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SCHOHARIE VALLEY ECOLOGICAL STUDY

BREAKABEEN AND BLENHEIM-GILBOA

AQUATIC STUDIES

Terry R. Culp, Project Leader

Monthly Report For May 1974

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FISH COLLECTION

Section Leader: Charles M. McCormack

Objectives:

1. To identify all fish present in:

   a. Schoharie Creek between the iron bridge at Gilboa and the Walhalla Rocks north of Breakabeen;

   b. Cole Hollow Creek (Trib 99 of Schoharie Creek);

   c. Lower and Upper Blenheim-Gilboa (B-G) Reservoirs.

2. To determine relative abundance of fish present both in total number of individuals and in biomass.

3. To collect fish for other aquatic programs:

   a. stomach analysis;

   b. age and growth;

   c. condition factor "K";

   d. migration;

   e. population estimates.

Progress:

Schoharie Creek and Cole Hollow Creek

No samples were taken in May because of high flows which would cause poor efficiency of capture.

Lower B-G Reservoir

Fish samples were taken in May by experimental gill nets (300' X 8' X 75' each of 1, 2, 3, 4" mesh), trap nets (3/8" mesh, 6' X 4' X 20" box, 15' X 20' wings, 25' X 20" lead), and block net (450' X 40' X 5/8" mesh). Ten gill

net stations identical to stations sampled in April 1974 (see April monthly report for locations) were each sampled for 24 hours. Fifty-three fish weighing 15.29 lbs were collected in May 1974 as compared to 96 fish weighing 53.56 lbs in May 1973 (Table 1). Gill net catch per unit effort in May 1974 was 0.22 fish per hour, nearly two times less than the 0.41 fish per hour recorded for May 1973.

Four trap net stations (see April monthly report for locations) were each sampled for 48 hours in May 1974. Two hundred thirty-seven fish weighing 33.89 lbs were collected (Table 2). Trap net catch per unit effort in May 1974 was 1.23 fish per hour. No trap nets were set in Lower B-G Reservoir in May 1973.

A block net was set on 17 May 1974 in Mine Kill Cove, blocking off an approximately 1.5-acre section. The net was set across the Cove by securing each end to trees. The weighted edge of the net was secured to the bottom with rocks and weights already attached. At 7:00 pm on 17 May, when Lower B-G Reservoir was at an elevation of 890 ft, the non-weighted edge of the net was pulled up to the surface and secured by buoys, thus blocking the escape of fish in the Cove. At 8:30 am on 19 May, when Lower B-G Reservoir was at an elevation of 870 ft, the fish trapped behind the net were collected and processed. The numbers and biomasses of the eighteen fishes collected are listed in Table 3. Pumpkinseed was by far the most abundant in number and biomass. The 2,460 fish weighed 171.62 lbs. Only a portion of the fish originally blocked were captured because of high water in Mine Kill Creek and abnormal fluctuations of Lower B-G Reservoir causing escape routes over the net. Forty-three largemouth bass and eleven smallmouth bass were captured.

Upper B-G Reservoir

Fish samples were taken in May by experimental gill nets (300' X 8' X 75' each of 1, 2, 3, 4" mesh) and trap nets (3/8" mesh, 5' X 2½' X 20" box, 15' X 20" wings, 25' X 20" leads).

Six gill net stations (see April monthly report for locations) were each sampled for 24 hours. Two hundred fifty-two fish weighing 73.64 lbs were captured (Table 1). Gill net catch per unit effort in May 1974 was 1.77 fish per hour as compared to 0.22 fish per hour in Lower B-G Reservoir.

Four trap nets stations (see April monthly report for locations) were each sampled for 48 hours. Eleven fish weighing 0.99 lbs were captured (Table 2). Trap net catch per unit effort in May 1974 was 0.06 fish per hour as compared to 1.23 fish per hour in Lower B-G Reservoir.

STOMACH ANALYSIS

Section Leader: Robert A. Langellier

Objectives:

1. To determine food of fishes collected throughout the field season (April-October) in:

   a. Lower B-G Reservoir;

   b. Upper B-G Reservoir;

   c. Schoharie Creek between Lower B-G Reservoir and the iron bridge north of Breakabeen.

2. To determine changes in degree of feeding according to season and location of capture.

Progress:

Lower B-G Reservoir

Fish were collected for stomach analysis by use of gill nets (9, 10, and 18 May), trap nets (10 May), and block nets (19 May). Stomachs were injected with 10% formalin in the field and all fish were then preserved in jars containing 10% formalin. Upon return to the laboratory, fish lengths (to the nearest mm) and weights (to the nearest 0.01 g) were recorded and stomachs were removed and preserved in 10% formalin. The following 110 stomachs were analyzed:

Species	Size Range (mm)	Number of Stomachs Examined	Number Empty	Percent Empty
Walleye	157 - 208	3	1	33.3
Yellow perch	144 - 204	7	3	42.9
	67 - 84	8	3	37.5
Rock bass	130 - 155	11	2	18.2
	68 - 91	10	0	0
Pumpkinseed	101 - 135	41	7	17.1
	70 - 90	20	4	20.0
Smallmouth bass	140 & 152	2	0	0
Largemouth bass	186 - 234	6	0	0
Chain pickerel	301 & 307	2	0	0

Of these fishes, the walleye, larger yellow perch, and largemouth bass diets consisted, by weight, mainly of fish. The two chain pickerel stomachs examined contained entirely fish remains. The smaller yellow perch, both size groups of rock bass and pumpkinseed, and the smallmouth bass stomachs contained

mostly insects (Figure 1). Refer to April 1974 monthly report for all methods of analysis.

Upper B-G Reservoir

Fish were collected for stomach analysis by use of gill nets (19, 24, and 29 May) and trap nets (15 and 18 May). All methods of processing fish and stomach contents follow those of Lower B-G Reservoir collections. Twenty-six stomachs were analyzed as follows:

Species	Size Range (mm)	Number of Stomachs Examined	Number Empty	Percent Empty
Walleye	348	1	1	100.0
Yellow perch	177 & 181	2	1	50.0
Rock bass	130 & 137	2	1	50.0
Pumpkinseed	82 - 133	11	5	45.5
Redbreast sunfish	85 - 128	10	2	20.0

The pumpkinseed and redbreast sunfish stomachs contained mostly insects and some earthworms (Figure 2), the yellow perch stomach consisted entirely of insects, and the rock bass stomach consisted entirely of fish remains.

Schoharie Creek

No collections were made in May because of unfavorable conditions caused by high water levels.

AGE AND GROWTH

Section Leader: Charles M. McCormack

Objectives:

1. To determine monthly growth of chain pickerel, largemouth bass, smallmouth bass, rock bass, yellow perch, pumpkinseed, and walleye for each age class collected in Lower and Upper B-G Reservoirs and Schoharie Creek within the study site.

2. To determine monthly growth of brook trout and rainbow trout collected in Cole Hollow Creek (Trib 99 of Schoharie Creek).

3. To compare growth of fishes in 1974 in the various areas under study with data collected in 1973 to measure the effects of full operation versus partial operation of the Blenheim-Gilboa Pumped Storage Facility on fish growth within the Reservoirs.

4. To compile data for comparison with future years to attribute changes in fish growth in Cole Hollow Creek and Schoharie Creek in the area of the proposed Breakabeen pumped storage facility to either yearly variation or changes in habitat as a result of construction.

Progress:

Lower and Upper B-G Reservoirs

Mean lengths and mean weights were determined for 540 game and pan fish captured in May 1974 in Lower B-G Reservoir and for 27 game and pan fish captured in May 1974 in Upper B-G Reservoir (Tables 4 and 5). Mean lengths of 637 game and pan fish and mean weights of eight game fish were also determined from data collected in May 1973 in Lower B-G Reservoir (Tables 6 and 7). Because of the limited amount of data, no comparisons can be made between growth rates of fishes in Lower and Upper B-G Reservoirs or fishes collected in 1973 versus those collected in 1974. The number of fish in various length categories (length frequency) was determined for pumpkinseed and rock bass collected in May 1973 and May 1974 and for yellow perch and largemouth bass collected in May 1974 in Lower B-G Reservoir (Figures 3-6).

Pumpkinseed in their second growing season (1+) were extremely abundant in May 1973. No 1+ pumpkinseed were captured in May 1974, but extremely large

numbers of 2+ were captured (Table 6, Figure 3). In May 1973, 1+ rock bass were captured. No 1+ rock bass were captured in May 1974; only 2+ and 3+ were collected (Table 6, Figure 4). In May 1974, 1+ yellow perch were captured along with representatives of other age groups (Table 6, Figure 5). No 1+ largemouth bass were captured in May 1974 (Table 6, Figure 6).

Yellow perch, walleye, and chain pickerel were successful at spawning in Lower B-G Reservoir in 1973, as indicated by the occurrence of 1+ fish in 1974 (Table 6). Largemouth bass, smallmouth bass, pumpkinseed, redbreast sunfish, and rock bass were not successful at spawning in Lower B-G Reservoir in 1973, as indicated by the absence of 1+ fish in 1974. These five species are nest builders and their spawning activities may have been affected by fluctuating water levels which began in Lower B-G Reservoir in June 1973. Additional sampling will be done to verify this assumption.

CONDITION FACTOR

Section Leader: Theodore W. Gutzke

Objectives:

To determine the condition factor ($K = \frac{W\ (g)}{L^3\ (cm)} \times 100$), a measure of relative plumpness, for walleye, largemouth bass, chain pickerel, rock bass, yellow perch, smallmouth bass, redbreast sunfish, and pumpkinseed collected from Schoharie Creek between Schoharie Reservoir and the iron bridge north of Breakabeen and from Lower and Upper B-G Reservoirs. The data will be compared with data taken in 1973 from the section of Schoharie Creek under study and from Lower B-G Reservoir be-

fore the facility was put into full operation. It will be available for future comparison with data taken after the proposed Breakabeen project has been put into operation. Condition factors of fish collected in Lower B-G Reservoir will be compared with those of fish collected in Upper B-G Reservoir.

Progress:

In May 1974 Lower and Upper B-G Reservoirs were sampled. All game and pan fish collected from both Reservoirs, except pumpkinseed, have been weighed (to the nearest 0.1 g) and measured (to the nearest mm); condition factors have been computed. A representative sample of pumpkinseed captured in Lower B-G Reservoir has been used since extremely large numbers were captured.

Seven species of game and pan fish were captured in Lower B-G Reservoir in May 1974 (Figures 7 and 8). The pumpkinseed was most common followed by rock bass; yellow perch and largemouth bass were equally abundant followed by smallmouth bass, walleye, and chain pickerel. The same species of game and pan fish were captured in May 1973 (Figure 7). The smallmouth bass was most abundant followed by pumpkinseed, largemouth bass, and chain pickerel; walleye and rock bass were equally as common followed by yellow perch.

Five species of game and pan fish were captured in Upper B-G Reservoir in May 1974 (Figure 8). The pumpkinseed was the most plentiful followed by redbreast sunfish; yellow perch and rock bass were equally abundant followed by walleye.

There cannot be a good comparison of fish captured in Lower B-G Reservoir in 1974 with fish captured in 1973 because of insufficient numbers and lack of comparable sizes. However, with the small number to compare, there is a trend toward fish of the same species and length having a greater "K" value in 1973

than in 1974 (Figures 9-13, Appendix 1). As more fish are captured in the future, a better comparison can be made.

A comparison of fish caught in Lower B-G Reservoir with those caught in Upper B-G Reservoir cannot be made because of a lack of comparable sizes and numbers. However, the mean "K" value of pumpkinseed, rock bass, and yellow perch of the same length range is greater in Upper B-G Reservoir than in Lower B-G Reservoir (Figures 9-13, Appendix 2). As more fish are captured in future samplings, a better comparison can be made.

FISH MIGRATION

Section Leader: Robert A. Langellier

Objectives:

To determine the migration of fishes:

1. seasonally within B-G Reservoirs and Schoharie Creek;
2. between Lower and Upper B-G Reservoirs concentrating on:
   a. effects of fish size (length and weight) on movement;
   b. species effect (i.e. do some species move more freely than others);
3. between Lower B-G Reservoir and Schoharie Creek.

Progress:

Lower and Upper B-G Reservoirs

A total of 111 fish were tagged or fin clipped in May 1974 from trap net and block net collections (Table 8). Numbered metal tags were attached to the caudal peduncle (near the base of the caudal fin) of fish over 100 mm in length. All fish smaller than 100 mm were fin clipped (left pelvic fin for those in

Lower B-G Reservoir and right pelvic fin for those in Upper B-G Reservoir). No recaptures have yet been obtained.

Schoharie Creek

No collections were made in May because of unfavorable conditions caused by high water levels.

POPULATION ESTIMATES

Section Leader: Reinald E. Smith

Objectives:

To estimate the populations of:

1. chain pickerel, rock bass, pumpkinseed, smallmouth bass, largemouth bass, yellow perch, and walleye in Lower and Upper B-G Reservoirs;

2. chain pickerel, rock bass, pumpkinseed, smallmouth bass, largemouth bass, yellow perch, and walleye in Fishing Access Pools (FAPs) 6 and 8 of Schoharie Creek, which are in the area to be inundated by the proposed Breakabeen project;

3. rainbow trout and brook trout in Cole Hollow Creek (Trib 99 of Schoharie Creek).

Progress:

One hundred eleven fish have been marked in Lower and Upper B-G Reservoirs (Table 8). For all fish over 100 mm total length, a numbered metal caudal tag was attached near the base of the caudal fin. All fish in Lower B-G Reservoir under 100 mm were marked by cutting off their left pelvic fin; fish in Upper B-G Reservoir under 100 mm were marked by cutting off their right pelvic fin. No fish have yet been marked in Schoharie Creek or Cole Hollow Creek.

Using the proportion of marked to unmarked fish that are recaptured, an

estimate of the total population of the various species in Lower and Upper B-G Reservoir can be made.

ICHTHYOPLANKTON

Section Leader: Reinald E. Smith

Objectives:

To determine:

1. which fishes are most successful in spawning;
2. eggs of which fishes are most successful in hatching;
3. larvae of which fishes are most successful in surviving in B-G Reservoirs during full operation.

Progress:

Four sites on Lower B-G Reservoir have each been sampled ten times and three sites on Upper B-G Reservoir have each been sampled eight times (see April monthly report for locations of sites), using a ½-meter plankton net (Table 9). Each sampling consisted of a surface, mid-depth, and bottom tow for those stations exceeding 25 ft in depth, a surface and bottom tow if depth was 11 to 25 ft, and a surface tow for those stations with depths of 10 ft or less (Table 10). Day and night tows were made once a week approximately 12 hours apart at each site (Appendices 3-19). Before 15 May no ichthyoplankton were collected. The first fish larvae were collected during a night tow on 15 May.

With the exception of one white sucker larva and two larvae, damaged beyond recognition, which were collected during the night tow of 30-31 May

on Lower B-G Reservoir, all the larvae taken were yellow perch under 7.3 mm. One was a post-larva, i.e. had no yolk sac, and was 7.2 mm in length. The remaining yellow perch were yolk sac larvae although most of the yolk had been absorbed. The white sucker captured was a post-larva. All lengths were total lengths measured from the tip of the caudal fin or posterior margin of the finfold. Larvae have been collected at all sites mostly during shallow tows. No larvae have been taken below 25 ft.

A single juvenile pumpkinseed, 79 mm long and in its third growing season, was captured at site 2 on the night of 30 May during a 15-ft tow. It had a lesion at the upper base of the caudal fin.

Many more invertebrates were captured than in April, but most were still Copepoda. The Cladocera population increased greatly, sometimes exceeding the Copepoda population during a single tow. In addition to invertebrates captured in April, those captured in May included midge fly pupae, mayfly nymphs, and Amphipodae. Fish scales were present at all sites during May.

On 9 May a ripe male fallfish and a ripe female chain pickerel were captured. On 10 May a ripe female yellow perch was collected. The eggs from the females have been preserved in 5% formalin. Nest building activities have been noted at the very end of May on Lower B-G Reservoir near the boat ramp. No other ripe species have been captured.

CREEL CENSUS

Section Leader: Robert A. Langellier

Objectives:

To conduct a creel census on Lower B-G Reservoir between Schoharie Reservoir and the iron bridge north of Breakabeen (including all Fishing Access Pools) between 15 June and 30 September 1974. Parameters to be determined are:

1. degree of use by fishermen:
   a. differential use of various areas under study;
   b. resident (i.e. Gilboa, Blenheim, or Breakabeen) versus non-resident use;
2. types of fisheries present;
3. success rate (catch per unit effort);
4. weight, length, and scale samples to be collected to aid in age and growth studies and determinations of condition factors;
5. contents of stomachs to be analyzed for fish feeding studies and parasitism studies;
6. migration of tagged fish.

Progress:

A preliminary creel census was conducted in May 1974 with a total of 21 hours spent in the field (Appendix 21). There were no fishermen contacted during this period along Schoharie Creek between the iron bridge at Gilboa and the first iron bridge north of Breakabeen. Only one party of three non-resident fishermen was contacted at the boat ramp on Lower B-G Reservoir during this period. No fish were caught after an hour of fishing by this party.

PHYSICOCHEMICAL DATA

Section Leader: Theodore W. Gutzke

Objectives:

1. To collect physicochemical data important to aquatic life from Schoharie Creek and its tributaries between Prattsville and Breakabeen and from Lower and Upper B-G Reservoirs.

2. To compare the data collected with data taken in 1973 before the Blenheim-Gilboa Pumped Storage Facility was put into full operation.

3. To compile data taken in the vicinity of the proposed Breakabeen pumped storage facility for future comparison with data taken after the project has been put into operation.

Progress:

In May 1974 physicochemical sampling took place at nine sites on Schoharie Creek, three sites on its tributaries, three sites on Lower B-G Reservoir, and two sites on Upper B-G Reservoir (site descriptions appear in April 1974 monthly report).

Samples were taken at all sites for air and water temperatures, dissolved oxygen, pH, and turbidity. Weekly samples of the Reservoirs included the above parameters and Secchi disc readings. Twice a month total hardness, calcium hardness, carbon dioxide, and alkalinity were added at all stations (equipment description in April 1974 monthly report).

Water samples were taken in pint jars at all stations after rainfall exceeding 0.25 inches in a 24-hour period. This is a check for the amount of sediment in the streams and reservoirs.

Schoharie Creek and Tributaries

All nine stations on Schoharie Creek were sampled five times each in May. Turbidity generally decreased at all stations during the month with a slight rise at most stations on 16 May due to rain the preceding day (Table 11).

In most instances, station 3, which is at the Lower Reservoir spillway pool, had the highest turbidity readings. Samples taken above the spillway on Lower B-G Reservoir were lower than those taken below the spillway on Schoharie Creek for the same dates. This can be attributed to water entering Schoharie Creek from Lower B-G Reservoir being agitated and stirring up sediment. There was a gradual decrease in turbidity the further downstream samples were taken. The turbidity of the three tributaries was very low on most of the five sampling dates.

Water temperature gradually increased during the month at all 12 stations, as did air temperature (Tables 12 and 13). Dissolved oxygen decreased gradually in succeeding weeks (Table 14). Alkalinity, total hardness, calcium hardness, carbon dioxide, and pH did not change significantly over the sampling period (Tables 15 and 16).

Lower and Upper B-G Reservoirs

All stations on Lower and Upper B-G Reservoirs were sampled four times each during May 1974. Air and water temperatures of both Reservoirs increased gradually through the month (Tables 12 and 17). Water temperature on Lower B-G Reservoir was lowest at station 14, directly in front of the pump house, on all sampling dates. This is attributed to cold bottom waters being returned from Upper B-G Reservoir into Lower B-G Reservoir during generating. Water and air temperatures did not vary much from 1973 to 1974.

Dissolved oxygen on both Reservoirs remained rather constant with a rise on 28 May (Table 18), due to sunny weather and an increase in photosynthetic activity. On 8 May there was a decrease in dissolved oxygen at station 13, near the spillway, and at station 14, in front of the pump house. A possible

explanation for these low readings is related to a decrease in photosynthetic activity and decay of organic material. Three days prior to sampling the weather was very cloudy, limiting the amount of photosynthesis carried on by plants, and the subsequent production of oxygen was affected. B.O.D. levels in Lower and Upper B-G Reservoirs are also high due to the abundance of plant nutrients (nitrogen and phosphorous) within the Reservoirs (Dr. Robert McWatters, 1974 water quality reports). Dissolved oxygen levels at station 15, at the southern end of Lower B-G Reservoir where Schoharie Creek enters, were higher than at stations 13 or 14 on 8 May due to increased movements of agitated water entering from Schoharie Creek. Dissolved oxygen levels were also higher in Upper B-G Reservoir because of increased wind action and lower temperatures at the higher elevation.

