Maps showing lake bathymetry data from echo sounding transects are included.

Key words: Indin Lake; fishery surveys; gillnetting; angling; tagging; bathymetry; lake trout; *Salvelinus namaycush*; lake whitefish; *Coregonus clupeaformis*; Arctic grayling; *Thymallus arcticus*; lake cisco; *Coregonus artedi*; round whitefish; *Prosopium cylindraceum*; Snare River; Indin River.

RÉSUMÉ

Jessop, E.F., K.T.J. Chang-Kue, and G. MacDonald. 1993. Fish resource data from Indin Lake, Northwest Territories. Can. Data Rep. Fish. Aquat. Sci. 907: v + 52 p.

Entre les mois de juin et septembre 1976, on a recansé les populations piscicoles du lac Indin, dans les Territoires du Nord-Ouest, à l'aide de filets maillants expérimentaux et de matériel d'échantillonnage de sédiments fluviatiles. On a recueilli des données biologiques sur la longueur, le poids, l'âge, le sexe, la maturité et le contenu de l'estomac pour le touladi (*Salvelinus namaycush*), le grand corégone (*Coregonus clupeaformis*), l'ombre de l'Arctique (*Thymallus arcticus*), le cisco de lac (*Coregonus artedi*), le ménomini rond (*Prosopium cylindraceum*), le grand brochet (*Esox lucius*) et le meunier rouge (*Catostomus catostomus*). Les données sommaires sur les prises selon la taille des filets et la date de ces prises, ainsi que les données sur la pêche et les prises de jeunes et de petits poissons, pour la saison en cours et dans les huit embouchures, sont également inclues. Dans le cadre d'un programme d'identification, on a relâché 701 poissons marqués, surtout des touladais (68 p. 100) et des ombres (21 p. 100). Des cartes de bathymétrie du lac dressées à partir de relevés d'échosondage sont également jointes.

Mots clés: lac Indin; enquête sur les population piscicoles; prise à l'aide de filets maillants; pêche à la ligne; étiquetage; bathymétrie; touladi; *Salvelinus namaycush*; grand corégone; *Coregonus clupeaformis*; ombre Arctique; *Thymallus arcticus*; cisco de lac; *Coregonus artedi*; ménomini rond; *Prosopium cylindraceum*; rivière Snare; rivière Indin.

INTRODUCTION

The Snare River provides the Yellowknife region (Fig. 1) with hydroelectric power at three dams currently on line. In 1975, the Northern Canada Power Commission (NCPC) proposed further development upstream from the existing dams. One scenario required the construction of a new dam and generating station at the outflow of Indin Lake (Fig. 2). In response to this proposal the Department of Fisheries and Oceans (DFO) began a survey of the fish resources of Indin Lake from May to September 1976 for the purpose of collecting data for impact assessment. A three-day survey was conducted previously by DFO in July 1972 to collect biological-limnological data for assessing the lake's sport and commercial fishery potential (Falk 1979). A commercial fishery effort in the winter of 1963-64 harvested only 47 kg of lake trout (Sinclair et al. 1967). There is no subsistence fishery on the lake and only canoe-trippers or fly-in fishermen enjoy angling opportunities. The proposed development did not progress beyond the feasibility stage and no additional field program was scheduled. This report presents the data collected by DFO in the 1976 fish sampling program.

DESCRIPTION OF STUDY AREA

Indin Lake (64°15´N, 115°05´W) is one of several large lakes on the upper reaches of the Snare River (Fig. 1 and 2). The elevation of Indin Lake at full surface pool level is 273 m. The Snare River originates above the treeline and flows southwards 470 km before draining into the north arm of Great Slave Lake.

The rugged terrain in the study area reflects its location in the Precambrian shield. Around the lake there are many exposed outcroppings and ridges of bedrock, which in some areas rise steeply from the water's edge to a height of 75 m. The lake shoreline is made up predominantly of boulders and bedrock but there are some beaches consisting of cobbles, coarse gravel and sand. The lake bottom is similar in composition although extensive beds of fine clay covers some areas. While the bottom falls off quite steeply along most of the shoreline, some littoral zone development occurs at the Snare River inflow and in the northeast arm of the lake. An esker formation is located near the Snare River outflow.

The Snare River and Indin River are the two major inflows into Indin Lake (Fig. 2). All other inflows are mainly small streams characterized by a steep gradient and a shallow, dispersed stream bed consisting of large boulders.

METHODS AND MATERIALS

INDEX GILLNETTING

Multi-mesh gillnet gangs were used to obtain a sample representative of the various fish populations within Indin Lake during the open water season. Two lengths of gillnet gangs (18 m and 137 m) were used. Each gang consisted of six equal length panels of 38, 51, 76, 102, 127 and 140 mm (stretched measure) multi-filament nylon. Nets were set on the bottom at depths ranging from 0.5 to 60 m for approximately 24 hours per set. This index fishing program was conducted at 19 locations (Fig. 3) beginning at ice breakup in early June, and proceeding until early September. The primary fishing sites (locations 1, 2, 3, 7, 8, 11 and 13) were fished on a regular biweekly basis for the duration of the study while others were omitted or added as the season progressed (Table 1).

FISH TAGGING

Fish were tagged throughout the period from 11 May to 20 September to determine local movements from any recapture in the study area. Individually-numbered vinyl anchor-type tags, manufactured by Floy Tag and Manufacturing Inc., were used. A Dennison tagging gun was used to anchor a tag at the base of the dorsal fin, with its nylon t-bar placed through the pterygiophores. Tagging commenced in early May at eight locations in the Snare River inflow where angling and a 23 m gillnet (76 mm stretched mesh) were used to capture fish. When operations moved onto the lake in early June after breakup, angling became the preferred capture method. Another gillnet, 46 m in length with 23 m panels of 38 and 51 mm stretched mesh, was used

briefly in the fall. Opportunistic tagging of live fish during index gillnetting resulted in fish being released ultimately at 31 sites throughout the study area (Fig. 3).

SMALL FISH CAPTURE

Minnow traps, fry traps and a beach seine were used to determine the species composition and abundance of juvenile fish and small fish species in eight streams flowing into Indin Lake (Fig.4). The minnow traps were the standard commercial type made of a galvanized mesh cage with funnel openings at each end. The traps were set at most inlet stream locations. As mentioned previously, these streams had steep gradients at their inflows with small dispersed channels through large boulder beds. The minnow traps proved effective in capturing small fish moving upstream or downstream through these channels.

Fry traps for live capture of young-of-year fish in downstream flows consisted of small wood boxes constructed with flow-through mesh side panels and internal baffles to create a holding area. A plastic pipe and hose clamp assembly connected the trap box to a funnel made with 6.4 mm oval delta mesh with a 60 cm square wood-framed opening. Fry traps were generally set in riffle areas with the funnels tied in place between metal rods anchored into the substrate. The trap boxes were held in place with rocks or sand bags.

Fry and minnow traps were checked whenever survey gillnets in the area were retrieved. All fish were identified, counted and released. Occasionally a dipnet and beach seine were also used to capture any other fish seen in the creek.

The beach seine used was 9.1 m long by 1.1 m deep and made of 6.4 mm oval delta mesh. Seining was not effective in streams because of the boulder substrate. Similarly, seining in the lake was unsuccessful because of the rugged or steep shoreline.

FISH SAMPLING

All fish collected from gillnets were enumerated and identified using the keys in McPhail and Lindsey (1970). We minimized the sample of fish sacrificed for biological analysis by releasing fish that were still alive during retrieval from gillnets. While burbot were simply released, uninjured lake trout and Arctic grayling were tagged and released. Fork length (mm) and weight (g) were taken for all fish sampled during index fishing and for most of the tagged fish. Scales were collected for ageing of Arctic grayling, lake whitefish, lake cisco, round whitefish and northern pike. Otoliths from dissected lake trout were used to age this species. Maturity and the sex of fish were determined through examination of gonads and recorded according to the following codes:

Female	Male	Maturity
0	0	unknown
1	6	immature
2	7	maturing
3	8	mature
4	9	ripe
5	10	spent

Fish stomachs were collected and preserved in 10% formalin for content analysis later in the laboratory.

LABORATORY AND DATA ANALYSIS

Scales were prepared for aging by first cleaning in a water and bleach solution followed by mounting between glass slides. Ages were determined by viewing the magnified image of scales on a Leitz trichinoscope. Otoliths were prepared for aging by hand grinding on a carborundum stone to reduce the thickness followed by clearing with a 3:1 solution of benzyl benzoate:methyl salicylate. Ages were obtained by viewing the otolith through a stereo dissection microscope. In both procedures only completed annuli were counted.

Data was analyzed with a MicroVAX 3100-80 computer system at the Freshwater Institute in Winnipeg, Manitoba. The Statistical Analysis System (SAS, 1985) was used to generate length, weight and maturity summaries. Length-weight relationships were described by the following 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

Condition factor (K) was calculated for individual fish using the formula:

$$K = (W \times 10^5) / L^3$$

where: W = weight in grams
L = fork length in millimetres

Stomach contents were identified using a dissection microscope. Where possible, invertebrate food items were identified only to order. Frequency and percent occurrence of food items were recorded.

BATHYMETRY AND WATER CHEMISTRY

Depth soundings were made with a Furuno FG 200 MK3 recording echo sounder. Transect lines were run to record general depth profiles and to delineate major basins in the lake. A water test kit (Hach; model AL36B) was used to measure dissolved oxygen, alkalinity, total hardness, dissolved CO_2 and pH at four locations on Indin Lake (Fig. 5). Conductivity was measured with a Yellow Springs Instrument (YSI) Model 33 conductivity/temperature meter.

RESULTS

FISH SPECIES AND CATCH SUMMARY

Twelve fish species were recorded in Indin Lake (Table 2). The number of each species caught and total hours fished by gillnet type at each lake sampling site are presented in Table 3. The total catch with standard gangs was 1 084 fish. Lake trout and lake whitefish were the most abundant lake-dwelling species with totals of 416 and 295, respectively, making up 38.4% and 27.2% of the catch. The other species captured were northern pike (7.8%), longnose sucker (9.6%), Arctic grayling (6.7%), lake cisco (5.3%), round whitefish (4.0%) and burbot (1.0%). The short gillnets used to capture fish for tagging contributed an additional 168 fish, bringing the total catch with all gillnets to 1 252 (Table 3).

Of the 1 252 fish taken in all gillnets, data on both length and weight were obtained from 1 117 fish. A sample of 773 fish were aged. Table 4 is a summary of this information showing the number, fork length, weight and age data of each species taken per mesh size (stretched measure).

Stream sampling gear captured a total of 5 015 fish (Table 5). Juvenile Arctic grayling was the dominant species comprising 73.5% of the total catch. Juvenile longnose sucker, northern pike and burbot were also taken along with lake chub, ninespine stickleback, slimy sculpin and troutperch. Two streams, S1 and S57 (Fig. 4) were the most productive sites for juvenile Arctic grayling.

Angling efforts captured 496 fish (Table 6). Lake trout (70.2%) and Arctic grayling (27.8%) were the primary species taken. Shoreline fishing for lake trout was most successful in the spring. By late summer lake trout were abundant at the Indin River inflow. The prime angling sites for Arctic grayling were located in the rapids at Snare River inflow and Snare River outflow. The length, weight and age data on a subsample of the fish captured by angling are summarized in Table 7.

TAGGED FISH

The total number of fish tagged and released in the study area was 701 (476 lake trout, 145 Arctic grayling, 40 northern pike, 21 lake whitefish, 16 longnose suckers and three round whitefish). Most of the lake trout (286) was tagged during 8-16 September at the Indin River inflow (Fig. 3, Location 12). Half of the tagged Arctic grayling

sample was taken by angling at the Snare River outflow (Location 17) in late July. Most of the other grayling were tagged at the Snare River inflow in May and June. Five lake trout, three Arctic grayling and one northern pike were recaptured (Table 8). Additional data on tagged fish can be obtained by contacting the senior author, or Mr. Blair Dunn at:

Department of Fisheries and Oceans
Freshwater institute
501 University Crescent
Winnipeg, Manitoba
Canada, R3T 2N6

LENGTH, WEIGHT, AGE AND MATURITY DATA

Length-frequency and weight data by length intervals for fish from index gillnetting are summarized in Appendix 1. Data on fork length, weight and condition factor by age group for fish taken in index gillnets are presented in Appendix 2. Similar summaries for fish from the tagging program are presented in Appendix 3 and 4. Because the full spectrum of length, weight and age data were not measured for all fish, the sample sizes differed among the summary tables. Index fishing occurred only at locations on Indin Lake and did not include Snare or Indin River sites; as a result, the sample sizes in appendix tables differ from totals shown in Tables 3 and 4, which included fish gillnetted in both index fishing and tagging operations at all locations. Age specific sex ratios and maturity summaries for analysed fish are presented in Appendix 5. Length-weight relationships for lake trout, lake whitefish, Arctic grayling, northern pike, round whitefish, lake cisco and longnose suckers are presented in Appendix 7.

Lake trout

Length and weight data from 435 lake trout captured in gillnets showed a fork length range of 185 to 987mm with weights ranging from 60 to 11 714 g (Table 4). The ages of 212 fish from this group ranged from 4 to 39 years.

The length-frequency distribution for lake trout captured by index fishing was unimodal with a dominant length class of 500-549 mm, accounting for 29% of 256 fish measured (Fig. 6). The age-frequency distribution for 196 trout from this group showed no dominant age class (Table A2.1). The youngest mature female was age 9 years while the youngest mature male was age 5 years; the female to male ratio was 0.8:1 (Table A5.1).

The dominant length class of the tagged fish sample was also 500-549 mm, accounting for 47% of the sample of 358 (Fig. 7). The ages for 79 angled trout, selected for biological sampling, ranged from 6 to 34 years (Table A4.1). Most of the lake trout released (286) was taken by angling during a pre-spawning aggregation encountered in September at the Indin River inflow (Fig. 3; location 12). Field records show that most of the trout were in ripe, spawning condition as milt and eggs were easily expressed from the fish during tagging.

Five tagged lake trout were recaptured (Table 8). Two were recaptured in May within 12 days near their release site in the Snare River inflow in May. Another fish, tagged at Indin River's location 12, was recaptured 70 days later in the lake, four km (location 7) from the release site. The fourth fish had travelled 8 km in 5 days after its release at location 14. The fifth fish, tagged on 1 June at the Snare River inflow (Fig.3; Location S47a), was recaptured 104 days later at location 25, about 20 km away.

Lake whitefish

Length and weight data from 313 lake whitefish captured in gillnets showed a fork length range of 296 to 645 mm and weights ranging from 350 to 4 400 g (Table 4). Ages of 301 whitefish ranged from 3 to 15 years.

The length-frequency distribution for fish taken by index fishing (N = 291) was unimodal with 75% of the sample in the 500 to 599 mm length range (Fig. 8). The age-frequency distribution was unimodal with dominant age classes at 8, 9 and 10 years accounting for 62% of 286 fish aged (Table A2.2). The youngest mature female was age 6 years while the youngest mature male was age 5 years; the female to male ratio was 1.2:1 (Table A5.2). No tagged lake whitefish was recaptured.

Arctic grayling

Length and weight data from 85 grayling taken in gillnets showed a fork length range of 165 to 422 mm and weights ranging from 45 to 975 g (Table 4.). Ages of 82 fish from this group ranged from 2 to 7 years.

Most of the grayling caught by index fishing ranged from 200 to 350 mm in fork length (Fig. 9). The age-frequency distribution of these fish was unimodal with dominant age classes of 2 to 4 years accounting for 82% of 73 fish sampled (Table A2.3). The youngest mature female was age 4 years and the youngest mature male was age 5 years; the female to male sex ratio was 0.6:1 (Table A5.3). No net movement was displayed by three tagged Arctic grayling, which were recaptured at their initial release sites, three to 34 days later (Table 8).

Northern pike

Length and weight data from 97 northern pike taken in gillnets showed a fork length range of 260 to 1 100 mm and weights from 140 to 10 000 g (Table 4). Ages ranged from 2 to 14 years.

The length-frequency distribution for 77 pike caught by index fishing showed no dominant length class (Fig. 10). The majority (76%) were in the 650 to 950 mm fork length range, representing ages 6 to 11 years. The youngest mature female was age 5 years and the youngest mature male was age 7 years; the female to male sex ratio was 1.1:1 (Table A5.4). The single recapture of a tagged pike occurred at location 8, three days after release at the same site on 2 June (Table 8).

Round whitefish

Length and weight data from 40 round whitefish taken in gillnets showed a fork length range of 207 to 498 mm and weights from 80 to 1 300 g (Table 4). Ages of 39 fish ranged from 2 to 8 years.

The length-frequency distribution of fish caught by index fishing was unimodal with a dominant length class of 320-340 mm (Fig. 11). The age-frequency distribution was also unimodal with 56% of the aged sample falling in the 4 to 5 year age classes (Table A2.5). The youngest mature female was age 4 years and the youngest mature male was age 5 years; the female to male sex ratio was 1.3:1 (Table A5.5).

Lake cisco

Length and weight data from 49 lake cisco taken in gillnets showed a fork range of 155 to 270 mm and weights from 55 to 206 g. Ages of 48 cisco ranged from 3 to 6 years (Table 4).

The length-frequency distribution of fish caught by index fishing was unimodal with a dominant length class (49%) occurring at the 180-200 mm interval (Fig. 12). The age-frequency distribution showed a dominant age class of 4 years (Table A2.6). The youngest age for both mature female and male was 3 years; the female to male sex ratio was 0.8:1 (Table A5.6).

