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STUDIES OF THE AQUATIC ECOLOGY OF THE BLENHEIM-GILBOA PUMPED STORAGE RESERVOIRS AND OF THE PRATTSVILLE PUMPED STORAGE SITE SCHOHARIE RESERVOIR AND TRIBUTARIES, SCHOHARIE CREEK, ASHOKAN RESERVOIR TRIBUTARIES, AND ESOPUS CREEK AND TRIBUTARIES

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By

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INTRODUCTION

An investigation of the aquatic ecology of the Lower and Upper Blenheim-Gilboa (B-G) Pumped Storage Reservoirs and tributary, Schoharie Reservoir and tributaries, Esopus Creek and tributaries, and tributaries of Ashokan Reservoir was conducted by Ichthyological Associates, Inc. (IA), from March through December 1978. The objective of the investigation was to acquire data on the existing aquatic environments as part of the licensing effort for the Proposed Prattsville Pumped Storage Project.

Supplemental data have been collected by IA at B-G since April 1973, at Schoharie Reservoir and Esopus Creek since June 1975, and at Ashokan Reservoir since May 1977 (Culp 1974a, 1974b, 1975, 1976a, 1976b; Culp et al. 1976, 1977a, 1977b, 1977c, 1977d, 1978; Culp and Lechel 1977, 1978; Culp and Associates 1978).

Data collected during 1978 attempt to define (1) the variety, relative and absolute abundance, distribution, movement, condition, age and growth, feeding behavior, and reproductive location, duration, and success (ichthyoplankton) of fishes; (2) fishermen use and success; (3) variety and abundance of benthos (fish food organisms); and (4) physical and chemical water quality parameters important to raw water supply and aquatic life.

Section Leader:
Arthur J. Newell, M.A.

ESOPUS CREEK FISHERIES

Introduction

Fish collections were made from August through October 1978 in Esopus Creek and tributaries of Ashokan Reservoir (Butternut Creek, Bush Kill, Maltby Hollow Brook, and Traver Hollow Creek) to (1) identify fishes present; (2) determine absolute abundance (population estimates), relative abundance (numbers and biomass), and spatial distribution; and (3) collect data for studies (April through November 1978) of age and growth, condition, weight-length relationship, and movement of trout.

Materials and Methods

Fish Sampling

Fishes were collected by chain electrofishing and backpack electrofishing. A 115-v, 60-cycle, 1500-w Dayton alternator with a 4-hp Briggs & Stratton engine (15-amp rating) provided an alternating electrical current, which was rectified to direct pulsating current (DC) for the chain electrofisher. The chain consisted of a 12-gauge, three-wire lead with alternating portions of insulated wire and bare copper pipe attached to wooden poles. A Coffelt Model BP-3 variable voltage (250 or 500 v), pulsed (70/sec) DC backpack electroshocker with a dragging cathode and combination collection net/anode was used in smaller Ashokan Reservoir tributaries (Butternut Creek and Traver Hollow Creek). Fish were stunned as they passed near the electrofisher (within 8 inches of the chain and 18 inches of the backpack anode) and were netted and placed in a live cage.

Sections sampled were blocked at each end by seine nets (50 ft or 100 ft by 4 ft by 3/8-inch square mesh) to prevent passage into or out of the area

(Table 1, Maps 1-4). Stations on Esopus Creek below the Shandaken Tunnel outlet (STO) were sampled when the Shandaken Tunnel was closed.

Fish were identified, measured (total length to nearest 1.0 mm), and weighed (nearest 1.0 g); scale samples were taken from trout (Appendix 1). Scales were removed between the lateral line and the origin of the dorsal fin. All rainbow trout collected were assumed to be wild fish. Brown trout and brook trout of hatchery origin were distinguished from wild trout in the field by fin clips and by differences in physical appearance. The New York State Department of Environmental Conservation (DEC) stocked 27,995 yearling brown trout in Esopus Creek in 1978 (Table 2). Fish collected were returned alive at the location of capture.

A DeLury regression was used to estimate wild trout populations in Esopus Creek and Ashokan Reservoir tributaries. If all three runs at a station yielded a total of three or fewer of a species of trout, no regression was performed and the actual number collected was considered the total population present. A correlation coefficient (r) and 95% confidence interval were calculated for each estimate. Everhart et al. (1975) suggests that confidence intervals be within 50% of the estimate for surveys and 25% for management studies.

Age and Growth of Trout

Trout collected from April through November 1978 by chain electrofishing and creel census were measured and weighed, and scales were removed for aging, as described under Fish Sampling. Weights were not taken from fish observed during creel census.

Scale annulus count was used to age fish (Lagler 1956). Mean total length (nearest 1.0 mm) and mean weight (nearest 1.0 g) for each age group were

determined monthly. Statistical comparisons between mean lengths and weights of corresponding age groups collected during the same month from different locations were made using the Student t-test at 0.05 α level or less (Sokal and Rohlf 1969).

Von Bertalanffy growth equations were calculated by the Walford method as follows:

$$\ell_t = \ell_\infty(1-e^{-K(t-t_o)})$$ where

ℓ_t is length of age t, ℓ_∞ is the ultimate length for the population, K is a growth coefficient, and t_o is a time when length would theoretically be zero (Everhart et al. 1975). Weighted mean lengths of 0+ through 2+ rainbow trout and 0+ through 3+ brown trout collected from 1976 through 1978 in Esopus Creek above and below the STO were used to calculate the equations. In order to provide more data to generate the equations, mean lengths in June and September of each year were used to calculate the three-year combined weighted mean length of each age group in June and September. Data from 3+ and older rainbow trout were not used so that effects of growth in Ashokan Reservoir would be excluded. The few 4+ and older brown trout collected were excluded from the calculations to prevent bias of the equations. The von Bertalanffy growth equations were transformed to produce linear equations as follows:

$$\ell_t = a - b\ r^t$$ where

$a = \ell_\infty$, $b = \ell_\infty\ e^{Kto}$ (growth rate), and $r = e^{-K}$. An average r was calculated for each species to provide a suitable shape to the growth curves. Growth rate of each species above and below the STO was compared using the analysis of covariance (Blalock 1960, Allen 1976).

Condition and Weight-Length Relationship of Trout

Condition factor "K" was determined for trout (rainbow, wild and hatchery origin brown, and brook) collected by fish sampling in September and October 1978 (Lagler 1956). The mean "K" and standard deviation for 20-mm size groups were calculated. Differences between mean "K" of corresponding size groups collected above and below the STO were compared using the Student t-test (0.05 α level or less) (Sokal and Rohlf 1969).

Weight-length regression equations were determined for rainbow trout and wild brown trout collected in September and October 1978 (Lagler 1956). Slopes of the simple linear regressions of log weight on log length (to prevent size-class domination, mean weights and lengths of 20-mm size groups were used) were compared by the analysis of covariance (Blalock 1960, Carlander 1969, Kesler 1978).

Trout Movement

Rainbow trout and brown trout >199 mm were tagged by IA in Ashokan Reservoir in 1977 and 1978 with numbered floy dart tags (52 mm long) inserted just anterior to the dorsal fin (Culp and Associates 1978, Culp et al. 1978).

Results and Discussion

Fish Sampling

Esopus Creek

Collections were made at three stations above the STO and four below from 12 September through 18 October 1978; 20 fishes (n = 1393) were collected (Table 3). Rainbow trout was most abundant (n = 410, 29.4%), followed by longnose sucker (221, 15.9%) and slimy sculpin (176, 12.6%). Longnose sucker comprised the greatest biomass (53,720 g, 49.5%), followed by rainbow trout

(23,447 g, 21.6%) and white sucker (20,170 g, 18.6%). The percent of rainbow trout was greater below the STO (n = 289, 32.2%) than above (121, 24.4%) and the percent of brown trout was greater above the STO (33, 6.7%) than below (40, 4.5%). One wild brook trout was collected at station E-1.

At all stations the actual numerical densities and at all but station E-10 the actual biomass densities (per 100 m^2) of rainbow trout exceeded those of brown trout (Table 4).

The estimated numerical density (per 100 m^2) of rainbow trout was greatest at station E-2 (17.5), followed by stations E-9 (11.2) and E-1 (10.4) (Table 5). The estimated biomass density (per 100 m^2) was greatest at station E-9 (742.6 g), followed by stations E-2 (577.1 g) and E-4 (565.0 g).

The estimated numerical and biomass densities (per 100 m^2) of wild brown trout were greatest at station E-1 (4.0 and 121.4 g, respectively) and least at station E-10 (0.2 and 3.1 g, respectively) (Table 6). No brown trout were collected at station E-3.

Hatchery brown trout were collected at stations E-2 (n = 10), E-4 (1), E-9 (5), and E-10 (3). All were yearlings (stocked in April or June 1978) except for one holdover at station E-10 (Table 6).

Ashokan Reservoir Tributaries

Twelve fishes (n = 321) were collected on 29 August and 1 September 1978 at two stations each on the Bush Kill and Traver Hollow Creek and at one station each on Butternut Creek and Maltby Hollow Brook (Table 7). Slimy sculpin was most abundant (n = 113, 35.2%), followed by rainbow trout (87, 27.1%) and brown trout (73, 22.7%). Brown trout comprised the greatest biomass (4268 g, 59.8%), followed by rainbow trout (1498 g, 21.0%) and slimy sculpin (509 g, 7.1%). Brown trout were found at all stations sampled and

rainbow trout were found at all but station BNC-1 (Tables 8-10). One brook trout of hatchery origin was collected at station MH-1.

The actual and estimated numerical and biomass densities (per 100 m^2) of rainbow trout and brown trout were greatest at station TH-2 (Tables 11-13).

Age and Growth of Trout

Monthly mean total length (mm) and mean weight (g) were determined by age group for rainbow trout (n = 500) and wild brown trout (122) (Tables 14-17, Appendixes 2-5). One 2+ wild brook trout (166 mm, 47 g) was collected at station E-1 on 12 September.

Growth of rainbow trout in Esopus Creek was generally greater below the STO than above, and in both locations growth was similar to that in 1976 and 1977 (Table 14) (Culp et al. 1977a, Culp and Associates 1978). Growth of brown trout was generally greater below the STO than above, and in both locations growth was similar to that in 1976 and generally greater than that in 1977 (Table 15) (Culp et al. 1977a, Culp and Associates 1978).

In September growth of all age groups of rainbow trout was greater at stations below the STO than above (Table 16). Too few brown trout of any age group were collected in September for valid growth comparison by station (Table 17).

Forty-nine rainbow trout and 16 brown trout of age 0+ were collected in September in 375 ft of stream sampled above the STO, and 43 rainbow trout and 5 brown trout were taken in September and October in 1100 ft below (Tables 14 and 15).

Age 1+ rainbow trout were first observed below the STO by IA creel census personnel in August (n = 2, mean total length = 186 mm) and 1+ brown trout above the STO in June (1, 153 mm) and below in October (2, 195 mm) (Tables

14 and 15). No 1+ rainbow trout were observed during creel census above the STO in 1978.

Mean total length of each age group was calculated for rainbow trout and brown trout collected by chain electrofishing and observed by creel census personnel in June and September 1976 through 1978 in Esopus Creek above and below the STO (Table 18).

Von Bertalanffy growth equations for rainbow trout calculated from the three-year mean length data were

$$\text{Above STO:} \quad \ell_t = 282.2[1-e^{-0.505(t-0.194)}]$$

$$\text{Below STO:} \quad \ell_t = 330.0[1-e^{-0.483(t-0.236)}]$$

indicating that rainbow trout below the STO would theoretically ultimately grow longer (330.0 mm) at growth rates observed in the stream. At age three (t=3) rainbow trout attain a calculated length of 213.8 mm above the STO and 243.2 mm below.

Transformations of the growth equations for rainbow trout to the linear form were

$$\text{Above STO:} \quad \ell_t = 285.368 - (-313.514)0.610^t$$

$$\text{Below STO:} \quad \ell_t = 320.621 - (-356.490)0.610^t.$$

Slopes (growth rates) of the regression equations were not significantly different ($F = 1.370$; $df = 1,7$; $\alpha = 0.05$).

Von Bertalanffy growth equations for brown trout calculated from the three-year mean length data were

$$\text{Above STO:} \quad \ell_t = 525.0[1-e^{-0.228(t-0.127)}]$$

$$\text{Below STO:} \quad \ell_t = 912.8[1-e^{-0.093(t+0.419)}]$$

indicating that brown trout below the STO would theoretically ultimately grow longer (912.8 mm). At age four (t=4) brown trout attain a calculated

length of 307.9 mm above the STO and 307.6 mm below.

Transformations of the growth equations for brown trout to the linear form were

$$\text{Above STO:} \quad \ell_t = 651.189 - (-644.224)0.854^t$$

$$\text{Below STO:} \quad \ell_t = 619.749 - (-594.689)0.854^t.$$

Slopes (growth rates) of the regression equations were not significantly different ($F = 1.154$; $df = 1,10$; $\alpha = 0.05$).

Although these data indicate that growth in length of rainbow trout and brown trout appears to be generally greater below the STO than above, there is no statistically significant difference in growth rate. Similar weight-length relationships of rainbow trout and brown trout above and below the STO indicate that growth in weight of each species in each location would follow the same trends as growth in length.

Condition and Weight-Length Relationship of Trout

Mean "K" and standard deviation were calculated for rainbow trout ($n = 410$), wild brown trout (54), brook trout (1), and brown trout of hatchery origin (19) collected by chain electrofishing in September and October 1978 in Esopus Creek (Tables 19-21).

The mean "K" was generally similar (only one significant difference) for equal size rainbow trout and brown trout collected above and below the STO (Tables 19 and 20). The number of brook trout and hatchery origin brown trout for which condition factor could be determined was insufficient for meaningful comparisons (Table 21).

Slopes of the regression equations by station for rainbow trout collected in September and October 1978 were not significantly different (Table 22). Slopes of the regression equations by station for brown trout collected in

September and October 1978 were significantly different. Because it was not statistically apparent if slopes from stations below the STO were consistently greater or less than those from above and because total numbers of brown trout collected in September and October 1978 were low, data were grouped as above and below the STO. Slopes of the regression equations of brown trout in September and October 1978 in Esopus Creek above and below the STO were not significantly different. These data indicate that there was no difference in the rate of weight increase with length of rainbow trout and brown trout in Esopus Creek above and below the STO.

Fish Movement

Six rainbow trout tagged by IA in Ashokan Reservoir in 1977 and 1978 were recaptured by anglers in 1978 (Table 23). Of two fish tagged near the mouth of Butternut Creek, one was caught in Esopus Creek at Boiceville and one at the mouth of Esopus Creek. Two fish had been tagged at the mouth of Esopus Creek; one was caught in Esopus Creek near Woodland Creek and the other in Traver Hollow Creek near the Route 28A bridge. One of two fish tagged at the mouth of Traver Hollow Creek was caught in Esopus Creek at Boiceville and the other in Stony Clove Creek at Chichester.

Summary

1. Twenty fishes (n = 1393) were collected in Esopus Creek in September and October. Rainbow trout was most abundant (n = 410, 29.4%) and longnose sucker comprised the greatest biomass (53,720 g, 49.5%).

2. At all stations the actual numerical densities and at all but station E-10 the actual biomass densities (per 100 m^2) of rainbow trout exceeded those of brown trout.

3. The estimated numerical density (per 100 m^2) of rainbow trout was

greatest at station E-2 (17.5) and estimated biomass density (per 100 m^2) at station E-9 (742.6 g).

4. The estimated numerical and biomass densities (per 100 m^2) of brown trout were greatest at station E-1 (4.0 and 121.4 g, respectively).

5. Twelve fishes (n = 321) were collected on 29 August and 1 September in tributaries of Ashokan Reservoir. Slimy sculpin was most abundant (n = 113, 35.2%) and brown trout comprised the greatest biomass (4268 g, 59.8%).

6. The actual and estimated numerical and biomass densities (per 100 m^2) of rainbow trout and brown trout were greatest at station TH-2.

7. Mean lengths and weights of each age group of rainbow trout and brown trout were generally greater below the STO than above.

8. Forty-nine rainbow trout and 16 brown trout of age 0+ were collected in September in 375 ft of stream sampled above the STO and 43 rainbow trout and 5 brown trout in September and October in 1100 ft below.

9. Age 1+ rainbow trout were first observed in the angler catch below the STO in August and 1+ brown trout above the STO in June and below in October.

10. Although growth in length of rainbow trout and brown trout appears to be generally greater below the STO than above, there is no statistically significant difference in growth rates.

11. The mean "K" was generally similar for equal size rainbow trout and brown trout collected in Esopus Creek above and below the STO in 1978.

12. Analysis of weight-length relationships indicated no difference in the rate of weight increase with increase in length of rainbow trout and brown trout in Esopus Creek above and below the STO.

13. Six rainbow trout tagged by IA in Ashokan Reservoir in 1977 and 1978

were recaptured by anglers in 1978 in Esopus Creek, Traver Hollow Creek, and Stony Clove Creek.

Table 1. Description and location of chain electrofishing stations sampled from August through October 1978 in Esopus Creek and tributaries of Ashokan Reservoir.

Stream	Station	Length of Station (ft)	Stream Habitat % Run	% Riffle	% Pool	Substrate (Roelofs 1944) % Boulder	% Rubble	% Gravel	% Stream Shaded	Shore Cover % Deciduous	% Conifer	% Open	Width (ft) Max.	Min.
Esopus Creek*	E-8	100	0	60	40	20	60	20	20	40	20	40	27	12
	E-1	125	0	75	25	30	50	20	minimal	10	0	90	54	30
	E-2	150	80	5	15	30	50	20	20	50	0	50	41	12
	E-3**	200	0	100	0	20	60	20	20	50	0	50	55	30
	E-4**	300	80	10	10	40	40	20	minimal	0	0	100	75	38
	E-9**	300	50	20	30	30	40	30	20	70	10	20	75	50
	E-10**	300	30	30	40	30	50	20	10	30	20	50	75	40
Ashokan Reservoir Tribs														
Butternut Creek	BNC-1	100	0	30	70	0#	30	30	80	100	0	0	20	10
Bush Kill	BHK-1	200	30	40	30	30	40	30	25	30	20	50	34	15
	BHK-2	120	0	40	60	40	40	20	80	100	0	0	27	21
Maltby Hollow Brook	MH-1	120	0	50	50	30##	30	20	60	80	0	20	27	12
Traver Hollow Creek	TH-1	100	0	50	50	40	40	20	80	100	0	0	25	12
	TH-2	100	0	40	60	40	40	20	60	70	0	30	20	6

Station	Midstream Depth (ft) Max.	Min.	Elevation (ft)	Comments	Location
E-8	2.0	0.3	1430		8.4 mi above STO; 0.2 mi above McKenley Hollow Road in Oliverea
E-1	4.5	0.7	1119		3.3 mi above STO; 200 yd downstream from Millbrook Hollow
E-2	2.3	0.5	981		0.4 mi above STO, behind Shandaken town garage
E-3	1.5	0.3	971		150 yd downstream from STO
E-4	3.5	0.2	879	East shore boulder dike	2.4 mi downstream from STO, along DOT dike
E-9	3.5	1.0	661		10.6 mi below STO, immediately above Cold Brook bridge
E-10	3.0	0.5	610	Special regulations area	0.8 mi above mouth of Esopus Creek
BNC-1	3.3	0.3	640		0.5 mi above mouth of stream; 30 yd below bridge on Longyear Road
BHK-1	6.5	0.3	600		100 yd above mouth of stream
BHK-2	1.6	0.3	700		1.3 mi above mouth of stream; 100 yd above confluence with Maltby Hollow Brook
MH-1	3.3	0.3	860		1.0 mi above confluence with the Bush Kill
TH-1	2.5	0.3	600		200 yd above mouth of stream
TH-2	2.5	0.3	900	Bridge over pool	1.6 mi above mouth of stream; first bridge on Bradken Road

* Stations E-5 through E-7 not sampled in 1978.
** Description based on no flow through the Shandaken Tunnel.
\# 40% silt.
Additional 20% bedrock.

Table 2. Date, location, and mark of brown trout yearlings stocked by DEC in 1978 in Esopus Creek.

Stocking Date	Stocking Location	Mark (Fin Clip)	Number Stocked
21 Apr	Five Arches Bridge to STO	Left ventral	6,450
	STO to Big Indian	Adipose-left ventral	1,260
8 Jun	Ashokan Reservoir to Five Arches Bridge	Adipose-right ventral	1,000
	Five Arches Bridge to STO	Adipose	7,260
	STO to Big Indian	Left pectoral	1,260
23 Jun	Five Arches Bridge to STO	Right ventral	8,875
	STO to Big Indian	Right pectoral	1,890
Total			27,995

Table 3. Fishes collected by chain electrofishing from 12 September through 18 October 1978 at one 100-ft, one 125-ft, and one 150-ft station on Esopus Creek above the STO and at one 200-ft station and three 300-ft stations on Esopus Creek below the STO.

Station	Above STO															
	E-8				E-1				E-2				Total			
Water Temperature (C)	17				18				17							
	Abundance		Biomass		Abundance		Biomass		Abundance		Biomass		Abundance		Biomass	
Species	#	%	g	%	#	%	g	%	#	%	g	%	#	%	g	%
Rainbow trout	15	29.4	328	46.5	40	17.6	948	16.5	66	30.4	2231	25.5	121	24.4	3507	23.1
Longnose sucker	-	-	-	-	13	5.7	2309	40.1	19	8.8	2534	28.9	32	6.5	4843	31.8
Slimy sculpin	29	56.9	108	15.3	22	10.0	115	2.0	13	6.0	70	0.8	64	12.9	293	1.9
Blacknose dace	1	2.0	2	0.3	89	39.2	311	5.4	43	19.8	206	2.4	133	26.9	519	3.4
White sucker	-	-	-	-	19	8.4	1297	22.6	28	12.9	1999	22.8	47	9.5	3296	21.7
Longnose dace	4	7.8	89	12.6	14	6.2	98	1.7	13	6.0	123	1.4	31	6.3	310	2.0
Brown trout	2	3.9	179	25.4	15	6.6	492	8.6	16	7.4	1393	15.9	33	6.7	2064	13.6
Cutlips minnow	-	-	-	-	6	2.6	21	0.4	16	7.4	120	1.4	22	4.4	141	0.9
Logperch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellow perch	-	-	-	-	5	2.2	102	1.8	-	-	-	-	5	1.0	102	0.7
Walleye	-	-	-	-	-	-	-	-	2	0.9	60	0.7	2	0.4	60	0.4
Spottail shiner	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Common shiner	-	-	-	-	2	0.9	5	0.1	-	-	-	-	2	0.4	5	0.1
Bluntnose minnow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tessellated darter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Margined madtom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brook trout	-	-	-	-	1	0.4	47	0.8	-	-	-	-	1	0.2	47	0.3
Creek chub	-	-	-	-	-	-	-	-	1	0.5	18	0.2	1	0.2	18	0.1
Golden shiner	-	-	-	-	1	0.4	6	0.1	-	-	-	-	1	0.2	6	0.1
Pumpkinseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of fish and biomass	51		706		227		5751		217		8754		495		15211	
Number of fishes	5				12				10				14			

Station	Below STO															
	E-3				E-4				E-9				E-10			
Water Temperature (C)	8				1				15				12			
	Abundance		Biomass		Abundance		Biomass		Abundance		Biomass		Abundance		Biomass	
Species	#	%	g	%	#	%	g	%	#	%	g	%	#	%	g	%
Rainbow trout	2	5.4	78	2.3	101	23.9	7680	10.5	177	52.5	11817	79.1	9	8.9	365	22.7
Longnose sucker	18	48.6	3060	90.8	171	40.4	45817	62.5	-	-	-	-	-	-	-	-
Slimy sculpin	2	5.4	12	0.4	42	9.9	358	0.5	37	11.0	213	1.4	31	30.7	175	10.9
Blacknose dace	2	5.4	19	0.6	-	-	-	-	12	3.6	71	0.5	-	-	-	-
White sucker	1	2.7	18	0.5	61	14.4	16516	22.5	14	4.2	316	2.1	2	2.0	24	1.5
Longnose dace	10	27.0	126	3.7	6	1.4	75	0.1	24	7.1	207	1.4	34	33.7	243	15.1
Brown trout	-	-	-	-	13	3.1	1654	2.3	21	6.2	1854	12.4	6	5.9	632	39.4
Cutlips minnow	1	2.7	9	0.3	10	2.4	174	0.2	11	3.3	114	0.8	3	3.0	13	0.8
Logperch	-	-	-	-	-	-	-	-	27	8.0	253	1.7	11	10.9	98	6.1
Yellow perch	-	-	-	-	12	2.8	68	0.1	2	0.6	6	0.1	1	1.0	4	0.2
Walleye	1	2.7	48	1.4	5	1.2	997	1.4	-	-	-	-	-	-	-	-
Spottail shiner	-	-	-	-	2	0.5	4	0.1	4	1.2	8	0.1	1	1.0	3	0.2
Common shiner	-	-	-	-	-	-	-	-	2	0.6	30	0.2	-	-	-	-
Bluntnose minnow	-	-	-	-	-	-	-	-	3	0.9	10	0.1	-	-	-	-
Tessellated darter	-	-	-	-	-	-	-	-	2	0.6	6	0.1	1	1.0	4	0.2
Margined madtom	-	-	-	-	-	-	-	-	1	0.3	42	0.3	1	1.0	39	2.4
Brook trout	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Creek chub	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Golden shiner	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumpkinseed	-	-	-	-	-	-	-	-	-	-	-	-	1	1.0	5	0.3
Number of fish and biomass	37		3370		423		73343		337		14947		101		1605	
Number of fishes	8				10				14				12			

Table 3 - (Continued).

Station Water Temperature (C)	Below STO Total				Grand Total			
	Abundance		Biomass		Abundance		Biomass	
Species	#	%	g	%	#	%	g	%
Rainbow trout	289	32.2	19940	21.4	410	29.4	23447	21.6
Longnose sucker	189	21.0	48877	52.4	221	15.9	53720	49.5
Slimy sculpin	112	12.5	758	0.8	176	12.6	1051	1.0
Blacknose dace	14	1.6	90	0.1	147	10.6	609	0.6
White sucker	78	8.7	16874	18.1	125	9.0	20170	18.6
Longnose dace	74	8.2	651	0.7	105	7.5	961	0.9
Brown trout	40	4.5	4140	4.4	73	5.2	6204	5.7
Cutlips minnow	25	2.8	310	0.3	47	3.4	451	0.4
Logperch	38	4.2	351	0.4	38	2.7	351	0.3
Yellow perch	15	1.7	78	0.1	20	1.4	180	0.2
Walleye	6	0.7	1045	1.1	8	0.6	1105	1.0
Spottail shiner	7	0.8	15	0.1	7	0.5	15	0.1
Common shiner	2	0.2	30	0.1	4	0.3	35	0.1
Bluntnose minnow	3	0.3	10	0.1	3	0.2	10	0.1
Tessellated darter	3	0.3	10	0.1	3	0.2	10	0.1
Margined madtom	2	0.2	81	0.1	2	0.1	81	0.1
Brook trout	-	-	-	-	1	0.1	47	0.1
Creek chub	-	-	-	-	1	0.1	18	0.1
Golden shiner	-	-	-	-	1	0.1	6	0.1
Pumpkinseed	1	0.1	5	0.1	1	0.1	5	0.1
Number of fish and biomass	898		93265		1393		108476	
Number of fishes	17				20			

Table 4. Density (per 100 m^2) in number and biomass of trout collected by chain electrofishing in September and October 1978 at seven stations on Esopus Creek.

Station	Area (m^2)	Rainbow trout		Brown trout		Brook trout		Total	
		#	Biomass (g)	#	Biomass (g)	#	Biomass (g)	#	Biomass (g)
E-8	186	8.1	176.3	1.1	96.2	-	-	9.2	272.5
E-1	412	9.7	230.1	3.6	119.4	0.2	11.4	13.5	360.9
E-2	418	15.8	533.7	3.8	333.3	-	-	19.6	867.0
Mean Above STO		11.2	313.4	2.8	183.0	0.1	3.8	14.1	500.1
E-3	743	0.3	10.5	-	-	-	-	0.3	10.5
E-4	1394	7.2	550.9	0.9	118.7	-	-	8.1	669.6
E-9	1672	10.6	706.8	1.3	110.9	-	-	11.9	817.7
E-10	1394	0.6	26.2	0.4	45.3	-	-	1.0	71.5
Mean Below STO		4.7	323.6	0.7	68.7	-	-	5.3	392.3

Table 5. Population estimate (number and biomass) of rainbow trout collected by chain electrofishing in September and October 1978 at one 100-ft, one 125-ft, and one 150-ft station on Esopus Creek above the STO and at one 200-ft station and three 300-ft stations on Esopus Creek below the STO.

Station	Area (m^2)	No. in Each Pass 1	2	3	Total No.	Size Range (mm)	Estimated Number At Station	Correlation Coefficient (r)	Confidence Interval (95%)	Per 100 m^2	Estimated Biomass (g) At Station	Per 100 m^2
E-8	186									8.3		177.5
Adult		6	1	1	8	117-207	8*	-0.99	-	4.3	290	155.9
YOY**		5	2	0	7	64-93	7.4	-0.99	±1.2	4.0	40.2	21.6
E-1	412									10.4		250.9
Adult		11	5	2	18	123-205	19.7	-1.00	±4.5	4.8	944.5	229.2
YOY		13	3	6	22	47-93	23.2	-0.89	±5.5	5.6	89.6	21.7
E-2	418									17.5		577.1
Adult		29	13	4	46	130-226	49.6	-1.00	±6.0	11.9	2325.8	556.4
YOY		11	5	4	20	54-86	23.4	-0.98	±8.8	5.6	86.6	20.7
E-3	743									0.2		10.4
Adult		0	1	0	1	183	1***	-	-	0.1	65	8.7
YOY		1	0	0	1	114	1***	-	-	0.1	13	1.7
E-4	1394									7.5		565.0
Adult		54	14	13	81	157-265	82.9	-0.98	±5.7	5.9	7660.6	549.5
YOY		12	6	2	20	72-124	22.1	-1.00	±5.1	1.6	215.5	15.5
E-9	1672									11.2		742.6
Adult		107	37	15	159	156-275	166.8	-1.00	±8.1	10.0	12202.6	729.8
YOY		10	7	1	18	62-122	20.8	-0.96	±6.2	1.2	213.8	12.8
E-10	1394									0.8		34.6
Adult		3	1	2	6	164-193	8.0	-0.72	±10.1	0.6	468.0	33.6
YOY		1	1	1	3	73-84	3***	-	-	0.2	14	1.0

* Actual number caught; DeLury estimate was lower than this value.
** YOY = young-of-year.
*** Actual number caught; no statistical estimate made.

Table 6. Population estimate (number and biomass) of wild brown trout collected by chain electrofishing in September and October 1978 at one 100-ft, one 125-ft, and one 150-ft station on Esopus Creek above the STO and at one 200-ft station and three 300-ft stations on Esopus Creek below the STO.

Station	Area (m^2)	No. in Each Pass 1	2	3	Total No.	Size Range (mm)	Estimated Number: At Station	Correlation Coefficient (r)	Confidence Interval (95%)	Per 100 m^2	Estimated Biomass (g): At Station	Per 100 m^2
E-8	186									1.0		96.3
Adult		1	0	0	1	243	1*	-	-	0.5	175	94.1
YOY**		1	0	0	1	73	1*	-	-	0.5	4	2.2
E-1	412									4.0		121.4
Adult		0	1	1	2	190-341	2*	-	-	0.5	412	100.0
YOY		8	4	1	13	75-102	14.3	-0.99	±3.6	3.5	88.0	21.4
E-2	418									1.5		98.1
Adult		3(5)	1(3)	0(2)	4(10)***	203-235	4.2	-1.00	±0.7	1.0	382.2	91.4
YOY		2	0	0	2	86-101	2*	-	-	0.5	28	6.7
E-3	743									0.0		0.0
Adult		0	0	0	0	-	0.0	-	-	0.0	0.0	0.0
YOY		0	0	0	0	-	0.0	-	-	0.0	0.0	0.0
E-4	1394									1.0		121.2
Adult		5(1)	3	1	9(1)	158-411	10.5	-0.99	±4.9	0.8	1652.0	118.5
YOY		0	1	2	3	104-114	3*	-	-	0.2	38	2.7
E-9	1672									1.0		83.9
Adult		12(2)	3(2)	1(1)	16(5)	143-251	16.4	-1.00	±1.4	1.0	1402.2	83.9
YOY		0	0	0	0	-	0.0	-	-	0.0	0.0	0.0
E-10	1394									0.2		3.1
Adult		0(2)	1	0(1)	1(3)	146	1*	-	-	0.1	21	1.5
YOY		1	1	0	2	98-115	2*	-	-	0.1	22	1.6

* Actual number caught; no statistical estimate made.
** YOY = young-of-year.
*** Value in parentheses is number of hatchery brown trout collected but excluded from population estimate of wild brown trout.

Table 7. Fishes collected by backpack electrofishing and chain electrofishing on 29 August and 1 September 1978 at one 100-ft station on Butternut Creek, one 200-ft and one 120-ft station on the Bush Kill, one 120-ft station on Maltby Hollow Brook, and two 100-ft stations on Traver Hollow Creek.

	Abundance		Biomass	
Species	#	%	g	%
Slimy sculpin	113	35.2	509	7.1
Rainbow trout	87	27.1	1498	21.0
Brown trout	73	22.7	4268	59.8
Blacknose dace	13	4.0	31	0.4
Logperch	12	3.7	60	0.8
Creek chub	8	2.5	70	1.0
White sucker	7	2.2	486	6.8
Cutlips minnow	2	0.6	53	0.7
Longnose dace	2	0.6	20	0.3
Tessellated darter	2	0.6	8	0.1
Brook trout	1	0.3	125	1.8
Smallmouth bass	1	0.3	4	0.1
Number of fish and biomass	321		7132	
Number of fishes	12			

Table 8. Fishes collected by backpack electrofishing on 29 August 1978 at one 100-ft station on Butternut Creek.

Station	BNC-1			
Water Temperature (C)	20			
	Abundance		Biomass	
Species	#	%	g	%
Brown trout	13	37.1	846	68.7
Blacknose dace	12	34.3	30	2.4
Creek chub	8	22.9	70	5.7
White sucker	2	5.7	285	23.2
Number of fish and biomass	35		1231	
Number of fishes	4			

Table 9. Fishes collected by chain electrofishing on 29 August 1978 at one 120-ft station each on the Bush Kill and Maltby Hollow Brook and on 1 September 1978 at one 200-ft station on the Bush Kill.

Station	BHK-1				BHK-2				MH-1				Total			
Water Temperature (C)	15				17				18							
	Abundance		Biomass		Abundance		Biomass		Abundance		Biomass		Abundance		Biomass	
Species	#	%	g	%	#	%	g	%	#	%	g	%	#	%	g	%
Slimy sculpin	38	45.8	101	7.7	30	50.8	199	23.5	5	20.0	45	5.4	73	43.7	345	11.5
Rainbow trout	12	14.5	254	19.2	19	32.2	118	13.9	17	68.0	516	62.3	48	28.7	888	29.7
Brown trout	9	10.8	619	46.9	10	16.9	529	62.5	1	4.0	141	17.0	20	12.0	1289	43.1
Logperch	12	14.5	60	4.5	-	-	-	-	-	-	-	-	12	7.2	60	2.0
White sucker	5	6.0	201	15.2	-	-	-	-	-	-	-	-	5	3.0	201	6.7
Cutlips minnow	2	2.4	53	4.0	-	-	-	-	-	-	-	-	2	1.2	53	1.8
Longnose dace	2	2.4	20	1.5	-	-	-	-	-	-	-	-	2	1.2	20	0.7
Tessellated darter	2	2.4	8	0.6	-	-	-	-	-	-	-	-	2	1.2	8	0.3
Brook trout	-	-	-	-	-	-	-	-	1*	4.0	125	15.1	1	0.6	125	4.2
Smallmouth bass	1	1.2	4	0.3	-	-	-	-	-	-	-	-	1	0.6	4	0.1
Blacknose dace	-	-	-	-	-	-	-	-	1	4.0	1	0.1	1	0.6	1	0.1
Number of fish and biomass	83		1320		59		846		25		828		167		2994	
Number of fishes	9				3				5				11			

* Stocked hatchery fish.

Table 10. Fishes collected by backpack electrofishing on 1 September 1978 at two 100-ft stations on Traver Hollow Creek.

Station	TH-1				TH-2				Total			
Water Temperature (C)	16				15							
	Abundance		Biomass		Abundance		Biomass		Abundance		Biomass	
Species	#	%	g	%	#	%	g	%	#	%	g	%
Brown trout	4	8.2	275	50.5	36	51.4	1858	78.7	40	33.6	2133	73.4
Slimy sculpin	33	67.3	111	20.4	7	10.0	53	2.2	40	33.6	164	5.6
Rainbow trout	12	24.5	159	29.2	27	38.6	451	19.1	39	32.8	610	21.0
Number of fish and biomass	49		545		70		2362		119		2907	
Number of fishes	3				3				3			

Table 11. Density (per 100 m^2) in number and biomass of trout collected by backpack electrofishing and chain electrofishing on 29 August and 1 September 1978 at two stations each on the Bush Kill and Traver Hollow Creek and at one station each on Butternut Creek and Maltby Hollow Brook.

Station	Area (m^2)	Rainbow trout		Brown trout		Brook trout		Total	
		#	Biomass (g)	#	Biomass (g)	#	Biomass (g)	#	Biomass (g)
BNC-1	130	-	-	10.0	650.8	-	-	10.0	650.8
BHK-1	409	2.9	62.1	2.2	151.3	-	-	5.1	213.4
BHK-2	256	7.4	46.1	3.9	206.6	-	-	11.3	252.7
Mean		5.2	54.1	3.1	179.0	-	-	8.2	233.1
MH-1	178	9.6	289.9	0.6	79.2	0.6	70.2	10.8	439.3
TH-1	149	8.1	106.7	2.7	184.6	-	-	10.8	291.3
TH-2	102	26.5	442.2	35.3	1821.6	-	-	61.8	2263.8
Mean		17.3	274.5	19.0	1003.1	-	-	36.3	1277.6

Table 12. Population estimate (number and biomass) of rainbow trout collected by chain electrofishing and backpack electrofishing on 29 August and 1 September 1978 at two 100-ft stations on Traver Hollow Creek (TH), one 200-ft and one 120-ft station on the Bush Kill (BHK), and one 120-ft station on Maltby Hollow Brook (MH).

Station	Area (m^2)	No. in Each Pass 1	2	3	Total No.	Size Range (mm)	Estimated Number: At Station	Correlation Coefficient (r)	Confidence Interval (95%)	Per 100 m^2	Estimated Biomass (g): At Station	Per 100 m^2
BHK-1	409									2.1		70.3
Adult		2	5	0	7	137-193	8.6	-0.61	±4.1	2.1	287.5	70.3
YOY*		1	2	2	5	61-82	-**	-	-	-	-	-
BHK-2	256									8.6		48.2
Adult		1	1	1	3	124-146	3***	-	-	1.2	72	28.1
YOY		10	5	2	17	46-79	19.0	-1.00	±5.3	7.4	51.4	20.1
MH-1	178									6.8		285.5
Adult		9	2	1	12	114-234	12.1	-1.00	±1.0	6.8	508.2	285.5
YOY		1	2	2	5	46-74	-**	-	-	-	-	-
TH-1	149									12.6		181.9
Adult		2	2	1	5	105-197	8.7	-0.87	±21.4	5.8	243.6	163.5
YOY		3	3	1	7	50-64	10.1	-0.87	±12.9	6.8	27.4	18.4
TH-2	102									33.1		459.6
Adult		8	2	0	10	103-215	10.2	-1.00	±0.7	10.0	435.5	427.0
YOY		8	6	3	17	45-64	23.6	-0.98	±17.3	23.1	33.3	32.6

* YOY = young-of-year.
** Sampling distribution inadequate for population estimate.
*** Actual number caught; no statistical estimate made.

Table 13. Population estimate (number and biomass) of brown trout collected by chain electrofishing and backpack electrofishing on 29 August and 1 September 1978 at one 100-ft station on Butternut Creek (BNC), two 100-ft stations on Traver Hollow Creek (TH), one 200-ft and one 120-ft station on the Bush Kill (BHK), and one 120-ft station on Maltby Hollow Brook (MH).

Station	Area (m^2)	No. in Each Pass 1	2	3	Total No.	Size Range (mm)	Estimated Number: At Station	Correlation Coefficient (r)	Confidence Interval (95%)	Per 100 m^2	Estimated Biomass (g): At Station	Per 100 m^2
BNC-1	130									14.9		870.4
Adult		4	2	2	8	130-314	10.7	-0.94	±10.9	8.2	1116.8	859.1
YOY*		2	2	1	5	46-63	8.7	-0.87	±21.4	6.7	14.7	11.3
BHK-1	409									-		-
Adult		3	2	4	9	134-247	-**	-	-	-	-	-
YOY		0	0	0	0	-	0.0	-	-	0.0	0.0	0.0
BHK-2	256									4.0		210.6
Adult		4	1	0	5	114-268	5.1	-1.00	±0.4	2.0	518.2	202.4
YOY		4	0	1	5	62-82	5#	-	-	2.0	21	8.2
MH-1	178									0.6		79.2
Adult		1	0	0	1	238	1##	-	-	0.6	141	79.2
YOY		0	0	0	0	-	0.0	-	-	0.0	0.0	0.0
TH-1	149									2.8		193.8
Adult		3	1	0	4	124-263	4.2	-1.00	±0.7	2.8	288.8	193.8
YOY		0	0	0	0	-	0.0	-	-	0.0	0.0	0.0
TH-2	102									36.6		1842.9
Adult		25	5	1	31	113-280	31.3	-1.00	±1.1	30.7	1855.8	1819.4
YOY		2	3	0	5	60-75	6.0	-0.74	±3.3	5.9	24.0	23.5

* YOY = young-of-year.
** Sampling distribution inadequate for population estimate.
\# Actual number collected; population estimate lower than this number.
Actual number caught; no statistical estimate made.

Table 14. Mean total length (mm) and mean weight (g) of each age group of rainbow trout collected by chain electrofishing in September and October 1978 and observed by IA creel census personnel from April through November 1978 in Esopus Creek above and below the STO.

Month	0+		1+		2+		3+		4+		5+		Total Count
	#	Length/ Weight	#	Length/ Weight	#	Length/ Weight	#	Length/ Weight	#	Length/ Weight	#	Length/ Weight	
Above STO													
Apr	-	-	-	-	2	181/DNR*	2	282/DNR	3	455/DNR	-	-	7
May	-	-	-	-	-	-	1	353/DNR	-	-	-	-	1
Jun	-	-	-	-	2	228/DNR	-	-	-	-	-	-	2
Aug	-	-	-	-	1	208/DNR	-	-	-	-	-	-	1
Sep	49(49)**	70/4	60(60)	152/39	13(13)	200/80	-	-	-	-	-	-	122
Nov	-	-	-	-	3	234/DNR	-	-	-	-	-	-	3
Total	49 (36.0%)		60 (44.1%)		21 (15.4%)		3 (2.2%)		3 (2.2%)		0 (0.0%)		136
Below STO													
Apr	-	-	-	-	-	-	9	299/DNR	15	417/DNR	2	442/DNR	26
May	-	-	-	-	1	200/DNR	8	344/DNR	5	446/DNR	-	-	14
Jun	-	-	-	-	3	234/DNR	-	-	-	-	-	-	3
Aug	-	-	2	186/DNR	5	236/DNR	1	326/DNR	-	-	-	-	8
Sep	21(21)	95/9	138(137)	183/64	33(27)	230/115	-	-	-	-	-	-	192
Oct	22(22)	98/9	63(56)	190/73	31(25)	238/135	2	494/DNR	-	-	-	-	118
Nov	-	-	1	209/DNR	2	235/DNR	-	-	-	-	-	-	3
Total	43 (11.8%)		204 (56.0%)		75 (20.6%)		20 (5.5%)		20 (5.5%)		2 (0.5%)		364

* DNR = data not recorded.
** Number in parentheses indicates number in age group collected by chain electrofishing in that month.

Table 15. Mean total length (mm) and mean weight (g) of each age group of brown trout collected by chain electrofishing in September and October 1978 and observed by IA creel census personnel from April through November 1978 in Esopus Creek above and below the STO.

Month	0+		1+		2+		3+		4+		5+		Total Count
	#	Length/ Weight	#	Length/ Weight	#	Length/ Weight	#	Length/ Weight	#	Length/ Weight	#	Length/ Weight	
Above STO													
Apr	-	-	-	-	-	-	5	295/DNR*	1	283/DNR	-	-	6
May	-	-	-	-	1	196/DNR	4	280/DNR	-	-	-	-	5
Jun	-	-	1	153/DNR	2	209/DNR	-	-	-	-	-	-	3
Jul	-	-	-	-	1	204/DNR	-	-	-	-	-	-	1
Sep	16(16)**	85/7	1(1)	190/71	5(5)	221/108	2(1)	329/341	-	-	-	-	24
Total	16 (41.0%)		2 (5.1%)		9 (23.1%)		11 (28.2%)		1 (2.6%)		0 (0.0%)		39
Below STO													
Apr	-	-	-	-	-	-	10	302/DNR	1	303/DNR	-	-	11
May	-	-	-	-	11	202/DNR	4	258/DNR	2	411/DNR	1	450/DNR	18
Jun	-	-	-	-	3	212/DNR	4	290/DNR	-	-	-	-	7
Jul	-	-	-	-	1	235/DNR	-	-	-	-	-	-	1
Aug	-	-	-	-	3	203/DNR	1	383/DNR	-	-	-	-	4
Sep	2(2)	107/11	8(8)	173/52	10(9)	228/108	-	-	-	-	-	-	20
Oct	3(3)	114/13	7(5)	189/63	9(3)	268/128	1(1)	411/717	1	538/DNR	-	-	21
Nov	-	-	-	-	1	215/DNR	-	-	-	-	-	-	1
Total	5 (6.0%)		15 (18.1%)		38 (45.8%)		20 (24.1%)		4 (4.8%)		1 (1.2%)		83

* DNR = data not recorded.
** Number in parentheses indicates number in age group collected by chain electrofishing in that month.

Table 16. Mean total length (mm) and mean weight (g) by station of each age group of rainbow trout collected by chain electrofishing in September and October 1978 in Esopus Creek.

Station	Sample Date	0+ #	0+ Length/Weight	1+ #	1+ Length/Weight	2+ #	2+ Length/Weight	Total Count
E-8	12 Sep	7	77/5	7	140/28	1	207/94	15
E-1	12 Sep	22	70/4	16	151/43	2	199/89	40
E-2	12 Sep	20	68/4	37	154/39	10	200/77	67
E-3	16 Oct	1	114/13	1	183/65	-	-	2
E-4	18 Oct	21	98/9	55	189/73	25	238/135	101
E-9	26 Sep	18	98/10	131	183/65	27	227/115	176
E-10	26 Sep	3	78/5	6	178/59	-	-	9
Total		92 (22.4%)		253 (61.7%)		65 (15.9%)		410

Table 17. Mean total length (mm) and mean weight (g) by station of each age group of brown trout collected by chain electrofishing in September and October 1978 in Esopus Creek.

Station	Sample Date	0+ #	0+ Length/Weight	1+ #	1+ Length/Weight	2+ #	2+ Length/Weight	3+ #	3+ Length/Weight	Total Count
E-8	12 Sep	1	73/4	-	-	1	243/175	-	-	2
E-1	12 Sep	13	85/6	1	190/71	-	-	1	341/341	15
E-2	12 Sep	2	94/14	-	-	4	215/91	-	-	6
E-3	16 Oct	-	-	-	-	-	-	-	-	0
E-4	18 Oct	3	114/13	5	186/63	3	232/128	1	411/717	12
E-9	26 Sep	-	-	7	177/51	9	221/108	-	-	16
E-10	26 Sep	2	107/11	1	146/21	-	-	-	-	3
Total		21 (38.9%)		14 (25.9%)		17 (31.5%)		2 (3.7%)		54

Table 18. Mean total length (mm) of each age group of rainbow trout and brown trout collected by chain electrofishing and observed by creel census personnel in June and September 1976 through 1978 in Esopus Creek above and below the STO.

	0+		1+		2+		3+	
	Jun	Sep	Jun	Sep	Jun	Sep	Jun	Sep
Assigned Age	0.5	0.75	1.5	1.75	2.5	2.75	3.5	3.75
Rainbow trout								
Above STO	39	72	133	154	197	203	-	-
Below STO	-	82	129	181	214	236	-	-
Brown trout								
Above STO	-	85	143	161	213	220	282	306
Below STO	-	94	149	176	211	227	263	312

Table 19. Mean condition factor by station for rainbow trout collected by chain electrofishing from 12 September through 18 October 1978 in Esopus Creek above and below the STO.

Station	E-8			E-1			E-2			Above STO		
Size Range (mm)	Number	Mean "K"	SD	Number	Mean "K"	SD	Number	Mean "K"	SD	Number	Mean "K"	SD
41-60	-	-	-	4	1.081	0.098	6	1.195	0.361	10	1.149	0.281
61-80	4	0.993	0.149	14	1.057	0.196	11	1.180	0.303	29	1.095	0.241
81-100	3	1.199	0.053	4	0.979	0.174	3	1.040	0.084	10	1.063	0.148
101-120	2	1.083	0.058	-	-	-	-	-	-	2	1.083	0.058
121-140	1	0.989	-	5	1.301	0.180	5	1.063	0.182	11	1.164	0.209
141-160	3	1.011	0.061	5	1.167	0.082	21	1.055	0.152	29	1.070*	0.141
161-180	1	0.823	-	6	1.160	0.123	9	1.004	0.074	16	1.051	0.132
181-200	-	-	-	1	1.141	-	6	0.987	0.058	7	1.009	0.079
201-220	1	1.060	-	1	1.103	-	3	0.966	0.012	5	1.012	0.066
221-240	-	-	-	-	-	-	2	0.876	0.075	2	0.876	0.075
241-260	-	-	-	-	-	-	-	-	-	-	-	-
261-280	-	-	-	-	-	-	-	-	-	-	-	-
Total	15			40			66			121		

Station	E-3			E-4			E-9			E-10			Below STO		
Size Range (mm)	Number	Mean "K"	SD	Number	Mean "K"	SD	Number	Mean "K"	SD	Number	Mean "K"	SD	Number	Mean "K"	SD
41-60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61-80	-	-	-	2	0.173	1.217	1	1.678	-	2	0.970	0.083	5	1.120	0.305
81-100	-	-	-	11	1.014	0.139	10	1.261	0.162	1	1.012	-	22	1.126	0.191
101-120	1	0.877	-	7	0.904	0.135	6	0.917	0.110	-	-	-	14	0.908	0.115
121-140	-	-	-	1	0.629	-	1	0.661	-	-	-	-	2	0.645	0.023
141-160	-	-	-	2	1.331	0.018	7	1.217	0.168	-	-	-	9	1.242	0.154
161-180	-	-	-	15	1.109	0.157	52	1.072	0.123	4	1.036	0.131	71	1.078	0.131
181-200	1	1.061	-	22	1.037	0.138	65	1.016	0.109	2	0.982	0.027	90	1.021	0.115
201-220	-	-	-	18	1.027	0.114	18	1.040	0.113	-	-	-	36	1.034	0.112
221-240	-	-	-	12	1.041	0.078	12	0.961	0.096	-	-	-	24	1.001	0.095
241-260	-	-	-	10	0.958	0.067	4	0.932	0.059	-	-	-	14	0.950	0.064
261-280	-	-	-	1	0.914	-	1	0.769	-	-	-	-	2	0.842	0.103
Total	2			101			177			9			289		

* Significantly different from below STO.

Table 20. Mean condition factor by station for brown trout collected by chain electrofishing from 12 September through 18 October 1978 in Esopus Creek above and below the STO.

Station	E-8			E-1			E-2			Above STO		
Size Range (mm)	Number	Mean "K"	SD	Number	Mean "K"	SD	Number	Mean "K"	SD	Number	Mean "K"	SD
61-80	1	1.028	-	3	0.928	0.137	-	-	-	4	0.953	0.123
81-100	-	-	-	9	1.016	0.159	1	1.572	-	10	1.071	0.231
101-120	-	-	-	1	0.848	-	1	1.747	-	2	1.298	0.636
121-140	-	-	-	-	-	-	-	-	-	-	-	-
141-160	-	-	-	-	-	-	-	-	-	-	-	-
161-180	-	-	-	-	-	-	-	-	-	-	-	-
181-200	-	-	-	1	1.035	-	-	-	-	1	1.035	-
201-220	-	-	-	-	-	-	3	0.887	0.009	3	0.887	0.009
221-240	-	-	-	-	-	-	1	0.940	-	1	0.940	-
241-260	1	1.220	-	-	-	-	-	-	-	1	1.220	-
261-280	-	-	-	-	-	-	-	-	-	-	-	-
341-360	-	-	-	1	0.860	-	-	-	-	1	0.860	-
401-420	-	-	-	-	-	-	-	-	-	-	-	-
Total	2			15			6			23		

Station	E-4			E-9			E-10			Below STO		
Size Range (mm)	Number	Mean "K"	SD	Number	Mean "K"	SD	Number	Mean "K"	SD	Number	Mean "K"	SD
61-80	-	-	-	-	-	-	-	-	-	-	-	-
81-100	-	-	-	-	-	-	1	1.169	-	1	1.169	-
101-120	2	0.849	0.056	-	-	-	1	0.723	-	3	0.807	0.083
121-140	1	0.839	-	-	-	-	-	-	-	1	0.839	-
141-160	1	0.963	-	1	1.094	-	1	0.675	-	3	0.911	0.214
161-180	1	0.814	-	1	1.102	-	-	-	-	2	0.958	0.204
181-200	1	0.962	-	5	0.973	0.141	-	-	-	6	0.971	0.126
201-220	3	0.962	0.014	6	0.974	0.122	-	-	-	9	0.970	0.097
221-240	1	1.001	-	1	0.868	-	-	-	-	2	0.935	0.094
241-260	-	-	-	2	1.030	0.100	-	-	-	2	1.030	0.100
261-280	1	0.987	-	-	-	-	-	-	-	1	0.987	-
341-360	-	-	-	-	-	-	-	-	-	-	-	-
401-420	1	1.033	-	-	-	-	-	-	-	1	1.033	-
Total	12			16			3			31		

Table 21. Mean condition factor for brook trout and hatchery origin brown trout collected by chain electrofishing in September and October 1978 in Esopus Creek.

Species	Date	Station	Size Range (mm)	Number	Mean "K"	SD
Brook trout	12 Sep	E-1	161-180	1	1.027	-
Total				1		
Hatchery origin brown trout	12 Sep	E-2	181-200	2	0.772	0.129
			201-220	1	0.882	-
			221-240	3	0.845	0.028
			241-260	3	0.923	0.026
			261-280	1	0.793	-
	18 Oct	E-4	241-260	1	1.394	-
	26 Sep	E-9	201-220	2	1.048	0.046
			221-240	3	0.827	0.083
	26 Sep	E-10	241-260	2	0.994	0.171
			301-320	1	0.960	-
Total				19		

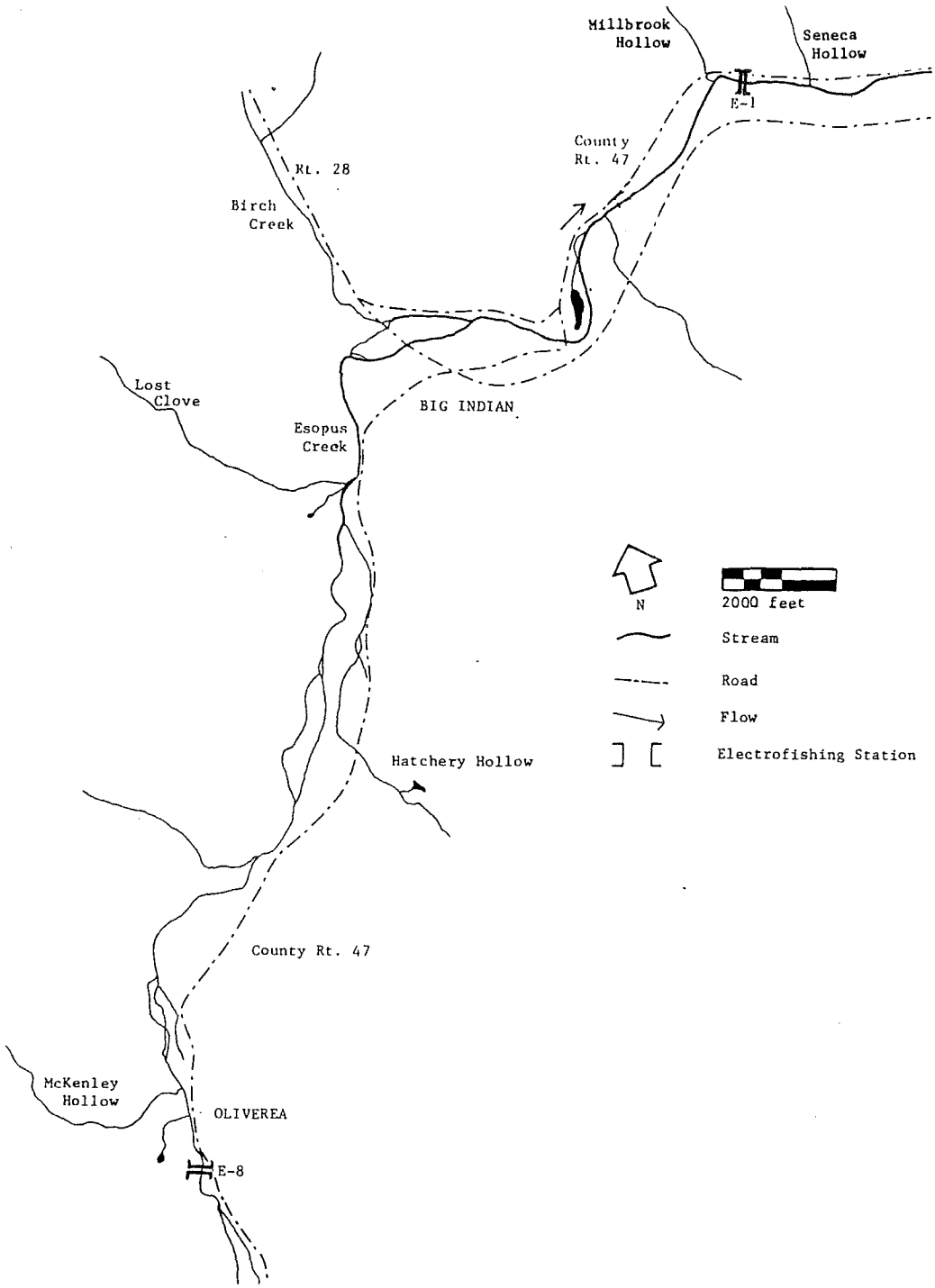
Table 22. Weight-length regression equation and slope comparison by analysis of covariance (ANCOVA), above and below the STO or by fish collection station, of rainbow trout and brown trout collected in September and October 1978 in Esopus Creek.

Species	Locations Compared	Weight-Length Regression Equation	ANCOVA Results
Rainbow trout	E-8	log W = -4.7673 + 2.8927 log L	
	E-1	log W = -5.0492 + 3.0492 log L	
	E-2	log W = -4.6236 + 2.8290 log L	
	E-3	log W = -5.8807 + 3.4005 log L	
	E-4	log W = -4.9562 + 2.9804 log L	
	E-9	log W = -4.3386 + 2.7020 log L	
	E-10	log W = -5.0657 + 3.0323 log L	$F=1.0435; df=6,38; \alpha>0.05$
Brown trout	E-8	log W = -5.2524 + 3.1419 log L	
	E-1	log W = -4.9751 + 2.9738 log L	
	E-2	log W = -3.4971 + 2.3451 log L	
	E-4	log W = -5.4163 + 3.1691 log L	
	E-9	log W = -4.3487 + 2.7163 log L	
	E-10	log W = -2.4014 + 1.7067 log L	$F=9.9474; df=5,17; \alpha<0.0005$
	Above STO	log W = -4.7638 + 2.8980 log L	
	Below STO	log W = -5.1619 + 3.0636 log L	$F=1.8214; df=1,15; \alpha>0.05$

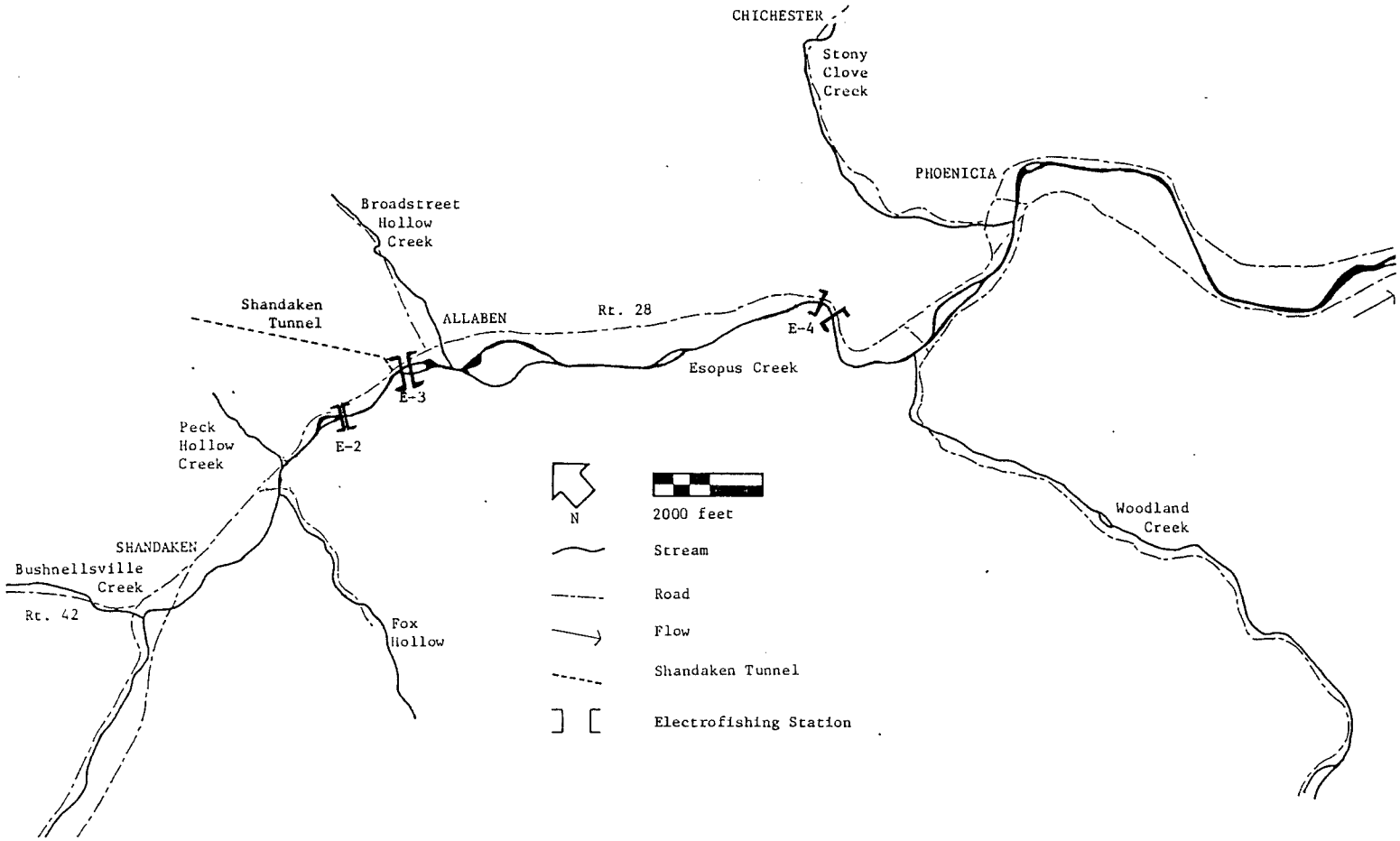
Table 23. Summary of IA tagged rainbow trout recaptured by anglers in April and May 1978 in Esopus Creek, Traver Hollow Creek, and Stony Clove Creek.

Tag Number	Date		Location		Length (mm)		Weight (g)	
	Capture	Recapture	Capture*	Recapture	Capture	Recapture**	Capture	Recapture**
01250	9 Nov 77	29 Apr 78	BEF 5	Esopus Creek, near Woodland Creek	281	282	217	-
01388	14 Nov 77	8 Apr 78	BEF 6	Esopus Creek, Boiceville	388	394	608	680
01414	20 Apr 78	7 May 78	BEF 5	Traver Hollow Creek, near Route 28A bridge	355	343	418	-
01430	10 Nov 77	16 Apr 78	BEF 4	Esopus Creek, Boiceville	490	483	825	1134
01957	20 Oct 77	10 Apr 78	BEF 6	Stony Clove Creek, Chichester	357	352	460	395
01966	20 Oct 77	26 May 78	BEF 4	Mouth of Esopus Creek	417	400	640	567

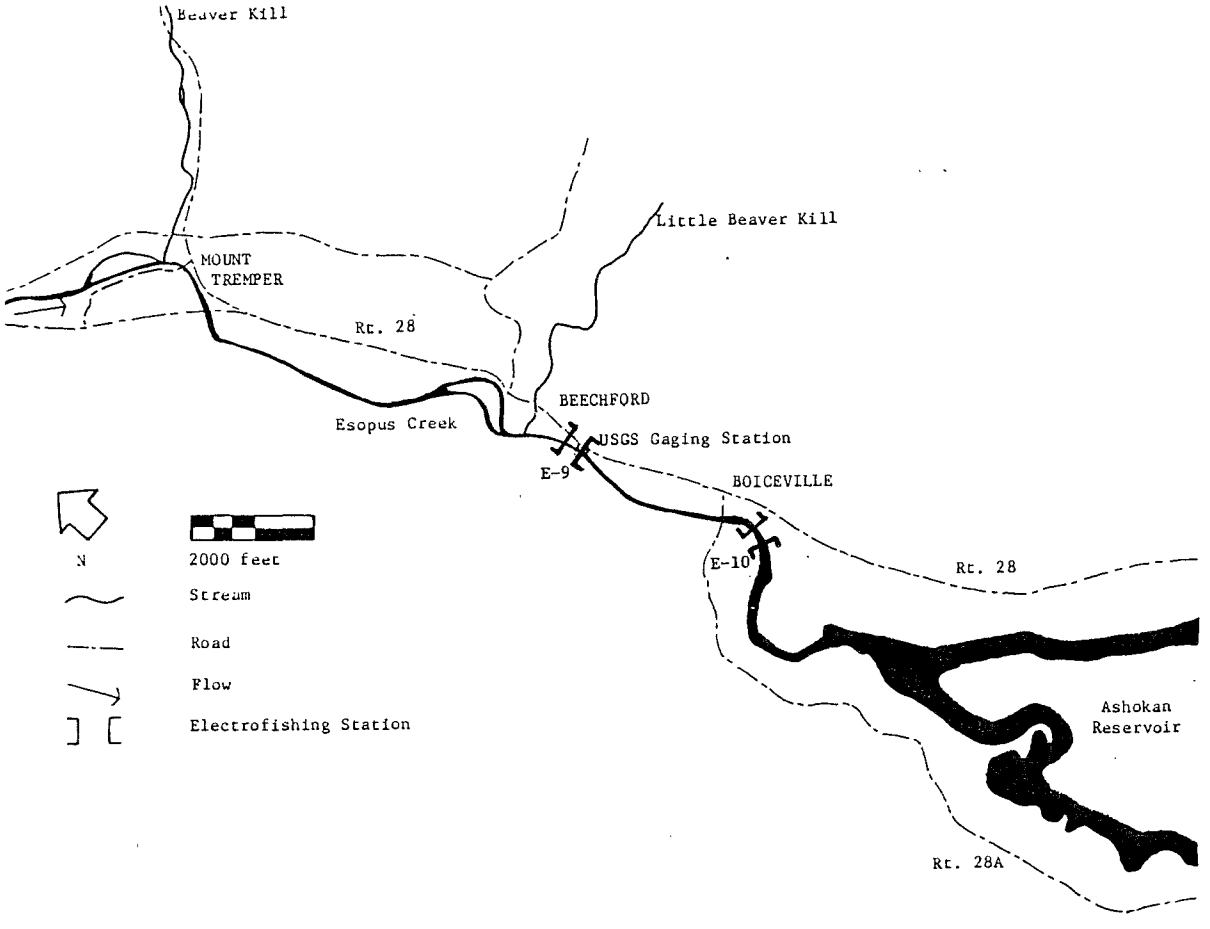
* Ashokan Reservoir boat electrofishing stations: BEF 5 = mouth of Esopus Creek; BEF 6 = mouth of Traver Hollow Creek; BEF 4 = mouth of Butternut Creek.
** Reported by angler or taken by IA several days after capture.



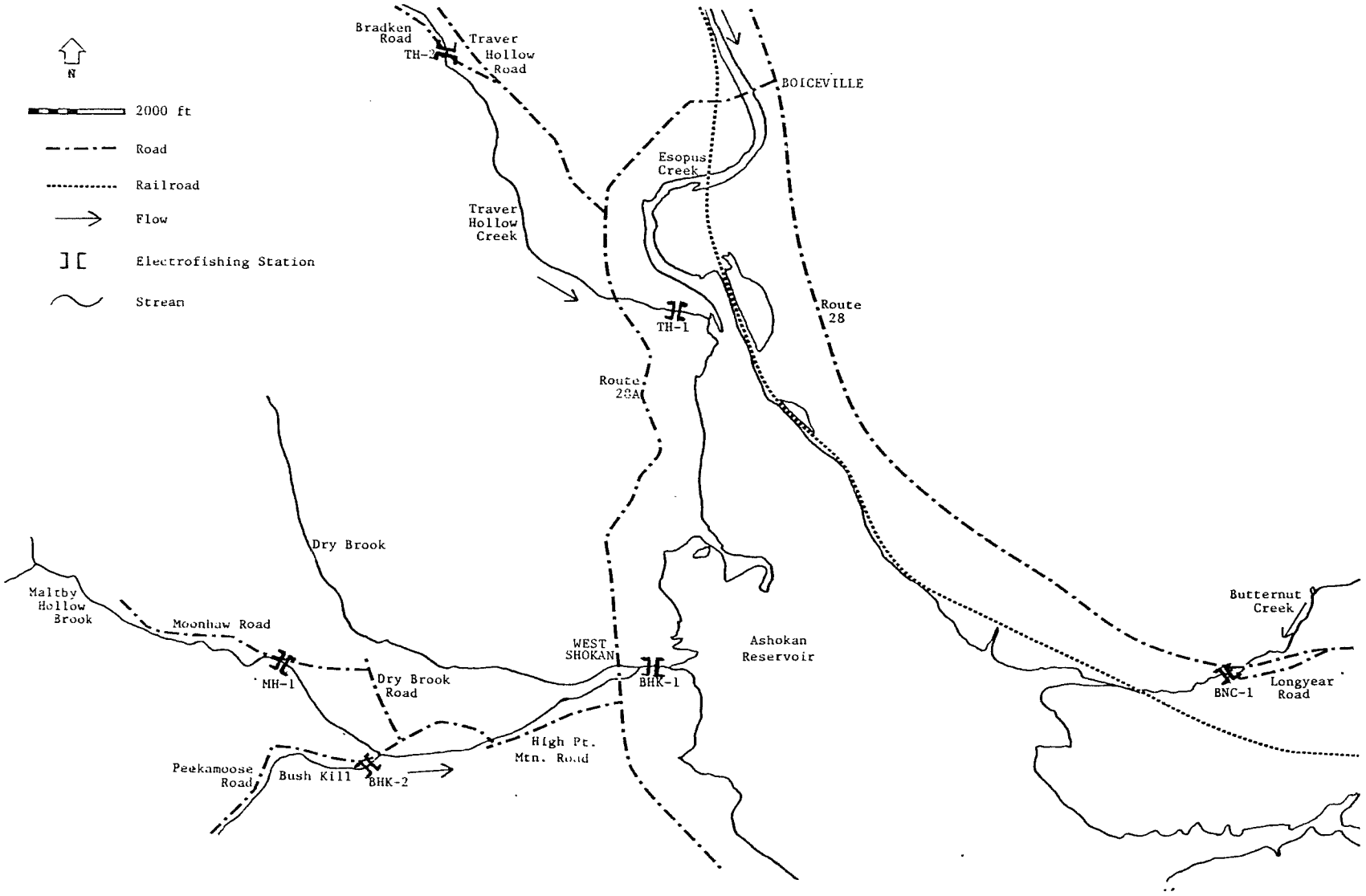
Map 1. Electrofishing stations E-1 and E-8 sampled in September 1978 in Esopus Creek above the STO.



Map 2. Electrofishing stations E-2 through E-4 sampled in September and October 1978 in Esopus Creek above and below the STO.



Map 3. Electrofishing stations E-9 and E-10 sampled in September 1978 in Esopus Creek below the STO.



Map 4. Electrofishing stations BNC-1, BHK-1, BHK-2, MH-1, TH-1, and TH-2 sampled in August and September 1978 in tributaries of Ashokan Reservoir.

Appendix 1. Common and scientific names of fishes collected and observed by Ichthyological Associates, Inc., in 1978 in the study areas. Nomenclature follows Bailey (1970).

Common Name	Scientific Name	Angler Classification*
Catfishes - Ictaluridae		
Brown bullhead	Ictalurus nebulosus	P
Margined madtom	Noturus insignis	R
Stonecat	Noturus flavus	R
Minnows - Cyprinidae		
Blacknose dace	Rhinichthys atratulus	R
Bluntnose minnow	Pimephales notatus	R
Carp	Cyprinus carpio	R
Common shiner	Notropis cornutus	R
Creek chub	Semotilus atromaculatus	R
Cutlips minnow	Exoglossum maxillingua	R
Golden shiner	Notemigonus crysoleucas	R
Longnose dace	Rhinichthys cataractae	R
Rosyface shiner	Notropis rubellus	R
Spottail shiner	Notropis hudsonius	R
Perches - Percidae		
Logperch	Percina caprodes	R
Tessellated darter	Etheostoma olmstedi	R
Walleye	Stizostedion vitreum vitreum	G
Yellow perch	Perca flavescens	P
Pikes - Esocidae		
Chain pickerel	Esox niger	G
Sculpins - Cottidae		
Slimy sculpin	Cottus cognatus	R
Suckers - Catostomidae		
Longnose sucker	Catostomus catostomus	R
White sucker	Catostomus commersoni	R
Sunfishes - Centrarchidae		
Bluegill	Lepomis macrochirus	P
Green sunfish	Lepomis cyanellus	P
Largemouth bass	Micropterus salmoides	G
Pumpkinseed	Lepomis gibbosus	P
Redbreast sunfish	Lepomis auritus	P
Rock bass	Ambloplites rupestris	P
Smallmouth bass	Micropterus dolomieui	G
Trouts - Salmonidae		
Brook trout	Salvelinus fontinalis	G
Brown trout	Salmo trutta	G
Cisco	Coregonus artedii	G
Rainbow trout	Salmo gairdneri	G

* G = game fish, P = pan fish, R = rough or forage fish.

Appendix 2. Mean total length (mm) and mean weight (g) of each age group of rainbow trout collected by chain electrofishing and observed by IA creel census personnel from April through June and from August through November 1978 in Esopus Creek above and below the STO.

Age Group		Above STO						Below STO						
		0+	1+	2+	3+	4+	TC[1]	0+	1+	2+	3+	4+	5+	TC
Apr	N-L[2]	-	-	2	2	3	7	-	-	-	9	15	2	26
	% comp.[3]	-	-	28.6	28.6	42.8		-	-	-	34.6	57.7	7.7	
	ML[4]	-	-	181	282	455		-	-	-	299	417	442	
	SD-L[5]	-	-	16.3	111.0	56.8		-	-	-	56.6	41.3	9.2	
	R-L[6]	-	-	169-192	203-360	415-520		-	-	-	250-440	337-530	435-448	
	N-W[7]	-	-	-	-	-		-	-	-	-	-	-	
	MW[8]	-	-	-	-	-		-	-	-	-	-	-	
	SD-W[9]	-	-	-	-	-		-	-	-	-	-	-	
	R-W[10]	-	-	-	-	-		-	-	-	-	-	-	
May	N-L	-	-	-	1	-	1	-	-	1	8	5	-	14
	% comp.	-	-	-	100	-		-	-	7.1	57.2	35.7	-	
	ML	-	-	-	353	-		-	-	200	344	446	-	
	SD-L	-	-	-	-	-		-	-	-	138.6	56.4	-	
	R-L	-	-	-	353	-		-	-	200	232-564	393-540	-	
	N-W	-	-	-	-	-		-	-	-	-	-	-	
	MW	-	-	-	-	-		-	-	-	-	-	-	
	SD-W	-	-	-	-	-		-	-	-	-	-	-	
	R-W	-	-	-	-	-		-	-	-	-	-	-	
Jun	N-L	-	-	2	-	-	2	-	-	3	-	-	-	3
	% comp.	-	-	100	-	-		-	-	100	-	-	-	
	ML	-	-	228	-	-		-	-	234	-	-	-	
	SD-L	-	-	6.4	-	-		-	-	42.5	-	-	-	
	R-L	-	-	223-232	-	-		-	-	201-282	-	-	-	
	N-W	-	-	-	-	-		-	-	-	-	-	-	
	MW	-	-	-	-	-		-	-	-	-	-	-	
	SD-W	-	-	-	-	-		-	-	-	-	-	-	
	R-W	-	-	-	-	-		-	-	-	-	-	-	
Aug	N-L	-	-	1	-	-	1	-	2	5	1	-	-	8
	% comp.	-	-	100	-	-		-	25.0	62.5	12.5	-	-	
	ML	-	-	208	-	-		-	186	236	326	-	-	
	SD-L	-	-	-	-	-		-	21.9	40.5	-	-	-	
	R-L	-	-	208	-	-		-	170-201	205-305	326	-	-	
	N-W	-	-	-	-	-		-	-	-	-	-	-	
	MW	-	-	-	-	-		-	-	-	-	-	-	
	SD-W	-	-	-	-	-		-	-	-	-	-	-	
	R-W	-	-	-	-	-		-	-	-	-	-	-	

[1]TC = total fish counted, [2]N-L = number in age group for which a length was taken, [3]% comp. = % in age group of total fish aged, [4]ML = mean length (mm), [5]SD-L = standard deviation of mean length, [6]R-L = length range, [7]N-W = number in age group for which a weight was taken, [8]MW = mean weight (g), [9]SD-W = standard deviation of mean weight, [10]R-W = weight range.

* Significantly different from below STO.

Appendix 2 - (Continued).

Age Group		Above STO						Below STO						
		0+	1+	2+	3+	4+	TC	0+	1+	2+	3+	4+	5+	TC
Sep	N-L	49	60	13	-	-	122	21	138	33	-	-	-	192
	% comp.	40.2	49.2	10.6	-	-		-	-	-	-	-	-	
	ML	70*	152*	200*	-	-		95	183	230	-	-	-	
	SD-L	10.8	16.3	14.7	-	-		16.1	12.2	21.2	-	-	-	
	R-L	54-93	117-184	180-226	-	-		62-122	156-215	184-290	-	-	-	
	N-W	49	60	13	-	-		21	137	27	-	-	-	
	MW	4*	39*	80*	-	-		9	64	115	-	-	-	
	SD-W	2.0	12.3	15.7	-	-		3.3	13.4	26.2	-	-	-	
	R-W	2-10	18-72	53-103	-	-		4-16	40-115	55-170	-	-	-	
Oct	N-L	-	-	-	-	-	0	22	63	31	2	-	-	118
	% comp.	-	-	-	-	-		18.6	53.4	26.3	1.7	-	-	
	ML	-	-	-	-	-		98	190	238	494	-	-	
	SD-L	-	-	-	-	-		14.3	15.7	15.4	31.8	-	-	
	R-L	-	-	-	-	-		72-124	157-218	210-281	471-516	-	-	
	N-W	-	-	-	-	-		22	56	25	-	-	-	
	MW	-	-	-	-	-		9	73	135	-	-	-	
	SD-W	-	-	-	-	-		3.5	17.5	19.9	-	-	-	
	R-W	-	-	-	-	-		5-18	41-110	96-170	-	-	-	
Nov	N-L	-	-	3	-	-	3	-	1	2	-	-	-	3
	% comp.	-	-	100	-	-		-	33.3	66.7	-	-	-	
	ML	-	-	234	-	-		-	209	235	-	-	-	
	SD-L	-	-	27.6	-	-		-	-	8.5	-	-	-	
	R-L	-	-	208-263	-	-		-	209	229-241	-	-	-	
	N-W	-	-	-	-	-		-	-	-	-	-	-	
	MW	-	-	-	-	-		-	-	-	-	-	-	
	SD-W	-	-	-	-	-		-	-	-	-	-	-	
	R-W	-	-	-	-	-		-	-	-	-	-	-	

Appendix 3. Mean total length (mm) and mean weight (g) of each age group of brown trout collected by chain electrofishing and observed by IA creel census personnel from April through November 1978 in Esopus Creek above and below the STO.

Age Group		Above STO						Below STO						
		0+	1+	2+	3+	4+	TC[1]	0+	1+	2+	3+	4+	5+	TC
Apr	N-L[2]	-	-	-	5	1	6	-	-	-	10	1	-	11
	% comp.[3]	-	-	-	83.3	16.7		-	-	-	90.9	9.1	-	
	ML[4]	-	-	-	295	283		-	-	-	302	303	-	
	SD-L[5]	-	-	-	84.1	-		-	-	-	40.2	-	-	
	R-L[6]	-	-	-	212-395	283		-	-	-	241-395	303	-	
	N-W[7]	-	-	-	-	-		-	-	-	-	-	-	
	MW[8]	-	-	-	-	-		-	-	-	-	-	-	
	SD-W[9]	-	-	-	-	-		-	-	-	-	-	-	
	R-W[10]	-	-	-	-	-		-	-	-	-	-	-	
May	N-L	-	-	1	4	-	5	-	-	11	4	2	1	18
	% comp.	-	-	20	80	-		-	-	61.1	22.2	11.1	5.6	
	ML	-	-	196	280	-		-	-	202	258	411	450	
	SD-L	-	-	-	33.8	-		-	-	20.5	42.9	14.1	-	
	R-L	-	-	196	245-319	-		-	-	170-243	206-300	401-421	450	
	N-W	-	-	-	-	-		-	-	-	-	-	-	
	MW	-	-	-	-	-		-	-	-	-	-	-	
	SD-W	-	-	-	-	-		-	-	-	-	-	-	
	R-W	-	-	-	-	-		-	-	-	-	-	-	
Jun	N-L	-	1	2	-	-	3	-	-	3	4	-	-	7
	% comp.	-	33.3	66.7	-	-		-	-	42.9	57.1	-	-	
	ML	-	153	209	-	-		-	-	212	290	-	-	
	SD-L	-	-	19.1	-	-		-	-	11.4	39.6	-	-	
	R-L	-	153	195-222	-	-		-	-	199-220	254-346	-	-	
	N-W	-	-	-	-	-		-	-	-	-	-	-	
	MW	-	-	-	-	-		-	-	-	-	-	-	
	SD-W	-	-	-	-	-		-	-	-	-	-	-	
	R-W	-	-	-	-	-		-	-	-	-	-	-	
Jul	N-L	-	-	1	-	-	1	-	-	1	-	-	-	1
	% comp.	-	-	100	-	-		-	-	100	-	-	-	
	ML	-	-	204	-	-		-	-	235	-	-	-	
	SD-L	-	-	-	-	-		-	-	-	-	-	-	
	R-L	-	-	204	-	-		-	-	235	-	-	-	
	N-W	-	-	-	-	-		-	-	-	-	-	-	
	MW	-	-	-	-	-		-	-	-	-	-	-	
	SD-W	-	-	-	-	-		-	-	-	-	-	-	
	R-W	-	-	-	-	-		-	-	-	-	-	-	

[1]TC = total fish counted, [2]N-L = number in age group for which a length was taken, [3]% comp. = % in age group of total fish aged, [4]ML = mean length (mm), [5]SD-L = standard deviation of mean length, [6]R-L = length range, [7]N-W = number in age group for which a weight was taken, [8]MW = mean weight (g), [9]SD-W = standard deviation of mean weight, [10]R-W = weight range.

* Significantly different from below STO.

Appendix 3 - (Continued).