Turbidity (formazin turbidity units) fluctuated on both Reservoirs in May because of generating and pumping activity (Table 11). Secchi disc readings on Lower B-G Reservoir in 1974 did not vary much with readings taken in 1973 (Table 19). Water clarity increased in succeeding weeks due to a drop in the flow from Schoharie Creek, giving the Reservoirs a chance to settle.

Alkalinity, total hardness, calcium hardness, carbon dioxide, and pH remained constant throughout the month (Tables 20 and 21).

A summary of daily fluctuation in water level of Lower and Upper B-G Reservoirs from May 1974 is presented in Table 22. This data gives an indication of the amount of pumping and generating occurring during the month.

Water samples in pint jars along with air and water temperatures were taken at all sites on 1 May, 13 May, and 17 May after rainfall exceeding 0.25 inches. This is to measure the silt content of the water.

STREAM BENTHOS

Section Leader: Terry R. Culp

Objectives:

To determine the variety and abundance (number and biomass) of bottom organisms present in Schoharie Creek and its major tributaries between the iron bridge at Gilboa and the Walhalla Rocks north of Breakabeen.

Data collected will:

1. indicate the capacity of these environments to support higher forms of aquatic life (i.e. fishes);
2. be compared with data collected in 1973 to give an indication of yearly variations that can be expected;
3. be available to compare with data collected after the construction of the Breakabeen project, to indicate changes in the habitat that may occur because of construction;
4. indicate the effects of reduced water flows directly below Lower B-G Reservoir and a minimum release of three million gallons per day below the proposed Breakabeen spillway.

Progress:

No samples were taken in May because of high flows in Schoharie Creek.

Table 1. Abundance and biomass of fishes collected in May 1973 and May 1974 by gill net in Lower and Upper B-G Reservoirs.

	L B-G R* 1973		L B-G R 1974		U B-G R* 1974	
	Number of Fish Captured	Biomass (lbs)	Number of Fish Captured	Biomass (lbs)	Number of Fish Captured	Biomass (lbs)
Perch						
Yellow perch	1	0.12	8	1.67	2	0.37
Walleye	2	0.43	-	-	1	0.85
Sunfishes						
Pumpkinseed	13	1.17	18	1.60	22	2.06
Rock bass	-	-	2	0.25	2	0.24
Redbreast sunfish	-	-	-	-	6	0.61
Largemouth bass	2	1.11	-	-	-	-
Catfishes						
Brown bullhead	29	6.17	2	0.57	183	38.99
Stonecat	9	2.04	5	1.37	5	1.32
Minnows						
Carp	7	1.54	6	5.44	28	28.65
Golden shiner	2	0.37	-	-	2	0.28
Fallfish	4	1.11	6	1.66	-	-
Suckers						
White sucker	24	37.83	3	0.81	1	0.27
Northern hogsucker	-	-	1	0.98	-	-
Pikes						
Chain pickerel	3	1.67	2	0.94	-	-
Total	96	53.56	53	15.29	252	73.64
Hours fished	234		241		144	
Catch per hour	0.41		0.22		1.77	

* L B-G R = Lower B-G Reservoir; U B-G R = Upper B-G Reservoir

Table 2. Abundance and biomass of fishes collected in May 1974 by trap net in Lower and Upper B-G Reservoirs.

	Lower B-G Reservoir		Upper B-G Reservoir	
	No. of Fish Captured	Biomass (lbs)	No. of Fish Captured	Biomass (lbs)
Sunfishes				
Pumpkinseed	38	2.43	2	0.15
Rock bass	3	0.32	-	-
Redbreast sunfish	-	-	4	0.23
Catfishes				
Brown bullhead	194	29.60	3	0.57
Minnows				
Carp	2	1.54	-	-
Common shiner	-	-	1	0.03
Satinfin shiner	-	-	1	0.01
Total	237	33.89	11	.99
Hours fished	193		183	
Catch per hour	1.23		0.06	

Table 3. Abundance and biomass of fishes collected in May 1974 by block net in Lower B-G Reservoir.

	Number	Percent	Biomass (lbs)	Percent
Perch				
Yellow perch	35	1.42	0.95	0.55
Walleye	6	0.24	0.80	0.47
Log perch	1	0.04	0.02	0.01
Sunfishes				
Largemouth bass	43	1.75	15.04	8.76
Smallmouth bass	11	0.45	4.32	2.52
Rock bass	67	2.72	7.35	4.28
Pumpkinseed	1916	77.89	68.86	40.12
Catfishes				
Brown bullhead	44	1.79	12.85	7.49
Minnows				
Carp	63	2.56	34.69	20.21
Golden shiner	22	0.89	1.59	0.93
Satinfin shiner	1	0.04	0.01	0.01
Spottail shiner	25	1.02	2.12	1.24
Fallfish	62	2.52	3.31	1.93
Bluntnose minnow	9	0.37	0.07	0.04
Common shiner	5	0.20	0.08	0.05
Suckers				
White sucker	148	6.02	18.91	11.02
Northern hogsucker	1	0.04	0.53	0.31
Pikes				
Chain pickerel	1	0.04	0.12	0.07
Total	2460		171.62	

Table 4. Mean length (mm) for each age class of fishes collected in May 1974 in Lower and Upper B-G Reservoirs.

Age Group[1] Location[2]		1+		2+		3+		4+		5+	
		LR	UR	LR	UR	LR	UR	LR	UR	LR	UR
Yellow perch	ML[3]	75.96	-	133.50	-	195.09	179.00	-	-	-	-
	SD[4]	7.43	-	10.45	-	8.25	2.83	-	-	-	-
	R[5]	60-91	-	112-144	-	178-204	177-181	-	-	-	-
	N[6]	27	-	8	-	11	2	-	-	-	-
Walleye	ML	194.4	-	175	-	-	348	-	-	-	-
	SD	29.05	-	-	-	-	-	-	-	-	-
	R	157-235	-	-	-	-	-	-	-	-	-
	N	5	-	1	-	-	1	-	-	-	-
Largemouth bass	ML	-	-	218.45	-	284.50	-	-	-	-	-
	SD	-	-	29.95	-	92.63	-	-	-	-	-
	R	-	-	172-286	-	219-350	-	-	-	-	-
	N	-	-	40	-	2	-	-	-	-	-
Smallmouth bass	ML	-	-	204.00	-	270.20	-	-	-	-	-
	SD	-	-	59.43	-	23.82	-	-	-	-	-
	R	-	-	140-276	-	234-294	-	-	-	-	-
	N	-	-	6	-	5	-	-	-	-	-
Rock bass	ML	-	-	73.81	130	143.14	137	275.27	-	216	-
	SD	-	-	7.99	-	10.67	-	9.13	-	-	-
	R	-	-	64-91	-	127-175	-	169-191	-	-	-
	N	-	-	16	1	43	1	6	-	1	-
Pumpkinseed	ML	-	-	95.48	122.50	119.71	-	142.67	-	-	-
	SD	-	-	14.48	13.93	8.58	-	14.29	-	-	-
	R	-	-	60-132	82-136	100-154	-	117-160	-	-	-
	N	-	-	237	12	105	-	24	-	-	-

1 1+ represents fish in second growing season, 2+ represents fish in third growing season, etc.
2 LR = Lower B-G Reservoir; UR = Upper B-G Reservoir
3 ML = mean length (mm)
4 SD = standard deviation
5 R = range (mm)
6 N = number of fish

Table 4 - (Continued)

Age Group Location		1+		2+		3+		4+		5+	
		LR	UR	LR	UR	LR	UR	LR	UR	LR	UR
Redbreast sunfish	ML	-	-	-	113.33	-	124.75	-	-	-	-
	SD	-	-	-	16.99	-	3.59	-	-	-	-
	R	-	-	-	85-126	-	120-128	-	-	-	-
	N	-	-	-	6	-	4	-	-	-	-
Chain pickerel	ML	248	-	304.00	-	-	-	-	-	-	-
	SD	0	-	4.24	-	-	-	-	-	-	-
	R	0	-	301-307	-	-	-	-	-	-	-
	N	1	-	2	-	-	-	-	-	-	-

Table 5. Mean weight (g) for each age class of fishes collected in May 1974 in Lower and Upper B-G Reservoirs.

Age Group[1] Location[2]		1+		2+		3+		4+		5+	
		LR	UR	LR	UR	LR	UR	LR	UR	LR	UR
Yellow perch	MW[3]	4.63	-	24.79	-	90.76	82.9	-	-	-	-
	SD[4]	1.28	-	6.21	-	12.50	2.83	-	-	-	-
	R[5]	2.7-7.3	-	15.6-31.9	-	68.8-108.1	80.9-84.9	-	-	-	-
	N[6]	26	-	8	-	10	2	-	-	-	-
Walleye	MW	63.74	-	44.2	-	-	385.2	-	-	-	-
	SD	30.34	-	0	-	-	-	-	-	-	-
	R	32.0-100.7	-	0	-	-	-	-	-	-	-
	N	5	-	1	-	-	1	-	-	-	-
Largemouth bass	MW	-	-	143.87	-	457.20	-	-	-	-	-
	SD	-	-	87.32	-	436.71	-	-	-	-	-
	R	-	-	42.7-333.3	-	148.4-766.0	-	-	-	-	-
	N	-	-	40	0	2	-	-	-	-	-
Smallmouth bass	MW	-	-	117.90	-	250.62	-	-	-	-	-
	SD	-	-	95.69	-	82.19	-	-	-	-	-
	R	-	-	29.6-260.1	-	120.8-331.3	-	-	-	-	-
	N	-	-	6	-	5	-	-	-	-	-
Rock bass	MW	-	-	6.94	49.2	59.21	59	98.50	-	203.1	-
	SD	-	-	2.53	-	23.09	-	18.65	-	-	-
	R	-	-	3.9-12.5	-	16.8-119.8	-	65.7-120.5	-	-	-
	N	-	-	16	1	43	1	6	-	1	-
Pumpkinseed	MW	-	-	16.55	42.73	33.50	-	61.82	-	-	-
	SD	-	-	10.91	11.72	9.10	-	10.02	-	-	-
	R	-	-	3.2-44.4	10.3-58.2	16.1-76.0	-	30.3-91.9	-	-	-
	N	-	-	236	12	105	-	24	-	-	-

1 1+ represents fish in second growing season, 2+ represents fish in third growing season, etc.
2 LR = Lower B-G Reservoir; UR = Upper B-G Reservoir
3 MW = mean weight (g)
4 SD = standard deviation
5 R = range (g)
6 N = number of fish

Table 5 - (Continued)

Age Group / Location		1+		2+		3+		4+		5+	
		LR	UR	LR	UR	LR	UR	LR	UR	LR	UR
Redbreast sunfish	MW	-	-	-	31.83		47.15	-	-	-	-
	SD	-	-	-	15.43	-	3.71	-	-	-	-
	R	-	-	-	11.8-48.7	-	42.9-51.7	-	-	-	-
	N	-	-	-	0	-	4	-	-	-	-
Chain pickerel	MW	55.6	-	213.60	-	-	-	-	-	-	-
	SD	0	-	72.27	-	-	-	-	-	-	-
	R	0	-	162.5-264.7	-	-	-	-	-	-	-
	N	1	-	2	-	-	-	-	-	-	-

Table 6. Mean length (mm) for each age class of fishes collected in May 1973 and May 1974 in Lower B-G Reservoir.

Age Group[1] Date		1+		2+		3+		4+		5+	
		1973	1974	1973	1974	1973	1974	1973	1974	1973	1974
Yellow perch	ML[2]	-	75.96	-	133.50	-	195.09	-	-	-	-
	SD[3]	-	7.43	-	10.45	-	8.25	-	-	-	-
	R[4]	-	60-91	-	112-144	-	178-204	-	-	-	-
	N[5]	-	27	-	8	-	11	-	-	-	-
Walleye	ML	232	194.4	-	175	-	-	-	-	-	-
	SD	0	29.05	-	-	-	-	-	-	-	-
	R	0	157-235	-	-	-	-	-	-	-	-
	N	1	5	-	1	-	-	-	-	-	-
Largemouth bass	ML	-	-	-	218.45	236.00	284.50	-	-	-	-
	SD	-	-	-	29.95	73.54	92.63	-	-	-	-
	R	-	-	-	172-286	184-288	219-350	-	-	-	-
	N	-	-	-	40	2	2	-	-	-	-
Smallmouth bass	ML	65.40	-	-	204.00	-	270.20	-	-	-	-
	SD	11.55	-	-	59.43	-	23.82	-	-	-	-
	R	55-80	-	-	140-276	-	234-294	-	-	-	-
	N	5	-	-	6	-	5	-	-	-	-
Rock bass	ML	55	-	96	73.81	-	143.14	-	175.17	-	216
	SD	0	-	0	7.99	-	10.67	-	9.13	-	-
	R	0	-	0	64-91	-	127-175	-	109-191	-	-
	N	1	-	1	16	-	43	-	6	-	1
Pumpkinseed	ML	42.98	-	114.67	95.48	127.33	119.71	-	142.67	-	-
	SD	5.68	-	8.50	14.48	4.62	8.58	-	14.29		
	R	32-62	-	105-121	60-132	122-130	100-154	-	117-160	-	-
	N	618	-	3	237	3	105	-	24	-	-

1 1+ represents fish in second growing season, 2+ represents fish in third growing season, etc.
2 ML = mean length (mm) 3 SD = standard deviation 4 R = range (mm)
5 N = number of fish

Table 6 - (Continued)

Age Group / Date		1+		2+		3+		4+		5+	
		1973	1974	1973	1974	1973	1974	1973	1974	1973	1974
Redbreast sunfish	ML	-	-	-	-	-	-	-	-	-	-
	SD	-	-	-	-	-	-	-	-	-	-
	R	-	-	-	-	-	-	-	-	-	-
	N	-	-	-	-	-	-	-	-	-	-
Chain pickerel	ML	-	248.00	-	304.00	344.67	-	-	-	-	-
	SD	-	0	-	4.24	15.31	-	-	-	-	-
	R	-	0	-	301-307	333-362	-	-	-	-	-
	N	-	1	-	2	3	-	-	-	-	-

Table 7. Mean weight (g) for each age class of fishes collected in May 1973 and May 1974 in Lower B-G Reservoir.

Age Group[1] Date		1+ 1973	1+ 1974	2+ 1973	2+ 1974	3+ 1973	3+ 1974	4+ 1973	4+ 1974	5+ 1973	5+ 1974
Yellow perch	MW[2]	-	4.63	-	24.79	-	90.76	-	-	-	-
	SD[3]	-	1.28	-	6.21	-	12.50	-	-	-	-
	R[4]	-	2.7-7.3	-	15.6-31.9	-	68.8-108.1	-	-	-	-
	N[5]	-	26	-	8	-	10	-	-	-	-
Walleye	MW	91	63.74	-	44.2	-	-	-	-	-	-
	SD	0	30.34	-	0	-	-	-	-	-	-
	R	0	32.0-100.7	-	0	-	-	-	-	-	-
	N	1	5	-	1	-	-	-	-	-	-
Largemouth bass	MW	-	-	-	143.87	234.5	457.2	-	-	-	-
	SD	-	-	-	87.32	217.51	436.71	-	-	-	-
	R	-	-	-	42.7-333.3	80.7-388.3	148.4-766.0	-	-	-	-
	N	-	-	-	40	2	2	-	-	-	-
Smallmouth bass	MW	-	-	-	117.90	-	250.62	-	-	-	-
	SD	-	-	-	95.69	-	82.19	-	-	-	-
	R	-	-	-	29.6-260.1	-	120.8-331.3	-	-	-	-
	N	-	-	-	6	-	5	-	-	-	-
Rock bass	MW	-	-	-	6.94	-	59.21	-	98.50	-203.1	
	SD	-	-	-	2.53	-	23.09	-	18.65	-	-
	R	-	-	-	3.9-12.5	-	16.8-119.8	-	65.7-120.5	-	1
	N	-	-	-	16	-	43	-	6	-	-
Pumpkinseed	MW	-	-	36.15	16.55	44.74	33.50	-	61.82	-	-
	SD	-	-	1.63	10.91	4.24	9.10	-	20.02	-	-
	R	-	-	35.0-37.3	3.2-44.4	122-130	16.1-76.0	-	30.3-91.9	-	-
	N	-	-	2	236	3	105	-	24	-	-

1 1+ represents fish in second growing season, 2+ represents fish in third growing season, etc.
2 MW = mean weight (g) 3 SD = standard deviation 4 R = range (g)
5 N = number of fish

Table 7 - (Continued)

Age Group / Date		1+		2+		3-		4+		5+	
		1973	1974	1973	1974	1973	1974	1973	1974	1973	1974
Redbreast sunfish	MW	-	-	-	-	-	-	-	-	-	-
	SD	-	-	-	-	-	-	-	-	-	-
	R	-	-	-	-	-	-	-	-	-	-
	N	-	-	-	-	-	-	-	-	-	-
Chain pickerel	MW	-	55.6	-	213.60	-	-	-	-	-	-
	SD	-	0	-	72.27	-	-	-	-	-	-
	R	-	0	-	162.5-264.7	-	-	-	-	-	-
	N	-	1	-	2	-	-	-	-	-	-

Table 8. Fish marked for migration study in May 1974 in Lower and Upper B-G Reservoirs.

Species	Marked with Metal Tag		Marked with Left Pelvic Fin Clip	
	Number	Size Range (mm)	Number	Size Range (mm)
		Lower B-G Reservoir		
Walleye	3	185 - 235	-	-
Yellow perch	2	143 & 190	-	-
Rock bass	29	122 - 216	1	82
Pumpkinseed	18	115 - 160	10	71 - 90
Smallmouth bass	9	161 - 294	-	-
Largemouth bass	17	172 - 350	-	-
Chain pickerel	1	248	-	-
		Upper B-G Reservoir		
Pumpkinseed	1	136	-	-

Table 9. Site related data for May 1974 five-minute ichthyoplankton tows in Lower and Upper B-G Reservoir.

Site No.	Time	Depth of tow(ft)	No. of tows	Total Vol. (m^3)	Mean Vol. (m^3)	S. D. of Vol.	m^3/larva
				Lower Reservoir			
1	Day	5	3	60.1	20.0	2.1	60.1
	Night	5	3	80.6	26.9	2.6	80.6
	Day	25	3	87.5	29.2	5.9	no larva
	Night	25	3	60.8	20.3	10.0	no larva
	Day	50	3	115.2	38.4	1.6	no larva
	Night	50	3	123.0	41.0	5.5	no larva
2	Day	5	3	83.0	27.8	5.3	no larva
	Night	5	3	83.1	27.9	3.7	41.8
	Day	10	1	24.6	-	-	no larva
	Day	15	2	62.8	31.4	.6	no larva
	Night	15	3	109.0	36.3	3.3	no larva
	Day	20	1	28.5	-	-	no larva
	Day	25	2	84.2	42.1	2.7	no larva
3	Day	5	3	86.3	28.8	3.4	86.3
	Night	5	3	73.0	24.3	9.1	36.5
	Day	10	1	38.9	-	-	no larva
	Day	15	2	77.4	38.7	3.5	12.9
	Night	15	3	120.7	40.2	3.7	120.7
4	Day	5	3	79.6	26.5	4.4	79.6
	Night	5	3	82.0	27.3	2.7	20.5
				Upper Reservoir			
5	Day	5	2	52.1	26.1	2.9	52.1
	Night	5	2	59.6	26.0	5.9	no larva
	Day	25	2	84.2	42.1	2.7	no larva
	Night	25	2	127.2	42.4	5.2	63.6
	Day	50	2	79.5	39.8	7.7	no larva
	Night	50	2	82.4	41.2	5.1	no larva
6	Day	5	2	59.6	29.8	.7	59.6
	Night	5	2	55.1	27.6	3.5	no larva
	Day	25	2	58.1	29.1	3.2	no larva
	Night	25	2	66.9	33.5	2.8	no larva
	Day	50	2	79.5	39.8	7.7	no larva
	Night	50	2	82.4	41.2	5.1	no larva
7	Day	5	2	73.7	36.9	13.1	7.4
	Night	5	2	64.2	32.1	4.1	64.2

Table 10. Depth related data for May 1974 five-minute ichthyoplankton tows in Lower and Upper B-G Reservoirs.