Longnose sucker

Length and weight data from 98 longnose suckers taken in gillnets showed a fork length range of 145 to 375 mm and weights from 45 to 775 g (Table 4). Ages were not determined for this species.

The length-frequency distribution of fish caught by index fishing was unimodal with a dominant length class occurring at 220-240 mm (Fig. 13).

FISH STOMACH CONTENTS

Tables summarizing the food items identified in stomachs of lake trout, lake whitefish, Arctic grayling, round whitefish, lake cisco, and northern pike are included in Appendix 6.

BATHYMETRY AND WATER CHEMISTRY

Echo soundings transect lines made in each lake sub-basin and the associated depth readings are shown in Figures 14, 15, 16 and 17. The maximum depth recorded was 89 m in the west arm

of Indin Lake (Fig. 14). Water chemistry parameters for four locations on Indin Lake are summarized in Table A8.1.

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Table 1. Frequency of sampling per biweekly interval in Indin Lake, 1976.

Index Fishing	137 m. Standard Gang												18 m. Standard Gang						
Locations	1	2	3	5	6	7	8	10	14	20	21	22	1	4	9	11	12	13	21
Biweekly Period																			
June 20 - 3 July	2	1	2	1	1	1	1	1						1	1	1			
July 4 - 17 July	1	2	1	2	1	1	1	1						1		1	1	1	
July 18 - 31 July	1	1	1			2	2	1	1	1	1		1			1		1	
Aug. 1 - 14 Aug.	1	1	1						1			1				1			
Aug. 15 - 28 Aug.	1	1	1			1	1			1	1	1				1		1	
Aug. 29 - 11 Sept.	1	1	1			1	1			1		1						2	1
Sept. 12 - 25 Sept.																			

Tagging	23m - 76mm mesh									46m 38/51mm		Angling												
Locations	12	18	19	S						24	25	12	14	15	16	17	18	19	S					
				47a	47b	47d	47f	47g											47a	47b	47c	47d	47e	47f
Biweekly Period																								
May 9 - 22 May		3		7													5		8		3		3	1
May 23 - 5 June		2			4	3	4	3										1	6	3		1	1	
June 6 - 19 June	5		1									1	1	2					1					
June 20 - 3 July														2	1									
July 4 - 17 July												1		1										
July 18 - 31 July													1			2								
Aug. 1 - 14 Aug.																1								
Aug. 15 - 28 Aug.														2										
Aug. 29 - 11 Sept.												3												
Sept. 12 - 25 Sept.										1	1	4												

Table 2. Scientific and common names[1] of fish species captured at Indin Lake, 1976.

Scientific Name	Common Name	Abbreviation[2]
FAMILY SALMONIDAE		
Coregonus artedi Lesueur, 1818	Lake cisco	LKCS
Coregonus clupeaformis (Mitchill, 1818)	Lake whitefish	LKWT
Salvelinus namaycush (Walbaum, 1792)	Lake trout	LKTR
Thymallus arcticus (Pallas, 1776)	Arctic grayling	ARGR
Prosopium cylindraceum (Pallas, 1784)	Round whitefish	RDWT
FAMILY GADIDAE		
Lota lota (Linnaeus, 1758)	Burbot	BRBT
FAMILY ESOCIDAE		
Esox lucius Linnaeus, 1758	Northern pike	NRPK
FAMILY COTTIDAE		
Cottus cognatus Richardson, 1836	Slimy sculpin	SLSC
FAMILY CATOSTOMIDAE		
Catostomus catostomus (Forster, 1773)	Longnose sucker	LNSK
FAMILY CYPRINIDAE		
Couesius plumbeus (Agassiz, 1850)	Lake chub	LKCH
FAMILY PERCOPSIDAE		
Percopsis omiscomaycus (Walbaum, 1792)	Trout-perch	TPCH
FAMILY GASTEROSTEIDAE		
Pungitius pungitius (Linnaeus, 1758)	Ninespine stickleback	NSSB

[1] From Robins et al. (1991)

[2] Species codes used in Tables 3, 5-8

Table 3. Catch composition and total fishing effort for fish captured by gillnets at each location in Indin Lake and the Snare River, 1976.

	Species[1]								Gear (hrs)			
Location	LKTR	LKWT	ARGR	NRPK	RDWT	LKCS	LNSK	BRBT	A	B	C	D
1	98	56	14	6	5	8	8		152	22		
2	76	102	3	21	6	24	30		154			
3	46	35	5	4		8	10		158			
4	2			2	1					46		
5	16	17	2	13	4		2		71			
6	1	3	2	4	2				39			
7	49	20	17	5	14	1	35		139			
8	31	6	4	8	6	7	2	1	120			
9										24		
10	1	1	7	10					66			
11	5	3	14		2		6			116		
12	14		18	13	1					26	133	
13	9	1	2	1	1			1		107		
14	27	6	1	1		6			42			
18	5	11	4	5	1						82	
19											34	
20	20	27	2	1					75			
21	6	4		5	1		3		48	23		
22	27	14				3	8	9	64			
23	11	3					1				50	
24	10	1			1	1						23
25	12	2					3					17
S47a	1		4		2						169	
S47b			7	1			8				73	
S47d				8			1				95	
S47f	3	2	2	5							90	
S47g	1	1		10			2				28	
Standard Gang	416	295	73	85	43	57	104	11	1128	364		
Other	55	20	35	38	4	1	15	0			704	40
Total	471	315	108	123	47	58	119	11				

Gear Code:
A. 137m. standard gang. Six panels, 22.9m each. Meshes: 38mm, 51mm, 76mm, 102mm, 127mm, 140mm
B. 18m. standard gang. Six panels, 3.0m each. Meshes: 38mm, 51mm, 76mm, 102mm, 127mm, 140mm
C. 23m. net of 76mm mesh
D. 46m. net. Two panels, 23m each. Mesh: 38mm, 51mm.

[1] See Table 2 for species codes

Table 4. Length, weight and age summary by mesh size for fish captured by gillnets in Indin Lake, 1976.

Mesh (mm)	Length (mm)				Weight (gm)				Age (years)			
	N	Mean	SD	Range	N	Mean	SD	Range	N	Mean	SD	Range
Salvelinus namaycush												
38	53	545	172.8	185-890	53	2314	1931.0	60-9900	12	9.9	5.8	4-22
51	103	548	122.2	228-870	103	2179	1427.9	145-6590	42	14.1	6.9	4-30
76	58	548	89.5	401-788	58	2044	1091.6	700-6000	30	14.8	5.5	7-27
102	115	571	97.0	396-865	115	2290	1337.3	615-7200	70	19.8	6.6	8-39
127	54	604	108.7	453-914	54	3010	2188.1	1180-9700	29	23.7	5.8	11-35
140	52	619	116.9	445-987	52	3082	2060.9	1225-11714	29	21.3	6.2	9-35
Totals	435			185-987	435			60-11714	212			4-39
Coregonus clupeaformis												
38	15	545	58.4	380-612	15	2294	632.5	760-3200	15	9.1	1.6	5-12
51	45	528	52.3	375-618	45	2138	611.3	715-3450	41	8.4	1.7	5-12
76	41	496	72.8	344-605	41	1843	799.9	470-3250	40	7.8	2.1	3-13
102	94	527	62.1	296-645	94	2196	735.8	350-4400	92	8.7	2.2	3-15
127	62	532	46.0	390-600	62	2275	624.1	800-4350	60	8.8	1.4	5-11
140	56	553	35.9	453-624	56	2487	499.1	1250-3656	53	9.5	1.6	6-13
Totals	313			296-645	313			350-4400	301			3-15
Thymallus arcticus												
38	28	243	67.1	165-392	28	214	196.4	45-770	26	2.9	1.0	2-6
51	35	286	55.3	205-404	35	314	185.9	90-780	35	3.5	0.9	2-6
76	19	354	30.7	303-415	19	533	137.3	360-870	18	5.1	0.8	4-7
102	3	367	65.1	295-422	3	668	307.5	360-975	3	5.7	1.5	4-7
Totals	85			165-422	85			45-975	82			2-7
Esox lucius												
38	14	691	197.0	260-940	14	3044	1883.9	140-6125	14	7.6	3.4	2-13
51	18	768	182.6	360-1040	18	4045	2356.4	220-8200	17	8.3	2.6	5-14
76	26	695	184.0	444-1100	26	3236	2424.5	590-10000	22	7.3	2.1	4-12
102	22	759	84.5	633-925	22	3375	1139.6	1700-5750	21	8.0	1.8	5-11
127	9	846	94.8	719-980	9	4472	1112.0	3050-6075	9	9.2	1.4	7-11
140	8	835	91.6	722-945	8	4474	1263.9	3375-7000	8	8.5	1.9	6-11
Totals	97			260-1100	97			140-10000	91			2-14
Prosopium cylindraceum												
38	7	298	59.3	207-364	7	288	141.5	80-465	7	3.9	1.1	2-5
51	29	322	33.0	252-397	29	364	114.7	170-620	28	4.6	1.2	3-7
76	3	397	44.2	370-448	3	678	201.0	550-910	3	6.7	0.6	6-7
102	1	498	-	-	1	1300		-	1	8.0	-	-
Totals	40			207-498	40			80-1300	39			2-8
Coregonus artedi												
38	37	193	14.2	155-232	37	84	19.9	55-150	36	3.7	0.5	3-5
51	12	221	17.1	204-270	12	141	40.1	105-206	12	4.7	0.7	4-6
Totals	49			155-270	49			55-206	48			3-6
Catostomus catostomus												
38	34	193	55.4	145-375	34	120	138.0	45-695	0			
51	58	232	32.8	171-355	58	178	100.5	55-660	0			
76	6	335	14.4	321-361	6	560	148.1	460-775	0			
Totals	98			145-375	98			45-775				

Table 5. Total catch and species distribution for fish captured with fry traps, minnow traps, dipnet and beach seines at Indin Lake inlet streams, 1976.

	Species[1]							
Location	ARGR	LNSK	NRPK	BRBT	LKCH	NSSB	SLSC	TPCH
S1	424	145	14	-	488	38	-	-
S2	18	-	7	10	7	-	11	-
S3	-	-	-	-	7	1	-	-
S8	-	5	1	1	435	-	5	-
S38	-	-	-	-	2	-	-	-
S53	18	3	-	1	81	3	6	1
S57	3206	1	5	1	3	-	-	-
S65	18	15	1	4	8	4	17	-
Total	3684	169	28	17	1031	46	39	1

[1] See Table 2 for species codes

Table 6. Total catch by species for fish captured by angling at each location in Indin Lake and the Snare River, 1976.

	Species[1]				
Location	LKTR	ARGR	NRPK	LNSK	LKWT
12	286	-	-	-	-
14	3	3	-	-	-
15	15	1	-	-	-
16	11	3	-	-	-
17	1	67	-	-	-
18	8	-	-	-	1
19	1	-	-	-	-
S47a	16	24	4	-	-
S47b	-	1	-	1	-
S47c	-	4	1	-	-
S47d	-	6	3	-	-
S47e	1	13	-	-	-
S47f	6	16	-	-	-
TOTAL	348	138	8	1	1

[1] See Table 2 for species codes

Table 7. Length, weight and age summary for fish captured by angling in Indin Lake, 1976.

	Length (mm)				Weight (gm)				Age (years)			
Species[1]	N	Mean	SD	Range	N	Mean	SD	Range	N	Mean	SD	Range
LKTR	322	534	54.0	407-810	322	1664	483.0	775-5750	65	17.4	5.3	6-30
ARGR	50	383	30.3	265-430	50	677	150.2	220-925	41	6.3	1.6	4-11
NRPK	2	863	109.6	785-940	2	5035	2029.4	3600-6470	2	9.5	2.1	8-11

[1] See Table 2 for species codes

Table 8. Data on tagged fish recaptured in Indin Lake, 1976.

Tag No.	Species[1]	Date Tagged	Date Recaptured	Location Tagged	Recapture Location	Distance (km) From Release Site
C02445	ARGR	15-5-76	18-6-76	S47a	S47a	0
C02451	LKTR	17-5-76	19-5-76	S47f	S47f	0
C02471	LKTR	19-5-76	1-6-76	S47f	S47f	0
C02804	ARGR	23-5-76	1-6-76	18	18	0
C02845	LKTR	1-6-76	20-9-76	S47a	25	20
C02854	ARGR	2-6-76	5-6-76	18	18	0
C02892	LKTR	8-6-76	17-8-76	12	7	4
C02928	LKTR	20-6-76	25-6-76	14	3	8
C02990	NRPK	29-6-76	21-7-76	8	8	0

[1] See Table 2 for species codes

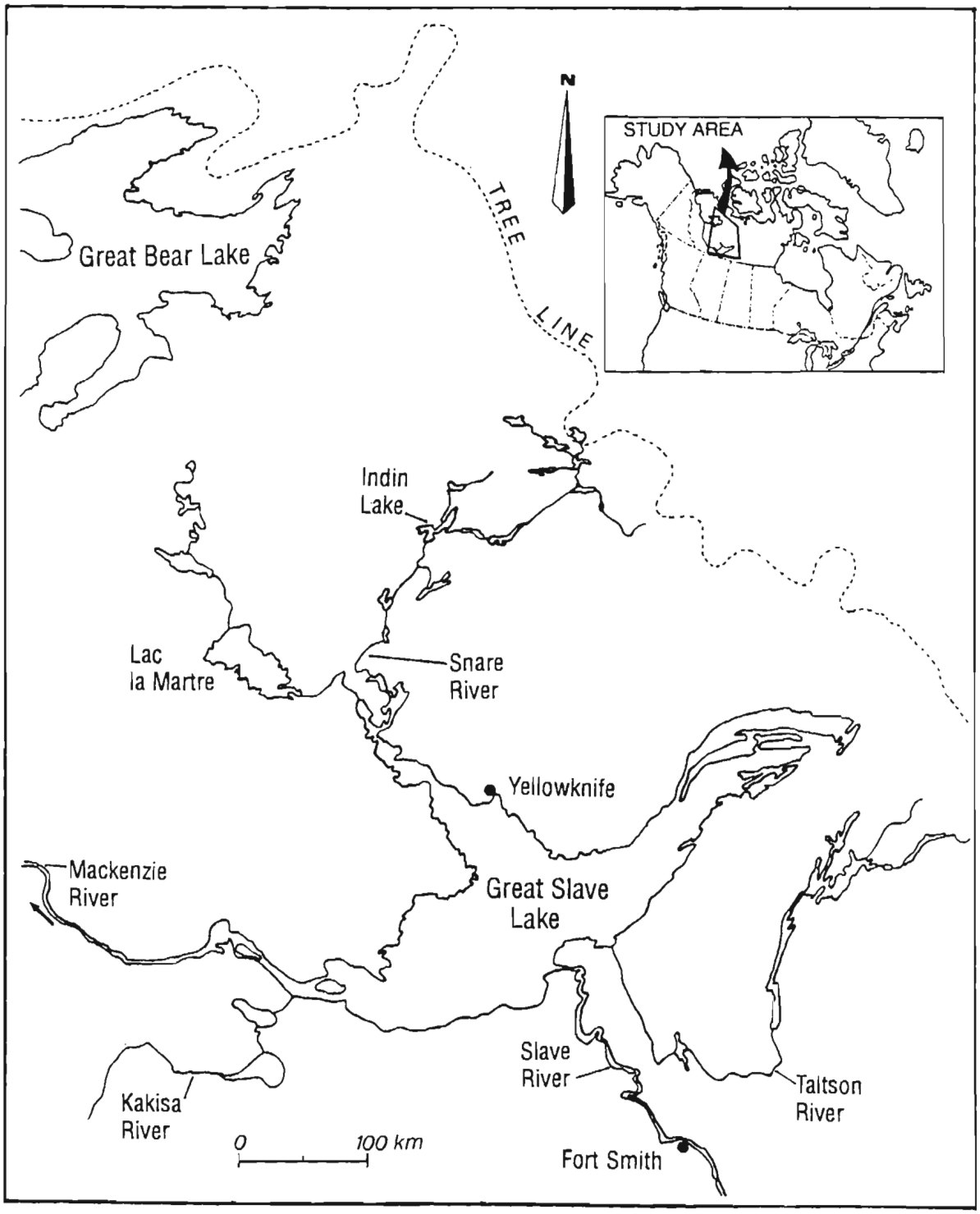

Fig. 1. Location map of the Snare River in the Great Slave Lake region.