Age Group		Above STO						Below STO						
		0+	1+	2+	3+	4+	TC	0+	1+	2+	3+	4+	5+	TC
Aug	N-L	-	-	-	-	-	0	-	-	3	1	-	-	4
	% comp.	-	-	-	-	-		-	-	75.0	25.0	-	-	
	ML	-	-	-	-	-		-	-	203	383	-	-	
	SD-L	-	-	-	-	-		-	-	32.1	-	-	-	
	R-L	-	-	-	-	-		-	-	180-240	383	-	-	
	N-W	-	-	-	-	-		-	-	-	-	-	-	
	MW	-	-	-	-	-		-	-	-	-	-	-	
	SD-W	-	-	-	-	-		-	-	-	-	-	-	
	R-W	-	-	-	-	-		-	-	-	-	-	-	
Sep	N-L	16	1	5	2	-	24	2	8	10	-	-	-	20
	% comp.	66.7	4.2	20.8	8.3	-		10.0	40.0	50.0	-	-	-	
	ML	85*	190	221	329	-		107	173	228	-	-	-	
	SD-L	8.0	-	17.2	17.0	-		12.0	19.9	28.2	-	-	-	
	R-L	73-102	190	203-243	317-341	-		98-115	143-192	203-288	-	-	-	
	N-W	16	1	5	1	-		2	8	9	-	-	-	
	MW	7	71	108	341	-		11	52	108	-	-	-	
	SD-W	3.5	-	41.8	-	-			19.5	33.8	-	-	-	
	R-W	4-18	71	75-175	341	-		11	21-78	73-174	-	-	-	
Oct	N-L	-	-	-	-	-	0	3	7	9	1	1	-	21
	% comp.	-	-	-	-	-		14.3	33.3	42.8	4.8	4.8	-	
	ML	-	-	-	-	-		114	189	268	411	538	-	
	SD-L	-	-	-	-	-		10.0	20.1	46.3	-	-	-	
	R-L	-	-	-	-	-		104-124	158-217	205-328	411	538	-	
	N-W	-	-	-	-	-		3	5	3	1	-	-	
	MW	-	-	-	-	-		13	63	128	717	-	-	
	SD-W	-	-	-	-	-		3.1	26.6	55.9	-	-	-	
	R-W	-	-	-	-	-		10-16	38-100	82-190	717	-	-	
Nov	N-L	-	-	-	-	-	0	-	-	1	-	-	-	1
	% comp.	-	-	-	-	-		-	-	100	-	-	-	
	ML	-	-	-	-	-		-	-	215	-	-	-	
	SD-L	-	-	-	-	-		-	-	-	-	-	-	
	R-L	-	-	-	-	-		-	-	215	-	-	-	
	N-W	-	-	-	-	-		-	-	-	-	-	-	
	MW	-	-	-	-	-		-	-	-	-	-	-	
	SD-W	-	-	-	-	-		-	-	-	-	-	-	
	R-W	-	-	-	-	-		-	-	-	-	-	-	

Appendix 4. Mean total length (mm) and mean weight (g) by station of each age group of rainbow trout collected by chain electrofishing in September and October 1978 in Esopus Creek.

Station (Date)	E-8 (12 Sep)				E-1 (12 Sep)				E-2 (12 Sep)			
Age Group	0+	1+	2+	TC[1]	0+	1+	2+	TC	0+	1+	2+	TC
N-L[2]	7	7	1	15	22	16	2	40	20	37	10	67
% comp.[3]	46.7	46.7	6.6		55.0	40.0	5.0		29.9	55.2	14.9	
ML[4]	77*	140*+#	207		70*	151*#	199		68*	154*#	200*	
SD-L[5]	11.0	17.8	-		11.1	19.0	8.5		9.8	14.2	16.5	
R-L[6]	64-93	117-168	207		47-93	123-178	193-205		54-86	130-184	180-226	
N-W[7]	7	7	1		22	16	2		20	37	10	
MW[8]	5*	28*+#@	94		4*	43*#	89		4*	39*#	77*	
SD-W[9]	2.9	7.9	-		1.8	14.7	9.2		1.6	10.8	16.6	
R-W[10]	3-10	18-39	94		1-9	23-72	82-95		2-6	22-62	53-103	

Station (Date)	E-3 (16 Oct)**			E-4 (18 Oct)**				E-9 (26 Sep)				E-10 (26 Sep)		
Age Group	0+	1+	TC	0+	1+	2+	TC	0+	1+	2+	TC	0+	1+	TC
N-L	1	1	2	21	55	25	101	18	131	27	176	3	6	9
% comp.	50.0	50.0		20.8	54.5	24.7		10.2	74.4	15.4		33.3	66.7	
ML	114	183		98	189	238		98#	183	227		78	178	
SD-L	-	-		14.2	16.0	12.6		15.5	12.0	19.1		5.69	11.0	
R-L	114	183		72-124	157-217	220-265		62-122	156-215	184-275		73-84	164-193	
N-W	1	1		21	55	25		18	131	27		3	6	
MW	13	65		9	73	135		10#	65	115		5	59	
SD-W	-	-		3.5	17.6	19.9		2.8	13.4	26.2		1.2	13.0	
R-W	13	65		5-18	41-110	96-170		4-16	40-115	55-170		4-6	42-72	

[1]TC = total fish counted, [2]N-L = number in age group for which a length was taken, [3]% comp. = % in age group of total fish aged, [4]ML = mean length (mm), [5]SD-L = standard deviation of mean length, [6]R-L = length range, [7]N-W = number in age group for which a weight was taken, [8]MW = mean weight (g), [9]SD-W = standard deviation of mean weight, [10]R-W = weight range.

* Significantly different from station E-9.
\+ Significantly different from station E-2.
\# Significantly different from station E-10.
@ Significantly different from station E-1.
** Stations E-3 and E-4 excluded from t-tests.

Appendix 5. Mean total length (mm) and mean weight (g) by station of each age group of brown trout collected by chain electrofishing in September and October 1978 in Esopus Creek.

Station (Date)	E-8 (12 Sep)			E-1 (12 Sep)				E-2 (12 Sep)		
Age Group	0+	2+	TC[1]	0+	1+	3+	TC	0+	2+	TC
N-L[2]	1	1	2	13	1	1	15	2	4	6
% comp.[3]	50.0	50.0		86.6	6.7	6.7		33.3	66.7	
ML[4]	73	243		85*	190	341		94	215	
SD-L[5]	-	-		6.9	-	-		10.6	13.8	
R-L[6]	73	243		75-102	190	341		86-101	203-235	
N-W[7]	1	1		13	1	1		2	4	
MW[8]	4	175		6*+	71	341		14	91	
SD-W[9]	-	-		1.7	-	-		5.7	21.1	
R-W[10]	4	175		4-10	71	341		10-18	75-122	

Station (Date)	E-4 (18 Oct)#					E-9 (26 Sep)			E-10 (26 Sep)		
Age Group	0+	1+	2+	3+	TC	1+	2+	TC	0+	1+	TC
N-L	3	5	3	1	12	7	9	16	2	1	3
% comp.	25.0	41.7	25.0	8.3		43.8	56.2		66.7	33.3	
ML	114	186	232	411		177	221		107	146	
SD-L	10.0	24.0	32.4	-		18.0	19.8		12.0	-	
R-L	104-124	158-217	205-268	411		161-192	203-251		98-115	146	
N-W	3	5	3	1		7	9		2	1	
MW	13	63	128	717		51	108		11	21	
SD-W	3.1	26.6	55.9	-		16.1	33.8		0	-	
R-W	10-16	38-100	82-190	717		32-78	73-174		11	21	

[1]TC = total fish counted, [2]N-L = number in age group for which a length was taken, [3]% comp. = % in age group of total fish aged, [4]ML = mean length (mm), [5]SD-L = standard deviation of mean length, [6]R-L = length range, [7]N-W = number in age group for which a weight was taken, [8]MW = mean weight (g), [9]SD-W = standard deviation of mean weight, [10]R-W = weight range.

* Significantly different from station E-10.
\+ Significantly different from station E-2.
\# Station E-4 excluded from t-tests.

Section Leader:
Arthur J. Newell, M.A.

ESOPUS CREEK CREEL CENSUS

Introduction

A creel census was conducted from 1 April through 28 November 1978 on Esopus Creek to (1) determine angler use (number and length of angler trips) and success (catch rate and composition), (2) evaluate the effect of the new fishing regulations, and (3) provide data for studies of age and growth of trout.

Materials and Methods

Esopus Creek from Ashokan Reservoir to Big Indian, New York (15.5 mi), was surveyed by IA personnel from 0700-1900 hours (0700-1700, 1-28 Nov) on 38 (22.4%) of 170 weekdays and 36 (48.6%) of 74 weekend days and holidays (Table 24, Map 5). The census was conducted in two parts, a count of fishermen (instantaneous count) and interviews of fishermen (Figs. 1 and 2).

Esopus Creek was divided into three sections (Table 25). The section where an angler was observed was noted on the interview sheet.

Each census day from April through June, three 4-hour census counts were conducted; from July through October, four 3-hour census counts; and in November, five 2-hour census counts. To begin each census, the agent walked the entire length of section 1 and conducted an instantaneous count and interviews simultaneously, except in October and November when section 1 was closed to fishing. Upon completion of section 1 the agent then drove near the stream and made an instantaneous count of 69% of section 2 and 82% of section 3 (Map 5). Instantaneous counts were interrupted only to interview anglers who had completed fishing a section for the day (completed trip). When the agent reached the upstream limit of section 3, he reversed

direction and interviewed as many fishermen as possible in sections 3 and 2 in the remainder of the 2-, 3-, or 4-hour period.

Monthly estimates of total number of anglers, total hours fished (including length of completed trips), and total fish caught were calculated separately for weekdays and weekend days (including holidays). Estimates were calculated in the following manner:

$$\text{Average Angler Trip} = \frac{\text{Hours Fished in Completed Trips}}{\text{Completed Anglers Contacted}}$$

$$\text{Trout/hr} = \frac{\text{Total Trout of a Species Caught}}{\text{Total Hours Fished (complete and incomplete trips)}}$$

$$\text{Estimated Total Number of Anglers} = \frac{\text{Total Instantaneous Count of a Section x Count Interval (2, 3, or 4 hr)}}{\text{Average Angler Trip}}$$

$$\text{Estimated Total Number of Hours Fished} = \text{Estimated Total Number of Anglers x Average Angler Trip}$$

$$\text{Estimated Total Trout Caught} = \text{Estimated Total Number of Hours Fished x Trout/hr}$$

To determine monthly values, weekday data were multiplied by the ratio of weekdays in the month to weekdays censused; a similar multiplication was made for weekend data. IA made 22 aerial counts of Esopus Creek fishermen on days when ground creel census was conducted (Table 26). To account for the portions of the sections not observed in the instantaneous counts, an expansion factor was calculated by dividing the number of fishermen observed from the air by the number recorded during the instantaneous count. Weekday estimates for sections 1, 2, and 3 were expanded by factors of 1.00, 1.17, and 1.75, respectively; and weekend estimates were expanded by factors of 1.00, 1.08, and 1.12, respectively.

Length of time fished by completed and uncompleted anglers was rounded to the nearest quarter hour and reported as 0.00, 0.25, 0.50 and 0.75;

estimated total hours fished were rounded to the nearest tenth.

Section 1 became a "Special Regulations Area" on 1 May 1976. Anglers could fish from 1 April through 30 September with artificial lures only and could creel three trout (12-inch minimum total length) per day. On 1 October 1977 sections 2 and 3 became a "Special Regulations Area" and anglers could fish from 1 April through 30 November and were allowed a combination of five rainbow trout and brown trout (no size limit) per day. Prior to 1 May 1976 in section 1 and prior to 1 October 1977 in sections 2 and 3, anglers had been allowed a combination of 10 rainbow trout and brown trout per day of any size.

A total of 27,995 fin-clipped hatchery brown trout yearlings was stocked on 21 April and 8 and 23 June 1978 by DEC in Esopus Creek (Table 2). Hatchery holdover brown trout and wild brown trout were differentiated in the field by differences in physical appearance and fin clips. Lengths and scale samples were taken from as many trout of various sizes as possible (excluding stocked yearling brown trout) (Appendix 1). Only fish observed by the creel census agent were recorded. Some fishermen caught fish and released them.

Statistical analyses were made of data from above and below the STO using Student's t-test (t), correlation coefficients (r), and the Wilcoxon two-sample test (U_s) (Sokal and Rohlf 1969).

Results and Discussion

From 1 April through 28 November 1978, 875 trout were caught and kept in 5514.50 hours by 2182 anglers interviewed (Tables 27 and 28). Most often caught was yearling hatchery brown trout (n = 539, 61.6%), followed by rainbow trout (210, 24.0%), wild brown trout (100, 11.4%), and hatchery holdover brown trout (26, 3.0%). In addition, on 13 May one brook trout

(190 mm) was caught in section 3.

Yearling hatchery brown trout comprised the greatest percentage of the catch from April through August (n = 95, 51.9%; 127, 55.7%; 216, 83.7%; 60, 77.9%; and 27, 61.4%, respectively) and rainbow trout from September through November (14, 58.3%; 29, 61.7%; and 12, 85.7%, respectively) (Table 27).

In Esopus Creek in 1978 most (n = 111, 67%) of the rainbow trout, wild brown trout, and hatchery holdover brown trout creeled were <300 mm (<11.8 inches) (Table 29). Most large (>300 mm) rainbow trout (n = 33, 89%) and wild brown trout (12, 66%) were creeled in April and May.

Angler success was highest in section 2 (0.18 trout/hr Apr-Sep and Apr-Nov), followed by sections 3 (0.14 Apr-Sep and Apr-Nov) and 1 (0.03 Apr-Sep) (Table 27). Catch rate was higher in section 3 than in section 2 in July (0.24 trout/hr vs 0.22), September (0.13 vs 0.11), and November (0.59 vs 0.10). The monthly catch rate of wild trout (rainbow and brown) increased from ≤0.08 trout/hr from April through September to about 0.16 in October and November (Fig. 3).

Overall catch rate on Esopus Creek in 1978 (0.16 trout/hr Apr-Sep and Apr-Nov) was lower than in 1975 (0.48), 1976 (0.47), and 1977 (0.29 Apr-Sep and 0.30 Apr-Nov) (Kelly 1976, Culp et al. 1977a, Culp and Associates 1978). Reduced catch rates in 1978 and 1977 compared to 1975 and 1976 in part resulted from the modification of the selection of census days (fewer days censused directly following stocking) to reduce bias in estimating the catch rate (Culp and Associates 1978).

The difference in catch rate between 1977 and 1978 was probably due to several factors. In 1978, 14.9% (n = 4905) fewer yearling hatchery brown trout were stocked by DEC than in 1977. Trout were stocked in April and June

1978 with the greatest proportion at the end of June. Consequently, in April and May 1978 when fishing pressure was greatest, far fewer hatchery fish were available to anglers than had been available in 1976 and 1977. In addition, 1978 was the first full year with the new creel limit of a combination of five rainbow trout and brown trout per day, compared to a limit of 10 previously. Experiences of the IA creel census agent indicated a reluctance by some anglers in 1978 to be interviewed (some refused). Some anglers refused to display all or some (if greater than five) of their fish caught.

The most trout caught per km of stream in 1978 were in section 2 (40.2 trout/km), followed by sections 3 (24.5), and 1 (10.0) (Table 27).

The highest angler use for the 1978 trout season was observed in section 1 (293.8 anglers/km) and the lowest in section 3 (97.6), as compared to 383.8 in section 1 and 113.5 in section 3 in 1976 and 376.9 in section 1 and 104.5 in section 3 in 1977 (Table 28) (Culp et al. 1977a, Culp and Associates 1978).

Angler use in sections 2 and 3 was compared to turbidity (nephelometer turbidity units, NTU) above and below the STO (Figs. 4 and 5). Turbidity during days censused was obtained by extrapolation from turbidity values recorded during water quality sampling and was correlated with anglers/km and angler opinions of water clarity (see Water Quality section). Near zero correlations were found between turbidity and anglers/km ($r = 0.082 \pm 0.229$ with 95% confidence below the STO and $r = 0.107 \pm 0.231$ with 95% confidence above the STO; neither significantly different from zero). Turbidity probably had little effect on where anglers fished in 1978. In 1977 fewer anglers fished in section 2 as turbidity increased (Culp and Associates 1978).

Anglers reported they generally regarded the clarity of water as good in all three sections of Esopus Creek but somewhat better in section 3 than in

sections 1 and 2 (Table 30). Mean response of anglers to the water clarity question was calculated (Table 31). The Wilcoxon two-sample test was used to determine that the mean responses to water clarity of anglers from sections 2 and 3 were significantly different (U_S = 2681.5, significant at α = 0.01). Since responses of anglers in sections 2 and 3 were different, correlation coefficients were calculated regressing mean daily response against turbidity (section 2: r = 0.578 ± 0.234 with 95% confidence, significantly different from zero with α = 0.0005; section 3: r = 0.161 ± 0.264 with 95% confidence, not significantly different from zero with α = 0.05). Results of the same correlations were similar in 1977 (Culp and Associates 1978). These data indicate that in section 2 anglers recognized an increase in turbidity and that in section 3 there is little correlation between anglers' opinions of water clarity and actual changes in turbidity.

Student's t-test was used to determine that mean turbidity on creel census days at water quality station 21 (above the STO) in 1977 was not significantly different (α = 0.05) from mean turbidity on creel census days in 1978 (2.41 NTU in 1977 vs 1.64 in 1978, t = 1.592) and at water quality station 19 (below the STO) there was a significant difference (α = 0.01) between 1977 and 1978 (5.68 NTU in 1977 vs 2.99 in 1978, t = 3.449). The Wilcoxon two-sample test was used to determine that the mean responses to water clarity of anglers between 1977 and 1978 were not significantly different in section 3 (U_S = 1891, not significant at α = 0.05) and were significantly different in section 2 (anglers regarded clarity as better in 1978) (U_S = 3035, significant at α = 0.05). Results of comparisons of 1977 and 1978 data indicate that anglers do not simply rate section 2 water clarity in relation to section 3 (or some other idea of clear water). In both years they rated section 2 more turbid

than section 3, but in 1978 they could detect improved clarity in section 2 as evidenced by their rating it higher than in 1977.

A total of 3228 fishermen was observed in 1978 during 36 weekend days and holidays censused (90/day) compared to a total of 811 on 38 weekdays censused (21/day) (Tables 27 and 28). The distribution of anglers among sections was similar on weekdays and weekend days.

Ulster County residents comprised the greatest percentage of Esopus Creek anglers (28.7%); residents of all New York State counties comprised 71.7% (Table 32). Out-of-state and foreign residents comprised 28.4%. In 1976 Ulster County, all New York State counties, and out-of-state comprised 40.0%, 74.2%, and 25.9%, respectively, and in 1977, 32.8%, 73.2%, and 26.8%, respectively (Culp et al. 1977a, Culp and Associates 1978).

Most fishermen used worms for bait (n = 859, 34.7%), followed by flies (715, 28.9%: wet, 246, 9.9%; dry, 228, 9.2%; nymphs, 194, 7.8%; streamers, 26, 1.0%; and others, 21, 0.8%), lures (342, 13.8%), salmon eggs (306, 12.3%), minnows (246, 9.9%), and miscellaneous bait (10, 0.4%). Many fishermen used more than one kind of bait.

An estimated 11,364 anglers fished an estimated 38,771.3 hours during 1978 and caught an estimated 6823 trout (n = 86, 1.3% in section 1; 5645, 82.7% in section 2; and 1092, 16.0% in section 3) (Table 33). Hatchery brown trout yearlings (n = 4270) comprised 62.6% of the estimated catch, followed by rainbow trout (1589, 23.3%), wild brown trout (769, 11.3%), and hatchery holdover brown trout (195, 2.9%). An estimated 29.8% (n = 2036) of the total trout taken were caught in June. By the end of July 82.7% (n = 5646) of the season's estimated total catch and 90.4% (3861) of the season's estimated catch of hatchery brown trout yearlings had been taken.

In 1976 an estimated 23,321 anglers fished an estimated 64,651.7 hours and caught an estimated 32,578 trout (hatchery brown trout yearlings, n = 20,482; rainbow trout, 9920; wild brown trout, 1429; and hatchery holdover brown trout, 747) (Culp et al. 1977a). In 1977 an estimated 19,705 anglers fished an estimated 53,525.0 hours and caught an estimated 17,909 trout (hatchery brown trout yearlings, n = 10,783; rainbow trout, 5385; wild brown trout, 1558; and hatchery holdover brown trout, 183) (Culp and Associates 1978). Culp and Associates (1978) concluded that the decreases in estimated anglers, hours fished, and trout caught from 1976 to 1977 were the result of an improvement in the sampling design, yielding more accurate data. The decrease from 1977 to 1978 in the estimated number of anglers and hours fished reflects a decrease in the observed instantaneous count (4844 in 1977 vs 4039 in 1978) and generally lower ratios of aerial count to creel census instantaneous count (used to expand estimates) (1.26 and 1.10 in section 2 on weekdays and weekends, respectively, and 1.71 and 1.44 in section 3 in 1977 vs 1.17 and 1.08 in section 2 and 1.75 and 1.12 in section 3 in 1978) (Tables 26 and 28) (Culp and Associates 1978). The decrease in the estimated number of anglers was also due to the generally longer completed trips in 1978 (which has the effect of reducing angler estimates) (Table 34). The decrease in the estimated catch was due also to the reduced catch rates discussed earlier.

From April through September 1978 an estimated 332 anglers/km (342/km Apr-Nov) fished Esopus Creek above the STO and 442/km (469/km Apr-Nov) below the STO (exclusive of section 1) (Table 33). In 1975, 1976, and 1977 an estimated 546, 416, and 483 anglers/km (546/km Apr-Nov) fished Esopus Creek above and 1059, 1047, and 792 (820/km Apr-Nov) below (exclusive of section 1) the STO, respectively (Kelly 1976, Culp et al. 1977a, Culp and Associates 1978).

In 1978 an estimated 27.9% (n = 345) of rainbow trout caught below the STO and 40.9% (144) above exceeded 300 mm (11.8 inches) (Table 33). Wild brown trout >300 mm were estimated to comprise 21.8% (n = 123) of the total catch below the STO and 29.9% (61) above. Most (n = 308, 45.8%) large (>300 mm) trout were estimated to have been caught in April.

Summary

1. From 1 April through 28 November 1978, 875 trout were caught and kept in 5514.5 hours by 2182 anglers interviewed.

2. Most often caught was yearling hatchery brown trout (n = 539, 61.6%), followed by rainbow trout (210, 24.0%), wild brown trout (100, 11.4%), and hatchery holdover brown trout (26, 3.0%).

3. Yearling hatchery brown trout comprised the greatest percentage of the catch from April through August (n = 95, 51.9%; 127, 55.7%; 216, 83.7%; 60, 77.9%; and 27, 61.4%, respectively) and rainbow trout from September through November (14, 58.3%; 29, 61.7%; and 12, 85.7%, respectively).

4. Most (n = 111, 67%) of the fish caught in Esopus Creek (exclusive of yearling hatchery brown trout) were <300 mm (<11.8 inches).

5. Angler success during the trout fishing season was highest in section 2 (0.18 trout/hr), followed by sections 3 (0.14) and 1 (0.03).

6. Overall success in 1978 (0.16 trout/hr) was lower than in past years (1975-1977). The lower catch rate in 1978 could have resulted from fewer fish stocked, changes in stocking dates, reduced creel limit from 10 to five, and lack of cooperation by fishermen in providing information.

7. The greatest density of anglers in 1978 was observed in section 1 (293.8 anglers/km) and the least in section 3 (97.6).

8. No significant correlations were found between turbidity and

anglers/km.

9. Anglers generally regarded the clarity of water as good in all three sections but somewhat better in section 3. In section 2 anglers recognized and increase in turbidity; in section 3 there was little correlation between anglers' opinions of water clarity and actual changes in turbidity. Anglers in section 2 detected a mean decrease in turbidity from 1977 to 1978.

10. An average of 90 fishermen was observed per weekend day and holiday censused, compared to 21 per weekday.

11. Ulster County residents comprised the greatest percentage of Esopus Creek anglers (28.7%); residents of all New York State counties comprised 71.7% and out-of-state and foreign residents comprised 28.4%.

12. Most fishermen used worms for bait (n = 859, 34.7%), followed by flies (715, 28.9%).

13. An estimated 11,364 anglers fished an estimated 38,771.3 hours in 1978 and caught an estimated 6823 trout (n = 86, 1.3% in section 1; 5645, 82.7% in section 2; and 1092, 16.0% in section 3).

14. Hatchery brown trout yearlings (n = 4270) comprised 62.6% of the estimated catch, followed by rainbow trout (1589, 23.3%), wild brown trout (769, 11.3%), and hatchery holdover brown trout (195, 2.9%).

15. The estimated number of anglers, hours fished, and trout caught decreased between 1976 and 1978 as a result of improved sampling design, decrease in instantaneous count of fishermen, decrease in ratios of aerial count to creel census instantaneous count, increased length of angler trips, and reduced catch rates.

16. An estimated 332 anglers/km fished Esopus Creek above the STO and 442 below from April through September (exclusive of section 1).

Table 24. Dates during which a creel census was conducted by IA personnel from 1 April through 28 November 1978 on Esopus Creek.

Month	Weekdays		Weekend Days and Holidays	
Apr	3	Monday	1	Saturday
	13	Thursday	9	Sunday
	18	Tuesday	15	Saturday
	19	Wednesday	16	Sunday
	25	Tuesday	22	Saturday
	28	Friday	29	Saturday
May	2	Tuesday	7	Sunday
	12	Friday	13	Saturday
	19	Friday	14	Sunday
	22	Monday	20	Saturday
	25	Thursday	27	Saturday
	30	Tuesday	29	Monday
Jun	6	Tuesday	3	Saturday
	9	Friday	11	Sunday
	13	Tuesday	17	Saturday
	19	Monday	18	Sunday
	27	Tuesday	24	Saturday
	29	Thursday	25	Sunday
Jul	5	Wednesday	1	Saturday
	13	Thursday	9	Sunday
	17	Monday	22	Saturday
	26	Wednesday		
Aug	1	Tuesday	12	Saturday
	9	Wednesday	20	Sunday
	18	Friday	26	Saturday
	23	Wednesday	27	Sunday
Sep	6	Wednesday	9	Saturday
	13	Wednesday	10	Sunday
	22	Friday	17	Sunday
	26	Tuesday	23	Saturday
Oct	3	Tuesday	7	Saturday
	20	Friday	14	Saturday
	25	Wednesday	29	Sunday
	27	Friday		
Nov	1	Wednesday	11	Saturday
	6	Monday	12	Sunday
	17	Friday	19	Sunday
	28	Tuesday	26	Sunday

Table 25. Site descriptions of creel census sections from April through November 1978 on Esopus Creek.

Section	Length of Section (mi)	Width (ft)			Elevation (ft)		Mid-stream Depth (ft)		
		Maximum	Minimum	Average	Maximum	Minimum	Maximum	Minimum	Average
1	0.8 (1.3 km)	215	50	100	600	581	6.5	0.3	1.6
2	11.3 (18.1 km)	215	30	80	961	600	16.0	0.3	2.5
3	3.4 (5.5 km)	80	5.0	25	1110	961	4.0	0.3	0.8

Section	Stream Habitat			Substrate (Roelofs 1944)			Percent of	Shore Cover		
	% Run	% Riffle	% Pool	% Boulders	% Rubble	% Gravel	Stream Shaded	% Deciduous	% Conifer	% Open
1	10	80	10	20	75	5	5	80	20	0
2	15	50	35	10	75	15	5	60	minimal	40
3	10	55	35	10	55	35	10	75	5	20

Table 26. Aerial count and creel census instantaneous count of anglers from April through November 1978 on Esopus Creek from Boiceville to Big Indian, New York.

Date	Section	Aerial Count #	Aerial Count Time	Creel Census Instantaneous Count #	Creel Census Instantaneous Count Time	Ratio of Aerial Count to Creel Census Instantaneous Count
Weekdays						
18 Apr	2	14	1130	16	1145	0.88
	3	3	1125	4	1200	0.75
28 Apr	2	26	1138	24	1145	1.08
	3	2	1133	2	1200	1.00
22 May	2	8	0819	2	0745	4.00
	3	0	0815	0	0800	-
25 May	2	2	1145	4	1145	0.50
	3	1	1139	0	1200	-
30 May	2	16	1139	19	1145	0.84
	3	0	1144	0	1200	-
19 Jun	2	16	1137	10	1145	1.60
	3	9	1130	5	1200	1.80
29 Jun	2	19	1134	14	1145	1.36
	3	2	1129	1	1200	2.00
13 Jul	2	14	1047	11	1045	1.27
	3	4	1052	0	1100	-
13 Sep	2	5	1045	4	1145	1.25
	3	0	1100	0	1100	-
26 Sep	2	7	1046	5	1145	1.40
	3	0	1050	0	1100	-
27 Oct	2	3	1045	2	1045	1.50
	3	0	1048	0	1100	-
Total	2	130		111		1.17
	3	21		12		1.75
Weekends						
16 Apr	2	27	1139	43	1145	0.63
	3	12	1132	11	1200	1.09
29 Apr	2	59	0732	49	0745	1.20
	3	11	0727	10	0800	1.10
20 May	2	1	0753	7	0745	0.14
	3	2	0748	4	0800	0.50
27 May	2	42	1150	47	1145	0.89
	3	10	1143	18	1200	0.56
24 Jun	2	40	1145	43	1145	0.93
	3	7	1152	6	1200	1.17
9 Jul	2	41	1042	27	1045	1.52
	3	9	1047	4	1100	2.25
22 Jul	2	34	1031	23	1045	1.48
	3	4	1027	0	1100	-
27 Aug	2	28	1049	16	1045	1.75
	3	5	1054	2	1100	2.50
17 Sep	2	23	1041	21	1045	1.10
	3	4	1046	1	1100	4.00
29 Oct	2	8	1045	6	1045	1.33
	3	1	1050	0	1100	-
11 Nov	2	8	1142	7	1145	1.14
	3	0	1145	2	1200	0.00
Total	2	311		289		1.08
	3	65		58		1.12

Table 27. Trout observed by IA creel census personnel from 1 April through 28 November 1978 on Esopus Creek.

Section	1			2			3			Total		
Length of Section	0.8 mi (1.3 km)			11.3 mi (18.1 km)			3.4 mi (5.5 km)			15.5 mi (24.9 km)		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Apr												
Yearling hatchery brown trout	-	-	-	86	59.3	0.06	9	27.3	0.02	95	51.9	0.05
Rainbow trout	2	40.0	0.02	32	22.1	0.02	14	42.4	0.03	48	26.2	0.02
Wild brown trout	1	20.0	0.01	15	10.3	0.01	8	24.2	0.02	24	13.1	0.01
Hatchery holdover brown trout	2	40.0	0.02	12	8.3	0.01	2	6.1	0.01	16	8.7	0.01
Total	5		0.06	145		0.10	33		0.07	183		0.09
Trout/km of stream	3.8			8.0			6.0			7.3		
Total hours fished	87.00			1515.25			456.50			2058.75		
May												
Yearling hatchery brown trout	1	14.3	0.01	111	59.7	0.13	15	42.9	0.07	127	55.7	0.10
Rainbow trout	4	57.1	0.03	39	21.0	0.04	14	40.0	0.06	57	25.0	0.05
Wild brown trout	2	28.6	0.02	30	16.1	0.03	6	17.1	0.03	38	16.7	0.03
Hatchery holdover brown trout	-	-	-	6	3.2	0.01	-	-	-	6	2.6	0.01
Total	7		0.06	186		0.21	35		0.15	228		0.19
Trout/km of stream	5.4			10.3			6.4			9.2		
Total hours fished	116.75			878.75			230.50			1226.00		
Jun												
Yearling hatchery brown trout	-	-	-	182	85.4	0.29	34	75.6	0.23	216	83.7	0.25
Rainbow trout	-	-	-	19	8.9	0.03	7	15.6	0.05	26	10.1	0.03
Wild brown trout	-	-	-	11	5.2	0.02	3	6.7	0.02	14	5.4	0.02
Hatchery holdover brown trout	-	-	-	1	0.5	0.01	1	2.2	0.01	2	0.8	0.01
Total	-		0.00	213		0.33	45		0.30	258		0.29
Trout/km of stream	0.0			11.8			8.2			10.4		
Total hours fished	94.00			637.25			148.75			880.00		
Jul												
Yearling hatchery brown trout	-	-	-	55	82.1	0.18	5	50.0	0.12	60	77.9	0.16
Rainbow trout	-	-	-	8	11.9	0.03	3	30.0	0.07	11	14.3	0.03
Wild brown trout	-	-	-	4	6.0	0.01	2	20.0	0.05	6	7.8	0.02
Hatchery holdover brown trout	-	-	-	-	-	-	-	-	-	-	-	-
Total	-		0.00	67		0.22	10		0.24	77		0.20
Trout/km of stream	0.0			3.7			1.8			3.1		
Total hours fished	28.25			310.25			41.00			379.50		

* Values for section 1 are for April through September.

Table 27 - (Continued).

Section	1			2			3			Total		
Length of Section	0.8 mi (1.3 km)			11.3 mi (18.1 km)			3.4 mi (5.5 km)			15.5 mi (24.9 km)		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Aug												
Yearling hatchery brown trout	-	-	-	26	68.4	0.11	1	20.0	0.03	27	61.4	0.07
Rainbow trout	1	100	0.01	8	21.1	0.03	4	80.0	0.12	13	29.5	0.04
Wild brown trout	-	-	-	4	10.5	0.02	-	-	-	4	9.1	0.01
Hatchery holdover brown trout	-	-	-	-	-	-	-	-	-	-	-	-
Total	1		0.01	38		0.16	5		0.15	44		0.12
Trout/km of stream	0.8			2.1			0.9			1.8		
Total hours fished	98.00			236.50			33.00			367.50		
Sep												
Yearling hatchery brown trout	-	-	-	6	26.1	0.03	-	-	-	6	25.0	0.02
Rainbow trout	-	-	-	14	60.9	0.07	-	-	-	14	58.3	0.05
Wild brown trout	-	-	-	3	13.0	0.01	1	100	0.13	4	16.7	0.01
Hatchery holdover brown trout	-	-	-	-	-	-	-	-	-	-	-	-
Total	-		0.00	23		0.11	1		0.13	24		0.09
Trout/km of stream	0.0			1.3			0.2			1.0		
Total hours fished	69.75			201.00			7.75			278.50		
Apr-Sep												
Yearling hatchery brown trout	1	7.7	0.01	466	69.3	0.12	64	49.6	0.07	531	65.2	0.10
Rainbow trout	7	53.8	0.01	120	17.9	0.03	42	32.6	0.05	169	20.8	0.03
Wild brown trout	3	23.1	0.01	67	10.0	0.02	20	15.5	0.02	90	11.1	0.02
Hatchery holdover brown trout	2	15.4	0.01	19	2.8	0.01	3	2.3	0.01	24	2.9	0.01
Total	13		0.03	672		0.18	129		0.14	814		0.16
Trout/km of stream	10.0			37.1			23.5			32.7		
Total hours fished	493.75			3779.00			917.50			5190.25		
Oct												
Yearling hatchery brown trout	CLOSED SEASON			7	14.9	0.03	-	-	-	7	14.9	0.03
Rainbow trout				29	61.7	0.14	-	-	-	29	61.7	0.12
Wild brown trout				9	19.1	0.04	-	-	-	9	19.1	0.04
Hatchery holdover brown trout				2	4.3	0.01	-	-	-	2	4.3	0.01
Total				47		0.22	-		0.00	47		0.20
Trout/km of stream				2.6			0.0			1.9		
Total hours fished				212.00			20.25			232.25		

Table 27 - (Continued).

Section	1			2			3			Total		
Length of Section	0.8 mi (1.3 km)			11.3 mi (18.1 km)			3.4 mi (5.5 km)			15.5 mi (24.9 km)		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
						Nov						
Yearling hatchery brown trout	CLOSED			1	12.5	0.01	-	-	-	1	7.1	0.01
Rainbow trout	SEASON			6	75.0	0.07	6	100	0.59	12	85.7	0.13
Wild brown trout				1	12.5	0.01	-	-	-	1	7.1	0.01
Hatchery holdover brown trout				-	-	-	-	-	-	-	-	-
Total				8		0.10	6		0.59	14		0.15
Trout/km of stream				0.4			1.1			0.6		
Total hours fished				81.75			10.25			92.00		
						Oct & Nov						
Yearling hatchery brown trout	CLOSED			8	14.5	0.03	-	-	-	8	13.1	0.02
Rainbow trout	SEASON			35	63.6	0.12	6	100	0.20	41	67.2	0.13
Wild brown trout				10	18.2	0.03	-	-	-	10	16.4	0.03
Hatchery holdover brown trout				2	3.6	0.01	-	-	-	2	3.3	0.01
Total				55		0.19	6		0.20	61		0.19
Trout/km of stream				3.0			1.1			2.4		
Total hours fished				293.75			30.50			324.25		
						Apr-Nov *						
Yearling hatchery brown trout	1	7.7	0.01	474	65.2	0.12	64	47.4	0.07	539	61.6	0.10
Rainbow trout	7	53.8	0.01	155	21.3	0.04	48	35.6	0.05	210	24.0	0.04
Wild brown trout	3	23.1	0.01	77	10.6	0.02	20	14.8	0.02	100	11.4	0.02
Hatchery holdover brown trout	2	15.4	0.01	21	2.9	0.01	3	2.2	0.01	26	3.0	0.01
Total	13		0.03	727		0.18	135		0.14	875		0.16
Trout/km of stream	10.0			40.2			24.5			35.1		
Total hours fished	493.75			4072.75			948.00			5514.50		

Table 28. Location of anglers from 1 April through 28 November 1978 on Esopus Creek.

Section	Mi of Stream	% of Total Stream	Anglers Interviewed									Anglers Observed During Instantaneous Count								
			Weekday			Weekend			Total			Weekday			Weekend			Total		
			#	%	#/km	#	%	#/km	#	%	#/km	#	%	#/km	#	%	#/km	#	%	#/km
											Apr									
1	0.8 (1.3 km)	5.2	11	6.3	8.5	38	6.8	29.2	49	6.7	37.7	13	7.2	10.0	62	5.1	47.7	75	5.4	57.7
2	11.3 (18.1 km)	72.7	140	79.5	7.7	384	68.7	21.2	524	71.3	29.0	137	76.1	7.6	959	78.8	53.0	1096	78.5	60.6
3	3.4 (5.5 km)	22.1	25	14.2	4.5	137	24.5	24.9	162	22.0	29.5	30	16.7	5.5	196	16.1	35.6	226	16.2	41.1
Total	15.5 (24.9 km)		176		7.1	559		22.4	735		29.5	180		7.2	1217		48.9	1397		56.1
											May									
1	0.8 (1.3 km)	5.2	7	5.7	5.4	34	8.8	26.2	41	8.1	31.5	15	11.0	11.5	60	8.6	46.2	75	9.0	57.7
2	11.3 (18.1 km)	72.7	90	73.2	5.0	283	73.3	15.6	373	73.3	20.6	108	79.4	6.0	534	76.8	29.5	642	77.3	35.5
3	3.4 (5.5 km)	22.1	26	21.1	4.7	69	17.9	12.5	95	18.7	17.3	13	9.6	2.4	101	14.5	18.4	114	13.7	20.7
Total	15.5 (24.9 km)		123		4.9	386		15.5	509		20.4	136		5.5	695		27.9	831		33.4
											Jun									
1	0.8 (1.3 km)	5.2	8	7.8	6.2	30	11.6	23.1	38	10.5	29.2	16	8.8	12.3	66	12.3	50.8	82	11.4	63.1
2	11.3 (18.1 km)	72.7	78	75.7	4.3	190	73.6	10.5	268	74.2	14.8	145	79.7	8.0	406	75.5	22.4	551	76.5	30.4
3	3.4 (5.5 km)	22.1	17	16.5	3.1	38	14.7	6.9	55	15.2	10.0	21	11.5	3.8	66	12.3	12.0	87	12.1	15.8
Total	15.5 (24.9 km)		103		4.1	258		10.4	361		14.5	182		7.3	538		21.6	720		28.9
											Jul									
1	0.8 (1.3 km)	5.2	2	3.3	1.5	14	12.5	10.8	16	9.2	12.3	7	6.6	5.4	30	11.9	23.1	37	10.3	28.5
2	11.3 (18.1 km)	72.7	43	70.5	2.4	88	78.6	4.9	131	75.7	7.2	80	75.5	4.4	194	77.0	10.7	274	76.5	15.1
3	3.4 (5.5 km)	22.1	16	26.2	2.9	10	8.9	1.8	26	15.0	4.7	19	17.9	3.5	28	11.1	5.1	47	13.1	8.5
Total	15.5 (24.9 km)		61		2.4	112		4.5	173		6.9	106		4.3	252		10.1	358		14.4
											Aug									
1	0.8 (1.3 km)	5.2	14	27.5	10.8	23	20.9	17.7	37	23.0	28.5	17	16.0	13.1	40	20.6	30.8	57	19.0	43.8
2	11.3 (18.1 km)	72.7	33	64.7	1.8	77	70.0	4.3	110	68.3	6.1	79	74.5	4.4	134	69.1	7.4	213	71.0	11.8
3	3.4 (5.5 km)	22.1	4	7.8	0.7	10	9.1	1.8	14	8.7	2.5	10	9.4	1.8	20	10.3	3.6	30	10.0	5.5
Total	15.5 (24.9 km)		51		2.0	110		4.4	161		6.5	106		4.3	194		7.8	300		12.0

* Values for section 1 are for April through September.

Table 28 - (Continued).

Section	Mi of Stream	% of Total Stream	Anglers Interviewed: Weekday #	Weekday %	Weekday #/km	Weekend #	Weekend %	Weekend #/km	Total #	Total %	Total #/km	Anglers Observed During Instantaneous Count: Weekday #	Weekday %	Weekday #/km	Weekend #	Weekend %	Weekend #/km	Total #	Total %	Total #/km
											Sep									
1	0.8 (1.3 km)	5.2	8	25.8	6.2	21	21.6	16.2	29	22.7	22.3	16	29.1	12.3	40	21.3	30.8	56	23.0	43.1
2	11.3 (18.1 km)	72.7	23	74.2	1.3	66	68.0	3.6	89	69.5	4.9	39	70.9	2.2	131	69.7	7.2	170	70.0	9.4
3	3.4 (5.5 km)	22.1	-	-	-	10	10.3	1.8	10	7.8	1.8	-	-	-	17	9.0	3.1	17	7.0	3.1
Total	15.5 (24.9 km)		31		1.2	97		3.9	128		5.1	55		2.2	188		7.6	243		9.8
											Apr-Sep									
1	0.8 (1.3 km)	5.2	50	9.2	38.5	160	10.5	123.1	210	10.2	161.5	84	11.0	64.6	298	9.7	229.2	382	9.9	293.8
2	11.3 (18.1 km)	72.7	407	74.7	22.5	1088	71.5	60.1	1495	72.3	82.6	588	76.9	32.5	2358	76.5	130.3	2946	76.5	162.8
3	3.4 (5.5 km)	22.1	88	16.1	16.0	274	18.0	49.8	362	17.5	65.8	93	12.2	16.9	428	13.9	77.8	521	13.5	94.7
Total	15.5 (24.9 km)		545		21.9	1522		61.1	2067		83.0	765		30.7	3084		123.9	3849		154.6
											Oct									
1	0.8 (1.3 km)	5.2	CLOSED SEASON																	
2	11.3 (18.1 km)	72.7	24	100.0	1.3	50	92.6	2.8	74	94.9	4.1	27	100.0	1.5	81	91.0	4.5	108	93.1	6.0
3	3.4 (5.5 km)	22.1	-	-	-	4	7.4	0.7	4	5.1	0.7	-	-	-	8	9.0	1.5	8	6.9	1.5
Total	15.5 (24.9 km)		24		1.0	54		2.2	78		3.1	27		1.1	89		3.6	116		4.7
											Nov									
1	0.8 (1.3 km)	5.2	CLOSED SEASON																	
2	11.3 (18.1 km)	72.7	9	90.0	0.5	24	88.9	1.3	33	89.2	1.8	17	89.5	0.9	49	89.1	2.7	66	89.2	3.6
3	3.4 (5.5 km)	22.1	1	10.0	0.2	3	11.1	0.5	4	10.8	0.7	2	10.5	0.4	6	10.9	1.1	8	10.8	1.5
Total	15.5 (24.9 km)		10		0.4	27		1.1	37		1.5	19		0.8	55		2.2	74		3.0
											Apr-Nov*									
1	0.8 (1.3 km)	5.2	50	8.6	38.5	160	10.0	123.1	210	9.6	161.5	84	10.4	64.6	298	9.2	229.2	382	9.5	293.8
2	11.3 (18.1 km)	72.7	440	76.0	24.3	1162	72.5	64.2	1602	73.4	88.5	632	77.9	34.9	2488	77.1	137.5	3120	77.2	172.4
3	3.4 (5.5 km)	22.1	89	15.4	16.2	281	17.5	51.1	370	17.0	67.3	95	11.7	17.3	442	13.7	80.4	537	13.3	97.6
Total	15.5 (24.9 km)		579		23.3	1603		64.4	2182		87.6	811		32.6	3228		129.6	4039		162.2

Table 29. Length-frequency distribution (number of fish in 20-mm length interval) of rainbow trout (RT), wild brown trout (WBT), and hatchery holdover brown trout (HHBT) observed by IA creel census personnel from 1 April through 28 November 1978 in three sections on Esopus Creek.

	Apr							May					Jun			
	RT			WBT		HHBT		RT		WBT		HHBT	RT		WBT	
Section	1	2	3	2	3	1	2	2	3	2	3	2	2	3	2	3
Size Range (mm)																
141-160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
161-180	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-
181-200	-	-	1	-	-	-	-	-	-	5	1	-	-	-	1	1
201-220	-	-	-	-	1	-	-	1	-	3	-	-	2	-	1	-
221-240	-	-	-	-	1	-	-	1	-	2	-	-	-	2	1	1
241-260	-	2	-	1	1	-	-	-	-	1	2	1	-	-	1	-
261-280	-	1	1	3	-	1	2	3	-	-	-	2	-	-	1	-
281-300	-	3	-	1	1	-	2	1	-	2	1	-	1	-	1	-
301-320	1	1	-	5	-	-	-	1	-	-	1	-	-	-	-	-
321-340	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
341-360	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-
361-380	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-
381-400	-	1	-	1	1	-	-	1	-	-	-	-	-	-	-	-
401-420	-	4	1	-	-	-	-	-	-	1	-	-	-	-	-	-
421-440	-	9	1	-	-	-	-	2	-	1	-	-	-	-	-	-
441-460	-	1	-	-	-	-	-	1	-	1	-	-	-	-	-	-
461-480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
501-520	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
521-540	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-
561-580	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Total	1	25	7	11	6	1	4	14	1	17	5	3	3	2	7	3

	Jul		Aug				Sep			Oct		Nov		
	WBT		RT			WBT	RT	WBT		RT	WBT	RT		WBT
Section	2	3	1	2	3	2	2	2	3	2	2	2	3	2
Size Range (mm)														
141-160	-	-	-	-	-	-	-	-	-	-	-	-	-	-
161-180	-	-	-	1	-	1	-	-	-	-	-	-	-	-
181-200	-	-	-	-	-	1	-	-	-	5	1	-	-	-
201-220	-	1	-	4	1	-	1	-	-	4	1	1	1	1
221-240	1	-	-	1	-	2	4	-	-	3	-	1	1	-
241-260	-	-	-	-	-	-	1	-	-	-	-	1	-	-
261-280	-	-	-	-	-	-	-	-	-	1	1	-	1	-
281-300	-	-	-	-	-	-	1	1	-	1	2	-	-	-
301-320	-	-	-	1	-	-	-	-	1	-	-	-	-	-
321-340	-	-	1	-	-	-	-	-	-	-	2	-	-	-
341-360	-	-	-	-	-	-	-	-	-	-	-	-	-	-
361-380	-	-	-	-	-	-	-	-	-	-	-	-	-	-
381-400	-	-	-	-	-	1	-	-	-	-	-	-	-	-
401-420	-	-	-	-	-	-	-	-	-	-	-	-	-	-
421-440	-	-	-	-	-	-	-	-	-	-	-	-	-	-
441-460	-	-	-	-	-	-	-	-	-	-	-	-	-	-
461-480	-	-	-	-	-	-	-	-	-	1	-	-	-	-
501-520	-	-	-	-	-	-	-	-	-	1	-	-	-	-
521-540	-	-	-	-	-	-	-	-	-	-	1	-	-	-
561-580	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	1	1	1	7	1	5	7	1	1	16	8	3	3	1

Table 30. Angler opinions regarding clarity of water. Responses obtained from creel census questionnaires completed from 1 April through 28 November 1978 on Esopus Creek.

Month	Apr						May						Jun						Jul					
Section	1		2		3		1		2		3		1		2		3		1		2		3	
Response	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Excellent	7	15.2	73	16.7	26	17.6	6	16.7	44	13.6	22	26.5	9	25.7	43	17.3	22	42.3	-	-	2	1.6	12	46.2
Good	23	50.0	158	36.2	56	37.8	22	61.1	143	44.3	34	41.0	20	57.1	123	49.4	23	44.2	3	18.8	58	47.2	9	34.6
Fair	14	30.4	159	36.5	42	28.4	6	16.7	101	31.3	19	22.9	5	14.3	66	26.5	4	7.7	10	62.5	40	32.5	3	11.5
Poor	2	4.3	36	8.3	21	14.2	1	2.8	31	9.6	3	3.6	1	2.9	9	3.6	2	3.8	3	18.8	19	15.4	2	7.7
No opinion	-	-	10	2.3	3	2.0	1	2.8	4	1.2	5	6.0	-	-	8	3.2	1	1.9	-	-	4	3.3	-	-
Total	46		436		148		36		323		83		35		249		52		16		123		26	

Month	Aug						Sep						Apr-Sep						Oct					
Section	1		2		3		1		2		3		1		2		3		1		2		3	
Response	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Excellent	5	14.3	5	5.0	3	21.4	10	34.5	26	29.9	7	70.0	37	18.8	193	14.6	92	27.6	CLOSED		35	47.3	1	33.3
Good	12	34.3	35	34.7	9	64.3	7	24.1	26	29.9	3	30.0	87	44.2	543	41.2	134	40.2	SEASON		29	39.2	1	33.3
Fair	14	40.0	38	37.6	2	14.3	4	13.8	9	10.3	-	-	53	26.9	413	31.3	70	21.0			4	5.4	1	33.3
Poor	3	8.6	20	19.8	-	-	8	27.6	26	29.9	-	-	18	9.1	141	10.7	28	8.4			6	8.1	-	-
No opinion	1	2.9	3	3.0	-	-	-	-	-	-	-	-	2	1.0	29	2.2	9	2.7			-	-	-	-
Total	35		101		14		29		87		10		197		1319		333				74		3	

Month	Nov						Oct & Nov						Apr-Nov*					
Section	1		2		3		1		2		3		1		2		3	
Response	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Excellent	CLOSED		22	66.7	3	75.0	CLOSED		57	53.3	4	57.1	37	18.8	250	17.5	96	28.2
Good	SEASON		8	24.2	1	25.0	SEASON		37	34.6	2	28.6	87	44.2	580	40.7	136	40.0
Fair			3	9.1	-	-			7	6.5	1	14.3	53	26.9	420	29.5	71	20.9
Poor			-	-	-	-			6	5.6	-	-	18	9.1	147	10.3	28	8.2
No opinion			-	-	-	-			-	-	-	-	2	1.0	29	2.0	9	2.6
Total			33		4				107		7		197		1426		340	

* Values for section 1 are for April through September.

Table 31. Mean response (Excellent = 1, Good = 2, Fair = 3, Poor = 4) of anglers by section to water clarity question and actual turbidity (nephelometer turbidity units) at water quality stations 19 (2.4 mi below the STO) and 21 (1.6 mi above the STO) from 1 April through 28 November 1978 on Esopus Creek.

Weekdays					Weekends				
Date	Section 2		Section 3		Date	Section 2		Section 3	
	$\bar{x}$	Turbidity at Station 19	$\bar{x}$	Turbidity at Station 21		$\bar{x}$	Turbidity at Station 19	$\bar{x}$	Turbidity at Station 21
3 Apr	3.0	3.9	2.3	2.9	1 Apr	3.3	3.8	2.8	2.8
13 Apr	2.9	4.1	2.3	3.1	9 Apr	2.5	3.0	2.3	2.2
18 Apr	1.5	1.7	-	1.1	15 Apr	2.5	3.0	2.3	2.1
19 Apr	2.0	1.4	1.0	1.0	16 Apr	2.5	2.6	2.4	1.7
25 Apr	1.6	1.5	1.0	1.2	22 Apr	2.2	1.7	2.3	1.3
28 Apr	1.8	3.0	1.1	1.1	29 Apr	2.1	3.0	1.8	1.2
2 May	2.4	3.1	1.3	1.2	7 May	2.5	3.0	1.6	0.75
12 May	2.2	1.2	2.4	1.0	13 May	1.9	3.5	1.9	4.8
19 May	3.8	4.1	3.0	2.9	14 May	2.1	7.0	2.0	18
22 May	2.6	3.0	2.5	2.4	20 May	3.1	3.7	3.0	2.7
25 May	2.8	2.0	2.5	1.9	27 May	1.8	1.8	1.6	1.7
30 May	2.1	1.6	3.0	1.6	29 May	2.3	1.7	2.0	1.6
6 Jun	1.6	2.1	1.0	1.3	3 Jun	2.5	2.1	1.9	1.1
9 Jun	2.3	4.5	1.0	4.2	11 Jun	1.9	2.5	1.3	1.7
13 Jun	2.7	1.2	2.0	0.98	17 Jun	2.2	2.7	4.0	1.3
19 Jun	2.0	3.0	2.2	1.5	18 Jun	2.1	2.8	1.8	1.4
27 Jun	2.1	3.5	2.0	1.4	24 Jun	2.3	3.0	1.0	1.5
29 Jun	1.9	3.9	1.0	1.1	25 Jun	2.1	3.1	1.8	1.6
5 Jul	3.3	4.6	1.9	1.7	1 Jul	3.1	3.8	1.7	0.94
13 Jul	2.2	3.5	1.5	0.82	9 Jul	2.1	4.0	1.7	1.1
17 Jul	2.3	3.5	-	1.3	22 Jul	2.6	3.3	1.8	1.2
26 Jul	2.5	6.2	2.5	1.3					
1 Aug	2.0	4.3	1.0	0.7	12 Aug	2.8	4.9	1.7	1.0
9 Aug	2.9	7.3	3.0	1.4	20 Aug	2.3	4.5	2.0	1.0
18 Aug	2.7	3.6	-	0.98	26 Aug	3.2	5.0	2.3	0.96
23 Aug	2.2	4.9	2.0	0.60	27 Aug	2.9	5.1	1.7	0.92
6 Sep	2.4	5.3	-	0.80	9 Sep	2.6	7.2	1.6	1.0
13 Sep	2.2	5.1	-	0.57	10 Sep	3.7	6.8	1.0	0.80
22 Sep	1.8	1.1	-	0.98	17 Sep	1.6	1.8	1.0	0.76
26 Sep	1.7	2.0	-	0.82	23 Sep	1.4	1.2	1.0	1.0
3 Oct	3.2	3.1	-	0.75	7 Oct	2.1	2.1	1.0	1.2
20 Oct	1.1	0.62	-	1.3	14 Oct	1.7	2.0	2.5	5.1
25 Oct	3.0	0.72	-	0.70	29 Oct	1.3	0.76	-	0.84
27 Oct	1.4	3.1	-	2.3					
1 Nov	1.0	0.36	1.0	0.40	11 Nov	1.4	0.50	1.3	0.54
6 Nov	1.8	0.46	-	0.50	12 Nov	1.3	0.60	-	0.60
17 Nov	-	0.63	-	0.43	19 Nov	1.4	0.66	-	0.52
28 Nov	-	0.65	-	0.62	26 Nov	-	0.76	-	0.58

Table 32. Residence of anglers interviewed by IA creel census personnel from 1 April through 28 November 1978 on Esopus Creek.

Residence	Apr #	Apr %	May #	May %	Jun #	Jun %	Jul #	Jul %	Aug #	Aug %	Sep #	Sep %	Apr-Sep #	Apr-Sep %	Oct #	Oct %	Nov #	Nov %	Apr-Nov #	Apr-Nov %
New York State (by county):																				
Ulster	185	25.2	158	31.0	115	31.9	36	20.8	41	25.5	36	28.1	571	27.6	39	50.0	17	45.9	627	28.7
Dutchess	58	7.9	40	7.9	25	6.9	13	7.5	8	5.0	7	5.5	151	7.3	8	10.3	3	8.1	162	7.4
Orange	53	7.2	17	3.3	10	2.8	5	2.9	3	1.9	5	3.9	93	4.5	8	10.3	1	2.7	102	4.7
Nassau	26	3.5	35	6.9	11	3.0	17	9.8	7	4.3	4	3.1	100	4.8	-	-	3	8.1	103	4.7
Manhattan	18	2.4	23	4.5	17	4.7	10	5.8	8	5.0	9	7.0	85	4.1	3	3.8	-	-	88	4.0
Rockland	39	5.3	12	2.4	13	3.6	3	1.7	-	-	2	1.6	69	3.3	3	3.8	3	8.1	75	3.4
Westchester	7	1.0	11	2.2	15	4.2	13	7.5	7	4.3	4	3.1	57	2.8	5	6.4	-	-	62	2.8
Queens	6	0.8	15	2.9	11	3.0	6	3.5	13	8.1	-	-	51	2.5	-	-	1	2.7	52	2.4
Bronx	16	2.2	10	2.0	6	1.7	10	5.8	3	1.9	4	3.1	49	2.4	2	2.6	-	-	51	2.3
Kings	12	1.6	8	1.6	13	3.6	5	2.9	3	1.9	4	3.1	45	2.2	-	-	-	-	45	2.1
Suffolk	4	0.5	13	2.6	18	5.0	2	1.2	5	3.1	-	-	42	2.0	-	-	-	-	42	1.9
Putnam	11	1.5	5	1.0	6	1.7	4	2.3	4	2.5	-	-	30	1.5	-	-	-	-	30	1.4
Albany	21	2.9	2	0.4	3	0.8	1	0.6	-	-	1	0.8	28	1.4	-	-	-	-	28	1.3
Greene	11	1.5	2	0.4	5	1.4	4	2.3	1	0.6	2	1.6	25	1.2	-	-	2	5.4	27	1.2
Schoharie	17	2.3	-	-	-	-	-	-	3	1.9	-	-	20	1.0	-	-	-	-	20	0.9
Saratoga	2	0.3	8	1.6	-	-	1	0.6	2	1.2	-	-	13	0.6	-	-	-	-	13	0.6
Columbia	8	1.1	-	-	1	0.3	-	-	-	-	-	-	9	0.4	-	-	-	-	9	0.4
Richmond	2	0.3	3	0.6	-	-	-	-	2	1.2	-	-	7	0.3	-	-	-	-	7	0.3
Broome	1	0.1	-	-	-	-	-	-	-	-	2	1.6	3	0.1	-	-	-	-	3	0.1
Rensselaer	-	-	2	0.4	-	-	1	0.6	-	-	-	-	3	0.1	-	-	-	-	3	0.1
Warren	2	0.3	-	-	-	-	-	-	1	0.6	-	-	3	0.1	-	-	-	-	3	0.1
Delaware	-	-	-	-	-	-	1	0.6	1	0.6	-	-	2	0.1	-	-	-	-	2	0.1
Fulton	-	-	-	-	2	0.6	-	-	-	-	-	-	2	0.1	-	-	-	-	2	0.1
Oneida	2	0.3	-	-	-	-	-	-	-	-	-	-	2	0.1	-	-	-	-	2	0.1
Otsego	2	0.3	-	-	-	-	-	-	-	-	-	-	2	0.1	-	-	-	-	2	0.1
Steuben	2	0.3	-	-	-	-	-	-	-	-	-	-	2	0.1	-	-	-	-	2	0.1
St. Lawrence	-	-	-	-	1	0.3	-	-	-	-	-	-	1	0.1	-	-	-	-	1	0.1
Tioga	-	-	1	0.2	-	-	-	-	-	-	-	-	1	0.1	-	-	-	-	1	0.1
Total	505	68.7	365	71.7	272	75.3	132	76.3	112	69.6	80	62.5	1466	70.9	68	87.2	30	81.1	1564	71.7
Out-of-state:																				
New Jersey	215	29.3	121	23.8	79	21.9	38	22.0	41	25.5	38	29.7	532	25.7	10	12.8	7	18.9	549	25.2
Connecticut	6	0.8	11	2.2	2	0.6	-	-	5	3.1	4	3.1	28	1.4	-	-	-	-	28	1.3
Pennsylvania	7	1.0	3	0.6	1	0.3	2	1.2	-	-	2	1.6	15	0.7	-	-	-	-	15	0.7
Illinois	1	0.1	-	-	-	-	-	-	-	-	3	2.3	4	0.2	-	-	-	-	4	0.2
Rhode Island	-	-	4	0.8	-	-	-	-	-	-	-	-	4	0.2	-	-	-	-	4	0.2
Florida	-	-	-	-	2	0.6	-	-	-	-	1	0.8	3	0.1	-	-	-	-	3	0.1
Massachusetts	1	0.1	2	0.4	-	-	-	-	-	-	-	-	3	0.1	-	-	-	-	3	0.1
California	-	-	2	0.4	-	-	-	-	-	-	-	-	2	0.1	-	-	-	-	2	0.1
Maryland	-	-	-	-	2	0.6	-	-	-	-	-	-	2	0.1	-	-	-	-	2	0.1
Mississippi	-	-	-	-	-	-	-	-	1	0.6	-	-	1	0.1	-	-	-	-	1	0.1
Ohio	-	-	1	0.2	-	-	-	-	-	-	-	-	1	0.1	-	-	-	-	1	0.1
Texas	-	-	-	-	1	0.3	-	-	-	-	-	-	1	0.1	-	-	-	-	1	0.1
Vermont	-	-	-	-	1	0.3	-	-	-	-	-	-	1	0.1	-	-	-	-	1	0.1
Virginia	-	-	-	-	-	-	1	0.6	-	-	-	-	1	0.1	-	-	-	-	1	0.1
Washington	-	-	-	-	-	-	-	-	1	0.6	-	-	1	0.1	-	-	-	-	1	0.1
West Virginia	-	-	-	-	1	0.3	-	-	-	-	-	-	1	0.1	-	-	-	-	1	0.1
Total	230	31.3	144	28.3	89	24.7	41	23.7	48	29.8	48	37.5	600	29.0	10	12.8	7	18.9	617	28.3
Foreign Country:																				
Italy	-	-	-	-	-	-	-	-	1	0.6	-	-	1	0.1	-	-	-	-	1	0.1
Total	0	-	0	-	0	-	0	-	1	0.6	0	-	1	0.1	0	-	0	-	1	0.1
Grand Total	735		509		361		173		161		128		2067		78		37		2182	

Table 33. Estimate of angler pressure and catch from 1 April through 30 November 1978 on Esopus Creek.

Section	1		2		3		Total	
	#	%	#	%	#	%	#	%
Apr								
Estimated anglers	148		2273		687		3108	
Estimated anglers/ km of stream	114		126		125		125	
Estimated hours fished	587.4		9042.0		2736.9		12366.3	
Estimated catch:								
Yearling hatchery brown trout	-	-	542	58.7	76	25.9	618	49.4
Rainbow trout	16 (16)*	47.1	202(154)	21.9	99 (57)	33.8	317(227)	25.3
Wild brown trout	9(DNR)**	26.5	90 (49)	9.7	95 (32)	32.4	194 (81)	15.5
Hatchery holdover brown trout	9 (0)	26.5	90 (0)	9.7	23(DNR)	7.8	122 (0)	9.8
Total	34 (16)		924(203)		293 (89)		1251(308)	
May								
Estimated anglers	180		1631		375		2186	
Estimated anglers/ km of stream	138		90		68		88	
Estimated hours fished	580.2		5313.6		1276.2		7170.0	
Estimated catch:								
Yearling hatchery brown trout	4	8.0	691	60.9	98	46.2	793	56.8
Rainbow trout	33(DNR)	66.0	231(132)	20.4	87 (87)	41.0	351(219)	25.1
Wild brown trout	13(DNR)	26.0	178 (31)	15.7	27 (0)	12.7	218 (31)	15.6
Hatchery holdover brown trout	-	-	35 (0)	3.1	-	-	35 (0)	2.5
Total	50(DNR)		1135(163)		212 (87)		1397(250)	
Jun								
Estimated anglers	161		1388		260		1809	
Estimated anglers/ km of stream	124		77		47		73	
Estimated hours fished	586.0		4826.8		960.3		6373.1	
Estimated catch:								
Yearling hatchery brown trout	-	-	1479	84.7	219	75.5	1698	83.4
Rainbow trout	-	-	172 (0)	9.9	43 (0)	14.8	215 (0)	10.6
Wild brown trout	-	-	72 (10)	4.1	21 (0)	7.2	93 (10)	4.6
Hatchery holdover brown trout	-	-	23(DNR)	1.3	7(DNR)	2.4	30(DNR)	1.5
Total	-		1746 (10)		290 (0)		2036 (10)	
Jul								
Estimated anglers	177		1433		333		1943	
Estimated anglers/ km of stream	136		79		61		78	
Estimated hours fished	435.3		3708.7		858.5		5002.5	
Estimated catch:								
Yearling hatchery brown trout	-	-	650	83.3	102	56.0	752	78.2
Rainbow trout	-	-	88(DNR)	11.3	48(DNR)	26.4	136(DNR)	14.1
Wild brown trout	-	-	42 (0)	5.4	32 (0)	17.6	74 (0)	7.7
Hatchery holdover brown trout	-	-	-	-	-	-	-	-
Total	-		780 (0)		182 (0)		962 (0)	

* Number in parentheses >300 mm, based on length-frequency of fish creeled.
** DNR = data not recorded to allow estimate of fish >300 mm.
*** Values for section 1 are for April through September.

Table 33 - (Continued).

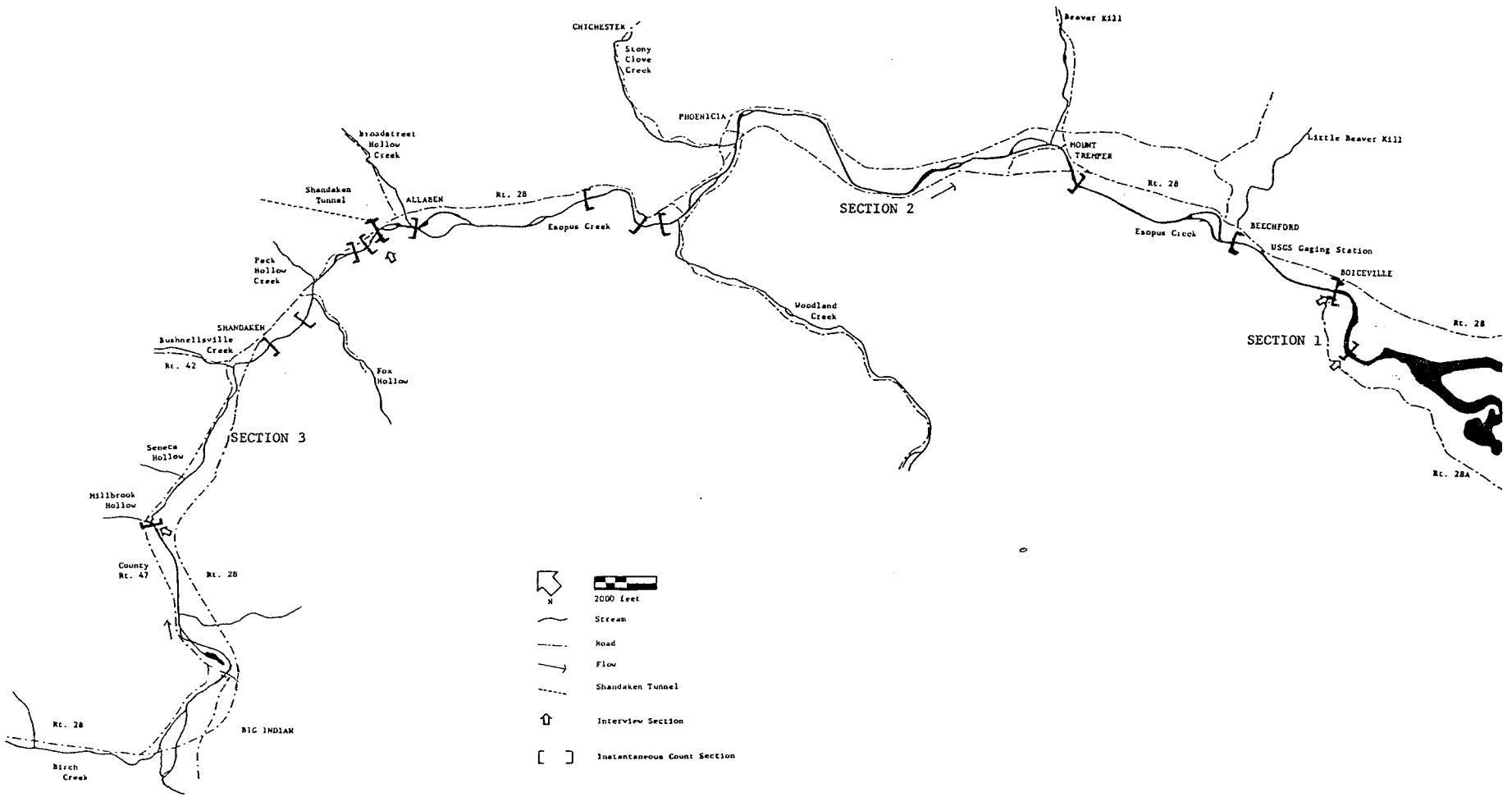
Section	1 #	1 %	2 #	2 %	3 #	3 %	Total #	Total %
				Aug				
Estimated anglers	149		701		112		962	
Estimated anglers/ km of stream	115		39		20		39	
Estimated hours fished	533.3		2462.3		403.2		3398.8	
Estimated catch:								
Yearling hatchery brown trout	-	-	294	65.5	11	20.0	305	60.3
Rainbow trout	2 (2)	100.0	106 (15)	23.6	44 (0)	80.0	152 (17)	30.0
Wild brown trout	-	-	49 (10)	10.9	-	-	49 (10)	9.7
Hatchery holdover brown trout	-	-	-	-	-	-	-	-
Total	2 (2)		449 (25)		55 (0)		506 (27)	
				Sep				
Estimated anglers	184		581		60		825	
Estimated anglers/ km of stream	142		32		11		33	
Estimated hours fished	540.0		1745.6		222.4		2508.0	
Estimated catch:								
Yearling hatchery brown trout	-	-	46	19.2	-	-	46	17.1
Rainbow trout	-	-	149 (0)	62.1	-	-	149 (0)	55.4
Wild brown trout	-	-	45 (0)	18.8	29 (29)	100.0	74 (29)	27.5
Hatchery holdover brown trout	-	-	-	-	-	-	-	-
Total	-		240 (0)		29 (29)		269 (29)	
				Apr-Sep				
Estimated anglers	999		8007		1827		10833	
Estimated anglers/ km of stream	768		442		332		435	
Estimated hours fished	3262.2		27099.0		6457.5		36818.7	
Estimated catch:								
Yearling hatchery brown trout	4	4.7	3702	70.2	506	47.7	4212	65.6
Rainbow trout	51 (18)	59.3	948(301)	18.0	321(144)	30.3	1320(463)	20.6
Wild brown trout	22(DNR)	25.6	476(100)	9.0	204 (61)	19.2	702(161)	10.9
Hatchery holdover brown trout	9 (0)	10.5	148 (0)	2.8	30(DNR)	2.8	187 (0)	2.9
Total	86 (18)		5274(401)		1061(205)		6421(624)	
				Oct				
Estimated anglers	CLOSED SEASON		315		26		341	
Estimated anglers/ km of stream			17		5		14	
Estimated hours fished			1308.9		126.0		1434.9	
Estimated catch:								
Yearling hatchery brown trout			53	16.1	-	-	53	16.1
Rainbow trout			207 (26)	62.9	-	-	207 (26)	62.9
Wild brown trout			61 (23)	18.5	-	-	61 (23)	18.5
Hatchery holdover brown trout			8(DNR)	2.4	-	-	8	2.4
Total			329 (49)		-		329 (49)	

Table 33 - (Continued).

Section	1		2		3		Total	
	#	%	#	%	#	%	#	%
				Nov				
Estimated anglers	CLOSED SEASON		161		29		190	
Estimated anglers/ km of stream			9		5		8	
Estimated hours fished			446.9		70.8		517.7	
Estimated catch:								
Yearling hatchery brown trout			5	11.9	-	-	5	6.8
Rainbow trout			31 (0)	73.8	31 (0)	100.0	62 (0)	84.9
Wild brown trout			6 (0)	14.3	-	-	6 ((0)	8.2
Hatchery holdover brown trout			-	-	-	-	-	-
Total			42 (0)		31 (0)		73 (0)	
				Oct & Nov				
Estimated anglers	CLOSED SEASON		476		55		531	
Estimated anglers/ km of stream			26		10		21	
Estimated hours fished			1755.8		196.8		1952.6	
Estimated catch:								
Yearling hatchery brown trout			58	15.6	-	-	58	14.4
Rainbow trout			238 (26)	64.2	31 (0)	100.0	269 (26)	66.9
Wild brown trout			67 (23)	18.1	-	-	67 (23)	16.7
Hatchery holdover brown trout			8(DNR)	2.2	-	-	8(DNR)	2.0
Total			371 (49)		31 (0)		402 (49)	
				Apr-Nov***				
Estimated anglers	999		8483		1882		11364	
Estimated anglers/ km of stream	768		469		342		456	
Estimated hours fished	3262.2		28854.8		6654.3		38771.3	
Estimated catch:								
Yearling hatchery brown trout	4	4.7	3760	66.6	506	46.3	4270	62.6
Rainbow trout	51 (18)	59.3	1186(327)	21.0	352(144)	32.2	1589(489)	23.3
Wild brown trout	22(DNR)	25.6	543(123)	9.6	204 (61)	18.7	769(184)	11.3
Hatchery holdover brown trout	9 (0)	10.5	156 (0)	2.8	30(DNR)	2.7	195 (0)	2.9
Total	86 (18)		5645(450)		1092(205)		6823(673)	

Table 34. Average angler trips (hr) for weekdays and weekend days (including holidays) censused from April through November 1977 and 1978 on Esopus Creek.

	Weekdays		Weekend Days	
Month	1977	1978	1977	1978
Apr	3.70	3.96	2.34	3.99
May	2.06	2.81	2.75	3.56
Jun	3.06	2.90	3.36	4.41
Jul	3.04	3.40	3.09	2.26
Aug	1.95	3.33	2.98	3.92
Sep	2.48	2.33	3.46	3.70
Oct	2.89	3.38	1.32	4.93
Nov	2.13	5.00	2.13	2.00



Map 5. Creel census interview sections and instantaneous count sections sampled from April through November 1978 on Esopus Creek.

ESOPUS CREEK CREEL CENSUS
DATA SHEET

Date _____ Weather _____

Census Hours _____ Census Agent _____

Water levels, turbidity, etc. _____ Temperatures:

_____ Location _____ AT _____ WT _____ Time _____

_____ Location _____ AT _____ WT _____ Time _____

_____ Location _____ AT _____ WT _____ Time _____

Location _____ AT _____ WT _____ Time _____

DAILY ANGLER COUNT

Started Time	Finished Time	Section	Number of Anglers Counted	Estimated Number of Anglers Not Counted	Total Number of Anglers For Period	Estimated Percent Interviewed	Remarks

Determination of estimated total anglers for day:

$$\text{Estimated Total Anglers} = \frac{\text{Total Count x Count Interval}}{\text{Length of Average Trip}}$$

Fig. 1. Instantaneous count form for creel census from 1 April through 28 November 1978 on Esopus Creek from Big Indian to Ashokan Reservoir.

ESOPUS CREEK CREEL CENSUS
DATA SHEET

Section _____

Date _____

How does angler rate clarity of water?

A = excellent; B = good; C = fair; D = poor; E = no opinion.

Angler Effort				Catch Data											
				'77 Stocked BT* (indicate number caught)				Other (indicate scale number (D) or number caught)							
Time Started	Time Checked	Hours Fished	Completed Trip	20 April LV	20 May ad	20 May adLV	20 June RV	Holdover Brown Trout	Wild Brown Trout	Rainbow Trout	Turbidity	Subsection Fished	Residency	Bait	

* The 1977 form was used in 1978. Yearling hatchery brown trout stocked on 21 April 1978 were recorded under the column labeled 20 April LV (left ventral fin clip), fish stocked on 8 June 1978 were recorded under either 20 May ad (adipose fin clip) or 20 May ad-LV (adipose-left ventral fin clip), and fish stocked on 23 June 1978 were recorded under 20 June RV (right ventral fin clip).

Fig. 2. Interview form for creel census from 1 April through 28 November 1978 on Esopus Creek from Big Indian to Ashokan Reservoir.

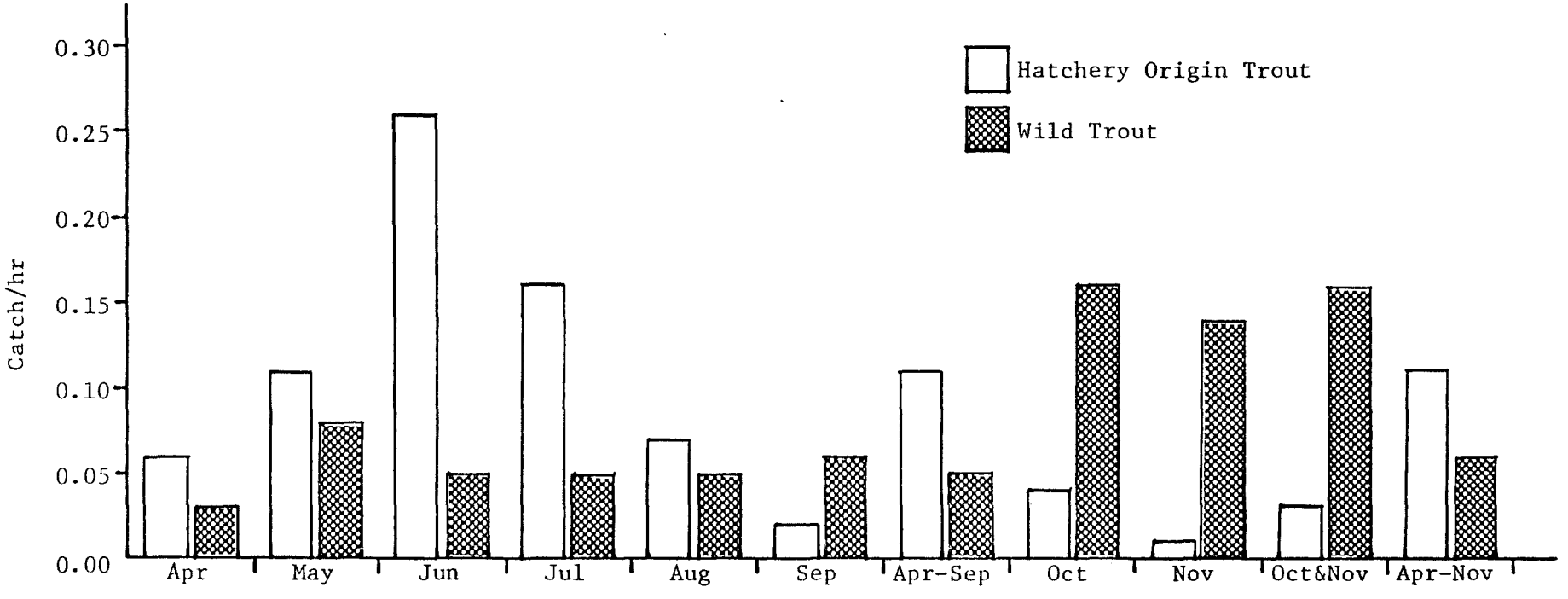


Fig. 3. Comparison of catch rate of wild and hatchery origin trout from April through November 1978 in Esopus Creek.

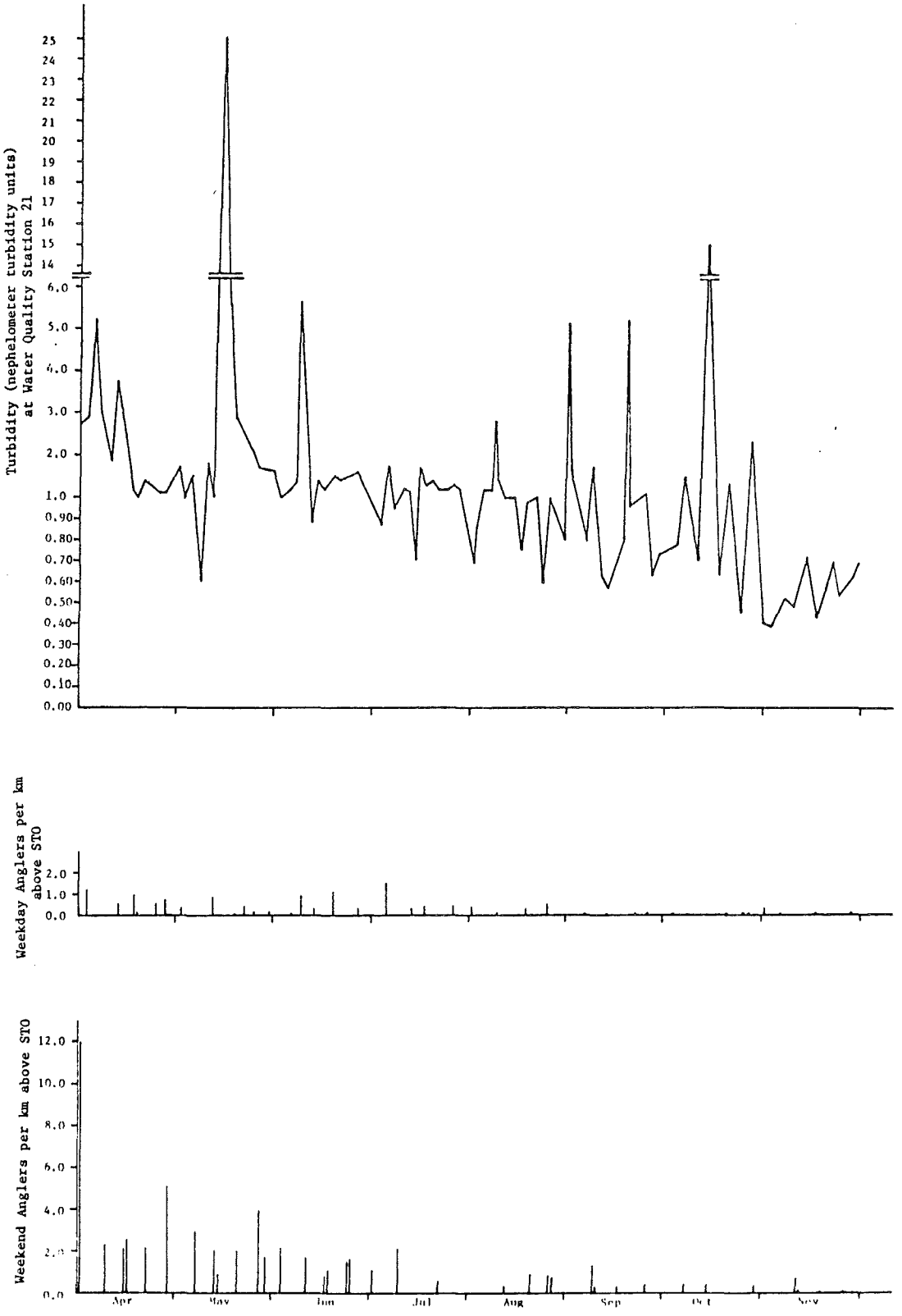


Fig. 4. Comparison of turbidity in Esopus Creek above the STO and angler use on Esopus Creek above the STO from 1 April through 28 November 1978.