Depth	No. of tows	Total time (hrs)	Mean time (sec)	S. D. for time	Total Vol. (m^3)	Mean Vol. (m^3)	S. D. for Vol.	Total larvae	m^3 of H_2O per larva		
									Total	Day	Night
					Lower Reservoir						
5	24	2.1	308.2	3.1	628.2	26.2	4.7	11	57.1	103.0	39.9
10	2	.2	311.5	.7	63.5	31.8	10.1	0	-	-	-
15	10	.9	319.9	4.3	369.9	37.0	4.3	4	52.8	23.4	229.7
20	1	.1	317.0	-	28.5	-	-	0	-	-	-
25	11	1.0	334.0	8.4	359.7	32.7	11.4	2	179.9	no larva	94.0
50	6	.6	349.8	7.0	238.2	39.7	3.9	0	-	-	-
					Upper Reservoir						
5	12	1.0	304.7	8.9	637.3	29.0	5.1	13	49.0	16.9	85.6
25	8	.7	328.3	4.6	231.8	29.0	5.4	1	231.8	no larva	123.8
50	8	.8	349.3	4.4	318.7	39.8	3.4	0	-	-	-

Table 11. Summary of weekly turbidity (formazin turbidity units) data taken in May 1974 from Schoharie Creek, three tributaries, and Lower and Upper B-G Reservoirs.

Dates	Stations																
	Schoharie Creek									Tributaries			L B-G R			U B-G R	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
2 May	4	4	20	17	19	19	6	4	4	3	2	1	-	-	-	-	-
8 May	-	-	-	-	-	-	-	-	-	-	-	-	0	15	4	1	7
9 May	0	0	9	13	10	17	18	13	12	8	0	0	-	-	-	-	-
14 May	-	-	-	-	-	-	-	-	-	-	-	-	9	12	5	3	4
16 May	11	10	23	20	10	13	13	17	12	3	3	2	19	-	-	-	-
22 May	-	-	-	-	-	-	-	-	-	-	-	-	5	6	4	8	8
23 May	6	2	16	3	2	10	10	10	10	2	4	1	3	-	-	-	-
29 May	-	-	-	-	-	-	-	-	-	-	-	-	9	12	6	9	10
30 May	2	6	13	9	9	9	9	7	7	1	1	0	8	-	-	-	-

Table 12. Summary of weekly water temperature (°C) data taken in May 1974 from Schoharie Creek and three tributaries.

Dates	Stations											
	Schoharie Creek									Tributaries		
	1	2	3	4	5	6	7	8	9	10	11	12
2 May	8.0	8.0	9.5	10.0	9.5	9.5	10.0	12.0	11.5	9.0	8.5	8.0
9 May	9.0	10.0	10.0	10.0	10.0	10.0	10.0	11.0	11.0	9.0	10.0	9.0
16 May	13.0	12.0	12.0	13.0	13.0	13.0	14.0	16.0	15.0	14.0	16.0	13.0
23 May	17.0	18.0	15.0	15.0	15.0	15.0	15.0	16.0	15.0	14.0	15.0	13.0
30 May	14.5	15.0	14.5	18.5	16.5	18.0	18.0	16.5	16.5	14.0	16.0	12.5

Table 13. Summary of weekly air temperature (°C) data taken in May 1974 and May 1973 from Schoharie Creek, three tributaries, and Lower and Upper B-G Reservoirs.

Dates	Stations																
	Schoharie Creek									Tributaries			L B-G R			U B-G R	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1974																	
2 May	12	13	12	12	13	13	14	15	16	13	14	16	–	–	–	–	–
8 May	–	–	–	–	–	–	–	–	–	–	–	–	17	14	18	14	14
9 May	12	12	13	14	15	15	16	16	16	15	16	16	–	–	–	–	–
14 May	–	–	–	–	–	–	–	–	–	–	–	–	22	23	22	19	18
16 May	20	20	20	22	22	26	25	26	26	23	26	26	–	–	–	–	–
22 May	–	–	–	–	–	–	–	–	–	–	–	–	23	26	26	25	24
23 May	19	20	21	21	22	21	21	21	23	21	22	21	–	–	–	–	–
29 May	–	–	–	–	–	–	–	–	–	–	–	–	17	18	18	11	11
30 May	19	19	21	21	23	25	25	25	25	24	25	26	–	–	–	–	–
1973																	
3 May	–	–	–	–	–	–	–	–	–	–	–	–	23	–	–	–	–
16 May	–	–	–	–	–	–	–	–	–	–	–	20	–	–	–	–	–
21 May	–	–	–	–	–	–	–	–	–	–	–	–	–	–	13	–	–
22 May	–	–	–	–	–	–	–	–	–	–	–	–	18	15	15	–	–
23 May	–	–	–	–	–	–	–	–	–	–	–	–	–	–	20	–	–
24 May	–	–	–	–	–	–	–	–	–	–	–	–	21	–	22	–	–
28 May	–	–	–	–	–	–	–	–	–	–	–	–	16	–	–	–	–
29 May	–	–	–	–	–	–	–	–	–	–	–	–	24	–	23	–	–
30 May	–	–	–	–	–	–	–	–	–	–	–	–	–	23	–	–	–
31 May	–	–	–	–	–	–	–	–	–	–	–	–	–	15	–	–	–

Table 14. Summary of weekly dissolved oxygen (ppm) data taken in May 1974 from Schoharie Creek and three tributaries.

Dates	Stations											
	Schoharie Creek									Tributaries		
	1	2	3	4	5	6	7	8	9	10	11	12
2 May	11.4	12.0	14.0	14.0	13.6	13.4	14.0	13.2	13.4	11.8	13.8	14.0
9 May	11.8	11.6	11.9	11.5	11.5	11.4	11.5	11.8	11.5	12.0	11.4	12.6
16 May	11.0	12.2	13.0	14.0	13.0	12.4	12.0	11.9	11.2	11.2	10.4	10.2
23 May	9.4	9.4	10.8	10.6	10.8	11.2	12.2	11.2	10.4	11.4	10.8	10.3
30 May	11.9	10.8	10.3	11.2	11.2	10.9	10.8	10.4	10.3	9.1	10.2	10.6

Table 15. Summary of alkalinity, total hardness, calcium hardness, and carbon dioxide data taken in May 1974 from Schoharie Creek and three tributaries.

Date & Station	Alkalinity (mg/l)	Total Hardness (mg/l)	Calcium Hardness (mg/l)	Carbon Dioxide (mg/l)
9 May				
1	15	10	10	2
2	15	10	10	2
3	15	15	15	2
4	20	15	15	2
5	20	15	10	2
6	20	15	10	2
7	15	10	10	2
8	20	10	10	2
9	15	15	10	2
10	25	15	10	2
11	20	20	10	2
12	15	10	10	2
23 May				
1	20	15	10	2
2	15	15	10	2
3	15	20	10	2
4	25	20	10	2
5	20	15	10	2
6	20	10	10	2
7	25	20	15	2
8	20	15	15	2
9	20	15	15	2
10	30	20	15	2
11	25	20	15	2
12	20	15	10	2

Table 16. Summary of weekly hydrogenion (pH) data taken in May 1974 from Schoharie Creek and three tributaries.

Dates	Stations											
	Schoharie Creek									Tributaries		
	1	2	3	4	5	6	7	8	9	10	11	12
2 May	8.0	8.0	8.2	8.7	8.6	8.7	7.8	8.8	8.8	7.8	8.1	8.4
9 May	8.0	8.0	7.8	7.8	7.8	8.0	8.3	8.4	8.4	7.6	7.8	7.8
16 May	7.8	8,4	8.0	8.0	7.8	7.8	7.8	8.1	8.0	7.6	7.7	7.9
23 May	8.2	8.1	7.9	8.3	8.2	8.0	7.8	8.0	7.9	7.8	8.2	7.6
30 May	7.6	8.2	8.2	8.0	8.5	8.1	8.1	8.2	8.1	8.2	8.1	8.0

Table 17. Summary of weekly water temperature (°C) data taken in May 1974 and May 1973 from Lower and Upper B-G Reservoirs.

Station / Date	Surface	5	10	15	20	25	30	35	40	45	50
						Depth (ft)					
13											
8 May 74	11.0	10.2	10.0	9.8	9.8	9.8	9.5	9.5	9.3	9.3	9.2
14 May 74	11.5	11.0	11.0	10.8	10.5	10.2	10.2	10.2	10.2	10.0	10.0
22 May 74	15.0	14.0	14.0	14.0	13.2	13.0	12.8	12.8	12.5	12.0	11.0
29 May 74	14.5	14.5	14.2	14.2	14.2	14.0	14.0	14.0	14.0	14.0	13.8
3 May 73	12.8	12.2	11.7	11.1	11.6	10.0	9.4	8.9	-	-	-
22 May 73	13.3	-	-	-	-	-	-	-	-	-	-
24 May 73	12.2	-	-	-	-	-	-	-	-	-	-
28 May 73	13.3	-	-	-	-	-	-	-	-	-	-
29 May 73	14.4	-	13.9	-	13.3	-	12.8	-	11.6	-	10.0
14											
8 May 74	9.2	9.2	9.2	9.2	9.2	-	-	-	-	-	-
14 May 74	10.0	10.0	10.0	10.0	10.0	-	-	-	-	-	-
22 May 74	14.0	13.8	13.8	13.5	13.5	-	-	-	-	-	-
29 May 74	14.1	14.1	14.1	14.1	14.1	-	-	-	-	-	-
22 May 73	13.3	-	-	-	-	-	-	-	-	-	-
30 May 73	15.5	-	-	-	-	-	-	-	-	-	-
32 May 73	17.7	-	-	-	-	-	-	-	-	-	-
15											
8 May 74	9.5	9.5	9.5	9.5	9.5	-	-	-	-	-	-
14 May 74	12.0	11.5	11.1	11.1	11.1	-	-	-	-	-	-
22 May 74	18.0	16.0	14.5	13.8	13.0	-	-	-	-	-	-
29 May 74	14.5	14.2	13.5	13.2	13.2	-	-	-	-	-	-

Table 17 - (Continued).

Station	Depth (ft)										
Date	Surface	5	10	15	20	25	30	35	40	45	50
15 (con't.)											
21 May 73	9.4	-	-	-	-	-	-	-	-	-	-
22 May 73	9.4	-	-	-	-	-	-	-	-	-	-
23 May 73	12.7	-	-	-	-	-	-	-	-	-	-
24 May 73	17.2	-	-	-	-	-	-	-	-	-	-
29 May 73	13.3	-	-	-	-	-	-	-	-	-	-
16											
8 May 74	10.0	9.5	9.1	9.1	9.1	9.0	9.0	9.0	9.0	9.0	9.0
14 May 74	9.9	9.8	9.7	9.7	9.5	9.5	9.5	9.3	9.1	9.0	9.0
22 May 74	15.5	15.0	14.5	1.40	13.5	13.5	13.5	13.0	13.0	13.5	11.5
29 May 74	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.8	13.8
17											
8 May 74	10.2	10.0	9.6	9.3	9.2	9.2	9.2	9.1	9.1	9.1	9.1
14 May 74	10.1	10.1	10.0	10.0	10.0	10.0	9.8	9.8	9.8	9.8	9.8
22 May 74	15.5	15.5	15.0	14.5	14.0	13.5	13.5	13.0	12.5	12.0	12.0
29 May 74	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.8

Table 18. Summary of weekly dissolved oxygen (ppm) data taken in May 1974 and May 1973 from Lower and Upper B-G Reservoirs.

Station	Depth (ft)										
Date	Surface	5	10	15	20	25	30	35	40	45	50
13											
8 May 74	6.4	6.2	6.2	6.1	6.0	5.9	5.9	5.9	5.9	5.9	5.9
14 May 74	11.5	12.0	12.3	11.9	11.5	11.4	11.4	11.4	11.4	11.3	11.0
22 May 74	10.6	10.6	10.6	10.6	10.2	10.1	10.0	10.0	10.0	10.0	9.8
29 May 74	14.5	14.5	14.2	14.2	14.2	14.0	14.0	14.0	14.0	14.0	13.8
3 May 73	14.0	-	-	-	-	-	15.0	-	-	-	-
29 May 73	13.0	-	-	-	-	-	14.0	-	-	-	-
14											
8 May 74	6.0	5.9	5.8	5.8	5.8	-	-	-	-	-	-
14 May 74	11.3	11.3	11.2	11.2	11.2	-	-	-	-	-	-
22 May 74	10.2	10.2	10.2	10.2	10.2	-	-	-	-	-	-
29 May 74	14.1	14.1	14.1	14.1	14.1	-	-	-	-	-	-
15											
8 May 74	9.8	8.8	8.0	7.6	-	-	-	-	-	-	-
14 May 74	11.4	11.6	11.8	11.8	-	-	-	-	-	-	-
22 May 74	10.8	10.4	10.0	10.0	-	-	-	-	-	-	-
29 May 74	14.5	14.2	13.5	13.2	-	-	-	-	-	-	-

Table 18 - (Continued).

Station / Date	Surface	5	10	15	20	25	30	35	40	45	50
	Depth (ft)										
16											
8 May 74	10.6	10.2	10.0	10.0	10.0	9.6	9.6	9.6	9.6	9.6	9.6
14 May 74	10.9	11.0	11.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
22 May 74	10.4	10.9	10.9	10.9	10.9	10.9	10.9	10.8	10.7	10.6	10.6
29 May 74	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.8	13.8
17											
8 May 74	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.5	9.5	9.5	9.5
14 May 74	11.0	11.0	10.8	10.7	10.7	10.7	10.7	10.6	10.6	10.5	10.5
22 May 74	11.5	11.3	11.2	10.8	10.8	10.8	10.6	10.6	10.6	10.6	10.6
29 May 74	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.8

Table 19. Summary of turbidity (inches) data taken in May 1974 and May 1973 using an 8-inch Secchi disc in Lower and Upper B-G Reservoirs.

Dates	Stations				
	L B-G R			U B-G R	
	13	14	15	16	17
1974					
8 May	31	31	117	32	36
14 May	32	28	54	32	32
22 May	40	45	96	48	48
29 May	50	46	45	46	52
1973					
3 May	48	-	-	-	-
21 May	-	-	17	-	-
22 May	34	22	24	-	-
23 May	-	42	-	-	-
24 May	41	52	-	-	-
28 May	68	-	-	-	-
29 May	75	-	-	-	-

Table 20. Summary of alkalinity, total hardness, calcium hardness, and carbon dioxide data taken in May 1974 and May 1973 from Lower and Upper B-G Reservoirs.

Date & Station		Alkalinity (mg/l)	Total Hardness (mg/l)	Calcium Hardness (mg/l)	Carbon Dioxide (mg/l)
8 May 74					
13	S[1]	15	15	15	2
	M[2]	20	15	15	2
	B[3]	20	15	15	2
14	S	15	20	15	2
	M	20	15	15	2
	B	20	15	15	2
15	S	20	15	15	2
	M	20	15	15	2
	B	20	15	15	2
16	S	20	15	15	2
	M	20	15	15	2
	B	15	15	10	2
17	S	20	10	15	2
	M	20	10	15	2
	B	20	10	15	2
22 May 74					
13	S	15	15	15	2
	M	20	20	20	2
	B	20	20	15	2
14	S	15	15	15	2
	M	15	15	15	2
	B	20	15	15	2
15	S	20	20	15	2
	M	20	20	15	2
	B	20	20	10	2
16	S	20	20	15	2
	M	20	20	15	2
	B	20	15	15	2

1 S = surface
2 M = mid-depth
3 B = bottom

Table 20 - (Continued).

Date & Station		Alkalinity (mg/l)	Total Hardness (mg/l)	Calcium Hardness (mg/l)	Carbon Dioxide (mg/l)
22 May 74 (con't.)					
17	S	20	15	15	2
	M	20	15	15	2
	B	20	20	10	2
3 May 74					
13	S	20	20	15	4
	M	20	20	15	4
	B	-	-	-	-
29 May 73					
13	S	15	19	12	4
	M	15	18	12	5
	B	-	-	-	-

Table 21. Summary of weekly hydrogenion (pH) data taken in May 1974 and May 1973 from Lower and Upper B-G Reservoirs.

Station Date	Surface	Mid-depth	Bottom*
13			
8 May 74	7.9	7.8	7.8 (53)
14 May 74	8.0	7.9	8.0 (58)
22 May 74	8.1	8.3	8.3 (58)
29 May 74	8.4	8.4	8.3 (56)
3 May 73	7.3	7.2	- -
29 May 73	7.9	7.3	- -
14			
8 May 74	7.7	7.8	7.9 (14)
14 May 74	7.8	7.8	7.7 (20)
22 May 74	8.1	7.7	7.6 (28)
29 May 74	8.3	8.4	8.4 (18)
15			
8 May 74	8.1	7.9	8.1 (20)
14 May 74	7.9	8.0	7.9 (20)
22 May 74	7.6	7.6	7.6 (20)
29 May 74	8.4	8.4	8.3 (18)
16			
8 May 74	7.8	7.7	7.6 (60)
14 May 74	7.6	7.7	7.7 (56)
22 May 74	7.6	7.5	7.3 (60)
29 May 74	8.0	8.4	8.4 (58)
17			
8 May 74	7.8	7.6	7.4 (57)
14 May 74	7.5	7.6	7.7 (60)
22 May 74	7.8	7.7	7.3 (54)
29 May 74	8.3	8.3	8.3 (59)

* Maximum depth in feet

Table 22. Summary of daily fluctuations in water level from May 1974 in Lower and Upper B-G Reservoirs.

Lower Reservoir						Upper Reservoir					
Days Level Changed		Amount of Fluctuation (feet)				Days Level Changed		Amount of Fluctuation (feet)			
Did Occur	Did not Occur	Min. Fluc*	Max. Fluc**	Ave. Daily Fluc.	Standard Deviation	Did Occur	Did not Occur	Min. Fluc*	Max. Fluc**	Ave. Daily Fluc.	Standard Deviation
31	0	4.7	22.3	13.4	3.79	31	0	4.5	23.3	12.9	3.27

* The least change in water level on any day during the month.
** The greatest change in water level on any day during the month.

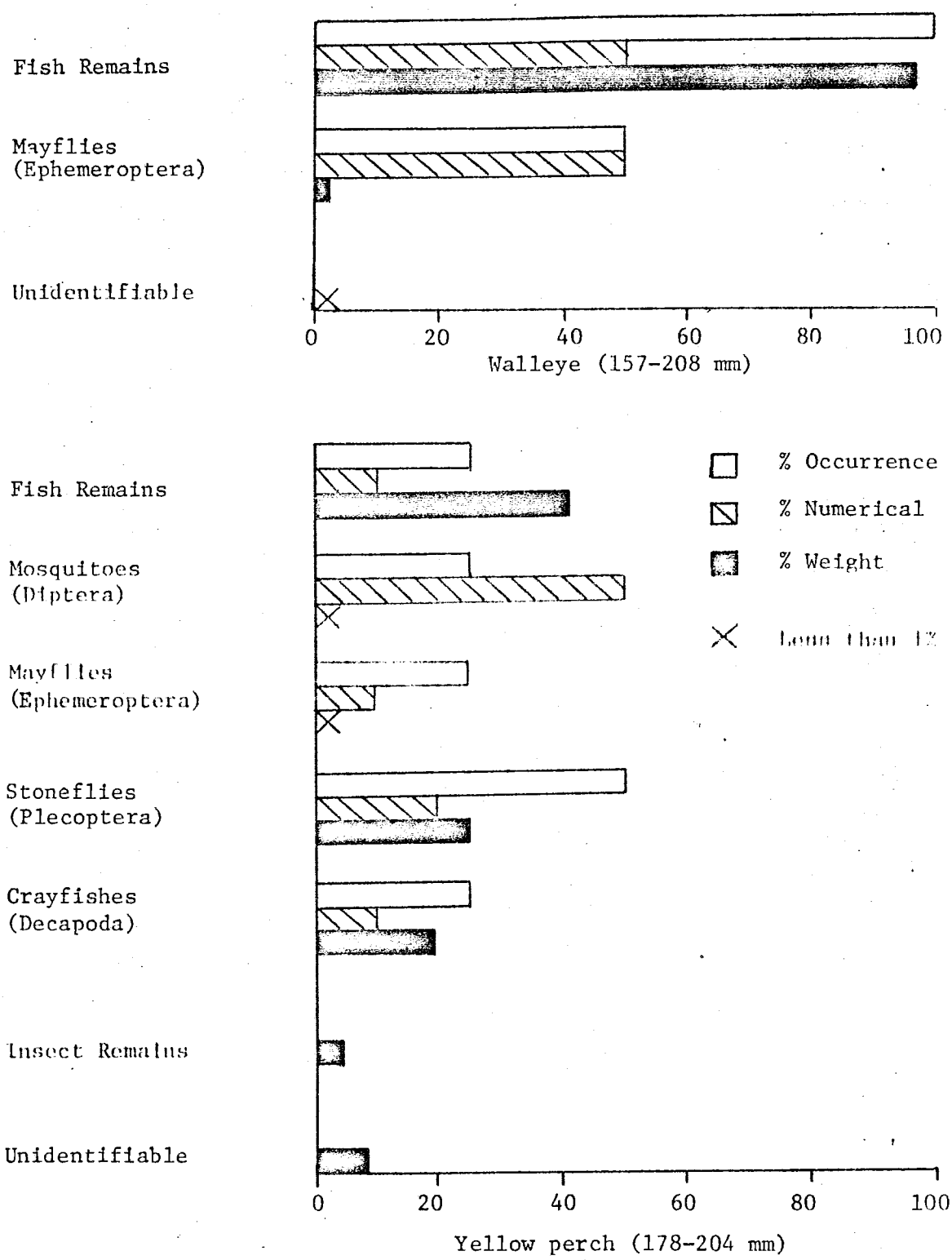


Figure 1. Relative importance of major groups of food items found in the diets of fishes collected in May 1974 in Lower B C Reservoir.