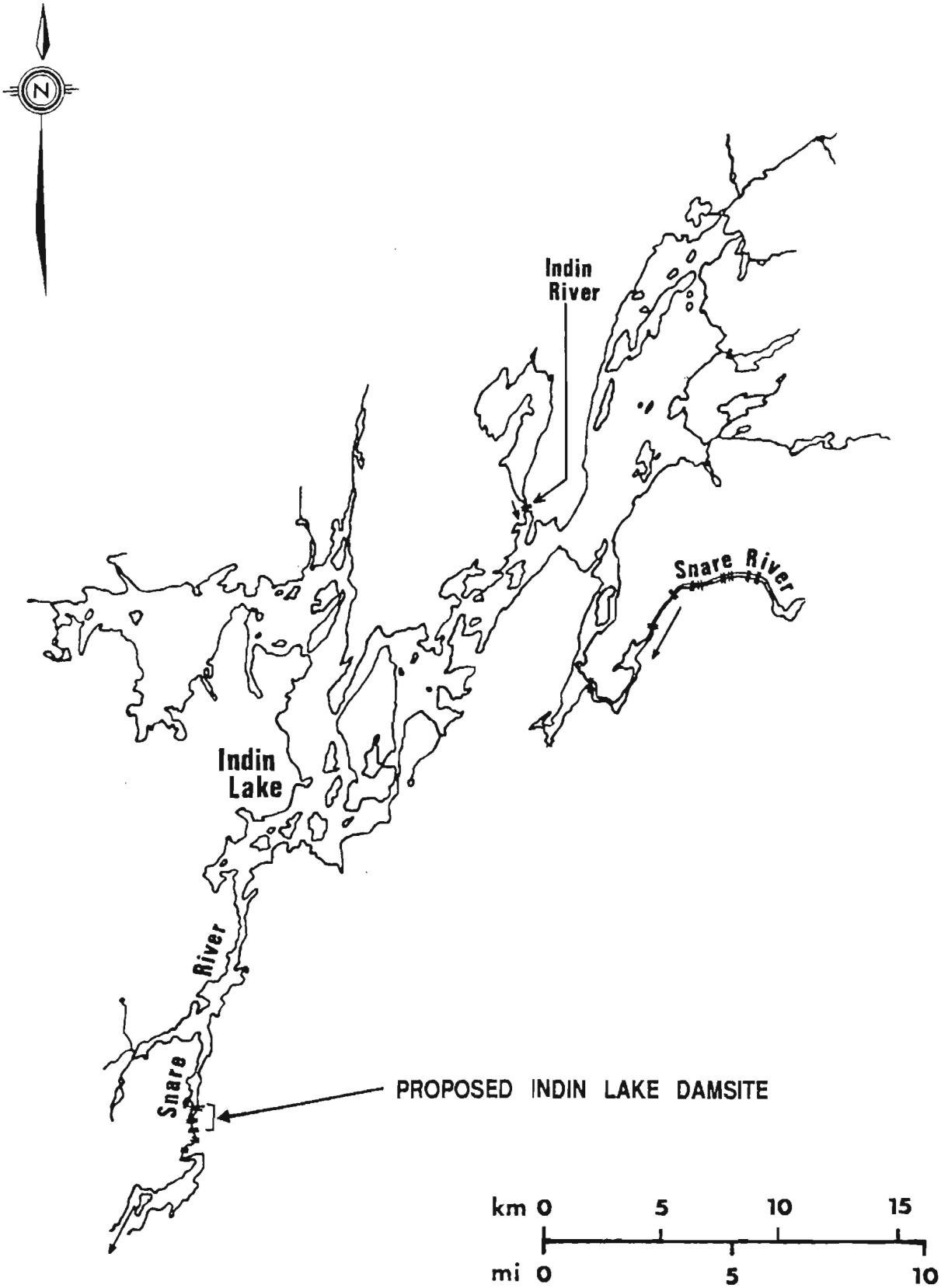

Fig. 2. Map of Indin Lake.

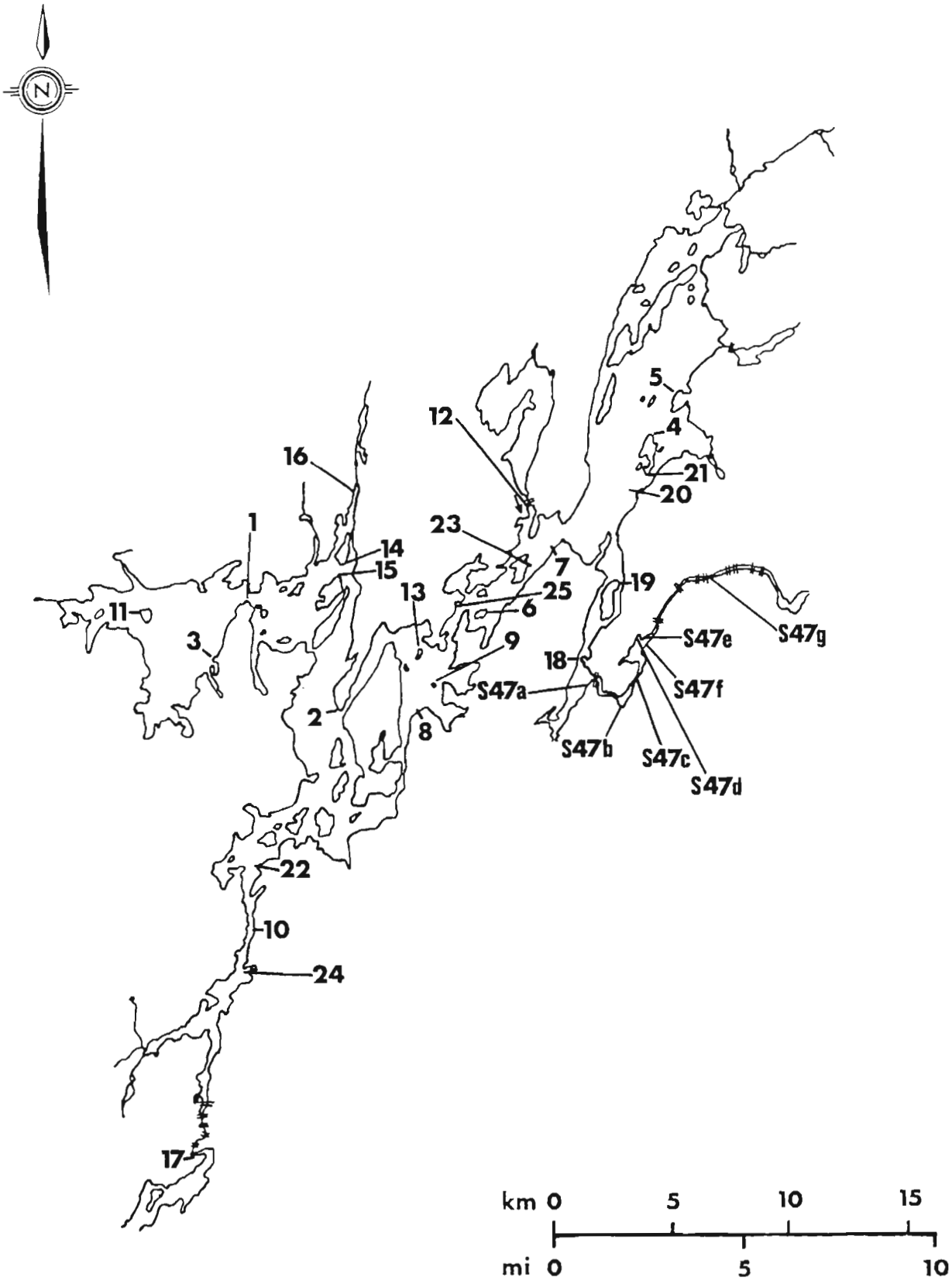

Fig. 3. Gillnet and angling sites on Indin Lake, 1976.

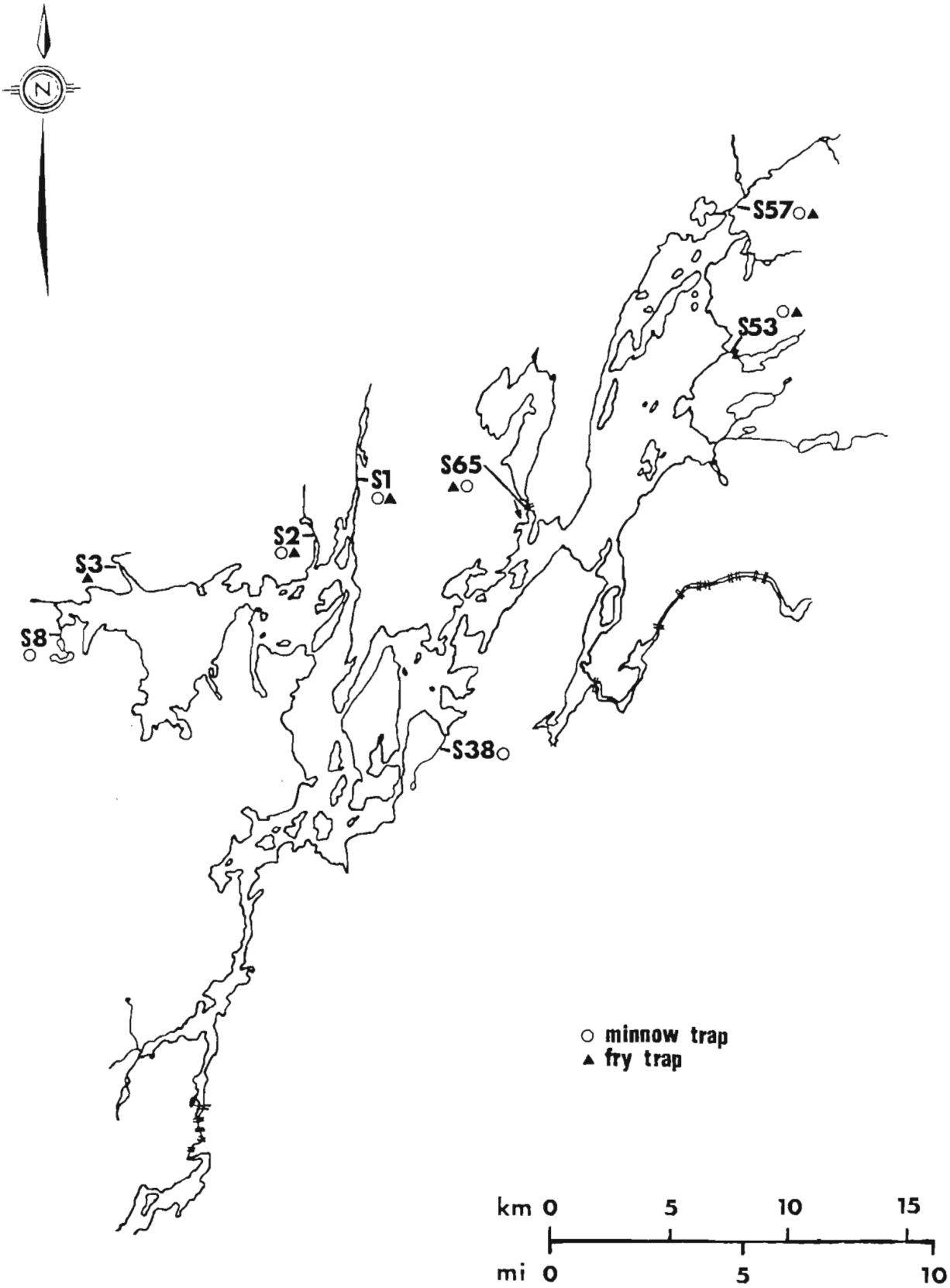

Fig. 4. Minnow and fry trap sites on Indin Lake, 1976.

Fig. 5. Water chemistry stations on Indin Lake, 1976.

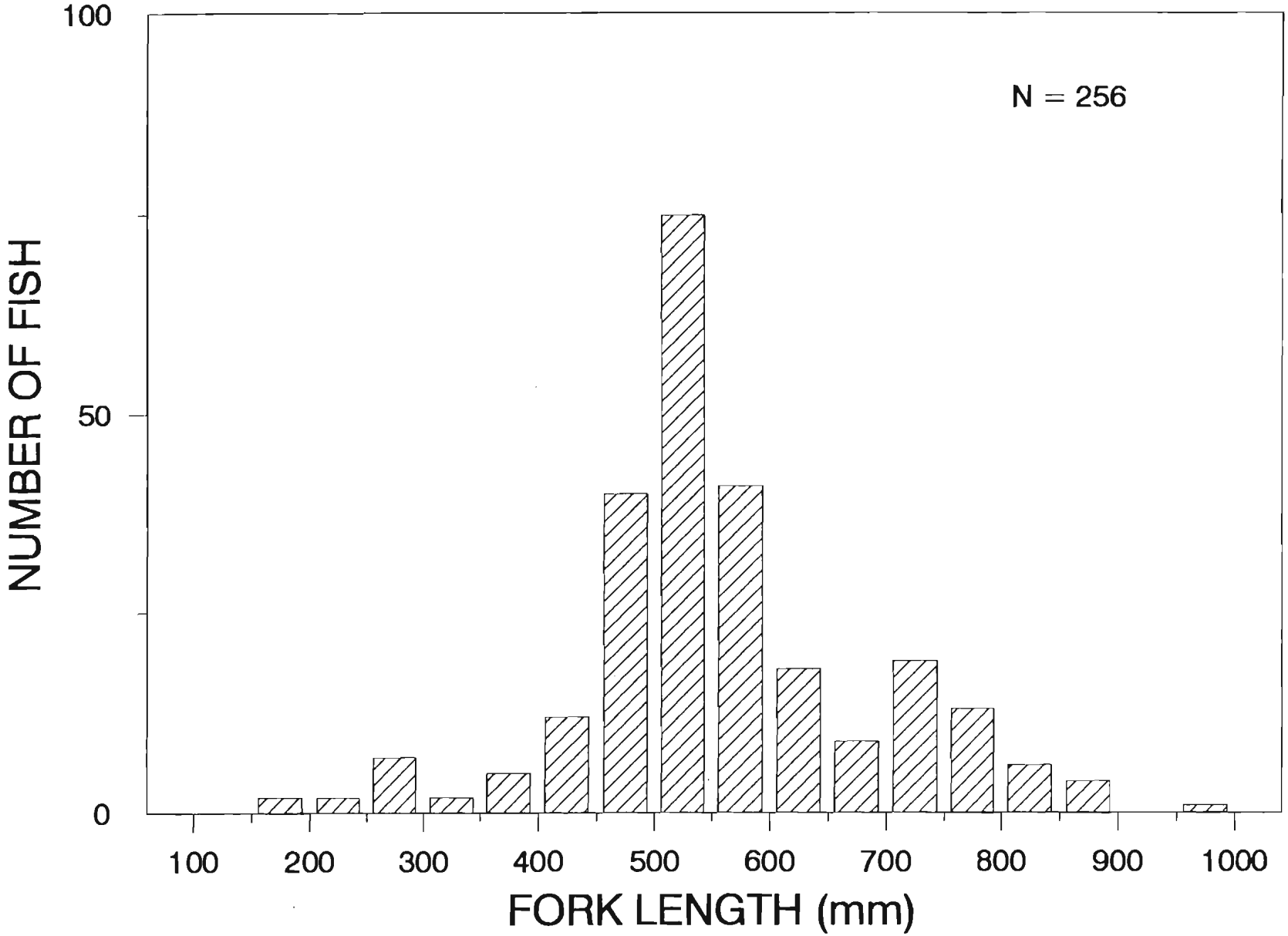

Fig. 6. Length-frequency histogram for lake trout caught by index fishing gillnets in Indin Lake, 1976.

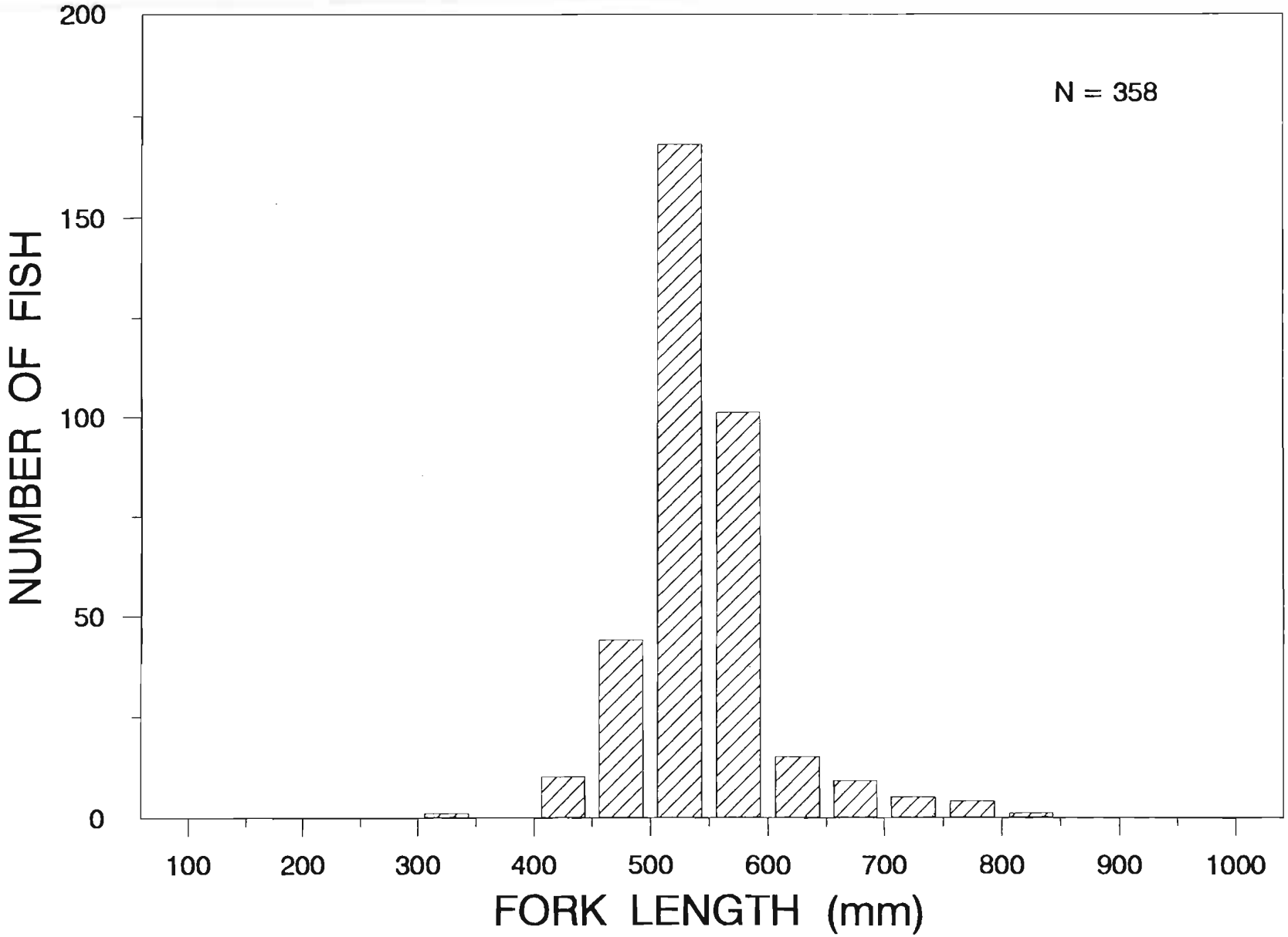

Fig. 7. Length-frequency histogram for tagged lake trout caught by angling and gillnets in Indin Lake, 1976.