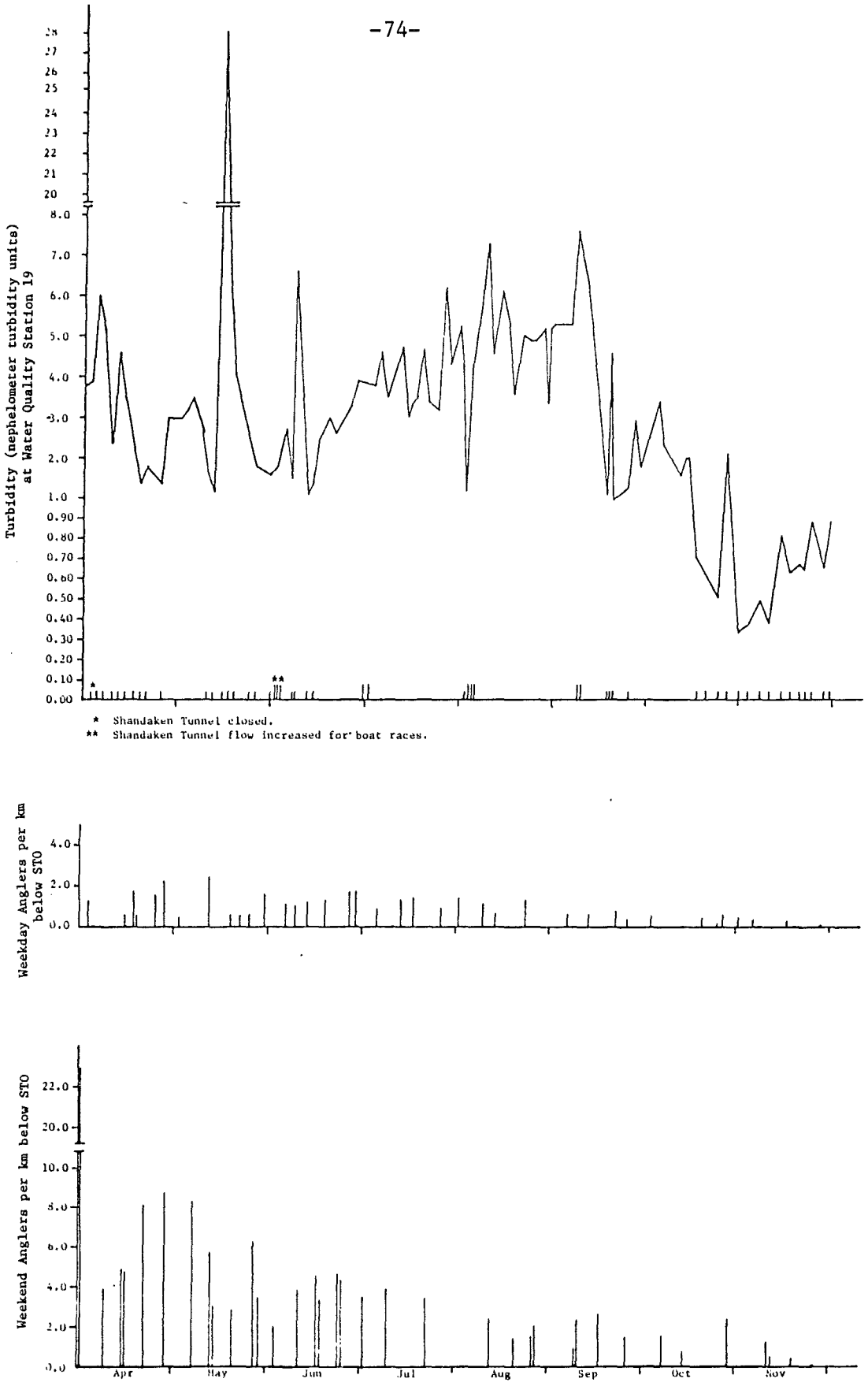


Fig. 5. Comparison of turbidity in Esopus Creek below the STO and angler use on Esopus Creek below the STO from 1 April through 28 November 1978.

Section Leader:
Arthur J. Newell, M.A.

TROUT REPRODUCTION SURVEY

Introduction

Observations for trout reproduction were made on seven days from March through May 1978 at 23 stations on Esopus Creek and tributaries. These data were collected to determine location and success of brown trout, rainbow trout, and brook trout reproduction.

Materials and Methods

Visual observation and subsequent dip net samples (including kick samples) for evidence of trout reproduction (i.e., collection of trout eggs or trout young-of-year) were taken during daylight hours from March through May at 23 stations on Esopus Creek and tributaries (Table 35, Maps 6-11). Backpack electrofishing for sexually mature adult trout was conducted only on 22 and 28 March with a Coffelt Model BP-3 variable voltage (250 or 500 v), pulsed (70/sec) DC backpack electroshocker.

The dip net was 12 inches high by 15 inches wide by 12 inches deep (0.04-inch nylon mesh). Dip net samples were taken for fish eggs and pre-juveniles (kick samples) by facing the opening of the net upstream and agitating (by foot) the substrate in front of the net and for juveniles by swiftly moving the net through the water.

Specimens were identified to the lowest possible taxonomic category (young-of-year brown trout and brook trout could not be differentiated); enumerated; and identified as egg, pre-juvenile (intermediate period between the egg and typically juvenile form for trout only [modification of Balon's (1975) terminology]), or juvenile (body form approximates that of an adult) (Hubbs 1943, Bacon 1954) (Appendix 1). Trout redds were identified by visual

inspection or upon egg or young-of-year (pre-juvenile or juvenile) collection.

Results and Discussion

Evidence of trout reproduction was found in tributaries of Esopus Creek above the STO (stations 28, 29, and 39), in Esopus Creek below the STO (station 23), and in a tributary of Esopus Creek below the STO (station 34) (Table 36). High flows prevented effective sampling of many stations on numerous days. In tributaries of Esopus Creek above the STO, three trout redds (probably rainbow trout, because of the presence of eggs in May, and brown or brook trout) were observed and five juvenile brown trout or brook trout were collected. In Esopus Creek below the STO five redds (probably only rainbow trout because of the presence of eggs in late April and May) were observed. In a tributary of Esopus Creek below the STO, three trout redds (probably rainbow trout, because of the presence of eggs in May, and brown or brook trout) and seven pre-juvenile brown trout or brook trout were observed or collected.

No adult trout were collected by backpack electrofisher on 22 or 28 March.

Table 35. Description and location of stations 18-25 and 27-41 sampled by dip net and backpack electrofisher in a survey of trout reproduction from March through May 1978 in Esopus Creek and 12 tributaries.

	Width (ft)			Elevation	Mid-stream Depth (ft)			Stream Habitat			Substrate			%	Shore Cover		
Station	Max.	Min.	Ave.	(ft)	Max.	Min.	Ave.	% Run	% Riffle	% Pool	% Boulder	% Rubble	% Gravel	Shaded	% Deciduous	% Conifer	% Open
18	65	35	40	1100	4.5	0.5	2.0	20	30	50	15	50	35	20	70	10	20
19	65	50	55	1080	3.0	0.5	1.5	10	70	20	25	50	25	50	60	30	10
20	70	50	60	1010	3.0	0.5	1.5	10	70	20	25	50	25	30	70	20	10
21	60	25	50	985	4.0	1.0	2.0	20	20	60	10	60	30	10	50	0	50
22	95	50	65	890	4.0	1.0	2.5	15	70	15	20	60	20	15	60	10	30
23	105	90	95	760	5.0	1.5	3.0	40	20	40	10	30	60	10	65	10	25
24	120	20	50	690	6.0	0.5	2.0	25	30	45	15	50	35	10	50	5	45
25	50	35	25	865	3.0	0.5	1.5	15	40	45	20	55	25	30	60	10	30
27	40	35	20	1250	3.0	1.0	1.0	25	50	25	25	50	25	40	65	10	25
28	25	5	15	1440	3.0	0.5	1.0	25	25	50	10	20	70	50	80	10	10
29	10	3	5	1025	2.0	0.2	0.8	5	15	80	10	20	70	20	20	20	60
30	25	5	15	915	4.0	0.5	1.5	10	25	65	10	30	60	60	80	5	15
31	15	5	10	920	2.0	0.5	1.0	20	40	40	40	40	20	40	80	10	10
32	15	5	10	935	3.0	1.0	1.0	20	40	40	40	40	20	50	70	5	25
33	95	50	65	880	4.0	1.0	2.5	15	70	15	20	60	20	15	60	10	30
34	20	5	10	870	2.5	0.5	1.5	10	70	20	10	50	40	75	90	5	5
35	25	10	20	1010	4.0	1.0	2.0	30	40	30	40	40	20	minimal	0	0	100
36	10	2	5	695	3.0	0.5	1.0	5	80	15	25	25	50	30	80	5	15
37	25	10	15	815	3.5	1.0	2.5	15	50	35	30	40	30	40	60	20	20
38	30	20	25	1130	2.5	0.3	1.2	0	60	40	30	50	20	minimal	30	0	70
39	8	2	4	1130	3.0	0.1	0.8	0	50	50	10	30	60	90	90	0	10
40	27	24	25	691	1.0	0.3	0.5	0	100	0	20	60	20	20	40	0	60
41	30	5	15	1430	1.7	0.3	1.0	0	60	40	20	60	20	20	40	20	40

Station	Location
18	North shore of Esopus Creek, 300-ft section, 3.0 mi above STO
19	North shore of Esopus Creek, 300-ft section, 2.6 mi above STO, under dismantled wooden bridge
20	North shore of Esopus Creek, 300 ft above and below mouth of Peck Hollow Creek, and 300 ft of Peck Hollow Creek from mouth upstream
21	Both shores of Esopus Creek, 300-ft section, 0.3 mi above STO from old two-span bridge downstream
22	East shore of Esopus Creek, 500-ft section, 2.6 mi below STO
23	Both shores of Esopus Creek, 1000-ft section, 6.2 mi below STO
24	Both shores of Esopus Creek, 500 ft above and below mouth of Beaver Kill
25	Both shores, 500-ft section of Woodland Creek from mouth upstream
27	Both shores, 300-ft section of Stony Clove Creek, 3.8 mi upstream from mouth, Greene-Ulster line
28	Both shores, 500 ft of unnamed tributary from mouth upstream, 8.5 mi above STO
29	Both shores, 500 ft of unnamed tributary 750 ft above mouth of stream, 1.2 mi above STO
30	Both shores, 750 ft of unnamed tributary from mouth upstream, 2.1 mi below STO
31	Both shores, 300 ft of unnamed tributary from mouth upstream, 2.1 mi below STO
32	Both shores, 500 ft of unnamed tributary from mouth upstream, 2.2 mi below STO
33	West shore of Esopus Creek, 500-ft section, 2.4 mi below STO, gravel bar
34	Both shores, 500 ft of unnamed tributary from mouth upstream, 2.4 mi below STO
35	Both shores, 300-ft section of Woodland Creek, 1.8 mi above the mouth
36	Both shores, 500 ft of unnamed tributary from mouth upstream, 7.7 mi below STO
37	Both shores, 300-ft section of the Beaver Kill, 1.4 mi above the mouth
38	North shore, 300-ft section of Esopus Creek above and below mouth of Millbrook Hollow Creek
39	Both shores, 300 ft of Millbrook Hollow Creek from mouth upstream
40	Both shores, 500 ft of the Beaver Kill from mouth upstream
41	Both shores, 500-ft section of Esopus Creek, 8.4 mi above STO, 0.2 mi above McKenley Hollow Road in Oliverea

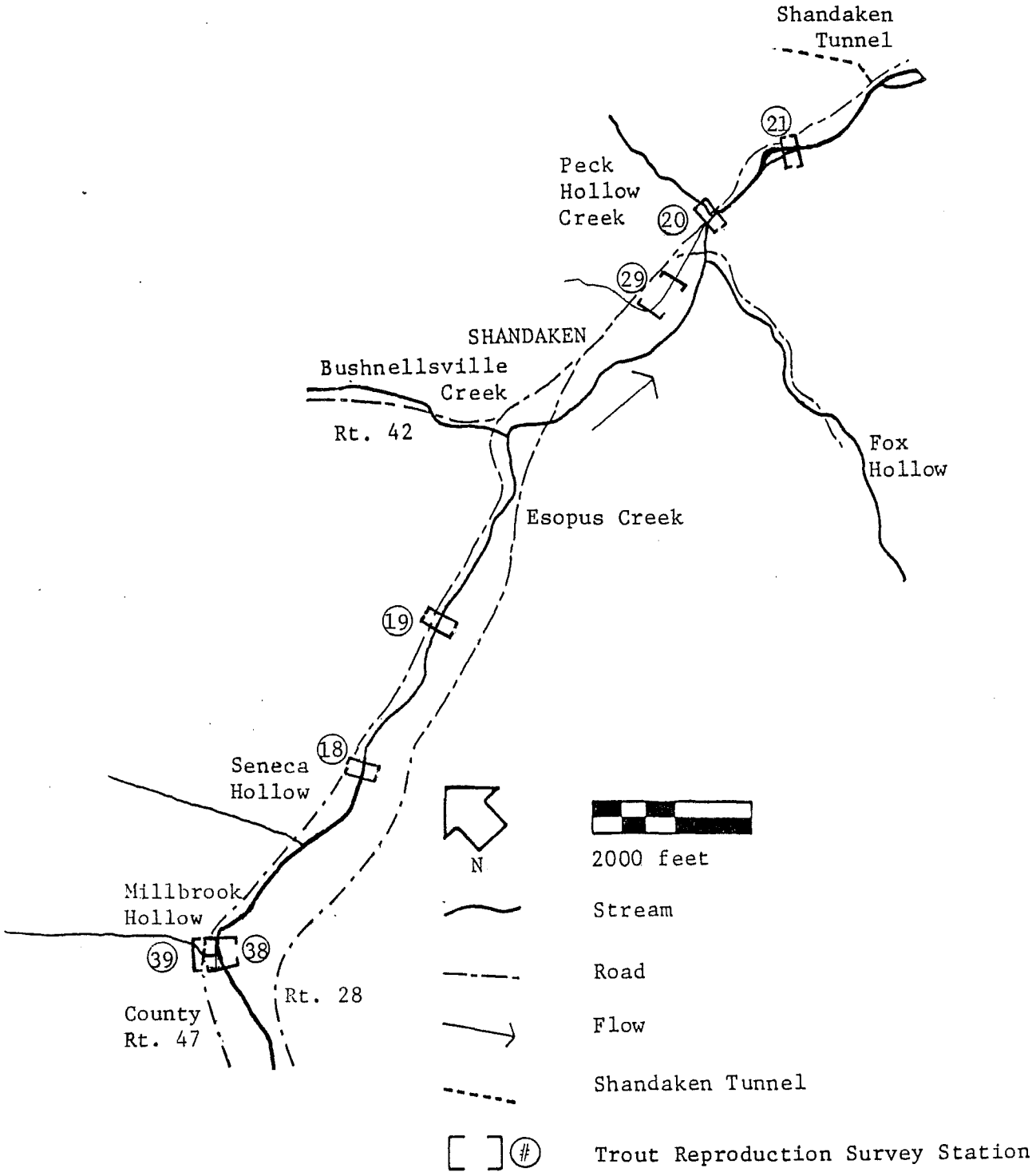
Table 36. Summary of specimens taken by dip net in a survey of trout reproduction from March through May 1978 in Esopus Creek and 12 tributaries.

Date and Station*	No. of Redds Observed	No. of Kick Samples	No. of Unidentified Young-of-Year Trout Collected
28 Mar			
29	-	3	-
34	2**	2	7#
39	2**	2	-
26 Apr			
23	2	3	-
1 May			
23	3	5	-
28	1	1	-
29	-	-	5##
34	1	1	-
Total			
28	1	1	-
29	-	3	5##
39	2	2	-
Tribs Above STO	3	6	5
23	5	8	-
EC Below STO	5	8	-
34	3	3	7#
Trib Below STO	3	3	7

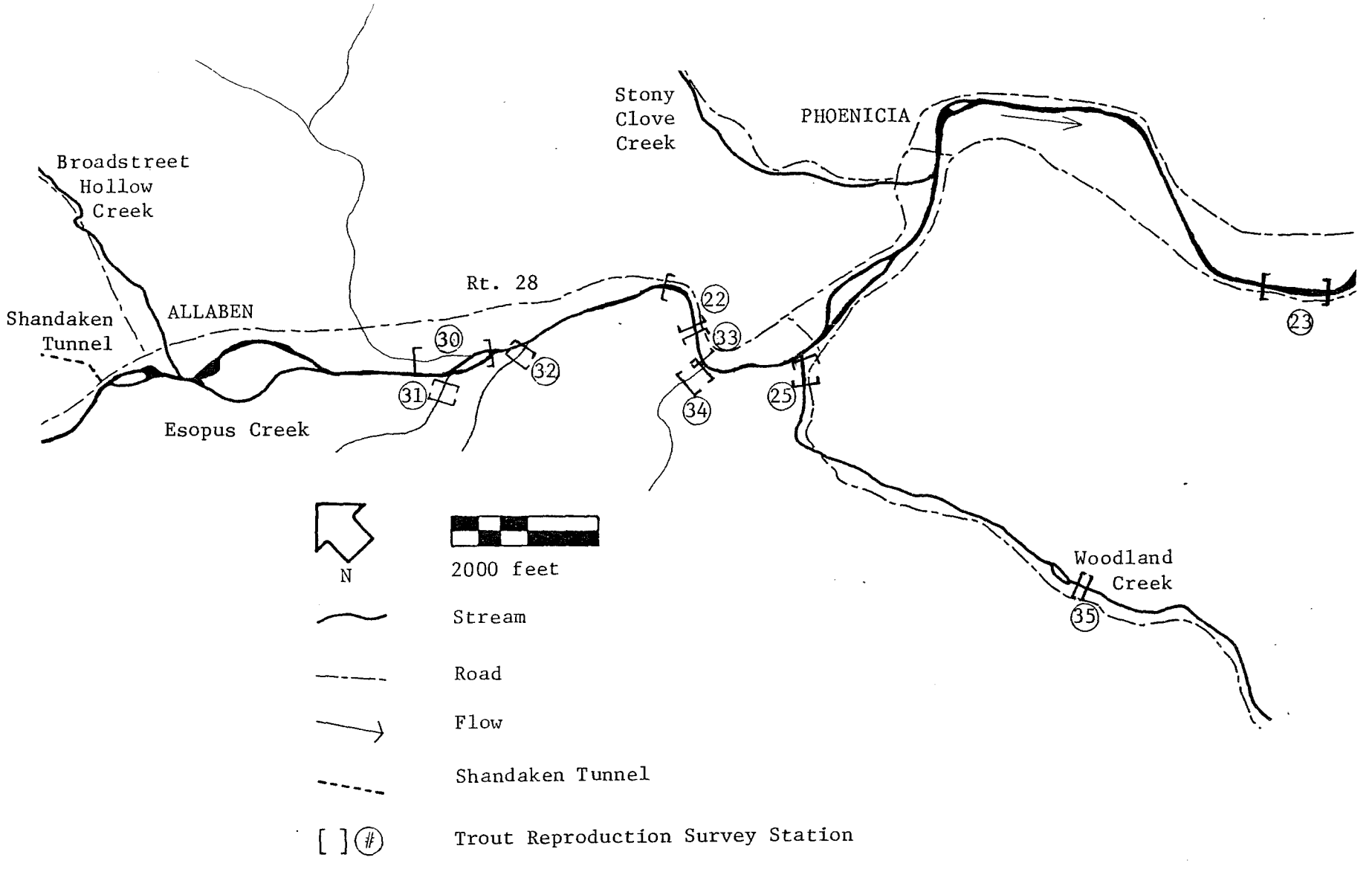
* Station checked but water level too high to observe redds or trout: Date / Station: 22 Mar / 18-25, 27-33, 35, 37, 38, 40, 41; 28 Mar / 18, 19, 21-25, 27, 30, 33, 35, 37, 38, 40, 41; 7 and 14 Apr / 18-20, 22, 24, 25, 27, 31-33, 35-38, 40, 41; 11 Apr / 18-20, 22, 24, 25, 27, 29, 31-33, 35-38, 40, 41; 11 Apr / 18-21, 24, 27, 31-33, 35, 37, 38, 40, 41; 26 Apr / 18-22, 24, 27, 31-33, 35, 37, 38, 40, 41; 1 May / 34, 36, 39.

Station checked but no redds or trout observed: 22 Mar / 20, 28, 31, 32, 36; 28 Mar / 21, 23, 28-30, 34, 39; 7 and 14 Apr / 21, 23, 28, 30, 34, 39; 11 Apr / 25, 28-30, 34, 36, 39; 26 Apr / 25, 30, 36, 39; 1 May.

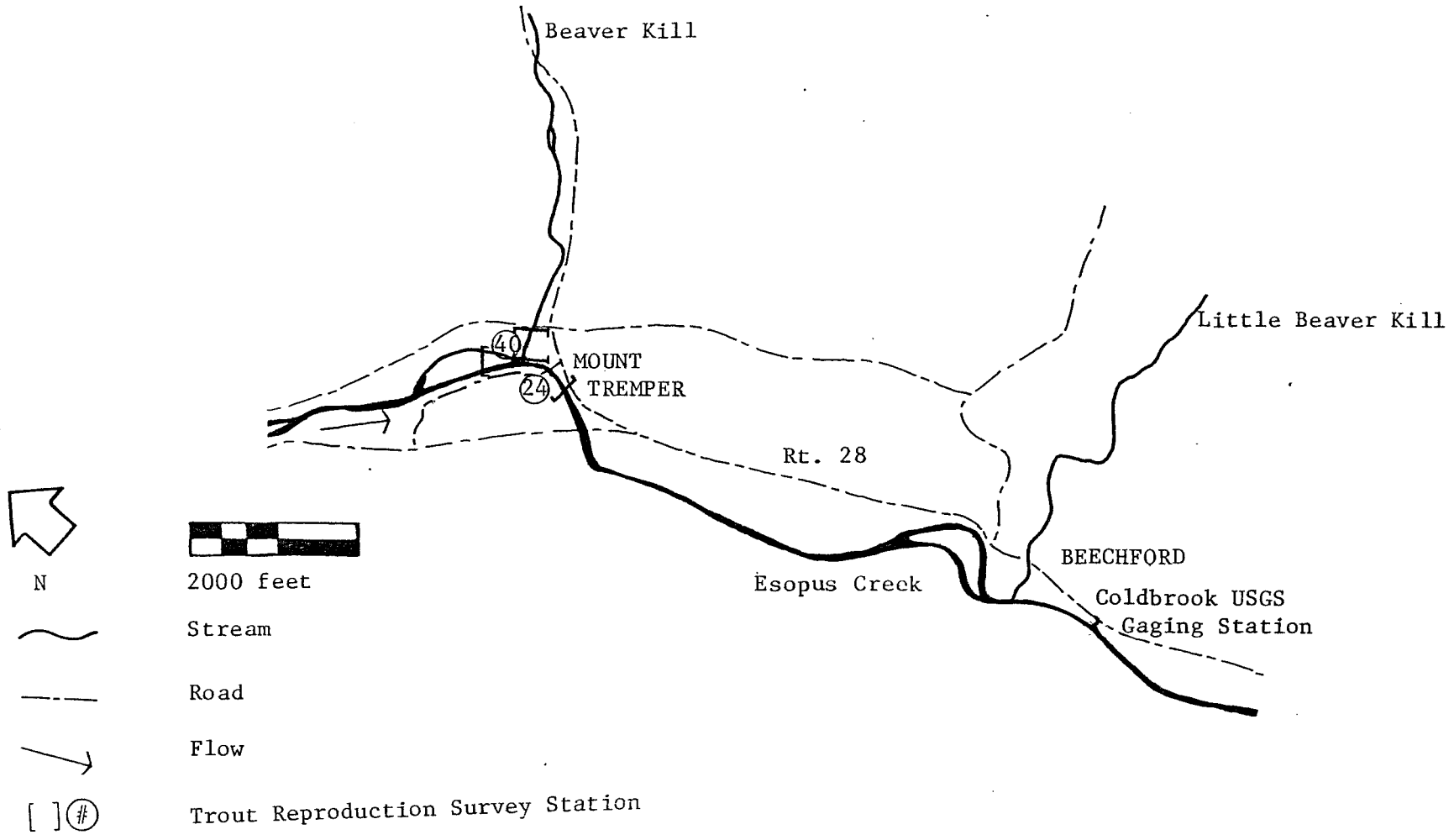
** Brown or brook trout redds observed in both fall 1977 and spring 1978.
\# Pre-juvenile brown trout or brook trout.
Juvenile brown trout or brook trout.



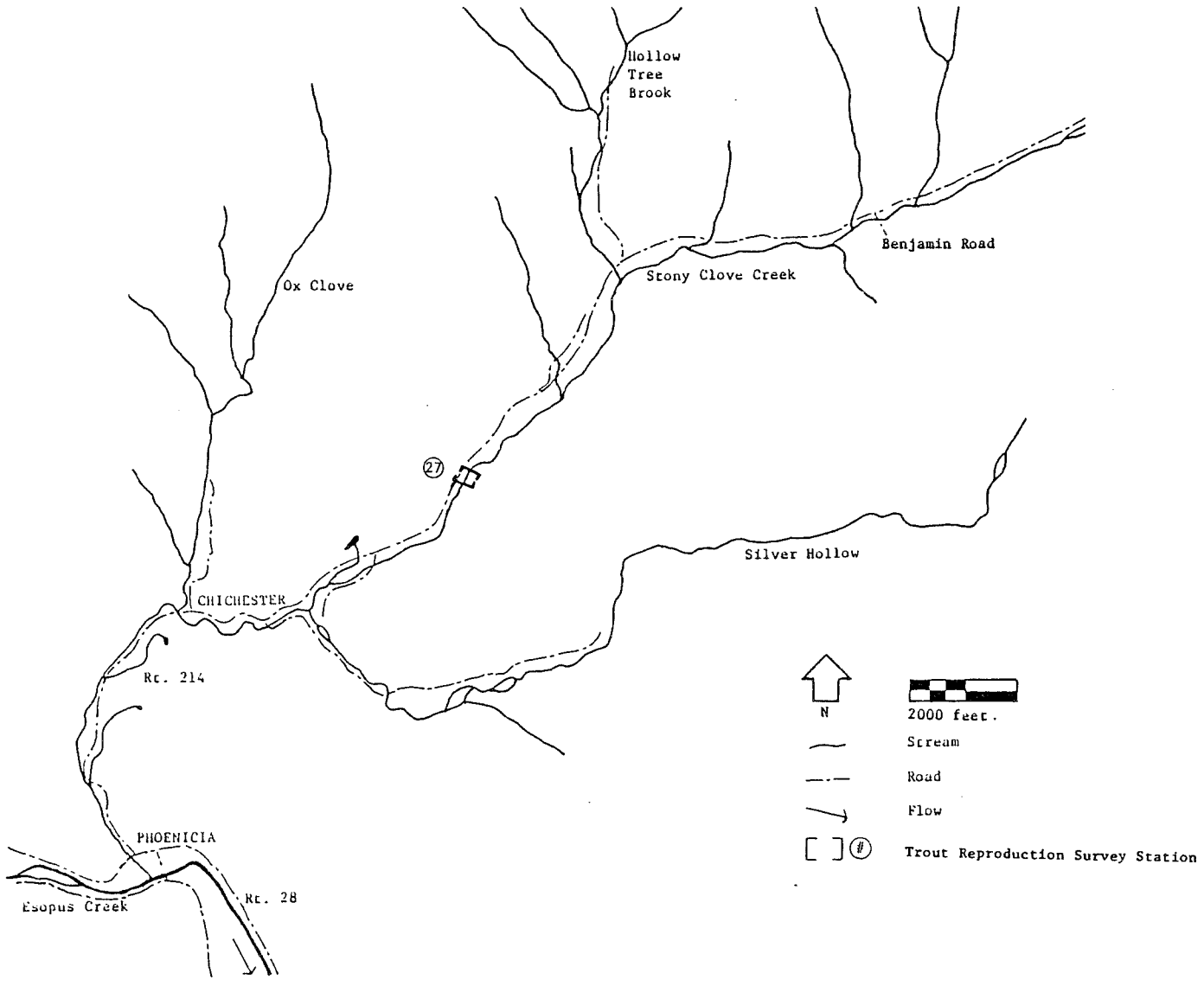
Map 6. Stations 18-21, 29, 38, and 39 sampled for trout reproduction from March through May 1978 in Esopus Creek and tributaries above the STO.



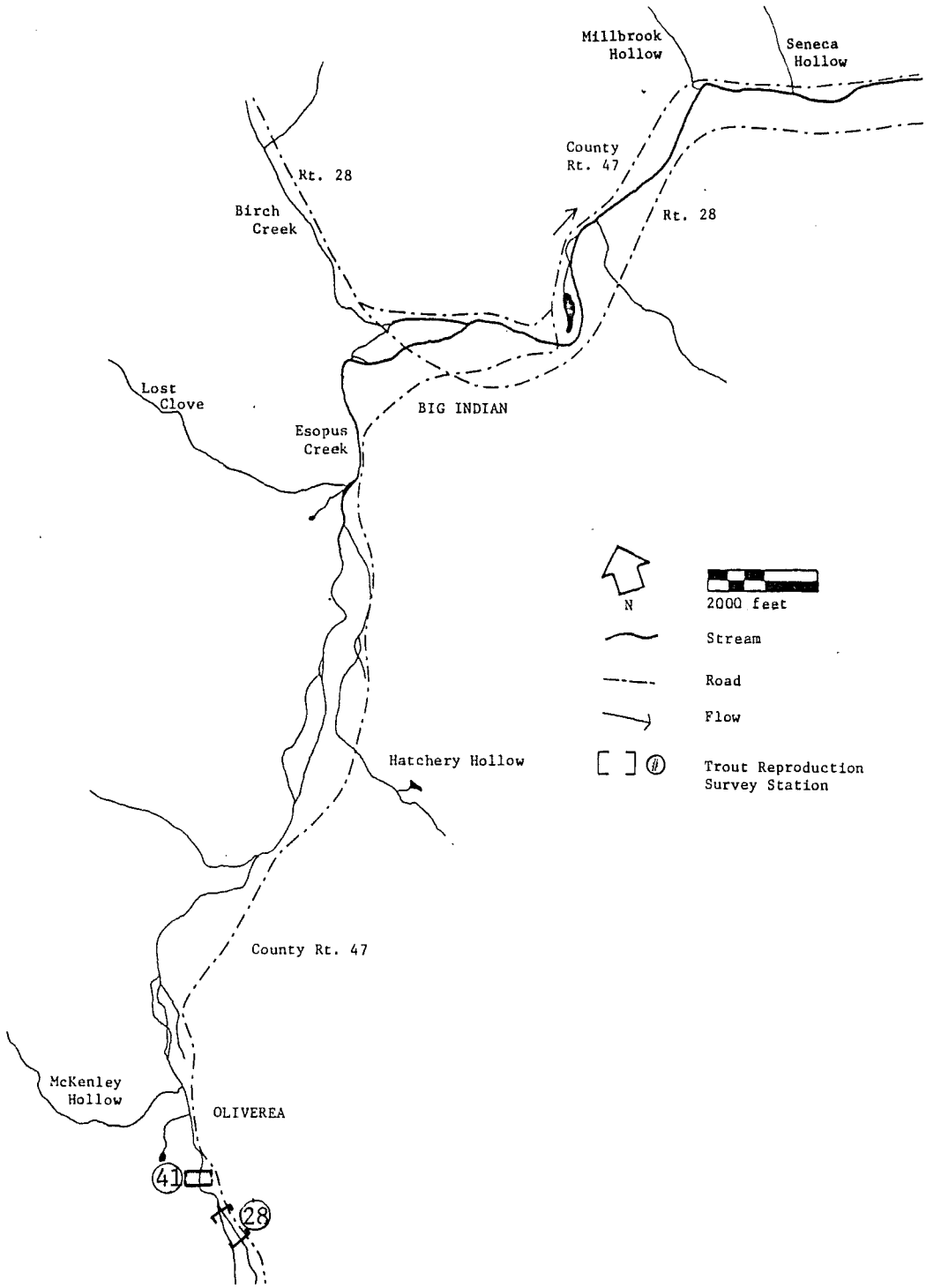
Map 7. Stations 22, 23, 25, and 30-35 sampled for trout reproduction from March through May 1978 in Esopus Creek and tributaries below the STO.



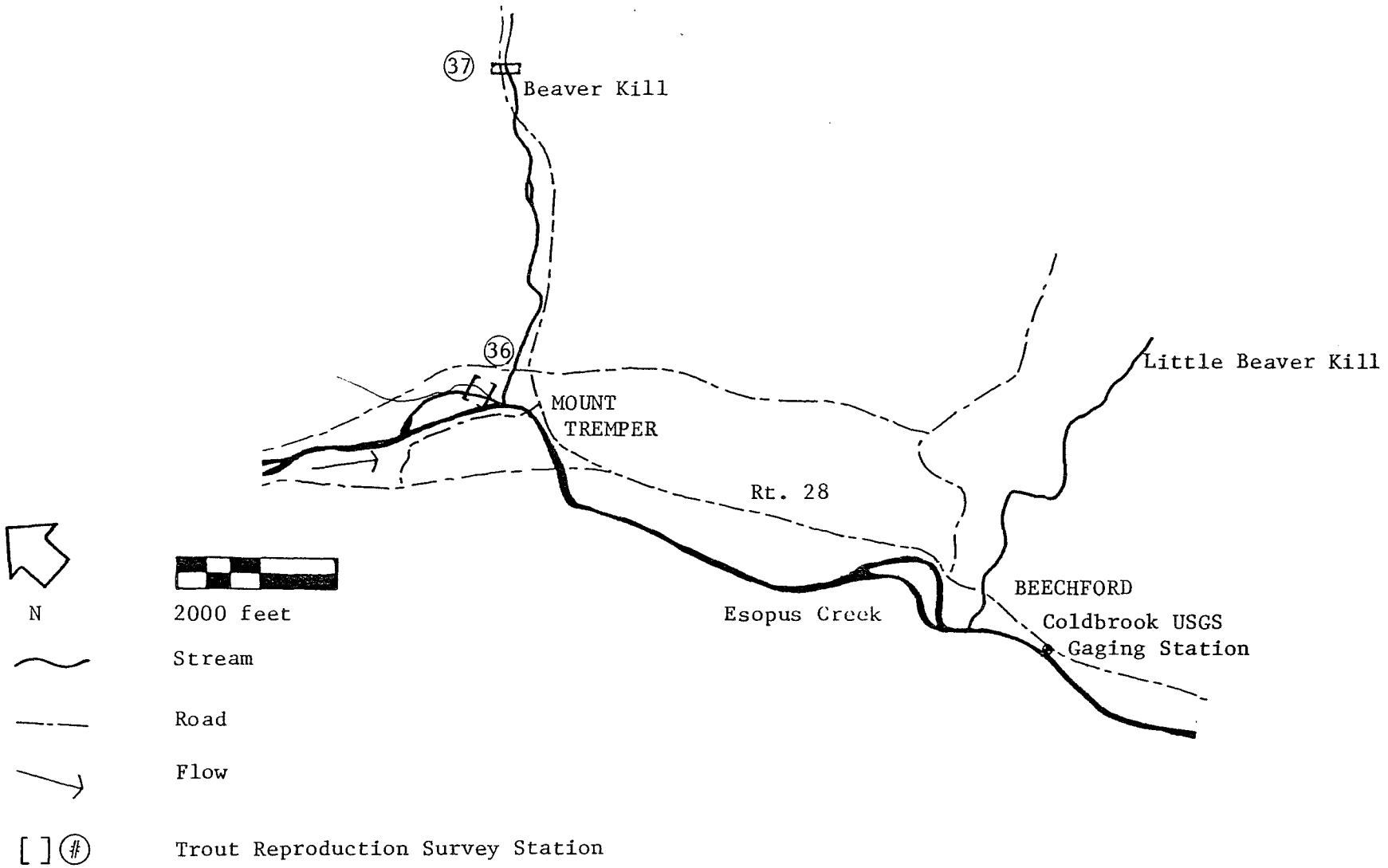
Map 8. Stations 24 and 40 sampled for trout reproduction from March through May 1978 in Esopus Creek below the STO and the Beaver Kill.



Map 9. Station 27 sampled for trout reproduction from March through May 1978 in Stony Clove Creek.



Map 10. Stations 28 and 41 sampled for trout reproduction from March through May 1978 in Esopus Creek and a tributary above the STO.



Map 11. Stations 36 and 37 sampled for trout reproduction from March through May 1978 in an unnamed tributary of Esopus Creek below the STO and the Beaver Kill.

Section Leader:
David F. Sanders, M.S.

ESOPUS CREEK BENTHOS

Introduction

Benthic macroinvertebrates were surveyed in April, June, August, and October 1978 at eight stations on Esopus Creek (Maps 12 and 13).

Data were collected to determine numerical and biomass densities, diversity, and distribution of benthic macroinvertebrates.

Materials and Methods

Quantitative benthos samples were collected at each of two stations (1a and 2) in zone 1, located upstream from the STO, and at each of six stations (3-8) in zone 2, located downstream from the STO (Table 37). All stations were exposed to sunlight and were located in riffle areas with predominantly rubble substrate. The 1976 and 1977 station 1 was relocated about 0.1 mi upstream in 1978 (station 1a) because access to the previous site was denied by the landowner. Elevation ranged from about 1030 ft at station 1a (1.4 mi upstream from the STO) to about 630 ft at station 8 (9.0 mi downstream from the STO).

Three replicate samples were collected at each station with a Surber sampler (0.0929 m^2, 1.05-mm square mesh collection net) (Fig. 6). Samples were washed in a U. S. Standard #35 sieve (0.500 mm), preserved in 10% buffered formalin, and labeled in the field. Current velocity (m/sec, measured about 6 cm above the substrate-water interface), air temperature (C), water temperature (C), dissolved oxygen (ppm), and turbidity (NTU) were measured after each collection (Appendix 6).

Organisms from each sample were sorted from sediment and detritus in the laboratory, identified using a stereoscopic microscope (8X-40X) or a compound microscope (40X-400X), and counted. Results were expanded to numerical density

($\#/m^2$) to allow direct comparisons between stations, zones, and monthly and yearly summaries. Insecta, Hydracarina, and Crustacea were identified to genus (except Chironomidae pupae, identified to family); Oligochaeta, Hirudinea, and Turbellaria to class; and Nematoda to order. Oligochaeta, Hirudinea, Turbellaria, and Nematoda were counted as single families and taxa. Insect developmental stages (larva, pupa, adult) were combined for analysis. Mutilated organisms were listed as UID (unidentified) in tables and were counted as taxa or families only if other representatives of the respective family or order were not present in the collection. Identification of respective taxa followed keys listed in Table 38.

Organisms from the replicate quantitative samples were combined, and dry biomass of each family (Insecta, Hydracarina, and Crustacea), class (Oligochaeta, Hirudinea, and Turbellaria), or phylum (Nematoda) was determined at each station for each sample date. Results were then expanded to biomass density (g/m^2). Organisms were immersed in distilled water for at least 30 minutes, removed from the water and placed in a drying oven at about 60 C for 72 hours, cooled to room temperature in a dessicator, and weighed to the nearest 0.0001 g on a Mettler H31AR balance.

Taxa diversity for each sample was based on the Shannon formula:

$$D = -\Sigma\ (n_i/N)\ \log_2\ (n_i/N)$$ (Odum 1971) and

calculated using the machine formula:

$$D = C/N\ (N \log_{10} N - \Sigma\ n_i \log_{10} n_i)$$ (Lloyd et al. 1968), where

D = diversity value, n_i = number of organisms in the ith taxon, N = total number of organisms of all taxa, and C is a constant (3.321928) that converts base 10 log to base 2 log. Mean taxa diversity was determined for all stations, zones, and summaries using the formula:

$$\bar{d} = \Sigma D/S$$ where

S = number of samples. The diversity index, here calculated using data at the taxon (furthest level of identification) level, is affected by both the types of organisms occurring (richness) and the distribution of individuals among taxa and may range from 0 to 3.321928 log N. To obtain information on the distribution of individuals among taxa, evenness:

$$e = D/\log_2 t$$

and mean evenness:

$$\bar{e} = \Sigma e/S$$

were calculated, where e = evenness index and t = number of taxa. Evenness may range from 0 to 1, a uniform distribution being 1.

Results and Discussion

Analysis of 95* samples (combined to 31 2/3* samples for biomass) collected in April, June, August, and October 1978 in Esopus Creek yielded 9794 benthic organisms in 82 taxa (42 families) with a dry biomass of 7.4032 g. Mean numerical density was 1110/m^2 and mean biomass density was 0.8388 g/m^2 (Tables 39 and 40).

Aquatic insects were numerically (1090/m^2, 98.2%) and gravimetrically (0.8289 g/m^2, 98.8%) most abundant. Major (i.e., comprising at least 2% of the total benthic organisms) insect orders were Diptera (377/m^2), Trichoptera (353), and Ephemeroptera (341) numerically and Trichoptera (0.4643 g/m^2), Ephemeroptera (0.2425), Diptera (0.0684), and Plecoptera (0.0534) gravimetrically (Tables 39 and 40). Major families numerically were Chironomidae (365/m^2), Hydropsychidae (282), Heptageniidae (192), Baetidae (60), Glossosomatidae (52), Ephemerellidae (50), and Siphlonuridae (29) and gravemetrically were

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* One replicate from station 5 in October was lost (dried out).

Hydropsychidae (0.4292 g/m^2), Heptageniidae (0.1288), Chironomidae (0.0527), Siphlonuridae (0.0524), Ephemerellidae (0.0436), and Perlidae (0.0210). Hydropsyche (225/m^2), Stenonema (126), Orthocladius (103), Cricotopus (58), Cheumatopsyche (57), Pseudocloeon (53), Glossosoma (52), Epeorus and Ephemerella (50 each), Polypedilum (30), and Isonychia (29) were the major taxa collected.

Fifty-nine taxa and 33 families were collected in zone 1 and 73 taxa and 37 families in zone 2 (Table 39). Eight taxa and five families were collected only in zone 1 and 22 taxa and nine families only in zone 2. The highest numbers of taxa and families were collected at station 2 (50 and 28, respectively) and the lowest at station 3 (31 and 17, respectively).

Mean numerical and biomass densities were higher in zone 1 (1488/m^2 and 1.3916 g/m^2) than in zone 2 (982 and 0.6520) (Tables 39 and 40). Mean numerical density was highest at station 2 (2020/m^2) and lowest at station 4 (666), whereas mean biomass density was highest at station 2 (2.1367 g/m^2) and lowest at station 7 (0.4387).

Diptera were more abundant numerically and gravimetrically in zone 2 (452/m^2 and 0.0704 g/m^2) than in zone 1 (156 and 0.0623), whereas Ephemeroptera, Trichoptera, and Plecoptera were more abundant in zone 1 (685 and 0.5238, 583 and 0.7056, and 40 and 0.0756, respectively) than in zone 2 (225 and 0.1474, 275 and 0.3827, and 10 and 0.0459, respectively) (Tables 39 and 40). Heptageniidae, Hydropsychidae, Glossosomatidae, and Siphlonuridae were more abundant numerically and gravimetrically in zone 1 (454/m^2 and 0.2855 g/m^2, 359 and 0.5987, 174 and 0.0564, and 97 and 0.1663, respectively) than in zone 2 (103 and 0.0758, 256 and 0.3719, 12 and 0.0028, and 7 and 0.0139, respectively). Chironomidae were more abundant in zone 2

($440/m^2$ and $0.0662\ g/m^2$) than in zone 1 (144 and 0.0125).

Of the 11 major taxa collected, five were more abundant in zone 1 and three in zone 2; three were similarly abundant between zones (Table 39). Hydropsyche, Glossosoma, Stenonema, Epeorus, and Isonychia were more abundant in zone 1 ($305/m^2$, 173, 302, 134, and 97, respectively) than in zone 2 (198, 12, 67, 21, and 7, respectively). Orthocladius, Cricotopus, and Polypedilum (Chironomidae) were more abundant in zone 2 ($128/m^2$, 69, and 37, respectively) than in zone 1 (26, 23, and 12, respectively). Cheumatopsyche, Pseudocloeon, and Ephemerella were similarly abundant in zone 1 ($53/m^2$, 52, and 52, respectively) and zone 2 (58, 53, and 49, respectively).

Mean taxa diversity was 2.47 and was significantly higher in zone 1 (2.80) than in zone 2 (2.35) ($t = 3.0288$, α less than 0.01) (Table 41). Mean diversity was greatest at station 2 (2.86) and least at station 3 (1.86).

Mean monthly numerical density was highest in October ($2306/m^2$) and lowest in June (460) (Tables 42-45). Mean monthly biomass density was highest in October ($2.1476\ g/m^2$) and lowest in August (0.3951) (Tables 46-49). The highest numbers of taxa and families were collected in October (53 and 32, respectively) and the lowest in June (36 and 21, respectively).

Diptera ($860/m^2$) and Ephemeroptera (118) were numerically dominant (i.e., comprised at least 10% of the total) in April; Diptera (194), Ephemeroptera (191), and Trichoptera (65) in June; Ephemeroptera (293), Trichoptera (194), and Diptera (171) in August; and Trichoptera (1147), Ephemeroptera (782), and Diptera (280) in October (Tables 42-45). Diptera ($0.2050\ g/m^2$), Plecoptera (0.0781), Trichoptera (0.0653), and Ephemeroptera (0.0618) were gravimetrically dominant in April and Trichoptera and Ephemeroptera in June (0.2396 and 0.1880, respectively), August (0.2578 and

0.1029, respectively), and October (1.3305 and 0.6338, respectively) (Tables 46-49).

Chironomidae (855/m^2) were numerically dominant in April; Chironomidae (185), Ephemerellidae (135), and Hydropsychidae (57) in June; Hydropsychidae (171), Chironomidae (161), Heptageniidae (145), and Baetidae (113) in August; and Hydropsychidae (905), Heptageniidae (549), and Chironomidae (255) in October. Chironomidae (0.1691 g/m^2) and Perlidae (0.0440) were gravimetrically dominant in April; Hydropsychidae (0.2266) and Ephemerellidae (0.1529) in June; and Hydropsychidae and Heptageniidae in August (0.2440 and 0.0527, respectively) and October (1.2504 and 0.4285, respectively). Dominant taxa were Orthocladius (385/m^2) in April; Ephemerella (135), Polypedilum (73), and Cricotopus (66) in June; Hydropsyche (150) and Pseudocloeon (93) in August; and Hydropsyche (711) and Stenonema (444) in October.

More taxa and families were collected in zone 1 than in zone 2 in April (38 and 26, respectively, vs 36 and 21, respectively) and in zone 2 than in zone 1 in June (33 and 18, respectively, vs 15 and 10, respectively), August 40 and 21, respectively, vs 34 and 19, respectively), and October (46 and 29, respectively, vs 39 and 26, respectively) (Tables 42-45). The greatest number of families was collected at stations 1a and 2 (21 each) in October and the greatest number of taxa at station 6 (32) in October. The least numbers of taxa and families were collected at station 7 (7 and 5, respectively) in April.

Mean numerical density in April and June was higher in zone 2 (1187/m^2 and 502, respectively) than in zone 1 (637 and 334, respectively) and in August and October higher in zone 1 (1390 and 3592, respectively) than in zone 2 (435 and 1852, respectively) (Tables 42-45). Mean biomass density in April, August, and October was higher in zone 1 (0.6067 g/m^2, 0.7843, and 3.7583, respectively) than in zone 2 (0.3594, 0.2654, and 1.5792, respectively) and

in June was slightly higher in zone 2 (0.4555) than in zone 1 (0.4169) (Tables 46-49). Maximum mean station numerical and biomass densities occurred at station 2 (5231/m^2 and 6.1215 g/m^2) in October and the respective minimums at station 7 (215 and 0.0441) in August.

Mean taxa diversity was lowest in April (2.12) and increased in June (2.43), August (2.58), and October (2.74) (Tables 50-53). Diversity of zone 1 was significantly higher than that of zone 2 in April (3.18 vs 1.77; $t = 5.4783$, α less than 0.01) and August (3.05 vs 2.42; $t = 1.9276$, α less than 0.10). Diversity of zone 2 was higher, although not significantly, than that of zone 1 in June (2.49 vs 2.27; $t = 1.0441$, $\alpha = 0.31$) and October (2.76 vs 2.70; $t = 0.3798$, $\alpha = 0.71$). Maximum diversity occurred at station 2 (3.43) in April and minimum diversity at station 7 (1.22) in April.

Total (1110/m^2), zone 1 (1488), and zone 2 (982) numerical densities in 1978 were lower than those observed in 1977 (2486 total, 5004 in zone 1, and 1646 in zone 2) (Culp and Associates 1978). Although sampling periods were different (monthly from June through September 1977 vs April, June, August, and October 1978), the primary cause of the reduced numerical densities in 1978 was probably the scouring floods that occurred in September 1977. The scouring floods reduced numerical and biomass densities and diversity of benthos in September 1977 and probably displaced immature aquatic organisms downstream that would likely have overwintered in Esopus Creek and been present in the spring and summer benthos.

The nonuniform distribution of aquatic invertebrates in streams results from the interaction of many factors that regulate their occurrence and distribution. Generally, the most important of these factors are current speed (velocity), temperature, substrate, and dissolved and suspended substances.

All samples in this study were collected in riffles with predominantly rubble substrate and at relatively consistent depths between stations within each sample period (Table 37, Appendix 6). Dissolved oxygen was near saturation in zone 1 and near or above saturation in zone 2 (see Water Quality section). Consistent acidity and hardness differences between zones did not occur during 1976 or 1977 (Culp and Lechel 1977, 1978). Variability in substrate, depth, and water chemistry between sample zones and stations on Esopus Creek was minimal; and, therefore, current velocity, suspended solids, and temperature are the probable factors affecting qualitative and quantitative distribution differences.

Via discharges from the STO, zone 2 was subjected to rapid discharge changes, with associated higher velocities and periodic high turbidities (see Water Quality section). Reductions in numerical and biomass densities resulting from downstream displacement and removal of aquatic invertebrates (drift) increase with rapid discharge increases (Waters 1972) and with rapid discharge reductions (Minshall and Winger 1968). Cordone and Kelley (1961). and Rosenberg and Snow (1975) have shown that suspended and settled sediments can reduce standing crops of benthic invertebrates through reduction of light penetration, mechanical abrasion, and changes in the substrate.

The altered temperature regime in zone 2, which occurs when the portal is open, decreases in magnitude with distance from the portal and may be summarized as: warmer fall and winter temperatures (zone 2 may remain ice-free all winter), cooler spring and summer temperatures resulting from a mesolimnion release that is relatively constant in temperature (without diurnal temperature fluctuation), and a delayed summer maximum temperature (Culp 1976a, Culp and Lechel 1977, 1978; Chas. T. Main 1978).

Total numerical and biomass densities and diversity were lower in zone 2 than in zone 1. Diptera were numerically and gravimetrically more abundant and Ephemeroptera, Trichoptera, and Plecoptera less abundant in zone 2 than in zone 1.

Summary

1. A total of 95 samples yielded 9794 benthic organisms in 82 taxa (42 families) with a dry biomass of 7.4032 g. Mean numerical density was 1110/m^2 and mean biomass density was 0.8388 g/m^2.

2. Aquatic insects comprised 98.2% of the total numerically and 98.8% gravimetrically.

3. In order of decreasing abundance, Chironomidae, Hydropsychidae, Heptageniidae, Baetidae, Glossosomatidae, Ephemerellidae, and Siphlonuridae were the major families collected numerically and Hydropsychidae, Heptageniidae, Chironomidae, Siphlonuridae, Ephemerellidae, and Perlidae gravimetrically.

4. Hydropsyche, Stenonema, Orthocladius, Cricotopus, Cheumatopsyche, Pseudocloeon, Glossosoma, Epeorus, Ephemerella, Polypedilum, and Isonychia were the major taxa.

5. Fifty-nine taxa (33 families) were collected in zone 1 and 73 taxa (37 families) in zone 2; eight taxa (five families) were collected only in zone 1 and 22 taxa (nine families) only in zone 2.

6. Numerical and biomass densities were higher in zone 1 than in zone 2.

7. Heptageniidae, Hydropsychidae, Glossosomatidae, and Siphlonuridae were numerically and gravimetrically more abundant in zone 1 and Chironomidae in zone 2.

8. Hydropsyche, Glossosoma, Stenonema, Epeorus, and Isonychia were

more abundant in zone 1 and Orthocladius, Cricotopus, and Polypedilum in zone 2; Cheumatopsyche, Pseudocloeon, and Ephemerella were similarly abundant in zones 1 and 2.

9. Mean taxa diversity was 2.47 and was significantly higher in zone 1 (2.80) than in zone 2 (2.35).

10. Numerical density and number of taxa and families collected were highest in October and lowest in June. Biomass density was highest in October and lowest in August.

11. Chironomidae was numerically dominant in April; and Chironomidae, Ephemerellidae, and Hydropsychidae were numerically dominant in June; Hydropsychidae, Chironomidae, Heptageniidae, and Baetidae in August; and Hydropsychidae, Heptageniidae, and Chironomidae in October. Chironomidae and Perlidae were gravimetrically dominant in April; Hydropsychidae and Ephemerellidae in June; and Hydropsychidae and Heptageniidae in August and October.

12. Orthocladius was dominant in April; and Ephemerella, Polypedilum, and Cricotopus were dominant in June; Hydropsyche and Pseudocloeon in August; and Hydropsyche and Stenonema in October.

13. More taxa and families were collected in zone 1 in April and in zone 2 in June, August, and October.

14. Numerical density was higher in zone 1 in August and October and in zone 2 in April and June. Biomass density was higher in zone 1 in April, August, and October and slightly higher in zone 2 in June.

15. Total stream diversity increased from April through October. Diversity was significantly higher in zone 1 than in zone 2 in April and August but not significantly different in June and October.

Table 37. Location and description of benthos stations 1a and 2 (zone 1) and 3-8 (zone 2) sampled in April, June, August, and October 1978 in Esopus Creek.

Station	Distance from STO	Elevation (ft)	Predominant Substrate*
Zone 1			
1a	1.4 mi upstream	1030	Rubble
2	66 ft upstream	970	Rubble
Zone 2			
3	0.1 mi downstream	960	Rubble and boulder
4	2.4 mi downstream	890	Rubble and boulder
5	4.1 mi downstream	790	Rubble and boulder
6	5.3 mi downstream	730	Rubble and boulder
7	7.2 mi downstream	690	Rubble
8	9.0 mi downstream	630	Rubble and boulder

* Roelofs (1944).

Table 38. Benthic macroinvertebrates collected from June through September 1976 and 1977 and in April, June, August, and October 1978 in Esopus Creek.

Abbreviations for Identification Keys

B	- Beck (1975)	MC	- Merritt and Cummins (1978)
Bu	- Burch (1972)	P	- Pennak (1978)
C	- Crocker (1957)	R	- Ross (1944)
EJB	- Edmunds, Jensen, and Berner (1976)	S	- Saether (1977)
F	- Frison (1935)	SJ	- Stone and Jamnback (1955)
H	- Hilsenhoff (1975)	SK	- Surdick and Kim (1976)
HB	- Harman and Berg (1971)	SN	- Snoddy and Noblet (1976)
He	- Heard (1975)	U	- Usinger (1956)
Ho	- Holsinger (1976)	W	- Wiggins (1977)
Jo	- Johannsen (1934-37)	Wi	- Williams (1972)
M	- Mason (1973)	WW	- Ward and Whipple (1959)

Taxon	Key	1978	1977	1976
Annelida (segmented worms)				
Hirudinea (leeches)	P	X	X	X
Oligochaeta (aquatic earthworms)	P	X	X	X
Arthropoda				
Arachnoidea				
Hydracarina (water mites)				
Hygrobatidae				
Hygrobates	P		X	X
Lebertiidae				
Lebertia	P	X	X	
Sperchonidae				
Sperchon	P	X	X	X
Torrenticolidae				
Torrenticola	P	X	X	X
Crustacea				
Amphipoda (scuds)				
Gammaridae				
*Crangonyx**	Ho	X	X	X
Cladocera (water fleas)	WW		X	
Decapoda (crayfish)				
Astacidae				
Cambarus	C/P		X	X
Isopoda (sow bugs)				
Asellidae				
Asellus	Wi/P			X
Insecta				
Coleoptera (beetles)				
Curculionidae (weevils)	MC	X		
Dytiscidae (predaceous diving beetles)				
Hydroporus	H			X
Elmidae (riffle beetles)				
Optioservus	H/U	X	X	X
Promoresia	U	X	X	
Stenelmis	H/U			X
Haliplidae (crawling water beetles)				
Haliplus	P			X
Hydrophilidae (water scavenger beetles)				
Laccobius	H		X	
Tropisternus	P			X
Psephenidae (water-penny beetles)				
Ectopria	H		X	X
Psephenus	H	X	X	
Collembola (springtails)				
Isotomidae (elongate-bodied springtails)				
Isotoma	P		X	
Isotomurus	P	X	X	X
Poduridae (elongate-bodied springtails)				
Podura	P			X
Diptera (two-winged flies)				
Blephariceridae (net-winged midges)				
Blepharicera	Jo		X	X
Ceratopogonidae (biting midges)				
Palpomyia group	H/Jo	X	X	X

* Misdetermined as *Gammarus* in 1976 and 1977 (Culp et al. 1977a, Culp and Associates 1978).

Table 38 - (Continued).

Taxon	Key	1978	1977	1976
Arthropoda (continued)				
Insecta (continued)				
Diptera (continued)				
Chironomidae (nonbiting midges)				
Chironominae				
Chironomini A	H	X	X	
Chironomus	H		X	X
Cladotanytarsus	H		X	
Cryptochironomus	H/S		X	
Demicryptochironomus	H/S		X	
Glyptotendipes	H		X	
Micropsectra	H/B	X	X	
Microtendipes	H	X	X	
Parachironomus	B/H/S		X	
Paratendipes	H		X	
Phaenopsectra	H		X	
Polypedilum	H	X	X	X
Rheotanytarsus	B	X	X	
Tanytarsus	H/B		X	
Zavrelia	B		X	
Diamesinae				
Diamesa	H	X		
Potthastia	H/M		X	
Pseudodiamesa	M	X	X	X
Sympotthastia	H	X	X	
Orthocladiinae				
Orthocladiinae A	H	X		
Orthocladiinae B	H	X		
Orthocladiinae C	H	X		
Brillia	H/B		X	
Cardiocladius	H/B	X	X	
Cricotopus	H	X	X	X
Eukiefferiella	H/M/B	X	X	X
Heterotrissocladius	H		X	
Orthocladius	M	X		
Parametriocnemus	H		X	
Psectrocladius	M		X	
Rheocricotopus	H	X		
Smittia	B	X		
Thienemanniella	H/B	X	X	
Trichocladius	M		X	
Trissocladius	H/M	X		
Tanypodinae				
Conchapelopia, Arctopelopia	H/B	X	X	
Larsia	H/B		X	
Procladius	H/B	X	X	
Dixidae (dixa midges)				
Dixa	U			X
Dolichopodidae (long-legged flies)				
Hydrophorus	Jo			X
Empididae (dance flies)				
Chelifera	U		X	
Clinocera	U		X	X
Hemerodromia	U	X	X	X
Muscidae (muscid flies)				
Limnophora	Jo/U		X	
Rhagionidae (snipe flies)				
Atherix	U	X	X	X
Simuliidae (black flies)				
Prosimulium	SN	X		
Simulium	SN/SJ	X	X	X
Tanyderidae (primitive crane flies)				
Protoplasa	Jo		X	
Tipulidae (crane flies)				
Antocha	U	X	X	X
Dicranota	U	X	X	X
Hexatoma	MC	X	X	X
Pedicia	MC	X		
Tipula	U		X	X
Ephemeroptera (mayflies)				
Baetidae (small mayflies)				
Baetis	EJB	X	X	X
Pseudocloeon	EJB	X	X	X
Caenidae				
Caenis	EJB		X	X
Ephemerellidae				
Ephemerella	EJB	X	X	X
Ephemeridae (burrowing mayflies)				
Ephemera	EJB		X	X

Table 38 - (Continued).

Taxon	Key	1978	1977	1976
Arthropoda (continued)				
Insecta (continued)				
Ephemeroptera (continued)				
Heptageniidae (stream mayflies)				
Cinygmula	EJB	X		
Epeorus	EJB	X	X	X
Heptagenia	EJB	X	X	X
Stenacron	EJB	X	X	
Stenonema	EJB	X	X	X
Leptophlebiidae				
Paraleptophlebia	EJB	X	X	X
Siphlonuridae				
Ameletus	EJB		X	
Isonychia	EJB	X	X	X
Tricorythidae				
Tricorythodes	EJB	X	X	X
Megaloptera (hellgrammites)				
Corydalidae (fishflies)				
Nigronia	H			X
Sialidae (alderflies)				
Sialis	H		X	X
Odonata				
Anisoptera (dragonflies)				
Gomphidae (clubtails)				
Hagenius	H		X	
Plecoptera (stoneflies)				
Capniidae (small winter stoneflies)				
Paracapnia	H/SK	X		
Chloroperlidae (green stoneflies)				
Alloperla	H	X		
Hastaperla	H	X	X	X
Leuctridae (roll-winged stoneflies)				
Leuctra	SK/F		X	X
Megaleuctra	SK	X		
Nemouridae (spring stoneflies)				
Soyedina	H		X	
Peltoperlidae (roachlike stoneflies)				
Peltoperla	F/SK	X	X	X
Perlidae (common stoneflies)				
Acroneuria	H	X	X	X
Paragnetina	H	X	X	X
Perlesta	H		X	
Phasganophora	H	X	X	X
Perlodidae (perlodid stoneflies)				
Isogenoides	H	X	X	X
Isoperla	H	X	X	X
Pteronarcidae (giant stoneflies)				
Allonarcys	SK	X	X	X
Taeniopterygidae (winter stoneflies)				
Strophopteryx	SK	X		
Taeniopteryx	SK	X		
Trichoptera (caddisflies)				
Brachycentridae (brachycentrids)				
Brachycentrus	W/R	X	X	X
Micrasema	W/R	X	X	
Glossosomatidae (saddle-case making caddisflies)				
Agapetus	W	X		X
Glossosoma	W/R	X	X	X
Hydropsychidae (net-spinning caddisflies)				
Arctopsyche	W	X		X
Cheumatopsyche	W/R	X	X	X
Hydropsyche	W/R	X	X	X
Hydroptilidae (micro-caddisflies)				
Agraylea	W/R			X
Hydroptila	W/R	X	X	X
Leucotrichia	P			X
Oxyethira	W	X		
Lepidostomatidae (lepidostomatids)				
Lepidostoma	W/R	X	X	X
Leptoceridae (long-horned caddisflies)				
Ceraclea	W/R	X	X	X
Mystacidae	W/R		X	
Limnephilidae (northern caddisflies)				
Apatania	H			X
Goera	W			X
Neophylax	W/R	X	X	

Table 38 - (Continued).

Taxon	Key	1978	1977	1976
Arthropoda (continued)				
Insecta (continued)				
Trichoptera (continued)				
Odontoceridae (odontocerids)				
Psilotreta	W/R			X
Philopotamidae (finger-net caddisflies)				
Dolophilodes	W/R	X	X	X
Polycentropodidae (trumpet-net caddisflies)				
Polycentropus	W/R	X	X	X
Rhyacophilidae (primitive caddisflies)				
Rhyacophila	W/R	X	X	X
Bryozoa (moss animalcules)				
Lophopodidae				
Pectinatella	P		X	X
Paludicellidae				
Paludicella	P			X
Plumatellidae				
Plumatella	P			X
Coelenterata (hydroids, jellyfish)				
Hydroida				
Hydra	P/WW		X	
Mollusca				
Gastropoda (univalve mollusks)				
Basommatophora				
Ancylidae (limpet snails)				
Ferrissia	HB		X	X
Lymnaeidae (pond snails)				
Lymnaea	HB		X	X
Physidae (pouch snails)				
Physa	HB		X	X
Pelecypoda (bivalve mollusks)				
Heterodonta				
Sphaeriidae (fingernail clams)				
Sphaerium	He/Bu			X
Nematoda (roundworms)	P	X	X	X
Platyhelminthes (flatworms)				
Turbellaria (free-living)	P	X	X	X

Table 39. Numerical density (#/m^2) of stream benthos collected in April, June, August, and October 1978 in two zones (eight stations) on Esopus Creek.

Station	Zone 1*			Zone 2*							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Diptera	166	146	156	1100	300	356	408	183	358	452	377
Chironomidae	158	129	144	1095	292	336	396	172	343	440	365
UID** Chironomidae	34	28	31	534	73	68	70	39	31	137	110
Orthocladiinae	34	82	58	547	170	175	197	77	169	223	181
UID Orthocladiinae	1	1	1	0	0	0	0	0	0	0	+
Orthocladius	14	38	26	399	88	77	106	39	57	128	103
Cricotopus	15	31	23	83	70	87	67	24	87	69	58
Cardiocladius	0	1	+	63	2	3	4	3	2	13	10
Eukiefferiella	0	5	3	2	1	8	14	6	17	8	7
Orthocladiinae A	4	5	4	1	6	0	4	4	5	4	4
Orthocladiinae B	0	0	0	0	1	0	0	0	0	+	+
Orthocladiinae C	0	0	0	0	0	0	0	0	1	+	+
Rheocricotopus	0	0	0	0	0	0	1	0	0	+	+
Smittia	0	0	0	0	1	0	0	0	0	+	+
Thienemanniella	0	0	0	0	1	0	0	0	0	+	+
Trissocladius	0	0	0	0	0	0	1	0	0	+	+
Chironominae	86	16	51	4	36	85	105	49	106	64	61
UID Chironominae	0	0	0	0	0	0	1	0	0	+	+
Polypedilum	14	10	12	4	22	49	69	31	46	37	30
Rheotanytarsus	11	4	7	0	8	7	26	6	57	18	15
Microtendipes	14	2	8	1	3	22	8	10	2	7	7
Micropsectra	44	1	22	0	3	8	1	2	1	2	7
Chironomini A	3	0	1	0	0	0	0	0	0	0	+
Diamesinae	0	2	1	8	13	5	19	6	33	14	11
Sympotthastia	0	1	+	2	11	3	18	6	31	12	9
Pseudodiamesa	0	1	+	4	1	2	0	0	1	1	1
Diamesa	0	0	0	3	1	0	1	0	1	1	1
Tanypodinae	4	2	3	2	1	2	4	0	4	2	2
Conchapelopia, Arctopelopia	4	2	3	0	1	2	4	0	4	2	2
Procladius	0	0	0	2	0	0	0	0	0	+	+
Tipulidae	6	5	6	0	6	12	9	2	9	6	6
UID Tipulidae	1	0	+	0	0	0	0	0	0	0	+
Antocha	1	4	3	0	6	9	8	2	9	6	5
Hexatoma	3	1	2	0	0	1	0	0	0	+	1
Dicranota	0	0	0	0	0	2	1	0	0	+	+
Pedicia	2	0	1	0	0	0	0	0	0	0	+
Simuliidae	0	10	5	4	2	7	2	9	4	5	5
Simulium	0	7	4	0	2	7	2	9	4	4	4
Prosimulium	0	3	1	4	0	0	0	0	0	1	1
Empididae	0	0	0	1	0	0	1	0	2	1	+
Hemerodromia	0	0	0	1	0	0	1	0	2	1	+
Rhagionidae	0	2	1	0	0	2	0	0	0	+	+
Atherix	0	2	1	0	0	2	0	0	0	+	+
Ceratopogonidae	2	0	1	0	0	0	1	0	0	+	+
UID Ceratopogonidae	1	0	+	0	0	0	0	0	0	0	+
Palpomyia group	1	0	+	0	0	0	1	0	0	+	+

* Zone 1 = above the STO, zone 2 = below the STO.
** UID = unidentified.
\+ = less than 0.5.

Table 39 - (Continued).

Station	Zone 1			Zone 2							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Trichoptera	171	996	583	42	144	198	395	318	550	275	353
Hydropsychidae	123	596	359	28	130	178	390	289	516	256	282
Hydropsyche	84	527	305	21	119	115	291	259	379	198	225
Cheumatopsyche	38	69	53	7	11	63	100	30	137	58	57
Arctopsyche	1	0	+	0	0	0	0	0	0	0	+
Glossosomatidae	2	345	174	1	4	12	1	27	24	12	52
Glossosoma	2	344	173	1	4	12	1	27	24	12	52
Agapetus	0	1	+	0	0	0	0	0	0	0	+
Lepidostomatidae	27	6	17	4	0	3	2	0	3	2	6
Lepidostoma	27	6	17	4	0	3	2	0	3	2	6
Brachycentridae	7	13	10	5	4	1	0	0	0	2	4
Brachycentrus	7	11	9	4	3	1	0	0	0	1	3
Micrasema	0	3	1	1	1	0	0	0	0	+	1
Rhyacophilidae	3	12	7	1	2	2	2	0	3	2	3
Rhyacophila	3	12	7	1	2	2	2	0	3	2	3
Philopotamidae	2	13	8	0	1	0	0	3	3	1	3
Dolophilodes	2	13	8	0	1	0	0	3	3	1	3
Polycentropodidae	8	1	4	0	2	1	0	0	2	1	2
Polycentropus	8	1	4	0	2	1	0	0	2	1	2
Hydroptilidae	0	6	3	2	1	1	0	0	0	1	1
UID Hydroptilidae	0	1	+	0	0	0	0	0	0	0	+
Hydroptila	0	5	3	0	1	1	0	0	0	+	1
Oxyethira	0	0	0	2	0	0	0	0	0	+	+
Limnephilidae	0	2	1	1	0	0	0	0	0	+	+
UID Limnephilidae	0	1	+	0	0	0	0	0	0	0	+
Neophylax	0	1	+	1	0	0	0	0	0	+	+
Leptoceridae	0	1	+	0	0	0	0	0	0	0	+
Ceraclea	0	1	+	0	0	0	0	0	0	0	+
Ephemeroptera	572	798	685	127	193	153	359	225	288	225	341
UID Ephemeroptera	0	1	+	1	0	0	0	0	2	+	+
Heptageniidae	410	499	454	18	65	83	205	86	161	103	192
UID Heptageniidae	0	0	0	0	0	2	0	0	3	1	1
Stenonema	303	300	302	1	39	58	157	49	98	67	126
Epeorus	78	190	134	17	14	8	30	22	35	21	50
Heptagenia	29	8	18	0	12	14	17	14	25	14	15
Cinygmula	0	0	0	0	0	2	0	0	0	+	+
Stenacron	0	0	0	0	1	0	0	0	0	+	+
Baetidae	38	101	70	32	61	15	52	109	71	57	60
Pseudocloeon	25	80	52	25	56	10	48	107	69	53	53
Baetis	13	22	17	7	5	5	4	3	2	4	8
Ephemerellidae	63	42	52	75	56	40	69	16	35	49	50
Ephemerella	63	42	52	75	56	40	69	16	35	49	50
Siphlonuridae	42	152	97	1	1	5	20	5	7	7	29
Isonychia	42	152	97	1	1	5	20	5	7	7	29
Leptophlebiidae	12	3	7	0	10	10	13	8	13	9	8
Paraleptophlebia	12	3	7	0	10	10	13	8	13	9	8
Tricorythidae	8	0	4	0	0	0	1	0	0	+	1
Tricorythodes	8	0	4	0	0	0	1	0	0	+	1
Plecoptera	38	42	40	4	5	9	18	7	20	10	18
Perlodidae	15	26	21	0	2	4	6	3	7	4	8
Isoperla	8	11	9	0	0	4	5	1	4	2	4
Isogenoides	7	15	11	0	2	0	1	2	3	1	4

Table 39 - (Continued).

Station	Zone 1			Zone 2							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Perlidae	4	6	5	0	2	5	4	2	9	3	4
Phasganophora	4	4	4	0	0	3	1	1	1	1	2
Paragnetina	0	2	1	0	0	2	2	0	4	1	1
Acroneuria	0	1	+	0	2	0	1	1	4	1	1
Taeniopterygidae	11	7	9	4	1	0	5	2	0	2	4
Taeniopteryx	5	7	6	0	1	0	3	2	0	1	2
Strophopteryx	5	0	3	4	0	0	3	0	0	1	1
Chloroperlidae	6	1	4	0	1	0	2	1	3	1	2
Alloperla	6	1	4	0	1	0	2	1	1	1	1
Hastaperla	0	0	0	0	0	0	0	0	2	+	+
Pteronarcidae	0	1	+	0	0	0	0	0	1	+	+
Allonarcys	0	1	+	0	0	0	0	0	1	+	+
Capniidae	1	0	+	0	0	0	0	0	0	0	+
Paracapnia	1	0	+	0	0	0	0	0	0	0	+
Leuctridae	0	0	0	0	0	0	1	0	0	+	+
Megaleuctra	0	0	0	0	0	0	1	0	0	+	+
Peltoperlidae	0	1	+	0	0	0	0	0	0	0	+
Peltoperla	0	1	+	0	0	0	0	0	0	0	+
Oligochaeta	6	31	19	20	21	26	15	6	8	16	17
Coleoptera	0	4	2	0	1	0	2	2	0	1	1
Elmidae	0	4	2	0	0	0	2	0	0	+	1
Optioservus	0	4	2	0	0	0	1	0	0	+	1
Promoresia	0	0	0	0	0	0	1	0	0	+	+
Psephenidae	0	0	0	0	0	0	0	2	0	+	+
Psephenus	0	0	0	0	0	0	0	2	0	+	+
Curculionidae	0	0	0	0	1	0	0	0	0	+	+
UID Curculionidae	0	0	0	0	1	0	0	0	0	+	+
Nematoda	1	0	+	3	2	0	1	0	0	1	1
Hydracarina	2	0	1	0	0	1	2	1	0	1	1
Sperchonidae	0	0	0	0	0	0	2	1	0	+	+
Sperchon	0	0	0	0	0	0	2	1	0	+	+
Lebertiidae	2	0	1	0	0	0	0	0	0	0	+
Lebertia	2	0	1	0	0	0	0	0	0	0	+
Torrenticolidae	0	0	0	0	0	1	0	0	0	+	+
Torrenticola	0	0	0	0	0	1	0	0	0	+	+
Turbellaria	0	2	1	0	0	0	0	0	0	0	+
Amphipoda	0	0	0	0	0	0	1	0	0	+	+
Gammaridae	0	0	0	0	0	0	1	0	0	+	+
Crangonyx	0	0	0	0	0	0	1	0	0	+	+
Collembola	0	0	0	0	1	0	0	0	0	+	+
Isotomidae	0	0	0	0	1	0	0	0	0	+	+
Isotomurus	0	0	0	0	1	0	0	0	0	+	+
Hirudinea	0	0	0	0	0	0	0	1	0	+	+
Total density	956	2020	1488	1295	666	743	1200	744	1224	982	1110
Number of families	24	28	33	17	23	20	25	19	20	37	42
Number of taxa	41	50	59	31	44	38	48	34	41	73	82

Table 40. Biomass density (g/m^2) of stream benthos collected in April, June, August, and October 1978 in two zones (eight stations) on Esopus Creek.

	Zone 1*			Zone 2*							Grand
Station	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Trichoptera	0.1781	1.2332	0.7056	0.0882	0.2540	0.3186	0.6444	0.2937	0.6919	0.3827	0.4643
Hydropsychidae	0.1389	1.0585	0.5987	0.0666	0.2448	0.3102	0.6399	0.2822	0.6826	0.3719	0.4292
Glossosomatidae	0.0014	0.1113	0.0564	REF**	0.0004	0.0006	0.0015	0.0084	0.0055	0.0028	0.0163
Brachycentridae	0.0214	0.0384	0.0299	0.0169	0.0067	0.0027	-	-	-	0.0044	0.0109
Philopotamidae	0.0007	0.0145	0.0076	-	0.0011	-	-	0.0030	0.0012	0.0009	0.0026
Rhyacophilidae	0.0055	0.0083	0.0069	0.0003	0.0003	0.0004	0.0013	-	0.0007	0.0005	0.0021
Lepidostomatidae	0.0045	0.0007	0.0026	0.0043	-	0.0041	0.0016	-	0.0005	0.0017	0.0019
Polycentropodidae	0.0056	REF	0.0028	-	0.0007	0.0005	-	-	0.0014	0.0004	0.0010
Limnephilidae	-	0.0008	0.0004	0.0001	-	-	-	-	-	+	0.0001
Hydroptilidae	-	0.0006	0.0003	-	0.0001	0.0001	0.0001	-	-	+	0.0001
Leptoceridae	-	REF	REF	-	-	-	-	-	-	-	REF
Ephemeroptera	0.3399	0.7078	0.5238	0.1163	0.1592	0.1418	0.2591	0.1056	0.1023	0.1474	0.2425
UID# Ephemeroptera	-	0.0013	0.0006	0.0013	-	-	-	-	0.0001	0.0002	0.0003
Heptageniidae	0.2068	0.3643	0.2855	0.0118	0.0860	0.0804	0.1711	0.0484	0.0572	0.0758	0.1288
Siphlonuridae	0.0586	0.2739	0.1663	0.0085	0.0008	0.0185	0.0274	0.0187	0.0099	0.0139	0.0524
Ephemerellidae	0.0537	0.0505	0.0521	0.0832	0.0579	0.0347	0.0417	0.0117	0.0143	0.0407	0.0436
Baetidae	0.0112	0.0171	0.0142	0.0113	0.0102	0.0032	0.0145	0.0247	0.0170	0.0136	0.0138
Leptophlebiidae	0.0077	0.0007	0.0042	-	0.0042	0.0049	0.0041	0.0022	0.0038	0.0032	0.0034
Tricorythidae	0.0019	-	0.0009	-	-	-	0.0002	-	-	+	0.0003
Diptera	0.0428	0.0819	0.0623	0.2603	0.0396	0.0458	0.0319	0.0196	0.0234	0.0704	0.0684
Chironomidae	0.0160	0.0090	0.0125	0.2582	0.0376	0.0325	0.0282	0.0176	0.0205	0.0662	0.0527
Tipulidae	0.0261	0.0644	0.0453	-	0.0018	0.0065	0.0030	0.0001	0.0015	0.0021	0.0130
Rhagionidae	-	0.0064	0.0032	-	-	0.0062	-	-	-	0.0010	0.0015
Simuliidae	-	0.0022	0.0011	0.0021	0.0002	0.0007	0.0004	0.0020	0.0010	0.0011	0.0011
Ceratopogonidae	0.0007	-	0.0004	-	-	-	0.0001	-	-	+	0.0001
Empididae	-	-	-	-	-	-	0.0003	-	0.0004	0.0001	0.0001
Plecoptera	0.0824	0.0688	0.0756	0.0143	0.0061	0.0535	0.0110	0.0084	0.1825	0.0459	0.0534
Perlidae	0.0334	0.0213	0.0273	-	0.0009	0.0487	0.0021	0.0031	0.0607	0.0188	0.0210
Perlodidae	0.0262	0.0420	0.0341	-	0.0040	0.0048	0.0023	0.0049	0.0189	0.0059	0.0130
Pteronarcidae	-	REF	REF	-	-	-	-	-	0.1018	0.0172	0.0129
Taeniopterygidae	0.0178	0.0005	0.0091	0.0143	0.0001	-	0.0056	0.0001	-	0.0034	0.0048
Chloroperlidae	0.0051	0.0011	0.0031	-	0.0011	-	0.0011	0.0003	0.0011	0.0006	0.0012
Peltoperlidae	-	0.0039	0.0020	-	-	-	-	-	-	-	0.0005
Capniidae	REF	-	REF	-	-	-	-	-	-	-	REF
Leuctridae	-	-	-	-	-	-	REF	-	-	-	REF
Oligochaeta	0.0023	0.0428	0.0226	0.0028	0.0059	0.0094	0.0013	0.0015	0.0011	0.0036	0.0084
Hirudinea	-	-	-	-	-	-	-	0.0095	-	0.0016	0.0012

* Zone 1 = above the STO, zone 2 = below the STO.
** REF = biomass not determined; organisms retained for reference.
\- = absent from collection.
\+ = less than 0.00005.
\# UID = unidentified.

Table 40 - (Continued).

Station	Zone 1			Zone 2							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Coleoptera	-	0.0013	0.0006	-	0.0004	-	0.0003	0.0003	-	0.0002	0.0003
Elmidae	-	0.0013	0.0006	-	-	-	0.0003	-	-	+	0.0002
Curculionidae	-	-	-	-	0.0004	-	-	-	-	0.0001	0.0001
Psephenidae	-	-	-	-	-	-	-	0.0003	-	+	+
Hydracarina	0.0005	-	0.0003	-	-	0.0001	0.0003	0.0001	-	0.0001	0.0001
Lebertiidae	0.0005	-	0.0003	-	-	-	-	-	-	-	0.0001
Sperchonidae	-	-	-	-	-	0.0001	0.0003	0.0001	-	0.0001	0.0001
Torrenticolidae	-	-	-	-	-	REF	-	-	-	REF	REF
Turbellaria	-	0.0010	0.0005	-	-	-	-	-	-	-	0.0001
Nematoda	0.0004	-	0.0002	0.0002	0.0002	-	0.0001	-	-	0.0001	0.0001
Amphipoda	-	-	-	-	-	-	REF	-	-	REF	REF
Gammaridae	-	-	-	-	-	-	REF	-	-	REF	REF
Collembola	-	-	-	-	REF	-	-	-	-	REF	REF
Isotomidae	-	-	-	-	REF	-	-	-	-	REF	REF
Total density	0.6464	2.1367	1.3916	0.4820	0.4655	0.5692	0.9484	0.4387	1.0012	0.6520	0.8388

Table 41. Mean taxa diversity, mean numerical density (#/m^2), and biomass density (g/m^2) of stream benthos collected in April, June, August, and October 1978 in two zones (eight stations) on Esopus Creek.

	Zone 1*			Zone 2*							Grand
Station	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Mean taxa diversity	2.73	2.86	2.80	1.86	2.40	2.68	2.52	2.03	2.67	2.35	2.47
Standard deviation	1.424	0.437	0.441	0.505	0.707	0.600	0.458	0.847	0.441	0.667	0.645
Minimum	1.74	2.31	1.74	1.08	1.06	1.37	1.83	0.65	1.75	0.65	0.65
Maximum	3.36	2.60	3.61	2.43	3.42	3.37	3.30	3.08	3.28	3.42	3.61
Mean evenness	0.76	0.76	0.76	0.63	0.71	0.80	0.71	0.75	0.75	0.72	0.73
Number of samples	12	12	24	12	12	11	12	12	12	71	95
Mean numerical density (#/m^2)	956	2020	1488	1295	666	743	1200	744	1224	982	1110
Standard deviation	737.6	2111.2	1639.2	1767.6	243.9	610.0	950.9	1015.1	1265.4	1086.3	1259.0
Standard error	212.9	609.4	334.5	510.3	70.4	183.9	274.5	293.0	365.3	128.9	129.2
Minimum	258	226	226	215	323	118	269	54	237	54	54
Maximum	2809	6383	6383	4919	1044	207	3563	3423	3843	4919	6383
Coefficient of variation	77.1	104.5	110.2	136.5	36.6	82.1	79.2	136.5	103.4	110.6	113.5
Number of samples	12	12	24	12	12	11	12	12	12	71	95
Biomass density (g/m2)	0.6464	2.1367	1.3916	0.4820	0.4655	0.5692	0.9484	0.4387	1.0012	0.6520	0.8388
Standard deviation**	0.50752	2.67442	1.95202	0.53389	0.35252	0.39626	0.94522	0.73802	1.33556	0.75061	1.18020
Standard error**	0.25374	1.33721	0.69015	0.26695	0.17624	0.20692	0.47261	0.36899	0.66780	0.15428	0.20972
Minimum**	0.3279	0.5059	0.3279	0.0581	0.1543	0.1643	0.1503	0.0441	0.2386	0.0441	0.0441
Maximum**	1.3950	6.1215	6.1215	1.1909	0.7854	1.2199	2.3193	1.5450	2.9967	2.9967	6.1215
Coefficient of variation**	78.5	125.2	140.3	110.8	75.8	69.6	99.7	168.2	133.4	115.1	138.3
Number of samples	4	4	8	4	4	3.667	4	4	4	23.667	31.667

* Zone 1 = above the STO, zone 2 = below the STO.
** Calculable only for data summaries.

Table 42. Numerical density (#/m^2) of stream benthos collected in April 1978 in two zones (eight stations) on Esopus Creek.