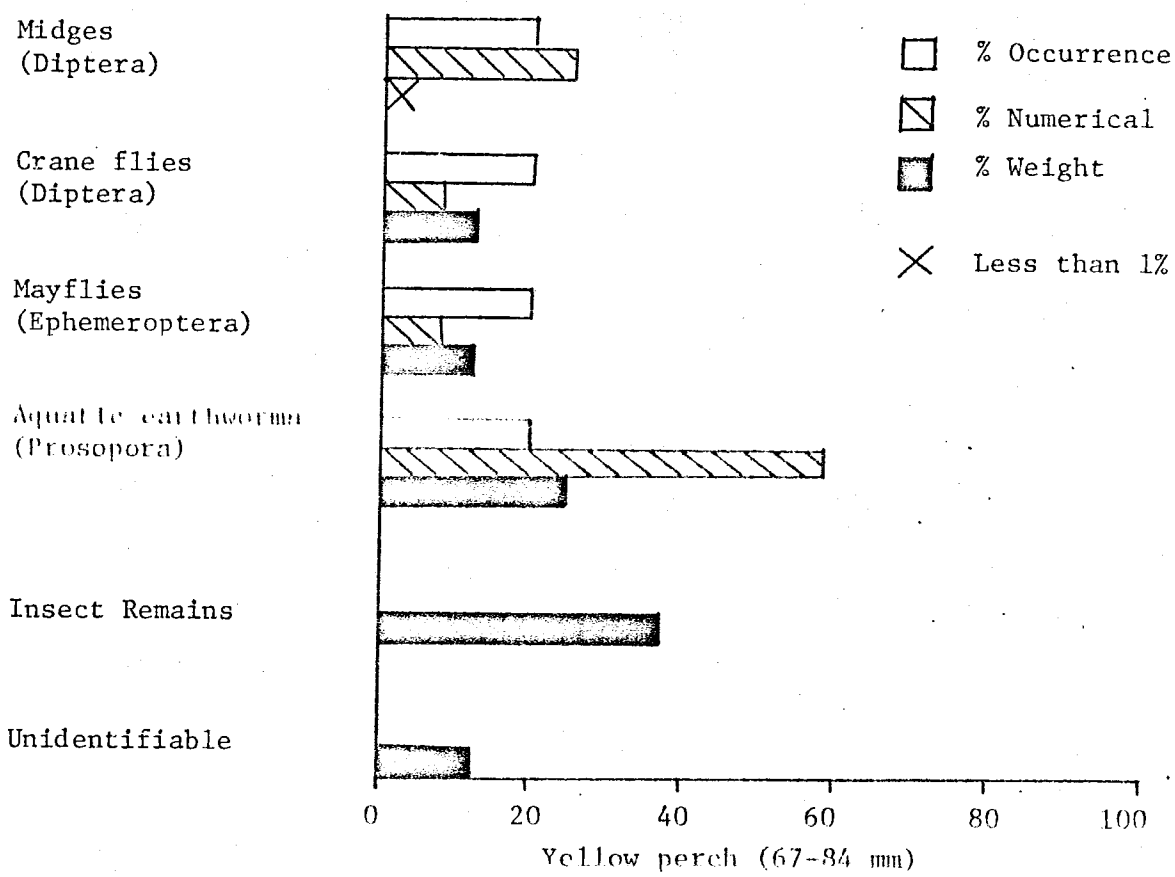


Figure 1 - (Continued).

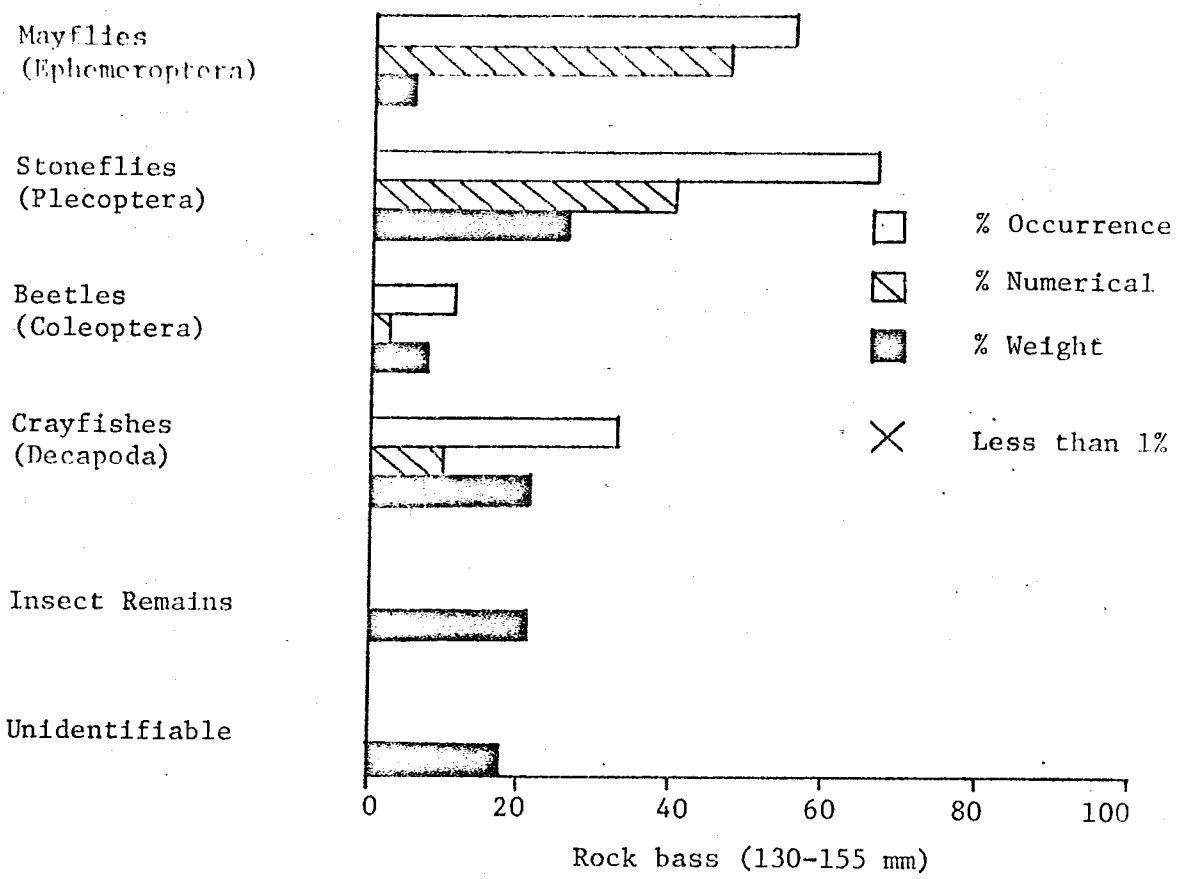


Figure 1 - (Continued).

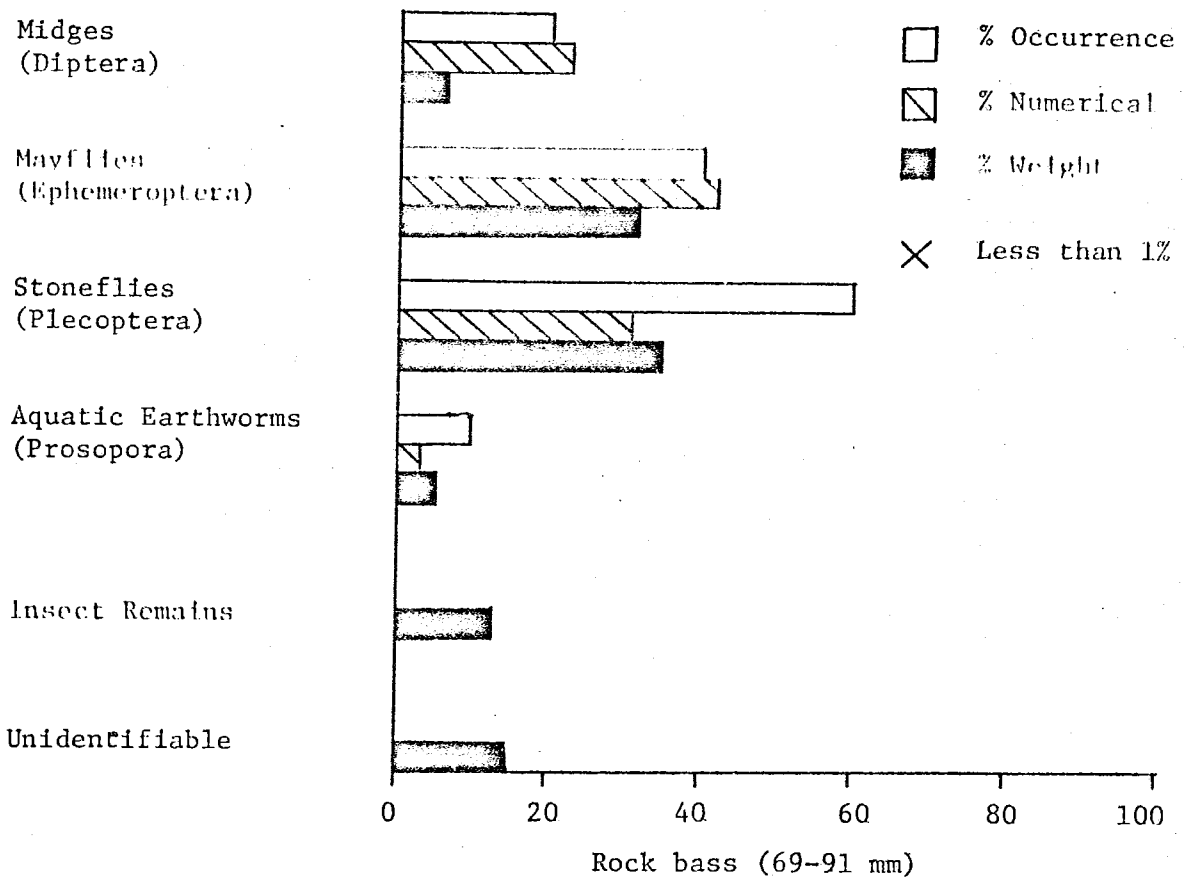


Figure 1 - (Continued).

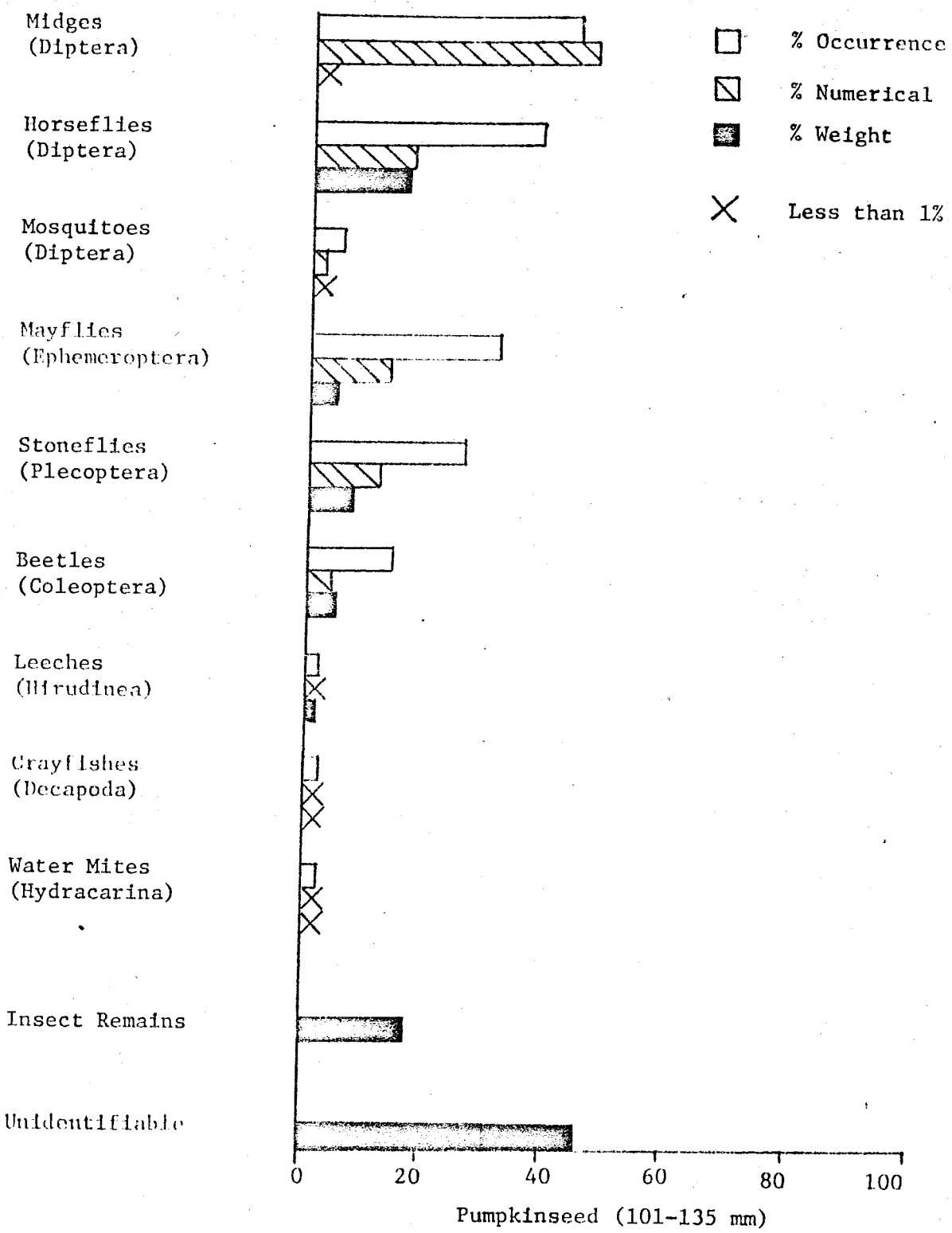


Figure 1 - (Continued).

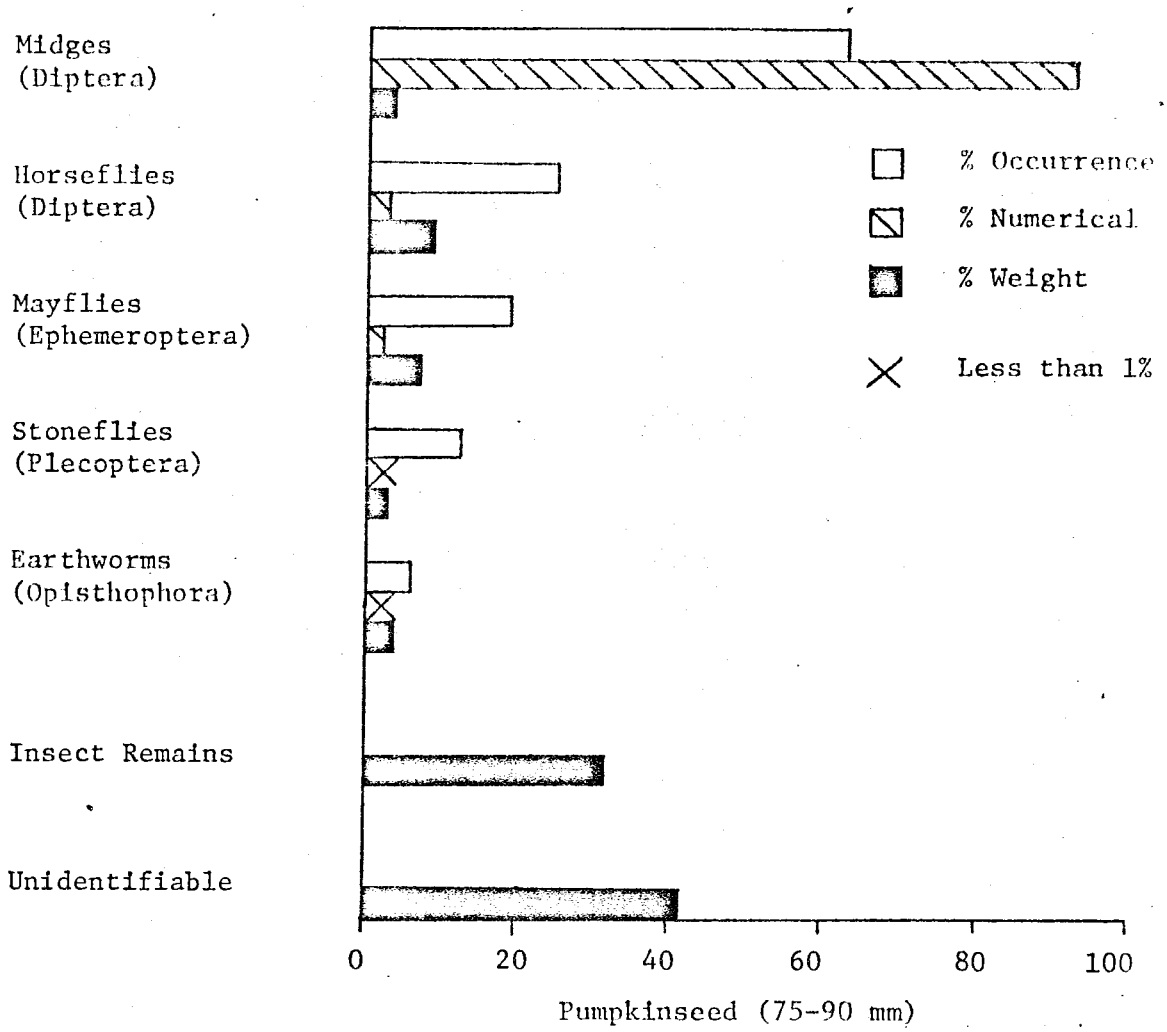
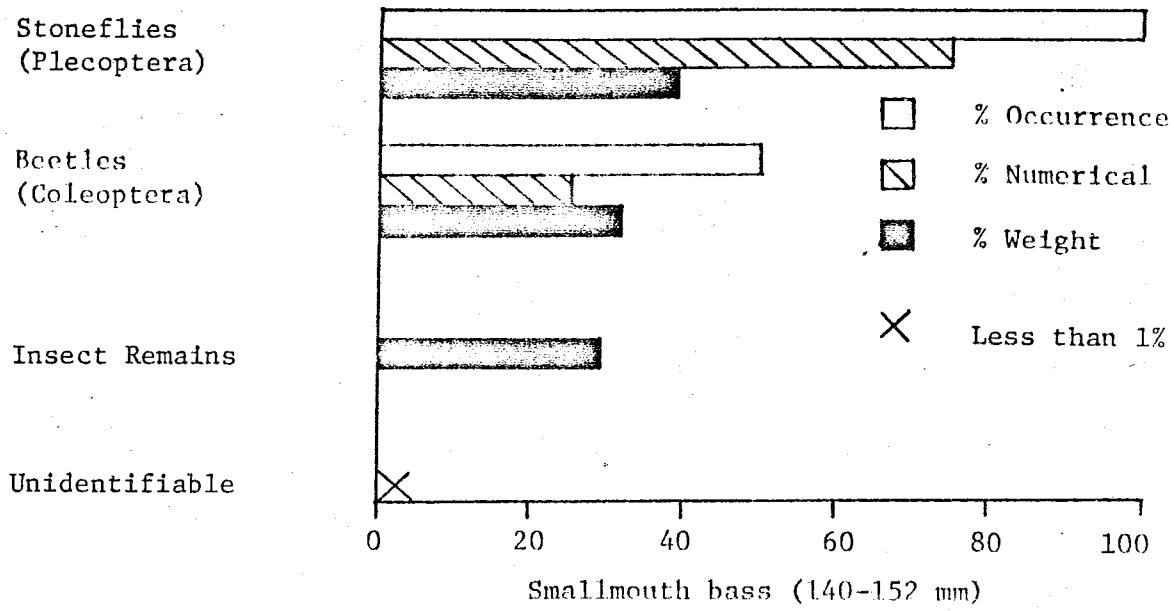


Figure 1 - (Continued).