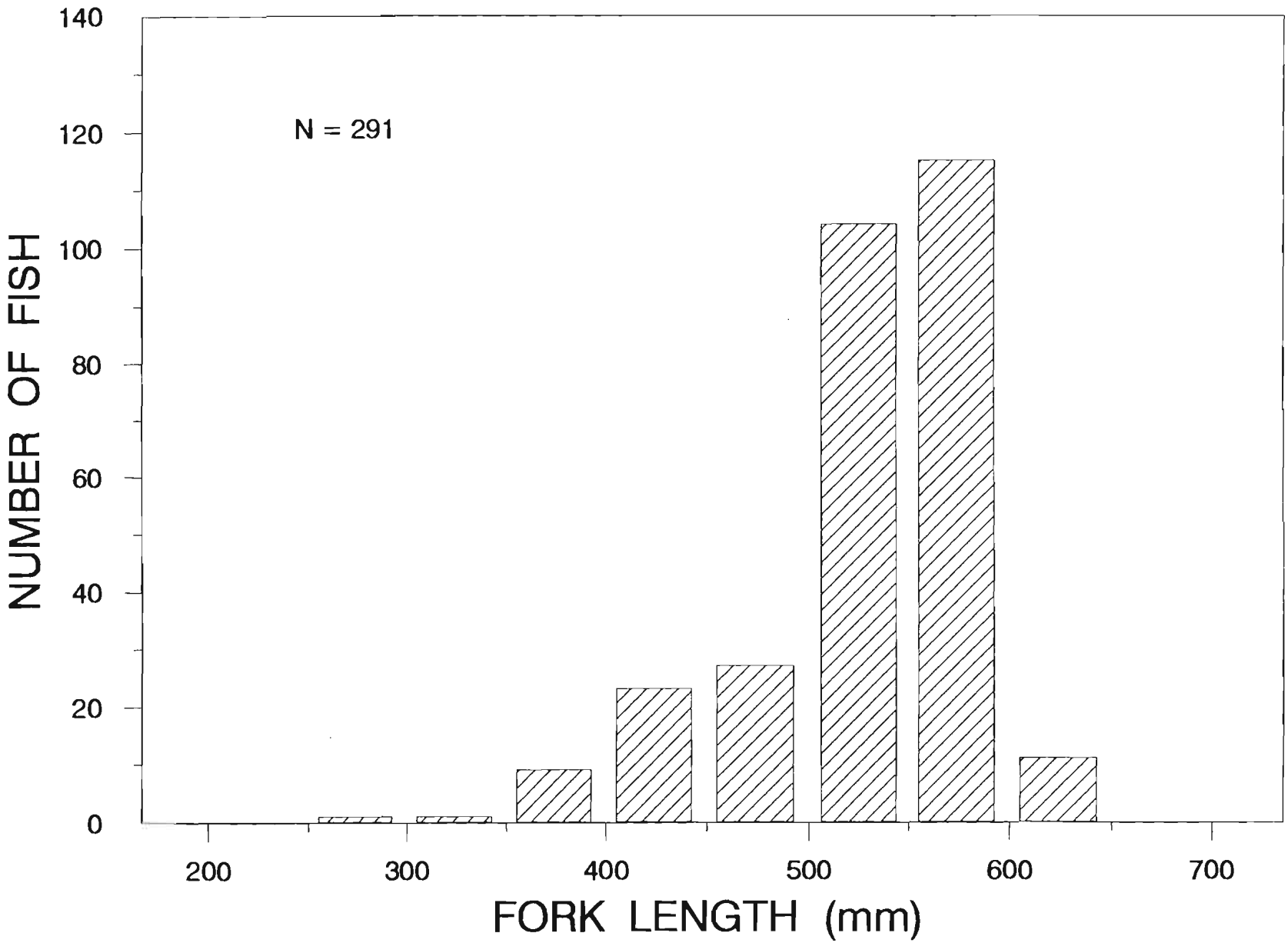

Fig. 8. Length-frequency histogram for lake whitefish caught by index fishing gillnets in Indin Lake, 1976.

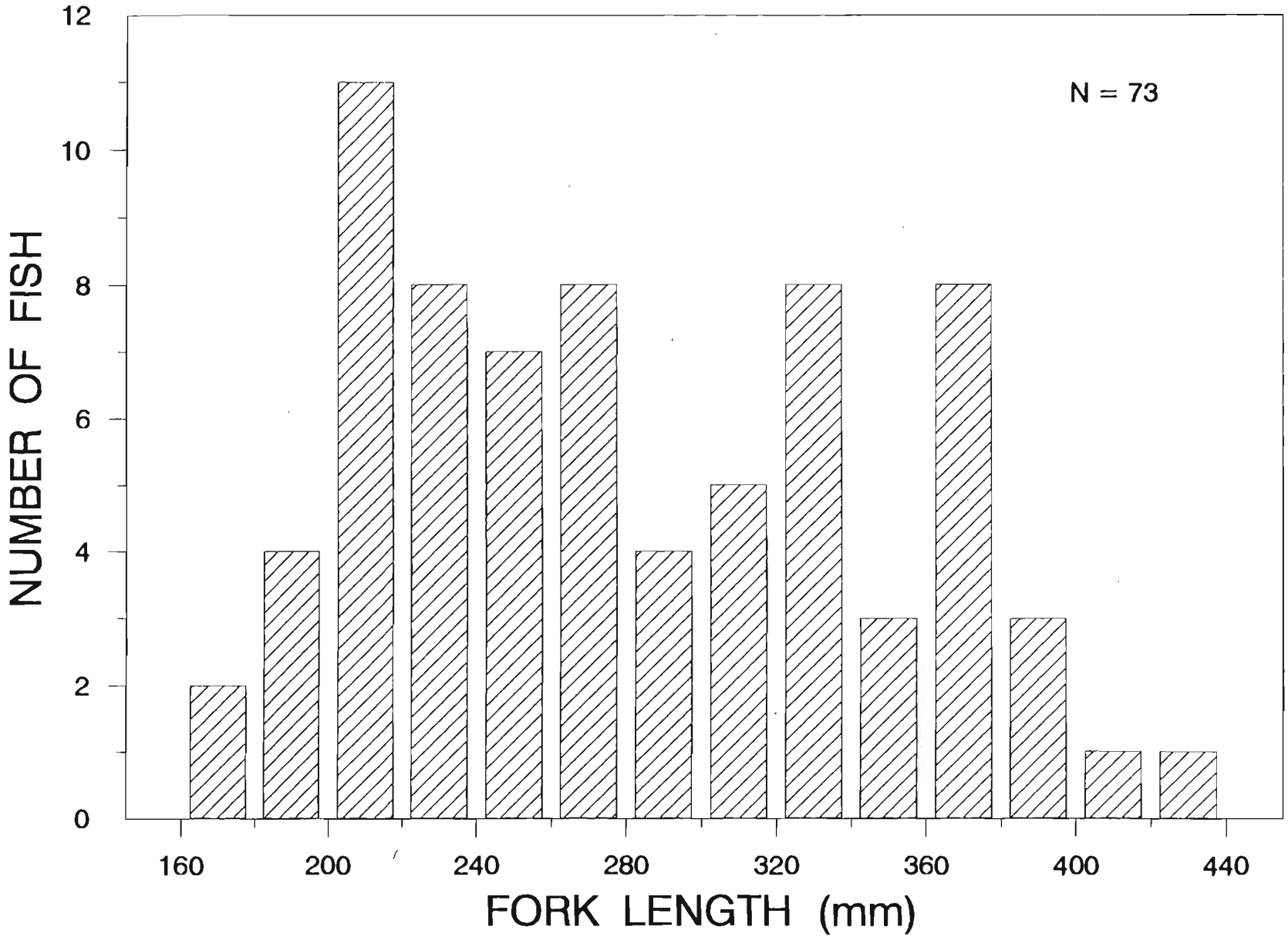

Fig. 9. Length-frequency histogram for Arctic grayling caught by index fishing gillnets in Indin Lake, 1976.

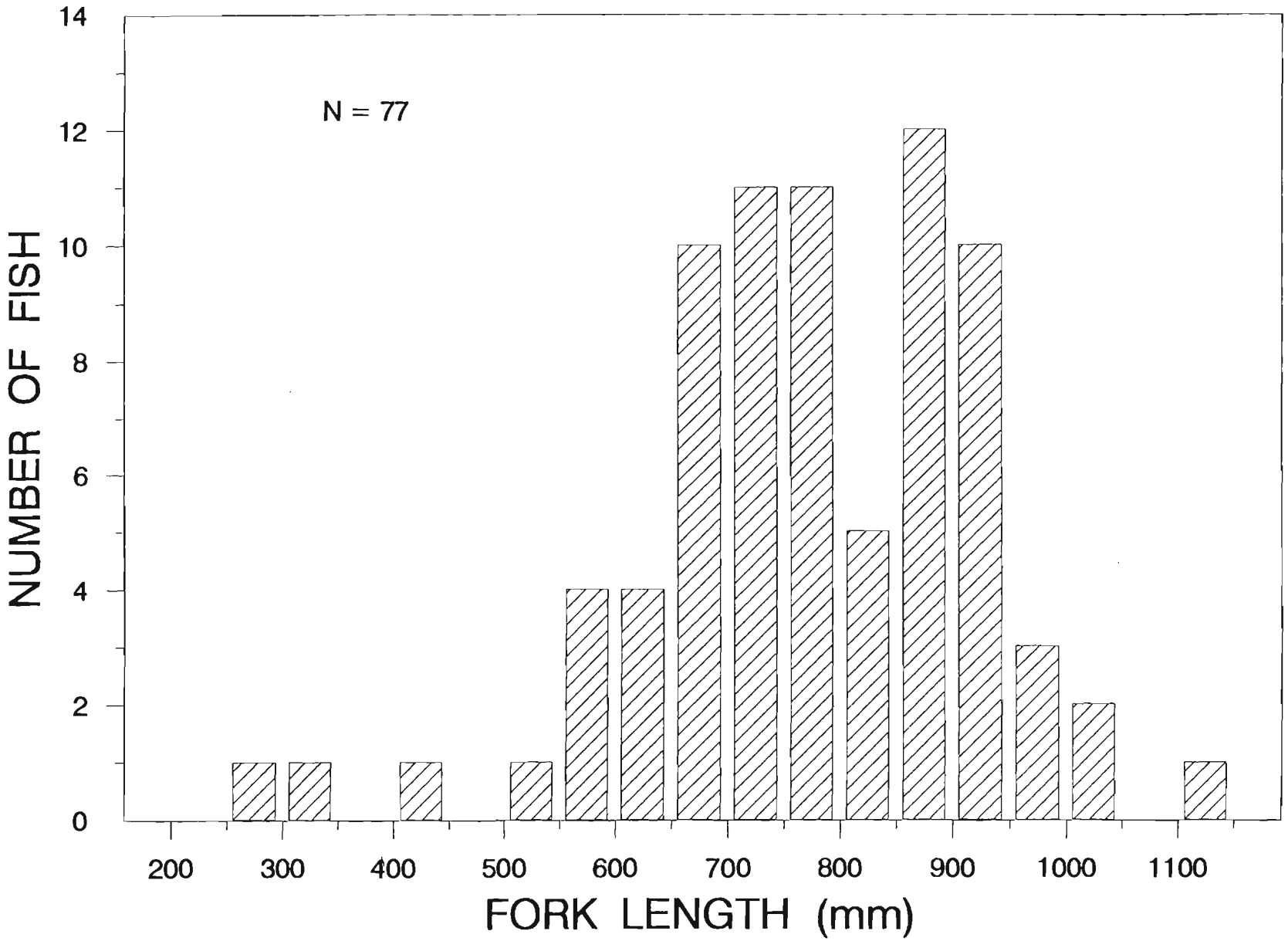

Fig. 10. Length-frequency histogram for northern pike caught by index fishing gillnets in Indin Lake, 1976.

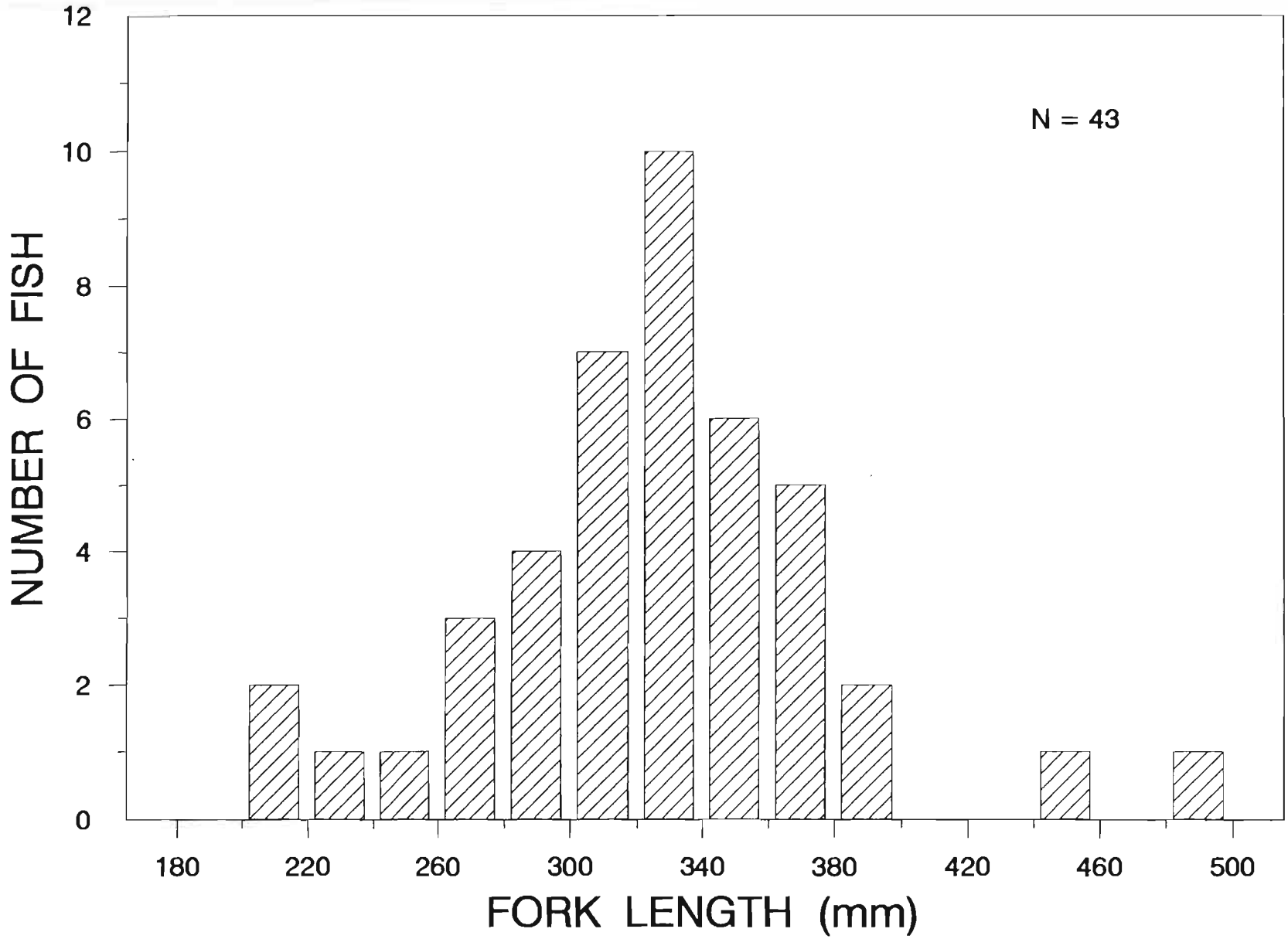

Fig. 11. Length-frequency histogram for round whitefish caught by index fishing gillnets in Indin Lake, 1976.