Station	Zone 1*			Zone 2*							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Diptera	169	258	213	3846	667	495	775	266	405	1076	860
Chironomidae	169	240	205	3832	667	489	775	266	405	1072	855
UID** Chironomidae	90	72	81	2034	251	169	230	126	72	480	380
Orthocladiinae	79	158	118	1769	370	309	474	115	205	540	435
Orthocladius	57	126	91	1597	337	280	409	108	169	483	385
Cricotopus	22	29	25	158	32	18	57	7	32	51	44
Eukiefferiella	0	4	2	7	0	11	0	0	4	4	3
Cardiocladius	0	0	0	7	0	0	0	0	0	1	1
Rheocricotopus	0	0	0	0	0	0	4	0	0	1	+
Trissocladius	0	0	0	0	0	0	4	0	0	1	+
Diamesinae	0	4	2	29	47	11	72	25	129	52	39
Sympotthastia	0	4	2	7	43	11	68	25	126	47	35
Diamesa	0	0	0	11	4	0	4	0	4	4	3
Pseudodiamesa	0	0	0	11	0	0	0	0	0	2	1
Chironominae	0	4	2	0	0	0	0	0	0	0	+
Microtendipes	0	4	2	0	0	0	0	0	0	0	+
Tanypodinae	0	4	2	0	0	0	0	0	0	0	+
Conchapelopia, Arctopelopia	0	4	2	0	0	0	0	0	0	0	+
Simuliidae	0	11	5	14	0	0	0	0	0	2	3
Prosimulium	0	11	5	14	0	0	0	0	0	2	3
Tipulidae	0	4	2	0	0	7	0	0	0	1	1
Hexatoma	0	4	2	0	0	4	0	0	0	1	1
Antocha	0	0	0	0	0	4	0	0	0	1	+
Rhagionidae	0	4	2	0	0	0	0	0	0	0	+
Atherix	0	4	2	0	0	0	0	0	0	0	+
Ephemeroptera	344	151	248	154	39	65	133	7	47	74	118
Heptageniidae	237	111	174	61	22	39	61	4	18	34	69
Epeorus	197	93	145	61	4	29	61	0	7	27	57
Stenonema	29	18	23	0	18	7	0	4	4	5	10
Heptagenia	11	0	5	0	0	4	0	0	7	2	3
Ephemerellidae	72	32	52	75	14	25	57	4	25	33	38
Ephemerella	72	32	52	75	14	25	57	4	25	33	38
Baetidae	7	0	4	18	0	0	14	0	0	5	5
Baetis	7	0	4	18	0	0	14	0	0	5	5
Leptophlebiidae	14	0	7	0	4	0	0	0	4	1	3
Paraleptophlebia	14	0	7	0	4	0	0	0	4	1	3
Siphlonuridae	14	7	11	0	0	0	0	0	0	0	3
Isonychia	14	7	11	0	0	0	0	0	0	0	3

* Zone 1 = above the STO, zone 2 = below the STO.
** UID = unidentified.
\+ = less than 0.5.

Table 42 - (Continued).

Station	Zone 1			Zone 2							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Trichoptera	65	129	97	50	7	29	14	4	18	20	39
Hydropsychidae	40	68	54	11	7	22	7	4	18	11	22
Hydropsyche	29	39	34	7	7	22	7	4	11	10	16
Cheumatopsyche	7	29	18	4	0	0	0	0	7	2	6
Arctopsyche	4	0	2	0	0	0	0	0	0	0	+
Brachycentridae	7	32	20	11	0	0	0	0	0	2	6
Brachycentrus	7	22	14	7	0	0	0	0	0	1	4
Micrasema	0	11	5	4	0	0	0	0	0	1	2
Lepidostomatidae	14	0	7	11	0	7	4	0	0	4	4
Lepidostoma	14	0	7	11	0	7	4	0	0	4	4
Hydroptilidae	0	18	9	7	0	0	0	0	0	1	3
Hydroptila	0	18	9	0	0	0	0	0	0	0	2
Oxyethira	0	0	0	7	0	0	0	0	0	1	1
Rhyacophilidae	4	0	2	4	0	0	4	0	0	1	1
Rhyacophila	4	0	2	4	0	0	4	0	0	1	1
Limnephilidae	0	4	2	4	0	0	0	0	0	1	1
UID Limnephilidae	0	4	2	0	0	0	0	0	0	0	+
Neophylax	0	0	0	4	0	0	0	0	0	1	+
Glossosomatidae	0	0	0	4	0	0	0	0	0	1	+
Glossosoma	0	0	0	4	0	0	0	0	0	1	+
Leptoceridae	0	4	2	0	0	0	0	0	0	0	+
Ceraclea	0	4	2	0	0	0	0	0	0	0	+
Polycentropodidae	0	4	2	0	0	0	0	0	0	0	+
Polycentropus	0	4	2	0	0	0	0	0	0	0	+
Plecoptera	43	36	39	14	4	11	18	0	14	10	17
Taeniopterygidae	22	0	11	14	0	0	11	0	0	4	6
Strophopteryx	22	0	11	14	0	0	11	0	0	4	6
Chloroperlidae	14	4	9	0	4	0	4	0	4	2	4
Alloperla	14	4	9	0	4	0	4	0	4	2	4
Perlidae	0	11	5	0	0	7	0	0	7	2	3
Phasganophora	0	7	4	0	0	7	0	0	4	2	2
Acroneuria	0	4	2	0	0	0	0	0	4	1	1
Perlodidae	4	14	9	0	0	4	0	0	4	1	3
Isoperla	4	11	7	0	0	4	0	0	0	1	2
Isogenoides	0	4	2	0	0	0	0	0	4	1	1
Capniidae	4	0	2	0	0	0	0	0	0	0	+
Paracapnia	4	0	2	0	0	0	0	0	0	0	+
Leuctridae	0	0	0	0	0	0	4	0	0	1	+
Megaleuctra	0	0	0	0	0	0	4	0	0	1	+
Peltoperlidae	0	4	2	0	0	0	0	0	0	0	+
Peltoperla	0	4	2	0	0	0	0	0	0	0	+
Pteronarcidae	0	4	2	0	0	0	0	0	0	0	+
Allonarcys	0	4	2	0	0	0	0	0	0	0	+
Oligochaeta	0	75	38	0	0	25	0	0	11	6	14

Table 42 - (Continued).

Station	Zone 1			Zone 2							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Coleoptera	0	4	2	0	0	0	0	4	0	1	1
Elmidae	0	4	2	0	0	0	0	0	0	0	+
Optioservus	0	4	2	0	0	0	0	0	0	0	+
Psephenidae	0	0	0	0	0	0	0	4	0	1	+
Psephenus	0	0	0	0	0	0	0	4	0	1	+
Total density	621	653	637	4065	718	624	940	280	495	1187	1049
Number of families	14	20	26	13	6	9	10	5	9	21	29
Number of taxa	19	30	38	21	10	15	15	7	17	36	48

Table 43. Numerical density (#/m^2) of stream benthos collected in June 1978 in two zones (eight stations) on Esopus Creek.

Station	Zone 1*			Zone 2*							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Diptera	61	154	108	36	72	388	341	133	366	222	194
Chironomidae	57	151	104	36	72	380	337	100	348	212	185
UID** Chironomidae	7	4	5	0	4	65	18	14	32	22	18
Orthocladiinae	14	118	66	18	29	165	108	75	187	97	89
UID Orthocladiinae	0	4	2	0	0	0	0	0	0	0	+
Cricotopus	14	90	52	18	14	161	90	22	122	71	66
Orthocladius	0	25	13	0	14	4	14	50	57	23	21
Eukiefferiella	0	0	0	0	0	0	4	0	7	2	1
Cardiocladius	0	0	0	0	0	0	0	4	0	1	+
Chironominae	36	29	32	18	39	151	212	11	126	93	78
UID Chironominae	0	0	0	0	0	0	4	0	0	1	+
Polypedilum	32	29	30	14	39	140	205	11	115	87	73
Micropsectra	4	0	2	0	0	7	4	0	0	2	2
Rheotanytarsus	0	0	0	0	0	0	0	0	11	2	1
Microtendipes	0	0	0	4	0	4	0	0	0	1	1
Tanypodinae	0	0	0	0	0	0	0	0	4	1	+
Conchapelopia, Arctopelopia	0	0	0	0	0	0	0	0	4	1	+
Simuliidae	0	0	0	0	0	7	4	32	18	10	8
Simulium	0	0	0	0	0	7	4	32	18	10	8
Ceratopogonidae	4	0	2	0	0	0	0	0	0	0	+
UID Ceratopogonidae	4	0	2	0	0	0	0	0	0	0	+
Tipulidae	0	4	2	0	0	0	0	0	0	0	+
Antocha	0	4	2	0	0	0	0	0	0	0	+
Ephemeroptera	197	147	172	215	312	169	201	126	161	197	191
UID Ephemeroptera	0	0	0	0	0	0	0	0	7	1	1
Ephemerellidae	151	97	124	197	187	122	183	54	93	139	135
Ephemerella	151	97	124	197	187	122	183	54	93	139	135
Baetidae	47	47	47	14	72	11	7	22	32	26	31
Pseudocloeon	36	47	41	11	61	0	4	22	32	22	26
Baetis	11	0	5	4	11	11	4	0	0	5	5
Heptageniidae	0	4	2	0	50	14	11	50	25	25	19
UID Heptageniidae	0	0	0	0	0	7	0	0	11	3	2
Epeorus	0	4	2	0	47	0	7	47	7	18	14
Stenonema	0	0	0	0	0	0	4	4	7	2	2
Cinygmula	0	0	0	0	0	7	0	0	0	1	1
Stenacron	0	0	0	0	4	0	0	0	0	1	+
Leptophlebiidae	0	0	0	0	4	18	0	0	4	4	3
Paraleptophlebia	0	0	0	0	4	18	0	0	4	4	3
Siphlonuridae	0	0	0	4	0	4	0	0	0	1	1
Isonychia	0	0	0	4	0	4	0	0	0	1	1

* Zone 1 = above the STO, zone 2 = below the STO.
** UID = unidentified.
\+ = less than 0.5.

Table 43 - (Continued).

Station	Zone 1			Zone 2							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Trichoptera	50	57	54	72	122	57	111	14	39	69	65
Hydropsychidae	47	47	47	57	100	47	111	14	36	61	57
Hydropsyche	39	36	38	32	79	29	111	7	29	48	45
Cheumatopsyche	7	11	9	25	22	18	0	7	7	13	12
Brachycentridae	0	7	4	7	11	4	0	0	0	4	4
Brachycentrus	0	7	4	7	7	4	0	0	0	3	3
Micrasema	0	0	0	0	4	0	0	0	0	1	+
Lepidostomatidae	0	0	0	7	0	4	0	0	4	2	2
Lepidostoma	0	0	0	7	0	4	0	0	4	2	2
Polycentropodidae	0	0	0	0	7	4	0	0	0	2	1
Polycentropus	0	0	0	0	7	4	0	0	0	2	1
Philopotamidae	4	0	2	0	4	0	0	0	0	1	1
Dolophilodes	4	0	2	0	4	0	0	0	0	1	1
Glossosomatidae	0	4	2	0	0	0	0	0	0	0	+
Agapetus	0	4	2	0	0	0	0	0	0	0	+
Oligochaeta	0	0	0	4	0	29	4	4	0	7	5
Plecoptera	0	0	0	0	0	7	7	4	11	5	4
Perlidae	0	0	0	0	0	4	0	0	11	2	2
Paragnetina	0	0	0	0	0	0	0	0	11	2	1
Phasganophora	0	0	0	0	0	4	0	0	0	1	+
Chloroperlidae	0	0	0	0	0	0	4	4	0	1	1
Alloperla	0	0	0	0	0	0	4	4	0	1	1
Perlodidae	0	0	0	0	0	4	4	0	0	1	1
Isoperla	0	0	0	0	0	4	4	0	0	1	1
Coleoptera	0	0	0	0	4	0	4	0	0	1	1
Curculionidae	0	0	0	0	4	0	0	0	0	1	+
UID Curculionidae	0	0	0	0	4	0	0	0	0	1	+
Elmidae	0	0	0	0	0	0	4	0	0	1	+
Promoresia	0	0	0	0	0	0	4	0	0	1	+
Total density	309	359	334	327	509	649	667	280	578	502	460
Number of families	6	8	10	8	10	14	10	8	9	18	21
Number of taxa	10	11	15	12	16	19	16	13	16	33	36

Table 44. Numerical density (#/m^2) of stream benthos collected in August 1978 in two zones (eight stations) on Esopus Creek.

Station	Zone 1*			Zone 2*							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Ephemeroptera	506	976	741	47	240	75	154	176	172	144	293
UID** Ephemeroptera	0	4	2	4	0	0	0	0	0	1	1
Heptageniidae	348	570	459	4	47	39	65	14	72	40	145
Stenonema	283	187	235	0	7	0	14	4	7	5	63
Epeorus	4	373	188	4	0	0	4	0	22	5	51
Heptagenia	61	11	36	0	39	39	47	11	43	30	31
Baetidae	61	355	208	29	165	22	47	158	65	81	113
Pseudocloeon	29	269	149	22	154	14	47	147	61	74	93
Baetis	32	86	59	7	11	7	0	11	4	7	20
Siphlonuridae	54	14	34	0	4	14	22	0	14	9	15
Isonychia	54	14	34	0	4	14	22	0	14	9	15
Ephemerellidae	11	32	22	11	18	0	14	4	22	11	14
Ephemerella	11	32	22	11	18	0	14	4	22	11	14
Tricorythidae	32	0	16	0	0	0	4	0	0	1	4
Tricorythodes	32	0	16	0	0	0	4	0	0	1	4
Leptophlebiidae	0	0	0	0	7	0	4	0	0	2	1
Paraleptophlebia	0	0	0	0	7	0	4	0	0	2	1
Trichoptera	129	732	431	18	18	57	330	7	262	115	194
Hydropsychidae	90	624	357	14	7	54	327	7	244	109	171
Hydropsyche	72	578	325	14	7	22	283	7	215	91	150
Cheumatopsyche	18	47	32	0	0	32	43	0	29	17	21
Glossosomatidae	7	54	30	0	7	4	4	0	0	2	9
Glossosoma	7	54	30	0	7	4	4	0	0	2	9
Philopotamidae	0	32	16	0	0	0	0	0	11	2	5
Dolophilodes	0	32	16	0	0	0	0	0	11	2	5
Brachycentridae	18	7	13	4	4	0	0	0	0	1	4
Brachycentrus	18	7	13	4	4	0	0	0	0	1	4
Polycentropodidae	7	0	4	0	0	0	0	0	4	1	1
Polycentropus	7	0	4	0	0	0	0	0	4	1	1
Rhyacophilidae	4	4	4	0	0	0	0	0	4	1	1
Rhyacophila	4	4	4	0	0	0	0	0	4	1	1
Lepidostomatidae	4	4	4	0	0	0	0	0	0	0	1
Lepidostoma	4	4	4	0	0	0	0	0	0	0	1
Hydroptilidae	0	4	2	0	0	0	0	0	0	0	+
UID Hydroptilidae	0	4	2	0	0	0	0	0	0	0	+
Limnephilidae	0	4	2	0	0	0	0	0	0	0	+
Neophylax	0	4	2	0	0	0	0	0	0	0	+

* Zone 1 = above the STO, zone 2 = below the STO.
** UID = unidentified.
\+ = less than 0.5.

Table 44 - (Continued).

Station	Zone 1			Zone 2							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Diptera	294	115	205	266	197	118	187	29	161	160	171
Chironomidae	294	86	190	262	187	100	183	22	158	152	161
UID Chironomidae	29	14	22	22	18	11	14	0	4	11	14
Chironominae	240	22	131	0	104	79	140	14	133	78	91
Rheotanytarsus	18	11	14	0	32	7	90	0	72	33	29
Micropsectra	172	4	88	0	11	22	0	7	4	7	27
Polypedilum	25	7	16	0	50	25	39	7	54	29	26
Microtendipes	22	0	11	0	11	25	11	0	4	8	9
Chironominae A	4	0	2	0	0	0	0	0	0	0	+
Orthocladiinae	11	48	27	230	57	4	29	7	18	57	50
UID Orthocladiinae	4	0	2	0	0	0	0	0	0	0	+
Cardiocladius	0	4	2	197	4	0	0	4	4	35	26
Orthocladiinae A	7	22	14	4	18	0	18	4	4	8	9
Cricotopus	0	4	2	29	25	0	4	0	0	10	8
Eukiefferiella	0	14	7	0	0	4	7	0	7	3	4
Orthocladiinae B	0	0	0	0	4	0	0	0	0	1	+
Orthocladiinae C	0	0	0	0	0	0	0	0	4	1	+
Smittia	0	0	0	0	4	0	0	0	0	1	+
Thienemanniella	0	0	0	0	4	0	0	0	0	1	+
Tanypodinae	14	4	9	7	4	4	0	0	0	2	4
Conchapelopia, Arctopelopia	14	4	9	0	4	4	0	0	0	1	3
Procladius	0	0	0	7	0	0	0	0	0	1	1
Diamesinae	0	4	2	4	4	4	0	0	4	2	2
Pseudodiamesa	0	4	2	4	4	4	0	0	4	2	2
Simuliidae	0	29	14	0	7	18	4	0	0	5	7
Simulium	0	29	14	0	7	18	4	0	0	5	7
Tipulidae	0	0	0	0	4	0	0	7	0	2	1
Antocha	0	0	0	0	4	0	0	7	0	2	1
Empididae	0	0	0	4	0	0	0	0	4	1	1
Hemerodromia	0	0	0	4	0	0	0	0	4	1	1
Oligochaeta	4	7	5	18	39	7	4	0	0	11	10
Plecoptera	11	4	7	0	4	0	7	0	4	2	4
Perlidae	11	4	7	0	4	0	7	0	4	2	4
Acroneuria	0	0	0	0	4	0	4	0	4	2	1
Phasganophora	11	0	5	0	0	0	0	0	0	0	1
Paragnetina	0	4	2	0	0	0	4	0	0	1	1
Amphipoda	0	0	0	0	0	0	4	0	0	1	+
Gammaridae	0	0	0	0	0	0	4	0	0	1	+
Crangonyx	0	0	0	0	0	0	4	0	0	1	+
Coleoptera	0	0	0	0	0	0	0	4	0	1	+
Psephenidae	0	0	0	0	0	0	0	4	0	1	+
Psephenus	0	0	0	0	0	0	0	4	0	1	+

Table 44 - (Continued).

Station	Zone 1			Zone 2							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Collembola	0	0	0	0	4	0	0	0	0	1	+
Isotomidae	0	0	0	0	4	0	0	0	0	1	+
Isotomurus	0	0	0	0	4	0	0	0	0	1	+
Turbellaria	0	4	2	0	0	0	0	0	0	0	+
Total density	944	1837	1390	348	502	258	685	215	599	435	674
Number of families	14	17	19	8	14	8	13	7	11	21	25
Number of taxa	24	29	34.	13	27	16	22	12	23	40	46

Table 45. Numerical density (#/m2) of stream benthos collected in October 1978 in two zones (eight stations) on Esopus Creek.

Station	Zone 1*			Zone 2*							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Trichoptera	441	3064	1753	29	427	872	1123	1249	1880	933	1147
Hydropsychidae	316	1643	980	29	405	797	1116	1130	1765	878	905
Hydropsyche	197	1453	825	29	384	527	761	1019	1259	671	711
Cheumatopsyche	118	190	154	0	22	269	355	111	506	207	193
Glossosomatidae	0	1324	662	0	11	59	0	108	97	45	206
Glossosoma	0	1324	662	0	11	59	0	108	97	45	206
Lepidostomatidae	90	22	56	0	0	0	4	0	7	2	16
Lepidostoma	90	22	56	0	0	0	4	0	7	2	16
Rhyacophilidae	4	43	23	0	7	11	4	0	7	4	9
Rhyacophila	4	43	23	0	7	11	4	0	7	4	9
Philopotamidae	4	22	13	0	0	0	0	11	0	2	5
Dolophilodes	4	22	13	0	0	0	0	11	0	2	5
Polycentropodidae	25	0	13	0	0	0	0	0	4	1	4
Polycentropus	25	0	13	0	0	0	0	0	4	1	4
Brachycentridae	4	7	5	0	0	0	0	0	0	0	1
Brachycentrus	4	7	5	0	0	0	0	0	0	0	1
Hydroptilidae	0	4	2	0	4	5	0	0	0	1	1
Hydroptila	0	4	2	0	4	5	0	0	0	1	1
Ephemeroptera	1241	1920	1581	93	179	377	947	592	771	500	782
Heptageniidae	1055	1310	1182	7	144	318	682	276	527	326	549
Stenonema	901	997	949	4	129	307	610	187	373	266	444
Epeorus	111	291	201	4	7	0	50	32	104	35	78
Heptagenia	43	22	32	0	7	11	22	57	50	25	27
Siphlonuridae	100	588	344	0	0	0	57	22	14	16	102
Isonychia	100	588	344	0	0	0	57	22	14	16	102
Baetidae	36	4	20	68	7	32	140	258	187	120	94
Pseudocloeon	36	4	20	68	7	32	140	258	183	120	94
Baetis	0	0	0	0	0	0	0	0	4	1	+
Leptophlebiidae	32	11	22	0	25	27	47	32	43	29	27
Paraleptophlebia	32	11	22	0	25	27	47	32	43	29	27
Ephemerellidae	18	7	13	18	4	0	22	4	0	8	9
Ephemerella	18	7	13	18	4	0	22	4	0	8	9
Diptera	140	57	99	251	262	457	330	305	499	344	280
Chironomidae	111	39	75	251	240	393	287	301	459	318	255
UID** Chironomidae	11	22	16	79	18	11	18	18	18	28	25
Orthocladiinae	32	7	20	172	222	248	179	111	266	197	151
Cricotopus	25	4	14	126	208	210	118	68	194	151	115
Eukiefferiella	0	4	2	0	4	22	47	25	50	25	19
Cardiocladius	0	0	0	47	4	16	14	4	4	15	11
Orthocladiinae A	7	0	4	0	7	0	0	14	18	7	6

* Zone 1 = above the STO, zone 2 = below the STO.
\+ = less than 0.5.
** UID = unidentified.

Table 45 - (Continued).

Station	Zone 1			Zone 2							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Chironominae	68	11	39	0	0	124	68	172	165	86	74
Rheotanytarsus	25	4	14	0	0	27	14	25	147	36	30
Polypedilum	0	4	2	0	0	22	32	108	14	30	22
Microtendipes	36	4	20	0	0	75	22	39	4	20	20
Chironomini A	7	0	4	0	0	0	0	0	0	0	1
Tanypodinae	0	0	0	0	0	5	18	0	11	6	4
Conchapelopia, Arctopelopia	0	0	0	0	0	5	18	0	11	6	4
Diamesinae	0	0	0	0	0	5	4	0	0	1	1
Pseudodiamesa	0	0	0	0	0	5	0	0	0	1	+
Symporthastia	0	0	0	0	0	0	4	0	0	1	+
Tipulidae	25	14	20	0	22	0	36	0	36	23	22
UID Tipulidae	4	0	2	0	0	54	0	0	0	0	+
Antocha	4	14	9	0	22	43	32	0	36	21	18
Dicranota	0	0	0	0	0	11	4	0	0	2	1
Hexatoma	11	0	5	0	0	0	0	0	0	0	1
Pedicia	7	0	4	0	0	0	0	0	0	0	1
Rhagionidae	0	4	2	0	0	11	0	0	0	1	1
Atherix	0	4	2	0	0	11	0	0	0	1	1
Ceratopogonidae	4	0	2	0	0	0	4	0	0	1	1
Palpomyia group	4	0	2	0	0	0	4	0	0	1	1
Empididae	0	0	0	0	0	0	4	0	4	1	1
Hemerodromia	0	0	0	0	0	0	4	0	4	1	1
Simuliidae	0	0	0	0	0	0	0	4	0	1	+
Simulium	0	0	0	0	0	0	0	4	0	1	+
Plecoptera	97	129	113	0	14	22	39	25	50	25	48
Perlodidae	57	90	74	0	7	11	22	11	25	13	29
Isogenoides	29	57	43	0	7	0	4	7	7	4	15
Isoperla	29	32	30	0	0	11	18	4	18	8	14
Taeniopterygidae	22	29	25	0	4	0	11	7	0	4	9
Taeniopteryx	22	29	25	0	4	0	11	7	0	4	9
Perlidae	7	11	9	0	4	11	7	7	14	7	7
Paragnetina	0	4	2	0	0	11	4	0	7	3	3
Phasganophora	7	7	7	0	0	0	4	4	0	1	3
Acroneuria	0	0	0	0	4	0	0	4	7	3	2
Chloroperlidae	11	0	5	0	0	0	0	0	7	1	2
Alloperla	11	0	5	0	0	0	0	0	0	0	1
Hastaperla	0	0	0	0	0	0	0	0	7	1	1
Pteronarcidae	0	0	0	0	0	0	0	0	4	1	+
Allonarcys	0	0	0	0	0	0	0	0	4	1	+
Oligochaeta	22	43	32	57	43	54	54	22	22	41	39
Nematoda	4	0	2	11	7	0	4	0	0	4	3
Hydracarina	7	0	4	0	0	5	7	4	0	3	3
Sperchonidae	0	0	0	0	0	0	7	4	0	2	1
Sperchon	0	0	0	0	0	0	7	4	0	2	1
Lebertiidae	7	0	4	0	0	0	0	0	0	0	1
Lebertia	7	0	4	0	0	0	0	0	0	0	1
Torrenticolidae	0	0	0	0	0	5	0	0	0	1	+
Torrenticola	0	0	0	0	0	5	0	0	0	1	+

Table 45 - (Continued).

Station	Zone 1			Zone 2							Grand Mean
	1a	2	Mean	3	4	5	6	7	8	Mean	
Coleoptera	0	14	7	0	0	0	4	0	0	1	2
Elmidae	0	14	7	0	0	0	4	0	0	1	2
Optioservus	0	14	7	0	0	0	4	0	0	1	2
Hirudinea	0	0	0	0	0	0	0	4	0	1	+
Turbellaria	0	4	2	0	0	0	0	0	0	0	+
Total density	1952	5231	3592	441	933	1787	2508	2199	3222	1852	2306
Number of families	21	21	26	7	15	14	19	16	17	29	32
Number of taxa	31	30	39	9	21	24	32	27	30	46	53

Table 46. Biomass density (g/m^2) of stream benthos collected in April 1978 in two zones (eight stations) on Esopus Creek.

Station	Zone 1*			Zone 2*							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Diptera	0.0344	0.2928	0.1636	0.9835	0.1180	0.0578	0.0635	0.0531	0.0373	0.2189	0.2050
Chironomidae	0.0344	0.0244	0.0294	0.9752	0.1180	0.0470	0.0635	0.0531	0.0373	0.2157	0.1691
Tipulidae	-	0.2547	0.1274	-	-	0.0108	-	-	-	0.0018	0.0332
Simuliidae	-	0.0065	0.0032	0.0083	-	-	-	-	-	0.0014	0.0018
Rhagionidae	-	0.0072	0.0036	-	-	-	-	-	-	-	0.0009
Plecoptera	0.0843	0.0804	0.0823	0.0567	0.0043	0.1704	0.0230	-	0.2060	0.0767	0.0781
Perlidae	-	0.0431	0.0215	-	-	0.1640	-	-	0.1446	0.0514	0.0440
Taeniopterygidae	0.0689	-	0.0344	0.0567	-	-	0.0212	-	-	0.0130	0.0183
Perlodidae	0.0018	0.0172	0.0095	-	-	0.0065	-	-	0.0570	0.0106	0.0103
Chloroperlidae	0.0136	0.0043	0.0090	-	0.0043	-	0.0018	-	0.0043	0.0017	0.0035
Peltoperlidae	-	0.0158	0.0079	-	-	-	-	-	-	-	0.0020
Capniidae	REF**	-	REF	-	-	-	-	-	-	-	REF
Leuctridae	-	-	-	-	-	-	REF	-	-	-	REF
Pteronarcidae	-	REF	REF	-	-	-	-	-	-	-	REF
Trichoptera	0.1521	0.1930	0.1726	0.0854	0.0050	0.0588	0.0176	0.0018	0.0086	0.0295	0.0653
Hydropsychidae	0.0574	0.0703	0.0639	0.0402	0.0050	0.0495	0.0079	0.0018	0.0086	0.0188	0.0301
Brachycentridae	0.0624	0.1033	0.0829	0.0352	-	-	-	-	-	0.0059	0.0251
Rhyacophilidae	0.0187	0.0151	0.0169	0.0011	-	-	0.0043	-	-	0.0009	0.0049
Lepidostomatidae	0.0136	-	0.0068	0.0086	-	0.0093	0.0054	-	-	0.0039	0.0046
Limnephilidae	-	0.0032	0.0016	0.0004	-	-	-	-	-	0.0001	0.0004
Hydroptilidae	-	0.0011	0.0005	-	-	-	-	-	-	-	0.0001
Glossosomatidae	-	-	-	REF	-	-	-	-	-	REF	REF
Leptoceridae	-	REF	REF	-	-	-	-	-	-	-	REF
Polycentropodidae	-	REF	REF	-	-	-	-	-	-	-	REF
Ephemeroptera	0.2562	0.0545	0.1554	0.0653	0.0377	0.0172	0.0463	0.0029	0.0140	0.0306	0.0618
Heptageniidae	0.1134	0.0362	0.0748	0.0362	0.0316	0.0093	0.0176	0.0014	0.0022	0.0164	0.0310
Ephemerellidae	0.0470	0.0108	0.0289	0.0165	0.0022	0.0079	0.0183	0.0014	0.0104	0.0094	0.0143
Siphlonuridae	0.0689	0.0075	0.0382	-	-	-	-	-	-	-	0.0096
Leptophlebiidae	0.0248	-	0.0124	-	0.0039	-	-	-	0.0014	0.0009	0.0038
Baetidae	0.0022	-	0.0011	0.0126	-	-	0.0104	-	-	0.0038	0.0031
Oligochaeta	-	0.0657	0.0328	-	0.0014	0.0197	-	-	0.0011	0.0037	0.0110
Coleoptera	-	REF	REF	-	-	-	-	REF	-	-	REF
Elmidae	-	REF	REF	-	-	-	-	-	-	-	REF
Psephenidae	-	-	-	-	-	-	-	REF	-	-	REF
Total density	0.5271	0.6864	0.6067	1.1909	0.1665	0.3240	0.1503	0.0578	0.2669	0.3594	0.4212

* Zone 1 = above the STO, zone 2 = below the STO.
\- = absent from collection.
** REF = biomass not determined; organisms retained for reference collection.

Table 47. Biomass density (g/m^2) of stream benthos collected in June 1978 in two zones (eight stations) on Esopus Creek.

	Zone 1*			Zone 2*							Grand
Station	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Trichoptera	0.1471	0.3079	0.2275	0.2433	0.4532	0.1363	0.4575	0.0179	0.1536	0.2436	0.2396
Hydropsychidae	0.1471	0.2935	0.2203	0.2063	0.4194	0.1188	0.4575	0.0179	0.1521	0.2287	0.2266
Brachycentridae	-	0.0144	0.0072	0.0283	0.0266	0.0100	-	-	-	0.0108	0.0099
Lepidostomatidae	-	-	-	0.0086	-	0.0057	-	-	0.0014	0.0026	0.0020
Polycentropodidae	-	-	-	-	0.0029	0.0018	-	-	-	0.0008	0.0006
Philopotamidae	-	-	-	-	0.0043	-	-	-	-	0.0007	0.0005
Glossosomatidae	-	REF**	REF	-	-	-	-	-	-	-	REF
Ephemeroptera	0.1772	0.1930	0.1851	0.3491	0.2978	0.1844	0.1744	0.0732	0.0549	0.1890	0.1880
UID# Ephemeroptera	-	-	-	-	-	-	-	-	0.0004	0.0001	+
Ephemerellidae	0.1633	0.1790	0.1711	0.3104	0.2232	0.1195	0.1414	0.0441	0.0427	0.1469	0.1529
Heptageniidae	-	0.0025	0.0013	-	0.0574	0.0004	0.0294	0.0266	0.0065	0.0200	0.0153
Siphlonuridae	-	-	-	0.0341	-	0.0466	-	-	-	0.0135	0.0101
Baetidae	0.0140	0.0115	0.0127	0.0047	0.0126	0.0032	-	0.0025	0.0047	0.0046	0.0066
Leptophlebiidae	-	-	-	-	0.0047	0.0147	0.0036	-	0.0007	0.0039	0.0030
Diptera	0.0036	0.0050	0.0043	0.0018	0.0029	0.0266	0.0190	0.0118	0.0255	0.0146	0.0120
Chironomidae	0.0032	0.0043	0.0038	0.0018	0.0029	0.0262	0.0176	0.0043	0.0215	0.0124	0.0102
Simuliidae	-	-	-	-	-	0.0004	0.0014	0.0075	0.0039	0.0022	0.0017
Tipulidae	-	0.0007	0.0004	-	-	-	-	-	-	-	0.0001
Ceratopogonidae	0.0004	-	0.0002	-	-	-	-	-	-	-	+
Plecoptera	-	-	-	-	-	0.0215	0.0036	0.0011	0.0047	0.0051	0.0039
Perlidae	-	-	-	-	-	0.0118	-	-	0.0047	0.0028	0.0021
Perlodidae	-	-	-	-	-	0.0097	0.0011	-	-	0.0018	0.0013
Chloroperlidae	-	-	-	-	-	-	0.0025	0.0011	-	0.0006	0.0004
Oligochaeta	-	-	-	0.0025	-	0.0100	0.0007	0.0039	-	0.0029	0.0022
Coleoptera	-	-	-	-	0.0018	-	REF	-	-	0.0003	0.0002
Curculionidae	-	-	-	-	0.0018	-	-	-	-	0.0003	0.0002
Elmidae	-	-	-	-	-	-	REF	-	-	-	REF
Total density	0.3279	0.5059	0.4169	0.5967	0.7556	0.3789	0.6552	0.1080	0.2386	0.4555	0.4459

* Zone 1 = above the STO, zone 2 = below the STO.
\- = absent from collection.
** REF = biomass not determined; organisms retained for reference.
\# UID = unidentified.
\+ = less than 0.00005.

Table 48. Biomass density (g/m^2) of stream benthos collected in August 1978 in two zones (eight stations) on Esopus Creek.

Station	Zone 1*			Zone 2*							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Trichoptera	0.0922	0.9175	0.5048	0.0154	0.0370	0.0631	0.5561	0.0129	0.3685	0.1755	0.2578
Hydropsychidae	0.0682	0.8482	0.4582	0.0115	0.0359	0.0631	0.5500	0.0129	0.3624	0.1726	0.2440
Glossosomatidae	0.0057	0.0362	0.0210	-	0.0007	-	0.0061	-	-	0.0011	0.0061
Brachycentridae	0.0151	0.0126	0.0138	0.0039	0.0004	-	-	-	-	0.0007	0.0040
Philopotamidae	-	0.0179	0.0090	-	-	-	-	-	0.0047	0.0008	0.0028
Rhyacophilidae	0.0011	0.0022	0.0016	-	-	-	-	-	0.0004	0.0001	0.0004
Polycentropodidae	0.0018	-	0.0009	-	-	-	-	-	0.0011	0.0002	0.0004
Lepidostomatidae	0.0004	0.0004	0.0004	-	-	-	-	-	-	-	0.0001
Hydroptilidae	-	REF**	REF	-	-	-	-	-	-	-	REF
Limnephilidae	-	REF	REF	-	-	-	-	-	-	-	REF
Ephemeroptera	0.1912	0.2680	0.2296	0.0154	0.0897	0.0782	0.0965	0.0294	0.0545	0.0606	0.1029
UID# Ephemeroptera	-	0.0050	0.0025	0.0054	-	-	-	-	-	0.0009	0.0013
Heptageniidae	0.0775	0.1514	0.1145	0.0018	0.0538	0.0531	0.0524	0.0140	0.0179	0.0322	0.0527
Siphlonuridae	0.0936	0.0470	0.0703	-	0.0032	0.0212	0.0323	-	0.0222	0.0132	0.0274
Baetidae	0.0100	0.0535	0.0318	0.0068	0.0258	0.0039	0.0039	0.0151	0.0104	0.0110	0.0162
Ephemerellidae	0.0025	0.0111	0.0068	0.0014	0.0032	-	0.0047	0.0004	0.0039	0.0023	0.0034
Tricorythidae	0.0075	-	0.0038	-	-	-	0.0007	-	-	0.0001	0.0010
Leptophlebiidae	-	-	-	-	0.0036	-	0.0025	-	-	0.0010	0.0008
Plecoptera	0.0298	0.0366	0.0332	-	0.0004	-	0.0050	-	0.0725	0.0130	0.0180
Perlidae	0.0298	0.0366	0.0332	-	0.0004	-	0.0050	-	0.0725	0.0130	0.0180
Diptera	0.0205	0.0061	0.0133	0.0269	0.0090	0.0208	0.0104	0.0007	0.0072	0.0125	0.0127
Chironomidae	0.0205	0.0039	0.0122	0.0269	0.0079	0.0187	0.0100	0.0004	0.0065	0.0117	0.0118
Simuliidae	-	0.0022	0.0011	-	0.0007	0.0022	0.0004	-	-	0.0005	0.0007
Empididae	-	-	-	-	-	-	-	-	0.0007	0.0001	0.0001
Tipulidae	-	-	-	-	0.0004	-	-	0.0004	-	0.0001	0.0001
Oligochaeta	0.0018	0.0025	0.0022	0.0004	0.0183	0.0022	0.0007	-	-	0.0036	0.0032
Turbellaria	-	0.0025	0.0013	-	-	-	-	-	-	-	0.0003
Coleoptera	-	-	-	-	-	-	-	0.0011	-	0.0002	0.0001
Psephenidae	-	-	-	-	-	-	-	0.0011	-	0.0002	0.0001
Amphipoda	-	-	-	-	-	-	REF	-	-	REF	REF
Gammaridae	-	-	-	-	-	-	REF	-	-	REF	REF
Collembola	-	-	-	-	REF	-	-	-	-	REF	REF
Isotomidae	-	-	-	-	REF	-	-	-	-	REF	REF
Total density	0.3355	1.2332	0.7843	0.0581	0.1543	0.1643	0.6688	0.0441	0.5027	0.2654	0.3951

* Zone 1 = above the STO, zone 2 = below the STO.
\- = absent from collection.
** REF = biomass not determined; organisms retained for reference.
\# UID = unidentified.

Table 49. Biomass density (g/m^2) of stream benthos collected in October 1978 in two zones (eight stations) on Esopus Creek.

Station	Zone 1*			Zone 2*							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Trichoptera	0.3208	3.5144	1.9176	0.0086	0.5210	1.3649	1.5464	1.1421	2.2371	1.1233	1.3305
Hydropsychidae	0.2831	3.0222	1.6526	0.0086	0.5188	1.3590	1.5443	1.0961	2.2073	1.1085	1.2504
Glossosomatidae	–	0.4090	0.2045	–	0.0007	0.0032	–	0.0337	0.0219	0.0103	0.0610
Philopotamidae	0.0029	0.0402	0.0215	–	–	–	–	0.0122	–	0.0022	0.0072
Brachycentridae	0.0083	0.0233	0.0158	–	–	–	–	–	–	–	0.0041
Polycentropodidae	0.0205	–	0.0102	–	–	–	–	–	0.0047	0.0008	0.0033
Rhyacophilidae	0.0022	0.0158	0.0090	–	0.0011	0.0022	0.0011	–	0.0025	0.0011	0.0031
Lepidostomatidae	0.0039	0.0025	0.0032	–	–	–	0.0011	–	0.0007	0.0003	0.0011
Hydroptilidae	–	0.0014	0.0007	–	0.0004	0.0005	–	–	–	0.0001	0.0003
Ephemeroptera	0.7348	2.3157	1.5253	0.0352	0.2117	0.3601	0.7194	0.3168	0.2856	0.3192	0.6338
Heptageniidae	0.6362	1.2669	0.9515	0.0093	0.2013	0.3482	0.5852	0.1518	0.2024	0.2439	0.4285
Siphlonuridae	0.0718	1.0412	0.5565	–	–	–	0.0775	0.0746	0.0172	0.0299	0.1673
Baetidae	0.0187	0.0036	0.0111	0.0212	0.0025	0.0070	0.0438	0.0811	0.0531	0.0364	0.0298
Leptophlebiidae	0.0061	0.0029	0.0045	–	0.0047	0.0048	0.0104	0.0086	0.0129	0.0070	0.0064
Ephemerellidae	0.0022	0.0011	0.0016	0.0047	0.0032	–	0.0025	0.0007	–	0.0020	0.0019
Plecoptera	0.2156	0.1582	0.1869	0.0004	0.0197	0.0065	0.0126	0.0327	0.4471	0.0912	0.1162
Pteronarcidae	–	–	–	–	–	–	–	–	0.4072	0.0719	0.0531
Perlodidae	0.1030	0.1507	0.1268	–	0.0161	0.0022	0.0083	0.0197	0.0187	0.0113	0.0415
Perlidae	0.1037	0.0054	0.0545	–	0.0032	0.0043	0.0032	0.0126	0.0212	0.0076	0.0198
Chloroperlidae	0.0068	–	0.0034	–	–	–	–	–	–	–	0.0009
Taeniopterygidae	0.0022	0.0022	0.0022	0.0004	0.0004	–	0.0011	0.0004	–	0.0004	0.0008
Diptera	0.1127	0.0237	0.0682	0.0291	0.0283	0.0942	0.0348	0.0129	0.0237	0.0338	0.0428
Tipulidae	0.1044	0.0022	0.0533	–	0.0068	0.0194	0.0118	–	0.0061	0.0066	0.0188
Chironomidae	0.0057	0.0032	0.0045	0.0291	0.0215	0.0409	0.0215	0.0126	0.0169	0.0227	0.0180
Rhagionidae	–	0.0183	0.0091	–	–	0.0339	–	–	–	0.0040	0.0053
Ceratopogonidae	0.0025	–	0.0013	–	–	–	0.0004	–	–	0.0001	0.0004
Empididae	–	–	–	–	–	–	0.0011	–	0.0007	0.0003	0.0002
Simuliidae	–	–	–	–	–	–	–	0.0004	–	0.0001	+
Oligochaeta	0.0075	0.1030	0.0553	0.0083	0.0039	0.0038	0.0036	0.0022	0.0032	0.0042	0.0175
Hirudinea	–	–	–	–	–	–	–	0.0380	–	0.0067	0.0050
Coleoptera	–	0.0050	0.0025	–	–	–	0.0011	–	–	0.0002	0.0008
Elmidae	–	0.0050	0.0025	–	–	–	0.0011	–	–	0.0002	0.0008
Hydracarina	0.0022	–	0.0011	–	–	0.0005	0.0011	0.0004	–	0.0003	0.0005
Lebertiidae	0.0022	–	0.0011	–	–	–	–	–	–	–	0.0003
Sperchonidae	–	–	–	–	–	0.0005	0.0011	0.0004	–	0.0003	0.0002
Torrenticolidae	–	–	–	–	–	REF**	–	–	–	REF	REF
Nematoda	0.0014	–	0.0007	0.0007	0.0007	–	0.0004	–	–	0.0003	0.0004
Turbellaria	–	0.0014	0.0007	–	–	–	–	–	–	–	0.0002
Total density	1.3950	6.1215	3.7583	0.0822	0.7854	1.8299	2.3193	1.5450	2.9967	1.5792	2.1476

* Zone 1 = above the STO, zone 2 = below the STO.
– = absent from collection.
\+ = less than 0.00005.
** REF = biomass not determined; organisms retained for reference collection.

Table 50. Mean taxa diversity, mean numerical density (#/m^2), and biomass density (g/m^2) of stream benthos collected in April 1978 in two zones (eight stations) on Esopus Creek.

	Zone 1*			Zone 2*							Grand
Station	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Mean taxa diversity	2.92	3.43	3.18	1.36	1.40	2.28	2.16	1.22	2.21	1.77	2.12
Standard deviation	0.108	0.231	0.323	0.264	0.308	0.786	0.292	0.361	0.404	0.593	0.817
Minimum	2.80	3.17	2.80	1.08	1.06	1.37	1.83	0.86	1.75	0.86	0.86
Maximum	3.01	3.61	3.61	1.61	1.65	2.72	2.36	1.58	2.52	2.72	3.61
Mean evenness	0.84	0.86	0.85	0.38	0.55	0.72	0.66	0.80	0.73	0.64	0.69
Number of samples	3	3	6	3	3	3	3	3	3	18	24
Mean numerical density (#/m^2)	621	653	637	4065	718	624	940	280	495	1187	1049
Standard deviation	341.5	333.7	302.5	1332.7	242.2	481.3	275.3	326.7	291.4	1439.3	1269.0
Standard error	197.1	192.7	123.5	769.4	139.8	277.9	159.0	188.6	168.3	339.3	259.0
Minimum	258	409	258	2530	527	118	624	75	291	75	75
Maximum	936	1033	1033	4919	990	1076	1130	657	829	4919	4919
Coefficient of variation	55.0	51.1	47.5	32.8	33.8	77.1	29.3	116.7	58.9	121.3	120.9
Number of samples	3	3	6	3	3	3	3	3	3	18	24
Biomass density (g/m^2)	0.5271	0.6864	0.6067	1.1909	0.1665	0.3240	0.1503	0.0578	0.2669	0.3594	0.4212
Standard deviation**	-	-	0.11266	-	-	-	-	-	-	0.41786	0.37369
Standard error**	-	-	0.07965	-	-	-	-	-	-	0.17057	0.13211
Minimum**	-	-	0.5271	-	-	-	-	-	-	0.0578	0.0578
Maximum**	-	-	0.6864	-	-	-	-	-	-	1.1909	1.1909
Coefficient of variation**	-	-	18.6	-	-	-	-	-	-	116.2	88.7
Number of samples	1	1	2	1	1	1	1	1	1	6	8

* Zone 1 = above the STO, zone 2 = below the STO.
** Calculable only for data summaries.

Table 51. Mean taxa diversity, mean numerical density (#/m^2), and biomass density (g/m^2) of stream benthos collected in June 1978 in two zones (eight stations) on Esopus Creek.

Station	Zone 1*			Zone 2*							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Mean taxa diversity	2.07	2.46	2.27	1.84	2.66	2.69	2.27	2.66	2.82	2.49	2.43
Standard deviation	0.291	0.142	0.299	0.617	0.338	0.203	0.176	0.575	0.295	0.485	0.450
Minimum	1.74	2.31	1.74	1.15	2.38	2.49	2.06	2.00	2.48	1.15	1.15
Maximum	2.30	2.60	2.60	2.35	3.04	2.89	2.38	3.08	3.02	3.08	3.08
Mean evenness	0.78	0.87	0.82	0.66	0.81	0.78	0.76	0.92	0.81	0.79	0.80
Number of samples	3	3	6	3	3	3	3	3	3	18	24
Mean numerical density (#/m^2)	309	359	334	327	509	649	667	280	578	502	460
Standard deviation	16.4	121.0	82.0	140.5	142.1	240.0	671.3	201.7	306.0	322.7	289.7
Standard error	9.5	69.9	33.5	81.1	82.1	138.6	387.5	1085.2	176.7	76.1	59.1
Minimum	291	226	226	215	355	377	269	54	237	54	54
Maximum	323	452	452	484	635	829	1442	431	829	1442	1442
Coefficient of variation	5.3	33.7	24.6	43.0	27.9	37.0	100.6	72.1	53.0	64.3	63.0
Number of samples	3	3	6	3	3	3	3	3	3	18	24
Biomass density (g/m^2)	0.3279	0.5059	0.4169	0.5967	0.7556	0.3789	0.6552	0.1080	0.2386	0.4555	0.4459
Standard deviation**	-	-	0.12583	-	-	-	-	-	-	0.25439	0.22091
Standard error**	-	-	0.08898	-	-	-	-	-	-	0.10384	0.07811
Minimum**	-	-	0.3279	-	-	-	-	-	-	0.1080	0.1080
Maximum**	-	-	0.5059	-	-	-	-	-	-	0.7556	0.7556
Coefficient of variation**	-	-	30.2	-	-	-	-	-	-	55.8	49.5
Number of samples	1	1	2	1	1	1	1	1	1	6	8

* Zone 1 = above the STO, zone 2 = below the STO.
** Calculable only for data summaries.

Table 52. Mean taxa diversity, mean numerical density (#/m^2), and biomass density (g/m^2) of stream benthos collected in August 1978 in two zones (eight stations) on Esopus Creek.

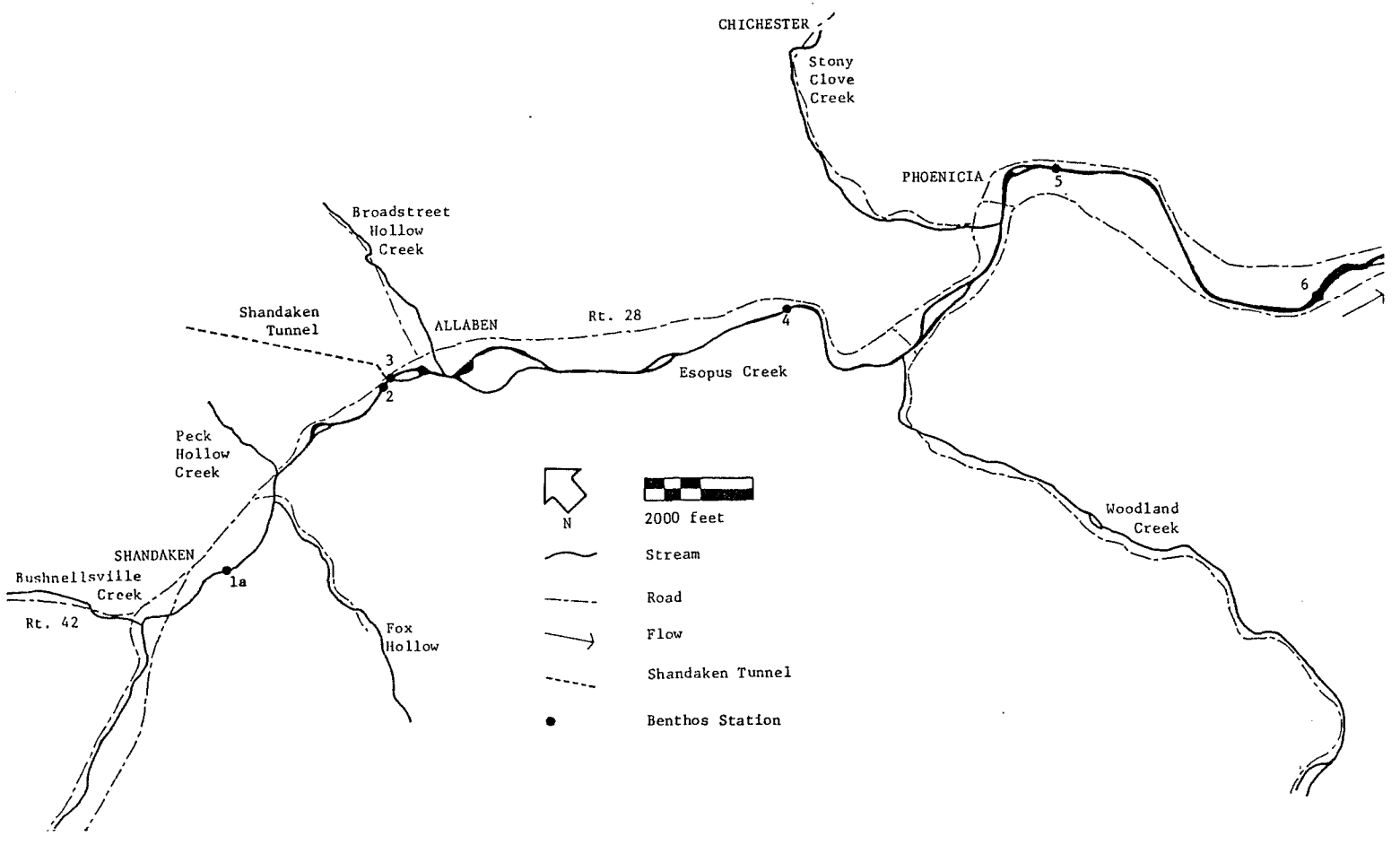
Station	Zone 1*			Zone 2*							Grand
	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Mean taxa diversity	3.11	2.98	3.05	1.92	3.06	2.78	2.64	1.45	2.70	2.42	2.58
Standard deviation	0.256	0.216	0.223	0.459	0.452	0.816	0.619	0.691	0.542	0.769	0.724
Minimum	2.85	2.81	2.81	1.42	2.55	1.85	2.06	0.65	2.20	0.65	0.65
Maximum	3.36	3.23	3.36	2.31	3.42	3.37	3.30	1.88	3.28	3.42	3.42
Mean evenness	0.77	0.72	0.74	0.64	0.80	0.92	0.73	0.63	0.79	0.75	0.75
Number of samples	3	3	6	3	3	3	3	3	3	18	24
Mean numerical density (#/m^2)	944	1837	1390	348	502	258	685	215	599	435	674
Standard deviation	190.2	964.6	791.3	155.7	164.4	129.2	103.4	156.4	571.8	287.4	613.0
Standard error	109.8	556.9	323.0	89.9	94.9	74.6	59.7	90.3	330.2	67.7	125.1
Minimum	818	775	775	248	65	129	592	65	258	65	65
Maximum	1163	2659	2659	527	646	388	797	377	1259	1259	1259
Coefficient of variation	20.2	52.5	23.2	44.8	32.7	50.0	15.1	72.6	95.4	66.1	91.0
Number of samples	3	3	6	3	3	3	3	3	3	18	24
Biomass density (g/m^2)	0.3355	1.2332	0.7843	0.0581	0.1543	0.1643	0.6688	0.0441	0.5027	0.2654	0.3951
Standard deviation**	-	-	0.63479	-	-	-	-	-	-	0.25826	0.40361
Standard error**	-	-	0.44886	-	-	-	-	-	-	0.10545	0.14269
Minimum**	-	-	0.3355	-	-	-	-	-	-	0.0441	0.0441
Maximum**	-	-	1.2332	-	-	-	-	-	-	0.6688	1.2332
Coefficient of variation**	-	-	80.9	-	-	-	-	-	-	97.3	102.2
Number of samples	1	1	2	1	1	1	1	1	1	6	8

* Zone 1 = above the STO, zone 2 = below the STO.
** Calculable only for data summaries.

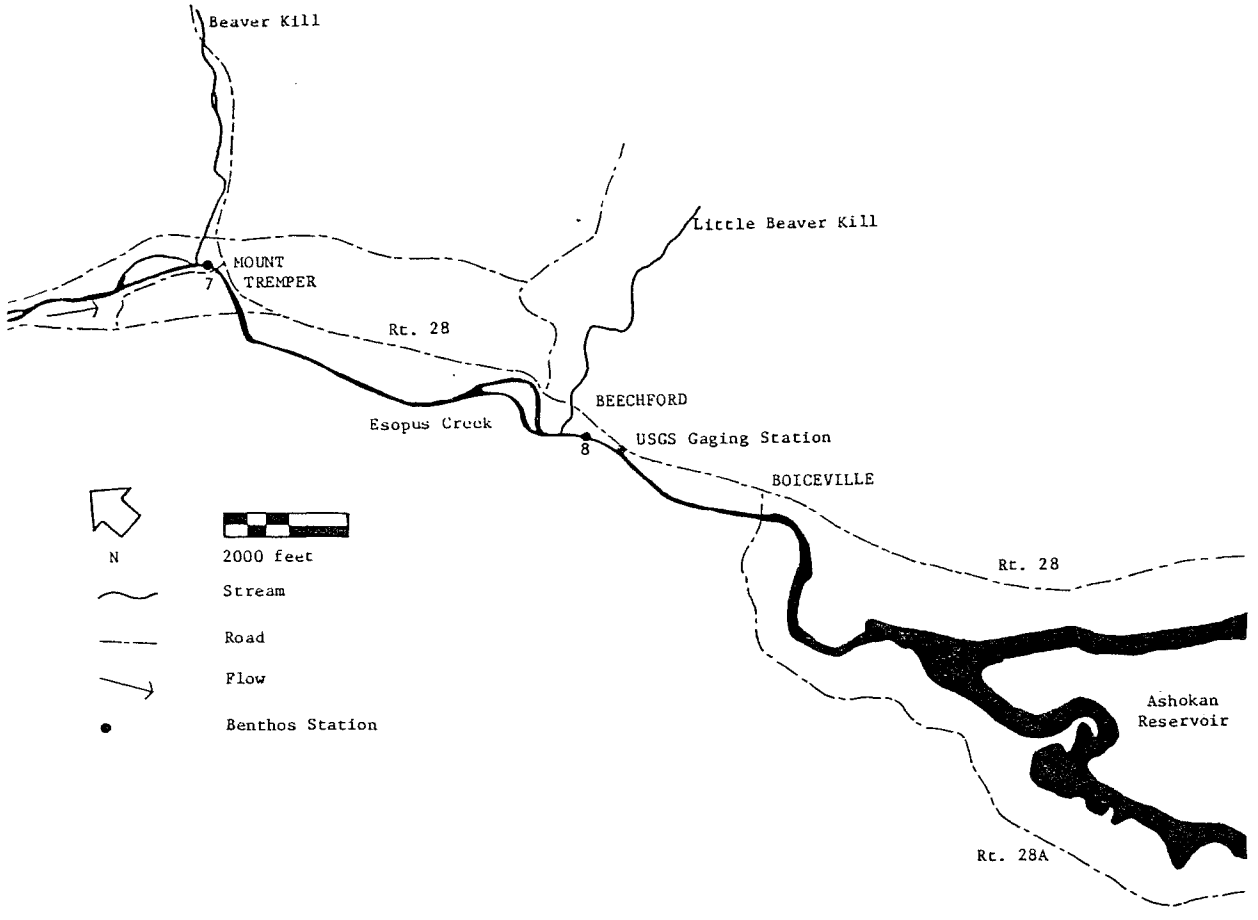
Table 53. Mean taxa diversity, mean numerical density (#/m^2), and biomass density (g/m^2) of stream benthos collected in October 1978 in two zones (eight stations) on Esopus Creek.

	Zone 1*			Zone 2*							Grand
Station	1a	2	Mean	3	4	5	6	7	8	Mean	Mean
Mean taxa diversity	2.82	2.58	2.70	2.34	2.47	3.10	2.99	2.79	2.96	2.76	2.74
Standard deviation	0.169	0.255	0.235	0.090	0.278	0.315	0.130	0.268	0.227	0.339	0.311
Minimum	2.71	2.35	2.35	2.25	2.20	2.87	2.88	2.48	2.72	2.20	2.20
Maximum	3.02	2.85	3.02	2.43	2.76	3.32	3.14	2.97	3.18	3.32	3.32
Mean evenness	0.64	0.61	0.63	0.86	0.69	0.75	0.68	0.65	0.68	0.72	0.69
Number of samples	3	3	6	3	3	2	3	3	3	17	23
Mean numerical density (#/m^2)	1952	5231	3592	441	933	1787	2508	2199	3222	1852	2306
Standard deviation	744.2	998.1	1961.2	88.1	183.4	395.8	972.6	1119.3	551.6	1146.8	1562.2
Standard error	429.7	576.3	800.7	50.9	105.9	279.9	561.5	646.2	314.8	278.1	325.8
Minimum	1475	4618	1475	366	721	1507	1647	1227	2788	366	366
Maximum	2809	6383	6383	538	1044	2067	3563	3423	3843	3843	6383
Coefficient of variation	38.1	19.1	54.6	20.0	19.7	22.2	38.8	50.9	17.1	61.9	67.8
Number of samples	3	3	6	3	3	2	3	3	3	17	23
Biomass density (g/m^2)	1.3950	6.1215	3.7583	0.0822	0.7854	1.8299	2.3193	1.5450	2.9967	1.5792	2.1476
Standard deviation**	-	-	3.34211	-	-	-	-	-	-	1.00665	1.85413
Standard error**	-	-	2.36324	-	-	-	-	-	-	0.42288	0.66963
Minimum**	-	-	1.3950	-	-	-	-	-	-	0.0822	0.0822
Maximum**	-	-	6.1215	-	-	-	-	-	-	2.9967	6.1215
Coefficient of variation**	-	-	88.9	-	-	-	-	-	-	63.8	86.3
Number of samples	1	1	2	1	1	0.667	1	1	1	5.667	7.667

* Zone 1 = above the STO, zone 2 = below the STO.
** Calculable only for data summaries.



Map 12. Benthos stations 1a-6 sampled in April, June, August, and October 1978 in Esopus Creek above and below the STO.



Map 13. Benthos stations 7 and 8 sampled in April, June, August, and October 1978 in Esopus Creek below the STO.

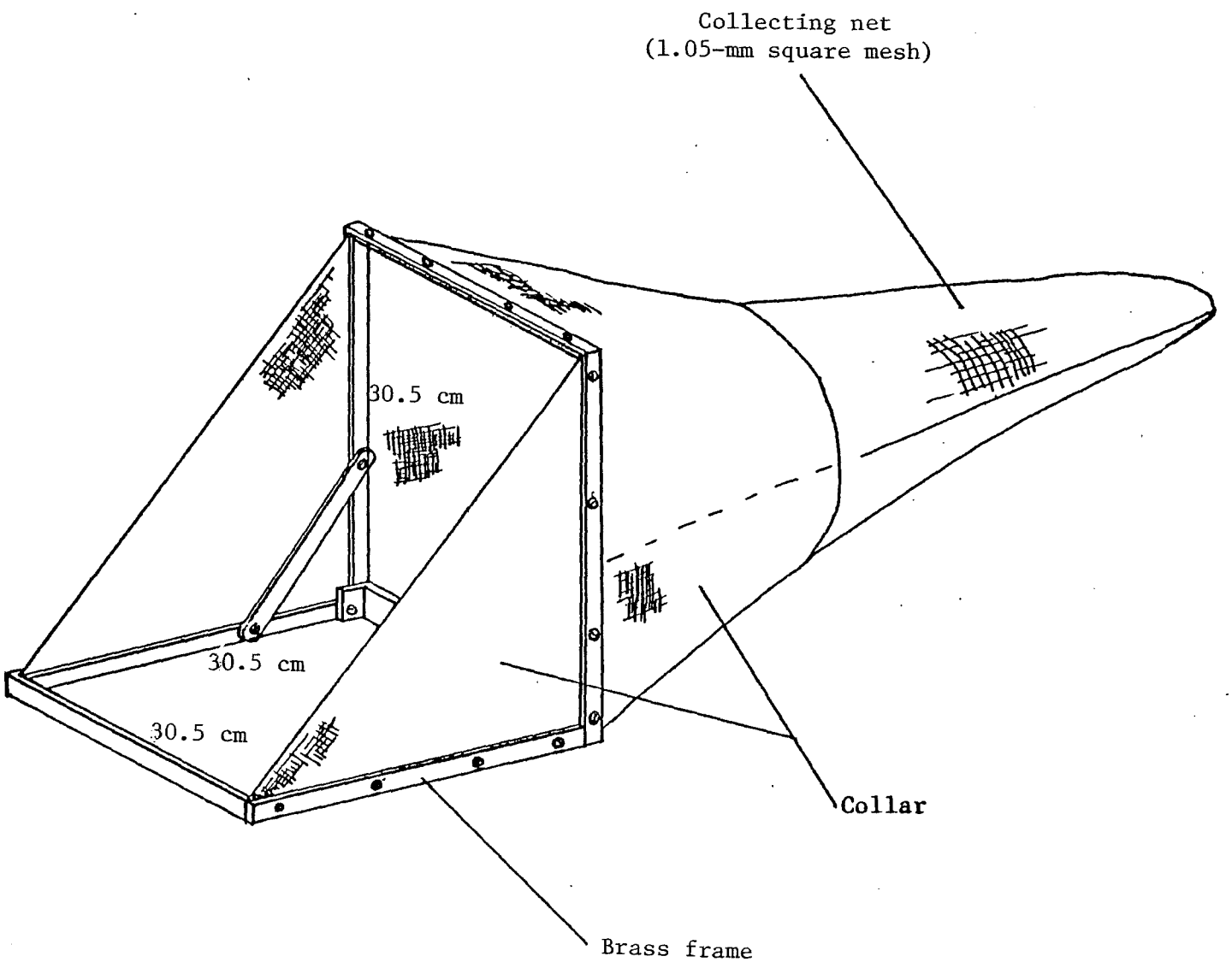


Fig. 6. Diagram of Surber sampler used for quantitative benthos sample collection in 1978 in Esopus Creek.

Appendix 6. Physicochemical measurements taken in April, June, August, and October 1978 in two zones (eight stations) on Esopus Creek.

Station		Zone 1*		Zone 2*					
		1a	2	3	4	5	6	7	8
Apr	Date	11 Apr	11 Apr	11 Apr	12 Apr	11 Apr	12 Apr	12 Apr	12 Apr
	Time	1015	1115	1230	1030	1330	1145	1310	1345
	Weather	Overcast	Overcast	Overcast	Pt. Cloudy	Overcast	Clear	Clear	Clear
	Air Temperature (C)	14.0	14.0	16.0	14.5	16.0	12.5	11.0	14.0
	Mean Depth (m)	0.3	0.4	0.3	0.4	0.5	0.4	0.4	0.5
	Water Temperature (C)	6.0	6.5	7.0	6.0	7.0	7.0	8.0	8.5
	Mean Current Velocity (m/sec)	0.51	0.49	0.59	0.36	0.30	0.40	0.56	0.40
	Dissolved Oxygen (ppm)**	12.0	12.0	11.9	12.2	12.0	12.0	11.9	11.5
	Turbidity (NTU)***	2.1	2.4	2.2	4.2	8.2	8.7	5.6	8.0
Jun	Date	13 Jun	13 Jun	13 Jun	13 Jun	12 Jun	12 Jun	12 Jun	12 Jun
	Time	1030	1120	1210	1345	1030	1515	1420	1330
	Weather	Lt. Rain	Lt. Rain	Overcast	Overcast	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy
	Air Temperature (C)	14.5	15.0	15.0	16.0	27.0	25.0	25.0	25.0
	Mean Depth (m)	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Water Temperature (C)	13.0	13.0	13.0	14.0	14.5	18.5	18.5	18.0
	Mean Current Velocity (m/sec)	0.43	0.42	0.38	0.38	0.33	0.49	0.38	0.57
	Dissolved Oxygen (ppm)	9.8	9.8	10.0	10.2	10.0	9.3	9.6	10.0
	Turbidity (NTU)	1.1	1.1	1.1	1.2	2.4	3.1	2.2	2.3
Aug	Date	7 Aug	7 Aug	7 Aug	7 Aug	9 Aug	9 Aug	9 Aug	9 Aug
	Time	1025	1115	1515	1420	1145	1230	1530	1430
	Weather	Overcast	Overcast	Lt. Rain	Lt. Rain	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy
	Air Temperature (C)	24.0	25.0	25.0	22.0	26.0	27.5	26.0	27.5
	Mean Depth (m)	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3
	Water Temperature (C)	18.0	19.5	17.0	17.5	19.0	19.0	20.0	20.0
	Mean Current Velocity (m/sec)	0.29	0.55	0.36	0.43	0.37	0.39	0.50	0.43
	Dissolved Oxygen (ppm)	9.5	9.8	11.9	9.1	9.1	9.2	9.0	9.0
	Turbidity (NTU)	2.0	1.5	9.0	7.5	5.5	5.5	5.0	5.6
Oct	Date	20 Oct	20 Oct	20 Oct	20 Oct	19 Oct	19 Oct	19 Oct	19 Oct
	Time	1240	1330	1200	1100	0945	1345	1100	1215
	Weather	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy	Overcast	Overcast	Overcast	Overcast	Overcast
	Air Temperature (C)	9.5	9.5	10.0	8.5	12.0	11.0	13.0	12.0
	Mean Depth (m)	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.3
	Water Temperature (C)	9.5	9.5	9.5	9.0	7.0	8.0	8.0	9.0
	Mean Current Velocity (m/sec)	0.25	0.28	0.31	0.29	0.19	0.27	0.27	0.20
	Dissolved Oxygen (ppm)	10.3	11.2	11.5	12.0	11.8	11.8	11.7	11.7
	Turbidity (NTU)	0.6	0.6	0.6	0.6	1.0	1.0	0.9	1.0

* Zone 1 = above the STO, zone 2 = below the STO.
** Azide modification of Winkler titration.
*** Hach turbidimeter (nephelometer turbidity units).

Section Leader:
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SCHOHARIE RESERVOIR CREEL CENSUS

Introduction

A creel census was conducted from 16 April through 29 October 1978 on Schoharie Reservoir to (1) determine resident (Gilboa, Prattsville, Grand Gorge, Conesville, and West Conesville, New York) and nonresident angler use and success and (2) provide data for food habits studies.

Materials and Methods

Schoharie Reservoir was surveyed during the day, for 11.5 daylight hours (0730-1900) in April, 13.0 hours (0730-2030) from May through August, 12.0 hours (0730-1930) in September, and 11.0 hours (0730-1830) in October, on six randomly selected weekend days or holidays each month (Table 54). The census was conducted by an IA agent, who piloted a boat equipped with an outboard motor to all boat and shore fishermen. The reservoir was divided into eight zones so that the location of all shore fishermen could be recorded (Map 14). Boat fishermen could not be analyzed by zone because they tended to fish in several zones. Instantaneous angler counts were made five times daily (0730, 1030, 1330, 1630, and 1930) along the shoreline by zone (Fig. 7). Fishing parties (one or more persons) were interviewed after each instantaneous count (Fig. 8).

Creeled fish were measured (nearest 1.0 mm) and weighed (nearest 1.0 g for fish 1000 g and less, nearest 1.0 oz for fish over 1000 g), and stomachs were removed when anglers consented (Appendix 1). Only fish observed were recorded.

The average angler trip was the total hours fished in completed angler trips divided by the number of anglers contacted with completed trips.

An estimate of the total number of boat and shore fishermen utilizing

Schoharie Reservoir on weekends and holidays for the period 15 April through 31 October 1978 was determined by month as follows:

$$\frac{\text{Angler Count (by month) x Count Interval (3 hr)}}{\text{Time (hr) of Average Angler Trip (by month)}} \times \frac{\text{\# Weekend Days \& Holidays in Month}}{\text{\# Days Censused During Month}}$$

An estimate of the total number of hours fished by all boat and shore fishermen on weekends and holidays was determined by month as follows:

Estimated Total Anglers (by month) x Average Angler Trip (by month)

An estimate of the total number of fish caught by boat and shore fishermen on weekends and holidays was determined by month as follows:

$$\text{Estimated Total Number of Hours Fished (by month)} \times \frac{\text{Total Number of Fish Caught}}{\text{Hours Fished}} \text{ (by month)}$$

The estimated harvest in weight was determined by multiplying the estimated total number of fish caught by the mean weight by species.

Diaries to record catch were provided to five fishermen who frequently fished on Schoharie Reservoir (Fig. 9). Fishermen recorded the date, boat or shore fishing, number in fishing party, total hours fished by party, and number and species caught and kept. Data were analyzed by angler and by month for weekend days and holidays only.

Results and Discussion

Eleven fishes (n = 643) were harvested by 769 fishermen (387 parties) in 2128.50 hours from 16 April through 29 October 1978 (Table 55). Rank by abundance was walleye (n = 231, 35.9%), yellow perch (136, 21.2%), rock bass (105, 16.3%), smallmouth bass (61, 9.5%), brown bullhead (51, 7.9%), pumpkinseed (21, 3.3%), rainbow trout (13, 2.0%), largemouth bass (10, 1.6%), brown trout (8, 1.2%), white sucker (4, 0.6%), and chain pickerel (3, 0.5%).

Of the 769 anglers, 236 (30.7%) were residents.

Boat fishermen (n = 273, 35.5%) were fewer in number than shore fishermen (496, 64.5%) but fished longer per trip (5.27 vs 2.30 hr) and harvested about the same number of fish per hour (0.31 vs 0.29 fish/hr). Catch per hour of walleye and yellow perch was greater for boat fishermen and of rock bass and smallmouth bass was greater for shore fishermen.

The rate of fishermen interviewed was highest in April (1.91/hr) and lowest in October (0.64) (Appendixes 7-13). Catch per hour was highest in October (0.40 fish/hr) and lowest in April (0.09). The catch rate was highest for brown trout in April (0.03 fish/hr), for walleye and yellow perch in June (0.17 and 0.13, respectively), and for smallmouth bass and rock bass in October (0.09 and 0.08, respectively).

The mean length of walleye harvested was 433 mm; yellow perch, 258 mm; smallmouth bass, 331 mm; rainbow trout, 371 mm; largemouth bass, 399 mm; and brown trout, 373 mm (Table 56).

Most shore fishermen were interviewed in zone 6 (n = 150, 30.2%) (Table 57). Most resident anglers fished in zone 1 (n = 62, 33.3%) and nonresident anglers in zone 6 (122, 39.4%). Most anglers fished in April, May, and July in zone 1; in June in zone 5; in August and September in zone 6; and in October in zone 2.

Shore fishermen interviewed fished most often in zones 6 and 1 (225.50 and 217.25 hr, respectively) and caught the most per hour in zone 3 (2.71 fish/hr) (Table 58). Smallmouth bass was the most abundant fish caught in zones 1 and 2, rock bass in zones 3 and 5 through 7, walleye in zone 4, and brown bullhead in zone 8. Catch per hour was highest for walleye in zone 4 (0.20 fish/hr) and for yellow perch in zones 4, 5, and 7 (0.10 each).

Shore fishermen had the highest catch rate in April in zone 1 (0.19

fish/hr), in May in zone 3 (2.71), in June in zone 6 (0.65), in July and September in zone 4 (2.25 and 0.48, respectively), in August in zone 7 (0.57), and in October in zone 2 (0.40) (Appendixes 14-20).

An estimated 1791 anglers fished an estimated 5518 hours and harvested an estimated 1630 fish on weekend days and holidays from 15 April through 31 October 1978 (Tables 50 and 60). The estimated harvest was 836.061 kg or 0.730 kg/acre (based on 1145 acres at full elevation 1130 ft). The highest estimate of shore anglers was in May (n = 254) and of boat anglers in July (156).

Of the nonresident fishing parties, 29.3% (n = 77) traveled 10-25 mi to fish, 23.6% (62) traveled 26-50 mi, 25.5% (67) traveled 51-100 mi, and 21.7% (57) traveled over 100 mi.

Most (26.4%) fishing parties interviewed regarded the fishing quality for pan fish as fair, 25.3% as good, 19.4% as poor, and 12.4% as excellent; 16.5% had no opinion (Table 61).

Most (26.4%) fishing parties interviewed considered the fishing quality for game fish as fair, 25.8% as good, 19.6% as poor, and 12.4% as excellent; 15.8% had no opinion.

The majority (n = 230, 59.4%) of fishing parties interviewed fished for any species (Table 62). A greater percentage of the resident than nonresident parties was in this category (66.9% vs 55.9%). Walleye was fished for by 28.4% of the fishing parties.

Instantaneous counts were highest in the morning (run 2, n = 195, 36.0%) for boat fishermen and in the afternoon (run 4, 171, 27.1%) for shore fishermen (Table 63). Most shore fishermen were counted in zone 6 (n = 237, 37.6%) and most boat fishermen in zone 2 (141, 26.1%). Most shore fishermen

were observed in April in zones 1 and 8, in May and July in zone 1, and in June and from August through October in zone 6 (Appendixes 21-27). Most boat fishermen were counted in April and May in zone 8, in June and August in zone 2, in July in zone 7, and in September and October in zone 5.

Five fishermen who regularly fished on Schoharie Reservoir reported 47 angler trips and 99 angler days for a total of 581.5 hours (Table 64). Anglers 1, 2, 4, and 5 fished from boats and angler 3 fished from both shore and boat. Catch rates varied from 0.13 to 0.95 fish/hr for boat fishing; catch rate was 0.62 for shore fishing. Catch rates for walleye and rock bass were higher for boat fishermen, whereas those for yellow perch, brown bullhead, and rainbow trout were greater for the shore fisherman.

Catch per hour reported by the five anglers was greater than regular creel census data for May (0.87 vs 0.22 fish/hr), June (0.56 vs 0.37), September (0.47 vs 0.34), and October (0.66 vs 0.40) but was lower for July (0.29 vs 0.32) and August (0.27 vs 0.30) (Table 65, Appendixes 8-13). Combined catch rate for the five anglers was 0.42 fish/hr compared to 0.32 for creel census data for the period May through October. Eleven fishes (n = 247) were caught by the five anglers and their companions. Walleye (n = 125, 50.6%) comprised the greatest percentage of the total catch, followed by yellow perch (46, 18.6%) and rock bass (34, 13.8%).

1976 through 1978

Creel census data for 1976 and 1977 are for the period 1 April through 31 October; 1978 data are for the period 15 April through 31 October because the reservoir was not free of ice until 13 April 1978.

More boat fishermen were interviewed per hour in 1978 than in 1977 and 1976 (0.58, 0.51, and 0.41/hr, respectively) (Table 66). The number of

shore fishermen interviewed per hour was lower in 1978 compared to 1977 but similar to 1976 (1.05, 1.29, and 1.07/hr, respectively). Shore fishermen caught more fish per hour in 1978 than in either 1977 or 1976 (0.29, 0.16, and 0.18 fish/hr, respectively). The catch rate for boat fishermen was the same in 1978 as in 1977 (0.31 fish/hr) and less than in 1976 (0.53). Overall catch rate increased in 1978 (0.30 fish/hr) from 1977 (0.23) but was lower than in 1976 (0.34).

The percentage of walleye in the fishermen catch decreased from 1976 through 1978 (65.8%, 57.8%, and 35.9%, respectively) and of brown trout increased from 1976 to 1977 and then decreased in 1978 (1.3%, 1.8%, and 1.2%, respectively). The percentage of rock bass in the catch increased from 1976 through 1978 (2.1%, 7.7%, and 16.3%, respectively) as did that of rainbow trout (1.4%, 1.8%, and 2.0%, respectively). The percentage of yellow perch in the catch decreased from 1976 to 1977 but increased in 1978 (14.1%, 12.1%, and 21.2%, respectively); smallmouth bass catch followed the same pattern (3.7%, 1.0%, and 9.5%, respectively).

Estimated number of anglers and hours fished for 1978 (estimated using 1976 and 1977 data combined, together with 1978 weekend data) was less than in either 1977 or 1976 (3523, 5359, and 4603 anglers; 10,225, 20,863, and 15,152 hours, respectively) (Table 67).

The reduction of angler use and percentage of walleye in the total catch in 1978 is probably reflective of the new state fishing regulations, which limit the number and size of walleye in the creel. Fishermen who previously could keep 10 walleye of any size are now restricted to five walleye 381 mm and greater and could possibly have reduced their fishing effort as a result.

Summary

1. Eleven fishes (n = 643) were harvested by 769 fishermen in 2128.50 hours from 16 April through 29 October 1978.

2. Walleye (n = 231, 35.9%) was most abundant, followed by yellow perch (136, 21.2%) and rock bass (105, 16.3%).

3. Of the 769 anglers, 236 (30.7%) were residents of Gilboa, Prattsville, Grand Gorge, Conesville, and West Conesville, New York.

4. Boat fishermen fished longer per trip than shore fishermen (5.27 vs 2.30 hr) and harvested about the same number of fish per hour (0.31 vs 0.29 fish/hr).

5. The most fishermen were interviewed per hour in April (1.91/hr) and the least in October (0.64).

6. Catch per hour was highest in October (0.40 fish/hr) and lowest in April (0.09).

7. The mean length of walleye harvested was 433 mm; rainbow trout, 371 mm; and brown trout, 373 mm.

8. Most shore fishermen were interviewed in zone 6 (n = 150, 30.2%).

9. Shore fishermen interviewed fished most often in zones 6 and 1 (225.50 and 217.25 hr, respectively) and caught the most per hour in zone 3 (2.71 fish/hr).

10. An estimated 1791 anglers fished an estimated 5518 hours and harvested an estimated 1630 fish on weekend days and holidays from 15 April through 31 October 1978.

11. The highest estimate of shore anglers was in May (n = 254) and of boat anglers in July (156).

12. Of the nonresident fishing parties, 21.7% (n = 57) traveled over

100 mi to fish.

13. Fishing quality for pan fish and game fish was regarded as fair by most (26.4% each) fishing parties.

14. The majority (59.4%) of fishing parties interviewed fished for any species.

15. Instantaneous counts were highest in the morning (run 2) for boat fishermen and in the afternoon (run 4) for shore fishermen.

16. Most boat fishermen were counted in zone 2 and most shore fishermen in zone 6.

17. Five fishermen and their companions who regularly fished on Schoharie Reservoir reported 47 trips, fished 99 angler days, and caught 11 fishes (n = 247) in 581.5 hours.

18. More boat fishermen were interviewed per hour in 1978 than in 1977 and 1976.

19. More shore fishermen were interviewed per hour in 1977 than in 1978 and 1976.

20. Catch rate in 1978 was higher than in 1977 but lower than in 1976.

21. The percentage of walleye in the angler catch decreased from 1976 through 1978.

22. Estimated total number of anglers and hours fished for 1978 was less than in either 1977 or 1976.

Table 54. Dates during which a creel census was conducted from April through October 1978 on Schoharie Reservoir.

Month	Day	
Apr	16	Sunday
	23	Sunday
	30	Sunday
May	7	Sunday
	13	Saturday
	20	Saturday
	21	Sunday
	27	Saturday
	29	Monday
Jun	3	Saturday
	10	Saturday
	17	Saturday
	18	Sunday
	24	Saturday
	25	Sunday
Jul	8	Saturday
	15	Saturday
	16	Sunday
	22	Saturday
	23	Sunday
	30	Sunday
Aug	5	Saturday
	12	Saturday
	13	Sunday
	20	Sunday
	26	Saturday
	27	Sunday
Sep	4	Monday
	9	Saturday
	10	Sunday
	24	Sunday
	30	Saturday
Oct	7	Saturday
	8	Sunday
	21	Saturday
	22	Sunday
	28	Saturday
	29	Sunday

Table 55. Creel census data collected in 473 hours from April through October 1978 on Schoharie Reservoir.

	Shore Fishermen			Boat Fishermen			Total		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Fishermen interviewed:									
Resident	186	37.5		50	18.3		236	30.7	
Non-resident	310	62.5		223	81.7		533	69.3	
Total	496			273			769		
Per hour	1.05			0.58			1.63		
Parties interviewed:									
Resident	95	39.7		29	19.6		124	32.0	
Non-resident	144	60.3		119	80.4		263	68.0	
Total	239			148			387		
Per hour	0.51			0.31			0.82		
Fish caught:									
Walleye	38	14.2	0.04	193	51.5	0.16	231	35.9	0.11
Yellow perch	44	16.4	0.05	92	24.5	0.08	136	21.2	0.06
Rock bass	77	28.7	0.08	28	7.5	0.02	105	16.3	0.05
Smallmouth bass	45	16.8	0.05	16	4.3	0.01	61	9.5	0.03
Brown bullhead	22	8.2	0.02	29	7.7	0.02	51	7.9	0.02
Pumpkinseed	13	4.9	0.01	8	2.1	0.01	21	3.3	0.01
Rainbow trout	12	4.5	0.01	1	0.3	0.01	13	2.0	0.01
Largemouth bass	7	2.6	0.01	3	0.8	0.01	10	1.6	0.01
Brown trout	6	2.2	0.01	2	0.5	0.01	8	1.2	0.01
White sucker	4	1.5	0.01	-	-	-	4	0.6	0.01
Chain pickerel	-	-	-	3	0.8	0.01	3	0.5	0.01
Total	268			375			643		
Per hour			0.29			0.31			0.30
Hours fished:									
Total	927.00			1201.50			2128.50		

Table 56. Mean length and mean weight of game and pan fishes collected by creel census from April through October 1978 on Schoharie Reservoir.

Species	Number	Mean Length (mm)	SD-L[1]	R-L[2]	Number	Mean Weight (g)	SD-W[3]	R-W[4]
Walleye	231	433	87.3	312-836	231	823	588.9	344-4593
Yellow perch	136	258	33.4	209-312	136	239	58.3	108-462
Rock bass	105	216	23.9	131-285	105	237	59.2	89-410
Smallmouth bass	61	331	50.6	241-465	61	607	281.9	280-1588
Brown bullhead	51	314	21.8	279-361	51	426	118.6	241-771
Pumpkinseed	21	181	22.1	151-219	21	180	41.6	106-285
Rainbow trout	13	371	92.3	207-537	11	637	311.3	230-1361
Largemouth bass	10	399	52.0	309-452	9	910	357.7	463-1616
Brown trout	8	373	75.1	300-515	8	593	253.2	340-998
Chain pickerel	3	549	154.4	410-715	3	1207	749.5	531-2013

[1]SD-L = standard deviation of mean length, [2]R-L = length range, [3]SD-W = standard deviation of mean weight, [4]R-W = weight range.

Table 57. Locations of shore fishermen interviewed by month from April through October 1978 on Schoharie Reservoir.