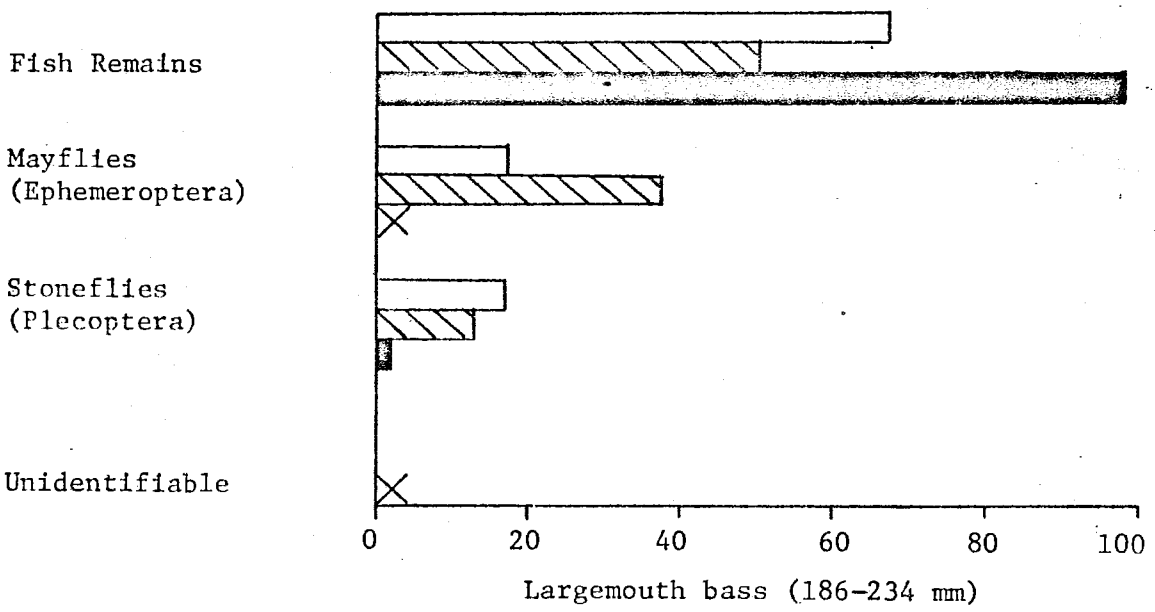


Figure 1 (Continued).

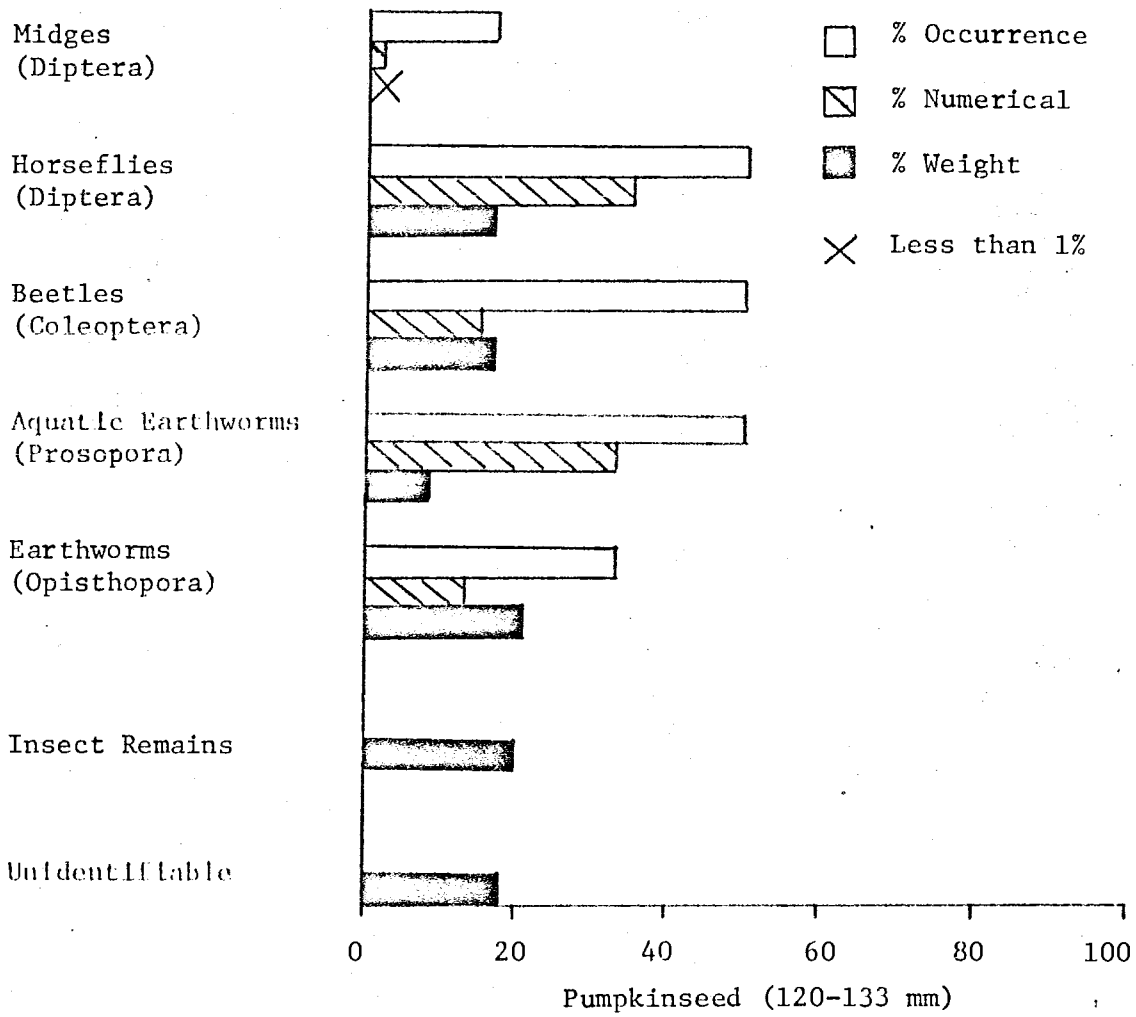


Figure 2. Relative importance of major groups of food items found in the diets of fishes collected in May 1974 in Upper B-G Reservoir.

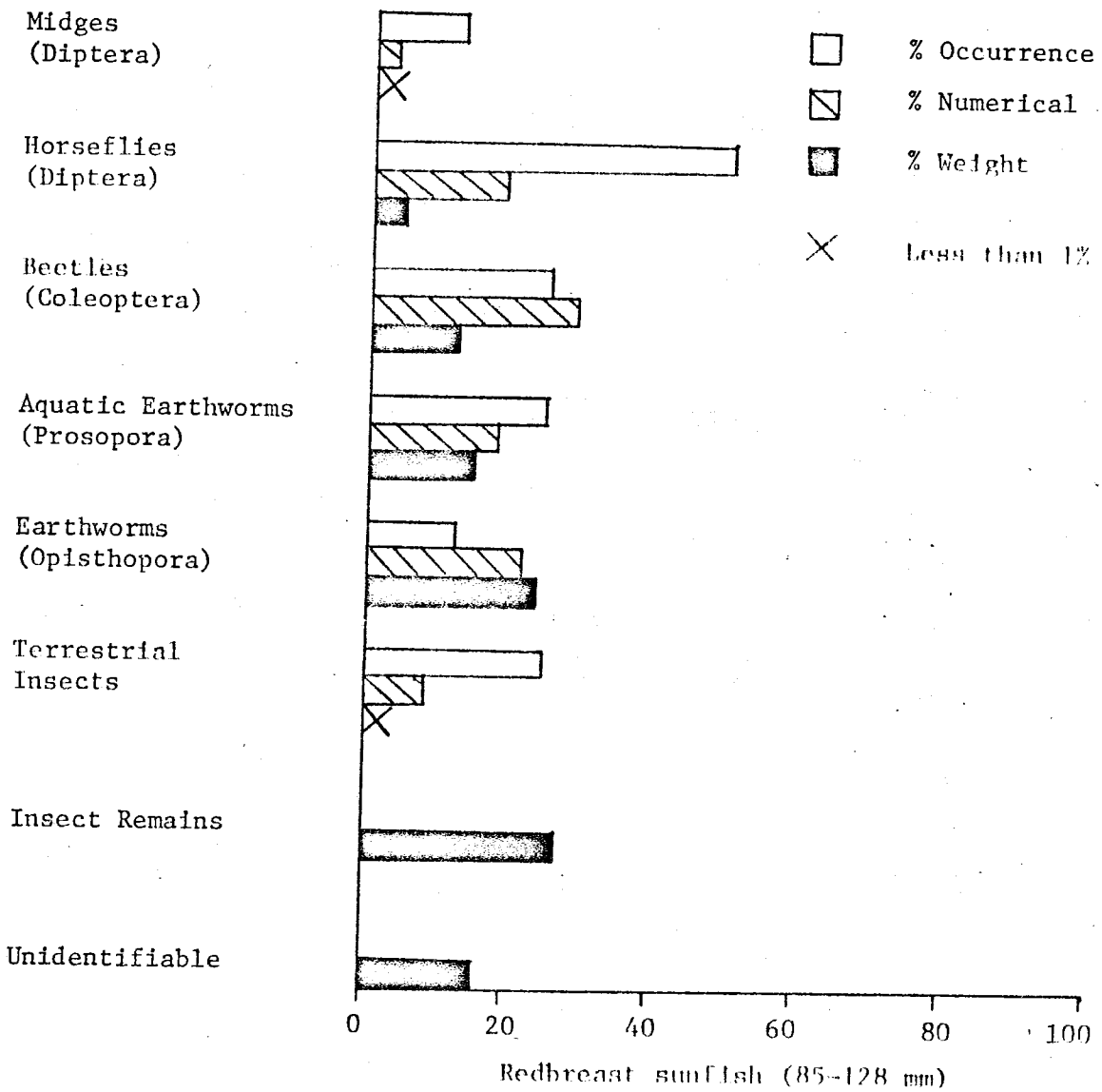


Figure 2 - (Continued).

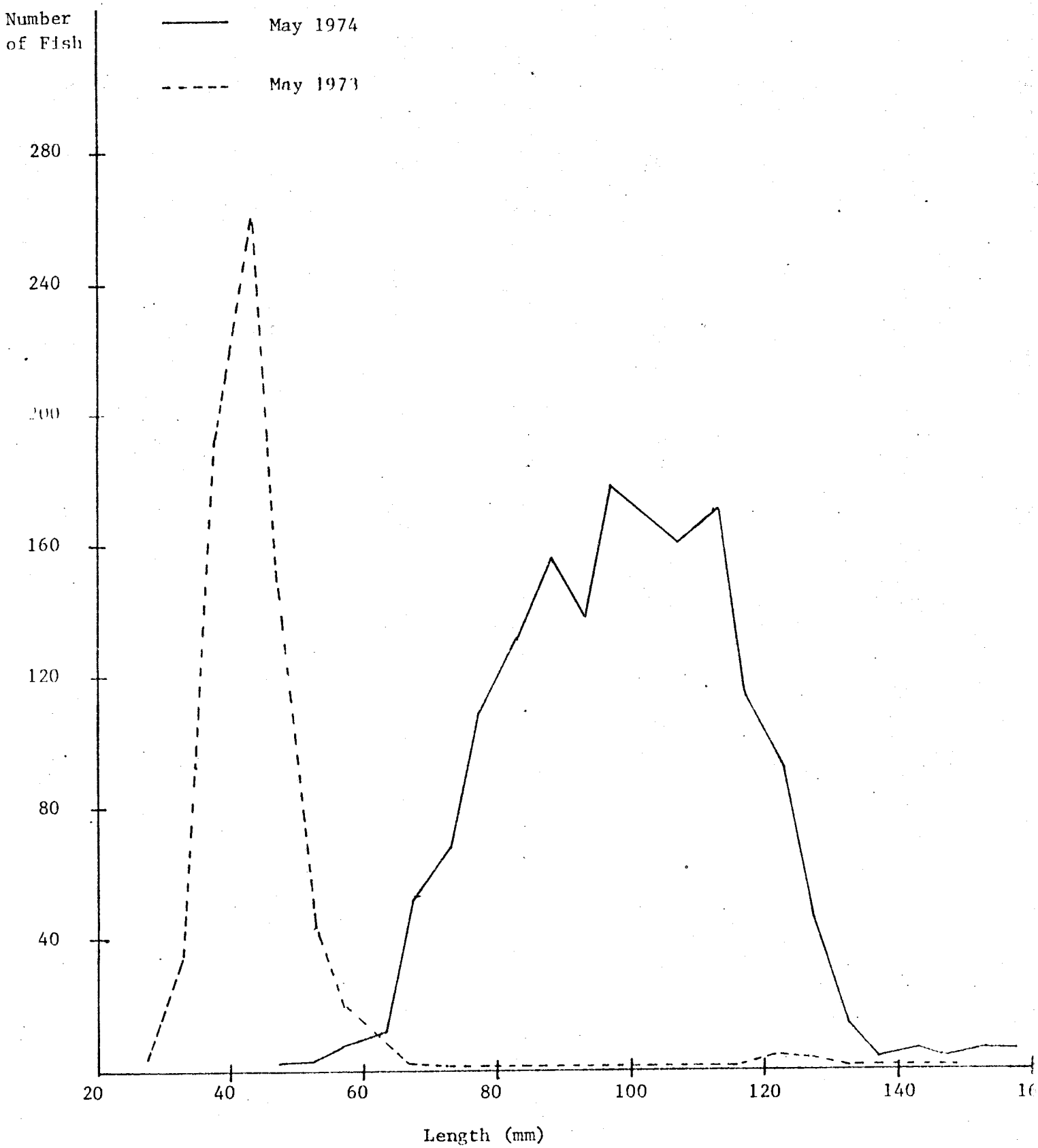


Figure 3. Length frequency distribution of pumpkinseed captured in May 1973 and May 1974 in Lower B-G Reservoir.

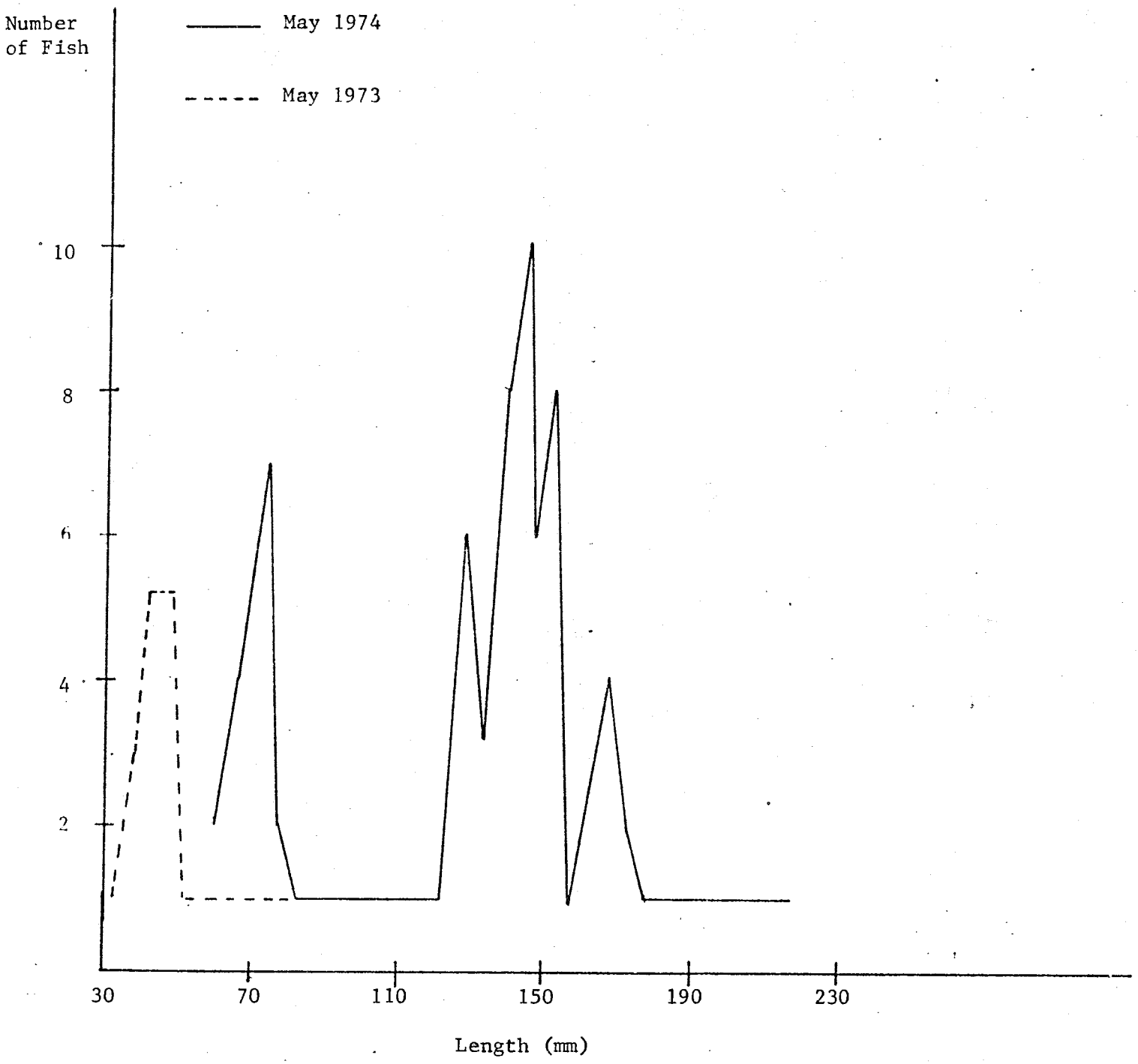


Figure 4. Length frequency distribution of rock bass captured in May 1973 and May 1974 in Lower B-G Reservoir.