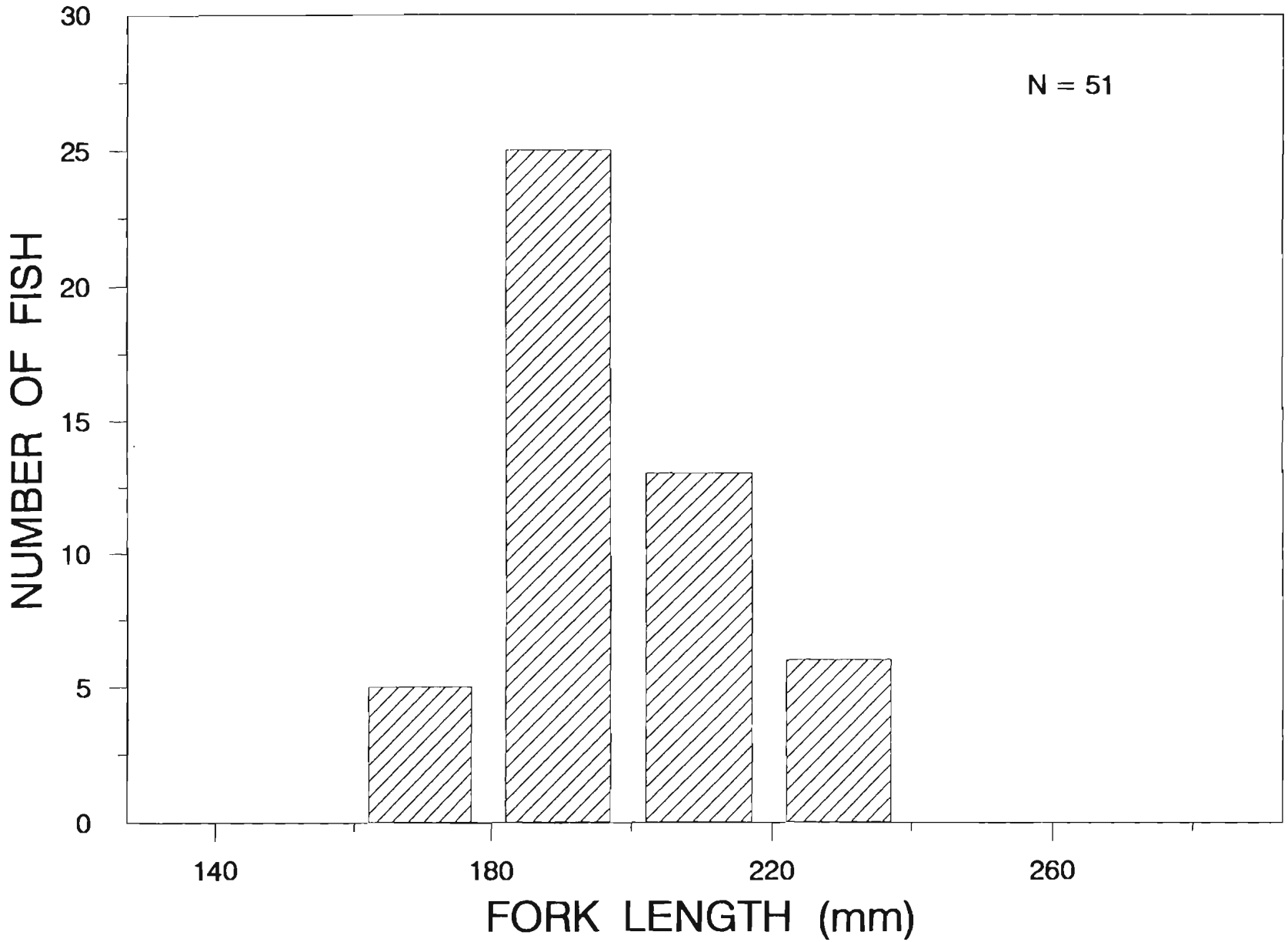

Fig. 12. Length-frequency histogram for lake cisco caught by index fishing gillnets in Indin Lake, 1976.

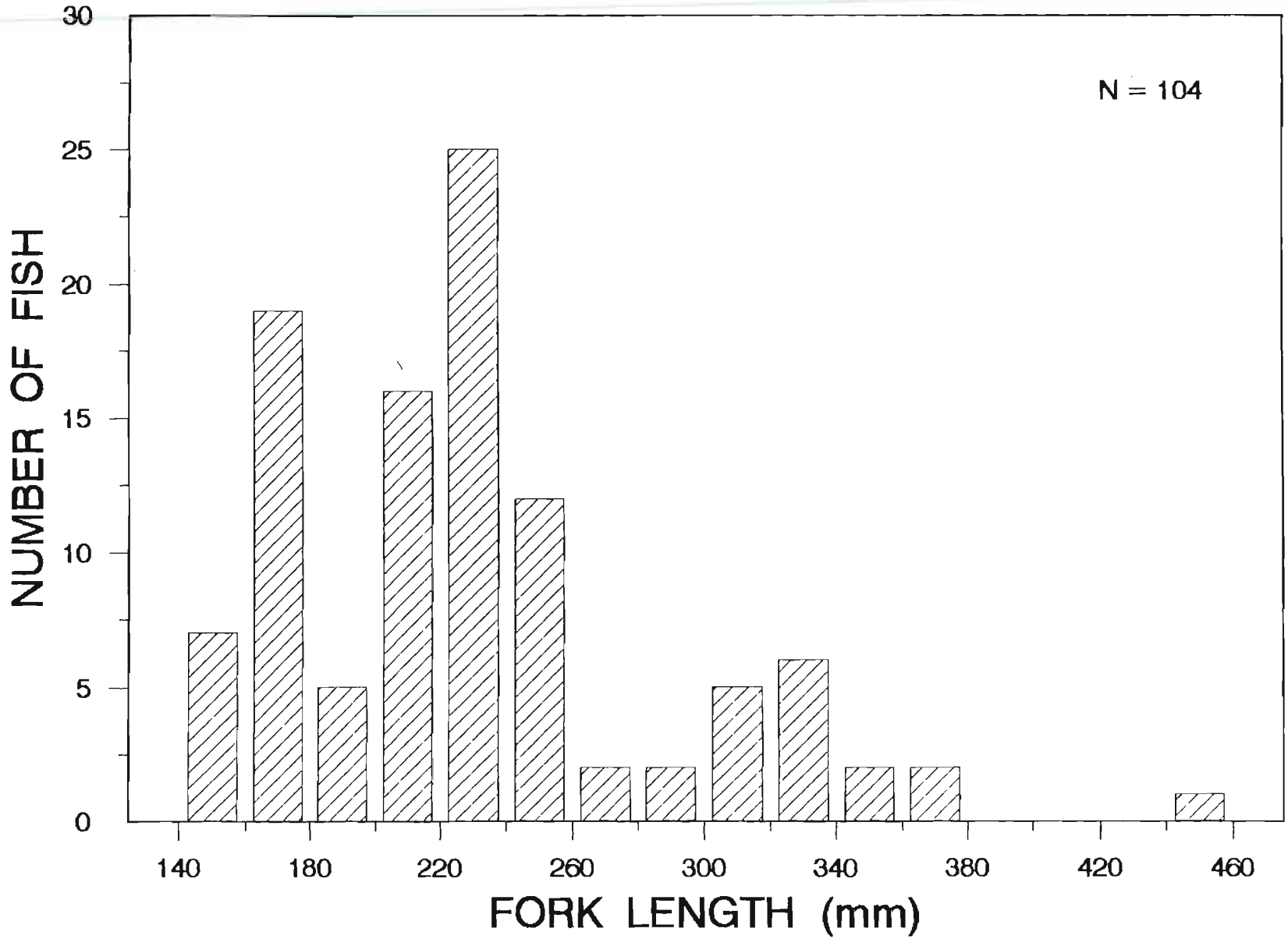

Fig. 13. Length-frequency histogram for longnose suckers caught by index fishing gillnets in Indin Lake, 1976.

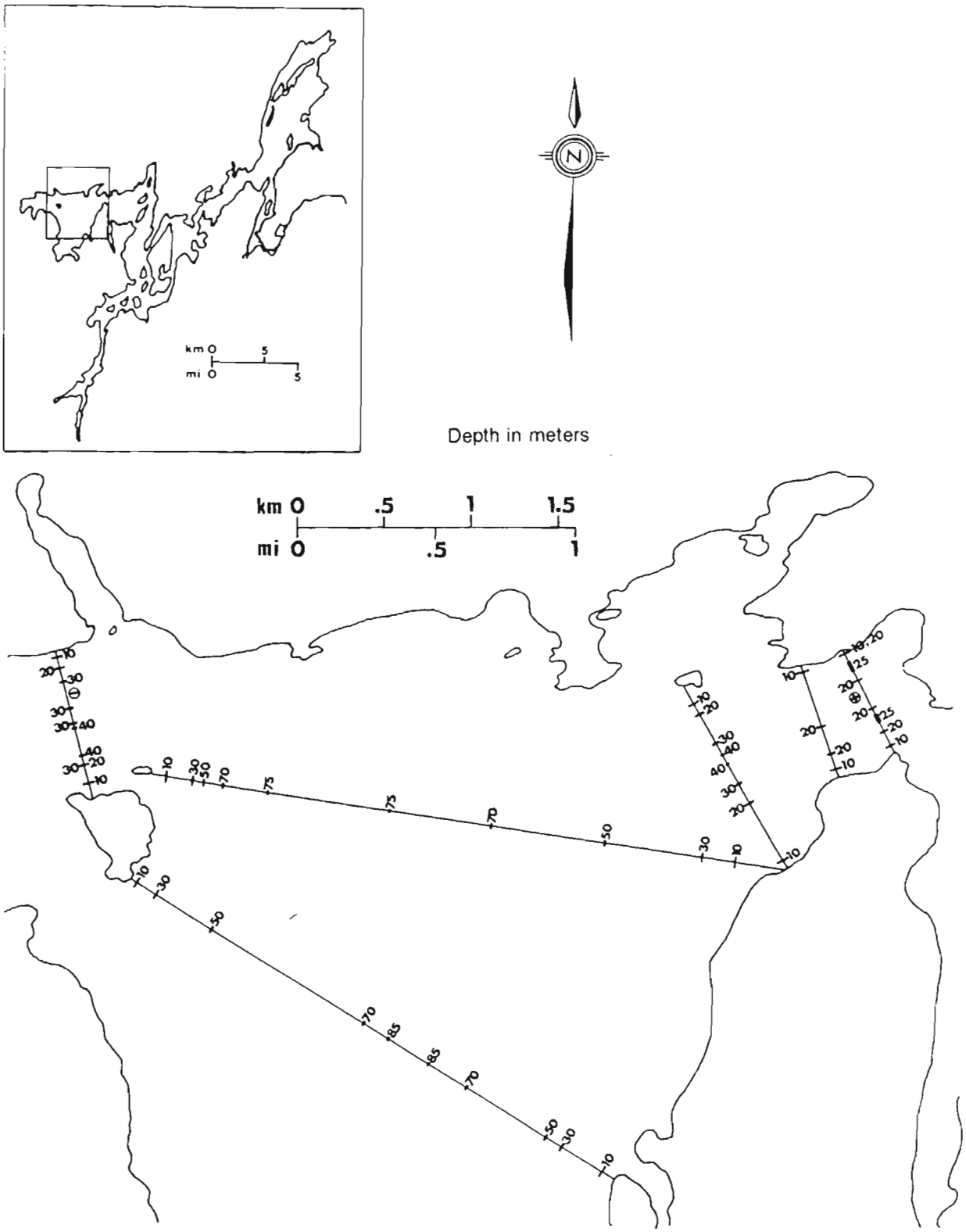

Fig. 14. Sounding transects and recorded depths (m) for the west arm of Indin Lake, 1976.

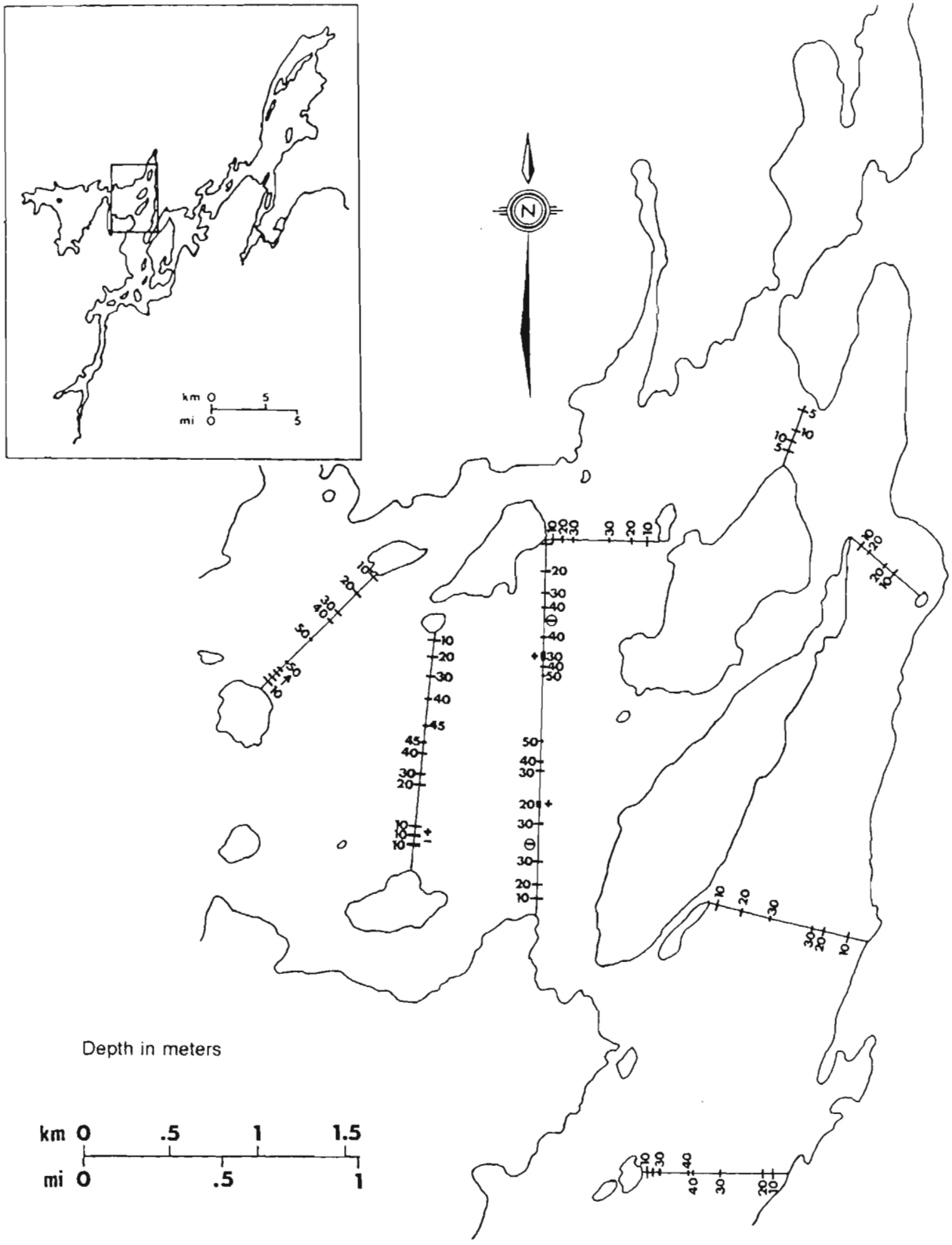

Fig. 15. Sounding transects and recorded depths (m) for the central (west) area of Indin Lake, 1976.

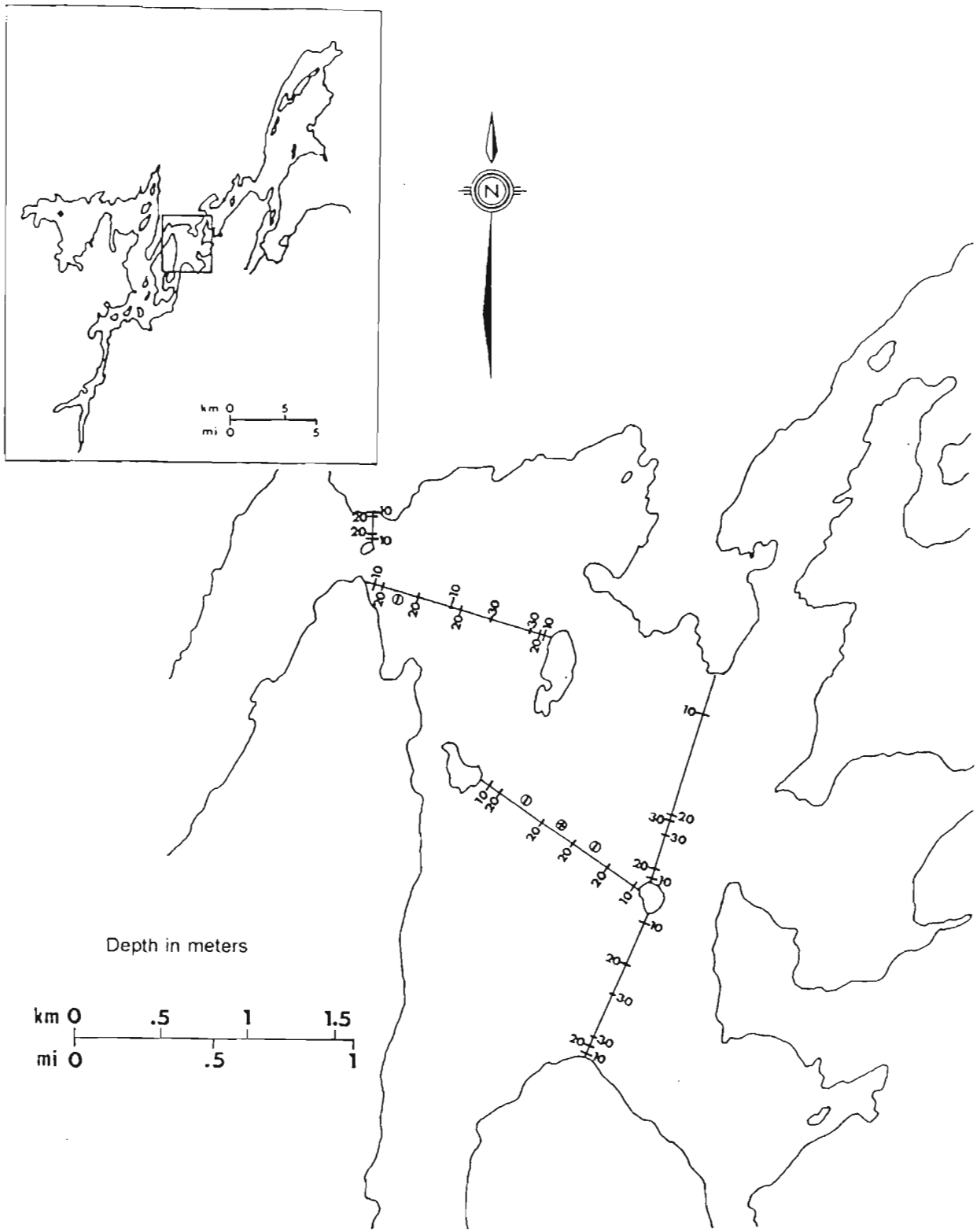

Fig. 16. Sounding transects and recorded depths (m) for the central (east) area of Indin Lake, 1976.