Zone	Kilometers of Shoreline	% of Total Shoreline	Apr Fishermen Interviewed						May Fishermen Interviewed					
			Resident		Non-resident		Total		Resident		Non-resident		Total	
			#	%	#	%	#	%	#	%	#	%	#	%
6 (Manorkill Falls area)	2.4	8.6	13	33.3	2	11.1	15	26.3	4	9.8	19	26.4	23	20.4
1 (Hardenburgh Falls area)	2.4	8.6	14	35.9	9	50.0	23	40.4	21	51.2	29	40.3	50	44.2
2 (Devasego Falls area)	1.4	5.0	-	-	-	-	-	-	1	2.4	4	5.6	5	4.4
8 (above Devasego Falls area)	1.3	4.6	12	30.8	7	38.9	19	33.3	15	36.6	12	16.7	27	23.9
5 (Pine Mt. Bay area)	3.1	11.1	-	-	-	-	-	-	-	-	2	2.8	2	1.8
7 (Gilboa Dam area)	6.8	24.3	-	-	-	-	-	-	-	-	-	-	-	-
4 (East Shore area)	6.3	22.5	-	-	-	-	-	-	-	-	1	1.4	1	0.9
3 (Shandaken Tunnel area)	4.3	15.4	-	-	-	-	-	-	-	-	5	6.9	5	4.4
Total	28.0		39		18		57		41		72		113	

Zone	Jun Fishermen Interviewed						Jul Fishermen Interviewed						Aug Fishermen Interviewed					
	Resident		Non-resident		Total		Resident		Non-resident		Total		Resident		Non-resident		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
6	3	11.5	8	33.3	11	22.0	-	-	17	30.4	17	22.4	1	3.3	33	55.9	34	38.2
1	12	46.2	2	8.3	14	28.0	11	55.0	21	37.5	32	42.1	4	13.3	1	1.7	5	5.6
2	-	-	-	-	-	-	3	15.0	11	19.6	14	18.4	20	66.7	11	18.6	31	34.8
8	2	7.7	2	8.3	4	8.0	4	20.0	-	-	4	5.3	-	-	-	-	-	-
5	9	34.6	12	50.0	21	42.0	-	-	6	10.7	6	7.9	-	-	2	3.4	2	2.2
7	-	-	-	-	-	-	2	10.0	-	-	2	2.6	4	13.3	5	8.5	9	10.1
4	-	-	-	-	-	-	-	-	1	1.8	1	1.3	1	3.3	7	11.9	8	9.0
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	26		24		50		20		56		76		30		59		89	

Zone	Sep Fishermen Interviewed						Oct Fishermen Interviewed						Apr-Oct Fishermen Interviewed					
	Resident		Non-resident		Total		Resident		Non-resident		Total		Resident		Non-resident		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
6	5	29.4	34	52.3	39	47.6	2	15.4	9	56.3	11	37.9	28	15.1	122	39.4	150	30.2
1	-	-	2	3.1	2	2.4	-	-	-	-	-	-	62	33.3	64	20.6	126	25.4
2	4	23.5	3	4.6	7	8.5	11	84.6	4	25.0	15	51.7	39	21.0	33	10.6	72	14.5
8	-	-	-	-	-	-	-	-	-	-	-	-	33	17.7	21	6.8	54	10.9
5	4	23.5	12	18.5	16	19.5	-	-	2	12.5	2	6.9	13	7.0	36	11.6	49	9.9
7	4	23.5	10	15.4	14	17.1	-	-	-	-	-	-	10	5.4	15	4.8	25	5.0
4	-	-	4	6.2	4	4.9	-	-	1	6.3	1	3.4	1	0.5	14	4.5	15	3.0
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	1.6	5	1.0
Total	17		65		82		13		16		29		186		310		496	

Table 58. Fishes caught by zone by shore fishermen from April through October 1978 on Schoharie Reservoir.

Zone	1		2		3		4		5		6		7		8	
Species	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr
Walleye	3	0.01	7	0.04	-	-	8	0.20	4	0.04	13	0.06	1	0.03	2	0.02
Yellow perch	9	0.04	2	0.01	-	-	4	0.10	9	0.10	9	0.04	4	0.10	7	0.06
Rock bass	5	0.02	8	0.04	19	2.71	7	0.18	14	0.15	17	0.08	7	0.18	-	-
Smallmouth bass	10	0.05	23	0.13	-	-	3	0.08	1	0.01	8	0.04	-	-	-	-
Brown bullhead	8	0.04	2	0.01	-	-	2	0.05	1	0.01	-	-	-	-	9	0.07
Pumpkinseed	1	0.01	1	0.01	-	-	3	0.08	4	0.04	2	0.01	2	0.05	-	-
Rainbow trout	4	0.02	-	-	-	-	-	-	-	-	6	0.03	-	-	2	0.02
Largemouth bass	5	0.02	1	0.01	-	-	-	-	1	0.01	-	-	-	-	-	-
Brown trout	2	0.01	2	0.01	-	-	-	-	-	-	1	0.01	-	-	1	0.01
White sucker	3	0.01	-	-	-	-	-	-	-	-	-	-	-	-	1	0.01
Number of fish	50		46		19		27		34		56		14		22	
Number of fishes	10		8		1		6		7		7		4		6	
Total hours fished	217.25		178.00		7.00		39.75		94.25		225.50		40.00		125.25	
Catch per hour		0.23		0.26		2.71		0.68		0.36		0.25		0.35		0.18

Table 59. Estimated angler use on weekends and holidays from 15 April through 31 October 1978 on Schoharie Reservoir.

	Estimated Number of Anglers			Estimated Number of Hours Fished		
Month	Shore	Boat	Total	Shore	Boat	Total
Apr	218	32	250	385	90	475
May	254	67	321	635	332	967
Jun	149	95	244	320	546	866
Jul	205	156	361	588	715	1303
Aug	208	76	284	485	442	927
Sep	191	46	237	469	280	749
Oct	74	20	94	139	92	231
Total	1299	492	1791	3021	2497	5518

Table 60. Estimated angler success on weekends and holidays from 15 April through 31 October 1978 on Schoharie Reservoir.

Species	Estimated Number of Fish Caught		
	Shore	Boat	Total
Walleye	127	399	526
Yellow perch	149	175	324
Rock bass	248	54	302
Smallmouth bass	156	35	191
Brown bullhead	67	64	131
Pumpkinseed	47	14	61
Rainbow trout	34	2	36
Largemouth bass	25	6	31
Brown trout	18	4	22
Chain pickerel	-	6	6
Total	871	759	1630

Table 61. Angler opinions regarding fishing quality for pan fish and for game fish. Responses obtained from creel census questionnaires completed from April through October 1978 on Schoharie Reservoir.

	Excellent		Good		Fair		Poor		No Opinion	
	#	%	#	%	#	%	#	%	#	%
Pan fish:										
Resident (n=124)	8	6.5	33	26.6	44	35.5	30	24.2	9	7.3
Non-resident (n=263)	40	15.2	65	24.7	58	22.1	45	17.1	55	20.9
Total (n=387)	48	12.4	98	25.3	102	26.4	75	19.4	64	16.5
Game fish:										
Resident (n=124)	10	8.1	33	26.6	43	34.7	30	24.2	8	6.5
Non-resident (n=263)	38	14.4	67	25.5	59	22.4	46	17.5	53	20.2
Total (n=387)	48	12.4	100	25.8	102	26.4	76	19.6	61	15.8

Table 62. Angler opinions regarding catch preferences. Responses obtained from creel census questionnaires completed from April through October 1978 on Schoharie Reservoir.

Species	Resident #	Resident %	Non-resident #	Non-resident %	Total #	Total %
Anything	83	66.9	147	55.9	230	59.4
Walleye	19	15.3	91	34.6	110	28.4
Trout*	6	4.8	9	3.4	15	3.9
Bass**	8	6.5	3	1.1	11	2.8
Walleye and trout	4	3.2	3	1.1	7	1.8
Walleye and bass	2	1.6	1	0.4	3	0.8
Trout and white sucker	-	-	3	1.1	3	0.8
Walleye and yellow perch	-	-	2	0.8	2	0.5
Walleye, bass, and trout	-	-	2	0.8	2	0.5
Bass and trout	1	0.8	-	-	1	0.3
Trout and cisco	-	-	1	0.4	1	0.3
Rock bass	-	-	1	0.4	1	0.3
White sucker	1	0.8	-	-	1	0.3
Total	124		263		387	

* Trout = rainbow trout or brown trout or both.
** Bass = largemouth bass or smallmouth bass or both.

Table 63. Instantaneous angler count by zone collected from April through October 1978 on Schoharie Reservoir.

Run	1 (0730)		2 (1030)		3 (1330)		4 (1630)		5 (1930)		Combined	
Zone	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat
1	19	13	37	11	41	3	42	3	21	-	160	30
2	11	37	20	57	14	31	21	12	16	4	82	141
3	-	9	-	29	1	31	4	6	4	6	9	81
4	2	8	4	30	6	10	7	4	-	-	19	52
5	8	23	6	26	11	33	6	19	1	5	32	106
6	34	-	50	9	54	8	62	4	37	-	237	21
7	3	14	6	21	6	25	3	7	2	-	20	67
8	6	2	9	12	17	16	26	12	14	1	72	43
Total	83	106	132	195	150	157	171	67	95	16	631	541

Table 64. Summary of angler diary data reported by five fishermen from May through October 1978 on Schoharie Reservoir.

	Angler 1			Angler 2			Angler 3			Angler 3			Angler 4			Angler 5			Combined		
Fishing Location	Boat			Boat			Boat			Shore			Boat			Boat					
No. of Angler Days	33			20			4			11			8			23			99		
No. of Trips	15			7			3			8			3			11			47		
Total Hours Fished	276.5			129.0			16.0			21.0			44.0			95.0			581.5		
Dates	15 Jul-24 Sep			10 Jun-21 Sep			4 Jun-20 Aug			6 May-22 Oct			28 May-10 Jun			29 May-7 Oct			6 May-22 Oct		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Fish caught:																					
Walleye	45	59.2	0.16	11	45.8	0.09	-	-	-	-	-	-	37	88.1	0.84	32	35.6	0.34	125	50.6	0.21
Yellow perch	22	28.9	0.08	4	16.7	0.03	-	-	-	4	30.8	0.19	-	-	-	16	17.8	0.17	46	18.6	0.08
Rock bass	1	1.3	0.01	-	-	-	-	-	-	-	-	-	5	11.9	0.11	28	31.1	0.29	34	13.8	0.06
Pumpkinseed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	12.2	0.12	11	4.5	0.02
Brown bullhead	3	3.9	0.01	3	12.5	0.02	-	-	-	5	38.5	0.24	-	-	-	-	-	-	11	4.5	0.02
Smallmouth bass	1	1.3	0.01	4	16.7	0.03	-	-	-	1	7.7	0.05	-	-	-	1	1.1	0.01	7	2.8	0.01
Brown trout	1	1.3	0.01	1	4.2	0.01	2	100	0.13	-	-	-	-	-	-	-	-	-	4	1.6	0.01
Chain pickerel	1	1.3	0.01	1	4.2	0.01	-	-	-	1	7.7	0.05	-	-	-	-	-	-	3	1.2	0.01
Trout*	2	2.6	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.8	0.01
Rainbow trout	-	-	-	-	-	-	-	-	-	2	15.4	0.10	-	-	-	-	-	-	2	0.8	0.01
Largemouth bass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1.1	0.01	1	0.4	0.01
Bluegill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1.1	0.01	1	0.4	0.01
Total	76			24			2			13			42			90			247		
Per hour			0.27			0.19			0.13			0.62			0.95			0.95			0.42

* Trout = rainbow trout or brown trout or both.

Table 65. Summary of angler diary data by month reported by five fishermen from May through October 1978 on Schoharie Reservoir.

Month	May			Jun			Jul			Aug			Sep			Oct			May-Oct		
No. of Angler Days	7			18			24			18			23			9			99		
No. of Trips	4			10			10			9			10			4			47		
Total Hours Fished	27.5			98.5			162.0			117.0			146.0			30.5			581.5		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Fish caught:																					
Walleye	15	62.5	0.55	43	78.2	0.44	27	57.4	0.17	8	25.0	0.07	31	44.9	0.21	1	5.0	0.03	125	50.6	0.21
Yellow perch	-	-	-	1	1.8	0.01	8	17.0	0.05	9	28.1	0.08	21	30.4	0.14	7	35.0	0.23	46	18.6	0.08
Rock bass	2	8.3	0.07	6	10.9	0.06	4	8.5	0.02	5	15.6	0.04	9	13.0	0.06	8	40.0	0.26	34	13.8	0.06
Pumpkinseed	-	-	-	-	-	-	-	-	-	8	25.0	0.07	3	4.3	0.02	-	-	-	11	4.5	0.02
Brown bullhead	5	20.8	0.18	3	5.5	0.03	3	6.4	0.02	-	-	-	-	-	-	-	-	-	11	4.5	0.02
Smallmouth bass	-	-	-	-	-	-	4	8.5	0.02	-	-	-	1	1.4	0.01	2	10.0	0.07	7	2.8	0.01
Brown trout	-	-	-	2	3.6	0.02	1	2.1	0.01	1	3.1	0.01	-	-	-	-	-	-	4	1.6	0.01
Chain pickerel	-	-	-	-	-	-	-	-	-	1	3.1	0.01	1	1.4	0.01	1	5.0	0.03	3	1.2	0.01
Trout*	-	-	-	-	-	-	-	-	-	-	-	-	2	2.9	0.01	-	-	-	2	0.8	0.01
Rainbow trout	2	8.3	0.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.8	0.01
Largemouth bass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5.0	0.03	1	0.4	0.01
Bluegill	-	-	-	-	-	-	-	-	-	-	-	-	1	1.4	0.01	-	-	-	1	0.4	0.01
Total	24			55			47			32			69			20			247		
Per hour			0.87			0.56			0.29			0.27			0.47			0.66			0.42

* Trout = rainbow trout or brown trout or both.

Table 66. Creel census data collected on weekdays, weekend days, and holidays from April through October in 1429 hours in 1976 and 760 hours in 1977 and on weekend days and holidays in 473 hours in 1978 on Schoharie Reservoir.

	1976									1977								
	Shore Fishermen			Boat Fishermen			Total			Shore Fishermen			Boat Fishermen			Total		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Fishermen interviewed:																		
Resident	396	25.9		66	11.1		462	21.8		251	25.5		63	16.3		314	22.9	
Non-resident	1131	74.1		526	88.9		1657	78.2		733	74.5		323	83.7		1056	77.1	
Total	1527			592			2119			984			386			1370		
Per hour	1.07			0.41			1.48			1.29			0.51			1.80		
Parties interviewed:																		
Resident	194	28.9		36	12.0		230	23.7		129	27.2		38	20.1		167	25.2	
Non-resident	478	71.1		263	88.0		741	76.3		345	72.8		151	79.9		496	74.8	
Total	672			299			971			474			189			663		
Per hour	0.47			0.21			0.68			0.62			0.25			0.87		
Fish caught:																		
Walleye	156	33.1	0.06	939	78.8	0.42	1095	65.8	0.22	55	16.1	0.03	520	79.5	0.24	575	57.8	0.13
Yellow perch	72	15.3	0.03	163	13.7	0.07	235	14.1	0.05	52	15.2	0.02	68	10.4	0.03	120	12.1	0.03
Brown bullhead	131	27.8	0.05	13	1.1	0.01	144	8.7	0.03	115	33.7	0.05	14	2.1	0.01	129	13.0	0.03
Smallmouth bass	33	7.0	0.01	28	2.4	0.01	61	3.7	0.01	10	2.9	0.01	-	-	-	10	1.0	0.01
Rock bass	21	4.4	0.01	14	1.2	0.01	35	2.1	0.01	44	12.9	0.02	33	5.0	0.02	77	7.7	0.02
Rainbow trout	14	3.0	0.01	9	0.8	0.01	23	1.4	0.01	15	4.4	0.01	3	0.5	0.01	18	1.8	0.01
Brown trout	22	4.7	0.01	-	-	-	22	1.3	0.01	17	5.0	0.01	1	0.2	0.01	18	1.8	0.01
Largemouth bass	6	1.3	0.01	10	0.8	0.01	16	1.0	0.01	10	2.9	0.01	6	0.9	0.01	16	1.6	0.01
Pumpkinseed	6	1.3	0.01	9	0.8	0.01	15	0.9	0.01	5	1.5	0.01	2	0.3	0.01	7	0.7	0.01
Chain pickerel	3	0.6	0.01	6	0.5	0.01	9	0.5	0.01	1	0.3	0.01	5	0.8	0.01	6	0.6	0.01
White sucker	5	1.1	0.01	-	-	-	5	0.3	0.01	13	3.8	0.01	-	-	-	13	1.3	0.01
Redbreast sunfish	1	0.2	0.01	-	-	-	1	0.1	0.01	1	0.3	0.01	1	0.2	0.01	2	0.2	0.01
Green sunfish	1	0.2	0.01	-	-	-	1	0.1	0.01	-	-	-	-	-	-	-	-	-
Golden shiner	1	0.2	0.01	-	-	-	1	0.1	0.01	-	-	-	-	-	-	-	-	-
Bluegill	-	-	-	-	-	-	-	-	-	1	0.3	0.01	1	0.2	0.01	2	0.2	0.01
Brook trout	-	-	-	-	-	-	-	-	-	1	0.3	0.01	-	-	-	1	0.1	0.01
Carp	-	-	-	-	-	-	-	-	-	1	0.3	0.01	-	-	-	1	0.1	0.01
Total	472			1191			1663			341			654			995		
Per hour			0.18			0.53			0.34			0.16			0.31			0.23
Hours fished:																		
Total	2643.00			2228.75			4871.75			2192.75			2123.75			4316.50		

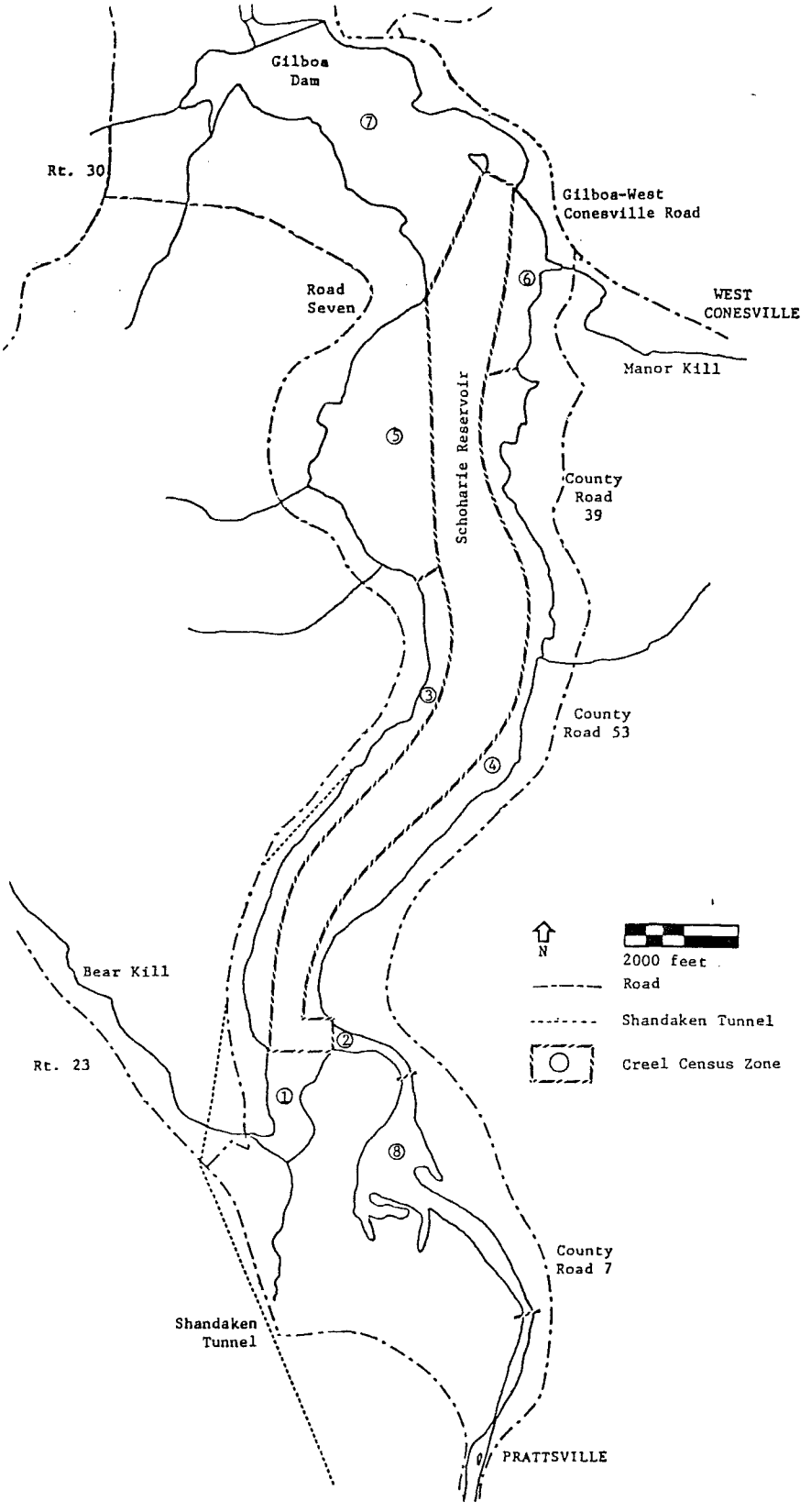
Table 66 - (Continued).

	1978								
	Shore Fishermen			Boat Fishermen			Total		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Fishermen interviewed:									
Resident	186	37.5		50	18.3		236	30.7	
Non-resident	310	62.5		223	81.7		533	69.3	
Total	496			273			769		
Per hour	1.05			0.58			1.63		
Parties interviewed:									
Resident	95	39.7		29	19.6		124	32.0	
Non-resident	144	60.3		119	80.4		263	68.0	
Total	239			148			387		
Per hour	0.51			0.31			0.82		
Fish caught:									
Walleye	38	14.2	0.04	193	51.5	0.16	231	35.9	0.11
Yellow perch	44	16.4	0.05	92	24.5	0.08	136	21.2	0.06
Brown bullhead	22	8.2	0.02	29	7.7	0.02	51	7.9	0.02
Smallmouth bass	45	16.8	0.05	16	4.3	0.01	61	9.5	0.03
Rock bass	77	28.7	0.08	28	7.5	0.02	105	16.3	0.05
Rainbow trout	12	4.5	0.01	1	0.3	0.01	13	2.0	0.01
Brown trout	6	2.2	0.01	2	0.5	0.01	8	1.2	0.01
Largemouth bass	7	2.6	0.01	3	0.8	0.01	10	1.6	0.01
Pumpkinseed	13	4.9	0.01	8	2.1	0.01	21	3.3	0.01
Chain pickerel	-	-	-	3	0.8	0.01	3	0.5	0.01
White sucker	4	1.5	0.01	-	-	-	4	0.6	0.01
Redbreast sunfish	-	-	-	-	-	-	-	-	-
Green sunfish	-	-	-	-	-	-	-	-	-
Golden shiner	-	-	-	-	-	-	-	-	-
Bluegill	-	-	-	-	-	-	-	-	-
Brook trout	-	-	-	-	-	-	-	-	-
Carp	-	-	-	-	-	-	-	-	-
Total	268			375			643		
Per hour			0.29			0.31			0.30
Hours fished:									
Total	927.00			1201.50			2128.50		

Table 67. Estimated angler use from 1 April through 31 October 1976 and 1977 and from 15 April through 31 October 1978 on Schoharie Reservoir.

	Estimated Number of Anglers							Estimated Number of Hours Fished						
	Weekdays		Weekends and Holidays					Weekdays		Weekends and Holidays				
Year	Shore	Boat	Shore	Boat	Shore Total	Boat Total	Grand Total	Shore	Boat	Shore	Boat	Shore Total	Boat Total	Grand Total
1976	2046	377	1640	540	3686	917	4603	5781	1573	4786	3012	10567	4585	15152
1977	1951	524	2019	865	3970	1389	5359	5962	3264	6074	5563	12036	8827	20863
1978	1419*	314*	1299	492	2718*	806*	3523*	3266*	1409*	3021	2497	6287*	3906*	10225*

* Estimates based on 1976 and 1977 data.



Map 14. Creel census zones 1-8 sampled from April through October 1978 on Schoharie Reservoir.

INSTANTANEOUS ANGLER COUNT ON SCHOHARIE RESERVOIR Date _____

#1 Time Start _____
Time Finish _____

Zone	Shore	Boat	
1			
2			
3			
4			
5			
6			
7			Grand Total
8	____	____	
Total			____

#2 Time Start _____
Time Finish _____

Zone	Shore	Boat	
1			
2			
3			
4			
5			
6			
7			Grand Total
8	____	____	
Total			____

#3 Time Start _____
Time Finish _____

Zone	Shore	Boat	
1			
2			
3			
4			
5			
6			
7			Grand Total
8	____	____	
Total			____

#4 Time Start _____
Time Finish _____

Zone	Shore	Boat	
1			
2			
3			
4			
5			
6			
7			Grand Total
8	____	____	
Total			____

#5 Time Start _____
Time Finish _____

Zone	Shore	Boat	
1			
2			
3			
4			
5			
6			
7			Grand Total
8	____	____	
Total			____

Weather _____

#1 Air temp _____ Water temp _____

#2 Air temp _____ Water temp _____

#3 Air temp _____ Water temp _____

#4 Air temp _____ Water temp _____

#5 Air temp _____ Water temp _____

Taken mid-Reservoir in front of pump house.

Fig. 7. Form used to record instantaneous angler counts from April through October 1978 on Schoharie Reservoir.

SCHOHARIE VALLEY ECOLOGICAL STUDY
ICHTHYOLOGICAL ASSOCIATES, INC.

CREEL CENSUS DATA
SCHOHARIE RESERVOIR

Census Taker _____

Date _____

Location _____

Boat _____ Shore _____

No. Fishermen in Party _____

Ages: Male _____

Female _____

Residence _____

Distance Traveled (miles) _____

Bait Used _____

Total No. Fishing Poles Used by Party _____

Time Start _____

Time Checked _____

Time Rechecked _____

Time Rechecked _____

Time Rechecked _____

How Party Rates the Pan Fishing:

ex___ good___ fair___ poor___ no opinion_____

How Party Rates the Game Fishing:

ex___ good___ fair___ poor___ no opinion_____

Fishes Party is Fishing for: anything _____

game fish: walleye___ bass___ chain pickerel___ trout___

pan fish: rock bass___ yellow perch___ sunfish___ bullhead___

other (list) _____

General Notes:

Fish Caught:

Species	Length (mm)	Weight	Marks, etc.
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			

Continued on back (check box) ☐

Fig. 8. Form used to record creel census data from April through October 1978 on Schoharie Reservoir.

ICHTHYOLOGICAL ASSOCIATES

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SCHOHARIE RESERVOIR ANGLER DIARY

Angler's Name _____

Date (1977)					
Boat or Shore					
Number in Fishing Party					
Total Hours Fished by Party					
	Species /	Species /	Species /	Species /	Species /
List Fish Caught & Kept and Numbers of Each 1					
2					
3					
4					
5					
6					
Place X if Checked by IA Census Agent					

Fig. 9. Form used to record angler diary data from May through October 1978 on Schoharie Reservoir.

Appendix 7. Creel census data collected in 35 hours in April 1978 on Schoharie Reservoir.

	Shore Fishermen			Boat Fishermen			Total		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Fishermen interviewed:									
Resident	39	68.4		0	0.0		39	58.2	
Non-resident	18	31.6		10	100		28	41.8	
Total	57			10			67		
Per hour	1.63			0.29			1.91		
Parties interviewed:									
Resident	20	66.7		0	0.0		20	58.8	
Non-resident	10	33.3		4	100		14	41.2	
Total	30			4			34		
Per hour	0.86			0.11			0.97		
Fish caught:									
Brown trout	3	33.3	0.03	1	33.3	0.03	4	33.3	0.03
Rainbow trout	2	22.2	0.02	1	33.3	0.03	3	25.0	0.02
White sucker	3	33.3	0.03	-	-	-	3	25.0	0.02
Walleye	1	11.1	0.01	-	-	-	1	8.3	0.01
Smallmouth bass	-	-	-	1	33.3	0.03	1	8.3	0.01
Total	9			3			12		
Per hour			0.09			0.08			0.09
Hours fished:									
Total	95.75			36.25			132.00		

Appendix 8. Creel census data collected in 78 hours in May 1978 on Schoharie Reservoir.

	Shore Fishermen			Boat Fishermen			Total		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Fishermen interviewed:									
Resident	41	36.3		9	28.1		50	34.5	
Non-resident	72	63.7		23	71.9		95	65.5	
Total	113			32			145		
Per hour	1.45			0.41			1.86		
Parties interviewed:									
Resident	21	39.6		5	23.8		26	35.1	
Non-resident	32	60.4		16	76.2		48	64.9	
Total	53			21			74		
Per hour	0.68			0.27			0.95		
Fish caught:									
Brown bullhead	15	27.8	0.06	9	28.1	0.06	24	27.9	0.06
Walleye	2	3.7	0.01	18	56.3	0.13	20	23.3	0.05
Rock bass	20	37.0	0.08	-	-	-	20	23.3	0.05
Yellow perch	8	14.8	0.03	4	12.5	0.03	12	14.0	0.03
Rainbow trout	8	14.8	0.03	-	-	-	8	9.3	0.02
Brown trout	-	-	-	1	3.1	0.01	1	1.2	0.01
White sucker	1	1.9	0.01	-	-	-	1	1.2	0.01
Total	54			32			86		
Per hour			0.22			0.22			0.22
Hours fished:									
Total	250.50			143.25			393.75		

Appendix 9. Creel census data collected in 78 hours in June 1978 on Schoharie Reservoir.

	Shore Fishermen			Boat Fishermen			Total		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Fishermen interviewed:									
Resident	26	52.0		21	26.6		47	36.4	
Non-resident	24	48.0		58	73.4		82	63.6	
Total	50			79			129		
Per hour	0.64			1.01			1.65		
Parties interviewed:									
Resident	13	52.0		12	27.3		25	36.2	
Non-resident	12	48.0		32	72.7		44	63.8	
Total	25			44			69		
Per hour	0.32			0.56			0.88		
Fish caught:									
Walleye	4	10.3	0.05	67	55.8	0.20	71	44.7	0.17
Yellow perch	11	28.2	0.13	43	35.8	0.13	54	34.0	0.13
Rock bass	13	33.3	0.15	6	5.0	0.02	19	11.9	0.04
Brown bullhead	2	5.1	0.02	4	3.3	0.01	6	3.8	0.01
Smallmouth bass	5	12.8	0.06	-	-	-	5	3.1	0.01
Largemouth bass	2	5.1	0.02	-	-	-	2	1.3	0.01
Pumpkinseed	2	5.1	0.02	-	-	-	2	1.3	0.01
Total	39			120			159		
Per hour			0.46			0.35			0.37
Hours fished:									
Total	84.25			341.75			426.00		

Appendix 10. Creel census data collected in 78 hours in July 1978 on Schoharie Reservoir.

	Shore Fishermen			Boat Fishermen			Total		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Fishermen interviewed:									
Resident	20	26.3		8	12.9		28	20.3	
Non-resident	56	73.7		54	87.1		110	79.7	
Total	76			62			138		
Per hour	0.97			0.79			1.77		
Parties interviewed:									
Resident	10	27.8		4	12.5		14	20.6	
Non-resident	26	72.2		28	87.5		54	79.4	
Total	36			32			68		
Per hour	0.46			0.41			0.87		
Fish caught:									
Walleye	7	13.5	0.05	42	59.2	0.18	49	39.8	0.13
Yellow perch	10	19.2	0.07	15	21.1	0.06	25	20.3	0.07
Rock bass	11	21.2	0.08	5	7.0	0.02	16	13.0	0.04
Smallmouth bass	12	23.1	0.08	2	2.8	0.01	14	11.4	0.04
Brown bullhead	5	9.6	0.04	7	9.9	0.03	12	9.8	0.03
Pumpkinseed	5	9.6	0.04	-	-	-	5	4.1	0.01
Largemouth bass	2	3.8	0.01	-	-	-	2	1.6	0.01
Total	52			71			123		
Per hour			0.37			0.30			0.32
Hours fished:									
Total	142.00			237.50			379.50		

Appendix 11. Creel census data collected in 78 hours in August 1978 on Schoharie Reservoir.

	Shore Fishermen			Boat Fishermen			Total		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Fishermen interviewed:									
Resident	30	33.7		7	14.6		37	27.0	
Non-resident	59	66.3		41	85.4		100	73.0	
Total	89			48			137		
Per hour	1.14			0.62			1.76		
Parties interviewed:									
Resident	14	34.1		4	16.7		18	27.7	
Non-resident	27	65.9		20	83.3		47	72.3	
Total	41			24			65		
Per hour	0.53			0.31			0.83		
Fish caught:									
Walleye	6	12.8	0.04	34	44.2	0.14	40	32.3	0.10
Yellow perch	5	10.6	0.03	17	22.1	0.07	22	17.7	0.05
Rock bass	15	31.9	0.09	7	9.1	0.03	22	17.7	0.05
Smallmouth bass	16	34.0	0.10	2	2.6	0.01	18	14.5	0.04
Pumpkinseed	2	4.3	0.01	8	10.4	0.03	10	8.1	0.02
Brown bullhead	-	-	-	8	10.4	0.03	8	6.5	0.02
Largemouth bass	1	2.1	0.01	1	1.3	0.01	2	1.6	0.01
Rainbow trout	1	2.1	0.01	-	-	-	1	0.8	0.01
Brown trout	1	2.1	0.01	-	-	-	1	0.8	0.01
Total	47			77			124		
Per hour			0.30			0.31			0.30
Hours fished:									
Total	159.25			249.75			409.00		

Appendix 12. Creel census data collected in 60 hours in September 1978 on Schoharie Reservoir.

	Shore Fishermen			Boat Fishermen			Total		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Fishermen interviewed:									
Resident	17	20.7		4	13.8		21	18.9	
Non-resident	65	79.3		25	86.2		90	81.1	
Total	82			29			111		
Per hour	1.37			0.48			1.85		
Parties interviewed:									
Resident	10	27.0		3	18.8		13	24.5	
Non-resident	27	73.0		13	81.3		40	75.5	
Total	37			16			53		
Per hour	0.62			0.27			0.88		
Fish caught:									
Walleye	14	26.4	0.09	28	60.9	0.21	42	42.4	0.15
Rock bass	18	34.0	0.12	2	4.3	0.01	20	20.2	0.07
Smallmouth bass	4	7.5	0.03	10	21.7	0.07	14	14.1	0.05
Yellow perch	10	18.9	0.07	2	4.3	0.01	12	12.1	0.04
Pumpkinseed	4	7.5	0.03	-	-	-	4	4.0	0.01
Chain pickerel	-	-	-	3	6.5	0.02	3	3.0	0.01
Largemouth bass	1	1.9	0.01	1	2.2	0.01	2	2.0	0.01
Brown trout	1	1.9	0.01	-	-	-	1	1.0	0.01
Rainbow trout	1	1.9	0.01	-	-	-	1	1.0	0.01
Total	53			46			99		
Per hour			0.35			0.34			0.34
Hours fished:									
Total	152.00			136.50			288.50		

Appendix 13. Creel census data collected in 66 hours in October 1978 on Schoharie Reservoir.

	Shore Fishermen			Boat Fishermen			Total		
	#	%	Catch/hr	#	%	Catch/hr	#	%	Catch/hr
Fishermen interviewed:									
Resident	13	44.8		1	7.7		14	33.3	
Non-resident	16	55.2		12	92.3		28	66.7	
Total	29			13			42		
Per hour	0.44			0.20			0.64		
Parties interviewed:									
Resident	7	41.2		1	14.3		8	33.3	
Non-resident	10	58.8		6	85.7		16	66.7	
Total	17			7			24		
Per hour	0.26			0.11			0.36		
Fish caught:									
Yellow perch	-	-	-	11	42.3	0.19	11	27.5	0.11
Smallmouth bass	8	57.1	0.18	1	3.8	0.02	9	22.5	0.09
Walleye	4	28.6	0.09	4	15.4	0.07	8	20.0	0.08
Rock bass	-	-	-	8	30.8	0.14	8	20.0	0.08
Largemouth bass	1	7.1	0.02	1	3.8	0.02	2	5.0	0.02
Brown trout	1	7.1	0.02	-	-	-	1	2.5	0.01
Brown bullhead	-	-	-	1	3.8	0.02	1	2.5	0.01
Total	14			26			40		
Per hour			0.32			0.46			0.40
Hours fished:									
Total	43.25			56.50			99.75		

Appendix 14. Fishes caught by zone by shore fishermen in April 1978 on Schoharie Reservoir.

Zone	1		2		3		4		5		6		7		8	
Species	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr
Brown trout	2	0.06	-	-	-	-	-	-	-	-	-	-	-	-	1	0.03
White sucker	3	0.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rainbow trout	1	0.03	-	-	-	-	-	-	-	-	1	0.03	-	-	-	-
Walleye	1	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of fish	7		-		-		-		-		1		-		1	
Number of fishes	4		-		-		-		-		1		-		1	
Total hours fished	36.25		-		-		-		-		30.00		-		29.50	
Catch per hour	0.19		-		-		-		-		0.03		-		0.03	

Appendix 15. Fishes caught by zone by shore fishermen in May 1978 on Schoharie Reservoir.

Zone	1		2		3		4		5		6		7		8	
Species	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr
Rock bass	1	0.01	-	-	19	2.71	-	-	-	-	-	-	-	-	-	-
Brown bullhead	8	0.08	-	-	-	-	-	-	-	-	-	-	-	-	7	0.09
Rainbow trout	3	0.03	-	-	-	-	-	-	-	-	3	0.11	-	-	2	0.03
Yellow perch	5	0.05	-	-	-	-	-	-	-	-	-	-	-	-	3	0.04
Walleye	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.03
White sucker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.01
Number of fish	17		-		19		-		-		3		-		15	
Number of fishes	4		-		1		-		-		1		-		5	
Total hours fished	100.5		34.5		7.00		0.50		6.00		27.25		-		74.75	
Catch per hour		0.17		0.00		2.71		0.00		0.00		0.11		-		0.20

Appendix 16. Fishes caught by zone by shore fishermen in June 1978 on Schoharie Reservoir.

Zone	1		2		3		4		5		6		7		8	
Species	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr
Yellow perch	4	0.18	-	-	-	-	-	-	5	0.15	-	-	-	-	2	0.12
Rock bass	-	-	-	-	-	-	-	-	8	0.24	5	0.41	-	-	-	-
Smallmouth bass	4	0.18	-	-	-	-	-	-	-	-	1	0.08	-	-	-	-
Walleye	1	0.05	-	-	-	-	-	-	1	0.03	2	0.16	-	-	-	-
Largemouth bass	2	0.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumpkinseed	-	-	-	-	-	-	-	-	2	0.06	-	-	-	-	-	-
Brown bullhead	-	-	-	-	-	-	-	-	1	0.03	-	-	-	-	1	0.06
Number of fish	11		-		-		-		17		8		-		3	
Number of fishes	4		-		-		-		4		3		-		2	
Total hours fished	22.00		-		-		-		33.00		12.25		-		17.00	
Catch per hour		0.50		-		-		-		0.52		0.65		-		0.18

Appendix 17. Fishes caught by zone by shore fishermen in July 1978 on Schoharie Reservoir.

Zone	1		2		3		4		5		6		7		8	
Species	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr
Smallmouth bass	6	0.13	3	0.07	-	-	-	-	1	0.05	2	0.11	-	-	-	-
Rock bass	4	0.08	3	0.07	-	-	-	-	1	0.05	3	0.16	-	-	-	-
Yellow perch	-	-	2	0.05	-	-	3	0.75	3	0.14	-	-	-	-	2	0.50
Walleye	1	0.02	3	0.07	-	-	1	0.25	2	0.09	-	-	-	-	-	-
Pumpkinseed	1	0.02	-	-	-	-	3	0.75	-	-	1	0.05	-	-	-	-
Brown bullhead	-	-	2	0.05	-	-	2	0.50	-	-	-	-	-	-	1	0.25
Largemouth bass	2	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of fish	14		13		-		9		7		6		-		3	
Number of fishes	5		5		-		4		4		3		-		2	
Total hours fished	47.75		41.25		-		4.00		21.50		18.50		5.00		4.00	
Catch per hour		0.29		0.32		-		2.25		0.33		0.32		0.00		0.75

Appendix 18. Fishes caught by zone by shore fishermen in August 1978 on Schoharie Reservoir.

Zone	1		2		3		4		5		6		7		8	
Species	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr
Smallmouth bass	-	-	11	0.19	-	-	3	0.13	-	-	2	0.04	-	-	-	-
Rock bass	-	-	5	0.08	-	-	4	0.18	-	-	2	0.04	4	0.33	-	-
Walleye	-	-	1	0.02	-	-	5	0.22	-	-	-	-	-	-	-	-
Yellow perch	-	-	-	-	-	-	-	-	-	-	3	0.06	2	0.16	-	-
Pumpkinseed	-	-	1	0.02	-	-	-	-	-	-	-	-	1	0.08	-	-
Rainbow trout	-	-	-	-	-	-	-	-	-	-	1	0.02	-	-	-	-
Largemouth bass	1	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brown trout	-	-	1	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Number of fish	1		19		-		12		-		8		7		-	
Number of fishes	1		5		-		3		-		4		3		-	
Total hours fished	8.75		59.00		-		22.75		3.00		53.50		12.25		-	
Catch per hour		0.11		0.32		-		0.53		0.00		0.15		0.57		-

Appendix 19. Fishes caught by zone by shore fishermen in September 1978 on Schoharie Reservoir.

Zone	1		2		3		4		5		6		7		8	
Species	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr
Rock bass	-	-	-	-	-	-	3	0.24	5	0.18	7	0.10	3	0.13	-	-
Walleye	-	-	1	0.06	-	-	2	0.16	1	0.04	9	0.13	1	0.04	-	-
Yellow perch	-	-	-	-	-	-	1	0.08	1	0.04	6	0.09	2	0.09	-	-
Smallmouth bass	-	-	2	0.13	-	-	-	-	-	-	2	0.03	-	-	-	-
Pumpkinseed	-	-	-	-	-	-	-	-	2	0.07	1	0.01	1	0.04	-	-
Rainbow trout	-	-	-	-	-	-	-	-	-	-	1	0.01	-	-	-	-
Largemouth bass	-	-	-	-	-	-	-	-	1	0.04	-	-	-	-	-	-
Brown trout	-	-	-	-	-	-	-	-	-	-	1	0.01	-	-	-	-
Number of fish	-		3		-		6		10		27		7		-	
Number of fishes	-		2		-		3		5		7		4		-	
Total hours fished	2.0		16.0		-		12.50		28.50		70.25		22.75		-	
Catch per hour		0.00		0.19		-		0.48		0.35		0.38		0.31		-

Appendix 20. Fishes caught by zone by shore fishermen in October 1978 on Schoharie Reservoir.

Zone	1		2		3		4		5		6		7		8	
Species	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr	#	Catch/hr
Smallmouth bass	-	-	7	0.26	-	-	-	-	-	-	1	0.07	-	-	-	-
Walleye	-	-	2	0.07	-	-	-	-	-	-	2	0.15	-	-	-	-
Largemouth bass	-	-	1	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Brown trout	-	-	1	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Number of fish	-		11		-		-		-		3		-		-	
Number of fishes	-		4		-		-		-		2		-		-	
Total hours fished	-		27.25		-		-		2.25		13.75		-		-	
Catch per hour		-		0.40		-		-		0.00		0.22		-		-

Appendix 21. Instantaneous angler count by zone collected in April 1978 on Schoharie Reservoir.

Run	1 (0730)		2 (1030)		3 (1330)		4 (1630)		5 (1930)		Combined	
Zone	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat
1	2	-	9	1	3	1	7	3	1	-	22	5
2	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-
6	2	-	5	-	7	-	5	-	1	-	20	-
7	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	3	2	5	4	10	4	4	-	22	10
Total	4	-	17	3	15	5	22	7	6	-	64	15

Appendix 22. Instantaneous angler count by zone collected in May 1978 on Schoharie Reservoir.

Run	1 (0730)		2 (1030)		3 (1330)		4 (1630)		5 (1930)		Combined	
Zone	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat
1	7	8	10	3	22	-	15	-	8	-	62	11
2	-	2	-	10	-	4	1	3	-	-	1	19
3	-	-	-	2	-	3	4	-	4	-	8	5
4	-	-	-	2	-	1	2	-	-	-	2	3
5	2	-	-	-	-	2	-	4	-	-	2	6
6	3	-	7	-	6	-	9	-	4	-	29	-
7	-	-	-	1	-	1	-	1	-	-	-	3
8	5	2	6	8	6	10	10	6	10	1	37	27
Total	17	12	23	26	34	21	41	14	26	1	141	74

Appendix 23. Instantaneous angler count by zone collected in June 1978 on Schoharie Reservoir.

Run	1 (0730)		2 (1030)		3 (1330)		4 (1630)		5 (1930)		Combined	
Zone	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat
1	4	-	5	4	6	2	8	-	6	-	29	6
2	-	18	-	19	-	7	-	2	-	-	-	46
3	-	7	-	10	-	10	-	4	-	6	-	37
4	-	3	-	8	-	2	-	2	-	-	-	15
5	4	6	3	4	5	6	-	1	-	3	12	20
6	7	-	3	3	7	2	7	-	8	-	32	5
7	-	-	-	-	-	2	-	2	-	-	-	4
8	1	-	-	2	4	2	2	2	-	-	7	6
Total	16	34	11	50	22	33	17	13	14	9	80	139

Appendix 24. Instantaneous angler count by zone collected in July 1978 on Schoharie Reservoir.

Run	1 (0730)		2 (1030)		3 (1330)		4 (1630)		5 (1930)		Combined	
Zone	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat
1	4	5	11	-	9	-	10	-	6	-	40	5
2	2	8	2	13	4	2	5	1	4	-	17	24
3	-	-	-	13	-	9	-	-	-	-	-	22
4	2	5	-	11	-	4	-	-	-	-	2	20
5	2	4	-	8	4	7	-	2	-	-	6	21
6	8	-	5	4	11	4	10	-	-	-	34	8
7	-	8	2	10	-	10	-	2	-	-	2	30
8	-	-	-	-	2	-	4	-	-	-	6	-
Total	18	30	20	59	30	36	29	5	10	-	107	130

Appendix 25. Instantaneous angler count by zone collected in August 1978 on Schoharie Reservoir.

Run	1 (0730)		2 (1030)		3 (1330)		4 (1630)		5 (1930)		Combined	
Zone	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat
1	2	-	2	-	1	-	2	-	-	-	7	-
2	7	9	9	9	7	11	7	6	10	4	40	39
3	-	2	-	3	-	5	-	2	-	-	-	12
4	-	-	-	6	4	2	5	2	-	-	9	10
5	-	8	2	6	-	6	-	6	-	2	2	28
6	5	-	17	-	10	-	11	2	14	-	57	2
7	-	4	2	6	4	8	-	2	-	-	6	20
8	-	-	-	-	-	-	-	-	-	-	-	-
Total	14	23	32	30	26	32	25	20	24	6	121	111

Appendix 26. Instantaneous angler count by zone collected in September 1978 on Schoharie Reservoir.

Run	1 (0730)		2 (1030)		3 (1330)		4 (1630)		5 (1930)		Combined	
Zone	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat
1	-	-	-	3	-	-	-	-	-	-	-	3
2	2	-	3	6	1	6	4	-	2	-	12	12
3	-	-	-	1	-	-	-	-	-	-	-	1
4	-	-	4	2	2	-	-	-	-	-	6	2
5	-	5	1	5	1	6	6	2	1	-	9	18
6	9	-	8	2	13	2	10	2	8	-	48	6
7	3	2	2	4	2	4	3	-	2	-	12	10
8	-	-	-	-	-	-	-	-	-	-	-	-
Total	14	7	18	23	19	18	23	4	13	-	87	52

Appendix 27. Instantaneous angler count by zone collected in October 1978 on Schoharie Reservoir.

Run	1 (0730)		2 (1030)		3 (1330)		4 (1630)		5 (1930)		Combined	
Zone	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat
1	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	6	-	2	1	4	-	-	-	12	1
3	-	-	-	-	1	4	-	-	-	-	1	4
4	-	-	-	1	-	1	-	-	-	-	-	2
5	-	-	-	3	1	6	-	4	-	-	1	13
6	-	-	5	-	-	-	10	-	2	-	17	-
7	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	11	4	4	12	14	4	2	-	31	20

Section Leader:
Patricia A. Marinac, M.S.

FOOD HABITS OF FISHES

Introduction

Stomach contents of fishes collected in Schoharie Reservoir from 16 April through 7 October 1978 were examined to determine food habits of game fishes (walleye, rainbow trout, brown trout, largemouth bass, and smallmouth bass) and pan fishes (rock bass, yellow perch, pumpkinseed, and bluegill) (Appendix 1).

Materials and Methods

Stomachs were collected by IA creel census personnel from fish kept by anglers on Schoharie Reservoir. Fish were measured (nearest 1.0 mm) and weighed (nearest 1.0 g for fish 1000 g and less, nearest 1.0 oz for fish over 1000 g), and the stomachs were removed in the field. Stomachs were preserved in 10% formalin. In the laboratory stomach contents were identified and the major groups counted and weighed to the nearest 0.01 g. Fish remains, crayfish remains, insect remains, plant matter, zooplankton, and unidentifiable matter were not enumerated. Fishing bait found in stomachs was disregarded.

Three methods of analysis were used: (1) numerical, (2) frequency of occurrence, and (3) weight. The percent numerical was calculated by dividing the total number of each food type by the total number of all food items. The numerical method does not consider the size of food items, and organisms that occur in the largest numbers are not necessarily the most important food items.

Frequency of occurrence is determined by dividing the number of stomachs in which each food type occurs by the total number of stomachs examined. This method indicates what organisms are being fed upon by the greatest number of fish but gives no information regarding quantity or number of food organisms.

Percent weight is determined by dividing the weight of each food type by the total weight of all food items. This method considers the size of food organisms and reflects the food consumed by the fish population as a whole. The weight method tends to mask the importance of smaller food items; often an exceptionally large or bulky item gives a very high value.

Additional bias may be introduced by differential rates of digestion of certain food items.

Stomach analyses could not be presented by time period or size group because few stomachs were available and because the method of collection (angling) was selective toward larger specimens. Data were summarized by year for walleye, rock bass, yellow perch, and pumpkinseed; insufficient numbers of other fishes collected prevented yearly summaries.

Results and Discussion

Stomachs from nine fishes (n = 126) were examined; 68 (54.0%) were empty (Table 68).

Walleye

Thirty-one (67.4%) of 46 walleye stomachs collected were empty (Table 68). Fish (yellow perch and unidentifiable) was the major food item consumed (75.0% by number, 70.8% by weight) (Table 69). Fish were found in 86.7% of the stomachs with contents. The next most important food items in the diet of walleye were crayfish (12.5% by number, 26.9% by weight) and insects (beetles and mayflies) (12.5% by number, 1.0% by weight). Crayfish was found in 13.3% of the stomachs with food and insects in 20.0%. Plant matter and unidentifiable material were also found.

Rock Bass

Twenty-four (54.5%) of 44 rock bass stomachs collected were empty (Table 68). Insects (mayflies, true flies, caddisflies, and beetles) were the dominant food item by number (53.3%), followed by crayfish (46.7%) (Table 70). Crayfish was most abundant by weight (79.9%). Crayfish was found in 55.0% of the stomachs with contents, insects in 35.0%, and fish remains in 15.0%. Zooplankton was found in 45.0% of the stomachs with contents but comprised only 3.6% by weight of all the stomach contents.

Yellow Perch

Five (27.8%) of 18 yellow perch stomachs collected were empty (Table 68). In those containing food, fish (primarily yellow perch) was the dominant food item by number (71.4%) and weight (52.4%) (Table 71). Fish occurred in 46.2% of the stomachs containing food. Crayfish was the next most abundant food item by number (21.4%) and zooplankton by weight (31.7%). Zooplankton was found in 69.2% and crayfish in 30.8% of the stomachs with contents. Insects and plant matter were also found.

Pumpkinseed

Four (33.3%) of 12 pumpkinseed stomachs collected were empty (Table 68). Crayfish was the most important food item by number (75.0%) and weight (58.2%) in the stomachs with contents (Table 72). Insects were 25.0% by number of the stomach contents and only 3.1% by weight. Zooplankton (19.9% by weight) and terrestrial insect remains (18.7% by weight) were also present. Crayfish was found in 50.0% of the stomachs with contents, zooplankton in 37.5%, aquatic insects in 12.5%, and terrestrial insects in 12.5%.

Others

All of the rainbow trout (n = 2), brown trout (1), and largemouth bass (1) stomachs collected were empty (Table 68).

Insects were 100% by number and 65.8% by weight of the stomach contents from one smallmouth bass. Insects were true flies (92.9% by number), beetles (7.1%), and insect remains. Crayfish remains comprised 34.2% by weight of the stomach contents.

The stomach collected from one bluegill contained only zooplankton (1.32 g).

Summary

1. Sixty-eight (54.0%) of 126 stomachs from nine fishes examined were empty.

2. The major food item consumed by walleye was fish (75.0% by number, 70.8% by weight).

3. The dominant food items consumed by rock bass were insects (53.3% by number) and crayfish (79.9% by weight).

4. Yellow perch stomachs contained mostly fish (71.4% by number, 52.4% by weight).

5. Crayfish was the major food of pumpkinseed (75.0% by number, 58.2% by weight.

Table 68. Number of stomachs examined from fishes collected from April through October 1978 on Schoharie Reservoir.

Species	Size Range (mm)	Number of Stomachs Examined	Number Empty	Percent Empty
Walleye	362-785	46	31	67.4
Rock bass	131-285	44	24	54.5
Yellow perch	209-295	18	5	27.8
Pumpkinseed	151-212	12	4	33.3
Rainbow trout	370-451	2	2	100
Brown trout	430	1	1	100
Largemouth bass	317	1	1	100
Smallmouth bass	306	1	0	0.0
Bluegill	176	1	0	0.0
Total		126	68	54.0

Table 69. Summary of food items in the diet of walleye collected in May and from July through October 1978 on Schoharie Reservoir.

Stomachs with Contents	Size Range (mm)	Food Item	Number of Organisms	Weight of Organisms (g)	% Numerical	% Occurrence	% Weight
15	362-622	Fish	18	28.70	75.0	86.7	70.8
		Yellow perch	4	6.00	16.7	6.7	14.8
		Unidentifiable	14	17.74	58.3	60.0	43.8
		Fish remains	#	4.96	#	20.0	12.2
		Crayfish	3	10.90	12.5	13.3	26.9
		Insects	3	0.40	12.5	20.0	1.0
		Coleoptera (beetles)	2	0.37	8.3	13.3	0.9
		Ephemeroptera (mayflies)	1	0.03	4.2	6.7	0.1
		Plant matter	#	0.05	#	6.7	0.1
		Unidentifiable material	#	0.47	#	13.3	1.2
		Total	24	40.52			

Not enumerated.

Table 70. Summary of food items in the diet of rock bass collected from May through July and in September 1978 on Schoharie Reservoir.

Stomachs with Contents	Size Range (mm)	Food Item	Number of Organisms	Weight of Organisms (g)	% Numerical	% Occurrence	% Weight
20	175-257	Insects	8	1.47	53.3	35.0	3.6
		Ephemeroptera (mayflies)	4	0.24	26.7	10.0	0.6
		Diptera (true flies)	2	0.03	13.3	5.0	0.1
		Trichoptera (caddisflies)	1	0.03	6.7	5.0	0.1
		Coleoptera (beetles)	1	0.37	6.7	5.0	0.9
		Insect remains	#	0.80	#	15.0	1.9
		Crayfish	7	33.05	46.7	55.0	79.9
		Crayfish	7	28.05	46.7	25.0	67.8
		Crayfish remains	#	5.00	#	30.0	12.1
		Fish	#	4.60	#	15.0	11.1
		Fish remains	#	4.60	#	15.0	11.1
		Zooplankton	#	1.48	#	45.0	3.6
		Unidentifiable materials	#	0.78	#	10.0	1.9
		Total	15	41.38			

Not enumerated.

Table 71. Summary of food items in the diet of yellow perch collected in June and from August through October 1978 in Schoharie Reservoir.

Stomachs with Contents	Size Range (mm)	Food Item	Number of Organisms	Weight of Organisms (g)	% Numerical	% Occurrence	% Weight
13	209-295	Fish	10	10.29	71.4	46.2	52.4
		Yellow perch	6	9.21	42.9	23.1	46.9
		Tessellated darter	1	0.30	7.1	7.7	1.5
		Sunfish family	1	0.32	7.1	7.7	1.6
		Unidentifiable	2	0.46	14.3	7.7	2.3
		Crayfish	3	2.88	21.4	30.8	14.7
		Crayfish	3	2.58	21.4	23.1	13.1
		Crayfish remains	#	0.30	#	7.7	1.5
		Insects	1	0.01	7.1	7.7	0.1
		Ephemeroptera (mayflies)	1	0.01	7.1	7.7	0.1
		Zooplankton	#	6.23	#	69.2	31.7
		Plant matter	#	0.24	#	15.4	1.2
		Total	14	19.65			

Not enumerated.

Table 72. Summary of food items in the diet of pumpkinseed collected in August and September 1978 in Schoharie Reservoir.

Stomachs with Contents	Size Range (mm)	Food Item	Number of Organisms	Weight of Organisms (g)	% Numerical	% Occurrence	% Weight
8	152-212	Crayfish	6	4.26	75.0	50.0	58.2
		Insects	2	0.23	25.0	12.5	3.1
		Diptera (true flies)	2	0.23	25.0	12.5	3.1
		Zooplankton	#	1.46	#	37.5	19.9
		Terrestrial insect remains	#	1.37	#	12.5	18.7
		Total	8	7.32			

Not enumerated.

Section Leader:
Patricia A. Marinac, M.S.

ICHTHYOPLANKTON

Introduction

Weekly ichthyoplankton samples were taken in Lower and Upper B-G from 2 May through 23 August 1978 and in Schoharie Reservoir from 24 April through 22 August 1978, and monthly samples were taken in Schoharie Reservoir on 22 May and 20 June 1978. Samples were collected to determine reproductive location, duration, and success and location of nursery areas.

Materials and Methods

Ichthyoplankton samples were taken in Lower and Upper B-G and Schoharie Reservoir during the day with push nets (pushes) and at night with half-meter nets (tows). Also, samples were taken at night with push nets in Schoharie Reservoir during the major spawning periods of walleye, yellow perch, and sunfishes.

Three each push net and half-meter net stations on Lower B-G and four each on Upper B-G were sampled weekly (Maps 15 and 16). Twelve push net and seven half-meter net stations were sampled weekly, and 24 push net stations were sampled in May and June 1978 on Schoharie Reservoir (Maps 17-19).

Simultaneous duplicate pushes were made 0.8 m subsurface using pyramid-shaped nets (0.450 mm x 0.375 mm nylon mesh) with metal-framed, 0.45-m square openings (Fig. 10). Push nets were 2.30 m in length, tapering to a 0.08-m circular opening where samples were collected in one-liter polyvinyl chloride filtering buckets (length to mouth ratio, 5.1:1). An internal metal frame (0.70 m square) was placed 0.40 m from the mouth of net to reduce back pressure and increase filtering efficiency. Pushes were made at 0.8 m/sec for 3 minutes.

Simultaneous duplicate tows were taken with half-meter cone-shaped nets (0.450 mm x 0.375 mm nylon mesh) (Fig. 11). Nets were 1.5 m in length, tapering to a 0.08-m diameter circular opening where samples were collected in 0.47-liter polypropylene nonfiltering bottles (length to mouth ratio, 3:1). The mouth of the net was connected to a metal ring 1/2 m in diameter.

Except at station 2 on Lower B-G where tows were 1.5 m and 4.6 m deep, surface tows (1.5 m deep) were made at stations 3.1 m or less in depth and surface and bottom tows (10.7 m deep) at stations greater than 12.2 m deep. Deep stations were generally uniform in depth, and bottom tows were not made at set depths above the bottom because of the irregular nature of the bottom and obstructions such as tree stumps. Net depth was regulated by the length and angle of the tow line. Tows were made at 0.6 m/sec for 5 minutes.

A General Oceanics Model 2031 digital flow meter was mounted across the mouth of one push net and one half-meter net to measure the volume (m^3) of water filtered.

Samples were preserved in 5% formalin and stained with rose bengal in the field. Ichthyoplankton were identified and classified as pro-larva (yolk sac present), post-larva (yolk sac absent), juvenile (body form approximates that of adult), or undetermined, using Fish (1932); Hubbs (1943); Norden (1961); Nelson (1968); Snyder (1970); Lippson and Moran (1974); Scott and Crossman (1975); and Hogue, Wallus, and Kay (1976) (Appendix 1). Specimens were enumerated and total length (to nearest 0.1 mm) for all larvae from Lower and Upper B-G and for the first 50 of each taxonomic category per sample from Schoharie Reservoir was taken.

Results were expanded to numerical density (#/m^3 of water) to allow direct comparisons between stations and yearly summaries.

Spawning Areas for Schoharie Reservoir Game and Pan Fishes

Bottom substrate in Schoharie Reservoir was mapped to locate areas suitable for spawning of indigenous game and pan fishes. Substrate was mapped from elevation 1130 ft (full pool) to about 1090 ft. Contour lines are taken from the map prepared by the Power Authority of the State of New York, 1976.

Results and Discussion

Lower and Upper B-G

Push Nets - Day

Four identifiable taxa (n = 14, 0.0038/m^3) were collected during day push net sampling in Lower B-G and three (444, 0.0868) in Upper B-G from May through August 1978 (Tables 73 and 74, Appendixes 28-31). In Lower B-G rank by abundance was yellow perch (0.0016/m^3, 42.9%), sunfish spp. (0.0016, 42.9%), carp (0.0003, 7.1%), and minnow family (0.0003, 7.1%). In Upper B-G yellow perch (0.0796/m^3, 91.7%) was most abundant, followed by sunfish spp. (0.0068, 7.9%) and white sucker (0.0004, 0.5%).

In Lower B-G yellow perch and sunfish spp. were most abundant at station 3 (0.0033/m^3 each). In Upper B-G yellow perch and sunfish spp. were most abundant at station 8 (0.1900 and 0.0107/m^3, respectively).

For all taxa collected in Lower B-G station 3 (0.0073/m^3) was most productive, followed by stations 2 (0.0032) and 21 (0.0008); in Upper B-G station 8 (0.2015) was most productive, followed by stations 20 (0.1158), 7 (0.0325), and 6 (0.0109).

Half-Meter Nets - Night

Seven identifiable taxa (n = 100, 0.0147/m^3) were collected with half-meter nets at night in Lower B-G and five (381, 0.0455) in Upper B-G from May through August 1978 (Tables 75 and 76, Appendixes 32-35). In Lower B-G

rank by abundance was carp (0.0071/m^3, 48.0%), yellow perch (0.0034, 23.0%), minnow family (0.0016, 11.0%), sunfish spp. (0.0010, 7.0%), rock bass (0.0004, 3.0%), white sucker (0.0003, 2.0%), tessellated darter (0.0001, 1.0%), and unidentifiable remains (0.0007, 5.0%). In Upper B-G yellow perch (0.0431/m^3, 96.3%) was most abundant, followed by sunfish spp (0.0017, 2.1%), white sucker (0.0005, 1.0%), carp (0.0001, 0.3%), and darter spp. (0.0001, 0.3%).

In Lower B-G carp was most abundant at station 1 (0.0134/m^3) and yellow perch at station 2 (0.0045). Yellow perch was collected most often in Upper B-G at station 7 (0.0996/m^3).

For all taxa collected in Lower B-G station 1 (0.0219/m^3) was most productive, followed by stations 2 (0.0110) and 3 (0.0082); in Upper B-G station 7 (0.1017) was most productive, followed by stations 8 (0.0736), 5 (0.0386), and 6 (0.0106).

Surface tows produced more fish/m^3 of water than bottom tows in both Lower B-G (0.0193 vs 0.0078, respectively) and Upper B-G (0.0566 vs 0.0233, respectively) (Table 77). All fishes, except for sunfish spp., minnow family, white sucker, and tessellated darter in Lower B-G, were more abundant in surface than bottom tows.

Combined Methods

Seven identifiable taxa (n = 114) were collected in Lower B-G and five (825) in Upper B-G using push nets and half-meter nets (Table 78). In Lower B-G rank by abundance was carp (n = 49, 43.0%), yellow perch (29, 25.4%), sunfish spp. (13, 11.4%), minnow family (12, 10.5%), rock bass (3, 2.6%), white sucker (2, 1.8%), tessellated darter (1, 0.9%), and unidentifiable remains (5, 4.4%). Rank by abundance in Upper B-G was yellow perch (n = 774, 93.8%), sunfish spp. (43, 5.2%), white sucker (6,

0.7%), carp (1, 0.1%), and darter spp. (1, 0.1%).

1974 through 1978 - Half-Meter Nets - Night

Yellow perch density in Lower B-G has remained nearly constant from 1976 through 1978 (0.0034/m^3, 0.0039, and 0.0036, respectively) after increasing from 1974 and 1975 levels (0.0018 and 0.0019, respectively) (Table 79). In Upper B-G from 1974 through 1978 yellow perch density has fluctuated as follows: 0.0047/m^3, 0.0360, 0.0168, 0.0124, and 0.0463.

From 1974 through 1978 sunfish spp. densities in both Lower B-G (0.0022/m^3, 0.0085, 0.0006, 0.0030, and 0.0011, respectively) and Upper B-G (0.1093, 0.0103, 0.0011, 0.0107, and 0.0018, respectively) have also fluctuated.

Total larval density in Lower B-G increased in 1978 (0.0158/m^3) over 1974 through 1977 levels (0.0050, 0.0118, 0.0059, and 0.0100, respectively). The density of larval fishes in Upper B-G decreased from 1974 through 1976 (0.1261/m^3, 0.0533, and 0.0202, respectively) and increased in 1977 and 1978 (0.0249 and 0.0487, respectively).

1977 and 1978 - Push Nets - Day

Yellow perch and sunfish spp. densities both decreased from 1977 (0.0043/m^3 and 0.0157, respectively) to 1978 (0.0016 each) in Lower B-G (Table 80). In Upper B-G yellow perch density was similar in 1977 and 1978 (0.0805/m^3 and 0.0796, respectively) and sunfish spp. density decreased (0.0447 and 0.0068, respectively).

Total larval densities in both Lower and Upper B-G decreased from 1977 (0.0224/m^3 and 0.1254, respectively) to 1978 (0.0038 and 0.0868, respectively).

Schoharie Reservoir

Push Nets - Day

Eight identifiable taxa (n = 2999, 0.1940/m^3) were collected during the day with push nets from April through August 1978 in Schoharie Reservoir (Tables 81 and 82, Appendixes 36-40). Yellow perch (0.1558/m^3, 80.3%) was most abundant, followed by white sucker (0.0155, 8.0%), sunfish spp. (0.0105, 5.4%), cisco (0.0096, 4.9%), walleye (0.0013, 0.7%), carp (0.0006, 0.3%), minnow family (0.0005, 0.3%), smallmouth bass (0.0001, 0.1%), and unidentifiable remains (0.0001, 0.1%).

Yellow perch was most abundant at stations 19 (0.4438/m^3), 24 (0.4013), 16 (0.2371), and 12 (0.1936); white sucker at stations 17 (0.0837), 15 (0.0748), and 18 (0.0545); and sunfish spp. at stations 9 (0.0225), 15 (0.0185), 25 (0.0155), and 14 (0.0154). Cisco was most abundant at stations 18 (0.0317/m^3) and 22 (0.0181) and walleye at stations 23 (0.0045) and 14 (0.0044).

For all taxa collected the most productive stations were 19 (0.4697/m^3), 24 (0.4105), 18 (0.2592), and 16 (0.2578); densities at remaining stations ranged from 0.2055 (station 12) to 0.0364 (station 25).

Half-Meter Nets - Night

Twelve identifiable taxa (n = 2406, 0.1415/m^3) were collected during night tows (Tables 83 and 84, Appendixes 41-45). Most abundant were yellow perch (0.0603/m^3, 42.6%), carp (0.0285, 20.2%), white sucker (0.0200, 14.1%), and sunfish spp. (0.0133, 9.4%). Other taxa collected were minnow family (0.0063/m^3, 4.5%); rock bass (0.0044, 3.1%); walleye (0.0029, 2.0%); darter spp. (0.0008, 0.6%); brown bullhead (0.0004, 0.3%); cisco, smallmouth bass, and perch family (0.0001, 0.1% each); and unidentifiable remains (0.0043, 3.0%).

Yellow perch was most abundant at stations 12 (0.1413/m^3), 16 (0.1201), and 11 (0.0600); carp and white sucker at station 9 (0.1213 and 0.0792, respectively); sunfish spp. at stations 12 (0.0308), 16 (0.0228), and 9 (0.0160); and rock bass at station 16 (0.0186). Walleye was most common at station 14 (0.0159/m^3).

For all taxa collected stations 9 (0.2519/m^3), 12 (0.1985), and 16 (0.1849) were most productive; densities at remaining stations ranged from 0.1261 (station 14) to 0.0699 (station 11).

More larvae were collected with surface tows (0.1861/m^3) than bottom tows (0.0601) (Table 85). Except for darter spp., cisco, and perch family, all taxa collected were more abundant in surface than bottom tows.

Combined Methods

Twelve identifiable taxa (n = 5405) were collected with day push nets and night half-meter nets in Schoharie Reservoir (Table 86). Most abundant were yellow perch (n = 3435, 63.6%), white sucker (579, 10.7%), carp (495, 9.2%), and sunfish spp. (389, 7.2%).

Push Nets - Night

Nine identifiable taxa (n = 3422, 0.9786/m^3) were collected in May and June 1978 with push nets at night in Schoharie Reservoir (Tables 87 and 88, Appendixes 46 and 47). Yellow perch (0.6303/m^3, 64.4%), minnow family (0.1275, 13.0%), walleye (0.0872, 8.9%), and carp (0.0701, 7.2%) were most abundant.

For all taxa collected stations 22 (5.6642/m^3), 24 (2.1314), and 63 (1.4060) were most productive; densities at remaining stations ranged from 1.3881 (station 19) to 0.1083 (station 17).

In May yellow perch (1.2559/m^3) and walleye (0.1754) were most abundant.

Yellow perch was collected most often at stations 22 (9.6769/m^3), 24 (4.5246), 19 (1.9683), and 15 (1.6066) and walleye at stations 66 (1.0167), 15 (0.5246), and 22 (0.4000).

In June minnow family (0.2537/m^3) and carp (0.1394) were most abundant, followed by white sucker (0.0506), rock bass (0.0290), and sunfish spp. (0.0176). Minnow family was most abundant at stations 63 (1.4054/m^3) and 22 (1.0694); carp at stations 14 (0.8095), 22 (0.4583), and 23 (0.4143); and white sucker at station 9 (0.8261). Most rock bass were collected at stations 63 (0.1757/m^3) and 19 (0.1268) and sunfish spp. at station 23 (0.1429).

1976 through 1978 - Half-Meter Nets - Night

Yellow perch density increased from 1976 (0.1601/m^3) to 1977 (0.1674) and decreased in 1978 (0.0603) (Table 89). Larval densities of sunfish spp., rock bass, and walleye in 1978 (0.0133/m^3, 0.0044, and 0.0029, respectively) all increased from 1976 and 1977 (0.0050 and 0.0037; 0.0001 and 0.0005, and 0.0012 and 0.0007, resepctively). White sucker density increased from 1976 (0.0024/m^3) to 1977 (0.1098) and decreased in 1978 (0.0200).

Total larval density increased from 0.1912/m^3 in 1976 to 0.2898 in 1977 and decreased in 1978 to 0.1415.

1977 and 1978 - Push Nets - Day

Yellow perch density decreased from 1977 (0.2507/m^3) to 1978 (0.1558), as did white sucker density (0.0992 to 0.0155, respectively) (Table 90). Sunfish spp. density remained the same in both 1977 and 1978 (0.0105/m^3), and cisco and walleye densities both increased from 1977 (0.0032 and 0.0001, respectively) to 1978 (0.0096 and 0.0013, respectively).

Total larval density decreased from 0.3643/m^3 in 1977 to 0.1940 in 1978.

Spawning Areas for Schoharie Reservoir Game and Pan Fishes

Indigenous game and pan fishes found in Schoharie Reservoir are chain pickerel, cisco, largemouth bass, smallmouth bass, walleye, bluegill, brown bullhead, pumpkinseed, rock bass, and yellow perch. These fish spawn over a variety of substrates and at various times of the year (Table 91). Areas of suitable spawning substrate in Schoharie Reservoir, as observed on the exposed bottom during reservoir drawdown, are depicted on Map 20.

Summary

Lower and Upper B-G

Push Nets - Day

1. Four identifiable taxa (n = 14, 0.0038/m^3) were collected in Lower B-G and three (444, 0.0868) in Upper B-G.

2. Yellow perch was most abundant in both Lower B-G (0.0016/m^3, 42.9%) and Upper B-G (0.0796, 91.7%).

3. Yellow perch and sunfish spp. were most abundant at station 3 in Lower B-G and station 8 in Upper B-G.

4. For all taxa collected station 3 (0.0073/m^3) was most productive in Lower B-G and station 8 (0.2015) in Upper B-G.

Half-Meter Nets - Night

5. Seven identifiable taxa (n = 100, 0.0147/m^3) were collected in Lower B-G and five (381, 0.0455) in Upper B-G.

6. Carp (0.0071/m^3, 48.0%) was most abundant in Lower B-G and yellow perch (0.0431, 96.3%) in Upper B-G.

7. Carp was most abundant at station 1 in Lower B-G and yellow perch at station 7 in Upper B-G.

8. For all taxa collected station 1 (0.0219/m^3) and station 7 (0.1017) were the most productive in Lower and Upper B-G, respectively.

9. Night surface tows produced more fish/m^3 than bottom tows in both reservoirs.

Combined Methods

10. Seven taxa (n = 114) were collected in Lower B-G and five (825) in Upper B-G.

11. Carp (n = 49, 43.0%) was most abundant in Lower B-G and yellow perch (774, 93.8%) in Upper B-G.

1974 through 1978 - Half-Meter Nets - Night

12. Yellow perch density has remained nearly constant in Lower B-G from 1976 through 1978 after increasing from 1974 and 1975 levels and has fluctuated in Upper B-G from 1974 through 1978.

13. Sunfish spp. densities from 1974 through 1978 have fluctuated in both reservoirs.

14. Total larval density in Lower B-G increased in 1978 over 1974 through 1977 levels; in Upper B-G density of larval fishes decreased from 1974 through 1976 and increased in 1977 and 1978.

1977 and 1978 - Push Nets - Day

15. Yellow perch and sunfish spp. densities both decreased from 1977 to 1978 in Lower B-G.

16. Yellow perch density was similar in 1977 and 1978, and sunfish spp. density decreased from 1977 to 1978 in Upper B-G.

17. Total larval density decreased from 1977 to 1978 in both reservoirs.

Schoharie Reservoir

Push Nets - Day

18. Eight identifiable taxa (n = 2999, 0.1940/m^3) were collected in Schoharie Reservoir.

19. Yellow perch (0.1558/m^3, 80.3%), white sucker (0.0155, 8.0%), sunfish spp. (0.0105, 5.4%), and cisco (0.0096, 4.9%) were most abundant.

20. Yellow perch was most abundant at stations 19, 24, 16, and 12; white sucker at stations 17, 15, and 18; and sunfish spp. at stations 9, 15, 25, and 14.

21. For all taxa collected station 19 (0.4697/m^3) was most productive, followed by stations 24 (0.4105), 18 (0.2592), and 16 (0.2578).

Half-Meter Nets - Night

22. Twelve identifiable taxa (n = 2406, 0.1415/m^3) were collected.

23. Yellow perch (0.0603/m^3, 42.6%), carp (0.0285, 20.2%), white sucker (0.0200, 14.1%), and sunfish spp. (0.0133, 9.4%) were most abundant.

24. Yellow perch and sunfish spp. were each most abundant at stations 12 and 16, carp and white sucker at station 9, and rock bass at station 16.

25. For all taxa collected stations 9 (0.2519/m^3), 12 (0.1985), and 16 (0.1849) were most productive.

26. Surface tows were more productive than bottom tows.

Combined Methods

27. Twelve identifiable taxa (n = 5405) were collected.

28. Yellow perch (n = 3435, 63.6%), white sucker (579, 10.7%), carp (495, 9.2%), and sunfish spp. (389, 7.2%) were most abundant.

Push Nets - Night

29. Nine identifiable taxa (n = 3422, 0.9786/m^3) were collected in May and June in Schoharie Reservoir.

30. Yellow perch (0.6303/m^3, 64.4%), minnow family (0.1275, 13.0%), and walleye (0.0872, 8.9%) were most abundant.

31. For all taxa collected stations 22, 24, and 63 were most productive.

32. In May yellow perch was collected most often at stations 22 and 24 and walleye at stations 66 and 15.

33. In June most rock bass were collected at stations 63 and 19 and sunfish spp. at station 23.

1976 through 1978 - Half-Meter Nets - Night

34. Yellow perch and white sucker densities increased from 1976 to 1977 and decreased in 1978.

35. Larval densities of sunfish spp., rock bass, and walleye were greater in 1978 than in 1976 and 1977.

36. Total larval density increased from 1976 to 1977 and decreased in 1978.

1977 and 1978 - Push Nets - Day

37. Yellow perch and white sucker densities decreased from 1977 to 1978, whereas sunfish spp. density remained the same.

38. Cisco and walleye densities both increased from 1977 to 1978.

39. Total larval density decreased from 1977 to 1978.

Table 73. Taxon totals for day ichthyoplankton pushes taken from May through August 1978 in Lower and Upper B-G.

Location	Taxon	Pro-larva		Post-larva		Total Captured	
		#	%	#	%	#	%
LBG	Yellow perch	2	66.7	4	36.4	6	42.9
	Sunfish spp.	-	-	6	54.5	6	42.9
	Carp	1	33.3	-	-	1	7.1
	Minnow family	-	-	1	9.1	1	7.1
Total		3		11		14	
UBG	Yellow perch	164	99.4	243	87.1	407	91.7
	Sunfish spp.	1	0.6	34	12.2	35	7.9
	White sucker	-	-	2	7.2	2	0.5
Total		165		279		444	
Grand Total						458	

Table 74. Summary of specimens by station per m^3 of water during day ichthyoplankton pushes taken from May through August 1978 in Lower and Upper B-G.

Station	Total Volume (m^3)	Yellow perch		Sunfish spp.		White sucker		Carp		Minnow family		Total	
		Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
LBG													
2	1245	2	0.0016	1	0.0008	-	-	1	0.0008	-	-	4	0.0032
3	1229	4	0.0033	4	0.0033	-	-	-	-	1	0.0008	9	0.0073
21	1206	-	-	1	0.0008	-	-	-	-	-	-	1	0.0008
Total	3680	6	0.0016	6	0.0016	-	-	1	0.0003	1	0.0003	14	0.0038
UBG													
6	1380	10	0.0072	5	0.0036	-	-	-	-	-	-	15	0.0109
7	1294	30	0.0232	11	0.0085	1	0.0008	-	-	-	-	42	0.0325
8	1216	231	0.1900	13	0.0107	1	0.0008	-	-	-	-	245	0.2015
20	1226	136	0.1109	6	0.0049	-	-	-	-	-	-	142	0.1158
Total	5116	407	0.0796	35	0.0068	2	0.0004	-	-	-	-	444	0.0868

Table 75. Taxon totals for night ichthyoplankton tows taken from May through August 1978 in Lower and Upper B-G.

Location	Taxon	Pro-larva		Post-larva		Juvenile		Undetermined		Total Captured	
		#	%	#	%	#	%	#	%	#	%
LBG	Carp	41	83.7	6	14.0	-	-	1	25.0	48	48.0
	Yellow perch	4	8.2	19	44.2	-	-	-	-	23	23.0
	Minnow family	1	2.0	10	23.3	-	-	-	-	11	11.0
	Sunfish spp.	-	-	3	7.0	4	100	-	-	7	7.0
	Rock bass	3	6.1	-	-	-	-	-	-	3	3.0
	White sucker	-	-	2	4.7	-	-	-	-	2	2.0
	Tessellated darter	-	-	-	-	-	-	1	25.0	1	1.0
	Unidentifiable remains	-	-	3	7.0	-	-	2	50.0	5	5.0
Total		49		43		4		4		100	
UBG	Yellow perch	45	97.8	322	96.4	-	-	-	-	367	96.3
	Sunfish spp.	-	-	7	2.1	1	100	-	-	8	2.1
	White sucker	-	-	4	1.2	-	-	-	-	4	1.0
	Carp	1	2.2	-	-	-	-	-	-	1	0.3
	Darter spp.	-	-	1	0.3	-	-	-	-	1	0.3
Total		46		334		1		-		381	
Grand Total										481	

Table 76. Summary of specimens by station per m^3 of water during night ichthyoplankton tows taken from May through August 1978 in Lower and Upper B-G.

Station	Total Volume (m^3)	Yellow perch		Carp		Sunfish spp.		Minnow family		White sucker		Rock bass	
		Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
LBG													
1	2692	8	0.0030	36	0.0134	4	0.0015	8	0.0030	-	-	-	-
2	2639	12	0.0045	9	0.0034	1	0.0004	3	0.0011	1	0.0004	2	0.0008
3	1460	3	0.0021	3	0.0021	2	0.0014	-	-	1	0.0007	1	0.0007
Total	6791	23	0.0034	48	0.0071	7	0.0010	11	0.0016	2	0.0003	3	0.0004
UBG													
5	2771	99	0.0357	1	0.0004	7	0.0025	-	-	-	-	-	-
6	2830	28	0.0099	-	-	2	0.0007	-	-	-	-	-	-
7	1416	141	0.0996	-	-	1	0.0007	-	-	2	0.0014	-	-
8	1359	93	0.0684	-	-	4	0.0029	-	-	2	0.0015	-	-
Total	8376	361	0.0431	1	0.0001	14	0.0017	-	-	4	0.0005	-	-

Station	Total Volume (m^3)	Tessellated darter		Darter spp.		Unidentifiable remains		Total	
		Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
LBG									
1	2692	-	-	-	-	3	0.0011	59	0.0219
2	2639	1	0.0004	-	-	-	-	29	0.0110
3	1460	-	-	-	-	2	0.0014	12	0.0082
Total	6791	1	0.0001	-	-	5	0.0007	100	0.0147
UBG									
5	2771	-	-	-	-	-	-	107	0.0386
6	2830	-	-	-	-	-	-	30	0.0106
7	1416	-	-	-	-	-	-	144	0.1017
8	1359	-	-	1	0.0007	-	-	100	0.0736
Total	8376	-	-	1	0.0001	-	-	381	0.0455

Table 77. Summary of specimens by depth per m^3 of water during night ichthyoplankton tows taken from May through August 1978 in Lower and Upper B-G.

Location	Depth of Tow	Total Volume (m^3)	Yellow perch		Carp		Sunfish spp.		Minnow family		White sucker	
			Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
LBG	Surface	4087	19	0.0046	45	0.0110	3	0.0007	4	0.0010	1	0.0002
	Bottom	2704	4	0.0015	3	0.0011	4	0.0015	7	0.0026	1	0.0004
UBG	Surface	5582	296	0.0530	1	0.0002	14	0.0025	-	-	4	0.0007
	Bottom	2794	65	0.0233	-	-	-	-	-	-	-	-

Location	Depth of Tow	Total Volume (m^3)	Rock bass		Tessellated darter		Darter spp.		Unidentifiable remains		Total	
			Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
LBG	Surface	4087	3	0.0007	-	-	-	-	4	0.0010	79	0.0193
	Bottom	2704	-	-	1	0.0004	-	-	1	0.0004	21	0.0078
UBG	Surface	5582	-	-	-	-	1	0.0002	-	-	316	0.0566
	Bottom	2794	-	-	-	-	-	-	-	-	65	0.0233

Table 78. Taxon totals for day ichthyoplankton pushes and night ichthyoplankton tows taken from May through August 1978 in Lower and Upper B-G.