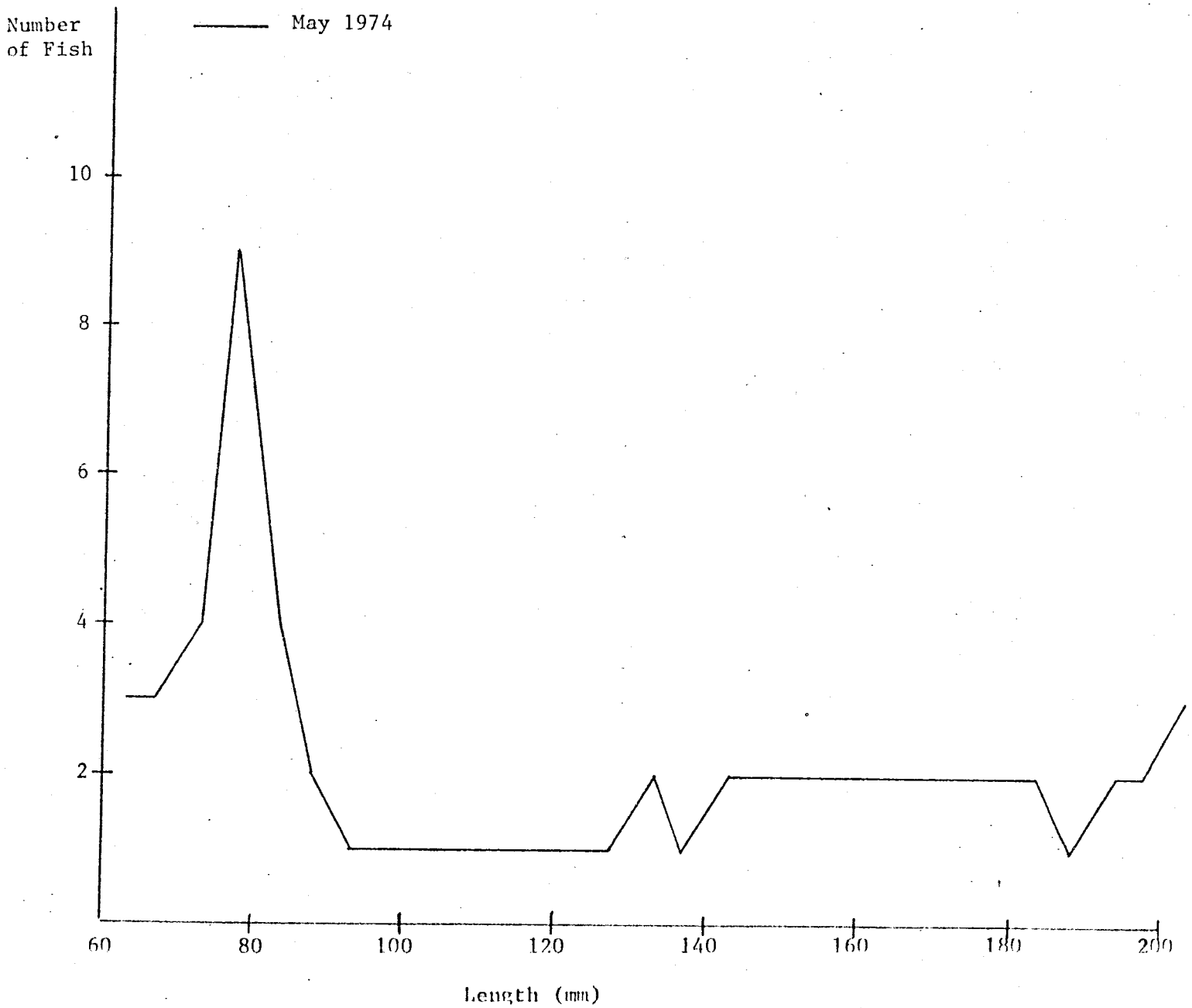


Figure 5. Length frequency distribution of yellow perch captured in May 1974 in Lower B-G Reservoir.

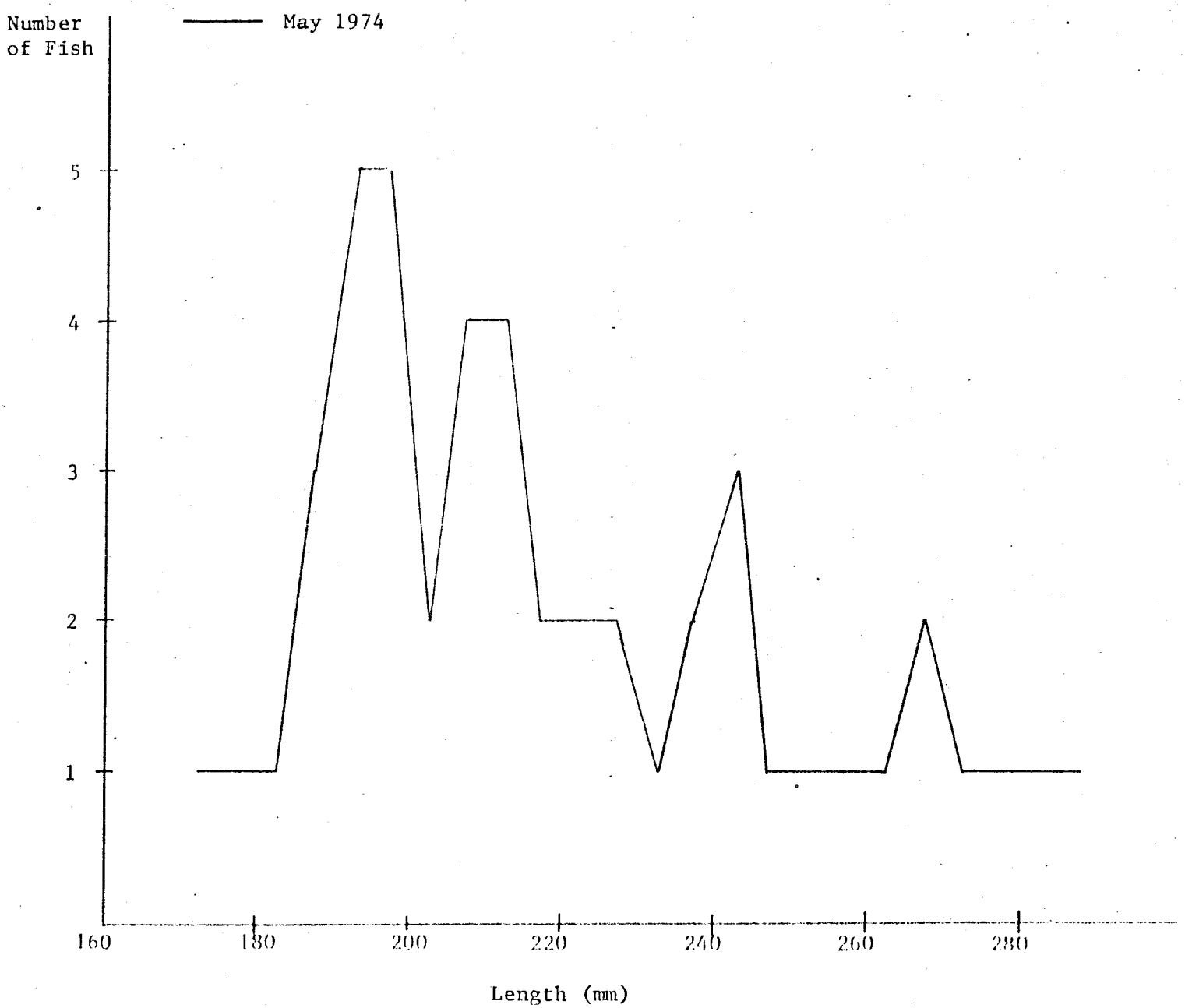


Figure 6. Length frequency distribution of largemouth bass captured in May 1974 in Lower B-G Reservoir.

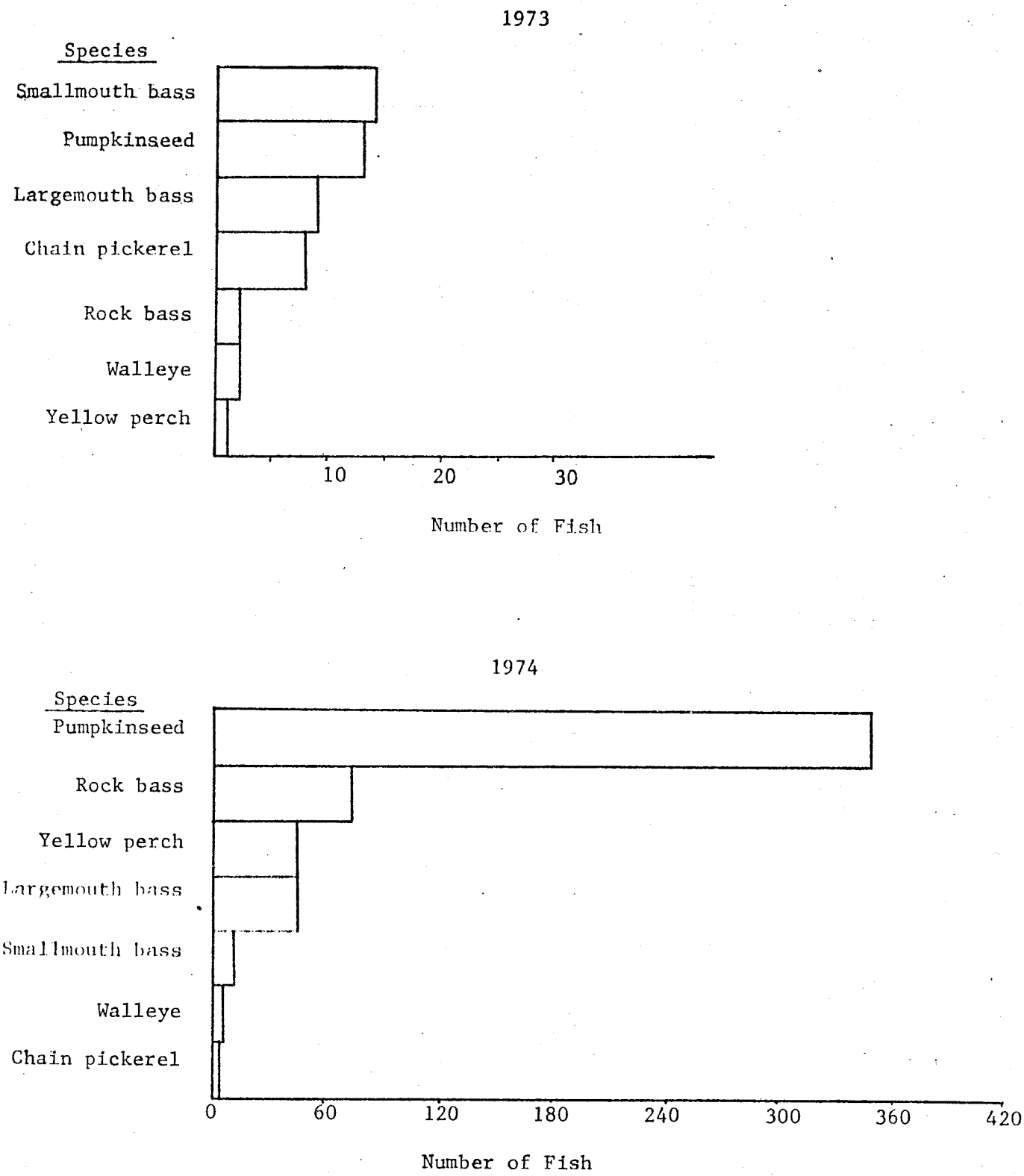
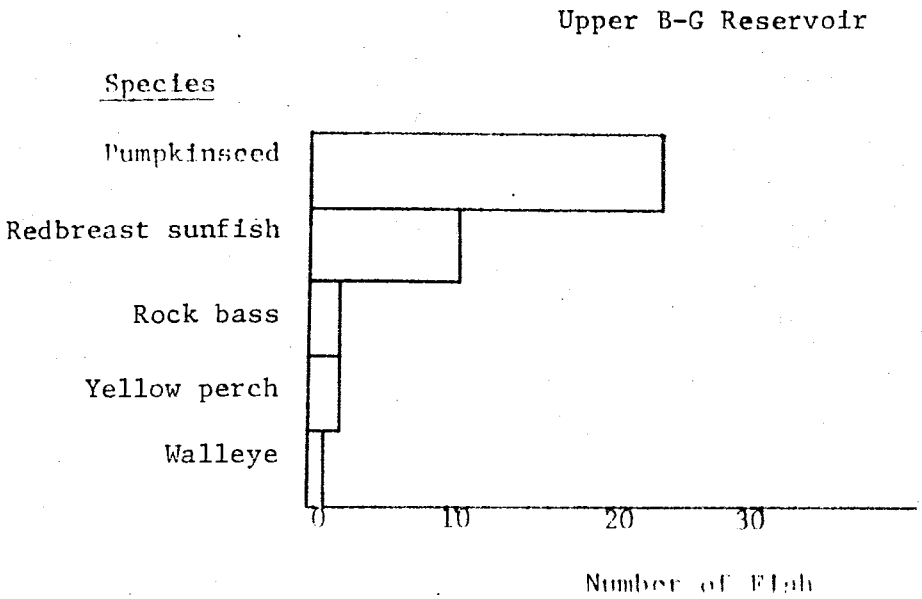


Figure 7. Game and pan fish collected in May 1973 and May 1974 in Lower B-G Reservoir for which condition factor was determined.



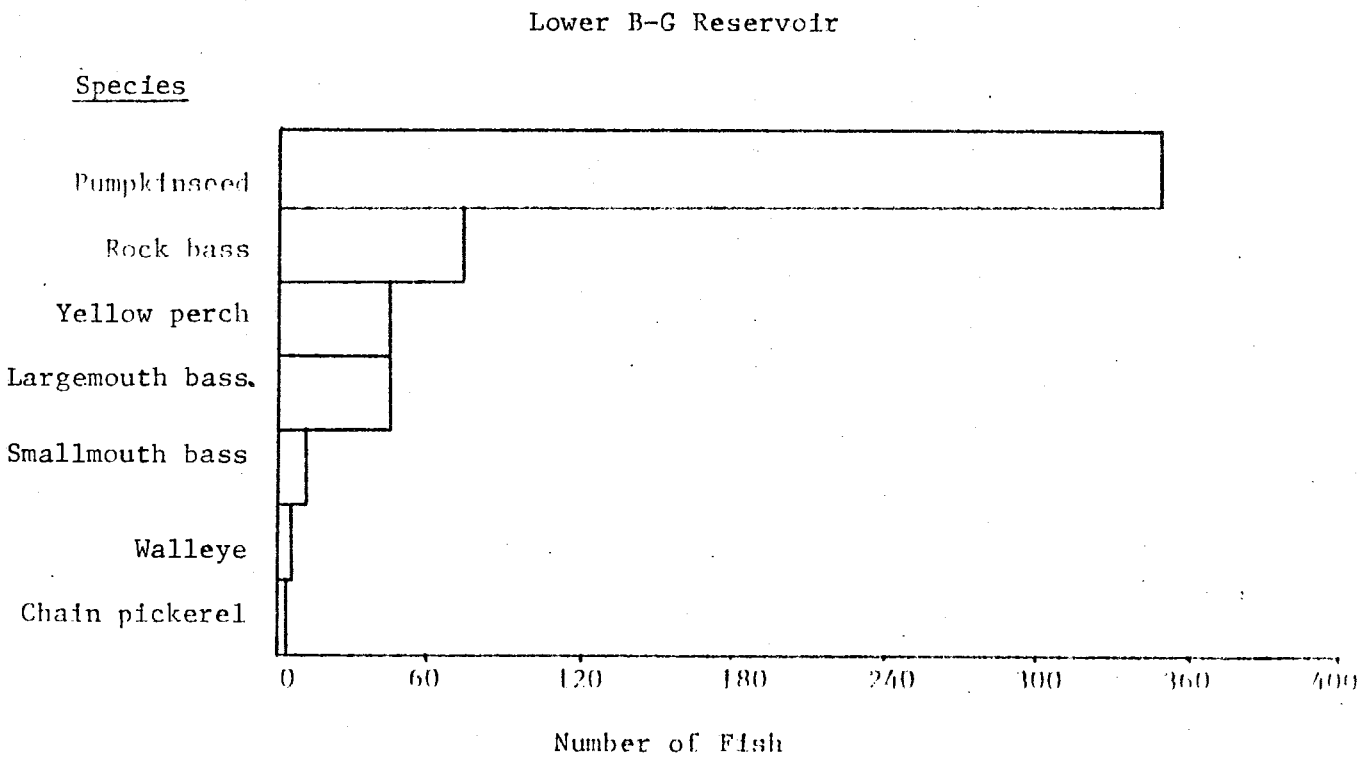


Figure 8. Game and pan fish collected in May 1974 in Lower and Upper B-G Reservoirs for which condition factor was determined.

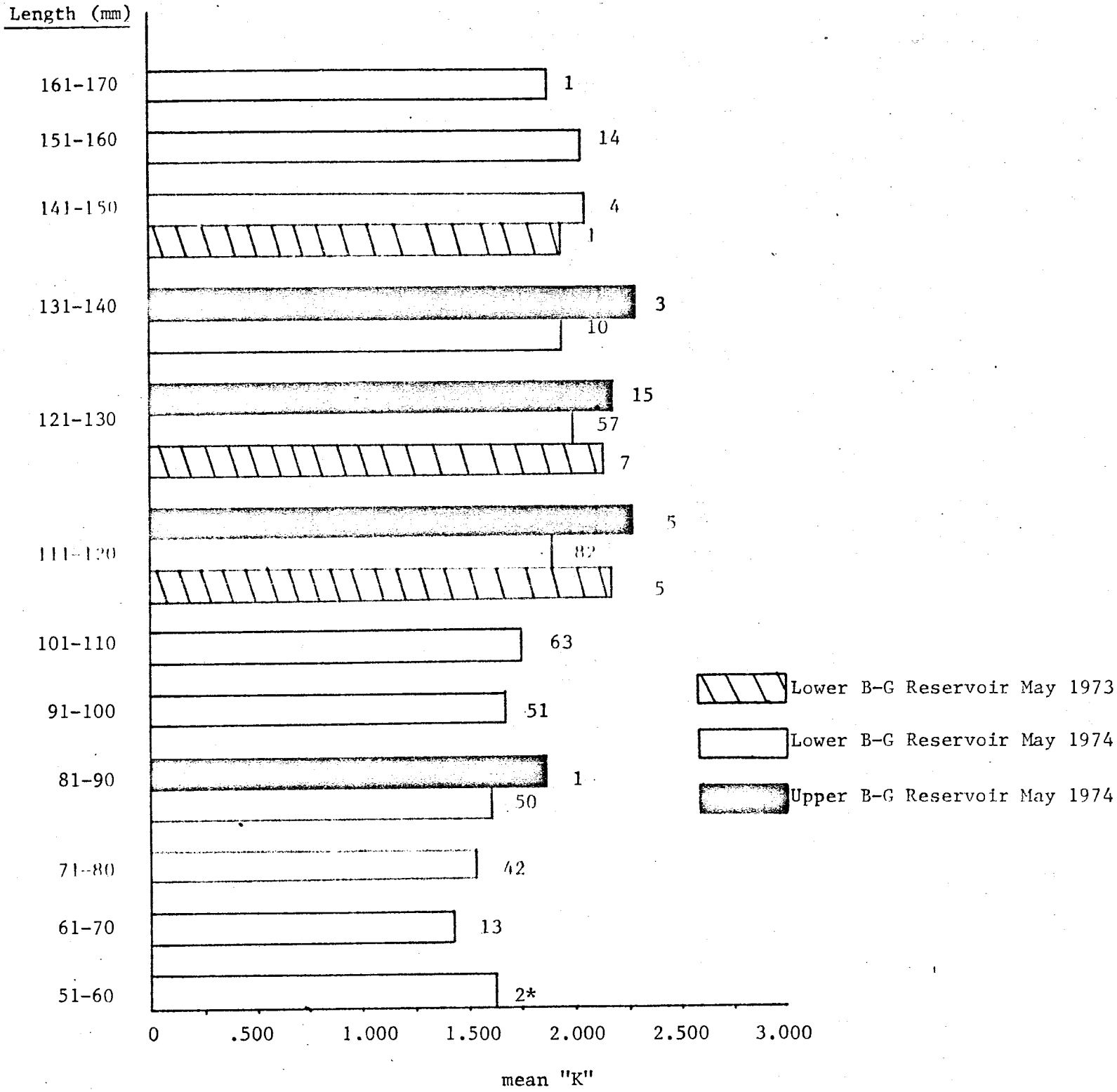


Figure 9. Condition factors of pumpkinseed collected in Lower B-G Reservoir in May 1973 and May 1974 and Upper B-G Reservoir in May 1974.