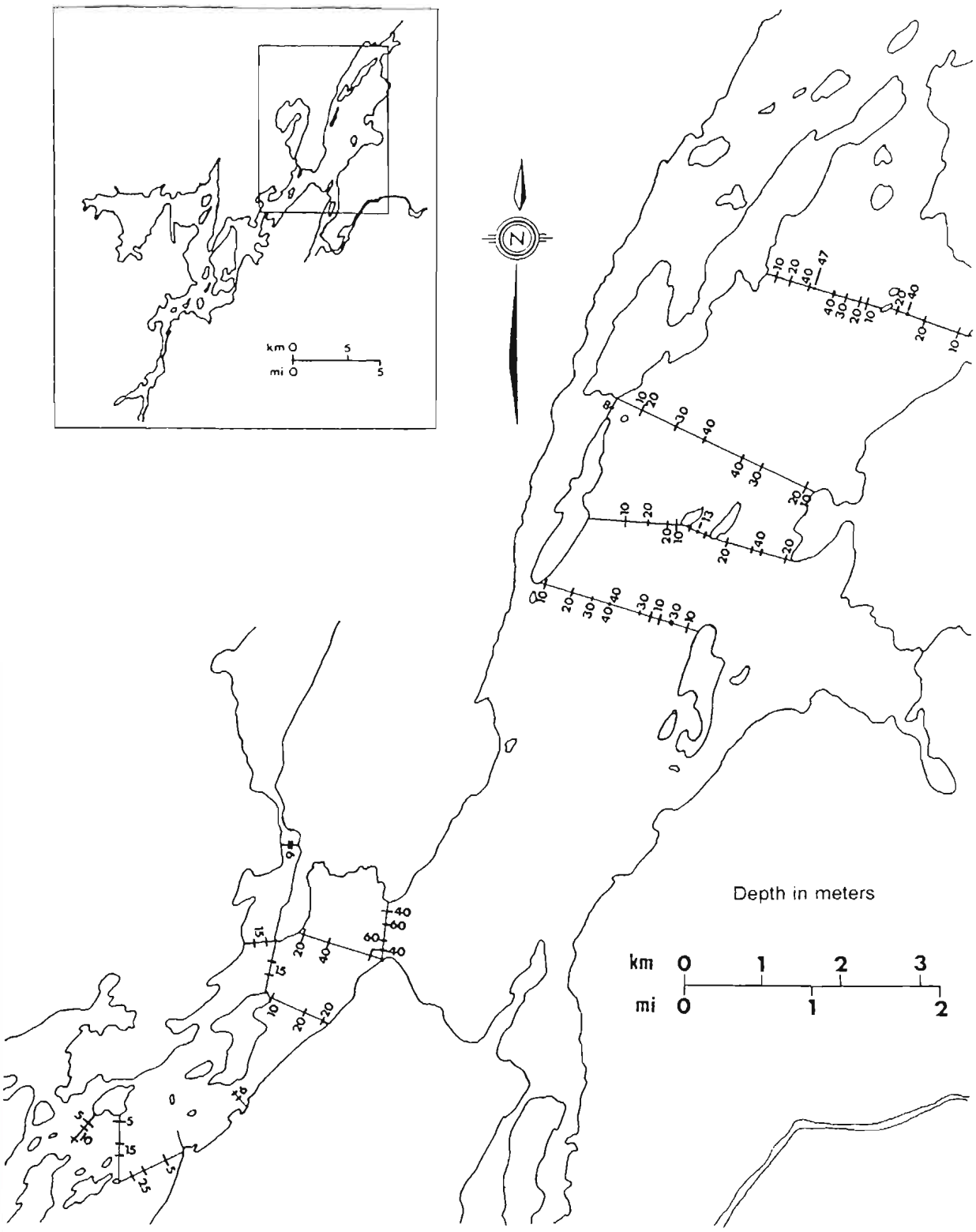

Fig. 17. Sounding transects and recorded depths (m) for the north arm of Indin Lake, 1976.

Table A1.1. Weight data (g), by length interval, for lake trout taken in index gillnets at Indin Lake, 1976.

Length group (mm)	Males				Females				Sex unknown				Combined				
	n	Mean	SD	Range	n	Mean	SD	Range	n	Mean	SD	Range	n	%	Mean	SD	Range
150-199									2	63	3.5	60-65	2	1.0	63	3.5	60-65
200-249					1	145			1	85			2	1.0	115	42.4	85-145
250-299	3	253	63.5	180-290	3	213	25.2	190-240	1	270			7	3.6	239	46.3	180-290
300-349	1	420			1	330							2	1.0	375	63.6	330-420
350-399	4	674	83.8	590-760	1	530							5	2.6	645	97.0	530-760
400-449	6	930	181.0	730-1200	4	853	71.2	750-915	2	943	24.8	925-960	12	6.2	906	133.9	730-1200
450-499	17	1335	144.4	1150-1600	18	1357	211.6	1060-1750	5	1427	168.9	1250-1625	40	20.6	1356	178.4	1060-1750
500-549	40	1633	261.6	1295-2675	25	1773	204.0	1325-2300	10	1704	221.4	1200-1900	75	38.7	1689	244.2	1200-2675
550-599	18	2062	263.5	1440-2450	16	1996	319.9	1400-2420	7	2175	168.4	1900-2400	41	21.1	2056	275.8	1400-2450
600-649	7	2641	527.4	2125-3700	6	2698	177.5	2525-2940	5	2750	151.0	2500-2875	18	9.3	2690	338.9	2125-3700
650-699	5	3581	434.1	3100-4210	3	3875	370.0	3625-4300	1	3200			9	4.6	3637	418.9	3100-4300
700-749	4	4731	391.2	4500-5275	5	4647	191.4	4475-4975	10	4398	441.0	3800-5100	19	9.8	4534	391.8	3800-5275
750-799	7	5526	610.4	4500-6600					6	5461	687.7	4800-6590	13	6.7	5496	620.1	4500-6590
800-849	3	6117	202.1	6000-6350	1	5700			2	6400	2404.2	4700-8100	6	3.1	6142	1112.8	4700-8100
850-899					1	7200			3	7200	655.7	6500-7800	4	2.1	7200	535.4	6500-7800
950-999					1	11714							1	0.5	11714		
Total	115			180-6600	86			190-11714	55			60-8100	256				60-11714

Table A1.2. Weight data (g), by length interval, for lake whitefish taken in index gillnets at Indin Lake, 1976.

Length group (mm)	Males				Females				Sex unknown				Combined				
	n	Mean	SD	Range	n	Mean	SD	Range	n	Mean	SD	Range	n	%	Mean	SD	Range
250-299	1	350											1	0.3	350		
300-349					1	480							1	0.3	480		
350-399	3	792	115.9	715-925	5	764	49.8	680-800	1	825			9	3.1	780	71.2	680-925
400-449	11	1140	221.8	975-1700	11	1142	251.3	885-1750	1	1250			23	7.9	1145	227.1	885-1750
450-499	15	1515	208.8	1080-1810	9	1626	205.7	1375-1925	3	1792	274.2	1575-2100	27	14.4	1583	225.1	1080-2100
500-549	42	2139	227.1	1700-2730	54	2158	236.9	1710-2700	8	2137	204.2	1860-2452	104	35.7	2159	228.8	1700-2730
550-599	38	2724	400.5	2100-3656	68	2686	255.4	2200-3200	9	2497	230.0	2300-2950	115	39.5	2571	312.1	2100-3656
600-649	6	3061	329.3	2690-3525	4	3569	432.7	3275-4200	1	3450		3450	11	3.8	3299	418.9	2690-4200
Total	116			350-3656	152			480-4200	23			825-3450	291				350-4200

Table A1.3. Weight data (g), by length interval, for Arctic grayling taken in index gillnets at Indin Lake, 1976.

Length group (mm)	Males				Females				Sex unknown				Combined				
	n	Mean	SD	Range	n	Mean	SD	Range	n	Mean	SD	Range	n	%	Mean	SD	Range
160-179	2	55	7.1	50-60									2	2.7	55	7.1	50-60
180-199	2	85	7.1	80-90	1	90			1	70			4	5.5	83	9.6	70-90
200-219	6	113	9.9	95-120	3	113	20.8	90-130	2	85	7.1	80-90	11	15.1	108	16.3	80-130
220-239	5	149	16.0	130-170	2	148	10.6	140-155	1	140			8	11.0	148	13.1	130-170
240-259	2	195	7.1	190-200	5	186	11.4	170-200					7	9.6	189	10.7	170-200
260-279	4	219	22.5	220-250	4	238	12.6	220-250					8	11.0	228	19.6	220-250
280-299	1	260			3	243	20.8	320-360					4	5.5	323	45.0	260-360
300-319	3	390	10.0	380-400	1	400			1	360			5	6.9	386	16.7	360-400
320-339	3	432	42.5	400-480	3	430	26.5	400-450	2	413	53.0	375-450	8	11.0	426	34.5	375-480
340-359	1	500			1	500			1	500			3	4.1	500	0.0	
360-379	3	600	75.5	520-670	3	613	75.1	540-690	2	550	0.0		8	11.0	593	63.0	520-670
380-399	1	700							2	705	49.5	670-740	3	4.1	727	51.3	670-770
400-419									1	780			1	1.4	780		
420-439									1	975			1	1.4	975		
Totals	33			50-770	26			90-690	14			70-975	73				50-975

Table A1.4. Weight data (g), by length interval, for northern pike taken in index gillnets at Indin Lake, 1976.

Length group (mm)	Males				Females				Sex unknown				Combined				
	n	Mean	SD	Range	n	Mean	SD	Range	n	Mean	SD	Range	n	%	Mean	SD	Range
250-299	1	140											1	1.2	140		
300-349	1	220											1	1.2	220		
400-449	1	520											1	1.2	520		
500-549	1	1235											1	1.2	1235		
550-599	2	1440	84.9	1380-1500	2	1514	84.9	1450-1570					4	5.2	1475	80.2	1380-1570
600-649	2	2013	159.1	1900-2125	1	2053			1	1475			4	5.2	1800	277.5	1475-2125
650-699	4	2284	311.9	2025-2725	5	2347	243.1	2110-2575	1	2325			10	13.0	2396	265.6	2025-2725
700-749	2	3325	353.6	3075-3575	6	2819	157.4	2610-3050	3	3167	416.3	2700-3500	11	14.3	2987	341.7	2610-3575
750-799	4	3913	446.5	3375-4350	5	3456	610.0	2875-4400	2	3888	512.7	3525-4250	11	14.3	3771	508.5	2875-4400
800-849	3	3850	492.4	3450-4400	1	4270			1	4600			5	6.5	4130	519.1	3450-4600
850-899	7	4843	498.3	4050-5600	5	4927	345.3	4000-4900					12	15.6	4735	443.2	4000-5600
900-949	2	5155	1371.8	4185-6125	5	5931	1408.3	4900-8200	3	5892	667.2	5275-6600	10	13.0	5885	1163.6	4185-8200
950-999					2	6998	1679.4	6075-8450	1	6000			3	3.9	6842	1679.4	6000-8400
1000-1049					2	7634	848.5	6800-8000					2	2.6	7400	848.5	6800-8000
1100-1149					1	9444							1	1.2	10000		
Total	30			140-6125	35			1450-9444	12			1475-6600	77				140-10000

Table A1.5. Weight data (g), by length interval, for round whitefish taken in index gillnets at Indin Lake, 1976.

Length group (mm)	Males				Females				Sex unknown				Combined				
	n	Mean	SD	Range	n	Mean	SD	Range	n	Mean	SD	Range	n	%	Mean	SD	Range
200-219									2	100	28.3	80-120	2	4.7	100		80-120
220-239					1	140							1	2.3	140		
240-259					1	170							1	2.3	170		
260-279					3	220	17.3	210-240					3	7.0	220	17.3	210-240
280-299	3	260	10.0	250-270					1	250			4	9.3	257	9.6	250-270
300-319	3	335	35.0	300-370	4	303	17.1	280-320					7	16.3	316	29.3	280-370
320-339	6	378	60.5	310-475	4	370	61.6	330-460					10	23.3	375	57.6	310-475
340-359	2	408	46.0	375-440	4	436	38.2	390-480					6	14.0	427	38.9	375-480
360-379	2	520	77.8	465-575	3	552	22.6	530-575					5	11.6	539	45.5	465-575
380-399					2	610	14.1	600-620					2	4.7	610	14.1	600-620
440-459					1	910							1	2.3	910		
480-499	1	1300											1	2.3	1300		
Total	17			250-1300	23			140-910	3			80-250	43				80-1300

Table A1.6. Weight data (g), by length interval for lake cisco taken in index gillnets at Indin Lake, 1976.

Length group (mm)	Males				Females				Sex unknown				Combined				
	n	Mean	SD	Range	n	Mean	SD	Range	n	Mean	SD	Range	n	%	Mean	SD	Range
140-159					1	55							1	2.0	55		
160-179	4	66	4.8	60-70	1	75							5	9.8	68	5.7	60-75
180-199	14	79	13.1	60-95	9	79	13.1	60-90	2	85	7.1	80-90	25	49.0	80	12.5	60-95
200-219	7	110	15.6	95-130	6	123	15.7	105-140					13	25.4	116	16.5	95-140
220-239	2	140	14.1	130-150	4	134	20.6	110-160					6	11.8	136	17.4	110-160
240-259																	
260-279					1	260							1	2.0	260		
Total	27			60-150	22			55-260	2			80-90	51				55-260

Table A1.7. Weight data (g), by length interval, for longnose sucker taken in index gillnets at Indin Lake, 1976.

length group (mm)	Combined					
	n	%	mean	SD	Range	K
140-159	7	6.7	52	5.7	45- 60	1.51
160-179	19	18.3	63	10.9	50- 80	1.30
180-199	5	4.8	91	18.2	70-110	1.41
200-219	16	15.4	125	15.4	100-150	1.41
220-239	25	24.0	154	22.0	115-200	1.31
240-259	12	11.5	194	20.9	160-225	1.30
260-279	2	1.9	245	7.1	240-250	1.29
280-299	2	1.9	280	28.3	260-300	1.25
300-319	5	4.8	227	125.3	140-400	0.95
320-339	6	6.0	501	111.4	145-400	1.42
340-359	2	1.9	620	56.6	580-660	1.45
360-379	2	1.9	735	56.6	695-775	1.48
440-459	1	1.0	600	-	600	0.64
Total	104				45-775	

Table A2.1. Mean fork length, mean weight, and mean condition factor (K) for lake trout taken in index gillnets at Indin Lake, 1976.