Location	Taxon	Pro-larva		Post-larva		Juvenile		Undetermined		Total Captured	
		#	%	#	%	#	%	#	%	#	%
LBG	Carp	42	80.8	6	11.1	-	-	1	25.0	49	43.0
	Yellow perch	6	11.5	23	42.6	-	-	-	-	29	25.4
	Sunfish spp.	-	-	9	16.7	4	100	-	-	13	11.4
	Minnow family	1	1.9	11	20.4	-	-	-	-	12	10.5
	Rock bass	3	5.8	-	-	-	-	-	-	3	2.6
	White sucker	-	-	2	3.7	-	-	-	-	2	1.8
	Tessellated darter	-	-	-	-	-	-	1	25.0	1	0.9
	Unidentifiable remains	-	-	3	5.6	-	-	2	50.0	5	4.4
Total		52		54		4		4		114	
UBG	Yellow perch	209	99.1	565	92.2	-	-	-	-	774	93.8
	Sunfish spp.	1	0.5	41	6.7	1	100	-	-	43	5.2
	White sucker	-	-	6	1.0	-	-	-	-	6	0.7
	Carp	1	0.5	-	-	-	-	-	-	1	0.1
	Darter spp.	-	-	1	0.2	-	-	-	-	1	0.1
Total		211		613		1		-		825	
Grand Total										939	

Table 79. Summary of specimens per m^3 of water during night ichthyoplankton tows taken from 1974 through 1978 in Lower and Upper B-G.*

Taxon	1974		1975		1976		1977		1978	
	Lower B-G	Upper B-G	Lower B-G	Upper B-G	Lower B-G	Upper B-G	Lower B-G	Upper B-G	Lower B-G	Upper B-G
Yellow perch	0.0018	0.0047	0.0019	0.0360	0.0034	0.0168	0.0039	0.0124	0.0036	0.0463
Sunfish spp.	0.0022	0.1093	0.0085	0.0103	0.0006	0.0011	0.0030	0.0107	0.0011	0.0018
White sucker	0.0002	0.0006	-	-	-	0.0001	0.0008	-	0.0003	0.0004
Rock bass	-	0.0003	-	0.0001	-	-	-	0.0001	0.0005	-
Golden shiner	-	-	0.0001	0.0004	0.0003	-	-	-	-	-
Minnow family	-	-	0.0001	0.0006	-	-	0.0005	0.0001.	0.0017	-
Tessellated darter	-	-	-	0.0002	-	0.0001	-	-	0.0002	-
Largemouth bass	-	-	-	-	0.0006	0.0002	-	-	-	-
Logperch	-	-	-	-	-	0.0005	-	-	-	-
Carp	-	-	-	-	-	0.0001	0.0006	0.0001	0.0076	0.0001
Darter spp.	-	-	-	-	-	-	0.0001	0.0009	-	0.0001
Madtom spp.	-	-	-	-	-	-	0.0001	-	-	-
Unidentifiable remains	0.0008	0.0113	0.0011	0.0058	0.0011	0.0012	0.0010	0.0007	0.0008	-
Total	0.0050	0.1261	0.0118	0.0533	0.0059	0.0202	0.0100	0.0249	0.0158	0.0487

* Densities reported from the second week in May through August.

Table 80. Summary of specimens per m^3 of water during day ichthyoplankton pushes taken in 1977 and 1978 in Lower and Upper B-G.*

Taxon	1977		1978	
	Lower B-G	Upper B-G	Lower B-G	Upper B-G
Yellow perch	0.0043	0.0805	0.0016	0.0796
Sunfish spp.	0.0157	0.0447	0.0016	0.0068
Carp	0.0013	-	0.0003	-
White sucker	0.0004	-	-	0.0004
Minnow family	0.0002	-	0.0003	-
Darter spp.	0.0002	-	-	-
Unidentifiable remains	0.0004	0.0001	-	-
Total	0.0224	0.1254	0.0038	0.0868

* Densities recorded from May through August.

Table 81. Taxon totals for day ichthyoplankton pushes taken from April through August 1978 in Schoharie Reservoir.

Taxon	Pro-larva		Post-larva		Juvenile		Undetermined		Total Captured	
	#	%	#	%	#	%	#	%	#	%
Yellow perch	2046	92.2	362	47.0	1	16.7	-	-	2409	80.3
White sucker	-	-	237	30.7	2	33.3	-	-	239	8.0
Sunfish spp.	19	0.9	140	18.2	3	50.0	-	-	162	5.4
Cisco	127	5.7	20	2.6	-	-	1	33.3	148	4.9
Walleye	19	0.9	1	0.1	-	-	-	-	20	0.7
Carp	5	0.2	5	0.6	-	-	-	-	10	0.3
Minnow family	3	0.1	5	0.6	-	-	-	-	8	0.3
Smallmouth bass	-	-	1	0.1	-	-	-	-	1	0.1
Unidentifiable remains	-	-	-	-	-	-	2	66.7	2	0.1
Total	2219		771		6		3		2999	

Table 82. Summary of specimens by station per m^3 of water during day ichthyoplankton pushes taken from April through August 1978 in Schoharie Reservoir.

Station	Total Volume (m^3)	Yellow perch		White sucker		Sunfish spp.		Cisco		Walleye		Carp	
		Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
9	1247	39	0.0313	4	0.0032	28	0.0225	1	0.0008	2	0.0016	2	0.0016
12	1343	260	0.1936	-	-	14	0.0104	2	0.0015	-	-	-	-
14	1361	95	0.0698	-	-	21	0.0154	11	0.0081	6	0.0044	-	-
15	1351	23	0.0170	101	0.0748	25	0.0185	8	0.0059	1	0.0007	-	-
16	1354	321	0.2371	-	-	10	0.0074	16	0.0118	-	-	1	0.0007
17	693	3	0.0043	58	0.0837	-	-	1	0.0014	-	-	1	0.0014
18	1358	219	0.1613	74	0.0545	13	0.0096	43	0.0317	3	0.0022	-	-
19	1388	616	0.4438	-	-	14	0.0101	18	0.0130	-	-	2	0.0014
22	1328	144	0.1084	2	0.0015	3	0.0023	24	0.0181	1	0.0008	3	0.0023
23	1332	85	0.0638	-	-	10	0.0075	15	0.0113	6	0.0045	-	-
24	1413	567	0.4013	-	-	4	0.0028	8	0.0057	1	0.0007	-	-
25	1290	37	0.0287	-	-	20	0.0155	1	0.0008	-	-	1	0.0008
Total	15458	2409	0.1558	239	0.0155	162	0.0105	148	0.0096	20	0.0013	10	0.0006

Station	Total Volume (m^3)	Minnow family		Smallmouth bass		Unidentifiable remains		Total	
		Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
9	1247	-	-	-	-	2	0.0016	78	0.0626
12	1343	1	0.0007	-	-	-	-	276	0.2055
14	1361	1	0.0007	-	-	-	-	134	0.0985
15	1351	1	0.0007	-	-	-	-	159	0.1177
16	1354	1	0.0007	-	-	-	-	349	0.2578
17	693	-	-	-	-	-	-	63	0.0909
18	1358	-	-	-	-	-	-	352	0.2592
19	1388	2	0.0014	-	-	-	-	652	0.4697
22	1328	-	-	1	0.0008	-	-	178	0.1340
23	1332	1	0.0008	-	-	-	-	117	0.0878
24	1413	-	-	-	-	-	-	580	0.4105
25	1290	1	0.0008	-	-	-	-	47	0.0364
Total	15458	8	0.0005	1	0.0001	2	0.0001	2999	0.1940

Table 83. Taxon totals for night ichthyoplankton tows taken from April through August 1978 in Schoharie Reservoir.

Taxon	Pro-larva		Post-larva		Juvenile		Undetermined		Total Captured	
	#	%	#	%	#	%	#	%	#	%
Yellow perch	170	43.1	847	44.3	-	-	9	14.8	1026	42.6
Carp	5	1.3	474	24.8	4	10.5	2	3.3	485	20.2
White sucker	-	-	339	17.7	-	-	1	1.6	340	14.1
Sunfish spp.	23	5.8	185	9.7	18	47.4	1	1.6	227	9.4
Minnow family	68	17.3	34	1.8	5	13.2	1	1.6	108	4.5
Rock bass	67	17.0	5	0.3	1	2.6	1	1.6	74	3.1
Walleye	48	12.2	-	-	1	2.6	-	-	49	2.0
Darter spp.	7	1.8	6	0.3	1	2.6	-	-	14	0.6
Brown bullhead	-	-	-	-	7	18.4	-	-	7	0.3
Cisco	1	0.3	-	-	-	-	-	-	1	0.1
Smallmouth bass	-	-	-	-	1	2.6	-	-	1	0.1
Perch family	1	0.3	-	-	-	-	-	-	1	0.1
Unidentifiable remains	4	1.0	23	1.2	-	-	46	75.4	73	3.0
Total	394		1913		38		61		2406	

Table 84. Summary of specimens by station per m^3 of water during night ichthyoplankton tows from April through August 1978 in Schoharie Reservoir.

Station	Total Volume (m^3)	Yellow perch		Carp		White sucker		Sunfish spp.		Minnow family		Rock bass	
		Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
9	3132	30	0.0096	380	0.1213	248	0.0792	50	0.0160	27	0.0086	8	0.0026
10	3091	138	0.0446	25	0.0081	11	0.0036	17	0.0055	8	0.0026	-	-
11	3035	182	0.0600	2	0.0007	3	0.0010	21	0.0069	1	0.0003	2	0.0007
12	1592	225	0.1413	3	0.0019	7	0.0044	49	0.0308	4	0.0025	9	0.0057
14	1633	23	0.0141	69	0.0423	34	0.0208	10	0.0061	28	0.0171	2	0.0012
15	1669	85	0.0509	4	0.0024	15	0.0090	15	0.0090	7	0.0042	-	-
16	2856	343	0.1201	2	0.0007	22	0.0077	65	0.0228	33	0.0116	53	0.0186
Total	17008	1026	0.0603	485	0.0285	340	0.0200	227	0.0133	108	0.0063	74	0.0044

Station	Total Volume (m^3)	Walleye		Darter spp.		Brown bullhead		Cisco		Smallmouth bass		Perch family	
		Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
9	3132	10	0.0032	2	0.0006	1	0.0003	1	0.0003	-	-	1	0.0003
10	3091	10	0.0032	-	-	-	-	-	-	-	-	-	-
11	3035	-	-	1	0.0003	-	-	-	-	-	-	-	-
12	1592	-	-	1	0.0006	3	0.0019	-	-	-	-	-	-
14	1633	26	0.0159	2	0.0012	3	0.0018	-	-	1	0.0006	-	-
15	1669	2	0.0012	2	0.0012	-	-	-	-	-	-	-	-
16	2856	1	0.0004	6	0.0021	-	-	-	-	-	-	-	-
Total	17008	49	0.0029	14	0.0008	7	0.0004	1	0.0001	1	0.0001	1	0.0001

Station	Total Volume (m^3)	Unidentifiable remains		Total	
		Captured	Per m^3	Captured	Per m^3
9	3132	31	0.0099	789	0.2519
10	3091	15	0.0049	224	0.0725
11	3035	-	-	212	0.0699
12	1592	15	0.0094	316	0.1985
14	1633	8	0.0049	206	0.1261
15	1669	1	0.0006	131	0.0785
16	2856	3	0.0011	528	0.1849
Total	17008	73	0.0043	2406	0.1415

Table 85. Summary of specimens by depth per m^3 of water during night ichthyoplankton tows taken from April through August 1978 in Schoharie Reservoir.

Depth of Tow	Total Volume (m^3)	Yellow perch		Carp		White sucker		Sunfish spp.		Minnow family		Rock bass	
		Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
Surface	10982	764	0.0696	460	0.0419	330	0.0300	200	0.0182	98	0.0089	67	0.0061
Bottom	6026	262	0.0435	25	0.0041	10	0.0017	27	0.0045	10	0.0017	7	0.0012

Depth of Tow	Total Volume (m^3)	Walleye		Darter spp.		Brown bullhead		Cisco		Smallmouth bass		Perch family	
		Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
Surface	10982	42	0.0038	8	0.0007	6	0.0005	-	-	1	0.0001	-	-
Bottom	6026	7	0.0012	6	0.0010	1	0.0002	1	0.0002	-	-	1	0.0002

Depth of Tow	Total Volume (m^3)	Unidentifiable remains		Total	
		Captured	Per m^3	Captured	Per m^3
Surface	10982	68	0.0062	2044	0.1861
Bottom	6026	5	0.0008	362	0.0601

Table 86. Taxon totals for day ichthyoplankton pushes and night ichthyoplankton tows taken from April through August 1978 in Schoharie Reservoir.

Taxon	Pro-larva		Post-larva		Juvenile		Undetermined		Total Captured	
	#	%	#	%	#	%	#	%	#	%
Yellow perch	2216	84.8	1209	45.0	1	2.3	9	14.1	3435	63.6
White sucker	-	-	576	21.5	2	4.5	1	1.6	579	10.7
Carp	10	0.4	479	17.8	4	9.1	2	3.1	495	9.2
Sunfish spp.	42	1.6	325	12.1	21	47.7	1	1.6	389	7.2
Cisco	128	4.9	20	0.7	-	-	1	1.6	149	2.8
Minnow family	71	2.7	39	1.5	5	11.4	1	1.6	116	2.1
Rock bass	67	2.6	5	0.2	1	2.3	1	1.6	74	1.4
Walleye	67	2.6	1	0.1	1	2.3	-	-	69	1.3
Darter spp.	7	0.3	6	0.2	1	2.3	-	-	14	0.3
Brown bullhead	-	-	-	-	7	15.9	-	-	7	0.1
Smallmouth bass	-	-	1	0.1	1	2.3	-	-	2	0.1
Perch family	1	0.1	-	-	-	-	-	-	1	0.1
Unidentifiable remains	4	0.2	23	0.9	-	-	48	75.0	75	1.4
Total	2613		2684		44		64		5405	

Table 87. Taxon totals for night ichthyoplankton pushes taken in May and June 1978 in Schoharie Reservoir.

Taxon	Pro-larva		Post-larva		Juvenile		Undetermined		Total Captured	
	#	%	#	%	#	%	#	%	#	%
Yellow perch	2184	77.5	15	3.5	5	7.7	-	-	2204	64.4
Minnow family	15	0.5	332	77.0	-	-	99	90.8	446	13.0
Walleye	305	10.8	-	-	-	-	-	-	305	8.9
Carp	235	8.3	8	1.9	2	3.1	-	-	245	7.2
White sucker	-	-	31	7.2	58	89.2	-	-	89	2.6
Rock bass	49	1.7	-	-	-	-	2	1.8	51	1.5
Sunfish spp.	9	0.3	22	5.1	-	-	-	-	31	0.9
Cisco	2	0.1	23	5.3	-	-	-	-	25	0.7
Darter spp.	18	0.6	-	-	-	-	-	-	18	0.5
Unidentifiable remains	-	-	-	-	-	-	8	7.3	8	0.2
Total	2817		431		65		109		3422	

Table 88. Summary of specimens by station per m^3 of water during night ichthyoplankton pushes taken in May and June 1978 in Schoharie Reservoir.

Station	Total Volume (m^3)	Yellow perch		Minnow family		Walleye		Carp		White sucker	
		Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
9	178	103	0.5787	6	0.0337	-	-	9	0.0506	76	0.4270
12	164	74	0.4512	-	-	6	0.0366	3	0.0183	-	-
14	153	82	0.5359	3	0.0196	1	0.0065	68	0.4444	2	0.0131
15	137	99	0.7226	15	0.1095	32	0.2336	30	0.2190	-	-
16	166	111	0.6687	23	0.1386	12	0.0723	2	0.0120	2	0.0120
17	157	-	-	3	0.0191	-	-	10	0.0637	4	0.0255
18	152	20	0.1316	3	0.0197	3	0.0197	1	0.0066	-	-
19	134	124	0.9254	32	0.2388	5	0.0373	13	0.0970	-	-
22	137	629	4.5912	77	0.5620	26	0.1898	33	0.2409	-	-
23	132	24	0.1818	20	0.1515	20	0.1515	29	0.2197	2	0.0152
24	137	279	2.0365	4	0.0292	4	0.0292	-	-	-	-
25	135	20	0.1481	3	0.0222	5	0.0370	1	0.0074	-	-
61	142	22	0.1549	29	0.2042	9	0.0634	4	0.0282	1	0.0070
62	145	51	0.3517	17	0.1172	24	0.1655	1	0.0069	1	0.0069
63	133	44	0.3308	104	0.7820	19	0.1429	3	0.0226	-	-
64	148	115	0.7770	6	0.0405	3	0.0203	1	0.0068	-	-
65	134	86	0.6418	25	0.1866	7	0.0522	5	0.0373	-	-
66	116	65	0.5603	14	0.1207	61	0.5259	4	0.0345	-	-
67	141	15	0.1064	5	0.0355	-	-	-	-	-	-
68	165	103	0.6242	11	0.0667	7	0.0424	2	0.0121	-	-
69	127	14	0.1102	5	0.0394	9	0.0709	-	-	-	-
70	154	7	0.0455	32	0.2078	5	0.0325	7	0.0455	-	-
71	161	3	0.0186	7	0.0435	33	0.2050	7	0.0435	-	-
72	149	114	0.7651	2	0.0134	14	0.0940	12	0.0805	1	0.0067
Total	3497	2204	0.6303	446	0.1275	305	0.0872	245	0.0701	89	0.0255

Station	Rock bass		Sunfish spp.		Cisco		Darter spp.		Unidentifiable remains		Total	
	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3	Captured	Per m^3
9	-	-	-	-	23	0.1292	-	-	-	-	217	1.2191
12	2	0.0122	6	0.0366	-	-	-	-	1	0.0061	92	0.5610
14	-	-	-	-	-	-	-	-	-	-	156	1.0196
15	-	-	1	0.0073	-	-	1	0.0073	-	-	178	1.2993
16	6	0.0361	1	0.0060	-	-	1	0.0060	1	0.0060	159	0.9578
17	-	-	-	-	-	-	-	-	-	-	17	0.1083
18	-	-	1	0.0066	-	-	-	-	-	-	28	0.1842
19	9	0.0672	2	0.0149	-	-	1	0.0075	-	-	186	1.3881
22	7	0.0511	1	0.0073	-	-	3	0.0219	-	-	776	5.6642
23	1	0.0076	10	0.0758	-	-	1	0.0076	-	-	107	0.8106
24	3	0.0219	-	-	-	-	-	-	2	0.0146	292	2.1314
25	-	-	-	-	-	-	1	0.0074	-	-	30	0.2222
61	-	-	1	0.0070	1	0.0070	4	0.0282	-	-	71	0.5000
62	5	0.0345	2	0.0138	1	0.0069	-	-	-	-	102	0.7034
63	13	0.0977	1	0.0075	-	-	2	0.0150	-	-	187	1.4060
64	1	0.0068	-	-	-	-	1	0.0068	-	-	126	0.8514
65	2	0.0149	1	0.0075	-	-	-	-	-	-	126	0.9403
66	2	0.0172	1	0.0086	-	-	-	-	-	-	147	1.2672
67	-	-	2	0.0142	-	-	-	-	3	0.0213	25	0.1773
68	-	-	1	0.0061	-	-	-	-	-	-	124	0.7515
69	-	-	-	-	-	-	-	-	1	0.0079	29	0.2283
70	-	-	-	-	-	-	-	-	-	-	51	0.3312
71	-	-	-	-	-	-	3	0.0186	-	-	53	0.3292
72	-	-	-	-	-	-	-	-	-	-	143	0.9597
Total	51	0.0146	31	0.0089	25	0.0071	18	0.0051	8	0.0023	3422	0.9786

Table 89. Summary of specimens taken per m^3 of water during night ichthyoplankton tows from 1976 through 1978 in Schoharie Reservoir.*

Taxa	1976	1977	1978
Yellow perch	0.1601	0.1674	0.0603
Sunfish spp.	0.0050	0.0037	0.0133
White sucker	0.0024	0.1098	0.0200
Rock bass	0.0001	0.0005	0.0044
Golden shiner	0.0051	-	-
Minnow family	-	0.0008	0.0063
Walleye	0.0012	0.0007	0.0029
Tessellated darter	0.0001	-	-
Largemouth bass	0.0015	0.0004	-
Spottail shiner	0.0052	0.0001	-
Logperch	0.0011	-	-
Carp	0.0005	-	0.0285
Cisco	-	0.0002	0.0001
Darter spp.	-	0.0004	0.0008
Rosyface shiner	0.0006	-	-
Smallmouth bass	0.0002	0.0004	0.0001
Brown bullhead	0.0002	-	0.0004
Blacknose dace	0.0001	-	-
Perch family	-	-	0.0001
Unidentifiable remains	0.0078	0.0056	0.0043
Total	0.1912	0.2898	0.1415

* Densities reported for the periods: 28 April through 1 September 1976, 26 April through 30 August 1977, and 24 April through 21 August 1978.

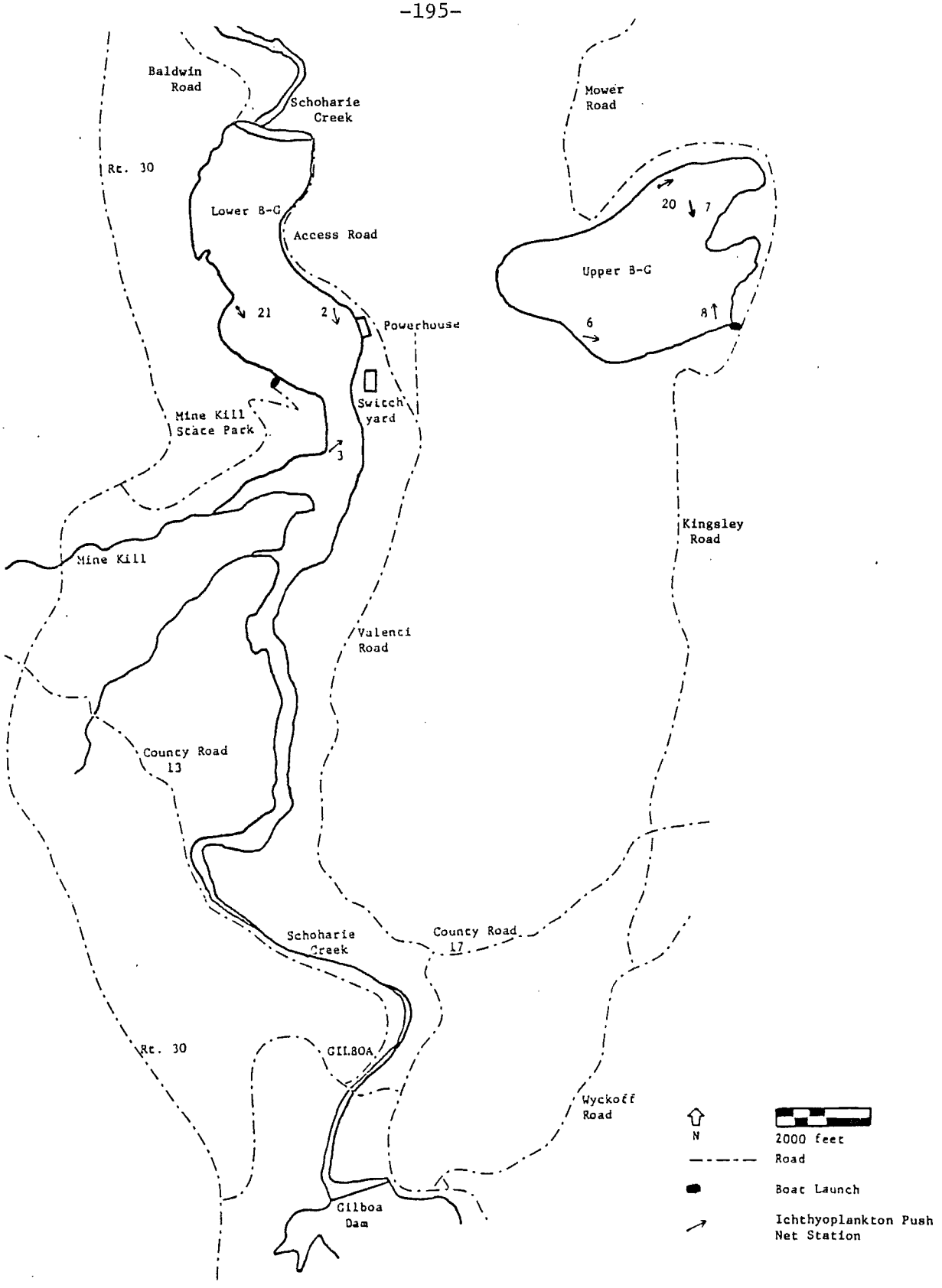
Table 90. Summary of specimens taken per m^3 of water during day ichthyoplankton pushes in 1977 and 1978 in Schoharie Reservoir.*

Taxa	1977	1978
Yellow perch	0.2507	0.1558
White sucker	0.0992	0.0155
Sunfish spp.	0.0105	0.0105
Cisco	0.0032	0.0096
Walleye	0.0001	0.0013
Carp	-	0.0006
Minnow family	0.0002	0.0005
Logperch	0.0001	-
Smallmouth bass	-	0.0001
Unidentifiable remains	0.0004	0.0001
Total	0.3643	0.1940

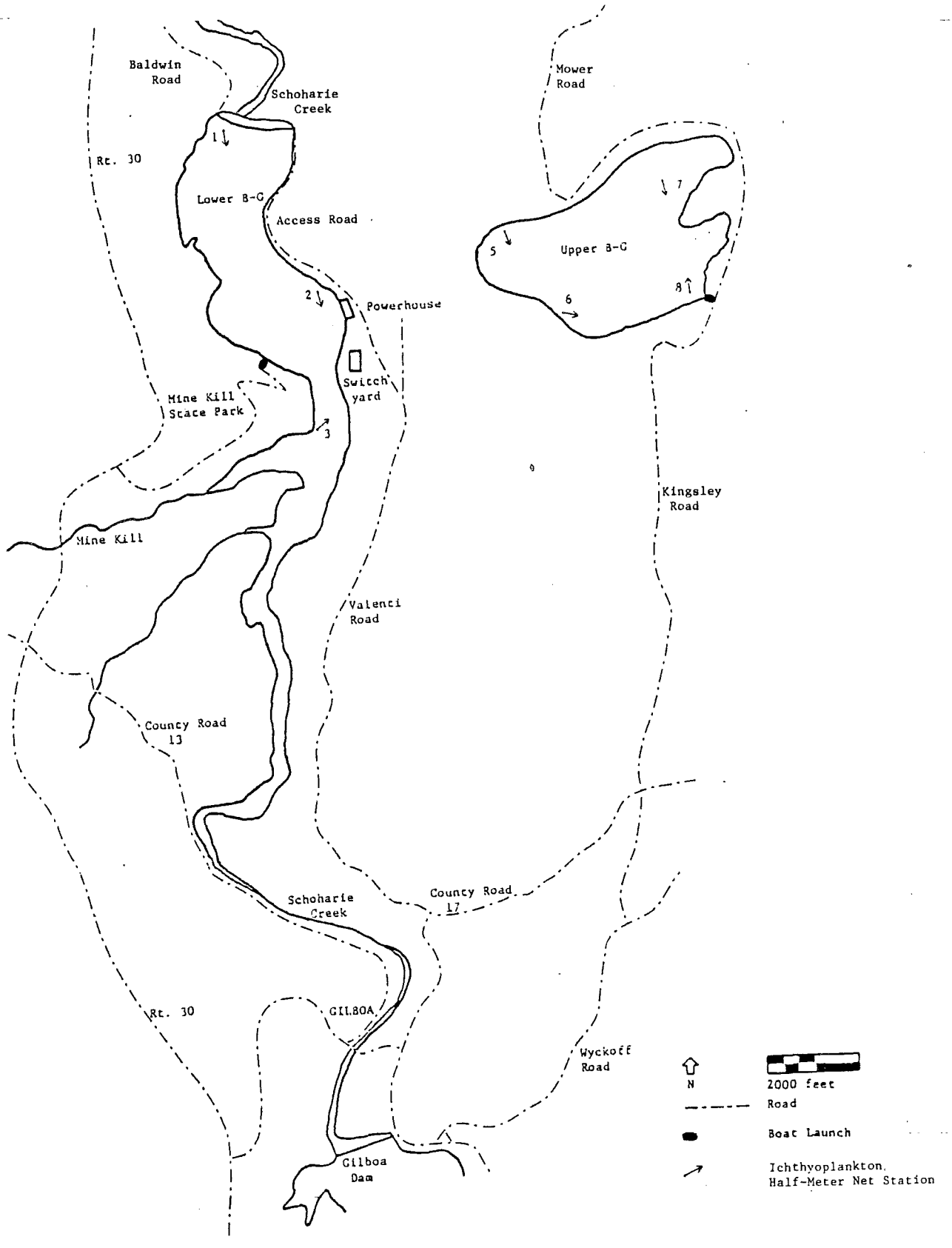
* Densities reported for the periods: 26 April through 29 August 1977 and 25 April through 22 August 1978.

Table 91. Preferred spawning substrate of Schoharie Reservoir game and pan fishes (Scott and Crossman 1975).

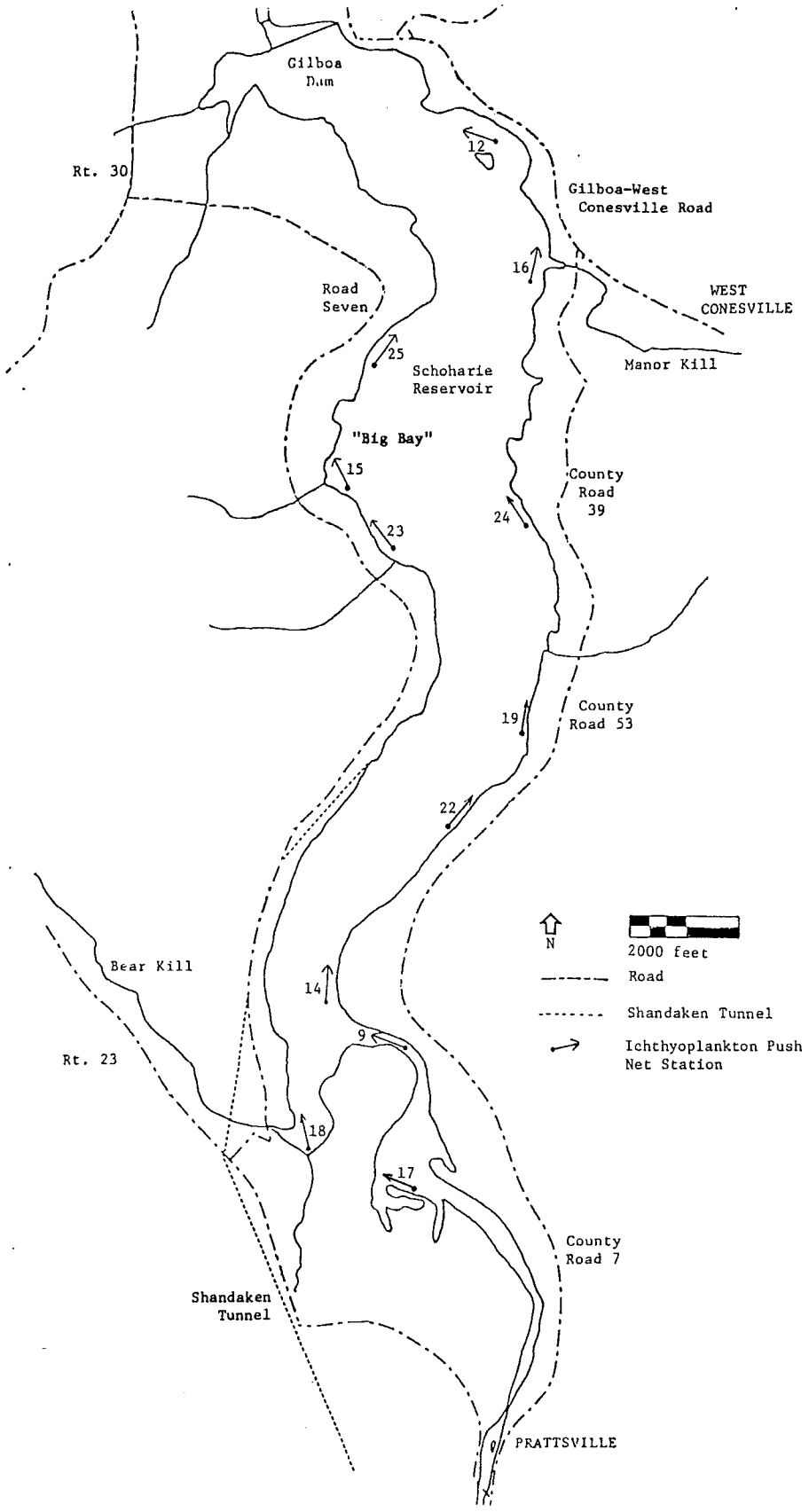
Species	Preferred Substrate	Spawning Period
Chain pickerel	Submerged vegetation, shallow water	Spring
Cisco	A wide variety of substrates, often prefer rocky shoals	Fall
Largemouth bass	Soft bottoms ranging from sand to mud, often among aquatic vegetation	Late spring
Smallmouth bass	Sand, gravel, rocky bottom	Late spring
Walleye	Rocky shoals; will often ascend creeks to spawn in shallow, rocky areas	Early spring
Bluegill	Sand, gravel, firm mud	Late spring-summer
Brown bullhead	Mud, sand, among aquatic vegetation	Late spring
Pumpkinseed	Sand, gravel, clay, rock	Late spring-summer
Rock bass	Anything from swampy areas to gravel shoals	Late spring-summer
Yellow perch	Sand, gravel, among submerged vegetation; will often ascend creeks to spawn in shallow, rocky areas	Early spring



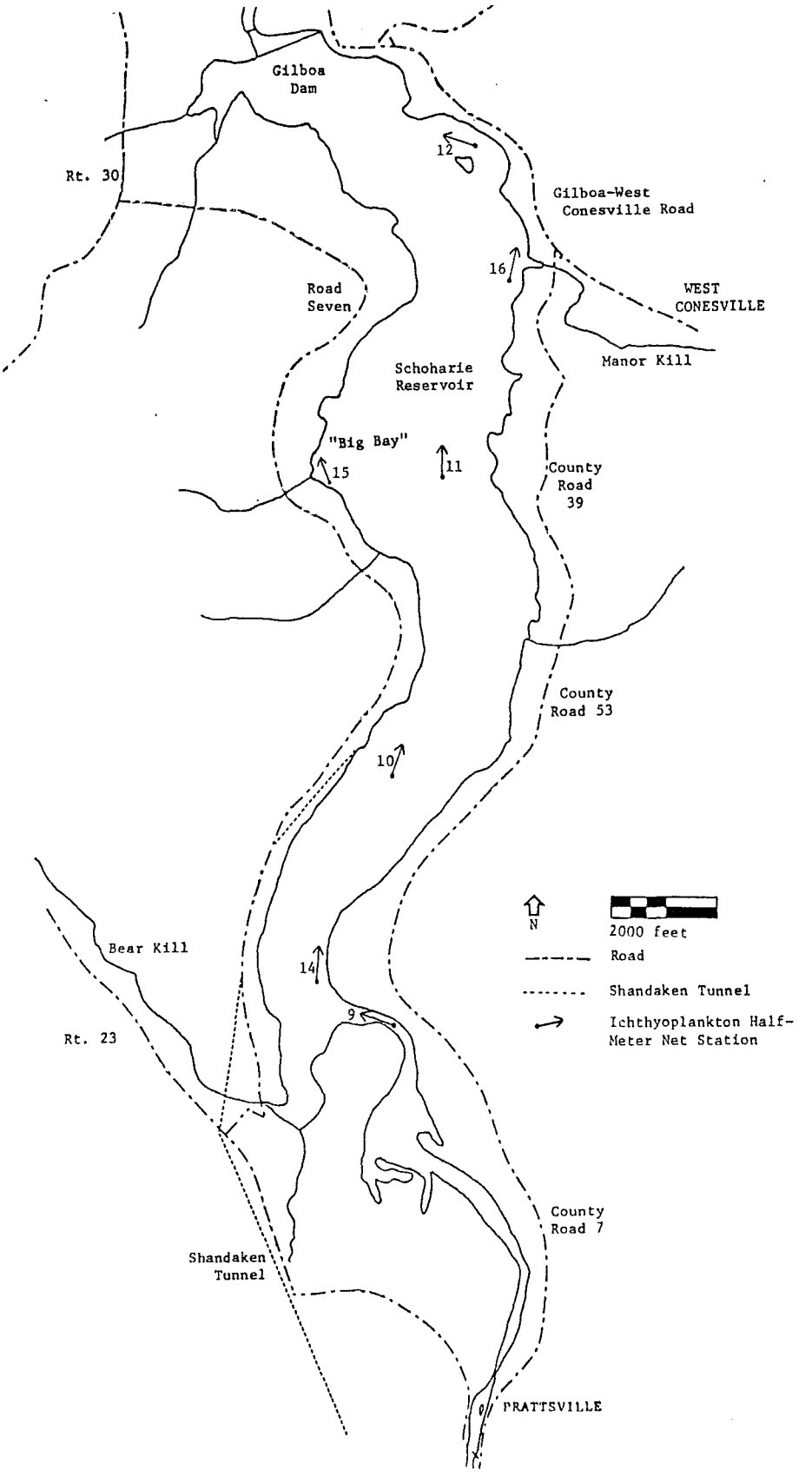
Map 15. Ichthyoplankton push net stations 2, 3, and 21 and 6-8 and 20 sampled during the day from May through August 1978 in Lower and Upper B-G, respectively.



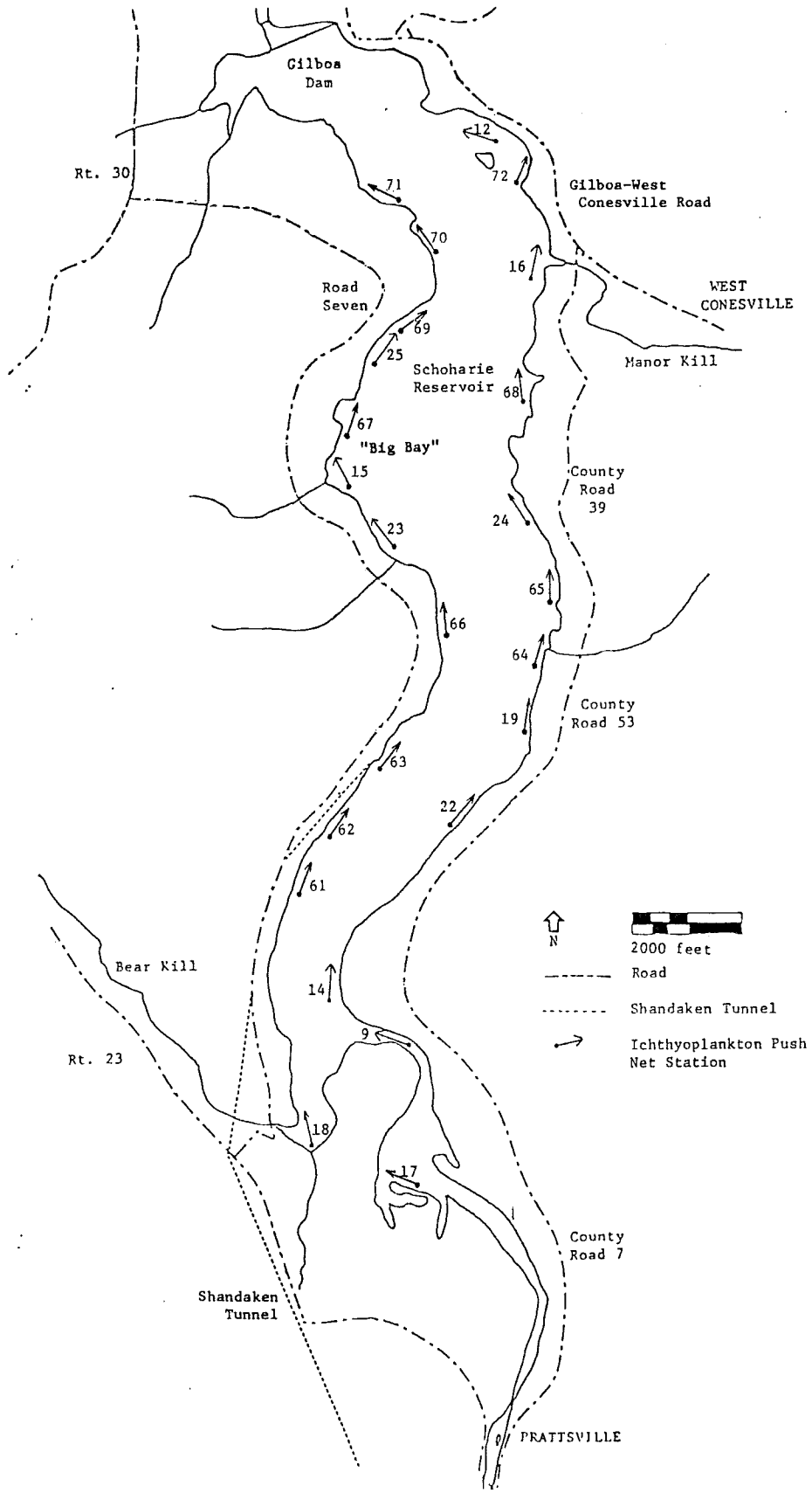
Map 16. Ichthyoplankton half-meter net stations 1-3 and 5-8 sampled at night from May through August 1978 in Lower and Upper B-G, respectively.



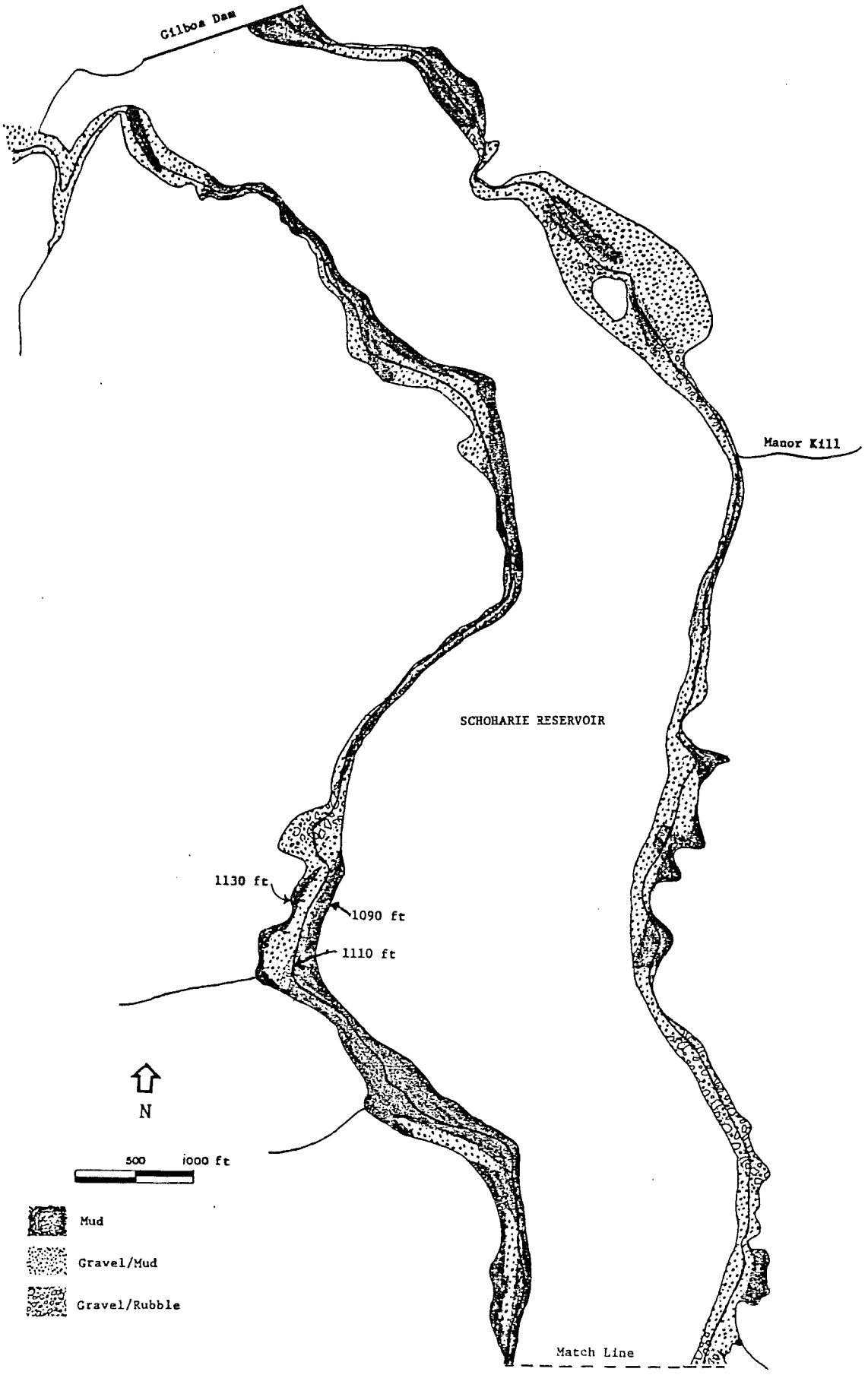
Map 17. Ichthyoplankton push net stations 9, 12, 14-19, and 22-25 sampled during the day from April through August 1978 in Schoharie Reservoir.



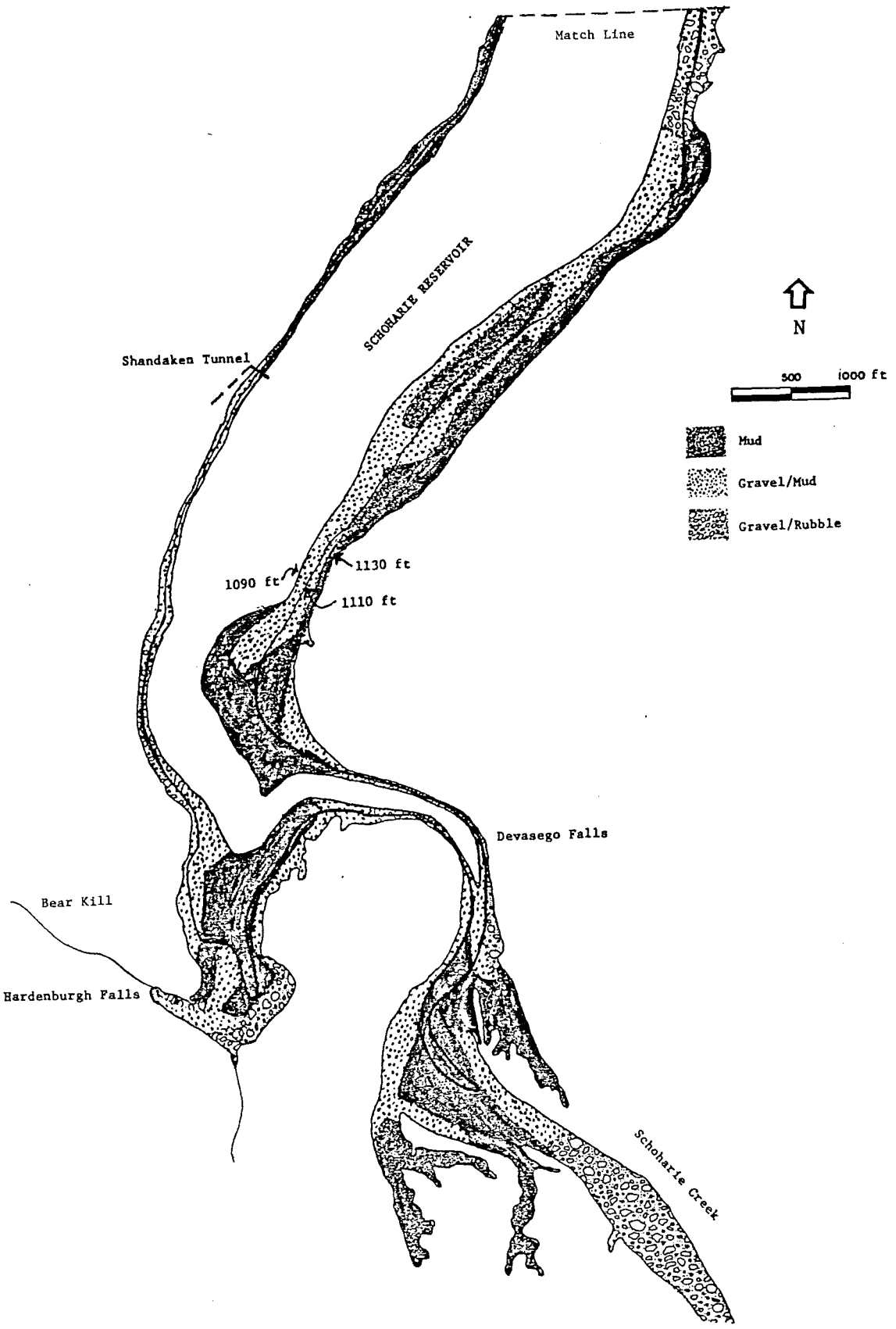
Map 18. Ichthyoplankton half-meter net stations 9-12 and 14-16 sampled at night from April through August 1978 in Schoharie Reservoir.



Map 19. Ichthyoplankton push net stations 9, 12, 14-19, 22-25, and 61-72 sampled at night in May and June 1978 in Schoharie Reservoir.



Map 20. Bottom substrates in 1978 from elevations 1130 ft to 1090 ft in Schoharie Reservoir.



Map 20 - (Continued).

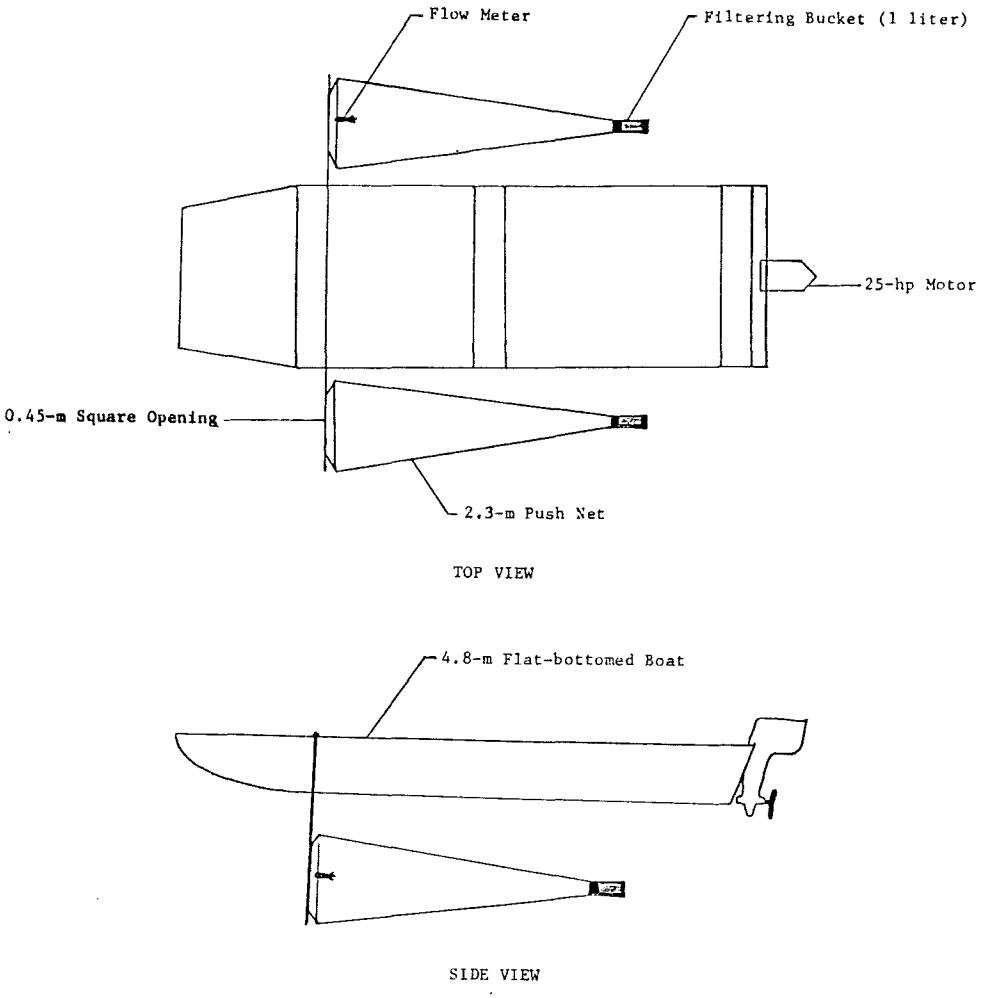


Fig. 10. Diagram of push net used to collect ichthyoplankton in 1978 in Lower and Upper B-G and Schoharie Reservoir.

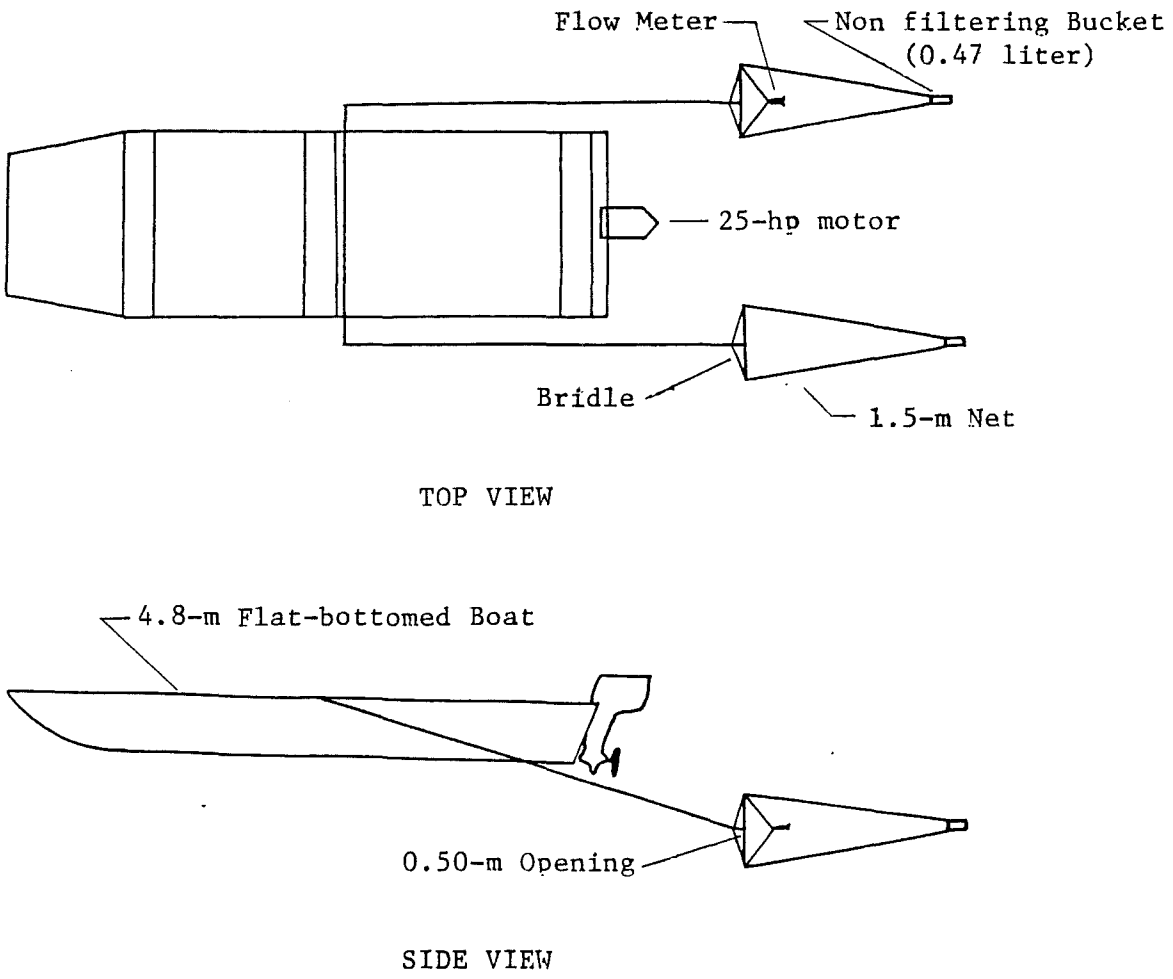


Fig. 11. Diagram of half-meter net used to collect ichthyoplankton in 1978 in Lower and Upper B-G and Schoharie Reservoir.

Appendix 28. Specimens collected per m^3 of water by station for day ichthyoplankton pushes in May 1978 in Lower and Upper B-G.

Station	No. of Pushes	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3 Yellow perch	White sucker	Total
LBG							
2	5	410	82	30.4	0.0049 (2)*	-	0.0049 (2)
3	5	451	90	33.8	0.0089 (4)	-	0.0089 (4)
21	5	370	74	25.9	-	-	-
Total	15	1231	82		0.0049 (6)	-	0.0049 (6)
UBG							
6	5	443	89	25.5	0.0113 (5)	0.0023 (1)	0.0135 (6)
7	5	392	78	28.9	0.0281 (11)	-	0.0281 (11)
8	5	393	79	28.5	0.4606 (181)	0.0025 (1)	0.4631 (182)
20	5	361	72	27.9	0.2992 (108)	-	0.2992 (108)
Total	20	1589	80		0.1919 (305)	0.0013 (2)	0.1932 (307)

* Sample size in parentheses.

Appendix 29. Specimens collected per m^3 of water by station for day ichthyoplankton pushes in June 1978 in Lower and Upper B-G.

Station	No. of Pushes	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3 Yellow perch	Minnow family	Carp	Total
LBG								
2	4	280	70	7.2	-	-	0.0036 (1)*	0.0036 (1)
3	3	225	75	9.2	-	0.0044 (1)	-	0.0044 (1)
21	4	304	76	10.5	-	-	-	-
Total	11	809	74		-	0.0012 (1)	0.0012 (1)	0.0025 (2)
UBG								
6	4	305	76	13.7	0.0164 (5)	-	-	0.0164 (5)
7	4	322	81	12.2	0.0590 (19)	-	-	0.0590 (19)
8	4	286	72	11.1	0.1748 (50)	-	-	0.1748 (50)
20	4	300	75	4.7	0.0933 (28)	-	-	0.0933 (28)
Total	16	1213	76		0.0841 (102)	-	-	0.0841 (102)

* Sample size in parentheses.

Appendix 30. Specimens collected per m^3 of water by station for day ichthyoplankton pushes in July 1978 in Lower and Upper B-G.

Station	No. of Pushes	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3 Sunfish spp.
LBG					
2	4	268	67	6.2	-
3	4	275	69	11.9	0.0036 (1)*
21	4	293	73	2.1	-
Total	12	836	70		0.0012 (1)
UBG					
6	4	346	87	8.9	0.0145 (5)
7	4	293	73	5.6	0.0375 (11)
8	4	289	72	5.2	0.0450 (13)
20	4	281	70	2.8	0.0036 (1)
Total	16	1209	76		0.0248 (30)

* Sample size in parentheses.

Appendix 31. Specimens collected per m^3 of water by station for day ichthyoplankton pushes in August 1978 in Lower and Upper B-G.

Station	No. of Pushes	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3 Sunfish spp.
LBG					
2	4	287	72	7.1	0.0035 (1)*
3	4	278	70	18.0	0.0108 (3)
21	4	239	60	18.9	0.0042 (1)
Total	12	804	67		0.0062 (5)
UBG					
6	4	286	72	2.1	-
7	4	287	72	7.1	-
8	4	248	62	6.1	-
20	4	284	71	4.8	0.0176 (5)
Total	16	1105	55		0.0045 (5)

* Sample size in parentheses.

Appendix 32. Specimens collected per m^3 of water by station and depth for night ichthyoplankton tows in May 1978 in Lower and Upper B-G.

Station	Depth of Tow (m)	No. of Tows	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3 Yellow perch	White sucker	Total
LBG								
1	1.5	4	340	85	15.5	-	-	-
	10.7	4	330	83	15.0	-	-	-
2	1.5	4	310	78	22.2	-	-	-
	4.6	4	314	79	11.6	0.0032 (1)*	-	0.0032 (1)
3	1.5	4	367	92	11.1	0.0054 (2)	-	0.0054 (2)
Total		20	1661	83		0.0018 (3)	-	0.0018 (3)
UBG								
5	1.5	4	354	89	34.1	-	-	-
	10.7	3	263	88	10.0	0.0076 (2)	-	0.0076 (2)
6	1.5	4	315	79	15.3	-	-	-
	10.7	4	363	91	11.6	0.0028 (1)	-	0.0028 (1)
7	1.5	4	379	95	23.8	0.0079 (3)	-	0.0079 (3)
8	1.5	4	394	99	25.6	-	0.0051 (2)	0.0051 (2)
Total		23	2068	90		0.0029 (6)	0.0010 (2)	0.0039 (8)

* Sample size in parentheses.

Appendix 33. Specimens collected per m^3 of water by station and depth for night ichthyoplankton tows in June 1978 in Lower and Upper B-G.

Station	Depth of Tow (m)	No. of Tows	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3 Yellow perch	Carp	White sucker	Minnow family	Darter spp.	Unidentifiable remains	Total
LBG												
1	1.5	5	499	100	12.0	0.0140 (7)*	0.0561 (28)	-	-	-	0.0040 (2)	0.0741 (37)
	10.7	5	407	81	7.8	-	0.0074 (3)	-	0.0025 (1)	-	0.0025 (1)	0.0123 (5)
2	1.5	5	387	77	13.0	0.0207 (8)	0.0207 (8)	-	-	-	-	0.0413 (16)
	4.6	5	391	78	12.4	0.0077 (3)	-	0.0026 (1)	-	-	-	0.0102 (4)
3	1.5	5	448	90	8.6	0.0022 (1)	0.0067 (3)	0.0022 (1)	-	-	-	0.0112 (5)
Total		25	2132	85		0.0089 (19)	0.0197 (42)	0.0009 (2)	0.0005 (1)	-	0.0014 (3)	0.0314 (67)
UBG												
5	1.5	5	457	91	12.2	0.1094 (50)	0.0022 (1)	-	-	-	-	0.1116 (51)
	10.7	5	432	86	8.3	0.1088 (47)	-	-	-	-	-	0.1088 (47)
6	1.5	5	459	92	8.6	0.0261 (12)	-	-	-	-	-	0.0261 (12)
	10.7	5	462	92	12.5	0.0325 (15)	-	-	-	-	-	0.0325 (15)
7	1.5	5	476	95	12.0	0.2899 (138)	-	0.0042 (2)	-	-	-	0.2941 (140)
8	1.5	5	365	73	15.0	0.2548 (93)	-	-	-	0.0027 (1)	-	0.2575 (94)
Total		30	2651	88		0.1339 (355)	0.0004 (1)	0.0008 (2)	-	0.0004 (1)	-	0.1354 (359)

* Sample size in parentheses.

Appendix 34. Specimens collected per m^3 of water by station and depth for night ichthyoplankton tows in July 1978 in Lower and Upper B-G.

Station	Depth of Tow (m)	No. of Tows	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3 Minnow family	Sunfish spp.	Carp	Rock bass	Yellow perch	Unidentifiable remains	Total
LBG												
1	1.5	4	296	74	21.8	0.0101 (3)*	-	0.0169 (5)	-	0.0034 (1)	-	0.0304 (9)
	10.7	4	307	77	18.7	0.0130 (4)	0.0033 (1)	-	-	-	-	0.0163 (5)
2	1.5	4	293	73	16.3	0.0034 (1)	-	-	0.0068 (2)	-	-	0.0102 (3)
	4.6	4	352	88	10.7	0.0057 (2)	-	-	-	-	-	0.0057 (2)
3	1.5	4	347	87	21.7	-	0.0058 (2)	-	0.0029 (1)	-	0.0029 (1)	0.0115 (4)
Total		20	1595	80		0.0063 (10)	0.0019 (3)	0.0031 (5)	0.0019 (3)	0.0006 (1)	0.0006 (1)	0.0144 (23)
UBG												
5	1.5	4	313	78	17.6	-	-	-	-	-	-	-
	10.7	4	331	83	8.7	-	-	-	-	-	-	-
6	1.5	4	325	81	6.3	-	0.0031 (1)	-	-	-	-	0.0031 (1)
	10.7	4	287	72	12.6	-	-	-	-	-	-	-
7	1.5	4	301	75	8.3	-	0.0033 (1)	-	-	-	-	0.0033 (1)
8	1.5	4	298	75	6.4	-	0.0134 (4)	-	-	-	-	0.0134 (4)
Total		24	1855	77		-	0.0032 (6)	-	-	-	-	0.0032 (6)

* Sample size in parentheses.

Appendix 35. Specimens collected per m^3 of water by station and depth for night ichthyoplankton tows in August 1978 in Lower and Upper B-G.

Station	Depth of Tow (m)	No. of Tows	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3 Sunfish spp.	Carp	Tessellated darter	Unidentifiable remains	Total
LBG										
1	1.5	4	202	51	23.1	-	-	-	-	-
	10.7	4	311	78	28.2	0.0096 (3)*	-	-	-	0.0096 (3)
2	1.5	4	300	75	16.4	0.0033 (1)	0.0033 (1)	-	-	0.0067 (2)
	4.6	4	292	73	10.6	-	-	0.0034 (1)	-	0.0034 (1)
3	1.5	4	298	75	8.8	-	-	-	0.0034 (1)	0.0034 (1)
Total		20	1403	70		0.0029 (4)	0.0007 (1)	0.0007 (1)	0.0007 (1)	0.0050 (7)
UBG										
5	1.5	4	295	74	22.4	0.0237 (7)	-	-	-	0.0237 (7)
	10.7	4	326	82	15.0	-	-	-	-	-
6	1.5	4	289	72	10.4	0.0035 (1)	-	-	-	0.0035 (1)
	10.7	4	330	83	5.3	-	-	-	-	-
7	1.5	4	260	65	22.0	-	-	-	-	-
8	1.5	4	302	76	20.9	-	-	-	-	-
Total		24	1802	75		0.0044 (8)	-	-	-	0.0044 (8)

* Sample size in parentheses.

Appendix 36. Specimens collected per m^3 of water by station for day ichthyoplankton pushes in April 1978 in Schoharie Reservoir.

Station	No. of Pushes	Total Volume (m^3)	Mean Volume (m^3)	S.D. Volume	Larvae/m^3 Cisco
9	1	69	69	-	-
12	1	65	65	-	-
14	1	64	64	-	-
15	1	74	74	-	0.0405 (3)*
16	1	64	64	-	0.0156 (1)
17	1	70	70	-	-
18	1	61	61	-	0.0656 (4)
19	1	58	58	-	0.0517 (3)
22	1	49	49	-	0.0204 (1)
23	1	60	60	-	0.0333 (2)
24	1	69	69	-	-
25	1	62	62	-	-
Total	12	765	64		0.0183 (14)

* Sample size in parentheses.

Appendix 37. Specimens collected per m^3 of water by station for day ichthyoplankton pushes in May 1978 in Schoharie Reservoir.

Station	No. of Pushes	Total Volume (m^3)	Mean Volume (m^3)	S.D. Volume	Larvae/m^3 Yellow perch	Cisco	White sucker	Walleye	Carp	Unidentifiable remains	Total
9	5	323	65	18.8	0.1176 (38)*	0.0031 (1)	-	0.0062 (2)	-	0.0031 (1)	0.1300 (42)
12	5	404	81	16.5	0.6213 (251)	0.0050 (2)	-	-	-	-	0.6262 (253)
14	5	430	86	27.8	0.2116 (91)	0.0256 (11)	-	0.0140 (6)	-	-	0.2512 (108)
15	5	395	79	25.0	0.0557 (22)	0.0127 (5)	-	0.0025 (1)	-	-	0.0709 (28)
16	5	405	81	18.9	0.7802 (316)	0.0370 (15)	-	-	-	-	0.8173 (331)
17	5	333	67	21.7	0.0090 (3)	0.0030 (1)	0.0841 (28)	-	-	-	0.0961 (32)
18	5	426	85	30.6	0.5094 (217)	0.0915 (39)	-	0.0070 (3)	-	-	0.6080 (259)
19	5	384	77	14.4	1.5990 (614)	0.0391 (15)	-	-	0.0026 (1)	-	1.6406 (630)
22	5	414	83	31.6	0.3478 (144)	0.0556 (23)	-	0.0024 (1)	0.0048 (2)	-	0.4106 (170)
23	5	430	86	19.5	0.1977 (85)	0.0302 (13)	-	0.0140 (6)	-	-	0.2419 (104)
24	5	423	85	22.3	1.3026 (551)	0.0189 (8)	-	0.0024 (1)	-	-	1.3239 (560)
25	5	338	68	17.5	0.1065 (36)	0.0030 (1)	-	-	0.0030 (1)	-	0.1124 (38)
Total	60	4705	78		0.5033 (2368)	0.0285 (134)	0.0060 (28)	0.0043 (20)	0.0009 (4)	0.0002 (1)	0.5430 (2555)

* Sample size in parentheses.

Appendix 38. Specimens collected per m^3 of water by station for day ichthyoplankton pushes in June 1978 in Schoharie Reservoir.

Station	No. of Pushes	Total Volume (m^3)	Mean Volume (m^3)	S.D. Volume	Larvae/m^3 White sucker	Yellow perch	Sunfish spp.	Carp	Minnow family	Total
9	4	301	75	5.7	0.0133 (4)*	0.0033 (1)	-	0.0066 (2)	-	0.0233 (7)
12	4	307	77	10.1	-	0.0293 (9)	0.0163 (5)	-	-	0.0456 (14)
14	4	279	70	17.9	-	0.0143 (4)	-	-	-	0.0143 (4)
15	4	322	81	6.6	0.3137 (101)	0.0031 (1)	-	-	-	0.3168 (102)
16	4	310	78	4.9	-	0.0161 (5)	0.0258 (8)	0.0032 (1)	-	0.0452 (14)
17	4	290	73	4.8	0.1034 (30)	-	-	0.0034 (1)	-	0.1069 (31)
18	4	306	77	6.6	0.2418 (74)	0.0065 (2)	0.0033 (1)	-	-	0.2516 (77)
19	4	340	85	7.0	-	0.0059 (2)	0.0353 (12)	0.0029 (1)	-	0.0441 (15)
22	4	325	81	9.1	0.0062 (2)	-	-	0.0031 (1)	-	0.0092 (3)
23	4	294	74	7.9	-	-	0.0102 (3)	-	0.0034 (1)	0.0136 (4)
24	4	329	82	2.6	-	0.0456 (15)	0.0061 (2)	-	-	0.0517 (17)
25	4	313	78	6.8	-	-	0.0224 (7)	-	-	0.0224 (7)
Total	48	3716	77		0.0568 (211)	0.0105 (39)	0.0102 (38)	0.0016 (6)	0.0003 (1)	0.0794 (295)

* Sample size in parentheses.

Appendix 39. Specimens collected per m^3 of water by station for day ichthyoplankton pushes in July 1978 in Schoharie Reservoir.

Station	No. of Pushes	Total Volume (m^3)	Mean Volume (m^3)	S.D. Volume	Larvae/m^3 Sunfish spp.	Minnow family	Yellow perch	Smallmouth bass	Total
9	4	276	69	5.4	0.0978 (27)*	-	-	-	0.0978 (27)
12	4	301	75	6.1	0.0199 (6)	0.0033 (1)	-	-	0.0233 (7)
14	4	288	72	2.2	0.0521 (15)	0.0035 (1)	-	-	0.0556 (16)
15	4	272	68	4.2	0.0919 (25)	0.0037 (1)	-	-	0.0956 (26)
16	4	294	74	4.8	0.0068 (2)	0.0034 (1)	-	-	0.0102 (3)
17	-	-	-	-	-	-	-	-	-
18	4	298	75	15.9	0.0235 (7)	-	-	-	0.0235 (7)
19	4	315	79	5.2	0.0032 (1)	0.0032 (1)	-	-	0.0063 (2)
22	4	274	69	5.3	0.0073 (2)	-	-	0.0036 (1)	0.0109 (3)
23	4	295	74	6.7	0.0136 (4)	-	-	-	0.0136 (4)
24	4	313	78	5.9	0.0032 (1)	-	0.0032 (1)	-	0.0064 (2)
25	4	289	72	8.3	0.0450 (13)	0.0035 (1)	0.0035 (1)	-	0.0519 (15)
Total	44	3215	73		0.0320 (103)	0.0019 (6)	0.0006 (2)	0.0003 (1)	0.0348 (112)

* Sample size in parentheses.

Appendix 40. Specimens collected per m^3 of water by station for day ichthyoplankton pushes in August 1978 in Schoharie Reservoir.

Station	No. of Pushes	Total Volume (m^3)	Mean Volume (m^3)	S.D. Volume	Larvae/m^3 Sunfish spp.	Minnow family	Unidentifiable remains	Total
9	4	278	70	8.7	0.0036 (1)*	-	0.0036 (1)	0.0072 (2)
12	4	266	67	5.5	0.0113 (3)	-	-	0.0113 (3)
14	4	300	75	8.5	0.0200 (6)	-	-	0.0200 (6)
15	4	288	72	8.3	-	-	-	-
16	4	281	70	10.2	-	-	-	-
17	-	-	-	-	-	-	-	-
18	4	267	67	9.6	0.0187 (5)	-	-	0.0187 (5)
19	4	291	73	3.9	0.0034 (1)	0.0034 (1)	-	0.0069 (2)
22	4	266	67	11.7	0.0038 (1)	-	-	0.0038 (1)
23	4	253	63	9.6	0.0119 (3)	-	-	0.0119 (3)
24	4	279	70	3.9	0.0036 (1)	-	-	0.0036 (1)
25	4	288	72	3.9	-	-	-	-
Total	44	3057	69		0.0069 (21)	0.0003 (1)	0.0003 (1)	0.0075 (23)

* Sample size in parentheses.

Appendix 41. Specimens collected per m^3 of water by station and depth for night ichthyoplankton tows in April 1978 in Schoharie Reservoir.

Station	Depth of Tow (m)	No. of Tows	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3
9	1.5	1	104	104	-	-
	10.7	1	83	83	-	-
10	1.5	1	105	105	-	-
	10.7	1	102	102	-	-
11	1.5	1	112	112	-	-
	10.7	1	95	95	-	-
12	1.5	1	126	126	-	-
14	1.5	1	95	95	-	-
15	1.5	1	111	111	-	-
16	1.5	1	115	115	-	-
	10.7	1	93	93	-	-
Total		11	1141	104		

Appendix 42. Specimens collected per m^3 of water by station and depth for night ichthyoplankton tows in May 1978 in Schoharie Reservoir.

Station	Depth of Tow (m)	No. of Tows	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3						
						Yellow perch	Walleye	White sucker	Carp	Cisco	Unidentifiable remains	Total
9	1.5	5	500	100	16.3	0.0100 (5)*	0.0100 (5)	0.0360 (18)	0.0080 (4)	-	0.0020 (1)	0.0660 (33)
	10.7	5	476	95	28.0	0.0210 (10)	0.0084 (4)	-	0.0021 (1)	0.0021 (1)	-	0.0336 (16)
10	1.5	5	450	90	26.3	0.0489 (22)	0.0178 (8)	0.0022 (1)	-	-	0.0067 (3)	0.0756 (34)
	10.7	5	447	89	12.5	0.0246 (11)	0.0045 (2)	-	-	-	-	0.0291 (13)
11	1.5	5	472	94	16.3	0.2309 (109)	-	-	-	-	-	0.2309 (109)
	10.7	5	453	91	16.1	0.0088 (4)	-	-	0.0022 (1)	-	-	0.0110 (5)
12	1.5	5	431	86	18.8	0.4664 (201)	-	-	-	-	0.0278 (12)	0.4942 (213)
14	1.5	5	499	100	19.7	0.0401 (20)	0.0521 (26)	0.0160 (8)	-	-	-	0.1082 (54)
15	1.5	5	491	98	15.6	0.1181 (58)	0.0041 (2)	-	0.0020 (1)	-	-	0.1242 (61)
16	1.5	5	394	79	13.3	0.5406 (213)	0.0025 (1)	-	-	-	-	0.5431 (214)
	10.7	5	423	85	24.3	0.2104 (89)	-	-	-	-	0.0071 (3)	0.2175 (92)
Total		55	5036	92		0.1473 (742)	0.0095 (48)	0.0054 (27)	0.0014 (7)	0.0002 (1)	0.0038 (19)	0.1676 (844)

* Sample size in parentheses.

Appendix 43. Specimens collected per m^3 of water by station and depth for night ichthyoplankton tows in June 1978 in Schoharie Reservoir.

Station	Depth of Tow (m)	No. of Tows	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3 Carp	White sucker	Yellow perch	Minnow family	Sunfish spp.
9	1.5	4	351	88	7.2	1.0028 (352)*	0.6154 (216)	0.0313 (11)	0.0456 (16)	0.0285 (10)
	10.7	4	256	64	25.8	0.0273 (7)	0.0508 (13)	0.0156 (4)	0.0078 (2)	0.0039 (1)
10	1.5	4	324	81	8.2	0.0710 (23)	0.0278 (9)	0.0463 (15)	0.0123 (4)	-
	10.7	4	346	87	16.2	0.0029 (1)	0.0029 (1)	0.2601 (90)	0.0058 (2)	-
11	1.5	4	305	76	2.1	-	0.0066 (2)	0.1311 (40)	0.0033 (1)	0.0262 (8)
	10.7	4	367	92	10.6	0.0027 (1)	0.0027 (1)	0.0790 (29)	-	0.0027 (1)
12	1.5	4	304	76	18.0	0.0099 (3)	0.0230 (7)	0.0789 (24)	0.0066 (2)	0.0789 (24)
14	1.5	4	365	91	36.8	0.1808 (66)	0.0712 (26)	0.0055 (2)	0.0658 (24)	-
15	1.5	4	351	88	4.7	0.0085 (3)	0.0427 (15)	0.0769 (27)	0.0199 (7)	0.0313 (11)
16	1.5	4	284	71	15.4	0.0035 (1)	0.0423 (12)	0.0563 (16)	0.0458 (13)	0.0176 (5)
	10.7	4	318	80	7.6	-	0.0314 (10)	0.0786 (25)	0.0094 (3)	-
Total		44	3571	81		0.1280 (457)	0.0874 (312)	0.0792 (283)	0.0207 (74)	0.0168 (60)

Station	Depth of Tow (m)	Larvae/m^3 Rock bass	Darter spp.	Walleye	Perch family	Unidentifiable remains	Total
9	1.5	0.0057 (2)	-	-	-	0.0855 (30)	1.8148 (637)
	10.7	-	0.0078 (2)	0.0039 (1)	0.0039 (1)	-	0.1211 (31)
10	1.5	-	-	-	-	0.0309 (10)	0.1883 (61)
	10.7	-	-	-	-	0.0058 (2)	0.2775 (96)
11	1.5	-	-	-	-	-	0.1672 (51)
	10.7	0.0027 (1)	0.0027 (1)	-	-	-	0.0926 (34)
12	1.5	0.0197 (6)	-	-	-	0.0066 (2)	0.2237 (68)
14	1.5	0.0027 (1)	0.0055 (2)	-	-	0.0192 (7)	0.3507 (128)
15	1.5	-	0.0057 (2)	-	-	-	0.1852 (65)
16	1.5	0.1444 (41)	0.0035 (1)	-	-	-	0.3134 (89)
	10.7	-	0.0094 (3)	-	-	-	0.1289 (41)
Total		0.0143 (51)	0.0031 (11)	0.0003 (1)	0.0003 (1)	0.0143 (51)	0.3643 (1301)

* Sample size in parentheses.

Appendix 44. Specimens collected per m^3 of water by station and depth for night ichthyoplankton tows in July 1978 in Schoharie Reservoir.

Station	Depth of Tow (m)	No. of Tows	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3 Sunfish spp.	Minnow family	Rock bass	Carp	Brown bullhead
9	1.5	4	328	82	7.6	0.0762 (25)*	0.0183 (6)	0.0122 (4)	0.0091 (3)	-
	10.7	4	385	96	19.5	0.0130 (5)	0.0026 (1)	0.0052 (2)	0.0338 (13)	0.0026 (1)
10	1.5	4	329	82	26.4	0.0030 (1)	0.0061 (2)	-	0.0031 (1)	-
	10.7	4	355	89	3.9	0.0028 (1)	-	-	-	-
11	1.5	4	344	86	6.8	0.0262 (9)	-	-	-	-
	10.7	4	351	88	14.2	0.0028 (1)	-	0.0028 (1)	-	-
12	1.5	4	381	95	26.7	0.0630 (24)	-	0.0079 (3)	-	0.0079 (3)
14	1.5	4	325	81	13.7	0.0031 (1)	0.0123 (4)	0.0031 (1)	0.0092 (3)	0.0092 (3)
15	1.5	4	318	80	11.9	0.0094 (3)	-	-	-	-
16	1.5	4	294	74	7.9	0.1939 (57)	0.0578 (17)	0.0306 (9)	-	-
	10.7	4	325	81	7.9	0.0031 (1)	-	0.0092 (3)	0.0031 (1)	-
Total		44	3735	85		0.0343 (128)	0.0080 (30)	0.0062 (23)	0.0056 (21)	0.0019 (7)

Station	Depth of Tow (m)	Larvae/m^3 Darter spp.	Yellow perch	White sucker	Unidentifiable remains	Total
9	1.5	-	-	-	-	0.1159 (38)
	10.7	-	-	0.0026 (1)	-	0.0597 (23)
10	1.5	-	-	-	-	0.0122 (4)
	10.7	-	-	-	-	0.0028 (1)
11	1.5	-	-	-	-	0.0262 (9)
	10.7	-	-	-	-	0.0057 (2)
12	1.5	0.0026 (1)	-	-	0.0026 (1)	0.0840 (32)
14	1.5	-	0.0031 (1)	-	0.0031 (1)	0.0431 (14)
15	1.5	-	-	-	0.0031 (1)	0.0126 (4)
16	1.5	0.0068 (2)	-	-	-	0.2891 (85)
	10.7	-	-	-	-	0.0154 (5)
Total		0.0008 (3)	0.0003 (1)	0.0003 (1)	0.0008 (3)	0.0581 (217)

* Sample size in parentheses.

Appendix 45. Specimens collected per m^3 of water by station and depth for night ichthyoplankton tows in August 1978 in Schoharie Reservoir.

Station	Depth of Tow (m)	No. of Tows	Total Volume (m^3)	Mean Volume (m^3)	SD	Larvae/m^3 Sunfish spp.	Minnow family	Smallmouth bass	Total
9	1.5	4	383	96	33.3	0.0183 (7)*	0.0052 (2)	-	0.0235 (9)
	10.7	4	266	67	5.7	0.0075 (2)	-	-	0.0075 (2)
10	1.5	4	349	87	15.4	0.0201 (7)	-	-	0.0201 (7)
	10.7	4	284	71	15.7	0.0282 (8)	-	-	0.0282 (8)
11	1.5	4	256	64	23.6	0.0078 (2)	-	-	0.0078 (2)
	10.7	4	280	70	9.4	-	-	-	-
12	1.5	4	350	88	18.1	0.0029 (1)	0.0057 (2)	-	0.0086 (3)
14	1.5	4	349	87	3.3	0.0258 (9)	-	0.0029 (1)	0.0287 (10)
15	1.5	4	398	100	28.6	0.0025 (1)	-	-	0.0025 (1)
16	1.5	4	289	72	21.6	0.0035 (1)	-	-	0.0035 (1)
	10.7	4	321	80	3.1	0.0031 (1)	-	-	0.0031 (1)
Total		44	3525	80		0.0111 (39)	0.0011 (4)	0.0003 (1)	0.0125 (44)

* Sample size in parentheses.

Appendix 46. Specimens collected per m^3 of water for night ichthyoplankton pushes in May 1978 in Schoharie Reservoir.

Station	No. of Pushes	Total Volume (m^3)	Larvae/m^3					
			Yellow perch	Walleye	Cisco	Darter spp.	Unidentifiable remains	Total
9	1	86	1.1744 (101)*	-	0.2674 (23)	-	-	1.4419 (124)
12	1	102	0.7255 (74)	0.0588 (6)	-	-	-	0.7843 (80)
14	1	69	1.1884 (82)	0.0145 (1)	-	-	-	1.2029 (83)
15	1	61	1.6066 (98)	0.5246 (32)	-	-	-	2.1311 (130)
16	1	86	1.2674 (109)	0.1395 (12)	-	-	-	1.4070 (121)
17	1	81	-	-	-	-	-	-
18	1	77	0.2597 (20)	0.0390 (3)	-	-	-	0.2987 (23)
19	1	63	1.9683 (124)	0.0794 (5)	-	-	-	2.0476 (129)
22	1	65	9.6769 (629)	0.4000 (26)	-	-	-	10.0769 (655)
23	1	62	0.3387 (21)	0.3226 (20)	-	-	-	0.6613 (41)
24	1	61	4.5246 (276)	0.0656 (4)	-	-	0.0164 (1)	4.6066 (281)
25	1	80	0.2500 (20)	0.0625 (5)	-	-	-	0.3125 (25)
61	1	75	0.2800 (21)	0.1200 (9)	0.0133 (1)	-	-	0.4133 (31)
62	1	75	0.6667 (50)	0.3200 (24)	0.0133 (1)	-	-	1.0000 (75)
63	1	59	0.7458 (44)	0.3220 (19)	-	0.0169 (1)	-	1.0847 (64)
64	1	75	1.5333 (115)	0.0400 (3)	-	-	-	1.5733 (118)
65	1	64	1.3281 (85)	0.1094 (7)	-	-	-	1.4375 (92)
66	1	60	1.0667 (64)	1.0167 (61)	-	-	-	2.0833 (125)
67	1	64	0.2344 (15)	-	-	-	0.0469 (3)	0.2813 (18)
68	1	86	1.1860 (102)	0.0814 (7)	-	-	-	1.2674 (109)
69	1	61	0.2131 (13)	0.1475 (9)	-	-	0.0164 (1)	0.3770 (23)
70	1	73	0.0685 (5)	0.0685 (5)	-	-	-	0.1370 (10)
71	1	83	0.0361 (3)	0.3976 (33)	-	-	-	0.4337 (36)
72	1	71	1.5915 (113)	0.1972 (14)	-	-	-	1.7887 (127)
Total	24	1739	1.2559 (2184)	0.1754 (305)	0.0144 (25)	0.0006 (1)	0.0029 (5)	1.4491 (2520)

* Sample size in parentheses.