* number of fish in each size range

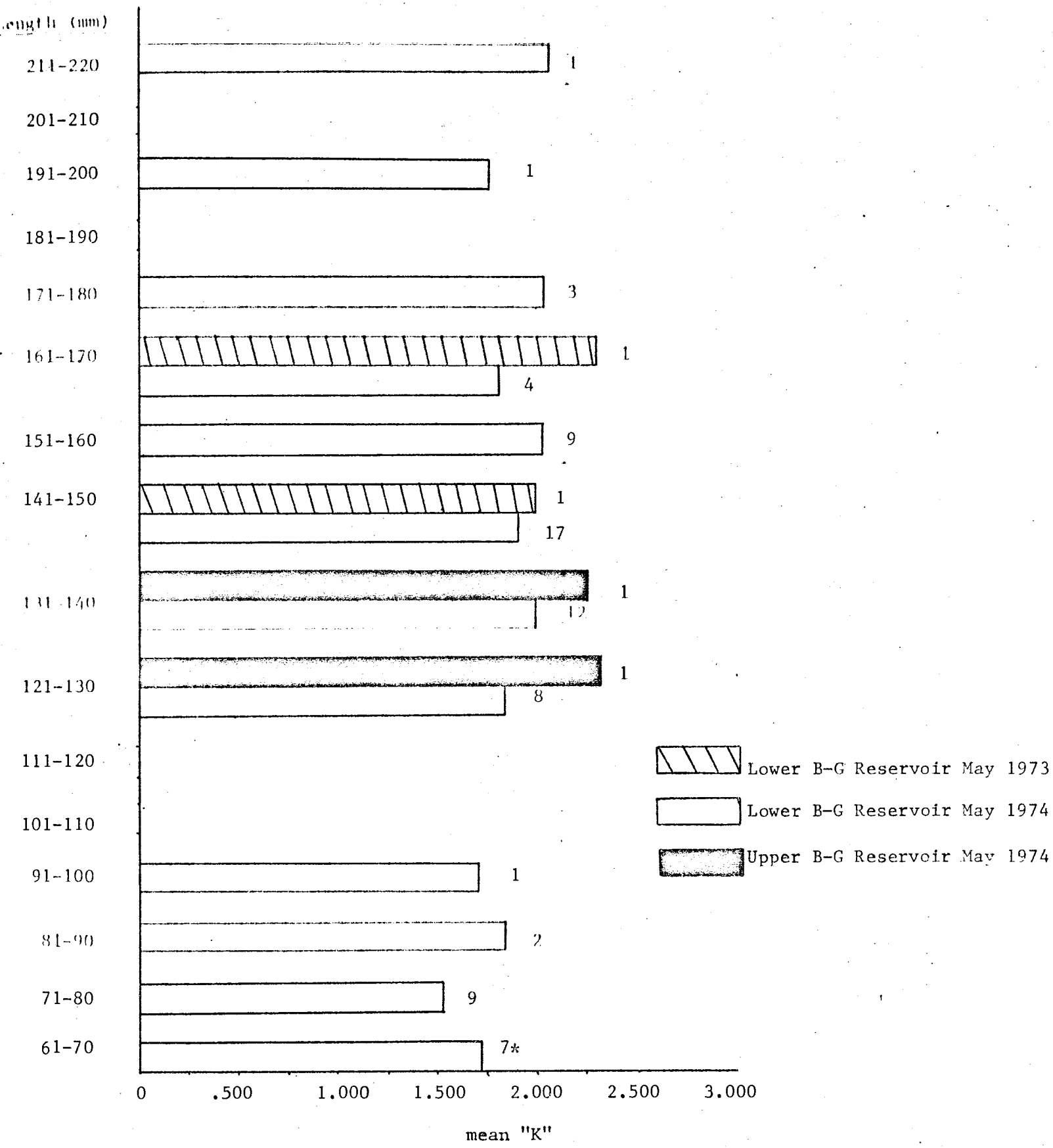


Figure 10. Condition factors of rock bass collected in Lower B-G Reservoir in May 1973 and May 1974 and Upper B-G Reservoir in May 1974.

* number of fish in each size range

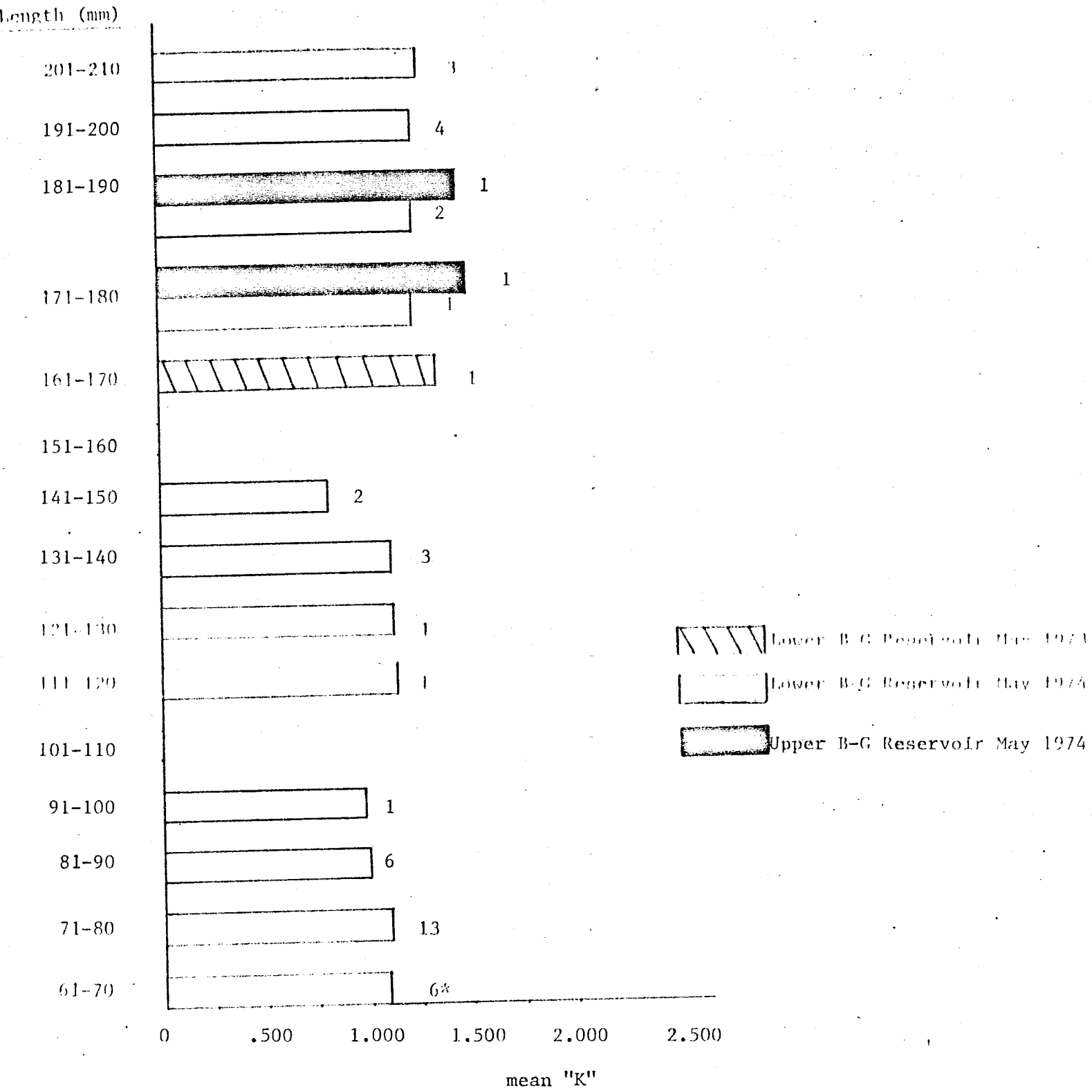


Figure 11. Condition factors of yellow perch collected in Lower B-G Reservoir in May 1973 and May 1974 and Upper B-G Reservoir in May 1974.

* number of fish in each size range

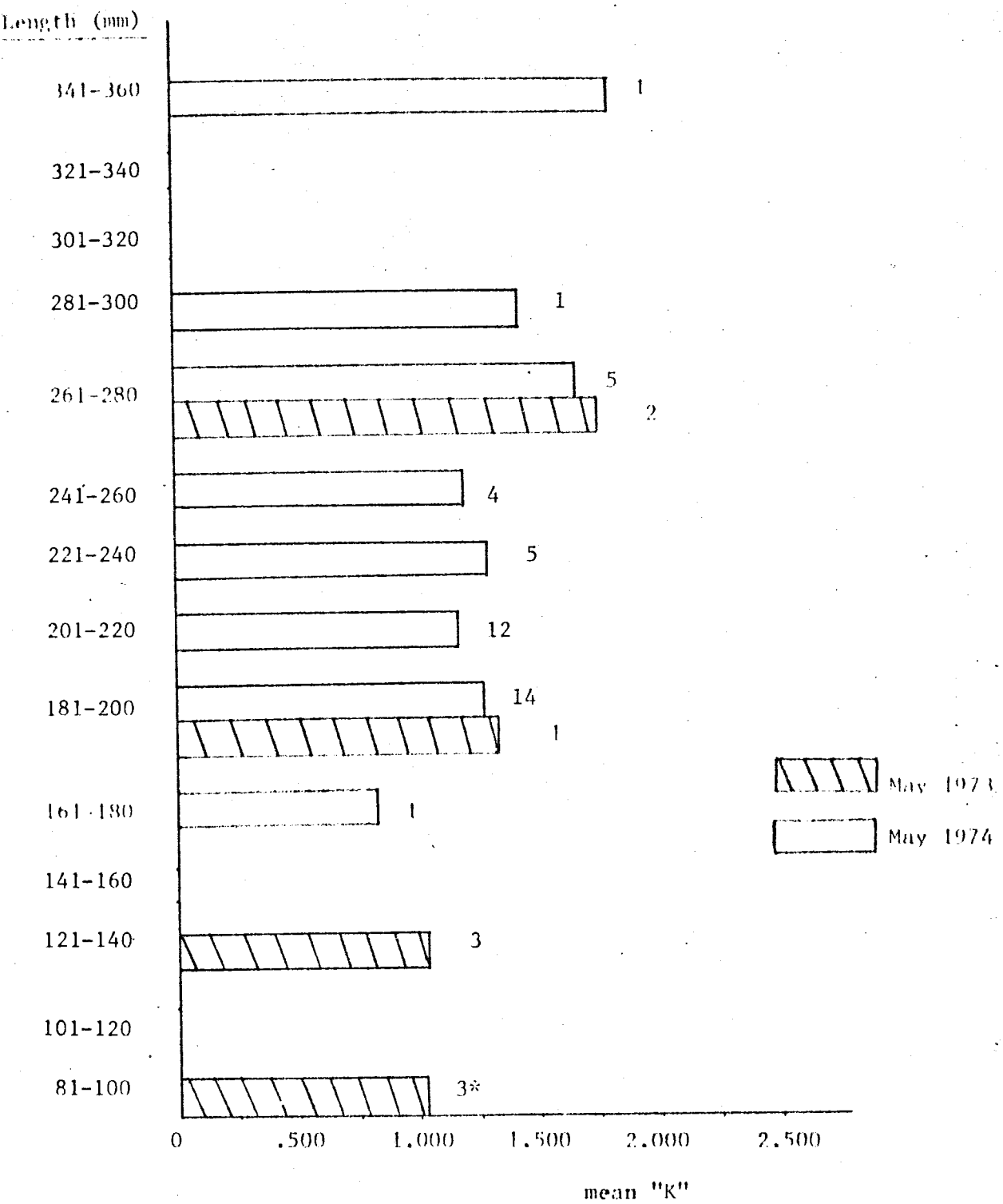


Figure 12. Condition factors of largemouth bass collected in May 1973 and May 1974 in Lower B-G Reservoir.

* number of fish in each size range

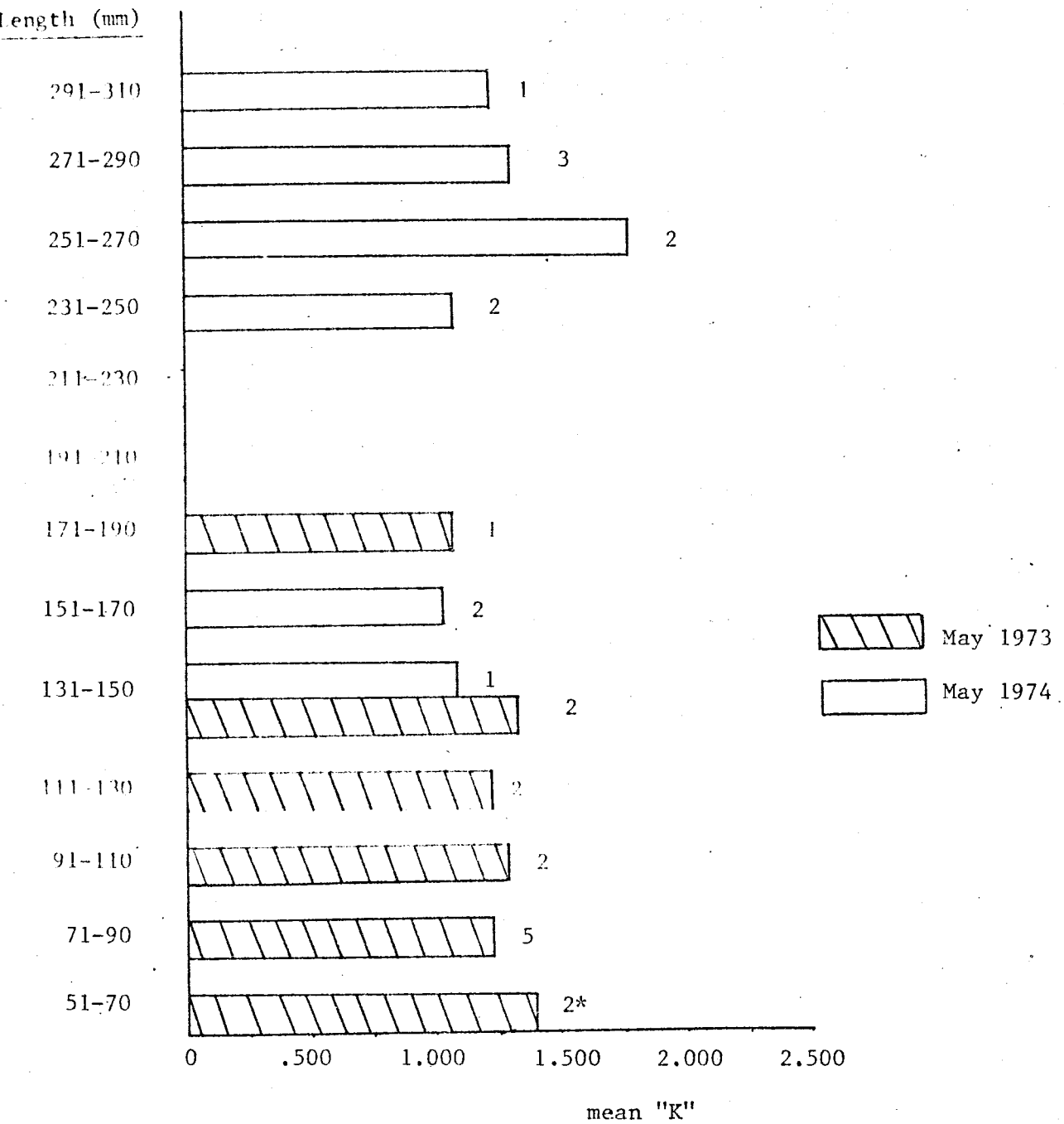


Figure 13. Condition factor of smallmouth bass collected in May 1973 and May 1974 in Lower B-C Reservoir.

* number of fish in each size range

Appendix I. Condition factors of game and pan fish collected in May 1973 and May 1974 in Lower B-C Reservoir.

Chain Pickerel

1973

Date	Length (mm)	Weight (g)	"K"
5-23-73	312	197.2	0.6493
5-23-73	321	196.9	0.5953
5-31-73	332	270.0	0.7378
5-23-73	333	197.2	0.5350
5-31-73	336	198.6	0.5236
5-23-73	339	196.9	0.5054
5-23-73	340	268.4	0.6829
5-23-73	362	268.4	0.5658
Mean	334	224.2	0.5990

1974

Date	Length (mm)	Weight (g)	"K"
5-19-74	248	55.6	0.5959
5- 9-74	301	162.5	0.3645
5-14-74	307	264.7	0.9148
Mean	265	160.9	0.6250

Walleye

1973

Date	Length (mm)	Weight (g)	"K"
5-28-73	217	93.5	0.8431
5-23-73	232	100.5	0.8040
Mean	224	97.0	0.8240

1974

Date	Length (mm)	Weight (g)	"K"
5-19-74	157	32.0	0.8269
5-19-74	175	44.2	0.8247
5-19-74	185	55.2	0.8766
5-19-74	187	40.4	0.6178
5-19-74	208	90.1	1.0012
5-19-74	235	100.7	0.7759
Mean	191	60.4	0.8205

Appendix 2. Condition factors of game and pan fish collected in May 1974 in Lower and Upper B-G Reservoirs.

Walleye

Lower Reservoir

Date	Length (mm)	Weight (g)	"K"
5-19	157	32.0	0.8269
5-19	175	44.2	0.8247
5-19	185	55.2	0.8766
5-19	187	40.4	0.6178
5-19	208	90.1	1.0012
5-19	235	100.7	0.7759
Mean	191	60.4	0.8205

Upper Reservoir

Date	Length (mm)	Weight (g)	"K"
5-20	348	385.2	0.9140
Mean	348	385.2	0.9140

Redbreast sunfish

Lower Reservoir

Date	Length (mm)	Weight (g)	"K"
May 1974 - None Captured			

Upper Reservoir

Date	Length (mm)	Weight (g)	"K"
5-13	85	11.8	1.9214
5-13	93	14.6	1.8151
5-13	112	32.4	2.0210
5-20	119	39.4	2.3381
5-23	120	42.9	2.4826
5-23	122	44.1	2.4286
5-23	124	48.1	2.5228
5-23	126	48.7	2.4345
5-28	127	51.7	2.5239
5-13	128	45.9	2.1887
Mean	116	38.0	2.2767

Appendix 3. Ichthyoplankton data (Collection 4-74) collected on 2 May 1974 (day tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
1	10:30 am	5	15.8	None	Many copepoda, some cladocera, few fish scales
1	10:30 am	25	16.2	None	Numerous copepoda, few cladocera, few nematoda, few fish scales
1	10:30 am	50	20.6	None	Numerous copepoda, few nematoda, few fish scales
2	11:15 am	5	14.6	None	Numerous copepoda, few nematoda, one fish scale
2	11:15 am	15	19.6	None	Numerous copepoda, few nematoda, one midge fly larva, few hydra, few cladocera
2	11:45 am	5	17.6	None	Numerous copepoda, some nematoda, few hydra
2	11:45 am	15	17.8	None	Numerous copepoda, few nematoda, few hydra

* Relative Abundance

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 3 - (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
3	12:10 pm	5	21.0	None	Some copepoda
3	12:10 pm	10	29.2	None	Few copepoda, one water mite
4	12:-5 pm	5	20.8	None	Numerous filamentous algae, some copepoda, few mayfly larvae

Appendix 4. Ichthyoplankton data (Collection 5-74 collected on 2 May 1974 (night tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
1	10:30 pm	5	18.2	None	Some copepoda, some filamentous algae, midge fly larvae, few nematoda, few cladocera
1	10:30 pm	25	19.2	None	Many copepoda, some midge fly larvae, some filamentous algae
1	10:30 pm	50	28.4	None	Numerous copepoda, few nematoda, few filamentous algae, some midge fly larvae, few cladocera
2	11:25 pm	5	12.6	None	Numerous copepoda, some midge fly larvae, few filamentous algae, few nematoda
2	11:25 pm	20	10.8	None	Numerous copepoda, some midge fly larvae, few nematoda
3	12:10 am	5	21.8	None	Many copepoda, few midge fly larvae, few nematoda

* Relative Abundance — Number Found in Sample

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 4.- (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
3	12:10 am	10	22.4	None	Many copepoda, few midge fly larvae, few nematoda, many fish scales, one water mite
4	12:35 am	5	21.2	None	Numerous filamentous algae, some midge fly larvae, some copepoda, few mayfly larvae

Appendix 5. Ichthyoplankton data (Collection 6-74) collected on 6 May 1974 (night tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
5	11:00 pm	5	13.4	None	Numerous copepoda, some cladocera, few nematoda, few midge fly larvae, one hydra, some filamentous algae
5	11:00 pm	25	16.9	None	Numerous copepoda, some cladocera, few nematoda, few midge fly larvae, few hydra, some filamentous algae.
5	11:00 pm	50	26.2	None	Numerous copepoda, few cladocera, few nematoda, few midge fly larvae, few hydra
5	11:00 pm	5	16.8	None	Numerous copepoda,some cladocera, few nematoda, some filamentous algae, one fish scale
5	11:00 pm	25	13.8	None	Numerous copepoda, few cladocera, few midge fly larvae, few nematoda, few hydra