AGE (yr)	MALE LENGTH (mm) N	MALE LENGTH (mm) MEAN	MALE LENGTH (mm) SD	MALE K	FEMALE LENGTH (mm) N	FEMALE LENGTH (mm) MEAN	FEMALE LENGTH (mm) SD	FEMALE K	NUMBER SEX UNKNOWN	COMBINED LENGTH (mm) N	COMBINED LENGTH (mm) MEAN	COMBINED LENGTH (mm) SD	COMBINED LENGTH (mm) RANGE	COMBINED WEIGHT (g) MEAN	COMBINED WEIGHT (g) SD	COMBINED WEIGHT (g) RANGE	COMBINED K
4					1	228	-	1.22	1	2	208	28 3	188-228	105	57	85-145	1 10
5	1	400	-	1 14					2	3	263	119.0	185-400	292	380	80-730	1 03
6										0							
7	3	440	82.6	1 22	2	287	22 8	1.20		5	379	95 5	271-512	761	552	240-1625	1 21
8	1	294	-	1 14	1	460	-	1 39	1	3	335	110.8	250-460	637	618	270-1350	1 42
9	3	292	32 8	1.15	8	455	49 1	1.23		11	411	88 0	258-520	959	559	180-1910	1 21
10	4	474	36 6	1.23	5	493	57 9	1 16		9	485	47 6	422-585	1388	423	870-2285	1 19
11	6	451	43 2	1 21	4	529	33.4	1.21		10	483	55.0	395-570	1396	464	750-2260	1 21
12	2	400	49 5	1 24	2	498	4 2	1.21		4	449	63.4	365-501	1180	443	590-1600	1 23
13	3	525	35 0	1 12	8	538	143 2	1.19		9	533	114 8	420-810	1960	1455	875-5700	1.17
14	4	508	38 8	1 24	8	569	90 1	1.11		10	545	77 5	460-734	1968	962	1100-4475	1 18
15	7	490	47 0	1 14	2	485	41 7	1.18		9	489	43 3	396-538	1378	373	615-1950	1 15
16	6	539	103 8	1 14	8	548	81.1	1.20		14	544	87 8	460-738	2056	1154	1060-4400	1 18
17	2	577	39 6	1 03	4	585	51.8	1.20		6	582	44.0	527-629	2294	811	1500-2940	1.14
18	5	585	56 5	1 17	3	583	87 8	1 04		8	584	57 2	510-872	2255	803	1325-3872	1 12
19	7	572	86 0	1.14	2	606	53 7	0.96		9	579	62 1	500-669	2247	963	1400-4210	1 10
20	7	562	90 7	1.11	8	548	35 9	1 22		13	558	88 6	483-750	2083	881	1330-4800	1 16
21	8	535	37 7	1.18	1	558	-	1.51		7	538	35 8	495-584	1934	478	1450-2625	1 23
22	7	552	70.5	1 18	2	545	6 4	1 30		9	550	61 2	496-672	2071	781	1250-3875	1 20
23	1	553	-	0.98	2	531	48.8	1 13		3	538	36 9	496-565	1650	0.0	1650-1650	1.08
24	8	588	80 7	1 10	1	498	-	1 42		7	574	80 9	498-736	2254	1048	1325-4500	1 14
25	3	595	53 3	1 04	2	548	31.8	1.17		5	575	49 0	523-651	2112	579	1700-3100	1 09
26	10	616	110.6	1 14						10	616	110.6	507-808	2933	1724	1525-6000	1 14
27	1	542	-	1.27	4	621	83.8	1 09		5	605	80 6	542-742	2605	1141	1700-4575	1 13
28	3	648	158.1	1.12	5	683	133 6	1 17		8	670	133 0	540-857	3785	2111	1850-7200	1 15
29	2	765	6 4	1 19	3	559	8 0	1 07		5	641	112.6	551-769	3282	1930	1400-5750	1 12
30	3	550	65.2	1 13	1	699	-	0 94		4	588	91 4	500-699	2255	856	1295-3200	1 08
31	2	640	183 1	1 23						2	640	183 1	510-769	3684	3004	1560-5808	1 23
32	1	778	-	1 40	1	731	-	1 27		2	755	33.2	731-778	5788	1148	4976-6600	1 34
33	1	555	-	1 23						1	555	-	-	2100	-	-	1 23
35	1	770	-	1 20	1	987	-	1 22		2	879	153 4	770-987	8595	4412	5475-11714	1 21
39	1	726		1 38						1	728		-	5275	-	-	1 38
TOTAL	109			1 16	83			1 16	4	196			185-987			60-11714	1 17

Table A2.2. Mean fork length, mean weight, and mean condition factor (K) for lake whitefish taken in index gillnets at Indin Lake, 1976.

AGE (yr)	MALE LENGTH (mm) N	MALE LENGTH (mm) MEAN	MALE LENGTH (mm) SD	MALE K	FEMALE LENGTH (mm) N	FEMALE LENGTH (mm) MEAN	FEMALE LENGTH (mm) SD	FEMALE K	NUMBER SEX UNKNOWN	COMBINED LENGTH (mm) N	COMBINED LENGTH (mm) MEAN	COMBINED LENGTH (mm) SD	COMBINED LENGTH (mm) RANGE	COMBINED WEIGHT (g) MEAN	COMBINED WEIGHT (g) SD	COMBINED WEIGHT (g) RANGE	COMBINED K
3	1	296	-	1.35	1	383	-	1.42		2	330	47.4	296-363	515	233	350-680	1.39
4	1	394	-	1.51	1	330	-	1.34	1	3	373	37.5	330-396	743	234	480-925	1.39
5	8	422	32.1	1.39	6	397	13.5	1.34		14	411	28.0	375-466	985	223	715-1350	1.37
6	6	457	27.0	1.40	9	456	35.2	1.48	2	17	456	29.4	412-503	1422	460	950-2730	1.46
7	10	487	39.9	1.45	13	502	39.0	1.48	3	28	496	37.4	415-555	1842	437	970-2730	1.49
8	31	522	40.4	1.46	24	525	34.9	1.38	9	84	528	37.6	427-618	2079	469	980-3450	1.40
9	24	550	24.7	1.48	42	551	19.7	1.49	3	69	551	21.1	505-600	2489	522	1825-4400	1.48
10	15	559	30.1	1.41	26	558	26.7	1.48	2	43	558	27.1	454-612	2519	387	1375-3380	1.45
11	10	581	23.8	1.40	17	573	15.7	1.48	1	28	576	18.7	538-624	2755	372	1710-3475	1.44
12	7	574	29.8	1.44	8	582	13.6	1.45	1	16	578	21.4	533-620	2817	331	2260-3525	1.46
13	2	584	26.9	1.34	1	553	-	1.32		3	574	26.1	553-603	2508	250	2225-2700	1.33
14										0							
15					1	645	-	1.57		1	645	-	-	4200	-	-	1.57
TOTAL	115			1.44	149			1.46	22	286			296-645			350-4400	1.44

Table A2.3. Mean fork length, mean weight, and mean condition factor (K) for Arctic grayling taken in index gillnets at Indin Lake, 1976.

AGE (yr)	MALE LENGTH (mm) N	MALE LENGTH (mm) MEAN	MALE LENGTH (mm) SD	MALE K	FEMALE LENGTH (mm) N	FEMALE LENGTH (mm) MEAN	FEMALE LENGTH (mm) SD	FEMALE K	NUMBER SEX UNKNOWN	COMBINED LENGTH (mm) N	COMBINED LENGTH (mm) MEAN	COMBINED LENGTH (mm) SD	COMBINED LENGTH (mm) RANGE	COMBINED WEIGHT (g) MEAN	COMBINED WEIGHT (g) SD	COMBINED WEIGHT (g) RANGE	COMBINED K
2	8	196	20.7	1.20	3	204	8.5	1.17	3	14	200	17.3	165-224	96	27	50-140	1.18
3	13	247	29.2	1.22	12	251	19.4	1.24	3	28	257	44.8	200-404	228	144	80-780	1.22
4	7	333	31.1	1.20	8	305	28.4	1.27	5	18	329	33.8	258-398	443	124	200-740	1.21
5	4	333	28.6	1.22	4	345	23.4	1.15		8	339	25.0	312-375	487	115	380-670	1.19
6	1	392	-	1.28	2	369	12.7	1.22	1	4	378	13.5	360-392	668	95	540-770	1.23
7									1	1	422	-	-	975	-	-	1.30
TOTAL	33			1.21	27			1.23	13	73			165-422			50-975	1.21

Table A2.4. Mean fork length, mean weight, and mean condition factor (K) for northern pike taken in index gillnets at Indin Lake, 1976.

AGE (yr)	MALE LENGTH (mm) N	MALE LENGTH (mm) MEAN	MALE LENGTH (mm) SD	MALE K	FEMALE LENGTH (mm) N	FEMALE LENGTH (mm) MEAN	FEMALE LENGTH (mm) SD	FEMALE K	NUMBER SEX UNKNOWN	COMBINED LENGTH (mm) N	COMBINED LENGTH (mm) MEAN	COMBINED LENGTH (mm) SD	COMBINED LENGTH (mm) RANGE	COMBINED WEIGHT (g) MEAN	COMBINED WEIGHT (g) SD	COMBINED WEIGHT (g) RANGE	COMBINED K
2	1	260	-	0.80						1	260	-	-	140	-	-	1.80
3	1	418	-	0.71						1	418	-	-	520	-	-	0.71
4	1	565	-	0.83						1	565	-	-	1500	-	-	0.83
5	4	603	58.8	0.75	2	575	5.0	0.80		6	593	47.9	536-652	1614	336	1235-2025	0.77
6	3	697	21.5	0.83	3	722	62.5	0.77	2	8	695	49.9	615-762	2651	737	1475-3575	0.77
7	4	675	74.2	0.77	8	697	28.1	0.77	1	13	695	47.5	629-785	2622	547	1700-3525	0.77
8					9	780	84.5	0.77	8	17	776	88.8	623-960	3938	1047	2550-6000	0.85
9	3	737	93.4	1.13	2	907	26.2	0.70	1	6	823	111.1	630-925	4771	845	3700-5800	0.93
10	5	825	61.5	0.80	5	898	43.2	0.69	1	11	866	61.4	748-945	4948	1112	3075-7000	0.76
11	6	869	34.6	0.65	2	980	0.0	0.65	1	9	899	55.7	816-980	4771	940	3450-6075	0.65
12					2	968	42.4	0.92		2	968	42.4	938-998	8325	177	8200-8450	0.92
13	2	881	60.1	0.76						2	881	60.1	838-923	5263	1220	4400-6125	0.76
14					1	1040	-	0.71		1	1040	-	-	8000	-	-	0.71
TOTAL	30			0.79	34			0.76	14	78			260-1040			140-8450	0.79

Table A2.5. Mean fork length, mean weight, and mean condition factor (K) for round whitefish taken in index gillnets at Indin Lake, 1976.

AGE (yr)	MALE LENGTH (mm) N	MALE LENGTH (mm) MEAN	MALE LENGTH (mm) SD	MALE K	FEMALE LENGTH (mm) N	FEMALE LENGTH (mm) MEAN	FEMALE LENGTH (mm) SD	FEMALE K	NUMBER SEX UNKNOWN	COMBINED LENGTH (mm) N	COMBINED LENGTH (mm) MEAN	COMBINED LENGTH (mm) SD	COMBINED LENGTH (mm) RANGE	COMBINED WEIGHT (g) MEAN	COMBINED WEIGHT (g) SD	COMBINED WEIGHT (g) RANGE	COMBINED K
2									1	1	207	-	-	80	-	-	0.90
3	2	294	5.7	1.04	4	258	18.3	1.08		6	270	23.7	234-298	210	50	140-270	1.06
4	7	329	22.5	1.06	5	308	17.8	1.07		12	321	22.6	278-364	352	75	240-475	1.06
5	6	325	11.4	1.04	3	344	5.1	1.06	1	10	327	19.4	285-350	368	68	250-480	1.05
6					5	351	35.2	1.07		5	351	35.2	305-397	472	115	300-600	1.07
7	1	370	-	1.14	3	404	38.7	1.05		4	395	35.8	370-448	670	161	575-910	1.07
8	1	498	-	1.05						1	498	-	-	1300	-	-	1.05
TOTAL	17			1.05	20			1.06	2	39			207-498			80-1300	1.06

Table A2.6. Mean fork length, mean weight, and mean condition factor (K) for lake cisco taken in index gillnets at Indin Lake, 1976.

AGE (yr)	MALE LENGTH (mm) N	MALE LENGTH (mm) MEAN	MALE LENGTH (mm) SD	MALE K	FEMALE LENGTH (mm) N	FEMALE LENGTH (mm) MEAN	FEMALE LENGTH (mm) SD	FEMALE K	NUMBER SEX UNKNOWN	COMBINED LENGTH (mm) N	COMBINED LENGTH (mm) MEAN	COMBINED LENGTH (mm) SD	COMBINED LENGTH (mm) RANGE	COMBINED WEIGHT (g) MEAN	COMBINED WEIGHT (g) SD	COMBINED WEIGHT (g) RANGE	COMBINED K
3	5	176	5.6	1.21	8	185	16.7	1.20		13	181	13.9	155-213	72	13	55-105	1.21
4	20	199	8.9	1.15	6	205	10.9	1.20	2	28	200	9.4	185-220	94	22	60-140	1.17
5	1	219	-	1.24	6	218	11.3	1.22		7	218	10.3	197-230	128	22	90-160	1.22
6					1	270	-	1.32		1	270	-	-	260	-	-	1.32
TOTAL	26			1.16	21			1.22	2	49			155-270			55-260	1.19

Table A3.1. Weight data (g), by length interval, for lake trout captured by the tagging crew at Indin Lake, 1976.

Length group (mm)	Males				Females				Sex unknown				Combined				
	n	Mean	SD	Range	n	Mean	SD	Range	n	Mean	SD	Range	n	%	Mean	SD	Range
300-349	1	480											1	0.3	480		
400-449	6	899	100.0	775-1000	4	794	65.8	700-750					10	2.8	857	99.7	700-1000
450-499	33	1206	135.0	975-1425	9	1210	176.1	990-1450	2	1350	282.8	1150-1550	44	12.3	1214	148.7	975-1550
500-549	88	1520	172.2	1175-1935	66	1619	151.7	1300-2000	14	1607	170.5	1300-1850	168	46.9	1566	151.9	1175-2000
550-599	35	1877	217.5	1500-2325	60	1884	177.9	1520-2310	6	2083	196.0	1875-2375	101	28.2	1893	197.5	1550-2375
600-649	4	2319	151.9	2158-2500	9	2353	204.4	2050-2600	2	2425	141.4	2353-2525	15	4.2	2353	177.0	2050-2600
650-699	6	3392	502.4	2950-4300	3	3483	401.0	3100-3900					9	2.5	2322	447.3	2950-4650
700-749	1	5050			3	4020	442.4	3650-4510	1	4650			5	1.4	4352	569.7	3650-5050
750-799	3	5000	854.4	4100-5800	1	4850							4	1.1	4963	701.6	4100-5800
800-849									1	5750			1	0.3	5750		
Total	177			480-5800	155			794-4850	26			1150-5750	358				480-5800

Table A3.2. Weight data (g), by length interval, for lake whitefish captured by the tagging crew at Indin Lake, 1976.

Length group (mm)	Males				Females				Sex unknown				Combined				
	n	Mean	SD	Range	n	Mean	SD	Range	n	Mean	SD	Range	n	%	Mean	SD	Range
300-349	1	470											1	6.3	470		
350-399	1	700			2	653	53.0	615-690					3	18.8	668	46.5	615-700
450-499	1	1500											1	6.3	1500		
500-549	4	1951	207.8	1650-2125	1	1700							5	31.3	1901	212.1	1650-2125
550-599	3	2633	232.3	2375-2900	2	2860	56.6	2820-2900	1	2900			6	37.5	2753	199.3	2375-2900
Total	10			470-2900	5			615-2900	1			2900	16				470-2900

Table A3.3. Weight data (g), by length interval, for Arctic grayling captured by the tagging crew at Indin Lake, 1976.

Length group (mm)	Males				Females				Sex unknown				Combined				
	n	Mean	SD	Range	n	Mean	SD	Range	n	Mean	SD	Range	n	%	Mean	SD	Range
260-279									1	220			1	1.7	220		
320-339	1	450			1	460							2	3.5	455	7.1	450-460
340-359	4	485	30.0	440-500	5	517	21.1	500-550					9	15.5	503	29.1	440-550
360-379	7	551	58.7	475-635	7	636	42.9	570-690					14	24.1	594	94.7	475-690
380-399	9	724	69.7	625-820	4	730	109.9	580-840					13	22.4	726	79.1	580-840
400-419	14	780	45.0	715-870	2	918	3.5	915-920	1	790			17	29.3	797	61.0	715-920
420-439	2	923	3.5	920-925									2	3.5	923	3.5	920-925
Total	37			440-925	19			460-920	2			220-790	58				220-925

Table A3.4. Weight data (g), by length interval, for northern pike captured by the tagging crew at Indin Lake, 1976.

Length group (mm)	Males				Females				Sex unknown				Combined				
	n	Mean	SD	Range	n	Mean	SD	Range	n	Mean	SD	Range	n	%	Mean	SD	Range
400-449	1	590											1	5.9	590		
450-499	1	675			1	840							2	11.8	758	116.7	675-840
500-549	3	1113	100.2	1100-1190	1	1075							4	23.5	1104	84.0	1075-1190
550-599					1	1250							1	5.9	1250		
600-649					1	2350							1	5.9	2350		
650-699	1	2340							1	2575			2	11.8	2458	166.2	2340-2575
700-749	1	3050			1	3200							2	11.8	3125	106.1	3050-3200
750-799									1	3600			1	5.9	3600		
800-849					1	3800							1	5.9	3800		
900-949									1	6470			1	5.9	6470		
950-999					1	6200							1	5.9	6200		
Total	7			590-3050	7			840-6200	3			2575-6470	17				590-6470

Table A4.1. Mean fork length, mean weight, and mean condition factor (K) for lake trout captured by the tagging crew at Indin Lake, 1976.

Age (yr)	Number of Fish	Fork Length (mm)			Weight (g)			Mean Condition Factor (K)
		Mean	SD	Range	Mean	SD	Range	
6	1	420	-	-	825	-	-	1.11
7	3	401	66.5	335-468	835	374	480-1225	1.24
8	1	445	-	-	975	-	-	1.11
9	3	474	33.0	440-506	1160	144	1000-1280	1.09
10	4	532	26.9	502-567	1641	211	1480-1950	1.09
11	3	467	51.7	425-525	1137	526	700-1720	1.06
12	2	486	1.4	485-487	1163	195	1025-1300	1.01
13	2	513	29.0	492-533	1510	269	1320-1700	1.12
14	7	501	45.4	425-550	1429	336	850-1880	1.12
15	1	584	-	-	2200	-	-	1.10
16	8	528	37.6	470-570	1566	405	975-2325	1.05
17	8	535	36.5	488-580	1599	355	1025-2125	1.03
18	2	554	26.1	535-572	1875	389	1600-2150	1.10
19	7	568	52.7	514-655	2156	629	1700-3450	1.16
20	7	600	25.1	519-589	1864	331	1350-2250	1.06
21	5	569	26.0	529-602	1857	280	1475-2200	1.00
22	4	541	12.0	530-555	1533	101	1400-1640	0.97
23	0							
24	4	559	54.8	495-611	1691	518	1215-2375	0.95
25	2	567	2.1	565-568	1847	32	1825-1870	1.02
26	1	526	-	-	1550	-	-	1.07
27	0							
28	2	578	67.2	530-625	1905	700	1410-2400	0.97
29	0							
30	2	671	176.8	546-796	3783	2853	1765-5800	1.12
34	1	600	-	-	2150	-	-	1.00
Total	80			335-796			480-5800	1.07

Table A4.2. Mean fork length, mean weight, and mean condition factor (K) for lake whitefish captured by the tagging crew at Indin Lake, 1976.