Appendix 47. Specimens collected per m^3 of water for night ichthyoplankton pushes in June 1978 in Schoharie Reservoir.

Station	No. of Pushes	Total Volume (m^3)	Larvae/m^3 Minnow family	Carp	White sucker	Rock bass
9	1	92	0.0652 (6)*	0.0978 (9)	0.8261 (76)	-
12	1	62	-	0.0484 (3)	-	0.0323 (2)
14	1	84	0.0357 (3)	0.8095 (68)	0.0238 (2)	-
15	1	76	0.1974 (15)	0.3947 (30)	-	-
16	1	80	0.2875 (23)	0.0250 (2)	0.0250 (2)	0.0750 (6)
17	1	76	0.0395 (3)	0.1316 (10)	0.0526 (4)	-
18	1	75	0.0400 (3)	0.0133 (1)	-	-
19	1	71	0.4507 (32)	0.1831 (13)	-	0.1268 (9)
22	1	72	1.0694 (77)	0.4583 (33)	-	0.0972 (7)
23	1	70	0.2857 (20)	0.4143 (29)	0.0286 (2)	0.0143 (1)
24	1	76	0.0526 (4)	-	-	0.0395 (3)
25	1	55	0.0545 (3)	0.0182 (1)	-	-
61	1	67	0.4328 (29)	0.0597 (4)	0.0149 (1)	-
62	1	70	0.2429 (17)	0.0143 (1)	0.0143 (1)	0.0714 (5)
63	1	74	1.4054 (104)	0.0405 (3)	-	0.1757 (13)
64	1	73	0.0822 (6)	0.0137 (1)	-	0.0137 (1)
65	1	70	0.3571 (25)	0.0714 (5)	-	0.0286 (2)
66	1	56	0.2500 (14)	0.0714 (4)	-	0.0357 (2)
67	1	77	0.0649 (5)	-	-	-
68	1	79	0.1392 (11)	0.0253 (2)	-	-
69	1	66	0.0758 (5)	-	-	-
70	1	81	0.3951 (32)	0.0864 (7)	-	-
71	1	78	0.0897 (7)	0.0897 (7)	-	-
72	1	78	0.0256 (2)	0.1538 (12)	0.0128 (1)	-
Total	24	1758	0.2537 (446)	0.1394 (245)	0.0506 (89)	0.0290 (51)

Station	Larvae/m^3 Sunfish spp.	Yellow perch	Darter spp.	Unidentifiable remains	Total
9	-	0.0217 (2)	-	-	1.0109 (93)
12	0.0968 (6)	-	-	0.0161 (1)	0.1935 (12)
14	-	-	-	-	0.8690 (73)
15	0.0132 (1)	0.0132 (1)	0.0132 (1)	-	0.6316 (48)
16	0.0125 (1)	0.0250 (2)	0.0125 (1)	0.0125 (1)	0.4750 (38)
17	-	-	-	-	0.2237 (17)
18	0.0133 (1)	-	-	-	0.0667 (5)
19	0.0282 (2)	-	0.0141 (1)	-	0.8028 (57)
22	0.0139 (1)	-	0.0417 (3)	-	1.6806 (121)
23	0.1429 (10)	0.0429 (3)	0.0143 (1)	-	0.9429 (66)
24	-	0.0395 (3)	-	0.0132 (1)	0.1447 (11)
25	-	-	0.0182 (1)	-	0.0909 (5)
61	0.0149 (1)	0.0149 (1)	0.0597 (4)	-	0.5970 (40)
62	0.0286 (2)	0.0143 (1)	-	-	0.3857 (27)
63	0.0135 (1)	-	0.0270 (2)	-	1.6622 (123)
64	-	-	-	-	0.1096 (8)
65	0.0143 (1)	0.0143 (1)	-	-	0.4857 (34)
66	0.0179 (1)	0.0179 (1)	-	-	0.3929 (22)
67	0.0260 (2)	-	-	-	0.0909 (7)
68	0.0127 (1)	0.0127 (1)	-	-	0.1899 (15)
69	-	0.0152 (1)	-	-	0.0909 (6)
70	-	0.0247 (2)	-	-	0.5062 (41)
71	-	-	0.0385 (3)	-	0.2179 (17)
72	-	0.0128 (1)	-	-	0.2051 (16)
Total	0.0176 (31)	0.0114 (20)	0.0097 (17)	0.0017 (3)	0.5131 (902)

* Sample size in parentheses.

Section Leader:
Joseph P. Fagnani, B.A.

RESERVOIR BENTHOS

Introduction

Benthic macroinvertebrates were sampled at about seven-week intervals from 7 May through 28 September at three elevations (five stations) in Lower B-G, from 11 May through 5 October at three elevations (five stations) in Upper B-G, and from 3 May through 3 October at four depths (eight stations in four zones) in Schoharie Reservoir (Maps 21 and 22).

Data were collected to determine variety, abundance (numerical and biomass density), and distribution of benthic organisms.

Materials and Methods

Elevations 870 ft (265 m, station 23) and 1980 ft (604 m, station 29) on Lower and Upper B-G, respectively, were periodically exposed during the course of daily and weekly power generation (Tables 92 and 93). Elevations 860 ft (262 m, stations 24-26) and 1970 ft (600 m, stations 30-32) on Lower and Upper B-G, respectively, were generally not exposed; and elevations 850 ft (259 m, station 41) and 1960 ft (597 m, station 43), respectively, were never exposed. Mean percent exposure was calculated for each elevation from hourly elevation data provided by Mr. J. M. Collyer, Resident Manager of the Blenheim-Gilboa Pumped Storage Project.

Drawdown of Schoharie Reservoir precluded sampling permanent station elevations, as was done on Lower and Upper B-G. Surface elevations on dates sampled ranged from 1130.2 ft (344.5 m) in May to 1099.3 ft (355.1 m) in October (Appendix 48). Stations on Schoharie Reservoir were sampled at depths of 1 m (stations 33, 35, and 37), 3 m (stations 34, 36, and 38), 6 m (station 39), and 10 m (station 40) (Table 94). Substrate and gradient at each station

were variable and dependent upon surface elevation. Stations were combined and analyzed by depth (1 m, 3 m, 6 m, and 10 m) and by zone (zones 1-4). Zones were relatively discrete in location, depth, proximity to tributary influence, substrate, or gradient (Table 95).

Three quantitative samples were collected at about seven-week intervals at each station with a benthic suction sampler (BSS) (Gale and Thompson 1975) (Fig. 12). The BSS was lowered from a boat to the reservoir bottom and positioned by a SCUBA diver on an undisturbed site, and the seal between the sampler band and the substrate was inspected. If necessary on very irregular substrates (rubble-boulder), a sand-filled collar was used to close spaces between the sampler band and the substrate. The area sampled (0.16 m^2) was vacuumed for 5 minutes. Substrate and organisms were pumped into a collecting net (0.500-mm square mesh), which was returned to the boat by the diver. Samples were washed in a U. S. Standard #30 sieve (0.590 mm) to remove fine sediments, transferred to labeled plastic bags, and preserved in 10% buffered formalin. Air temperature (C), surface water temperature (C), Secchi disc transparency (m), depth of euphotic zone (depth to 1% surface light intensity, m), predominant substrate, and gradient were recorded at each station (Appendixes 48-50).

In the laboratory macroinvertebrates were hand picked from each sample. Each sample was divided into workable-sized portions, each portion was placed in a 41.9 cm by 25.7 cm by 6.8 cm white enamel pan, and larger macroinvertebrates (e.g., Ephemeroptera and Trichoptera) were removed from sediments. Smaller macroinvertebrates (e.g., Chironomidae and Oligochaeta) were then subsampled by inserting a quadrant divider into the thoroughly mixed sample portion and picking two diagonally opposing quadrants. Organisms were identified using a stereoscopic microscope (8X-40X) and counted. Some Chironomidae

larvae required clearing in a heated 5-7% solution of potassium hydroxide (KOH) and identification using a compound microscope (40X-400X). Numbers and biomass of subsampled taxa were adjusted (doubled) for each sample. Identification followed keys listed in Table 96.

Most organisms were identified to genus, although some were identified only to phylum (i.e., Nemotoda), class (i.e., Oligochaeta, Hirudinea, and Turbellaria), or subclass (i.e., Ostracoda). Phylum, class, and subclass were each counted as a single family and taxon (genus). This procedure underestimated the actual number of families and taxa present but was a consistent method for comparisons. Chironomidae pupae were not identified beyond family; neither were immature Astacidae and Corixidae. A few organisms that were dismembered or mutilated could be identified only to family or order. Those noted in tables as UID (unidentified) or IMM (too immature to identify) were not counted as taxa if genera of the specific family or order were identified, except for unidentified Diptera, which were identified only to order, and Chironomidae larvae that were identified further than family (i.e., subfamily or tribe). Insect developmental stages (i.e., larvae or pupae), except for Chironomidae, were combined for analysis.

Organisms from the triplicate quantitative samples were combined, and dry biomass was determined for each station in each sample period at the family level for Insecta, Crustacea, Gastropoda, and Pelecypoda; the order level for Hydracarina; and the respective level at which Nematoda, Oligochaeta, Hirudinea, Turbellaria, and Ostracoda were identified (i.e., phylum, class, or subclass). Organisms were immersed in distilled water for about 30 minutes, placed in a drying oven at 60±2 C for about 72 hours, cooled to room temperature in a dessicator, and weighed to the nearest 0.0001 g on a Mettler

H31AR balance.

Numbers and biomass of organisms were converted to numerical and biomass densities (#/m^2 and g/m^2, respectively) by dividing the number and biomass of organisms collected by the total area sampled.

Taxa diversity for each sample was based on the Shannon formula:

$$D = -\Sigma\ (n_i/N)\ \log_2\ (n_i/N)$$ (Odum 1971) and

calculated using the machine formula:

$$D = C/N\ (N \log_{10} N - \Sigma\ n_i \log_{10} n_i)$$ (Lloyd et al. 1968), where

D = diversity value, n_i = number of organisms in the ith taxon, N = total number of organisms of all taxa, and C is a constant (3.321928) that converts base 10 log to base 2 log. Mean taxa diversity ($\bar{d} = \Sigma D/N$, where ΣD = sum of sample diversity values and N = number of samples) was determined for stations, depths, and zones. The diversity index summarized information concerning the types of organisms occurring (richness) and the distribution of individuals among the taxa (evenness). Small numbers of taxa with uneven distribution of individuals resulted in low diversity values, and large numbers of taxa with even distribution of individuals resulted in high diversity values. Diversity values were lower than they would have been if organisms had been identified to species but were still meaningful for comparisons.

As a single parameter measuring both richness and evenness, diversity values may sometimes be ambiguous (Gregory and Loch 1973). Samples with few taxa and high evenness can have the same diversity as samples with many taxa and low evenness. An evenness index that compares the number of taxa to the diversity value was determined for each sample by the formula:

$$e = D/\log_2 t$$ where

e = evenness value, D = sample diversity value, and t = number of taxa in the sample (Odum 1971). Mean evenness ($\bar{e} = \Sigma e/N$, where Σe = sum of sample evenness values and N = number of samples) was determined for all stations, depths, and zones. Evenness values range between 0 and 1, which represent the lowest and highest evenness, respectively. Used together with diversity, evenness values are useful in determining whether similar diversity values reflect similar or dissimilar distribution of individuals among the taxa.

Results and Discussion

Benthic macroinvertebrates collected in Lower and Upper B-G and Schoharie Reservoir in 1977 and 1978 are listed in Table 96.

Lower B-G

A total of 60 samples collected on 9.6 m^2 from 7 May through 28 September 1978 yielded 641 benthic organisms/m^2 with a dry biomass of 0.1252 g/m^2 and 55 taxa in 25 families (Tables 97 and 98). Numerical densities of insects, crustaceans, and other organisms were 257/m^2, 13, and 370, respectively; biomass densities were 0.0445 g/m^2, 0.0191, and 0.0616, respectively.

Oligochaeta (342/m^2) and Chironomidae (240) were numerically the most abundant families collected (Table 97). Oligochaeta, Chironomus (81/m^2), and Polypedilum (72) were the most abundant taxa collected. Numerical density of Oligochaeta was highest at station 24 (667/m^2) and lowest at station 23 (123). Numerical densities of Chironomus and Polypedilum were highest at station 26 (228/m^2 and 149, respectively). Numerical density of Chironomus was lowest at station 41 (19/m^2) and of Polypedilum at station 25 (10).

Biomass density of Oligochaeta (0.0548 g/m^2) was greatest, followed by Chironomidae (0.0281), Astacidae (0.0168), Ephemeridae (0.0084), and

Leptoceridae (0.0057) (Table 98). Biomass density of Oligochaeta was highest at station 24 (0.1216 g/m^2) and lowest at station 23 (0.0093). Biomass density of Chironomidae was greatest at station 26 (0.0418 g/m^2) and least at station 41 (0.0172). Biomass density of Astacidae, present only at stations 24 and 25, was greater at station 24 (0.0614 g/m^2). Ephemeridae was present only at station 26 (0.0420 g/m^2). Biomass density of Leptoceridae, absent from stations 23 and 25, was highest at station 26 (0.0188 g/m^2).

The greatest numbers of taxa and families were present at station 24 (33 and 15, respectively) and the least taxa at station 41 (20) and families at station 23 (6) (Table 97).

Mean taxa diversity was 1.54 (Table 99). Diversity was greatest at station 26 (2.16) and least at station 41 (1.17).

Mean numerical and biomass densities were highest at station 24 (921/m^2 and 0.2155 g/m^2) and lowest at station 23 (385 and 0.0444) (Table 99).

Oligochaeta and Chironomidae were numerically the most abundant families in each month sampled (Tables 100-103). Oligochaeta and Polypedilum were the most abundant taxa in May (230/m^2 and 68, respectively); Oligochaeta (548), Chironomus (80), and Polypedilum (71) in June; Oligochaeta (363), Polypedilum (141), and Chironomus (130) in August; and Oligochaeta (225) and Chironomus (85) in September. Numerical density of Oligochaeta was greatest in June (1575/m^2 at station 24) and least in September, when it was absent from station 23. Polypedilum, most abundant in August (504/m^2 at station 26) and least abundant in September (9), was absent from at least one station in each month sampled. Numerical density of Chironomus was greatest in August and at station 26 in September (419/m^2) and least in May (29); Chironomus was

present at all stations only in June.

Oligochaeta was gravimetrically most abundant in each month sampled (Tables 104-107). Oligochaeta (0.0826 g/m^2), Chironomidae (0.0308), Ephemeridae (0.0303), and Astacidae (0.0267) had the highest biomass densities in May; Oligochaeta (0.0577) and Chironomidae (0.0383) in June; Oligochaeta (0.0465), Chironomidae (0.0337), and Astacidae (0.0224) in August; and Oligochaeta (0.0323), Leptoceridae (0.0192), and Astacidae (0.0182) in September. Biomass density of Oligochaeta was highest in May and at station 24 in June (0.2148 g/m^2) and lowest in September, when it was absent from station 23. Biomass density of Chironomidae was highest in June (0.1023 g/m^2 at station 25) and lowest in September (0.0097), when Chironomidae was absent from station 23. Biomass density of Ephemeridae, present only at station 26 and absent from all stations in August, was greatest in May (0.1515 g/m^2 at station 26). Biomass density of Astacidae, present only at stations 24 and 25 and absent from all stations in June, was highest in May (0.1335 g/m^2 at station 24). Biomass density of Leptoceridae, absent from stations 23 and 25, was greatest in September (0.0594 g/m^2 at station 26) and least in May (0.0002).

The greatest number of taxa was present in August (34) and of families in May (18) (Tables 100-103). The least number of taxa was present in September (21) and of families in June (11). Station 24 in May contained the greatest number of taxa and families (19 and 10, respectively) and station 23 in September the least, with no organisms present.

Mean taxa diversity was highest in May (1.82) and decreased in June (1.79) and August (1.43) to a low in September (1.11) (Tables 108-111). Diversity was greatest at station 25 in June (2.81) and least at station 23 in September, with no organisms present.

Mean numerical density increased from May (458/m^2) to a high in June (909) and then decreased in August (749) to a low in September (446) (Tables 108-111). Biomass density was highest in May (0.1908 g/m^2), decreased in June (0.1042), increased slightly in August (0.1124), and decreased to a low in September (0.0934). Station 24 in June contained the highest numerical density (1971/m^2) and in May the highest biomass density (0.3638 g/m^2) and station 23 in September the lowest of each, with no organisms present.

Upper B-G

A total of 60 samples collected on 9.6 m^2 from 11 May through 5 October 1978 yielded 293 benthic organisms/m^2 with a dry biomass of 0.1511 g/m^2 and 29 taxa in 16 families (Tables 112 and 113). Numerical densities of insects, crustaceans, and other organisms were 150/m^2, 6, and 137, respectively; biomass densities were 0.1331 g/m^2, 0.0079, and 0.0101, respectively.

Oligochaeta (108/m^2), Chironomidae (66), and Ephemeridae (56) were numerically the most abundant families collected (Table 112). Oligochaeta, Hexagenia (56/m^2), Oecetis (28), and Coelotanypus (23) were the most abundant taxa collected. Numerical density of Oligochaeta was highest at station 30 (380/m^2) and lowest at station 43 (10). Numerical densities of Hexagenia, Oecetis, and Coelotanypus were greatest at station 31 (91/m^2, 50, and 80, respectively) and least at station 29 (0, 1, and 0, respectively).

Biomass density of Ephemeridae (0.1152 g/m^2) was greatest, followed by Chironomidae (0.0117), Oligochaeta (0.0072), Astacidae (0.0070), and Leptoceridae (0.0062) (Table 113). Biomass density of Ephemeridae, absent from station 29, was highest at station 30 (0.2254 g/m^2). Biomass densities of Chironomidae, Oligochaeta, and Leptoceridae were greatest at stations 32 (0.0220 g/m^2), 30 (0.0227), and 31 (0.0093), respectively, and least at

stations 29 (0.0004), 43 (0.0011), and 29 (0.0001), respectively. Astacidae was present only at station 32 (0.0351 g/m^2).

The greatest numbers of taxa and families were present at station 30 (22 and 12, respectively) and the least at station 29 (8 and 6, respectively) (Table 113).

Mean taxa diversity was 1.74 (Table 114). Diversity was greatest at station 32 (2.17) and least at station 29 (0.60).

Mean numerical and biomass densities were highest at station 30 (619/m^2 and 0.2722 g/m^2) and lowest at station 29 (74 and 0.0089) (Table 114).

Ephemeridae, Chironomidae, Oligochaeta, and Leptoceridae were numerically the most abundant families in May and June and Oligochaeta and Chironomidae in August and October (Tables 115-118). Hexagenia, Oligochaeta, and Oecetis were the most abundant taxa in May (92/m^2, 27, and 24, respectively) and June (58, 33, and 22, respectively); Oligochaeta (111), Procladius (26), and Hexagenia (24) in August; and Oligochaeta (262), Coelotanypus (62), Oecetis (49), Hexagenia (48), and Mideopsis (48) in October. Numerical density of Hexagenia, absent from station 29 in each month sampled, was greatest in May (258/m^2 at station 31) and least in August. Numerical density of Oligochaeta was highest in October (1006/m^2 at station 30) and lowest in May (absent from station 29). Numerical density of Oecetis was greatest in October (112/m^2 at station 31) and least in August (17); Oecetis was absent from station 29 in June, August, and October. Numerical density of Procladius was highest in August (85/m^2 at station 31) and lowest in October (4); Procladius was absent from station 29 in each month sampled, station 43 in May and September, and station 31 in June. Numerical density of Coelotanypus was greatest in October (258/m^2 at station 31) and least in June (3); Coelotanypus was absent from

station 29 in each month sampled and stations 30 and 32 in June. Numerical density of Mideopsis was highest in October (131/m^2 at station 31); Mideopsis was absent from all stations in May, station 29 in each month sampled, and stations 31 and 32 in June.

Ephemeridae was gravimetrically most abundant in each month sampled (Tables 119-122). Ephemeridae (0.0899 g/m^2) and Astacidae (0.0280) had the highest biomass densities in May; Ephemeridae (0.0594), Chironomidae (0.0109), and Leptoceridae (0.0049) in June; Ephemeridae (0.1497), Chironomidae (0.0188), Oligochaeta (0.0107), and Leptoceridae (0.0070) in August; and Ephemeridae (0.1619), Oligochaeta (0.0106), Chironomidae (0.0101), and Leptoceridae (0.0097) in October. Biomass Density of Ephemeridae was greatest in October and at station 30 in August (0.6117 g/m^2) and least in June; it was absent from station 29 in each month sampled. Astacidae was present only in May (0.0280 g/m^2) at station 32 (0.1402). Biomass density of Chironomidae was highest in August (0.0448 g/m^2 at station 30) and lowest in May (0.0069); it was absent from station 29 in August. Leptoceridae biomass density was greatest in October (0.0231 g/m^2 at station 30) and least in May (0.0033); it was absent from station 29 in June, August, and October. Biomass density of Oligochaeta was highest in August (0.0475 g/m^2 at station 30) and October and lowest in June (0.0028); Oligochaeta was absent from station 29 in May.

The greatest numbers of taxa and families were present in October (22 and 14, respectively) (Tables 115-118). The least number of taxa was present in May and June (15 each) and of families in May (7). Station 30 in August contained the greatest number of taxa (16) and in October the greatest number of families (11). Station 29 in May contained the least number of taxa and families (2 each).

Mean taxa diversity was lowest in May (1.51), increased in June (1.56), was highest in August (2.04), and decreased in September (1.84) (Tables 123-126). Diversity was greatest at station 32 in August (2.70) and least at station 29 in June (0.31).

Mean numerical and biomass densities decreased from May (200/m^2 and 0.1339 g/m^2) to lows in June (155 and 0.0790) and increased in August (287 and 0.1886) to highs in October (530 and 0.2028) (Tables 123-126). Station 30 in October contained the highest numerical density (1287/m^2) and in August the highest biomass density (0.7075 g/m^2). Station 29 in May contained the lowest numerical and biomass densities (4/m^2 and 0.0004 g/m^2).

Schoharie Reservoir

A total of 96 samples collected on 15.36 m^2 from 3 May through 3 October yielded 1955 benthic organisms/m^2 with a dry biomass of 0.4390 g/m^2 and 87 taxa in 38 families (Tables 127-129). Numerical densities of insects, crustaceans, and other organisms were 568/m^2, 48, and 1340, respectively; biomass densities were 0.1226 g/m^2, 0.0158, and 0.3005, respectively.

Oligochaeta (1301/m^2) and Chironomidae (537) were numerically the most abundant families collected. Oligochaeta, Tanytarsus (178/m^2), Procladius (124), and Chironomus (73) were the most abundant taxa collected (Table 127). Oligochaeta numerical density was highest at 10 m (2113/m^2) and similar at 1 m (1206), 3 m (1171), and 6 m (1170) and was higher in zones 1 (2330) and 4 (1642) than in zones 2 (335) and 3 (899). Tanytarsus numerical density was higher at 1 m (260/m^2) and 3 m (212) than at 6 m (5) and 10 m (6) and was higher in zone 1 (424) than in zones 2 (108), 3 (177), and 4 (5). Procladius numerical density was higher at 3 m (217/m^2) than at 1 m (81), 6 m (29), and 10 m (68) and was highest in zone 1 (324) and similar in zones 2 (65), 3 (58),

and 4 (48). Chironomus numerical density was higher at 3 m (107/m^2) and 1 m (81) than at 6 m (4) and 10 m (12) and was higher in zone 1 (193) than in zones 2 (45), 3 (44), and 4 (8). Oligochaeta, Tanytarsus, and Chironomus numerical densities were highest at station 33 (2357/m^2, 534, and 208, respectively) (Table 128). Numerical density of Oligochaeta was lowest at station 35 (176/m^2) and of Tanytarsus and Chironomus at station 39 (5 and 4, respectively). Procladius numerical density was highest at station 34 (485/m^2) and lowest at station 35 (8).

Biomass density of Oligochaeta (0.2980 g/m^2) was greatest, followed by Chironomidae (0.0635), Ephemeridae (0.0394), and Astacidae (0.0115) (Tables 129 and 130). Oligochaeta biomass density was higher at 10 m (0.4594 g/m^2) and 1 m (0.3944) than at 3 m (0.1933) and 6 m (0.1614) and was higher in zone 1 (0.5329) than in zones 2 (0.0661), 3 (0.2826), and 4 (0.3104). Chironomidae biomass density was higher at 3 m (0.1024 g/m^2) than at 1 m (0.0555), 6 m (0.0087), and 10 m (0.0252) and was higher in zone 1 (0.1184) than in zones 2 (0.0664), 3 (0.0521), and 4 (0.0169). Ephemeridae biomass density was higher at 3 m (0.0860 g/m^2) than at 1 m (0.0039), 6 m (0.0356), and 10 m (0.0102) and was higher in zones 2 (0.0753) and 3 (0.0551) than in zones 1 (0.0044) and 4 (0.0229). Astacidae biomass density was higher at 6 m (0.0558 g/m^2) than at 1 m (0.0109), 3 m (0.0012), and 10 m (0.0000) and was higher in zone 4 (0.0279) than in zones 1 (0.0034), 2 (0.0009), and 3 (0.0139). Biomass density of Oligochaeta was highest at station 33 (0.7762 g/m^2) and lowest at station 35 (0.0610). Biomass density of Chironomidae was highest at station 34 (0.1325 g/m^2) and lowest at station 39 (0.0087). Biomass density of Ephemeridae was greatest at station 36 (0.1483 g/m^2); it was absent from station 34. Biomass density of Astacidae, absent from stations 34, 36, and 40, was highest at station 39 (0.0558 g/m^2).

Greater numbers of taxa and families were present at 3 m (72 and 33, respectively) than at 1 m (60 and 26, respectively) and at 10 m (27 and 18, respectively) than at 6 m (24 and 15, respectively) (Tables 127 and 128). Zone 1 contained the greatest number of taxa (65) and zones 1 and 2 the greatest number of families (26 each). Zone 4 contained the least number of taxa (32) and zones 3 and 4 the least number of families (21 each). Station 34 contained the greatest number of taxa (49) and station 36 the greatest number of families (22). Station 39 contained the least number of taxa (24) and station 37 the least number of families (13).

Mean taxa diversity was 1.51 (Tables 131 and 132). Diversity was highest at 3 m (1.87) and lowest at 10 m (0.75) and was highest in zone 2 (1.96) and lowest in zone 4 (0.82). Station 36 had the greatest diversity (2.08) and station 40 the least (0.75).

Mean numerical density was highest at 10 m (2396/m^2), similar at 1 m (2021) and 3 m (1956), and lowest at 6 m (1318) (Tables 131 and 132). Biomass density was highest at 1 m (0.5087 g/m^2) and 10 m (0.5076), lower at 3 m (0.4028), and lowest at 6 m (0.2702). Mean numerical and biomass densities were highest in zone 1 (3671/m^2 and 0.7193 g/m^2) and lowest in zone 2 (801 and 0.2310). Numerical and biomass densities were greatest at station 33 (3836/m^2 and 1.0020 g/m^2) and least at station 35 (462 and 0.1008).

Oligochaeta and Chironomidae were numerically the most abundant families in each month sampled (Tables 133-140). Oligochaeta (1564/m^2), Tanytarsus (129), and Chironomus (114) were the most abundant taxa in May; Oligochaeta (1122), Tanytarsus (221), and Procladius (92) in June; Oligochaeta (704), Procladius (338), and Tanytarsus (315) in August; and Oligochaeta (1815) and Nematoda (73) in October. Oligochaeta numerical density was highest in

October, at 10 m in June (3075/m^2), and in zone 1 (3959) and at station 34 (7475) in October. Oligochaeta numerical density was lowest in August, at 6 m in June (129/m^2), and in zone 2 (201) and at station 35 (71) in May. Tanytarsus numerical density was highest in August and at 1 m (622/m^2), in zone 1 (1216), and at station 33 (1821) in August. Tanytarsus numerical density was lowest in October (48/m^2); it was absent from 6 m and 10 m and from zone 4 in August and October and from stations 38 in May and 39 and 40 in August and October. Chironomus numerical density was highest in May, at 3 m in May (267/m^2), and in zone 1 (304) and at station 33 (575) in August. Numerical density of Chironomus was lowest in October (45/m^2) at at 6 m in June (2); it was absent from zones 2 in August and 3 in October and stations 33 in May, 35 and 36 in August, and 36-38 in October. Procladius numerical density was greatest in August and at 3 m (629/m^2), in zone 1 (1174), and at station 34 (1746) in August. Numerical density of Procladius was least in October (29/m^2) and at 1 m (1) and in zone 2 (2) in October; it was absent from stations 37 in May and 33 and 35 in October. Nematoda numerical density was highest in October and at 10 m (304/m^2), in zone 4 (229), and at station 40 (304) in October. Numerical density of Nematoda was lowest in August (2/m^2); it was absent from 6 m in May, 10 m in June, and 6 m and 10 m in August; zones 1 in June, 3 and 4 in August, and 1 and 2 in October; and stations 39 in May, 33, 34, and 40 in June, 34, 35, and 37-40 in August, and 33-36 in October.

Oligochaeta was gravimetrically most abundant in each month sampled (Tables 141-148). Oligochaeta (0.5678 g/m^2), Chironomidae (0.1099), Ephemeridae (0.0422), and Leptophlebiidae (0.0391) had the highest biomass density in May; Oligochaeta (0.3421), Ephemeridae (0.0840), and Chironomidae (0.0534) in June; Oligochaeta (0.0896) and Chironomidae (0.0726) in August;

and Oligochaeta (0.1925), Astacidae (0.0297), Ephemeridae (0.0209), and Chironomidae (0.0180) in October. Biomass density of Oligochaeta was highest in May and at 1 m (0.9098 g/m^2), in zone 1 (1.1181), and at station 33 (1.9046) in May. Biomass density of Oligochaeta was lowest in August, at 6 m in June (0.0229 g/m^2), in zone 2 in August (0.0261), and at station 38 in October (0.0104). Biomass density of Chironomidae was greatest in May and at 3 m in May (0.2447 g/m^2), in zone 1 in August (0.2320), and at station 36 in May (0.3929). Chironomidae biomass density was least in October and at 1 m (0.0022 g/m^2), in zone 2 (0.0011), and at station 36 (0.0006) in October. Ephemeridae biomass density was greatest in June and at 3 m (0.2194 g/m^2), in zone 3 (0.1942), and at station 38 (0.3883) in June. Biomass density of Ephemeridae was least in August (0.0106 g/m^2); it was absent from 10 m in May and 1 m in June and October; from zone 1 in May, June, and October; and from stations 33, 34, 37, and 40 in May, 33-35 and 37 in June and October, and 34 in August. Leptophlebiidae biomass density was highest in May and at 1 m (0.1001 g/m^2), in zone 1 (0.1396), and at station 33 (0.2669) in May. Leptophlebiidae was absent from all stations in June and August and from 6 m and 10 m and zones 3 and 4 in May and October and stations 36-40 in May and 35 and 37-40 in October. Biomass density of Astacidae was greatest in October and at 6 m (0.2231 g/m^2), in zone 4 (0.1116), and at station 39 (0.2231) in October. Astacidae was absent from all stations in May and from 3 m, 6 m, and 10 m in June and August and 1 m and 10 m in October; zones 2 and 4 in June, 4 in August, and 1 and 2 in October; and stations 34-36 and 38-40 in June, 34, 36, and 38-40 in August, and 33-37 and 40 in October.

The greatest number of taxa was collected in August (46) and of families in May, August, and October (21 each) (Tables 133-140). The least numbers of

taxa and families were collected in June (42 and 20, respectively). The greatest numbers of taxa and families were collected at 1 m in August (39 and 17, respectively) and the least taxa at 6 m in May (9) and the least families at 6 m and 10 m in May and June and 1 m in October (6 each). Zone 1 in August contained the greatest number of taxa (34) and zone 4 in October the greatest number of families (16). Zone 4 in May contained the least number of taxa (12) and zone 1 in October the least number of families (6). Station 33 in August contained the greatest number of taxa (28) and station 39 in October the greatest number of families (13). Stations 33 and 35 in October contained the least number of taxa (7 each) and stations 35 and 37 in October the least number of families (3 each).

Mean taxa diversity increased from May (1.47) to a high in June (1.93) and decreased in August (1.62) to a low in October (1.01) (Tables 149-156). Diversity was highest at 3 m in June (2.47) and in zone 2 (2.67) and at station 35 (2.79) in May. Diversity was lowest at 6 m (0.27), in zone 4 (0.37), and at station 39 (0.27) in May.

Mean numerical density decreased from May (2060/m^2) to a low in June (1806) and increased slightly in August (1821) to a high in October (2135) (Tables 149-156). Numerical density was highest at 3 m (3238/m^2), in zone 1 (4532), and at station 34 (8581) in October. Numerical density was lowest at 6 m in June (237/m^2) and in zone 2 (441) and at station 35 (167) in October.

Biomass density was highest in May (0.7870 g/m^2), decreased in June (0.4902) to a low in August (0.2096), and increased slightly in October (0.2694) (Tables 149-156). Biomass density was highest at 1 m (1.0967 g/m^2), in zone 1 (1.4128), and at station 33 (2.2719) in May. Biomass density was lowest at 6 m in June (0.0385 g/m^2) and in zone 2 (0.0466) and at station 35 (0.0196) in October.

Summary

Lower B-G

1. A total of 60 samples collected on 9.6 m^2 from 7 May through 28 September 1978 yielded 641 benthic organisms/m^2 with a dry biomass of 0.1252 g/m^2 and 55 taxa in 25 families.

2. Oligochaeta (342/m^2 and 0.0548 g/m^2) and Chironomidae (240 and 0.0281) were numerically and gravimetrically the most abundant families collected. Oligochaeta, Chironomus (81/m^2), and Polypedilum (72) were the most abundant taxa collected.

3. The greatest numbers of taxa and families were present at station 24 (33 and 15, respectively) and the least taxa at station 41 (20) and the least families at station 23 (6).

4. Mean taxa diversity was 1.54. Diversity was highest at station 26 (2.16) and lowest at station 41 (1.17).

5. Mean numerical and biomass densities were greatest at station 24 (921/m^2 and 0.2155 g/m^2) and least at station 23 (385 and 0.0444).

6. Oligochaeta and Chironomidae were numerically the most abundant families in each month sampled.

7. Oligochaeta was gravimetrically most abundant in each month sampled.

8. The greatest number of taxa and families were present at station 24 in May (19 and 10, respectively) and the least at station 23 in September, with no organisms present.

9. Diversity was greatest at station 25 in June (2.81) and least at station 23 in September, with no organisms present.

10. Station 24 in June contained the highest numerical density (1971/m^2) and in May the highest biomass density (0.3638 g/m^2) and station 23 in September the lowest of each, with no organisms present.

Upper B-G

11. A total of 60 samples collected on 9.6 m^2 from 11 May through 5 October 1978 yielded 293 benthic organisms/m^2 with a dry biomass of 0.1511 g/m^2 and 29 taxa in 16 families.

12. Oligochaeta (108/m^2), Chironomidae (66), and Ephemeridae (56) were numerically the most abundant families collected. Oligochaeta, Hexagenia (56), Oecetis (28), and Coelotanypus (23) were the most abundant taxa collected.

13. Ephemeridae (0.1152 g/m^2) and Chironomidae (0.0117) were gravimetrically the most abundant families collected.

14. The greatest numbers of taxa and families were present at station 30 (22 and 12, respectively) and the least at station 29 (8 and 6, respectively).

15. Mean taxa diversity was 1.74. Diversity was highest at station 32 (2.17) and lowest at station 29 (0.60).

16. Mean numerical and biomass densities were highest at station 30 (619/m^2 and 0.2722 g/m^2) and lowest at station 29 (74 and 0.0089).

17. Ephemeridae, Chironomidae, Oligochaeta, and Leptoceridae were numerically the most abundant families in May and June and Oligochaeta and Chironomidae in August and October.

18. Ephemeridae was gravimetrically most abundant in each month sampled.

19. Station 30 in August contained the greatest number of taxa (16) and in October the greatest number of families (11). Station 29 in May contained the least number of taxa and families (2 each).

20. Diversity was greatest at station 32 in August (2.70) and least at station 29 in June (0.31).

21. Station 30 in October contained the highest numerical density ($1287/m^2$) and in August the highest biomass density ($0.7075\ g/m^2$). Station 29 in May contained the lowest numerical and biomass densities ($4/m^2$ and $0.0004\ g/m^2$).

Schoharie Reservoir

22. A total of 96 samples collected on 15.36 m^2 from 3 May through 3 October 1978 yielded 1955 benthic organisms/m^2 with a dry biomass of $0.4390\ g/m^2$ and 87 taxa in 38 families.

23. Oligochaeta ($1301/m^2$ and $0.2980\ g/m^2$) and Chironomidae (537 and 0.0635) were numerically and gravimetrically the most abundant families collected. Oligochaeta, Tanytarsus ($178/m^2$), Procladius (124), and Chironomus (73) were the most abundant taxa collected.

24. Greater numbers of taxa and families were present at 3 m (72 and 33, respectively) than at 1 m (60 and 26, respectively) and at 10 m (27 and 18, respectively) than at 6 m (24 and 15, respectively). Zone 1 contained the greatest number of taxa (65) and zones 1 and 2 the greatest number of families (26 each). Zone 4 contained the least number of taxa (32) and zones 3 and 4 the least number of families (21 each). Station 34 contained the greatest number of taxa (49) and station 36 the greatest number of families (22). Station 39 contained the least number of taxa (24) and station 37 the least number of families (13).

25. Mean taxa diversity was 1.51. Diversity was highest at 3 m (1.87) and lowest at 10 m (0.75) and was highest in zone 2 (1.96) and lowest in zone 4 (0.82). Station 36 had the greatest diversity (2.08) and station 40 the least (0.75).

26. Mean numerical density was highest at 10 m ($2396/m^2$), similar at

1 m (2021) and 3 m (1956), and lowest at 6 m (1318). Biomass density was highest at 1 m (0.5087 g/m^2) and 10 m (0.5076), lower at 3 m (0.4028), and lowest at 6 m (0.2702). Mean numerical and biomass densities were highest in zone 1 (3671/m^2 and 0.7193 g/m^2) and lowest in zone 2 (801 and 0.2310). Numerical and biomass densities were greatest at station 33 (3836/m^2 and 1.0020 g/m^2) and least at station 35 (462 and 0.1008).

27. Oligochaeta and Chironomidae were numerically the most abundant families in each month sampled.

28. Oligochaeta was gravimetrically most abundant in each month sampled.

29. The greatest numbers of taxa and families were collected at 1 m in August (39 and 17, respectively) and the least taxa at 6 m in May (9) and the least families at 6 m and 10 m in May and June and 1 m in October (6 each). Zone 1 in August contained the greatest number of taxa (34) and zone 4 in October the greatest number of families (16). Zone 4 in May contained the least number of taxa (12) and zone 1 in October the least number of families (6). Station 33 in August contained the greatest number of taxa (28) and station 39 in October the greatest number of families (13). Stations 33 and 35 in October contained the least number of taxa (7 each) and stations 35 and 37 in October the least number of families (3 each).

30. Mean taxa diversity was highest at 3 m in June (2.47) and in zone 2 (2.67) and at station 35 (2.79) in May. Diversity was lowest at 6 m (0.27), in zone 4 (0.37), and at station 39 (0.27) in May.

31. Mean numerical density was highest at 3 m (3238/m^2), in zone 1 (4532), and at station 34 (8581) in October. Numerical density was lowest at 6 m in June (237/m^2) and in zone 2 (441) and at station 35 (167) in October.

32. Biomass density was highest at 1 m (1.0967 g/m^2), in zone 1 (1.4128), and at station 33 (2.2719) in May. Biomass density was lowest at 6 m in June (0.0385 g/m^2) and in zone 2 (0.0466) and at station 35 (0.0196) in October.

Table 92. Description and location of benthos stations 23-26 and 41 sampled in May, June, August, and September 1978 in Lower B-G.

Station	Station Elevation (ft)	Mean % Exposure	Location*	Predominant Substrate**	Gradient
23	870	24.4	400 ft from west shore, 0.2 mi northwest of boat ramp, 0.5 mi west of powerhouse	Clay/rubble	Moderate
24	860	0.1	0.1 mi from west shore, 0.2 mi northwest of boat ramp, 0.4 mi west of powerhouse	Rubble/clay	Moderate
25	860	0.1	300 ft from east shore, 0.5 mi southwest of switchyard, 0.6 mi southeast of boat ramp	Rubble/boulder	Slight
26	860	0.1	200 ft from east shore, 0.6 mi north of boat ramp, 0.6 mi northwest of powerhouse	Sand/gravel	Slight
41	850	0.0	0.1 mi from west shore, 0.2 mi northwest of boat ramp, 0.4 mi west of powerhouse	Silt/sand	Steep

* Based upon measurements taken at 890 ft elevation.
** Roelofs (1944).

Table 93. Description and location of benthos stations 29-32 and 43 sampled in May, June, August, and October 1978 in Upper B-G.

Station	Station Elevation (ft)	Mean % Exposure	Location*	Predominant Substrate**	Gradient
29	1980	6.2	0.1 mi from east shore, 0.2 mi north of boat ramp, 0.2 mi south of tip of northeast peninsula	Rubble/gravel/sand	Moderate
30	1970	0.1	0.1 mi from east shore, 0.2 mi north of boat ramp, 0.1 mi south of tip of northeast peninsula	Rubble/gravel/clay	Moderate
31	1970	0.1	In northeast bay, 0.6 mi north of boat ramp, 0.8 mi northeast of microwave tower	Rubble/clay/gravel	Slight
32	1970	0.1	Near north shore, 200 ft off dike, 0.6 mi northwest of boat ramp, 0.6 mi northeast of microwave tower	Rubble/gravel/clay	Slight
43	1960	0.0	0.1 mi from east shore, 0.2 mi northwest of boat ramp, 0.1 mi south of tip of northeast peninsula	Gravel/sand/rubble	Moderate

* Based upon measurements taken at 2003 ft elevation.
** Roelofs (1944).

Table 94. Description and location of benthos stations 33-40 sampled in May, June, August, and October 1978 in Schoharie Reservoir.

Station	Depth (m)	Location*
33	1	East shore, 0.3 mi northeast of mouth of Bear Kill, 1.1 mi south of Shandaken Tunnel intake (STI)
34	3	0.1 mi northwest of east shore, 0.3 mi northeast of mouth of Bear Kill, 0.1 mi east of west shore, 1.0 mi south of STI
35	1	West shore, 400 ft northeast of STI
36	3	200 ft east of west shore, 500 ft northeast of STI
37	1	West shore, 1.1 mi north of STI, 1.0 mi southwest of mouth of Manor Kill
38	3	400 ft east of west shore, 1.0 mi north of STI, 1.0 mi southwest of mouth of Manor Kill
39	6	0.2 mi east of west shore, 1.0 mi north of STI, 0.9 mi southwest of mouth of Manor Kill
40	10	0.2 mi east of west shore, 1.0 mi north of STI, 0.9 mi southwest of mouth of Manor Kill

* Based upon measurements taken at elevation 1130 ft.

Table 95. General description and location of benthos zones 1-4 sampled in May, June, August, and October 1978 in Schoharie Reservoir.

Zone	Depths	Stations	Predominant Substrate*	Gradient	Location
Upper Littoral					
1	1 m and 3 m	33 and 34	Rubble/gravel/pulpy peat	Slight to moderate	East shore, 0.3 mi northeast of mouth of Bear Kill, 1.0 mi south of Shandaken Tunnel intake (STI)
2	1 m and 3 m	35 and 36	Gravel/sand	Steep	West shore, 1.4 mi north of Bear Kill, 450 ft northeast of STI
3	1 m and 3 m	37 and 38	Clay/silt	Slight	West shore, 2.3 mi north of Bear Kill, 1.0 mi north of STI
Lower Littoral					
4	6 m and 10 m	39 and 40	Clay/silt	Slight	Near west shore, 2.3 mi north of Bear Kill, 1.0 mi north of STI

* Roelofs (1944).

Table 96. Benthic macroinvertebrates collected from June through September 1977 and from May through October 1978 in Lower and Upper B-G and Schoharie Reservoir.

Abbreviations for Identification Keys

B - Beck (1975)
Bo - Boesel (1974)
Br - Brown (1976)
Bu - Burch (1972)
C - Crocker (1957)
EJB - Edmunds, Jensen, and Berner (1976)
H - Hilsenhoff (1975)
HB - Harman and Berg (1971)
He - Heard (1975)
Hi - Hitchcock (1974)
Ho - Holsinger (1976)
Hob - Hobbs (1976)
Ja - Jackson (1977)
Jam - Jamnback (1965)
Jo - Johannsen (1934-37)
K - Kenk (1976)
M - Mason (1973)
NW - Needham and Westfall (1955)
P - Pennak (1978)
R - Ross (1944)
Ro - Roback (1978)
S - Saether (1977)
SK - Surdick and Kim (1976)
U - Usinger (1956)
W - Wiggins (1977)
Wi - Williams (1976)

Taxon	Key	Lower B-G 1978	Lower B-G 1977	Upper B-G 1978	Upper B-G 1977	Schoharie Reservoir 1978	Schoharie Reservoir 1977
Annelida (segmented worms)							
Hirudinea (leeches)	P	X	X		X		X
Oligochaeta (aquatic earthworms)	P	X	X	X	X	X	X
Arthropoda							
Arachnoidea							
Hydracarina (water mites)							
Arrenuridae							
Arrenurus	P			X		X	X
Hygrobatidae							
Hygrobates	P					X	X
Lebertiidae							
Lebertia	P					X	
Limnesiidae							
Limnesia	P			X		X	X
Mideopsidae							
Mideopsis	P	X	X	X	X	X	X
Oxidae							
Oxus	P					X	X
Pionidae							
Piona	P			X		X	X
Unionicolidae							
Neumania	P	X		X	X	X	X
Unionicola	P	X		X	X	X	X
Crustacea							
Amphipoda (scuds)							
Gammaridae							
Crangonyx*	Ho/P	X	X	X	X	X	X
Decapoda (crayfish)							
Astacidae			X				
Orconectes	Hob/C	X		X		X	X
Isopoda (sow bugs)							
Asellidae							
Asellus	Wi/P	X	X		X	X	X
Ostracoda (seed shrimps)	P					X	X
Insecta							
Collembola (springtails)	P						X
Isotomidae (elongate-bodied springtails)							
Isotomurus	P		X				
Poduridae (elongate-bodied springtails)							
Hypogastrura	P		X				
Sminthuridae (globular springtails)							
Sminthurides	P		X				
Coleoptera (beetles)							
Curculionidae (weevils)	P					X	
Dytiscidae (predaceous diving beetles)							
Hydroporus	H				X		X
Elmidae (riffle bettles)							
Dubiraphia	H/Br		X				
Macronychus	H/Br	X	X				
Optioservus	H/Br		X			X	
Stenelmis	H/Br		X			X	
Gyrinidae (whirligig beetles)							
Gyrinus	H/P					X	
Psephenidae (water-penny beetles)							
Psephenus	H/P	X	X				

* Misdetermined as Gammarus in 1977 (Culp and Associates 1978).
** Misdetermined as Anatopynia in 1977 (Culp and Associates 1978).

Table 96 - (Continued).

Taxon	Key	Lower B-G 1978	Lower B-G 1977	Upper B-G 1978	Upper B-G 1977	Schoharie Reservoir 1978	Schoharie Reservoir 1977
Arthropoda (continued)							
Insecta (continued)							
Diptera (two-winged flies)							
Ceratopogonidae (biting midges)							
Culicoides	Jam/Jo		X		X		X
Palpomyia	H/Jo					X	
Palpomyia group	H/Jo	X				X	X
Stilobezzia	H/Jo	X				X	X
Chaoboridae (phantom midges)							
Chaoborus	H					X	
Chironomidae (nonbiting midges)							
Chironominae							
Chironomus	H/M	X	X	X	X	X	X
Cladopelma	S				X	X	X
Cladotanytarsus	H	X	X		X	X	X
Cryptochironomus	H/S	X	X	X	X	X	X
Cryptotendipes	S					X	X
Demicryptochironomus	H/S	X	X			X	
Dicrotendipes	H/M	X	X		X	X	X
Einfeldia	H/M		X				
Glyptotendipes	H/M	X	X	X	X	X	X
Harnischia	H/S	X	X	X	X	X	X
Micropsectra	H/B	X	X			X	X
Microtendipes	H/B	X	X			X	X
Parachironomus	B/S		X			X	X
Paracladopelma	S/Ja					X	X
Paratanytarsus	H		X			X	
Paratendipes	H/B	X	X		X	X	X
Phaenopsectra	H	X				X	X
Polypedilum	H/M	X	X	X	X	X	X
Pseudochironomus	H/S	X	X			X	
Rheotanytarsus	B	X					
Stempellina	B				X	X	
Stictochironomus	H/B	X	X		X	X	X
Tanytarsus	H/B	X	X	X	X	X	X
Xenochironomus	M				X		
Zavrelia	B	X				X	X
Chironomini A						X	
Chironomini			X				
Orthocladiinae							
Corynoneura	H					X	
Cricotopus	H	X	X			X	X
Eukiefferiella	H/M/B				X		
Heterotrissocladius	H	X				X	
Orthocladius	M					X	
Parametriocnemus	H	X				X	
Psectrocladius	M	X	X	X	X	X	X
Smittia	B	X	X			X	
Trissocladius	H					X	
Orthocladiinae C						X	
Orthocladiinae D						X	
Orthocladiinae E						X	
Orthocladiinae F						X	
Tanypodinae							
Ablabesmyia	H/B	X	X	X	X	X	X
Clinotanypus	Bo					X	
Coleotanypus	Bo			X			
Conchapelopia, Arctopelopia	H/B					X	X
Larsia	H/B	X			X	X	X
Macropelopia**	Ro					X	X
Procladius	H/B	X	X	X	X	X	X
Dolichopodidae (long-legged flies)							
Argyra	Jo		X		X		
Hydrophorus	Jo		X		X	X	
Empididae (dance flies)							
Chelifera	U						X
Muscidae (muscid flies)	Jo/U		X				
Lispa	Jo/U						X
Stratiomyiidae (soldier flies)							
Odontomyia	Jo/P	X					
Tipulidae (crane flies)							
Helobia	Jo	X	X			X	
Tipula	U				X		

Table 96 - (Continued).

Taxon	Key	Lower B-G 1978	Lower B-G 1977	Upper B-G 1978	Upper B-G 1977	Schoharie Reservoir 1978	Schoharie Reservoir 1977
Arthropoda (continued)							
Insecta (continued)							
Ephemeroptera (mayflies)							
Baetidae (small mayflies)							
Baetis	EJB					X	X
Cloeon	EJB	X					
Caenidae							
Caenis	EJB		X				
Ephemeridae (burrowing mayflies)							
Ephemera	EJB	X	X			X	X
Hexagenia	EJB	X		X	X	X	X
Heptageniidae							
Heptagenia	EJB		X				X
Stenacron	EJB	X	X	X			X
Stenonema	EJB	X	X	X	X	X	X
Leptophlebiidae	EJB		X				
Leptophlebia						X	
Paraleptophlebia						X	
Hemiptera (true bugs)							
Corixidae (water boatmen)	H/P					X	X
Megaloptera (hellgrammites)							
Sialidae (alderflies)							
Sialis	H/P	X	X		X	X	X
Odonata							
Anisoptera (dragonflies)							
Gomphidae (clubtails)							
Dromogomphus	P/H			X			
Libellulidae	N					X	
Macromiidae (belted skimmers and river skimmers)							
Didymops	P/H					X	X
Macromia	NW/H					X	
Plecoptera (stoneflies)							
Perlidae (common stoneflies)							
Perlinella	Hi/SK					X	
Trichoptera (caddisflies)							
Hydropsychidae (net-spinning caddisflies)							
Hydropsyche	W/R				X		
Hydroptilidae (micro-caddisflies)							
Agraylea	W/R						X
Leptoceridae (long-horned caddisflies)							
Ceraclea	W/R	X	X	X	X		X
Mystacides	W/R					X	X
Oecetis	W/R	X	X	X	X	X	X
Limnephilidae (northern caddisflies)							
Limnephilus	W/R					X	
Polycentropodidae (trumpet-net caddisflies)							
Polycentropus	W/R	X	X		X	X	X
Bryozoa (moss animalcules)							
Lophopodidae							
Pectinatella	P		X		X		
Mollusca							
Gastropoda (univalve mullusks)							
Pulmonata							
Basommatophora							
Lymnaeidae (pond snails)							
Lymnaea	HB	X				X	X
Physidae (pouch snails)							
Physa	HB	X	X				
Planorbidae (orb snails)							
Gyraulus	HB	X	X	X	X	X	X
Pelecypoda (bivalve mollusks)							
Heterodonta							
Sphaeriidae (fingernail clams)							
Sphaerium	He/Bu	X				X	
Pisidium	He/Bu	X	X			X	X
Nematoda	P	X	X	X		X	X
Platyhelminthes							
Turbellaria							
Tricladida							
Planariidae							
Dugesia	K	X	X	X		X	

Table 97. Numerical density (#/m2) of reservoir benthos collected in May, June, August, and September 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
x̄ % Exposure	24.2	0.1				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Oligochaeta	123	667	232	129	343	556	342
Diptera	256	180	186	469	278	123	243
Chironomidae	242	180	185	469	278	123	240
UID* Chironomidae	15	7	18	6	10	4	10
Chironominae	215	161	159	445	255	115	219
Chironomus	92	31	33	228	98	19	81
Polypedilum	31	103	10	149	87	68	72
Tanytarsus	21	2	43	7	17	0	15
Micropsectra	32	5	20	12	12	0	14
Stictochironomus	16	7	19	1	9	6	9
Cryptochironomus	2	1	0	27	9	6	7
Paratendipes	15	2	5	0	3	10	7
Demicryptochironomus	0	2	0	16	6	5	5
Phaenopsectra	0	1	11	2	5	0	3
Microtendipes	0	2	7	0	3	0	2
Dicrotendipes	2	2	2	0	1	0	1
Cladotanytarsus	3	1	2	0	1	0	1
Zavrelia	0	0	5	0	2	0	1
Pseudochironomus	1	2	0	1	1	0	1
Harnischia	0	0	1	4	1	0	1
Rheotanytarsus	0	0	1	0	+	0	+
Glyptotendipes	0	1	0	0	+	0	+
Tanypodinae	1	5	8	17	10	4	7
Procladius	0	1	7	16	8	3	5
Ablabesmyia	1	5	1	1	2	2	2
Larsia	0	0	1	0	+	0	+
Orthocladiinae	11	7	0	1	3	0	4
Smittia	5	2	0	0	1	0	1
Psectrocladius	0	4	0	1	2	0	1
Cricotopus	4	2	0	0	+	0	1
Parametriocnemus	2	0	0	0	0	0	+
Heterotrissocladius	1	0	0	0	0	0	+
Ceratopogonidae	13	0	0	0	0	0	3
Stilobezzia	11	0	0	0	0	0	2
Palpomyia group	2	0	0	0	0	0	+
Tipulidae	1	0	0	0	0	0	+
Helobia	1	0	0	0	0	0	+
Stratiomyiidae	0	0	1	0	+	0	+
Odontomyia	0	0	1	0	+	0	+
Pelecypoda	0	0	1	0	+	69	14
Sphaeriidae	0	0	1	0	+	69	14
Pisidium	0	0	0	0	0	47	9
Sphaerium	0	0	1	0	+	22	4
Amphipoda	0	47	9	1	19	3	12
Gammaridae	0	47	9	1	19	3	12
Crangonyx	0	47	9	1	19	3	12
Ephemeroptera	0	2	5	31	13	0	8
Ephemeridae	0	0	0	31	10	0	6
Hexagenia	0	0	0	28	9	0	6
Ephemera	0	0	0	4	1	0	1
Heptageniidae	0	2	4	0	2	0	1
Stenacron	0	2	3	0	2	0	1
Stenonema	0	0	1	0	+	0	+
Baetidae	0	0	1	0	+	0	+
Cloeon	0	0	1	0	+	0	+
Trichoptera	0	2	0	23	8	7	6
Leptoceridae	0	1	0	23	9	7	6
Oecetis	0	1	0	23	9	6	6
Ceraclea	0	0	0	0	0	1	+
Polycentropodidae	0	0	0	0	+	0	+
Polycentropus	0	1	0	0	+	0	+

* UID = unidentified.
\+ = less than 0.5.
** IMM = too immature to identify.

Table 97 - (Continued).

Elevation (ft)	870	860				850	
x̄ % Exposure	24.2	0.1				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Hydracarina	0	3	2	4	3	13	4
Mideopsidae	0	2	2	1	2	13	4
Mideopsis	0	2	2	1	2	13	4
Unionicolidae	0	1	0	4	1	0	1
Neumania	0	0	0	2	1	0	+
Unionicola	0	1	0	2	1	0	+
Nematoda	3	4	0	2	2	7	3
Gastropoda	3	1	11	2	5	1	3
Planorbidae	0	1	8	1	3	1	2
Gyraulus	0	1	8	1	3	1	2
Lymnaeidae	3	0	2	1	1	0	1
Lymnaea	3	0	2	1	1	1	1
Physidae	0	0	1	1	+	0	+
Physa	0	0	1	1	+	1	+
Turbellaria	0	10	0	1	4	1	2
Hirudinea	0	0	1	4	2	1	1
Isopoda	0	2	0	1	1	1	1
Asellidae	0	2	0	1	1	1	1
Asellus	0	2	0	1	1	1	1
Decapoda	0	2	1	0	1	0	1
Astacidae	0	2	1	0	1	0	1
Imm** Astacidae	0	1	0	0	+	0	+
Orconectes	0	1	1	0	1	0	+
Coleoptera	0	2	0	0	1	0	+
Elmidae	0	1	0	0	+	0	+
Macronychus	0	1	0	0	+	0	+
Psephenidae	0	1	0	0	+	0	+
Psephenus	0	1	0	0	+	0	+
Megaloptera	0	0	1	0	+	0	+
Sialidae	0	0	1	0	+	0	+
Sialis	0	0	1	0	+	0	+
Total density	385	921	448	667	679	781	641
Number of families	6	15	14	14	23	11	25
Number of taxa	21	33	30	28	48	20	55
Crustacean density	0	51	10	2	21	4	13
Insect density	256	185	192	523	300	130	257
Others density	129	685	246	143	358	648	370

Table 98. Biomass density (g/m^2) of reservoir benthos collected in May, June, August, and September 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
$\bar{x}$ % Exposure	24.4	0.1				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Oligochaeta	0.0093	0.1216	0.0685	0.0095	0.0665	0.0649	0.0548
Diptera	0.0324	0.0178	0.0342	0.0418	0.0313	0.0172	0.0287
Chironomidae	0.0296	0.0178	0.0342	0.0418	0.0313	0.0172	0.0281
Tipulidae	0.0023	-	-	-	-	-	0.0005
Ceratopogonidae	0.0006	-	-	-	-	-	0.0001
Stratiomyiidae	-	-	REF*	-	REF	-	REF
Decapoda	-	0.0614	0.0228	-	0.0281	-	0.0168
Astacidae	-	0.0614	0.0228	-	0.0281	-	0.0168
Ephemeroptera	-	0.0016	0.0051	0.0420	0.0162	-	0.0097
Ephemeridae	-	-	-	0.0420	0.0140	-	0.0084
Heptageniidae	-	0.0016	0.0047	-	0.0021	-	0.0013
Baetidae	-	-	0.0003	-	0.0001	-	0.0001
Trichoptera	-	0.0003	-	0.0188	0.0063	0.0095	0.0057
Leptoceridae	-	0.0001	-	0.0188	0.0063	0.0095	0.0057
Polycentropodidae	-	0.0002	-	-	0.0001	-	+
Hirudinea	-	-	0.0011	0.0043	0.0018	0.0080	0.0027
Gastropoda	0.0017	0.0001	0.0050	0.0027	0.0026	0.0002	0.0019
Lymnaeidae	0.0017	-	0.0020	0.0016	0.0012	-	0.0011
Planorbidae	-	0.0001	0.0022	0.0004	0.0009	0.0002	0.0006
Physidae	-	-	0.0007	0.0007	0.0005	-	0.0003
Amphipoda	-	0.0066	0.0019	0.0003	0.0029	0.0005	0 0019
Gammaridae	-	0.0066	0.0019	0.0003	0.0029	0.0005	0.0019
Pelecypoda	-	-	0.0002	-	0.0001	0.0034	0.0007
Sphaeriidae	-	-	0.0002	-	0.0001	0.0034	0.0007
Nematoda	0.0009	0.0004	-	0.0004	0.0003	0.0013	0.0006
Hydracarina	-	0.0006	0.0001	0.0004	0.0004	0.0012	0.0005
Turbellaria	-	0.0019	-	0.0001	0.0007	0.0001	0.0004
Isopoda	-	0.0015	-	0.0003	0.0006	-	0.0004
Asellidae	-	0.0015	-	0.0003	0.0006	-	0.0004
Coleoptera	-	0.0017	-	-	0.0006	-	0.0003
Psephenidae	-	0.0009	-	-	0.0003	-	0.0002
Elmidae	-	0.0008	-	-	0.0003	-	0.0002
Megaloptera	-	-	0.0004	-	0.0001	-	0.0001
Sialidae	-	-	0.0004	-	0.0001	-	0.0001
Total density	0.0444	0.2155	0.1392	0.1205	0.1584	0.1064	0.1252
Crustacean density	-	0.0695	0.0247	0.0005	0.0316	0.0005	0.0191
Insect density	0.0324	0.0214	0.0396	0.1026	0.0545	0.0267	0.0445
Others density	0.0120	0.1246	0.0749	0.0174	0.0723	0.0792	0.0616

- = absent from collection.
* REF = biomass not determined; organisms retained for reference.

Table 99. Mean taxa diversity ($\bar{d}$)/sample, mean numerical density (#/m^2), and biomass density (g/m^2) of reservoir benthos collected in May, June, August, and September 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
$\bar{x}$ % Exposure	24.4	0.1				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Mean taxa diversity ($\bar{d}$)/sample	1.38	1.36	1.60	2.16	1.71	1.17	1.54
Standard deviation	1.137	0.611	0.973	0.464	0.772	0.652	0.851
Minimum	0.00	0.63	0.00	1.28	0.00	0.60	0.00
Maximum	3.12	2.49	3.07	2.90	3.07	1.81	3.12
Mean evenness ($\bar{e}$)/sample	0.58	0.49	0.59	0.71	0.60	0.43	0.56
Number of samples	12	12	12	12	36	12	60
Mean numerical density (#/m^2)	385	921	448	667	679	781	641
Standard deviation	412.0	767.5	447.7	354.0	571.0	382.5	520.1
Standard error	118.9	221.6	129.2	102.2	95.2	110.4	67.2
Minimum	0	250	75	269	75	25	0
Maximum	969	2675	1562	1212	2675	1688	2675
Coefficient of variation	107.1	83.3	100.0	53.1	84.1	49.0	81.2
Number of samples	12	12	12	12	36	12	60
Biomass density (g/m^2)	0.0444	0.2155	0.1392	0.1205	0.1584	0.1064	0.1252
Standard deviation	0.04750	0.12357	0.02037	0.07367	0.08718	0.07288	0.16729
Standard error	0.02375	0.06178	0.01018	0.03684	0.02517	0.03644	0.03741
Minimum	0.0000	0.0671	0.1177	0.0467	0.0467	0.0379	0.0000
Maximum	0.1023	0.3638	0.1504	0.2223	0.3638	0.1948	0.3638
Coefficient of variation	106.9	57.3	14.6	61.1	55.0	68.5	133.6
Number of samples	4	4	4	4	12	4	20

Table 100. Numerical density (#/m^2) of reservoir benthos collected in May 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
x̄ % Exposure	34.2	0.3				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Oligochaeta	46	502	60	77	213	465	230
Diptera	8	167	40	142	116	394	150
Chironomidae	8	167	37	142	115	394	150
UID* Chironomidae	0	0	4	0	1	2	1
Chironominae	8	152	31	102	95	390	137
Polypedilum	4	75	0	29	35	231	68
Chironomus	0	48	0	31	26	67	29
Stictochironomus	4	10	25	2	12	23	13
Cryptochironomus	0	2	0	29	10	17	10
Paratendipes	0	0	4	0	1	42	9
Demicryptochironomus	0	0	0	4	1	10	3
Phaenopsectra	0	4	2	6	4	0	2
Microtendipes	0	8	0	0	3	0	2
Dicrotendipes	0	4	0	0	1	0	1
Tanypodinae	0	2	2	40	15	2	9
Procladius	0	2	0	40	14	2	9
Larsia	0	0	2	0	1	0	+
Orthocladiinae	0	12	0	0	4	0	2
Smittia	0	8	0	0	3	0	2
Cricotopus	0	4	0	0	1	0	1
Stratiomyiidae	0	0	2	0	1	0	+
Odontomyia	0	0	2	0	1	0	+
Amphipoda	0	148	12	2	54	0	32
Gammaridae	0	148	12	2	54	0	32
Crangonyx	0	148	12	2	54	0	32
Ephemeroptera	0	8	10	119	46	0	28
Ephemeridae	0	0	0	119	40	0	24
Hexagenia	0	0	0	106	35	0	21
Ephemera	0	0	0	12	4	0	2
Heptageniidae	0	8	10	0	6	0	4
Stenacron	0	8	8	0	6	0	3
Stenonema	0	0	2	0	1	0	+
Nematoda	8	17	0	0	6	17	8
Trichoptera	0	4	0	6	3	0	2
Leptoceridae	0	0	0	6	2	0	1
Oecetis	0	0	0	6	2	0	1
Polycentropodidae	0	4	0	0	1	0	1
Polycentropus	0	4	0	0	1	0	1
Gastropoda	0	0	2	8	3	0	2
Lymnaeidae	0	0	2	4	2	0	1
Lymnaea	0	0	2	4	2	0	1
Physidae	0	0	0	2	1	0	+
Physa	0	0	0	2	1	0	+
Planorbidae	0	0	0	2	1	0	+
Gyraulus	0	0	0	2	1	0	+
Isopoda	0	8	0	0	3	0	2
Asellidae	0	8	0	0	3	0	2
Asellus	0	8	0	0	3	0	2
Coleoptera	0	6	0	0	2	0	1
Elmidae	0	4	0	0	1	0	1
Macronychus	0	4	0	0	1	0	1
Psephenidae	0	2	0	0	1	0	+
Psephenus	0	2	0	0	1	0	+
Decapoda	0	4	0	0	1	0	1
Astacidae	0	4	0	0	1	0	1
Orconectes	0	4	0	0	1	0	1
Hirudinea	0	0	0	2	1	2	1

* UID = unidentified.
\+ = less than 0.5.

Table 100 - (Continued).

Elevation (ft)	870	860				850	
$\bar{x}$ % Exposure	34.2	0.3				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Pelecypoda	0	0	2	0	1	0	+
Sphaeriidae	0	0	2	0	1	0	+
Sphaerium	0	0	2	0	1	0	+
Total density	62	865	127	356	449	877	458
Number of families	3	10	7	9	18	4	18
Number of taxa	4	19	11	16	32	10	32
Crustacean density	0	160	12	2	58	0	35
Insect density	8	185	50	267	167	394	181
Others density	54	519	65	87	224	483	242

Table 101. Numerical density (#/m^2) of reservoir benthos collected in June 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
x̄ % Exposure	16.1	0.0				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Oligochaeta	179	1575	412	202	730	371	548
Diptera	402	383	700	227	437	35	350
Chironomidae	365	383	700	227	437	35	342
UID* Chironomidae	2	25	67	8	33	12	23
Chironominae	329	342	604	215	387	23	302
Chironomus	58	46	133	158	112	2	80
Polypedilum	0	246	42	48	112	21	71
Micropsectra	127	19	81	0	33	0	45
Tanytarsus	0	0	173	0	58	0	35
Stictochironomus	58	15	50	0	22	0	25
Paratendipes	60	8	17	0	8	0	17
Phaenopsectra	0	0	44	0	15	0	9
Microtendipes	0	0	27	0	9	0	5
Cladotanytarsus	10	4	6	0	3	0	4
Zavrelia	0	0	19	0	6	0	4
Dicrotendipes	2	4	6	0	3	0	2
Cryptochironomus	8	0	0	4	1	0	2
Harnischia	0	0	2	4	2	0	1
Pseudochironomus	4	0	0	0	0	0	1
Rheotanytarsus	0	0	4	0	1	0	1
Orthocladiinae	33	12	0	4	6	0	10
Psectrocladius	0	12	0	4	6	0	3
Smittia	15	0	0	0	0	0	3
Parametriocnemus	8	0	0	0	0	0	2
Cricotopus	6	0	0	0	0	0	1
Heterotrissocladius	4	0	0	0	0	0	1
Tanypodinae	0	4	29	0	11	0	7
Procladius	0	0	27	0	9	0	5
Ablabesmyia	0	4	2	0	2	0	1
Ceratopogonidae	37	0	0	0	0	0	8
Stilobezzia	29	0	0	0	0	0	6
Palpomyia group	8	0	0	0	0	0	2
Hydracarina	0	8	0	0	3	4	2
Mideopsidae	0	8	0	0	3	4	2
Mideopsis	0	8	0	0	3	4	2
Nematoda	4	0	0	0	1	4	2
Amphipoda	0	0	0	0	0	8	2
Gammaridae	0	0	0	0	0	8	2
Crangonyx	0	0	0	0	0	8	2
Ephemeroptera	0	0	4	4	3	0	2
Ephemeridae	0	0	0	4	1	0	1
Hexagenia	0	0	0	4	1	0	1
Baetidae	0	0	4	0	1	0	1
Cloeon	0	0	4	0	1	0	1
Trichoptera	0	0	0	8	3	0	2
Leptoceridae	0	0	0	8	3	0	2
Oecetis	0	0	0	8	3	0	2
Turbellaria	0	4	0	0	1	2	1
Hirudinea	0	0	2	0	1	0	+
Total density	585	1971	1119	446	1178	425	909
Number of families	4	4	4	5	9	6	11
Number of taxa	16	12	18	9	25	7	33
Crustacean density	0	0	0	0	0	8	2
Insect density	402	383	704	240	442	35	353
Others density	183	1587	415	206	736	381	555

* UID = unidentified.
\+ = less than 0.5.

Table 102. Numerical density (#/m^2) of reservoir benthos collected in August 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
x̄ % Exposure	25.2	0.0				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Oligochaeta	269	327	256	180	254	785	363
Diptera	612	142	4	908	351	33	340
Chironomidae	594	142	4	908	351	33	336
UID* Chironomidae	56	2	2	17	7	0	15
Chironominae	521	121	0	865	328	19	305
Polypedilum	121	75	0	504	193	6	141
Chironomus	310	25	0	304	110	8	130
Tanytarsus	85	8	0	15	8	0	22
Demicryptochironomus	0	0	0	17	6	2	4
Cryptochironomus	0	0	0	10	3	2	2
Pseudochironomus	0	8	0	4	4	0	2
Harnischia	0	0	0	10	3	0	2
Dicrotendipes	4	0	0	0	0	0	1
Glyptotendipes	0	2	0	0	1	0	+
Stictochironomus	0	2	0	0	1	0	+
Tanypodinae	4	15	2	27	15	15	12
Procladius	0	0	0	25	8	8	7
Ablabesmyia	4	15	2	2	6	6	6
Orthocladiinae	12	4	0	0	1	0	3
Cricotopus	8	0	0	0	0	0	2
Psectrocladius	0	4	0	0	1	0	1
Smittia	4	0	0	0	0	0	1
Ceratopogonidae	15	0	0	0	0	0	3
Stilobezzia	15	0	0	0	0	0	3
Tipulidae	4	0	0	0	0	0	1
Helobia	4	0	0	0	0	0	1
Pelecypoda	0	0	0	0	0	77	15
Sphaeriidae	0	0	0	0	0	77	15
Pisidium	0	0	0	0	0	77	15
Amphipoda	0	33	25	2	20	2	12
Gammaridae	0	33	25	2	20	2	12
Crangonyx	0	33	25	2	20	2	12
Trichoptera	0	2	0	23	8	4	6
Leptoceridae	0	2	0	23	8	4	6
Oecetis	0	2	0	23	8	2	5
Ceraclea	0	0	0	0	0	2	+
Hydracarina	0	2	0	8	3	8	4
Unionicolidae	0	2	0	8	3	0	2
Neumania	0	0	0	8	3	0	2
Unionicola	0	2	0	0	1	0	+
Mideopsidae	0	0	0	0	0	8	2
Mideopsis	0	0	0	0	0	8	2
Gastropoda	10	2	0	0	1	2	3
Lymnaeidae	10	0	0	0	0	0	2
Lymnaea	10	0	0	0	0	0	2
Planorbidae	0	2	0	0	1	2	1
Gyraulus	0	2	0	0	1	2	1
Turbellaria	0	4	0	4	3	0	2
Ephemeroptera	0	0	6	0	2	0	1
Heptageniidae	0	0	6	0	2	0	1
Stenacron	0	0	4	0	1	0	1
Stenonema	0	0	2	0	1	0	+
Isopoda	0	0	0	2	1	2	1
Asellidae	0	0	0	2	1	2	1
Asellus	0	0	0	2	1	2	1
Decapoda	0	4	0	0	1	0	1
Astacidae	0	4	0	0	1	0	1
IMM** Astacidae	0	4	0	0	1	0	1

* UID = unidentified.
\+ = less than 0.5.
** IMM = too immature to identify.

Table 102 - (Continued).

Elevation (ft)	870	860				850	
$\bar{x}$ % Exposure	25.2	0.0				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Megaloptera	0	0	2	0	1	0	+
Sialidae	0	0	2	0	1	0	+
Sialis	0	0	2	0	1	0	+
Hirudinea	0	0	0	2	1	0	+
Total density	892	517	294	1129	647	915	749
Number of families	5	8	5	8	12	8	17
Number of taxa	11	15	6	16	25	14	34
Crustacean density	0	37	25	4	22	4	14
Insect density	612	144	12	931	362	37	347
Others density	279	335	256	194	262	873	387

Table 103. Numerical density (#/m2) of reservoir benthos collected in September 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
x̄ % Exposure	21.6	0.0				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Oligochaeta	0	265	200	58	174	604	225
Diptera	0	29	0	598	209	29	131
Chironomidae	0	29	0	598	209	29	131
Chironominae	0	29	0	598	209	29	131
Chironomus	0	6	0	419	142	0	85
Cryptochironomus	0	0	0	62	21	6	14
Demicryptochironomus	0	8	0	42	17	8	12
Micropsectra	0	0	0	48	16	0	10
Polypedilum	0	15	0	15	10	15	9
Tanytarsus	0	0	0	12	4	0	2
Pelecypoda	0	0	0	0	0	200	40
Sphaeriidae	0	0	0	0	0	200	40
Pisidium	0	0	0	0	0	112	22
Sphaerium	0	0	0	0	0	87	17
Trichoptera	0	0	0	54	18	23	15
Leptoceridae	0	0	0	54	18	23	15
Oecetis	0	0	0	54	18	23	15
Hydracarina	0	0	8	8	6	40	11
Mideopsidae	0	0	8	2	3	40	10
Mideopsis	0	0	8	2	3	40	10
Unionicolidae	0	0	0	6	2	0	1
Unionicola	0	0	0	6	2	0	1
Gastropoda	0	0	42	0	14	0	8
Planorbidae	0	0	33	0	11	0	7
Gyraulus	0	0	33	0	11	0	7
Lymnaeidae	0	0	6	0	2	0	1
Lymnaea	0	0	6	0	2	0	1
Physidae	0	0	2	0	1	0	+
Physa	0	0	2	0	1	0	+
Turbellaria	0	33	0	0	11	0	7
Hirudinea	0	0	0	12	4	2	3
Nematoda	0	0	0	4	1	8	2
Amphipoda	0	6	0	0	2	2	2
Gammaridae	0	6	0	0	2	2	2
Crangonyx	0	6	0	0	2	2	2
Ephemeroptera	0	0	0	2	1	0	+
Ephemeridae	0	0	0	2	1	0	+
Ephemera	0	0	0	2	1	0	+
Decapoda	0	0	2	0	1	0	+
Astacidae	0	0	2	0	1	0	+
Orconectes	0	0	2	0	1	0	+
Total density	0	333	252	737	441	908	446
Number of families	0	4	6	8	14	8	15
Number of taxa	0	6	6	13	19	11	21
Crustacean density	0	6	2	0	3	2	2
Insect density	0	29	0	654	228	52	147
Others density	0	298	250	83	210	854	297

+ = less than 0.5.

Table 104. Biomass density (g/m^2) of reservoir benthos collected in May 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
$\bar{x}$ % Exposure	34.2	0.3				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Oligochaeta	0.0067	0.1581	0.0983	0.0202	0.0922	0.1296	0.0826
Ephemeroptera	-	0.0062	0.0165	0.1515	0.0581	-	0.0348
Ephemeridae	-	-	-	0.1515	0.0505	-	0.0303
Heptageniidae	-	0.0062	0.0165	-	0.0076	-	0.0045
Diptera	0.0012	0.0292	0.0342	0.0267	0.0300	0.0617	0.0308
Chironomidae	0.0012	0.0292	0.0342	0.0267	0.0300	0.0617	0.0308
Stratiomyiidae	-	-	REF*	-	REF	-	REF
Decapoda	-	0.1335	-	-	0.0445	-	0.0267
Astacidae	-	0.1335	-	-	0.0445	-	0.0267
Amphipoda	-	0.0212	0.0060	0.0008	0.0094	-	0.0056
Gammaridae	-	0.0212	0.0060	0.0008	0.0094	-	0.0056
Gastropoda	-	-	0.0060	0.0106	0.0056	-	0.0033
Lymnaeidae	-	-	0.0060	0.0062	0.0041	-	0.0025
Physidae	-	-	-	0.0029	0.0010	-	0.0006
Planorbidae	-	-	-	0.0015	0.0005	-	0.0003
Hirudinea	-	-	-	0.0117	0.0039	0.0012	0.0026
Coleoptera	-	0.0068	-	-	0.0023	-	0.0014
Psephenidae	-	0.0035	-	-	0.0012	-	0.0007
Elmidae	-	0.0033	-	-	0.0011	-	0.0007
Nematoda	0.0025	0.0017	-	-	0.0006	0.0023	0.0013
Isopoda	-	0.0060	-	-	0.0020	-	0.0012
Asellidae	-	0.0060	-	-	0.0020	-	0.0012
Trichoptera	-	0.0008	-	0.0008	0.0006	-	0.0003
Leptoceridae	-	-	-	0.0008	0.0003	-	0.0002
Polycentropodidae	-	0.0008	-	-	0.0003	-	0.0002
Pelecypoda	-	-	0.0006	-	0.0002	-	0.0001
Sphaeriidae	-	-	0.0006	-	0.0002	-	0.0001
Total density	0.0117	0.3638	0.1617	0.2223	0.2492	0.1948	0.1908
Crustacean density	-	0.1608	0.0060	0.0008	0.0559	-	0.0335
Insect density	0.0025	0.0431	0.0506	0.1790	0.0909	0.0617	0.0674
Others density	0.0092	0.1598	0.1050	0.0425	0.1024	0.1331	0.0899

\- = absent from collection.
* REF = biomass not determined; organisms retained for reference.

Table 105. Biomass density (g/m^2) of reservoir benthos collected in June 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
$\bar{x}$ % Exposure	16.1	0.0				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Oligochaeta	0.0171	0.2148	0.0190	0.0079	0.0806	0.0298	0.0577
Diptera	0.0454	0.0273	0.1023	0.0150	0.0482	0.0035	0.0387
Chironomidae	0.0433	0.0273	0.1023	0.0150	0.0482	0.0035	0.0383
Ceratopogonidae	0.0021	-	-	-	-	-	0.0004
Ephemeroptera	-	-	0.0013	0.0154	0.0056	-	0.0033
Ephemeridae	-	-	-	0.0154	0.0051	-	0.0031
Baetidae	-	-	0.0013	-	0.0004	-	0.0003
Trichoptera	-	-	-	0.0075	0.0025	-	0.0015
Leptoceridae	-	-	-	0.0075	0.0025	-	0.0015
Hirudinea	-	-	0.0044	-	0.0015	-	0.0009
Hydracarina	-	0.0021	-	-	0.0007	0.0017	0.0008
Nematoda	0.0013	-	-	0.0008	0.0003	0.0013	0.0007
Turbellaria	-	0.0015	-	-	0.0005	0.0004	0.0004
Amphipoda	-	-	-	-	-	0.0013	0.0003
Gammaridae	-	-	-	-	-	0.0013	0.0003
Total density	0.0637	0.2456	0.1269	0.0467	0.1397	0.0379	0.1042
Crustacean density	-	-	-	-	-	0.0012	0.0002
Insect density	0.0454	0.0273	0.1035	0.0379	0.0562	0.0035	0.0435
Others density	0.0183	0.2183	0.0233	0.0087	0.0835	0.0331	0.0604

- = absent from collection.

Table 106. Biomass density (g/m^2) of reservoir benthos collected in August 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
$\bar{x}$ % Exposure	25.2	0.0				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Oligochaeta	0.0135	0.0558	0.1121	0.0073	0.0584	0.0435	0.0465
Diptera	0.0819	0.0127	0.0002	0.0808	0.0312	0.0023	0.0356
Chironomidae	0.0725	0.0127	0.0002	0.0808	0.0312	0.0023	0.0337
Tipulidae	0.0092	-	-	-	-	-	0.0018
Ceratopogonidae	0.0002	-	-	-	-	-	+
Decapoda	-	0.1121	-	-	0.0374	-	0.0224
Astacidae	-	0.1121	-	-	0.0374	-	0.0224
Trichoptera	-	0.0002	-	0.0073	0.0025	0.0010	0.0017
Leptoceridae	-	0.0002	-	0.0073	0.0025	0.0010	0.0017
Gastropoda	0.0069	0.0004	-	-	0.0001	0.0008	0.0016
Lymnaeidae	0.0069	-	-	-	-	-	0.0014
Planorbidae	-	0.0004	-	-	0.0001	0.0008	0.0002
Pelecypoda	-	-	-	-	-	0.0069	0.0014
Sphaeriidae	-	-	-	-	-	0.0069	0.0014
Amphipoda	-	0.0033	0.0015	0.0002	0.0017	0.0004	0.0011
Gammaridae	-	0.0033	0.0015	0.0002	0.0017	0.0004	0.0011
Hirudinea	-	-	-	0.0027	0.0009	-	0.0005
Ephemeroptera	-	-	0.0025	-	0.0008	-	0.0005
Heptageniidae	-	-	0.0025	-	0.0008	-	0.0005
Hydracarina	-	0.0002	-	0.0004	0.0002	0.0012	0.0004
Megaloptera	-	-	0.0015	-	0.0005	-	0.0003
Sialidae	-	-	0.0015	-	0.0005	-	0.0003
Turbellaria	-	0.0008	-	0.0004	0.0004	-	0.0002
Isopoda	-	-	-	0.0010	0.0003	-	0.0002
Asellidae	-	-	-	0.0010	0.0003	-	0.0002
Total density	0.1023	0.1856	0.1177	0.1002	0.1345	0.0562	0.1124
Crustacean density	-	0.1154	0.0015	0.0012	0.0394	0.0004	0.0237
Insect density	0.0819	0.0129	0.0042	0.0881	0.0351	0.0033	0.0381
Others density	0.0204	0.0573	0.1121	0.0108	0.0601	0.0525	0.0506

- = absent from collection.
+ = less than 0.00005.