* Relative Abundance

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 5 - (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
5	11:00 pm	50	29.6	None	Numerous copepoda, some cladocera, few midge fly larvae, few nematoda, few hydra
6	12:10 pm	5	16.2	None	Numerous copepoda, some nematoda, few cladocera, few midge fly larvae, few hydra, one fish scale
6	12:10 pm	25	19.7	None	Many copepoda, some cladocera, few hydra, few midge fly larvae, few nematoda, few fish scales
6	12:10 pm	50	25.8	None	Numerous copepoda, some cladocera, few midge fly larvae, few nematoda, some fish scales
7	12:30 pm	5	19.8	None	Numerous copepoda, numerous cladocera, some nematoda, few hydra, few fish scales, one midge fly larvae, one midge fly pupae

Appendix 6. Ichthyoplankton data (Collection 7-74) collected on 7 May 1974 (day tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
5	12:10 pm	5	20.4	None	Many copepoda, some cladocera, few nematoda, few midge fly pupae
5	12:10 pm	25	22.0	None	Numerous copepoda, some cladocera, few nematoda
5	12:10 pm	50	18.5	None	Numerous copepoda, some cladocera, few nematoda, one hydra
6	12:45 pm	5	18.8	None	Many copepoda, some cladocera, few nematoda, one hydra
6	12:45 pm	25	21.3	None	Many copepoda, few cladocera, few nematoda, few hydra
6	12:45 pm	50	21.4	None	Numerous copepoda, few cladocera, few nematoda, few hydra
7	1:30 pm	5	17.3	None	Many copepoda, many cladocera, few nematoda, few midge fly larvae, few hydra, few water mites

* Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 7. Ichthyoplankton data (Collection 8-74) collected on 9 May 1974 (day tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
1	9:55 am	5	21.6	None	Some copepoda, some cladocera, few nematoda, few water mites, few fish scales
1	9:55 am	25	26.0	None	Some copepoda, some cladocera
1	9:55 am	50	30.2	None	Some copepoda, some cladocera
2	10:30 am	5	21.8	None	Many copepoda, few cladocera, few nematoda
2	10:30 am	10	22.4	None	Numerous copepoda, few cladocera, few nematoda, few midge fly larvae, few filamentous algae, few water mites
2	10:30 am	20	23.0	None	Many copepoda, few cladocera, few nematoda
2	11:05 am	5	23.1	None	Numerous copepoda, some cladocera, few midge fly larvae, few nematoda

* Relative Abundance — Number Found in Sample

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 7 - (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
2	11:05 am	10	23.8	None	Numerous copepoda, few cladocera, few nematoda, few midge fly larvae
2	11:05 am	20	20.8	None	Numerous copepoda, few cladocera, few filamentous algae
3	11:45 am	5	24.8	None	Many copepoda, some cladocera
3	11:45 am	10	22.7	None	Some copepoda, some cladocera, some filamentous algae, few nematoda
4	12:00 noon	5	14.3	None	Numerous filamentous algae, nemerous copepoda, some cladocera

Appendix 3. Ichthyoplankton data (Collection 9-74) collected on 9 May 1974 (night tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
1	10:45 pm	5	15.3	None	Many copepoda, few cladocera, few midge fly larvae, some filamentous algae, few fish scales
1	10:45 pm	25	18.6	None	Numerous copepoda, few midge fly larvae, few cladocera, few nematoda
1	10:45 pm	50	18.2	None	Numerous copepoda, some cladocera, some midge fly larvae, few nematoda, one midge fly pupae
2	11:20 pm	5	16.8	None	Many copepoda, few cladocera, some midge fly larvae, few nematoda
2	11:20 pm	15	18.8	None	Numerous copepoda, few cladocera, some midge fly larvae
2	11:20 pm	25	18.3	None	Numerous copepoda, some cladocera, some midge fly larvae, few nematoda

* Relative Abundance — Number Found in Sample

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 8 - (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
3	11:55 pm	5	15.8	None	Numerous copepoda, few cladocera, few midge fly larvae, few nematoda
3	11:55 pm	15	19.0	None	Many copepoda, some midge fly larvae, few cladocera, few filamentous algae
4	12:15 pm	5	19.8	None	Some copepoda, few cladocera, few midge fly larvae, few water mites, some filamentous algae, one mayfly nymph

Appendix 9. Ichthyoplankton data (Collection 10-74) collected on 13 May 1974 (day tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
5	12:00 noon	5	20.4	None	Many cladocera, few copepoda, few nematoda, few filamentous algae
5	12:00 noon	25	24.0	None	Many cladocera, few copepoda, few nematoda, few filamentous algae
5	12:00 noon	50	29.7	None	Numerous cladocera, few copepoda, few nematoda, few hydra
6	12:30 pm	5	23.0	None	Some copepoda, some cladocera
6	12:30 pm	25	27.1	None	Numerous cladocera, some copepoda, few nematoda
6	12:30 pm	50	27.1	None	Many cladocera, some copepoda, few nematoda, one fish scale
7	1:00 pm	5	21.3	None	Numerous cladocera, some copepoda, few nematoda

* Relative Abundance — Number Found in Sample

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 10. Ichthyoplankton data (Collection 11-74) collected on 13 May 1974 (night tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
5	11:30 pm	5	23.6	None	Many copepoda, some cladocera, few nematoda, few midge fly larvae, few fish scales
5	11:30 pm	25	19.8	None	Numerous copepoda, many cladocera, few midge fly larvae, few nematoda, one midge fly pupae
5	11:30 pm	50	21.9	None	Many copepoda, many cladocera, few midge fly larvae, few nematoda, few fish scales
5	11:45 pm	5	15.3	None	Many copepoda, many cladocera, few midge fly larvae
5	11:45 pm	25	21.1	None	Many copepoda, many cladocera, few nematoda, few midge fly larvae
5	11:45 pm	50	28.8	None	Many copepoda, many cladocera, few midge fly larvae, few nematoda, one amphipoda

* Relative Abundance — Number Found in Sample

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 10 - (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
6	11:00 pm	5	15.5	None	Many copepoda, many cladocera, few nematoda, few midge fly larvae
6	11:00 pm	25	19.8	None	Many copepoda, some cladocera, few nematoda, few midge fly larvae
6	11:00 pm	50	18.1	None	Some copepoda, some cladocera, few nematoda, few midge fly larvae, one mayfly nymph
7	10:40 pm	5	14.4	None	Many cladocera, some copepoda, few nematoda, few midge fly larvae, few midge fly pupae, few fish scales

Appendix 11. Ichthyoplankton data (Collection 12-74) collected on 15 May 1974 (night tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
1	10:40 pm	5	29.2	1. Yellow perch 6.2 mm (yolk sac present)	Many copepoda, many cladocera, some midge fly larvae, few nematoda, few fish scales
1	10:40 pm	25	8.8	None	Many copepoda, few cladocera, some midge fly larvae
1	10:40 pm	50	44.3	None	Numerous copepoda, numerous cladocera, some midge fly larvae, few midge fly pupae, few nematoda, few water mites
2	11:40 pm	5	26.2	1. Yellow perch 5.9 mm (yolk sac present) 2. Yellow perch 6.5 mm (yolk sac present)	Numerous copepoda, numerous filamentous algae, many cladocera, some midge fly larvae, few midge fly pupae, few nemtoda
2	11:40 pm	15	32.6	None	Many copepoda, numerous cladocera, few midge fly larvae, few midge fly pupae, many filamentous algae

* Relative Abundance — Number Found in Sample

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 11 - (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
2	11:40 pm	25	47.9	1. Yellow perch 5.6 mm (yolk sac indeterminable)	Numerous cladocera, many copepoda, many filamentous algae, few amphipoda, few midge fly larvae, few midge fly pupae, few mayfly nymphs, few nematoda
3	12:20 pm	5	14.9	1. Yellow perch 6.2 mm (yolk sac present) 2. Yellow perch 6.1 mm (yolk sac present)	Numerous filamentous algae, numerous copepoda, few cladocera, some midge fly larvae, few midge fly pupae, few mayfly nymphs, one fish scale
3	12:20 pm	15	41.3	1. Yellow perch 6.1 mm (yolk sac present)	Numerous filamentous algae, numerous cladocera, few midge fly larvae, few nematoda
4	1:05 am	5	27.3	1. Unidentifiable 4.9 mm (yolk sac indeterminable 2. Yellow perch 6.1 mm (yolk sac present)	Numerous filamentous algae, numerous copepoda, numerous cladocera, few midge fly larvae, few mayfly nymphs, few water mites

Appendix 12. Ichthyoplankton data (Collection 13-74) collected on 16 May 1974 (day tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
1	1:00 pm	5	20.4	None	Many cladocera, some copepoda, few midge fly larvae, few nematoda, few filamentous algae
1	1:00 pm	25	22.6	None	Many copepoda, few cladocera, few filamentous algae, few fish scales
1	1:00 pm	50	36.7	None	Numerous copepoda, numerous cladocera, some midge fly larvae, few nematoda
2	1:30 pm	5	22.5	None	Numerous copepoda, numerous cladocera, many filamentous algae, few midge fly larvae, few nematoda, few fish scales
2	1:30 pm	10	24.6	None	Numerous filamentous algae, numerous copepoda, many cladocera, few midge fly larvae, few nematoda, few water mites

* Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 12 - (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
2	1:30 pm	20	28.5	None	Numerous filamentous algae, numerous copepoda, numerous cladocera, few midge fly larvae, few nematoda, few hydra
3	2:00 pm	5	26.9	1. Yellow perch 5.9 mm (yolk sac present)	Numerous filamentous algae, numerous copepoda, some cladocera, few mayfly nymphs, few nematoda, few fish scales
3	2:00 pm	15	41.2	1. Yellow perch 5.9 mm (yolk sac present) 2. Yellow perch 6.9 mm (yolk sac present) 3. Yellow perch 5.1 mm (yolk sac present) 4. Unidentifiable 5.2 mm (yolk sac indeterminable)	Many copepoda, many cladocera, some filamentous algae
4	2:15 pm	5	28.3	None	Many copepoda, some cladocera, few filamentous algae

Appendix 13. Ichthyoplankton data (Collection 14-74) collected on 22 May 1974 (night tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
5	12:30 pm	5	30.1	None	Numerous copepoda, numerous cladocera, some midge fly larvae, few midge fly pupae, few water mites, few nematoda, few filamentous algae
5	12:30 pm	25	23.4	None	Numerous copepoda, numerous cladocera, some midge fly larvae, few midge fly pupae, few water mites, few nematoda, few filamentous algae
5	12:30 pm	50	44.8	None	Numerous copepoda, many cladocera, some midge fly larvae, few midge fly pupae, few nematoda, few filamentous algae
6	12:00 midnight	5	25.1	None	Numerous copepoda, many cladocera, few midge fly larvae, few nematoda, few water mites
6	12:00 midnight	25	31.5	None	Numerous copepoda, numerous cladocera, few midge fly larvae, few nematoda, few filamentous algae

* Relative Abundance — Number Found in Samples

Relative Abundance	Number Found in Samples
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 13 - (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
6	12:00 midnight	50	37.7	None	Numerous copepoda, many cladocera, few midge fly larvae, few midge fly pupae, few nematoda, few water mites, few filamentous algae
7	1:20 am	5	29.2	1. Yellow perch 5.6 mm (no yolk sac) 2. Yellow perch 5.0 mm (large yolk sac)	Numerous copepoda, some cladocera, few midge fly larvae, few mayfly nymphs, few nematoda, few water mites

Appendix 14. Ichthyoplankton data (Collection 15-74) collected on 21 May 1974 (day tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
5	2:10 pm	5	29.2	None	Numerous copepoda, few cladocera, few water mites, few midge fly pupae, few nematoda, few fish scales
5	2:10 pm	25	30.8	None	Numerous copepoda, few cladocera, few midge fly pupae, few nematoda, few water mites, few fish scales
5	2:10 pm	50	45.2	None	Numerous copepoda, some cladocera, few midge fly pupae, few nematoda, few water mites
6	3:00 pm	5	30.3	1. Yellow perch 6.1 mm (yolk sac indeterminable)	Numerous copepoda, numerous cladocera, few midge fly larvae, few midge fly pupae, few nematoda
6	3:00 pm	25	31.3	None	Numerous copepoda, numerous cladocera, few water mites
6	3:00 pm	50	39.3	None	Numerous copepoda, numerous cladocera, few midge fly pupae, few nematoda

* Relative Abundance — Number Found in Sample

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 14 - (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
7	3:30 pm	5	46.1	1. Yellow perch 6.0 mm (yolk sac present) 2. Yellow perch 6.0 mm (yolk sac present) 3. Yellow perch 5.6 mm (yolk sac indeterminable) 4. Yellow perch 6.4 mm (yolk sac present) 5. Yellow perch 5.6 mm (yolk sac present) 6. Yellow perch 6.1 mm (yolk sac present) 7. Yellow perch 6.4 mm (yolk sac present) 8. Yellow perch 6.4 mm (yolk sac present) 9. Yellow perch 5.2 mm (yolk sac present)	Many copepoda, numerous cladocera, few water mites

Appendix 15. Ichthyoplankton data (Collection 16-74) collected on 22 May 1974 (night tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
1	10:50 pm	5	27.3	None	Many copepoda, numerous cladocera, many midge fly larvae, few midge fly pupae
1	10:50 pm	25	27.3	None	Many copepoda, numerous cladocera, many midge fly larvae, few midge fly pupae, few fish scales
1	10:50 pm	50	44.1	None	Many copepoda, many cladocera, some midge fly larvae, few midge fly pupae, few fish scales
2	11:40 pm	5	32.1	None	Some copepoda, many cladocera, some midge fly larvae, one beetle, few nematoda
2	11:40 pm	15	38.7	None	Many copepoda, some cladocera, few midge fly larvae, few fish scales, few midge fly pupae
2	11:40 pm	25	41.6	1. Yellow perch 6.7 mm (yolk sac present)	Many copepoda, many cladocera, some midge fly larvae

* Relative Abundance — Number Found in Sample

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 15.- (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
3	12:20 am	5	25.1	None	Numerous copepoda, some cladocera, few midge fly larvae, few midge fly pupae, few nematoda
3	12:20 am	15	43.3	None	Many copepoda, some cladocera, few midge fly larvae, few midge fly pupae, few nematoda
4	1:00 am	5	24.7	1. Yellow perch 7.2 mm (yolk sac present)	Many copepoda, few cladocera, some midge fly larvae, few nematoda, few fish scales

Appendix 16. Ichthyoplankton data (Collection 17-74) collected on 23 May 1974 (day tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
1	1:15 pm	5	21.9	1. Yellow perch 6.2 mm (yolk sac present)	Some copepoda, few cladocera
1	1:15 pm	25	30.8	None	Many copepoda, few cladocera, few water mites, few fish scales
1	1:15 pm	50	39.9	None	Many copepoda, many cladocera, few midge fly larvae, few midge fly pupae
2	1:50 pm	5	33.0	None	Numerous copepoda, some cladocera, few midge fly larvae, few fish scales, few cladocera, few filamentous algae
2	1:50 pm	15	31.0	None	Numerous copepoda, many cladocera, few nematoda, few fish scales
2	1:50 pm	25	40.2	None	Numerous copepoda, many cladocera, few filamentous algae, few water mites, few midge fly larvae

* Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 16 - (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
3	2:20 pm	5	26.7	None	Some copepoda, some cladocera, few mayfly nymphs, few fish scales
3	2:20 pm	15	36.2	1. Unidentifiable 6.2 mm (yolk sac indeterminable) 2. Yellow perch 7.2 mm (yolk sac present)	Many copepoda, many cladocera, few midge fly larvae, few mayfly nymphs
4	2:40 pm	5	21.5	1. Yellow perch 7.2 mm (yolk sac absent)	Numerous copepoda

Appendix 17. Ichthyoplankton data (Collection 18-74) collected on 28 May 1974 (day tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
5	10:05 am	5	24.7	None	Many copepoda, numerous cladocera
5	10:05 am	25	19.1	None	Numerous copepoda, many cladocera, few midge fly pupae, few amphipoda
5	10:05 am	50	34.3	None	Numerous copepoda, numerous cladocera, few midge fly larvae, few midge fly pupae
6	10:40 am	5	29.3	None	Numerous copepoda, many cladocera, few midge fly pupae
6	10:40 am	25	26.8	None	Numerous copepoda, many cladocera, few midge fly larvae, few midge fly pupae
6	10:40 am	50	42.9	None	Numerous copepoda, numerous cladocera, few midge fly pupae
7	11:20 am	5	27.6	1, Yellow perch 6.8 mm (yolk sac present)	Numerous copepoda, numerous cladocera, few nematoda

* Relative Abundance — Number Found in Sample

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 18. Ichthyoplankton data (Collection 19-74) collected on 28 May 1974 (night tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
5	10:50 pm	5	21.8	1. Yellow perch 7.3 mm (yolk sac indeterminable)	Many copepoda, few cladocera, few midge fly larvae, few midge fly pupae
5	10:50 pm	25	33.5	1. Yellow perch 7.3 mm (yolk sac present)	Numerous copepoda, some cladocera, few midge fly larvae, few midge fly pupae, few nematoda
5	10:50 pm	50	37.6	None	Numerous copepoda, some cladocera, few midge fly larvae, few midge fly pupae, few nematoda
6	11:30 pm	5	30.0	None	Numerous copepoda, some cladocera, few midge fly larvae, few midge fly pupae, few nematoda
6	11:30 pm	25	35.4	None	Numerous copepoda, many cladocera, few midge fly larvae, few midge fly pupae, few nematoda

* Relative Abundance

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 13 - (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
6	11:30 pm	50	39.9	None	Numerous copepoda, some cladocera, few midge fly larvae, few midge fly pupae, few nematoda
7	12:00	5	35.0	None	Numerous copepoda, few cladocera, few midge fly larvae, few midge fly pupae, few nematoda, few water mites

Appendix 19. Ichthyoplankton data (Collection 20-74) collected on 30 May 1974 (day tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
1	9:30 am	5	17.8	None	Numerous copepoda, few cladocera, few midge fly larvae, few midge fly pupae, few nematoda
1	9:30 am	25	34.1	None	Numerous copepoda, few cladocera, few midge fly larvae, few midge fly pupae
1	9:30 am	50	38.6	None	Numerous copepoda, many cladocera, few midge fly larvae, few midge fly pupae
2	10:00 am	5	27.5	None	Numerous copepoda, some cladocera, few water mites
2	10:00 am	15	31.8	None	Numerous copepoda, many cladocera, few midge fly larvae
2	10:00 am	25	44.0	None	Numerous copepoda, many cladocera

* Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10

Appendix 19 - (Continued).

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected
3	10:35 am	5	32.7	None	Some copepoda, some cladocera, few midge fly pupae, few water mites, few nematoda, few fish scales
3	10:35 am	10	38.9	None	Many copepoda, few cladocera, few midge fly larvae, few fish scales
4	11:05 am	5	29.8	None	Some copepoda, some cladocera, few nematoda, some filamentous algae, few fish scales

Appendix 20. Ichthyoplankton data (Collection 21-74) collected on 30 May 1974 (night tow) from Lower B-G Reservoir.

Station	Time	Depth of Capture (ft)	Vol. Water Filtered (m^3)	Ichthyoplankton Collected	Other Organisms Collected*
1	10:45 pm	5	24.1	None	Many copepoda, some cladocera, few midge fly larvae, few midge fly pupae, few fish scales
1	10:45 pm	25	24.7	None	Many copepoda, some cladocera, few midge fly larvae, few midge fly pupae, few amphipoda, few fish scales
1	10:45 pm	50	34.6	None	Numerous copepoda, some cladocera, few midge fly larvae, few midge fly pupae
2	11:25 pm	5	25.3	None	Numerous copepoda, some cladocera, few midge fly larvae, few midge fly pupae, one invertebrate egg mass
2	11:25 pm	15	37.7	None	Numerous copepoda, some cladocera, few midge fly larvae, few midge fly pupae, few fish scales, one 79 mm pumpkinseed

* Relative Abundance — Number Found in Sample

Relative Abundance	Number Found in Sample
numerous	greater than 100
many	25-100
some	10-25
few	1-10