Age (yr)	Number of Fish	Fork Length (mm)			Weight (g)			Mean Condition Factor (K)
		Mean	SD	Range	Mean	SD	Range	
6	2	372	14.1	362-382	653	53	615-690	1.27
7	1	344	-	-	470	-	-	1.15
8	3	474	73.3	390-525	1450	673	700-2000	1.28
9	3	541	52.2	482-581	2233	674	1500-2852	1.38
10	3	541	34.2	515-580	2352	477	2030-2900	1.47
11	3	551	44.7	502-590	2473	671	1700-2900	1.46
Total	15			344-590			470-2900	1.36

Table A4.3. Mean fork length, mean weight, and mean condition factor (K) for Arctic grayling captured by the tagging crew at Indin Lake, 1976.

Age (yr)	Number of Fish	Fork Length (mm)			Weight (g)			Mean Condition Factor (K)
		Mean	SD	Range	Mean	SD	Range	
4	4	346	9.8	335-355	506	43	450-550	1.22
5	18	369	18.7	335-404	604	114	460-810	1.19
6	10	391	23.9	365-430	696	131	540-920	1.15
7	9	399	25.4	345-420	756	152	440-925	1.17
8	5	398	10.0	386-412	744	59	650-800	1.18
9	3	393	21.1	370-411	703	126	570-820	1.15
10	0							
11	1	405	-	-	790	-	-	1.19
Total	50			335-430			440-925	1.18

Table A5.1. Age specific sex-ratios and maturity for lake trout from Indin Lake, 1976.

Age	Females			Males			Females and Males			F/M	Unsexed	Total	
(years)	N	%	% mature	N	%	% mature	N	(%)	% mature	ratio	N	N	(%)
0											1	1	(0.4)
4	1	100	0				1	(0.4)	0		1	2	(0.7)
5				1	100	100	1	(0.4)	100		2	3	(1.1)
6	1	100	0				1	(0.4)	0			1	(0.4)
7	4	50	0	4	50	25	8	(2.9)	13	1.0		8	(2.9)
8	1	33	0	2	67	0	3	(1.1)	0	0.5	1	4	(1.4)
9	8	57	25	6	43	17	14	(5.1)	21	1.3		14	(5.0)
10	8	61	38	5	39	80	13	(4.8)	54	1.6		13	(4.7)
11	7	54	43	6	46	17	13	(4.8)	23	1.2		13	(4.7)
12	4	67	25	2	33	50	6	(2.2)	33	2.0		6	(2.2)
13	6	54	33	5	46	80	11	(4.0)	55	1.2		11	(4.0)
14	10	59	80	7	41	71	17	(6.2)	77	1.4		17	(6.1)
15	3	30	67	7	70	86	10	(3.7)	80	0.4		10	(3.6)
16	11	50	73	11	50	82	22	(8.1)	77	1.0		22	(7.9)
17	8	57	100	6	43	100	14	(5.1)	93	1.3		14	(5.0)
18	5	50	40	5	50	60	10	(3.7)	50	1.0		10	(3.6)
19	6	37	83	10	63	60	16	(5.9)	69	0.6		16	(5.8)
20	8	40	88	12	60	92	20	(7.3)	90	0.7		20	(7.2)
21	5	42	80	7	58	100	12	(4.4)	100	0.7		12	(4.3)
22	5	39	80	8	61	88	13	(4.8)	85	0.6		13	(4.7)
23	2	67	50	1	33	100	3	(1.1)	67	2.0		3	(1.1)
24	1	9	100	10	91	70	11	(4.0)	73	0.1		11	(4.0)
25	4	57	75	3	43	100	7	(2.6)	86	1.3		7	(2.5)
26				11	100	73	11	(4.0)	73			11	(4.0)
27	4	80	0	1	20	100	5	(1.8)	20	4.0		5	(1.8)
28	7	64	71	4	36	75	11	(4.0)	73	1.8		11	(4.0)
29	3	60	67	2	40	50	5	(1.8)	80	1.5		5	(1.8)
30	1	17	0	5	83	40	6	(2.2)	33	0.2		6	(2.2)
31				2	100	100	2	(0.7)	100			2	(0.7)
32	1	50	0	1	50	100	2	(0.7)	50	1.0		2	(0.7)
33				1	100	100	1	(0.4)	100			1	(0.4)
34				1	100	100	1	(0.4)	100			1	(0.4)
35	1	50	0	1	50	0	2	(0.7)	0	1.0		2	(0.7)
39				1	100	100	1	(0.4)	100			1	(0.4)
Total	125	46	57	148	54	71	273	(100.)	65	0.8	5	278	(100.)

Table A5.2. Age specific sex-ratios and maturity for lake whitefish from Indin Lake, 1976.

Age	Females			Males			Females and Males			F/M	Unsexed	Total	
(years)	N	%	% mature	N	%	% mature	N	(%)	% mature	ratio	N	N	(%)
3	1	50	0	1	50	0	2	(0.7)	0	1.0		2	(0.7)
4	1	50	0	1	50	0	2	(0.7)	0	1.0	1	3	(1.0)
5	6	43	0	8	57	13	14	(5.0)	7	0.8		14	(4.7)
6	11	65	36	6	35	0	17	(6.1)	24	1.8	2	19	(6.3)
7	13	54	54	11	46	36	24	(8.6)	46	1.2	3	27	(9.0)
8	24	41	50	34	59	59	58	(20.9)	55	0.7	9	67	(22.3)
9	42	61	69	27	39	78	69	(24.8)	73	1.6	3	72	(23.9)
10	27	61	93	17	39	65	44	(15.8)	82	1.6	2	46	(15.3)
11	19	66	68	10	34	40	29	(10.4)	59	1.9	2	31	(10.3)
12	8	53	25	7	47	57	15	(5.4)	40	1.1	1	16	(5.3)
13	1	33	0	2	67	0	3	(1.1)	0	0.5		3	(1.0)
15	1	100	0				1	(0.4)	0	1.0		1	(0.3)
Total	154	55	60	124	45	52	278	(100.)	57	1.2	23	301	(100.)

Table A5.3. Age specific sex-ratios and maturity for Arctic grayling from Indin Lake, 1976.

Age	Females			Males			Females and Males			F/M	Unsexed	Total	
(years)	N	%	% mature	N	%	% mature	N	(%)	% mature	ratio	N	N	(%)
2	3	27	0	8	73	0	11	(10.1)	0	0.4	3	14	(11.4)
3	12	48	0	13	52	0	25	(22.9)	0	0.9	3	28	(22.8)
4	9	53	11	8	47	0	17	(15.6)	6	1.1	5	23	(18.7)
5	10	39	10	16	61	19	26	(23.9)	15	0.6		26	(21.1)
6	5	39	40	8	61	13	13	(11.9)	23	0.6	1	14	(11.4)
7	2	22	50	7	78	43	9	(8.3)	44	0.3	1	10	(8.1)
8	1	20	0	4	80	0	5	(4.6)	0	0.3		5	(4.1)
9				3	100	33	3	(2.8)	33			3	(2.4)
11											1	1	
Total	42	39	12	67	61	12	109	100	12	0.6	14	123	(0.8)

Table A5.4. Age specific sex-ratios and maturity for northern pike from Indin Lake, 1976.

Age	Females			Males			Females and Males			F/M	Unsexed	Total	
(years)	N	%	% mature	N	%	% mature	N	(%)	% mature	ratio	N	N	(%)
2				1	100	0	1	(1.3)	0			1	(1.0)
3				1	100	0	1	(1.3)	0			1	(1.0)
4				2	100	0	2	(2.5)	0			2	(2.1)
5	5	46	60	6	54	0	11	(13.9)	27	0.8		11	(11.5)
6	3	43	67	4	57	25	7	(8.9)	43	0.8	2	9	(9.4)
7	8	67	75	4	33	33	12	(15.2)	58	2.0	2	14	(14.6)
8	11	85	37	2	15	0	13	(16.5)	31	5.5	9	22	(22.9)
9	2	40	100	3	60	0	5	(6.3)	40	0.7	1	6	(6.3)
10	5	50	100	5	50	0	10	(12.7)	50	1.0	1	11	(11.5)
11	3	33	100	6	67	33	9	(11.4)	56	0.5	2	11	(11.5)
12	2	100	0				2	(2.5)	0			2	(2.1)
13				2	100	50	2	(2.5)	50			2	(2.1)
14	1		100				1	(1.3)	100			1	(1.0)
Total	40	51	65	36	49	14	79	(100.)	37	1.1	17	96	(100.)

Table A5.5. Age specific sex-ratios and maturity for round whitefish from Indin Lake, 1976.

Age	Females			Males			Females and Males			F/M	Unsexed	Total	
(years)	N	%	% mature	N	%	% mature	N	(%)	% mature	ratio	N	N	(%)
2											1	1	(2.4)
3	4	67	0	2	33	0	6	(15.4)	0	2.0	1	7	(16.7)
4	6	46	17	7	54	0	13	(33.3)	8	0.9		13	(31.0)
5	3	33	67	6	67	33	9	(23.1)	44	0.5	1	10	(23.8)
6	6	100	50				6	(15.4)	50			6	(14.3)
7	3	75	67	1	25	100	4	(10.3)	75	3.0		4	(9.5)
8				1	100	0	1	(2.6)	0			1	(2.4)
Total	22	56	37	17	44	18	39	(100.)	28	1.3	3	42	(100.)

Table A5.6. Age specific sex-ratios and maturity for lake cisco from Indin Lake, 1976.

Age	Females			Males			Females and Males			F/M	Unsexed	Total	
(years)	N	%	% mature	N	%	% mature	N	(%)	% mature	ratio	N	N	(%)
3	8	62	75	5	38	60	13	(27.7)	69	1.6		13	(26.5)
4	6	23	100	20	77	80	26	(55.3)	85	0.3	2	28	(57.1)
5	6	86	100	1	14	100	7	(14.9)	100	6.0		7	(14.3)
6	1	100	100				1	(2.1)	100			1	(2.0)
Total	21	45	91	26	55	77	47	(100.)	81	0.8	2	49	(100.)

Table A6.1. Frequency and percent occurrence of food items in stomachs of lake trout from Indin Lake, 1976.

Food Item	Occurrence N	Occurrence %
Insecta		
Diptera larvae	7	3.2
Diptera pupae	22	10.1
Trichoptera larvae	3	1.4
Trichoptera pupae	7	3.2
Coleoptera pupae	1	0.5
Coleoptera adult	15	6.9
Hemiptera adult	3	1.4
Crustacea		
Eubranchiopoda	4	1.8
Amphipoda	3	1.4
Copepoda	3	1.4
Ostracoda	1	0.5
Mollusca		
Pelecypoda	1	0.5
Annelida		
Oligochaeta	7	3.2
Fish		
Total occurrence	103	47.3
Burbot	5	2.3
Lake cisco	14	6.4
Slimy sculpin	3	1.4
Ninespine stickleback	10	4.6
Longnose sucker	1	0.5
Unidentified	87	39.9
Surface food items		
Total occurrence	15	6.9
Hymenoptera	8	3.7
Lepidoptera	3	1.4
Coleoptera (terrestrial)	3	1.4
Hemiptera (terrestrial)	1	0.5
Arachnida (terrestrial)	1	0.5
Trichoptera	1	0.5
Diptera	4	1.8
Stones	8	3.7
No. stomachs with food	143	
No. stomachs examined	218	

Table A6.2. Frequency and percent occurrence of food items in stomachs of lake whitefish from Indin Lake, 1976.

Food Item	Occurrence N	Occurrence %
Mollusca		
Pelecypoda	55	42.7
Gastropoda	47	36.4
Insecta		
Diptera larvae	27	20.9
Diptera pupae	11	8.5
Trichoptera larvae	9	7.0
Coleoptera adult	1	0.8
Ephemeroptera nymphs	1	0.8
Crustacea		
Eubranchiopoda	3	2.3
Amphipoda	31	24.0
Ostracoda	2	1.6
Arachnoidae		
Hydracarina	13	10.1
Annelida		
Hirudinea	1	0.8
Fish		
Unidentified	1	0.8
Surface food items		
Arachnida	1	0.8
Stones	53	39.6
No. stomachs with food	97	
No. stomachs examined	134	

Table A6.3. Frequency and percent occurrence of food items in stomachs of Arctic grayling from Indin Lake, 1976.

Food Item	Occurrence N	Occurrence %
Insecta		
Diptera larvae	62	61.4
Diptera pupae	77	76.2
Trichoptera larvae	9	8.9
Trichoptera pupae	5	5.0
Coleoptera larvae	11	10.9
Coleoptera adult	59	58.4
Hemiptera adult	28	27.7
Plecoptera larvae	9	8.9
Ephemeroptera nymphs	2	2.0
Collembola	1	1.0
Arachnoidae		
Hydracarina	13	12.9
Crustacea		
Eubranchiopoda	1	1.0
Amphipoda	10	9.9
Copepoda	12	11.9
Cladocera	7	6.9
Mollusca		
Gastropoda	1	1.0
Fish		
Unidentified	2	2.0
Surface food items		
Total occurrence	50	49.5
Hymenoptera	43	42.6
Coleoptera (terrestrial)	3	3.0
Trichoptera	1	1.0
Arachnida	9	8.9
No. stomachs with food	101	
No. stomachs examined	101	

Table A6.4. Frequency and percent occurrence of food items in stomachs of round whitefish from Indin Lake, 1976.

Food Item	Occurrence N	Occurrence %
Mollusca		
Pelecypoda	3	8.8
Gastropoda	17	50.1
Insecta		
Diptera larvae	15	49.1
Diptera pupae	10	29.4
Trichoptera larvae	26	76.5
Coleoptera adult	1	2.9
Plecoptera larvae	1	2.9
Crustacea		
Amphipoda	1	2.9
Arachnoidae		
Hydracarina	1	2.9
Surface food items		
Total occurrence	2	0.6
Arachnida	1	2.9
Stones	1	2.9
No. stomachs with food	31	
No. stomachs examined	34	

Table A6.5. Frequency and percent occurrence of food items in stomachs of lake cisco from Indin Lake, 1976.

Food Item	Occurrence N	Occurrence %
Insecta		
Trichoptera pupae	1	2.9
Crustacea		
Eubranchiopoda	1	2.9
Amphipoda	1	2.9
Copepoda	4	11.8
Cladocera	15	44.1
Arachnoidae		
Hydracarina	1	2.9
Fish		
Total occurrence (unidentified)	2	5.9
No. stomachs with food	22	
No. stomachs examined	34	

Table A6.6. Frequency and percent occurrence of food items in stomachs of northern pike from Indin Lake, 1976.

Food Item	Occurrence N	Occurrence %
Fish		
Total occurrence	25	37.9
Burbot	7	10.6
Longnose sucker	5	7.6
Northern pike	2	3.0
Arctic grayling	1	1.5
Unidentified	10	15.2
No. stomachs with food	25	
No. stomachs examined	66	

Table A7.1. Length-weight relationships for fish from Indin Lake, 1976.

Species	N	Sex	F. Length Range (mm)	Y-intercept (a)	Slope (b)	SD_b
Lake trout	316	M	258-830	-4.8900	2.9750	0.1173
	258	F	228-987	-4.6891	2.9010	0.1259
	574	C	185-987	-4.7952	2.9399	0.0856
Lake whitefish	116	M	296-624	-5.0800	3.0849	0.0781
	152	F	330-645	-5.1088	3.0974	0.0697
	291	C	296-645	-5.0542	3.0765	0.0507
Arctic grayling	70	M	165-420	-4.7304	2.9214	0.0332
	45	F	195-416	-5.0238	3.0476	0.0502
	131	C	165-422	-4.8695	2.9793	0.0272
Northern pike	37	M	260-923	-4.9962	2.9558	0.0604
	42	F	480-1110	-4.6255	2.8276	0.0913
	94	C	260-1110	-4.9245	2.9315	0.0463
Round whitefish	17	M	290-498	-4.9952	3.0064	0.2092
	25	F	234-448	-4.7090	2.8927	0.0844
	44	C	207-498	-4.8959	2.9667	0.0782
Lake cisco	27	M	170-220	-5.1257	3.0821	0.3392
	22	F	155-270	-4.8149	2.9569	0.2648
	51	C	155-270	-5.0650	3.0601	0.1976
L. sucker	105	C	115-454	-3.9273	2.5943	0.1028

C : Combined male, female and unsexed fish.

Table A8.1. Summary of physical and chemical data from Indin Lake, 1976.

Station Number	1		2		3		4	
Date	19 July		19 July		24 July		24 July	
Depth (m)	1	1.7	1	41	1	48	1	32
Water Temperature (°C)	15	10.2	15	6.4	17.5	5.5	17.9	7.1
Dissolved Oxygen ($mg \cdot L^{-1}$)	11	11	11	11	11	11	11	11
Alkalinity ($mg \cdot L^{-1}$)	<17	<17	<17	<17	<17	<17	<17	<17
Specific Conductance ($\mu S \cdot cm^{-1}$)	20	12	20	18	27	33	23	22
Total Hardness ($mg \cdot L^{-1}$)	<17	<17	<17	<17	<17	<17	<17	<17
Carbon Dioxide ($mg \cdot L^{-1}$)	<5	<5	<5	<5	<5	<5	<5	<5
pH	7.5	7.5	7.5	7.0	7.5	7.0	7.5	7.0
Secchi Depth (m)	5	5	5	5	5	5	5	5