Table 107. Biomass density (g/m^2) of reservoir benthos collected in September 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
$\bar{x}$ % Exposure	21.6	0.0				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Oligochaeta	-	0.0577	0.0448	0.0025	0.0350	0.0567	0.0323
Trichoptera	-	-	-	0.0594	0.0198	0.0369	0.0192
Leptoceridae	-	-	-	0.0594	0.0198	0.0369	0.0192
Decapoda	-	-	0.0912	-	0.0304	-	0.0182
Astacidae	-	-	0.0912	-	0.0304	-	0.0182
Diptera	-	0.0021	-	0.0448	0.0156	0.0015	0.0097
Chironomidae	-	0.0021	-	0.0448	0.0156	0.0015	0.0097
Hirudinea	-	-	-	0.0029	0.0010	0.0308	0.0067
Gastropoda	-	-	0.0140	-	0.0047	-	0.0028
Planorbidae	-	-	0.0090	-	0.0030	-	0.0018
Physidae	-	-	0.0029	-	0.0010	-	0.0006
Lymnaeidae	-	-	0.0021	-	0.0007	-	0.0004
Pelecypoda	-	-	-	-	-	0.0067	0.0013
Sphaeriidae	-	-	-	-	-	0.0067	0.0013
Turbellaria	-	0.0054	-	-	0.0018	-	0.0011
Hydracarina	-	-	0.0004	0.0012	0.0006	0.0021	0.0007
Nematoda	-	-	-	0.0008	0.0003	0.0017	0.0005
Amphipoda	-	0.0019	-	-	0.0006	0.0004	0.0005
Gammaridae	-	0.0019	-	-	0.0006	0.0004	0.0005
Ephemeroptera	-	-	-	0.0012	0.0004	-	0.0002
Ephemeridae	-	-	-	0.0012	0.0004	-	0.0002
Total density	-	0.0671	0.1504	0.1129	0.1101	0.1367	0.0934
Crustacean density	-	0.0019	0.0912	-	0.0310	0.0004	0.0187
Insect density	-	0.0021	-	0.1054	0.0358	0.0383	0.0292
Others density	-	0.0631	0.0592	0.0075	0.0433	0.0979	0.0455

- = absent from collection.

Table 108. Mean taxa diversity ($\bar{d}$)/sample, mean numerical density (#/m^2), and biomass density (g/m^2) of reservoir benthos collected in May 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
$\bar{x}$ % Exposure	34.2	0.3				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Mean taxa diversity ($\bar{d}$)/sample	0.76	1.83	2.04	2.67	2.18	1.81	1.82
Standard deviation	0.230	0.842	0.494	0.269	0.631	0.237	0.755
Minimum	0.54	0.88	1.51	2.38	0.88	1.56	0.54
Maximum	1.00	2.49	2.48	2.90	2.90	2.03	2.90
Mean evenness ($\bar{e}$)/sample	0.76	0.55	0.79	0.82	0.72	0.63	0.71
Number of samples	3	3	3	3	9	3	15
Mean numerical density (#/m^2)	62	865	127	356	449	877	458
Standard deviation	37.5	353.1	60.7	106.6	376.6	146.5	394.3
Standard error	21.7	203.9	35.0	61.6	125.5	84.6	101.8
Minimum	25	488	75	269	75	769	25
Maximum	100	1188	194	475	1188	1044	1188
Coefficient of variation	60.0	40.8	47.8	29.9	83.8	16.7	86.2
Number of samples	3	3	3	3	9	3	15
Biomass density (g/m^2)	0.0117	0.3638	0.1617	0.2223	0.2492	0.1948	0.1908
Standard deviation*	-	-	-	-	0.10370	-	0.12635
Standard error*	-	-	-	-	0.05987	-	0.05651
Minimum*	-	-	-	-	0.1617	-	0.0117
Maximum*	-	-	-	-	0.3638	-	0.3638
Coefficient of variation*	-	-	-	-	41.6	-	66.2
Number of samples	1	1	1	1	3	1	5

* Calculable only for data summaries.

Table 109. Mean taxa diversity ($\bar{d}$)/sample, mean numerical density (#/m2), and biomass density (g/m2) of reservoir benthos collected in June 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
$\bar{x}$ % Exposure	16.1	0.0				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Mean taxa diversity ($\bar{d}$)/sample	2.77	1.03	2.81	1.73	1.86	0.60	1.79
Standard deviation	0.318	0.611	0.303	0.390	0.868	0.282	0.985
Minimum	2.49	0.63	2.48	1.28	0.63	0.28	0.63
Maximum	3.12	1.74	3.07	2.01	3.07	0.83	3.12
Mean evenness ($\bar{e}$)/sample	0.83	0.37	0.77	0.72	0.62	0.31	0.60
Number of samples	3	3	3	3	9	3	15
Mean numerical density (#/m2)	585	1971	1119	446	1178	425	909
Standard deviation	313.3	725.9	403.2	106.3	2237.8	59.6	1730.7
Standard error	180.9	419.1	232.8	61.4	745.9	34.4	446.9
Minimum	338	1225	775	325	325	356	325
Maximum	938	2675	1562	525	2675	462	2675
Coefficient of variation	53.5	36.8	36.0	23.8	189.9	14.0	190.4
Number of samples	3	3	3	3	9	3	15
Biomass density (g/m2)	0.0637	0.2456	0.1269	0.0467	0.1397	0.0379	0.1042
Standard deviation*	-	-	-	-	0.10010	-	0.08639
Standard error*	-	-	-	-	0.05779	-	0.03864
Minimum*	-	-	-	-	0.0467	-	0.0379
Maximum*	-	-	-	-	0.2456	-	0.2456
Coefficient of variation*	-	-	-	-	71.6	-	82.9
Number of samples	1	1	1	1	3	1	5

* Calculable only for data summaries.

Table 110. Mean taxa diversity ($\bar{d}$)/sample, mean numerical density (#/m^2), and biomass density (g/m^2) of reservoir benthos collected in August 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
% Exposure	25.2	0.0				0.0	Grand
Station	23	24	25	26	Mean	41	Mean
Mean taxa diversity ($\bar{d}$)/sample	2.01	1.63	0.59	2.06	1.43	0.87	1.43
Standard deviation	0.151	0.343	0.510	0.288	0.740	0.066	0.675
Minimum	1.89	1.24	0.00	1.74	0.00	0.80	0.00
Maximum	2.18	1.87	0.93	2.27	2.27	0.94	2.27
Mean evenness ($\bar{e}$)/sample	0.74	0.56	0.29	0.63	0.50	0.29	0.50
Number of samples	3	3	3	3	9	3	15
Mean numerical density (#/m^2)	892	517	294	1129	647	915	749
Standard deviation	102.8	386.3	33.1	128.4	426.7	257.0	363.3
Standard error	59.3	223.0	19.1	74.2	142.2	149.0	93.8
Minimum	775	281	269	981	269	619	269
Maximum	969	962	331	1212	1212	1088	1212
Coefficient of variation	11.5	74.8	11.3	11.4	66.0	28.1	48.5
Number of samples	3	3	3	3	9	3	15
Biomass density (g/m^2)	0.1023	0.1856	0.1177	0.1002	0.1345	0.0562	0.1124
Standard deviation*	-	-	-	-	0.04512	-	0.04689
Standard error*	-	-	-	-	0.02605	-	0.02097
Minimum*	-	-	-	-	0.1002	-	0.0562
Maximum*	-	-	-	-	0.1856	-	0.1856
Coefficient of variation*	-	-	-	-	33.5	-	41.7
Number of samples	1	1	1	1	3	1	5

* Calculable only for data summaries.

Table 111. Mean taxa diversity ($\bar{d}$)/sample, mean numerical density (#/m^2), and biomass density (g/m^2) of reservoir benthos collected in September 1978 at five stations on Lower B-G.

Elevation (ft)	870	860				850	
$\bar{x}$ % Exposure	21.6	0.0				0.0	Grand
Station	23*	24	25	26	Mean	41	Mean
Mean taxa diversity ($\bar{d}$)/sample	-	0.96	0.98	2.18	1.37	1.42	1.11
Standard deviation	-	0.125	0.106	0.442	0.648	0.930	0.833
Minimum	-	0.85	0.86	1.90	0.85	0.56	0.00
Maximum	-	1.10	1.06	2.69	2.69	2.41	2.69
Mean evenness ($\bar{e}$)/sample	-	0.50	0.53	0.65	0.56	0.48	0.43
Number of samples	3	3	3	3	9	3	15
Mean numerical density (#/m^2)	-	333	252	737	441	908	446
Standard deviation	-	133.7	111.9	322.8	290.4	677.1	449.6
Standard error	-	77.2	64.6	186.4	96.8	390.9	116.1
Minimum	-	250	156	506	156	462	0
Maximum	-	488	375	1106	1106	1688	1688
Coefficient of variation	-	40.1	44.4	43.8	65.9	74.5	100.7
Number of samples	3	3	3	3	9	3	15
Biomass density (g/m^2)	-	0.0671	0.1504	0.1129	0.1101	0.1367	0.0934
Standard deviation**	-	-	-	-	0.04174	-	0.06107
Standard error**	-	-	-	-	0.02410	-	0.02731
Minimum**	-	-	-	-	0.0671	-	0.0671
Maximum**	-	-	-	-	0.1504	-	0.1504
Coefficient of variation**	-	-	-	-	37.9	-	65.4
Number of samples	1	1	1	1	3	1	5

* No organisms present, 0 used for diversity and density data summaries.
** Calculable only for data summaries.

Table 112. Numerical density (#/m2) of reservoir benthos collected in May, June, August, and October 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
x % Exposure	6.2	0.1				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Oligochaeta	43	380	40	68	163	10	108
Diptera	4	77	158	67	101	25	66
Chironomidae	4	77	158	67	101	25	66
UID* Chironomidae	0	2	4	5	3	0	2
Tanypodinae	1	21	120	27	56	14	36
Coelotanypus	0	8	80	17	35	7	23
Procladius	0	12	39	7	19	7	13
Ablabesmyia	1	1	2	2	1	0	1
UID Tanypodinae	0	0	0	1	+	0	+
Chironominae	1	45	32	35	37	11	25
Glyptotendipes	1	1	15	23	13	8	9
Chironomus	0	19	4	5	9	2	6
Polypedilum	0	15	6	5	9	0	5
Harnischia	0	8	0	1	3	1	2
Tanytarsus	0	2	5	2	3	0	2
Cryptochironomus	0	1	2	0	1	00	+
Orthocladiinae	3	10	2	0	4	0	3
Psectrocladius	3	10	2	0	4	0	3
Ephemeroptera	0	77	91	71	80	41	56
Ephemeridae	0	76	91	71	79	41	56
Hexagenia	0	76	91	71	79	41	56
Heptageniidae	0	1	0	0	+	0	+
Stenonema	0	1	0	0	+	0	+
Stenacron	0	1	0	0	+	0	+
Trichoptera	1	40	50	27	39	23	28
Leptoceridae	1	40	50	27	39	23	28
Oecetis	1	40	50	27	39	23	28
Ceraclea	0	0	0	1	+	0	+
Hydracarina	1	19	41	27	29	7	19
Mideopsidae	0	17	37	19	24	6	16
Mideopsis	0	17	37	19	24	6	16
Unionicolidae	1	2	3	6	4	1	3
Unionicola	0	2	2	4	3	1	2
Neumania	1	0	1	3	1	0	1
Pionidae	0	0	0	1	+	0	+
Piona	0	0	0	1	+	0	+
Limnesiidae	0	0	1	0	+	0	+
Limnesia	0	0	1	0	+	0	+
Arrenuridae	0	0	1	0	+	0	+
Arrenurus	0	0	1	0	+	0	+
Amphipoda	2	9	0	8	6	8	5
Gammaridae	2	9	0	8	6	8	5
Crangonyx	2	9	0	8	6	8	5
Gastropoda	23	3	0	0	1	0	5
Planorbidae	23	3	0	0	1	0	5
Gyraulus	23	3	0	0	1	0	5
Nematoda	0	14	6	3	8	0	5
Turbellaria	0	1	0	1	1	0	+
Decapoda	0	0	0	1	+	0	+
Astacidae	0	0	0	1	+	0	+
Orconectes	0	0	0	1	+	0	+
Odonata	0	1	0	0	+	0	+
Anisoptera	0	1	0	0	+	0	+
Gomphidae	0	1	0	0	+	0	+
Dromogomphus	0	1	0	0	+	0	+
Total density	74	619	385	273	426	115	293
Number of families	6	12	9	11	16	7	16
Number of taxa	8	22	18	21	29	11	29
Crustacean density	2	9	0	9	6	8	6
Insect density	5	194	298	165	219	89	150
Others density	67	416	87	99	201	18	137

* UID = unidentified.
\+ = less than 0.5.

Table 113. Biomass density (g/m^2) of reservoir benthos collected in May, June, August, and October 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
x̄ % Exposure	6.2	0.1				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Ephemeroptera	-	0.2255	0.1301	0.0990	0.1515	0.1217	0.1153
Ephemeridae	-	0.2254	0.1301	0.0990	0.1515	0.1217	0.1152
Heptageniidae	-	0.0002	-	-	0.0001	-	+
Diptera	0.0004	0.0132	0.0195	0.0220	0.0182	0.0032	0.0117
Chironomidae	0.0004	0.0132	0.0195	0.0220	0.0182	0.0032	0.0117
Oligochaeta	0.0024	0.0227	0.0030	0.0067	0.0108	0.0011	0.0072
Decapoda	-	-	-	0.0351	0.0117	-	0.0070
Astacidae	-	-	-	0.0351	0.0117	-	0.0070
Trichoptera	0.0001	0.0080	0.0093	0.0070	0.0081	0.0066	0.0062
Leptoceridae	0.0001	0.0080	0.0093	0.0070	0.0081	0.0066	0.0062
Hydracarina	0.0002	0.0005	0.0028	0.0030	0.0021	0.0005	0.0014
Gastropoda	0.0051	0.0008	-	-	0.0003	-	0.0012
Planorbidae	0.0051	0.0008	-	-	0.0003	-	0.0012
Amphipoda	0.0007	0.0011	-	0.0017	0.0009	0.0008	0.0009
Gammaridae	0.0007	0.0011	-	0.0017	0.0009	0.0008	0.0009
Nematoda	-	0.0004	0.0002	0.0002	0.0003	-	0.0002
Turbellaria	-	0.0001	-	0.0005	0.0002	-	0.0001
Odonata	-	REF*	-	-	REF	-	REF
Anisoptera	-	REF	-	-	REF	-	REF
Gomphidae	-	REF	-	-	REF	-	REF
Total density	0.0089	0.2722	0.1649	0.1753	0.2041	0.1341	0.1511
Crustacean density	0.0007	0.0011	-	0.0368	0.0126	0.0008	0.0079
Insect density	0.0005	0.2467	0.1590	0.1280	0.1779	0.1316	0.1331
Others density	0.0077	0.0245	0.0060	0.0105	0.0136	0.0017	0.0101

\- = absent from collection.
\+ = less than 0.00005.
* REF = biomass not determined, organisms retained for reference.

Table 114. Mean taxa diversity ($\bar{d}$)/sample, mean numerical density (#/m^2), and biomass density (g/m^2) of reservoir benthos collected in May, June, August, and October 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
$\bar{x}$ % Exposure	6.2	0.1				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Mean taxa diversity ($\bar{d}$)/sample	0.60	1.86	2.13	2.17	2.05	1.94	1.74
Standard deviation	0.569	0.585	0.554	0.535	0.560	0.364	0.776
Minimum	0.00	0.73	1.07	1.33	0.73	1.29	0.00
Maximum	1.51	2.63	2.80	2.88	2.88	2.58	2.88
Mean evenness ($\bar{e}$)/sample	0.46	0.68	0.76	0.76	0.73	0.87	0.71
Number of samples	12	12	12	12	36	12	60
Mean numerical density (#/m^2)	74	619	385	273	426	115	293
Standard deviation	108.8	549.2	205.6	98.1	363.9	43.6	318.6
Standard error	31.4	158.6	59.4	28.3	60.7	12.6	41.1
Minimum	0	69	100	144	69	69	0
Maximum	288	1781	850	494	1781	231	1781
Coefficient of variation	147.1	88.8	53.3	35.9	85.5	38.0	108.7
Number of samples	12	12	12	12	36	12	60
Biomass density (g/m^2)	0.0089	0.2722	0.1649	0.1753	0.2041	0.1341	0.1511
Standard deviation	0.01393	0.30350	0.11251	0.12519	0.18814	0.18676	0.17924
Standard error	0.00696	0.15175	0.05626	0.06259	0.05431	0.09338	0.04008
Minimum	0.0004	0.0283	0.0404	0.0392	0.0283	0.0200	0.0004
Maximum	0.0296	0.7075	0.2900	0.3117	0.7075	0.4112	0.7075
Coefficient of variation	157.3	111.5	68.2	71.4	92.2	139.3	118.6
Number of samples	4	4	4	4	12	4	20

Table 115. Numerical density (#/m^2) of reservoir benthos collected in May 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
$\bar{x}$ % Exposure	1.6	0.0				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Ephemeroptera	0	115	258	58	144	31	92
Ephemeridae	0	115	258	58	144	31	92
Hexagenia	0	115	258	58	144	31	92
Diptera	2	17	119	77	71	31	49
Chironomidae	2	17	119	77	71	31	49
Tanypodinae	2	6	85	19	37	8	24
Procladius	0	4	58	10	24	0	15
Coelotanypus	0	2	27	8	12	8	9
Ablabesmyia	2	0	0	0	0	0	+
Chironominae	0	6	33	58	33	23	24
Glyptotendipes	0	2	4	35	14	23	13
Tanytarsus	0	4	21	6	10	0	6
Chironomus	0	0	6	12	6	0	4
Polypedilum	0	0	0	4	1	0	1
Cryptochironomus	0	0	2	0	1	0	+
Orthocladiinae	0	4	0	0	1	0	1
Psectrocladius	0	4	0	0	1	0	1
Oligochaeta	0	23	12	96	44	4	27
Trichoptera	2	48	12	29	30	27	24
Leptoceridae	2	48	12	29	30	27	24
Oecetis	2	48	12	29	30	27	24
Amphipoda	0	21	0	8	10	4	7
Gammaridae	0	21	0	8	10	4	7
Crangonyx	0	21	0	8	10	4	7
Gastropoda	0	2	0	0	1	0	+
Planorbidae	0	2	0	0	1	0	+
Gyraulus	0	2	0	0	1	0	+
Decapoda	0	0	0	2	1	0	+
Astacidae	0	0	0	2	1	0	+
Orconectes	0	0	0	2	1	0	+
Total density	4	225	402	271	299	98	200
Number of families	2	6	4	6	7	5	7
Number of taxa	2	10	9	11	14	6	15
Crustacean density	0	21	0	10	10	4	7
Insect density	4	179	390	165	244	90	165
Others density	0	25	12	96	44	4	27

+ = less than 0.5.

Table 116. Numerical density (#/m^2) of reservoir benthos collected in June 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
x̄ % Exposure	8.8	0.0				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Ephemeroptera	0	12	12	212	79	54	58
Ephemeridae	0	12	12	212	79	54	58
Hexagenia	0	12	12	212	79	54	58
Diptera	2	37	54	46	46	35	35
Chironomidae	2	37	54	46	46	35	35
UID* Chironomidae	0	0	6	8	7	0	3
Chironominae	2	4	33	33	24	4	15
Glyptotendipes	2	0	19	21	13	0	8
Polypedilum	0	0	15	12	9	0	5
Harnischia	0	4	0	0	1	4	2
Tanypodinae	0	10	6	4	7	31	10
Procladius	0	10	0	2	4	23	7
Coelotanypus	0	0	6	0	2	8	3
UID Tanypodinae	0	0	0	2	1	0	+
Orthocladiinae	0	23	8	0	10	0	6
Psectrocladius	0	23	8	0	10	0	6
Oligochaeta	4	25	96	33	51	8	33
Trichoptera	0	35	42	25	34	12	23
Leptoceridae	0	35	42	25	34	12	23
Oecetis	0	35	42	23	33	12	22
Ceraclea	0	0	0	2	1	0	+
Amphipoda	2	0	0	6	2	4	2
Gammaridae	2	0	0	6	2	4	2
Crangonyx	2	0	0	6	2	4	2
Hydracarina	0	8	0	0	3	4	2
Mideopsidae	0	4	0	0	1	4	2
Mideopsis	0	4	0	0	1	4	2
Unionicolidae	0	4	0	0	1	0	1
Unionicola	0	4	0	0	1	0	1
Nematoda	0	0	4	0	1	0	1
Total density	8	119	208	323	217	119	155
Number of families	3	6	5	5	8	6	8
Number of taxa	3	8	8	9	15	8	15
Crustacean density	2	0	0	6	2	4	2
Insect density	2	85	108	283	159	102	116
Others density	4	33	100	33	56	12	37

* UID = unidentified.
\+ = less than 0.5.

Table 117. Numerical density (#/m^2) of reservoir benthos collected in August 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
$\bar{x}$ % Exposure	9.4	0.3				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Oligochaeta	8	467	37	33	179	8	111
Diptera	0	217	173	110	167	25	105
Chironomidae	0	217	173	110	167	25	105
UID* Chironomidae	0	6	8	10	8	0	5
Chironominae	0	165	50	48	87	25	56
Chironomus	0	75	0	8	28	8	18
Glyptotendipes	0	2	35	33	24	8	16
Polypedilum	0	54	10	2	22	0	13
Harnischia	0	27	0	4	10	0	6
Cryptochironomus	0	2	4	0	2	0	1
Tanytarsus	0	4	0	0	1	0	1
Tanypodinae	0	33	115	52	67	8	42
Procladius	0	31	85	8	42	4	26
Coelotanypus	0	2	29	44	25	4	16
Orthocladiinae	0	12	0	0	4	0	2
Psectrocladius	0	12	0	0	4	0	2
Ephemeroptera	0	90	10	8	36	10	24
Ephemeridae	0	90	10	8	36	10	24
Hexagenia	0	90	10	8	36	10	24
Trichoptera	0	8	33	15	19	29	17
Leptoceridae	0	8	33	15	19	29	17
Oecetis	0	8	33	15	19	29	17
Hydracarina	0	27	23	29	26	4	17
Mideopsidae	0	25	17	21	21	4	13
Mideopsis	0	25	17	21	21	4	13
Unionicolidae	0	2	6	8	6	0	3
Neumania	0	0	2	6	3	0	2
Unionicola	0	2	4	2	3	0	2
Nematoda	0	33	0	4	12	0	7
Gastropoda	23	0	0	0	0	0	5
Planorbidae	23	0	0	0	0	0	5
Gyraulus	23	0	0	0	0	0	5
Amphipoda	4	0	0	0	0	0	1
Gammaridae	4	0	0	0	0	0	1
Crangonyx	4	0	0	0	0	0	1
Odonata	0	2	0	0	1	0	+
Anisoptera	0	2	0	0	1	0	+
Gomphidae	0	2	0	0	1	0	+
Dromogomphus	0	2	0	0	1	0	+
Total density	35	844	277	200	440	77	287
Number of families	3	8	6	7	8	5	10
Number of taxa	3	16	11	13	17	8	19
Crustacean density	4	0	0	0	0	0	1
Insect density	0	317	217	133	222	65	146
Others density	31	527	60	67	218	12	140

* UID = unidentified.
\+ = less than 0.5.

Table 118. Numerical density (#/m2) of reservoir benthos collected in October 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
x̄ % Exposure	5.0	0.0				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Oligochaeta	160	1006	12	110	376	21	262
Diptera	12	37	285	35	119	8	76
Chironomidae	12	37	285	35	119	8	76
UID* Chironomidae	0	0	0	2	1	0	+
Tanypodinae	0	33	275	31	113	8	70
Coelotanypus	0	29	258	17	101	8	62
Procladius	0	2	10	8	7	0	4
Ablabesmyia	0	2	6	6	5	0	3
Chironominae	0	4	10	2	6	0	3
Chironomus	0	0	10	0	3	0	2
Polypedilum	0	4	0	0	1	0	1
Glyptotendipes	0	0	0	2	1	0	+
Orthocladiinae	12	0	0	0	0	0	2
Psectrocladius	12	0	0	0	0	0	2
Hydracarina	2	40	142	77	86	21	56
Mideopsidae	0	37	131	56	75	17	48
Mideopsis	0	37	131	56	75	17	48
Unionicolidae	2	2	6	17	8	4	6
Unionicola	0	2	4	12	6	4	5
Neumania	2	0	2	4	2	0	2
Pionidae	0	0	0	4	1	0	1
Piona	0	0	0	4	1	0	1
Limnesiidae	0	0	2	0	1	0	+
Limnesia	0	0	2	0	1	0	+
Arrenuridae	0	0	2	0	1	0	+
Arrenurus	0	0	2	0	1	0	+
Trichoptera	0	67	112	40	73	25	49
Leptoceridae	0	67	112	40	73	25	49
Oecetis	0	67	112	40	73	25	49
Ephemeroptera	0	92	81	4	59	67	49
Ephemeridae	0	87	81	4	59	67	48
Hexagenia	0	87	81	4	59	67	48
Heptageniidae	0	4	0	0	1	0	1
Stenonema	0	2	0	0	1	0	+
Stenacron	0	2	0	0	1	0	+
Gastropoda	71	8	0	0	3	0	16
Planorbidae	71	8	0	0	3	0	16
Gyraulus	71	8	0	0	3	0	16
Amphipoda	2	15	0	19	11	23	12
Gammaridae	2	15	0	19	11	23	12
Crangonyx	2	15	0	19	11	23	12
Nematoda	0	21	21	8	17	0	10
Turbellaria	0	2	0	4	2	0	1
Total density	248	1287	654	298	747	165	530
Number of families	5	11	9	10	14	7	14
Number of taxa	5	15	13	14	21	7	22
Crustacean density	2	15	0	19	11	23	12
Insect density	12	196	479	79	251	100	173
Others density	233	1077	175	200	484	42	345

* UID = unidentified.
\+ = less than 0.5.

Table 119. Biomass density (g/m^2) of reservoir benthos collected in May 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
$\bar{x}$ % Exposure	1.6	0.0				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Ephemeroptera	-	0.0996	0.2121	0.1237	0.1451	0.0140	0.0899
Ephemeridae	-	0.0996	0.2121	0.1237	0.1451	0.0140	0.0899
Decapoda	-	-	-	0.1402	0.0467	-	0.0280
Astacidae	-	-	-	0.1402	0.0467	-	0.0280
Diptera	0.0002	0.0004	0.0052	0.0246	0.0101	0.0042	0.0069
Chironomidae	0.0002	0.0004	0.0052	0.0246	0.0101	0.0042	0.0069
Oligochaeta	-	0.0029	0.0025	0.0171	0.0075	0.0004	0.0046
Trichoptera	0.0002	0.0019	0.0033	0.0048	0.0033	0.0062	0.0033
Leptoceridae	0.0002	0.0019	0.0033	0.0048	0.0033	0.0062	0.0033
Amphipoda	-	0.0025	-	0.0012	0.0012	0.0004	0.0008
Gammaridae	-	0.0025	-	0.0012	0.0012	0.0004	0.0008
Gastropoda	-	0.0019	-	-	0.0006	-	0.0004
Planorbidae	-	0.0019	-	-	0.0006	-	0.0004
Total density	0.0004	0.1092	0.2231	0.3117	0.2147	0.0252	0.1339
Crustacean density	-	0.0025	-	0.1415	0.0480	0.0004	0.0289
Insect density	0.0004	0.1019	0.2206	0.1531	0.1585	0.0244	0.1001
Others density	-	0.0048	0.0025	0.0171	0.0081	0.0004	0.0050

- = absent from collection.

Table 120. Biomass density (g/m^2) of reservoir benthos collected in June 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
$\bar{x}$ % Exposure	8.8	0.0				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Ephemeroptera	-	0.0181	0.0112	0.1977	0.0757	0.0698	0.0594
Ephemeridae	-	0.0181	0.0112	0.1977	0.0757	0.0698	0.0594
Diptera	0.0002	0.0017	0.0171	0.0321	0.0169	0.0035	0.0109
Chironomidae	0.0002	0.0017	0.0171	0.0321	0.0169	0.0035	0.0109
Trichoptera	-	0.0044	0.0050	0.0104	0.0066	0.0046	0.0049
Leptoceridae	-	0.0044	0.0050	0.0104	0.0066	0.0046	0.0049
Oligochaeta	0.0004	0.0037	0.0067	0.0023	0.0042	0.0010	0.0028
Amphipoda	0.0004	-	-	0.0029	0.0010	0.0004	0.0008
Gammaridae	0.0004	-	-	0.0029	0.0010	0.0004	0.0008
Hydracarina	-	0.0004	-	-	0.0001	0.0004	0.0002
Nematoda	-	-	0.0004	-	0.0001	-	0.0001
Total density	0.0010	0.0283	0.0404	0.2454	0.1047	0.0798	0.0790
Crustacean density	0.0004	-	-	0.0029	0.0010	0.0004	0.0008
Insect density	0.0002	0.0242	0.0333	0.2402	0.0992	0.0779	0.0752
Others density	0.0004	0.0042	0.0071	0.0023	0.0045	0.0015	0.0031

- = absent from collection.

Table 121. Biomass density (g/m^2) of reservoir benthos collected in August 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
$\bar{x}$ % Exposure	9.4	0.3				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Ephemeroptera	-	0.6117	0.0631	0.0715	0.2487	0.0025	0.1497
Ephemeridae	-	0.6117	0.0631	0.0715	0.2487	0.0025	0.1497
Diptera	-	0.0448	0.0219	0.0250	0.0306	0.0023	0.0188
Chironomidae	-	0.0448	0.0219	0.0250	0.0306	0.0023	0.0188
Oligochaeta	0.0012	0.0475	0.0017	0.0019	0.0170	0.0012	0.0107
Trichoptera	-	0.0025	0.0154	0.0033	0.0071	0.0135	0.0070
Leptoceridae	-	0.0025	0.0154	0.0033	0.0071	0.0135	0.0070
Hydracarina	-	0.0002	0.0042	0.0027	0.0024	0.0004	0.0015
Amphipoda	0.0017	-	-	-	-	-	0.0003
Gammaridae	0.0017	-	-	-	-	-	0.0003
Gastropoda	0.0015	-	-	-	-	-	0.0003
Planorbidae	0.0015	-	-	-	-	-	0.0003
Nematoda	-	0.0008	-	0.0004	0.0004	-	0.0002
Odonata	-	REF*	-	-	REF	-	REF
Anisoptera	-	REF	-	-	REF	-	REF
Gomphidae	-	REF	-	-	REF	-	REF
Total density	0.0044	0.7075	0.1062	0.1048	0.3062	0.0200	0.1886
Crustacean density	0.0017	-	-	-	-	-	0.0003
Insect density	-	0.6590	0.1004	0.0998	0.2864	0.0183	0.1755
Others density	0.0027	0.0485	0.0058	0.0050	0.0198	0.0017	0.0127

- = absent from collection.
* REF = biomass not determined; organisms retained for reference.

Table 122. Biomass density (g/m^2) of reservoir benthos collected in October 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
$\bar{x}$ % Exposure	5.0	0.0				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Ephemeroptera	-	0.1727	0.2340	0.0029	0.1365	0.4006	0.1620
Ephemeridae	-	0.1721	0.2340	0.0029	0.1363	0.4006	0.1619
Heptageniidae	-	0.0006	-	-	0.0002	-	0.0001
Oligochaeta	0.0079	0.0367	0.0010	0.0056	0.0144	0.0019	0.0106
Diptera	0.0012	0.0058	0.0340	0.0065	0.0154	0.0029	0.0101
Chironomidae	0.0012	0.0058	0.0340	0.0065	0.0154	0.0029	0.0101
Trichoptera	-	0.0231	0.0135	0.0096	0.0154	0.0021	0.0097
Leptoceridae	-	0.0231	0.0135	0.0096	0.0154	0.0021	0.0097
Hydracarina	0.0008	0.0015	0.0071	0.0094	0.0060	0.0012	0.0040
Gastropoda	0.0187	0.0012	-	-	0.0004	-	0.0040
Planorbidae	0.0187	0.0012	-	-	0.0004	-	0.0040
Amphipoda	0.0008	0.0019	-	0.0027	0.0015	0.0025	0.0016
Gammaridae	0.0008	0.0019	-	0.0027	0.0015	0.0025	0.0016
Turbellaria	-	0.0002	-	0.0021	0.0008	-	0.0005
Nematoda	-	0.0008	0.0004	0.0004	0.0006	-	0.0003
Total density	0.0296	0.2440	0.2900	0.0392	0.1910	0.4112	0.2028
Crustacean density	0.0008	0.0019	-	0.0027	0.0015	0.0025	0.0016
Insect density	0.0012	0.2017	0.2815	0.0190	0.1674	0.4056	0.1818
Others density	0.0275	0.0404	0.0085	0.0175	0.0222	0.0031	0.0194

- = absent from collection.

Table 123. Mean taxa diversity ($\bar{d}$)/sample, mean numerical density (#/m^2), and biomass density (g/m^2) of reservoir benthos collected in May 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
$\bar{x}$ % Exposure	1.6	0.0				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Mean taxa diversity ($\bar{d}$)/sample	0.33	1.88	1.59	1.99	1.82	1.75	1.51
Standard deviation	0.577	0.625	0.228	0.271	0.402	0.052	0.715
Minimum	0.00	1.39	1.40	1.69	1.39	1.70	0.00
Maximum	1.00	2.59	1.84	2.22	2.59	1.81	2.59
Mean evenness ($\bar{e}$)/sample	0.33	0.76	0.60	0.79	0.72	0.88	0.67
Number of samples	3	3	3	3	9	3	15
Mean numerical density (#/m^2)	4	225	402	271	299	98	200
Standard deviation	7.2	87.5	3.6	69.7	97.3	7.2	149.0
Standard error	4.2	50.5	2.1	40.2	32.4	4.2	38.5
Minimum	0	125	400	219	125	94	0
Maximum	12	288	406	350	406	106	406
Coefficient of variation	173.2	38.9	0.9	25.7	32.5	7.4	74.5
Number of samples	3	3	3	3	9	3	15
Biomass density (g/m^2)	0.0004	0.1092	0.2231	0.3117	0.2147	0.0252	0.1339
Standard deviation*	-	-	-	-	0.10152	-	0.13210
Standard error*	-	-	-	-	0.05861	-	0.05908
Minimum*	-	-	-	-	0.1092	-	0.0004
Maximum*	-	-	-	-	0.3117	-	0.3117
Coefficient of variation*	-	-	-	-	47.3	-	98.6
Number of samples	1	1	1	1	3	1	5

* Calculable only for data summaries.

Table 124. Mean taxa diversity ($\bar{d}$)/sample, mean numerical density (#/m^2), and biomass density (g/m^2) of reservoir benthos collected in June 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
$\bar{x}$ % Exposure	8.8	0.0				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Mean taxa diversity ($\bar{d}$)/sample	0.31	2.01	2.09	1.45	1.85	1.96	1.56
Standard deviation	0.530	0.670	0.886	0.147	0.636	0.537	0.860
Minimum	0.00	1.30	1.07	1.33	1.07	1.59	0.00
Maximum	0.92	2.63	2.67	1.62	2.67	2.58	2.67
Mean evenness ($\bar{e}$)/sample	0.31	0.89	0.85	0.60	0.78	0.86	0.70
Number of samples	3	3	3	3	9	3	15
Mean numerical density (#/m^2)	8	119	208	323	217	119	155
Standard deviation	9.5	61.6	95.7	175.1	137.0	22.5	134.7
Standard error	5.5	35.5	55.2	101.1	45.7	13.0	34.8
Minimum	0	69	100	144	69	100	0
Maximum	19	188	281	494	494	144	494
Coefficient of variation	114.6	51.8	45.9	54.2	63.2	19.0	86.7
Number of samples	3	3	3	3	9	3	15
Biomass density (g/m^2)	0.0010	0.0283	0.0404	0.2454	0.1047	0.0798	0.0790
Standard deviation*	-	-	-	-	0.12199	-	0.09725
Standard error*	-	-	-	-	0.07043	-	0.04349
Minimum*	-	-	-	-	0.0283	-	0.0010
Maximum*	-	-	-	-	0.2454	-	0.2454
Coefficient of variation*	-	-	-	-	116.5	-	123.1
Number of samples	1	1	1	1	3	1	5

* Calculable only for data summaries.

Table 125. Mean taxa diversity ($\bar{d}$)/sample, mean numerical density (#/m^2), and biomass density (g/m^2) of reservoir benthos collected in August 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
$\bar{x}$ % Exposure	9.4	0.3				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Mean taxa diversity ($\bar{d}$)/sample	0.69	2.21	2.56	2.70	2.49	2.06	2.04
Standard deviation	0.607	0.091	0.245	0.157	0.267	0.135	0.787
Minimum	0.00	2.15	2.31	2.60	2.15	1.92	0.00
Maximum	1.15	2.31	2.80	2.88	2.88	2.19	2.88
Mean evenness ($\bar{e}$)/sample	0.55	0.65	0.86	0.85	0.79	0.93	0.77
Number of samples	3	3	3	3	9	3	15
Mean numerical density (#/m^2)	35	844	277	200	440	77	287
Standard deviation	46.1	291.7	128.3	16.5	343.7	9.5	325.5
Standard error	26.6	168.4	74.1	9.5	114.6	5.5	84.0
Minimum	0	625	169	188	169	69	0
Maximum	88	1175	419	219	1175	88	1175
Coefficient of variation	130.1	34.6	46.3	8.3	78.1	12.4	113.5
Number of samples	3	3	3	3	9	3	15
Biomass density (g/m^2)	0.0044	0.7075	0.1062	0.1048	0.3062	0.0200	0.1886
Standard deviation*	-	-	-	-	0.34755	-	0.29387
Standard error*	-	-	-	-	0.20066	-	0.13142
Minimum*	-	-	-	-	0.1048	-	0.0044
Maximum*	-	-	-	-	0.7075	-	0.7075
Coefficient of variation*	-	-	-	-	113.5	-	155.8
Number of samples	1	1	1	1	3	1	5

* Calculable only for data summaries.

Table 126. Mean taxa diversity ($\bar{d}$)/sample, mean numerical density (#/m^2), and biomass density (g/m^2) of reservoir benthos collected in October 1978 at five stations on Upper B-G.

Elevation (ft)	1980	1970				1960	
$\bar{x}$ % Exposure	5.0	0.0				0.0	Grand
Station	29	30	31	32	Mean	43	Mean
Mean taxa diversity ($\bar{d}$)/sample	1.08	1.32	2.31	2.53	2.05	1.97	1.84
Standard deviation	0.448	0.618	0.164	0.025	0.642	0.586	0.685
Minimum	0.62	0.73	2.13	2.50	0.73	1.29	0.62
Maximum	1.51	1.97	2.45	2.55	2.55	2.33	2.55
Mean evenness ($\bar{e}$)/sample	0.66	0.41	0.73	0.79	0.64	0.81	0.68
Number of samples	3	3	3	3	9	3	15
Mean numerical density (#/m^2)	248	1287	654	298	747	165	530
Standard deviation	37.7	456.3	183.0	66.8	500.0	59.1	468.3
Standard error	21.8	283.5	105.7	38.6	166.7	34.1	120.9
Minimum	212	881	488	225	225	119	119
Maximum	288	1781	850	356	1781	231	1781
Coefficient of variation	15.2	35.4	28.0	22.4	67.0	35.9	88.3
Number of samples	3	3	3	3	9	3	15
Biomass density (g/m^2)	0.0296	0.2440	0.2900	0.0392	0.1910	0.4112	0.2028
Standard deviation*	-	-	-	-	0.13353	-	0.16548
Standard error*	-	-	-	-	0.07709	-	0.07400
Minimum*	-	-	-	-	0.0392	-	0.0296
Maximum*	-	-	-	-	0.2900	-	0.4112
Coefficient of variation*	-	-	-	-	69.9	-	81.6
Number of samples	1	1	1	1	3	1	5

* Calculable only for data summaries.

Table 127. Numerical density (#/m^2) by depth and by zone of reservoir benthos collected in May, June, August, and October 1978 at eight stations on Schoharie Reservoir.

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Oligochaeta	1206	1171	1170	2113	2330	335	899	1642	1301
Diptera	696	681	57	122	1231	329	506	90	539
UID* Diptera	1	1	0	0	1	1	2	0	1
Chironomidae	693	680	56	121	1230	327	501	88	537
UID Chironomidae	73	41	8	13	92	24	54	11	45
Chironominae	466	397	16	31	756	209	330	23	329
Tanytarsus	260	212	5	6	424	108	177	5	178
Chironomus	81	107	4	12	193	45	44	8	73
Polypedilum	45	12	1	2	17	10	59	1	22
Phaenopsectra	20	13	0	0	26	18	7	0	13
Cryptotendipes	20	6	0	0	19	3	16	0	10
Cryptochironomus	5	5	3	5	8	4	2	4	5
Paratendipes	5	6	0	0	7	8	1	0	4
Stictochironomus	3	5	0	0	12	1	0	0	3
Cladopelma	5	3	0	0	12	0	0	0	3
Harnischia	2	4	2	5	2	2	4	4	3
Micropsectra	5	2	0	0	9	0	1	0	3
Microtendipes	+	6	1	0	5	1	3	+	2
Parachironomus	1	5	1	0	1	4	3	+	2
Paratanytarsus	2	3	0	0	2	0	5	0	2
Dicrotendipes	3	2	0	0	6	0	1	0	2
Paracladopelma	+	3	0	2	2	2	3	1	2
Glyptotendipes	3	1	0	0	3	2	1	0	1
Pseudochironomus	3	0	0	0	3	+	1	0	1
Cladotanytarsus	2	+	0	0	1	0	3	0	1
UID Chironomini A	2	0	0	0	3	0	0	0	1
Zavrelia	0	1	0	0	1	0	0	0	+
Demicryptochironomus	0	+	0	0	0	1	0	0	+
Stempellina	+	0	0	0	1	0	0	0	+
Tanypodinae	106	232	30	70	349	80	78	50	139
Procladius	81	217	29	68	324	65	58	48	124
Ablabesmyia	24	14	1	3	22	15	20	2	15
Conchapelopia, Arctopelopia	1	1	0	0	2	1	0	0	1
Larsia	1	0	0	0	1	0	0	0	+
Clinotanypus	0	+	0	0	1	0	0	0	+
Macropelopia	0	+	0	0	+	0	0	0	+
Orthocladiinae	47	10	2	7	32	14	39	4	22
Trissocladius	28	1	2	6	2	7	35	4	12
Cricotopus	14	+	0	0	17	3	1	0	5
Psectrocladius	3	3	0	1	5	1	2	+	2
Smittia	1	1	0	0	1	1	1	0	1
UID Orthocladiinae C	0	2	0	0	3	0	0	0	1
UID Orthocladiinae D	0	1	0	0	1	1	0	0	+

* UID = unidentified.
\+ = less than 0.5.
** IMM = too immature to identify.

Table 127 - (Continued).

Station	Depth (m) 1 33, 35, 37	3 34, 36, 38	6 39	10 40	Zone 1 33, 34	2 35, 36	3 37, 38	4 39, 40	Grand Mean
Parametriocnemus	0	1	0	0	2	0	0	0	+
Heterotrissocladius	0	1	0	0	1	0	0	0	+
UID Orthocladiinae E	0	+	0	0	0	1	0	0	+
UID Orthocladiinae F	+	0	0	0	0	0	1	0	+
Corynoneura	+	0	0	0	1	0	0	0	+
Orthocladius	+	0	0	0	+	0	0	0	+
Ceratopogonidae	1	1	1	1	1	1	1	1	1
Palpomyia	1	+	0	0	1	1	0	0	+
Palpomyia group	+	0	1	1	0	+	0	1	+
Stilobezzia	0	+	0	0	0	0	1	0	+
Dolichopodidae	1	+	0	0	0	0	3	0	1
Hydrophorus	1	+	0	0	0	0	3	0	1
Chaoboridae	0	0	0	1	0	0	0	1	+
Chaoborus	0	0	0	1	0	0	0	1	+
Amphipoda	66	23	1	20	48	73	14	10	36
Gammaridae	66	23	1	20	48	73	14	10	36
Crangonyx	66	23	1	20	48	73	14	10	36
Nematoda	16	13	40	79	2	4	37	59	26
Ephemeroptera	18	17	30	24	22	15	14	27	20
Ephemeridae	3	15	29	24	+	13	14	27	13
Hexagenia	3	14	29	24	+	11	14	27	13
Ephemera	0	1	0	0	0	1	0	0	+
Leptophlebiidae	13	1	0	0	20	1	0	0	5
UID Leptophlebiidae	0	1	0	0	1	+	0	0	+
Leptophlebia	13	1	0	0	20	1	0	0	5
Paraleptophlebia	+	0	0	0	+	0	0	0	+
Baetidae	1	+	0	0	1	1	0	0	+
UID Baetidae	+	0	0	0	0	+	0	0	+
Baetis	1	+	0	0	1	+	0	0	+
Heptageniidae	+	+	1	0	0	1	0	1	+
Stenonema	+	+	1	0	0	1	0	1	+
Ostracoda	3	19	0	0	4	27	3	0	8
Hydracarina	3	7	13	21	8	3	5	17	8
UID Hydracarina	0	+	0	0	1	0	0	0	+
Mideopsidae	0	3	6	10	1	1	3	8	3
Mideopsis	0	3	6	10	1	1	3	8	3
Unionicolidae	3	1	4	5	5	+	1	5	3
Neumania	3	1	4	5	5	+	1	5	3
Unionicola	0	+	0	0	+	0	0	0	+
Arrenuridae	0	1	2	3	1	1	1	2	1
Arrenurus	0	1	2	3	1	1	1	2	1
Oxidae	+	1	0	2	1	0	+	1	1
Oxus	+	1	0	2	1	0	+	1	1
Hygrobatidae	0	1	0	0	0	1	0	0	+
Hygrobates	0	1	0	0	0	1	0	0	+
Limnesiidae	0	0	2	0	0	0	0	1	+
Limnesia	0	0	2	0	0	0	0	1	+

Table 127 - (Continued).

Station	Depth (m) 1 (33, 35, 37)	3 (34, 36, 38)	6 (39)	10 (40)	Zone 1 (33, 34)	2 (35, 36)	3 (37, 38)	4 (39, 40)	Grand Mean
Lebertiidae	0	0	0	1	0	0	0	1	+
Lebertia	0	0	0	1	0	0	0	1	+
Pionidae	0	+	0	0	0	1	0	0	+
Piona	0	+	0	0	0	1	0	0	+
Trichoptera	3	8	4	8	5	2	10	6	6
Leptoceridae	1	7	4	8	1	2	9	6	4
Oecetis	+	5	4	8	0	0	9	6	4
Mystacides	1	1	0	0	1	2	+	0	1
Limnephilidae	2	1	0	0	3	0	1	0	1
Limnephilus	2	1	0	0	3	0	1	0	1
Polycentropodidae	0	+	0	0	1	0	0	0	+
Polycentropus	0	+	0	0	1	0	0	0	+
Pelecypoda	1	9	0	1	13	1	0	+	4
Sphaeriidae	1	9	0	1	13	1	0	+	4
Sphaerium	0	7	0	0	9	1	0	0	2
Pisidium	1	2	0	1	4	0	0	+	1
Megaloptera	1	5	2	2	2	6	2	2	3
Sialidae	1	5	2	2	2	6	2	2	3
Sialis	1	5	2	2	2	6	2	2	3
Decapoda	4	+	1	0	5	+	1	1	2
Astacidae	4	+	1	0	5	+	1	1	2
IMM** Astacidae	3	0	0	0	4	+	+	0	1
Orconectes	1	+	1	0	1	0	1	1	+
Isopoda	2	1	0	3	0	4	0	2	1
Asellidae	2	1	0	3	0	4	0	2	1
Asellus	2	1	0	3	0	4	0	2	1
Turbellaria	0	1	0	1	0	+	2	+	1
Odonata	+	+	1	1	+	1	+	1	1
Anisoptera	+	+	1	1	+	1	+	1	1
Macromiidae	+	+	1	1	+	+	+	1	+
Didymops	0	0	1	1	0	0	0	1	+
Macromia	+	+	0	0	+	+	+	0	+
Libellulidae	0	+	0	0	0	0	0	0	+
UID Libellulidae	0	+	0	0	0	+	0	0	+
Coleoptera	+	1	0	0	1	+	1	0	+
Gyrinidae	+	+	0	0	+	+	+	0	+
Gyrinus	+	+	0	0	+	+	+	0	+
Elmidae	0	+	0	0	1	0	0	0	+
Optioservus	0	+	0	0	+	0	0	0	+
Stenelmis	0	+	0	0	+	0	0	0	+
Curculionidae	0	+	0	0	0	0	+	0	+
UID Curculionidae	0	+	0	0	0	0	+	0	+

Table 127 - (Continued).

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Gastropoda	1	1	0	0	+	1	0	0	+
Lymnaeidae	+	+	0	0	0	1	0	0	+
Lymnaea	+	+	0	0	0	1	0	0	+
Planorbidae	+	+	0	0	+	+	0	0	+
Gyraulus	+	+	0	0	+	+	0	0	+
Plecoptera	+	0	0	0	1	0	0	0	+
Perlidae	+	0	0	0	1	0	0	0	+
Perlinella	+	0	0	0	1	0	0	0	+
Hemiptera	+	0	0	0	+	0	0	0	+
Corixidae	+	0	0	0	+	0	0	0	+
UID Corixidae	+	0	0	0	+	0	0	0	+
Total density	2021	1956	1318	2396	3671	801	1493	1857	1955
Number of families	26	33	15	18	26	26	21	21	38
Number of taxa	60	72	24	27	65	52	45	32	87
Crustacean density	75	43	2	23	57	104	18	12	48
Insect density	719	712	93	158	1261	353	533	126	568
Others density	1226	1201	1223	2215	2354	344	943	1719	1340

Table 128. Numerical density (#/m^2) of reservoir benthos collected in May, June, August, and October 1978 at eight stations on Schoharie Reservoir.

Station	33	34	35	36	37	38	39	40	Grand
Depth (m)	1	3	1	3	1	3	6	10	Mean
Oligochaeta	2357	2303	176	495	1083	715	1170	2113	1301
Diptera	1311	1151	156	503	621	390	57	122	539
UID* Diptera	1	0	0	2	3	0	0	0	1
Chironomidae	1310	1150	154	501	614	388	56	121	537
UID Chironomidae	139	46	23	26	56	52	8	13	45
Chironominae	919	594	85	332	395	265	16	31	329
Tanytarsus	534	315	31	184	216	139	5	6	178
Chironomus	208	178	5	85	29	59	4	12	73
Polypedilum	21	14	13	7	102	17	1	2	22
Phaenopsectra	41	11	13	23	8	5	0	0	13
Cryptotendipes	35	2	1	5	23	9	0	0	10
Cryptochironomus	6	11	7	2	3	1	3	5	5
Paratendipes	7	8	7	9	1	1	0	0	4
Stictochironomus	7	16	1	0	0	0	0	0	3
Cladopelma	15	8	0	0	0	0	0	0	3
Harnischia	1	4	0	3	4	4	2	5	3
Micropsectra	14	5	0	0	0	2	0	0	3
Microtendipes	0	10	1	2	0	6	1	0	2
Parachironomus	0	2	2	6	0	5	1	0	2
Paratanytarsus	5	0	0	0	0	10	0	0	2
Dicrotendipes	8	4	0	0	1	1	0	0	2
Paracladopelma	0	3	0	3	1	4	0	2	2
Glyptotendipes	4	2	4	1	1	1	0	0	1
Pseudochironomus	5	0	1	0	3	0	0	0	1
Cladotanytarsus	1	0	0	0	5	1	0	0	1
UID Chironomini A	6	0	0	0	0	0	0	0	1
Zavrelia	0	2	0	0	0	0	0	0	+
Demicryptochironomus	0	0	0	1	0	0	0	0	+
Stempellina	1	0	0	0	0	0	0	0	+
Tanypodinae	207	492	21	139	91	65	30	70	139
Procladius	163	485	8	121	72	44	29	68	124
Ablabesmyia	42	2	11	18	18	21	1	3	15
Conchapelopia, Arctopelopia	1	3	1	0	0	0	0	0	1
Larsia	2	0	0	0	0	0	0	0	+
Clinotanypus	0	1	0	0	0	0	0	0	+
Macropelopia	0	1	0	0	0	0	0	0	+
Orthocladiinae	45	19	24	4	72	6	2	7	22
Trissocladius	3	0	14	1	67	2	2	6	12
Cricotopus	34	1	7	0	2	0	0	0	5
Psectrocladius	7	4	1	2	2	2	0	1	2
Smittia	0	1	3	0	0	2	0	0	1
UID Orthocladiinae C	0	5	0	0	0	0	0	0	1
UID Orthocladiinae D	0	2	0	1	0	0	0	0	+

* UID = unidentified.
\+ = less than 0.5.
** IMM = too immature to identify.

Table 128 - (Continued).

Station Depth (m)	33 1	34 3	35 1	36 3	37 1	38 3	39 6	40 10	Grand Mean
Parametriocnemus	0	3	0	0	0	0	0	0	+
Heterotrissocladius	0	2	0	0	0	0	0	0	+
UID Orthocladiinae E	0	0	0	1	0	0	0	0	+
UID Orthocladiinae F	0	0	0	0	1	0	0	0	+
Corynoneura	1	0	0	0	0	0	0	0	+
Orthocladius	1	0	0	0	0	0	0	0	+
Ceratopogonidae	0	1	2	0	0	1	1	1	1
Palpomyia	0	1	2	0	0	0	0	0	+
Palpomyia group	0	0	1	0	0	0	1	1	+
Stilobezzia	0	0	0	0	0	1	0	0	+
Dolichopodidae	0	0	0	0	4	1	0	0	1
Hydrophorus	0	0	0	0	4	1	0	0	1
Chaoboridae	0	0	0	0	0	0	0	1	+
Chaoborus	0	0	0	0	0	0	0	1	+
Amphipoda	86	10	108	38	5	22	1	20	36
Gammaridae	86	10	108	38	5	22	1	20	36
Crangonyx	86	10	108	38	5	22	1	20	36
Nematoda	3	2	3	6	43	32	40	79	26
Ephemeroptera	40	4	8	23	5	23	30	24	20
Ephemeridae	1	0	4	21	5	23	29	24	13
Hexagenia	1	0	4	19	5	23	29	24	13
Ephemera	0	0	0	3	0	0	0	0	+
Leptophlebiidae	37	4	2	1	0	0	0	0	5
UID Leptophlebiidae	0	1	0	1	0	0	0	0	+
Leptophlebia	36	3	2	0	0	0	0	0	5
Paraleptophlebia	1	0	0	0	0	0	0	0	+
Baetidae	2	0	1	1	0	0	0	0	+
UID Baetidae	0	0	1	0	0	0	0	0	+
Baetis	2	0	0	1	0	0	0	0	+
Heptageniidae	0	0	1	1	0	0	1	0	+
Stenonema	0	0	1	1	0	0	1	0	+
Ostracoda	5	2	3	51	1	5	0	0	8
Hydracarina	10	6	0	5	1	9	13	21	8
UID Hydracarina	0	1	0	0	0	0	0	0	+
Mideopsidae	0	1	0	1	0	6	6	10	3
Mideopsis	0	1	0	1	0	6	6	10	3
Unionicolidae	9	2	0	1	1	1	4	5	3
Neumania	9	1	0	1	1	1	4	5	3
Unionicola	0	1	0	0	0	0	0	0	+
Arrenuridae	0	1	0	1	0	1	2	3	1
Arrenurus	0	1	0	1	0	1	2	3	1
Oxidae	1	1	0	0	0	1	0	2	1
Oxus	1	1	0	0	0	1	0	2	1
Hygrobatidae	0	0	0	2	0	0	0	0	+
Hygrobates	0	0	0	2	0	0	0	0	+
Limnesiidae	0	0	0	0	0	0	2	0	+
Limnesia	0	0	0	0	0	0	2	0	+

Table 128 - (Continued).

Station Depth (m)	33 1	34 3	35 1	36 3	37 1	38 3	39 6	40 10	Grand Mean
Lebertiidae	0	0	0	0	0	0	0	1	+
Lebertia	0	0	0	0	0	0	0	1	+
Pionidae	0	0	0	1	0	0	0	0	+
Piona	0	0	0	1	0	0	0	0	+
Trichoptera	8	2	1	3	1	19	4	8	6
Leptoceridae	3	0	1	3	1	17	4	8	4
Oecetis	0	0	0	0	1	16	4	8	4
Mystacides	3	0	1	3	0	1	0	0	1
Limnephilidae	6	1	0	0	0	3	0	0	1
Limnephilus	6	1	0	0	0	3	0	0	1
Polycentropodidae	0	1	0	0	0	0	0	0	+
Polycentropus	0	1	0	0	0	0	0	0	+
Pelecypoda	2	25	0	1	0	0	0	1	4
Sphaeriidae	2	25	0	1	0	0	0	1	4
Sphaerium	0	19	0	1	0	0	0	0	2
Pisidium	2	6	0	0	0	0	0	1	1
Megaloptera	3	1	0	11	1	2	2	2	3
Sialidae	3	1	0	11	1	2	2	2	3
Sialis	3	1	0	11	1	2	2	2	3
Decapoda	9	0	1	0	2	1	1	0	2
Astacidae	9	0	1	0	2	1	1	0	2
IMM** Astacidae	8	0	1	0	1	0	0	0	1
Orconectes	1	0	0	0	1	1	1	0	+
Isopoda	0	0	6	2	0	0	0	3	1
Asellidae	0	0	6	2	0	0	0	3	1
Asellus	0	0	6	2	0	0	0	3	1
Turbellaria	0	0	0	1	0	4	0	1	1
Odonata	1	0	0	1	1	0	1	1	1
Anisoptera	1	0	0	1	1	0	1	1	1
Macromiidae	1	0	0	1	1	0	1	1	+
Didymops	0	0	0	0	0	0	1	1	+
Macromia	1	0	0	1	1	0	0	0	+
Libellulidae	0	0	0	1	0	0	0	0	+
UID Libellulidae	0	0	0	1	0	0	0	0	+
Coleoptera	0	2	1	0	0	1	0	0	+
Gyrinidae	0	1	1	0	0	1	0	0	+
Gyrinus	0	1	1	0	0	1	0	0	+
Elmidae	0	1	0	0	0	0	0	0	+
Optioservus	0	1	0	0	0	0	0	0	+
Stenelmis	0	1	0	0	0	0	0	0	+
Curculionidae	0	0	0	0	0	1	0	0	+
UID Curculionidae	0	0	0	0	0	1	0	0	+

Table 128 - (Continued).

Station	33	34	35	36	37	38	39	40	Grand
Depth (m)	1	3	1	3	1	3	6	10	Mean
Gastropoda	0	1	2	1	0	0	0	0	+
Lymnaeidae	0	0	1	1	0	0	0	0	+
Lymnaea	0	0	1	1	0	0	0	0	+
Planorbidae	0	1	1	0	0	0	0	0	+
Gyraulus	0	1	1	0	0	0	0	0	+
Plecoptera	1	0	0	0	0	0	0	0	+
Perlidae	1	0	0	0	0	0	0	0	+
Perlinella	1	0	0	0	0	0	0	0	+
Hemiptera	1	0	0	0	0	0	0	0	+
Corixidae	1	0	0	0	0	0	0	0	+
UID Corixidae	1	0	0	0	0	0	0	0	+
Total density	3836	3506	462	1140	1764	1222	1318	2396	1955
Number of families	18	18	16	22	13	19	15	18	38
Number of taxa	46	49	35	41	31	40	24	27	87
Crustacean density	101	12	117	90	8	28	2	23	48
Insect density	1364	1158	165	542	629	436	93	158	568
Others density	2372	2335	180	508	1127	759	1223	2215	1340

Table 129. Biomass density (g/m2) by depth and by zone of reservoir benthos collected in May, June, August, and October 1978 at eight stations on Schoharie Reservoir.

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Oligochaeta	0.3944	0.1933	0.1614	0.4594	0.5329	0.0661	0.2826	0.3104	0.2980
Diptera	0.0557	0.1026	0.0090	0.0255	0.1184	0.0665	0.0524	0.0172	0.0636
UID* Diptera	REF**	-	-	-	REF	REF	REF	-	REF
Chironomidae	0.0555	0.1024	0.0087	0.0252	0.1184	0.0664	0.0521	0.0169	0.0635
Ceratopogonidae	0.0001	0.0001	0.0003	0.0002	0.0001	0.0001	+	0.0002	0.0001
Dolichopodidae	0.0001	0.0001	-	-	-	-	0.0003	-	0.0001
Chaoboridae	-	-	-	0.0001	-	-	-	0.0001	+
Ephemeroptera	0.0293	0.0872	0.0361	0.0102	0.0397	0.0800	0.0551	0.0231	0.0495
Ephemeridae	0.0039	0.0860	0.0356	0.0102	0.0044	0.0753	0.0551	0.0229	0.0394
Leptophlebiidae	0.0251	0.0011	-	-	0.0350	0.0042	-	-	0.0098
Baetidae	0.0002	0.0001	-	-	0.0003	0.0002	-	-	0.0001
Heptageniidae	0.0002	0.0001	0.0005	-	-	0.0003	-	0.0002	0.0001
Decapoda	0.0109	0.0012	0.0558	-	0.0034	0.0009	0.0139	0.0279	0.0115
Astacidae	0.0109	0.0012	0.0558	-	0.0034	0.0009	0.0139	0.0279	0.0115
Trichoptera	0.0076	0.0056	0.0018	0.0024	0.0123	0.0007	0.0069	0.0021	0.0055
Limnephilidae	0.0068	0.0037	-	-	0.0112	-	0.0047	-	0.0040
Leptoceridae	0.0008	0.0018	0.0018	0.0024	0.0009	0.0007	0.0023	0.0021	0.0015
Polycentropodidae	-	0.0001	-	-	0.0002	-	-	-	0.0001
Megaloptera	0.0029	0.0053	0.0043	0.0030	0.0039	0.0067	0.0018	0.0036	0.0040
Sialidae	0.0029	0.0053	0.0043	0.0030	0.0039	0.0067	0.0018	0.0036	0.0040
Amphipoda	0.0063	0.0023	0.0001	0.0035	0.0041	0.0062	0.0027	0.0018	0.0037
Gammaridae	0.0063	0.0023	0.0001	0.0035	0.0041	0.0062	0.0027	0.0018	0.0037
Pelecypoda	0.0003	0.0019	-	0.0001	0.0032	+	-	+	0.0008
Sphaeriidae	0.0003	0.0019	-	0.0001	0.0032	+	-	+	0.0008
Nematoda	0.0004	0.0008	0.0008	0.0014	0.0006	0.0007	0.0006	0.0011	0.0007
Ostracoda	0.0002	0.0011	-	-	0.0002	0.0015	0.0003	-	0.0005
Hydracarina	0.0001	0.0005	0.0009	0.0011	0.0005	0.0002	0.0002	0.0010	0.0005
Gastropoda	0.0004	0.0004	-	-	+	0.0011	-	-	0.0003
Lymnaeidae	0.0003	0.0003	-	-	-	0.0010	-	-	0.0002
Planorbidae	0.0001	+	-	-	+	0.0001	-	-	+
Turbellaria	-	0.0004	-	0.0005	-	0.0003	0.0004	0.0003	0.0002

* UID = unidentified.
** REF = biomass not determined; organisms retained for reference.
\- = absent from collection.
\+ = less than 0.00005.

Table 129 - (Continued).

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Isopoda	0.0001	0.0001	-	0.0006	-	0.0002	-	0.0003	0.0001
Asellidae	0.0001	0.0001	-	0.0006	-	0.0002	-	0.0003	0.0001
Hemiptera	+	-	-	-	0.0001	-	-	-	+
Corixidae	+	-	-	-	0.0001	-	-	-	+
Coleoptera	REF	REF	-	REF	REF	REF	REF	REF	REF
Gyrinidae	REF	REF	-	-	REF	REF	-	-	REF
Elmidae	-	REF	-	REF	-	-	-	REF	REF
Curculionidae	-	REF	-	-	-	-	REF	-	REF
Odonata	REF	REF	REF	REF	REF	REF	REF	REF	REF
Anisoptera	REF	REF	REF	REF	REF	REF	REF	REF	REF
Macromiidae	REF	REF	REF	REF	REF	REF	REF	REF	REF
Libellulidae	-	REF	-	-	-	REF	-	-	REF
Plecoptera	REF	-	-	-	REF	-	-	-	REF
Perlidae	REF	-	-	-	REF	-	-	-	REF
Total density	0.5087	0.4028	0.2702	0.5076	0.7193	0.2310	0.4169	0.3889	0.4390
Crustacean density	0.0175	0.0047	0.0558	0.0041	0.0077	0.0088	0.0169	0.0300	0.0158
Insect density	0.0956	0.2007	0.0512	0.0410	0.1744	0.1539	0.1162	0.0461	0.1226
Others density	0.3956	0.1973	0.1631	0.4624	0.5373	0.0683	0.2838	0.3128	0.3005

Table 130. Biomass density (g/m^2) of reservoir benthos collected in May, June, August, and October 1978 at eight stations on Schoharie Reservoir.

Station Depth (m)	33 1	34 3	35 1	36 3	37 1	38 3	39 6	40 10	Grand Mean
Oligochaeta	0.7762	0.2896	0.0610	0.0711	0.3459	0.2193	0.1614	0.4594	0.2980
Diptera	0.1043	0.1326	0.0149	0.1181	0.0479	0.0570	0.0090	0.0255	0.0636
UID* Diptera	REF**	-	-	REF	REF	-	-	-	REF
Chironomidae	0.1043	0.1325	0.0148	0.1181	0.0476	0.0567	0.0087	0.0252	0.0635
Ceratopogonidae	-	0.0001	0.0002	-	-	0.0001	0.0003	0.0002	0.0001
Dolichopodidae	-	-	-	-	0.0003	0.0002	-	-	0.0001
Chaoboridae	-	-	-	-	-	-	-	0.0001	+
Ephemeroptera	0.0762	0.0032	0.0112	0.1488	0.0006	0.1096	0.0361	0.0102	0.0495
Ephemeridae	0.0089	-	0.0022	0.1483	0.0006	0.1096	0.0356	0.0102	0.0394
Leptophlebiidae	0.0669	0.0032	0.0083	0.0001	-	-	-	-	0.0098
Baetidae	0.0005	-	0.0001	0.0003	-	-	-	-	0.0001
Heptageniidae	-	-	0.0005	0.0002	-	-	0.0005	-	0.0001
Decapoda	0.0068	-	0.0018	-	0.0243	0.0035	0.0558	-	0.0115
Astacidae	0.0068	-	0.0018	-	0.0243	0.0035	0.0558	-	0.0115
Trichoptera	0.0222	0.0023	0.0002	0.0012	0.0004	0.0134	0.0018	0.0024	0.0055
Limnephilidae	0.0205	0.0019	-	-	-	0.0093	-	-	0.0040
Leptoceridae	0.0017	-	0.0002	0.0012	0.0004	0.0041	0.0018	0.0024	0.0015
Polycentropodidae	-	0.0004	-	-	-	-	-	-	0.0001
Megaloptera	0.0072	0.0006	-	0.0134	0.0016	0.0020	0.0043	0.0030	0.0040
Sialidae	0.0072	0.0006	-	0.0134	0.0016	0.0020	0.0043	0.0030	0.0040
Amphipoda	0.0074	0.0008	0.0097	0.0028	0.0019	0.0034	0.0001	0.0035	0.0037
Gammaridae	0.0074	0.0008	0.0097	0.0028	0.0019	0.0034	0.0001	0.0035	0.0037
Pelecypoda	0.0008	0.0057	-	0.0001	-	-	-	0.0001	0.0008
Sphaeriidae	0.0008	0.0057	-	0.0001	-	-	-	0.0001	0.0008
Nematoda	0.0002	0.0010	0.0005	0.0008	0.0006	0.0005	0.0008	0.0014	0.0007
Ostracoda	0.0002	0.0001	0.0003	0.0028	0.0001	0.0006	-	-	0.0005
Hydracarina	0.0003	0.0007	-	0.0004	0.0001	0.0004	0.0009	0.0011	0.0005
Gastropoda	-	0.0001	0.0011	0.0010	-	-	-	-	0.0003
Lymnaeidae	-	-	0.0009	0.0010	-	-	-	-	0.0002
Planorbidae	-	0.0001	0.0002	-	-	-	-	-	+
Turbellaria	-	-	-	0.0006	-	0.0007	-	0.0005	0.0002

* UID = unidentified.
** REF = biomass not determined; organisms retained for reference.
\- = absent from collection.
\+ = less than 0.00005.

Table 130 - (Continued).

Station Depth (m)	33 1	34 3	35 1	36 3	37 1	38 3	39 6	40 10	Grand Mean
Isopoda	-	-	0.0002	0.0002	-	-	-	0.0006	0.0001
Asellidae	-	-	0.0002	0.0002	-	-	-	0.0006	0.0001
Hemiptera	0.0001	-	-	-	-	-	-	-	+
Corixidae	0.0001	-	-	-	-	-	-	-	+
Coleoptera	-	REF	REF	-	-	REF	-	REF	REF
Gyrinidae	-	REF	REF	-	-	-	-	-	REF
Elmidae	-	REF	-	-	-	-	-	REF	REF
Curculionidae	-	-	-	-	-	REF	-	-	REF
Odonata	REF	-	-	REF	REF	-	REF	-	REF
Anisoptera	REF	-	-	REF	REF	-	REF	-	REF
Macromiidae	REF	-	-	REF	REF	-	REF	-	REF
Libellulidae	REF	-	-	REF	-	-	-	-	REF
Plecoptera	REF	-	-	-	-	-	-	-	REF
Perlidae	REF	-	-	-	-	-	-	-	REF
Total density	1.0020	0.4367	0.1008	0.3612	0.4233	0.4105	0.2702	0.5076	0.4390
Crustacean density	0.0144	0.0009	0.0119	0.0058	0.0263	0.0075	0.0558	0.0041	0.0158
Insect density	0.2101	0.1387	0.0263	0.2815	0.0504	0.1820	0.0512	0.0410	0.1226
Others density	0.7775	0.2971	0.0627	0.0740	0.3466	0.2210	0.1631	0.4624	0.3005

Table 131. Mean taxa diversity ($\bar{d}$)/sample, mean numerical density (#/m^2), and biomass density (g/m^2) by depth and by zone of reservoir benthos collected in May, June, August, and October 1978 at eight stations on Schoharie Reservoir.

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33,35,37	34,36,38	39	40	33,34	35,36	37,38	39,40	Mean
Mean taxa diversity ($\bar{d}$)/sample	1.60	1.87	0.89	0.75	1.50	1.96	1.75	0.82	1.51
Standard deviation	0.856	0.747	0.747	0.458	0.909	0.832	0.620	0.610	0.859
Minimum	0.18	0.38	0.09	0.24	0.18	0.38	0.47	0.09	0.09
Maximum	2.89	2.83	2.85	1.49	2.89	2.87	2.41	2.85	2.89
Mean evenness ($\bar{e}$)/sample	0.51	0.55	0.32	0.24	0.44	0.61	0.54	0.28	0.47
Number of samples	36	36	12	12	24	24	24	24	96
Mean numerical density (#/m^2)	2021	1956	1318	2396	3671	801	1493	1857	1955
Standard deviation	2095.8	2370.6	1166.7	952.1	3036.5	548.9	1017.7	1178.0	2007.2
Standard error	349.3	395.1	336.8	274.8	619.8	112.1	207.7	240.5	204.9
Minimum	125	225	156	962	125	131	225	156	125
Maximum	8162	11775	3456	4850	11775	2188	4612	4850	11775
Coefficient of variation	103.7	121.2	88.5	39.7	82.7	68.5	68.2	63.4	102.6
Number of samples	36	36	12	12	24	24	24	24	96
Biomass density (g/m^2)	0.5087	0.4028	0.2702	0.5076	0.7193	0.2310	0.4169	0.3889	0.4390
Standard deviation	0.66911	0.33998	0.27235	0.26306	0.72770	0.26947	0.30293	0.27848	0.45433
Standard error	0.19316	0.09814	0.13618	0.13153	0.25728	0.09527	0.10710	0.09846	0.08031
Minimum	0.0196	0.0617	0.0385	0.2388	0.0935	0.0196	0.0617	0.0385	0.0196
Maximum	2.2719	0.8058	0.6644	0.7908	2.2719	0.8058	0.9056	0.7908	2.2719
Coefficient of variation	131.5	84.4	100.8	51.8	101.2	116.6	72.7	71.6	103.5
Number of samples	12	12	4	4	8	8	8	8	32

Table 132. Mean taxa diversity ($\bar{d}$)/sample, mean numerical density (#/m^2), and biomass density (g/m^2) of reservoir benthos collected in May, June, August, and October 1978 at eight stations on Schoharie Reservoir.

Station	33	34	35	36	37	38	39	40	Grand
Depth (m)	1	3	1	3	1	3	6	10	Mean
Mean taxa diversity ($\bar{d}$)/sample	1.38	1.61	1.85	2.08	1.57	1.92	0.89	0.75	1.51
Standard deviation	1.017	0.815	0.839	0.845	0.689	0.521	0.747	0.458	0.859
Minimum	0.18	0.61	0.47	0.38	0.47	1.09	0.09	0.24	0.09
Maximum	2.89	2.52	2.87	2.83	2.38	2:41	2.85	1.49	2.89
Mean evenness ($\bar{e}$)/sample	0.39	0.49	0.63	0.59	0.50	0.57	0.32	0.24	0.47
Number of samples	12	12	12	12	12	12	12	12	96
Mean numerical density (#/m^2)	3836	3506	462	1140	1764	1222	1318	2396	1955
Standard deviation	2544.5	3570.0	251.5	562.1	1058.0	941.6	1166.7	952.1	2007.2
Standard error	734.5	1030.6	72.6	162.3	305.4	271.8	336.8	274.8	204.9
Minimum	125	769	131	431	900	225	156	962	125
Maximum	8162	11775	856	2188	4612	2825	3456	4850	11775
Coefficient of variation	66.3	101.8	54.4	49.3	60.0	77.0	88.5	39.7	102.6
Number of samples	12	12	12	12	12	12	12	12	96
Biomass density (g/m^2)	1.0020	0.4367	0.1008	0.3612	0.4233	0.4105	0.2702	0.5076	0.4390
Standard deviation	0.98401	0.23310	0.08508	0.34205	0.33184	0.32232	0.27235	0.26306	0.45433
Standard error	0.49201	0.11650	0.04254	0.17102	0.16592	0.16116	0.13618	0.13153	0.08031
Minimum	0.0935	0.2125	0.0196	0.0735	0.2015	0.0617	0.0385	0.2388	0.0196
Maximum	2.2719	0.7062	0.2148	0.8058	0.9056	0.7796	0.6644	0.7908	2.2719
Coefficient of variation	98.2	53.4	84.4	94.7	78.4	78.5	100.8	51.8	103.5
Number of samples	4	4	4	4	4	4	4	4	32

Table 133. Numerical density (#/m^2) by depth and by zone of reservoir benthos collected in May 1978 at eight stations on Schoharie Reservoir.

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Oligochaeta	2428	901	869	1658	3095	201	1698	1264	1564
Diptera	442	598	27	94	300	627	633	60	405
UID* Diptera	3	1	0	0	1	2	4	0	2
Chironomidae	435	415	25	92	300	625	623	58	401
UID Chironomidae	23	10	4	10	2	17	30	7	14
Chironominae	283	469	8	27	234	469	424	18	286
Tanytarsus	212	130	4	2	17	239	258	3	129
Chironomus	28	267	4	21	152	166	125	12	114
Phaenopsectra	31	28	0	0	35	31	21	0	22
Paratendipes	10	117	0	0	1	25	3	0	7
Microtendipes	0	12	0	0	3	2	12	0	4
Paracladopelma	1	8	0	0	6	6	2	0	4
Micropsectra	0	8	0	0	9	0	2	0	3
Polypedilum	0	4	0	4	6	0	0	2	2
Zavrelia	0	3	0	0	4	0	0	0	1
Orthocladiinae	123	31	8	25	45	40	147	17	62
Trissocladius	112	3	8	25	6	29	139	17	48
Smittia	3	4	0	0	2	4	4	0	3
UID Orthocladiinae C	0	7	0	0	10	0	0	0	3
Psectrocladius	1	4	0	0	8	0	0	0	2
Parametriocnemus	0	4	0	0	6	0	0	0	2
UID Orthocladiinae D	0	4	0	0	4	2	0	0	2
Heterotrissocladius	0	3	0	0	4	0	0	0	1
Cricotopus	3	0	0	0	0	2	2	0	1
Corynoneura	1	0	0	0	2	0	0	0	1
UID Orthocladiinae E	0	1	0	0	0	2	0	0	1
UID Orthocladiinae F	1	0	0	0	0	0	2	0	1
Orthocladius	1	0	0	0	1	0	0	0	+
Tanypodinae	6	87	4	29	18	100	22	17	39
Procladius	3	81	4	29	9	98	20	17	36
Ablabesmyia	1	3	0	0	2	2	2	0	2
Conchapelopia, Arctopelopia	1	3	0	0	5	0	0	0	1
Larsia	1	0	0	0	1	0	0	0	+
Dolichopodidae	4	0	0	0	0	0	6	0	2
Hydrophorus	4	0	0	0	0	0	6	0	2
Ceratopogonidae	0	0	2	2	0	0	0	2	1
Palpomyia group	0	0	2	2	0	0	0	2	1
Amphipoda	45	38	2	6	45	29	50	4	32
Gammaridae	45	38	2	6	45	29	50	4	32
Crangonyx	45	38	2	6	45	29	50	4	32
Ephemeroptera	52	12	2	0	78	18	1	1	24
Leptophlebiidae	51	3	0	0	78	4	0	0	21
Leptophlebia	51	3	0	0	78	4	0	0	21
Ephemeridae	1	9	2	0	0	14	1	1	4
Hexagenia	1	9	2	0	0	14	1	1	4

* UID = unidentified.
\+ = less than 0.5.

Table 133 - (Continued).

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Nematoda	11	36	0	12	5	6	59	6	19
Trichoptera	8	6	0	0	15	0	5	0	5
Limnephilidae	8	4	0	0	12	0	5	0	4
Limnephilus	8	4	0	0	12	0	5	0	4
Polycentropodidae	0	1	0	0	2	0	0	0	1
Polycentropus	0	1	0	0	2	0	0	0	1
Ostracoda	6	3	0	0	0	6	7	0	3
Turbellaria	0	6	0	2	0	1	7	1	2
Gastropoda	2	1	0	0	0	5	0	0	1
Lymnaeidae	1	1	0	0	0	4	0	0	1
Lymnaea	1	1	0	0	0	4	0	0	1
Planorbidae	1	0	0	0	0	1	0	0	+
Gyraulus	1	0	0	0	0	1	0	0	+
Hydracarina	0	2	0	0	2	0	1	0	1
UID Hydracarina	0	1	0	0	2	0	0	0	1
Oxidae	0	1	0	0	0	0	1	0	+
Oxus	0	1	0	0	0	0	1	0	+
Megaloptera	0	1	0	0	0	1	1	0	1
Sialidae	0	1	0	0	0	1	1	0	1
Sialis	0	1	0	0	0	1	1	0	1
Plecoptera	1	0	0	0	2	0	0	0	1
Perlidae	1	0	0	0	2	0	0	0	1
Perlinella	1	0	0	0	2	0	0	0	1
Isopoda	0	1	0	0	0	1	0	0	+
Asellidae	0	1	0	0	0	1	0	0	+
Asellus	0	1	0	0	0	1	0	0	+
Odonata	0	0	2	0	0	0	0	1	+
Anisoptera	0	0	2	0	0	0	0	1	+
Macromiidae	0	0	2	0	0	0	0	1	+
Didymops	0	0	2	0	0	0	0	1	+
Coleoptera	0	1	0	0	0	0	1	0	+
Curculionidae	0	1	0	0	0	0	1	0	+
UID Curculionidae	0	1	0	0	0	0	1	0	+
Total density	2996	1606	902	1773	3542	896	2465	1338	2060
Number of families	13	16	6	6	10	13	13	8	21
Number of taxa	28	35	9	10	31	25	25	12	45
Crustacean density	51	42	2	6	45	36	57	4	36
Insect density	503	618	31	94	395	646	642	62	436
Others density	2442	946	869	1673	3102	214	1766	1271	1588

Table 134. Numerical density (#/m^2) of reservoir benthos collected in May 1978 at eight stations on Schoharie Reservoir.

Station	33	34	35	36	37	38	39	40	Grand
Depth (m)	1	3	1	3	1	3	6	10	Mean
Oligochaeta	5352	838	71	331	1863	1533	869	1658	1564
Diptera	88	513	252	1002	988	279	27	94	405
UID* Diptera	2	0	0	4	8	0	0	0	2
Chironomidae	85	513	252	998	967	279	25	92	401
UID Chironomidae	0	4	19	15	50	10	4	10	14
Chironominae	56	413	156	781	635	212	8	27	286
Tanytarsus	8	25	112	365	517	0	4	2	129
Chironomus	0	304	4	327	79	171	4	21	114
Phaenopsectra	46	25	15	48	31	10	0	0	22
Paratendipes	2	0	25	25	4	2	0	0	7
Microtendipes	0	6	0	4	0	25	0	0	4
Paracladopelma	0	12	0	12	4	0	0	0	4
Micropsectra	0	19	0	0	0	4	0	0	3
Polypedilum	0	12	0	0	0	0	0	4	2
Zavrelia	0	8	0	0	0	0	0	0	1
Orthocladiinae	23	67	69	10	277	17	8	25	62
Trissocladius	12	0	56	2	269	8	8	25	48
Smittia	0	4	8	0	0	8	0	0	3
UID Orthocladiinae C	0	21	0	0	0	0	0	0	3
Psectrocladius	4	12	0	0	0	0	0	0	2
Parametriocnemus	0	12	0	0	0	0	0	0	2
UID Orthocladiinae D	0	8	0	4	0	0	0	0	2
Heterotrissocladius	0	8	0	0	0	0	0	0	1
Cricotopus	0	0	4	0	4	0	0	0	1
Corynoneura	4	0	0	0	0	0	0	0	1
UID Orthocladiinae E	0	0	0	4	0	0	0	0	1
UID Orthocladiinae F	0	0	0	0	4	0	0	0	1
Orthocladius	2	0	0	0	0	0	0	0	+
Tanypodinae	6	29	8	192	4	40	4	29	39
Procladius	2	17	8	187	0	40	4	29	36
Ablabesmyia	0	4	0	4	4	0	0	0	2
Conchapelopia, Arctopelopia	2	8	0	0	0	0	0	0	1
Larsia	2	0	0	0	0	0	0	0	+
Dolichopodidae	0	0	0	0	12	0	0	0	2
Hydrophorus	0	0	0	0	12	0	0	0	2
Ceratopogonidae	0	0	0	0	0	0	2	2	1
Palpomyia group	0	0	0	0	0	0	2	2	1
Amphipoda	81	8	42	17	13	88	2	6	32
Gammaridae	81	8	42	17	13	88	2	6	32
Crangonyx	81	8	42	17	13	88	2	6	32
Ephemeroptera	146	10	10	25	0	2	2	0	24
Leptophlebiidae	146	10	8	0	0	0	0	0	21
Leptophlebia	146	10	8	0	0	0	0	0	21
Ephemeridae	0	0	2	25	0	2	2	0	4
Hexagenia	0	0	2	25	0	2	2	0	4

* UID = unidentified.
\+ = less than 0.5.

Table 134 - (Continued).

Station Depth (m)	33 1	34 3	35 1	36 3	37 1	38 3	39 6	40 10	Grand Mean
Nematoda	4	6	2	10	27	92	0	12	19
Trichoptera	23	6	0	0	0	10	0	0	5
Limnephilidae	23	2	0	0	0	10	0	0	4
Limnephilus	23	2	0	0	0	10	0	0	4
Polycentropodidae	0	4	0	0	0	0	0	0	1
Polycentropus	0	4	0	0	0	0	0	0	1
Ostracoda	0	0	12	0	4	10	0	0	3
Turbellaria	0	0	0	2	0	15	0	2	2
Gastropoda	0	0	6	4	0	0	0	0	1
Lymnaeidae	0	0	4	4	0	0	0	0	1
Lymnaea	0	0	4	4	0	0	0	0	1
Planorbidae	0	0	2	0	0	0	0	0	+
Gyraulus	0	0	2	0	0	0	0	0	+
Hydracarina	0	4	0	0	0	2	0	0	1
UID Hydracarina	0	4	0	0	0	0	0	0	1
Oxidae	0	0	0	0	0	2	0	0	+
Oxus	0	0	0	0	0	2	0	0	+
Megaloptera	0	0	0	2	0	2	0	0	1
Sialidae	0	0	0	2	0	2	0	0	1
Sialis	0	0	0	2	0	2	0	0	1
Plecoptera	4	0	0	0	0	0	0	0	1
Perlidae	4	0	0	0	0	0	0	0	1
Perlinella	4	0	0	0	0	0	0	0	1
Isopoda	0	0	0	2	0	0	0	0	+
Asellidae	0	0	0	2	0	0	0	0	+
Asellus	0	0	0	2	0	0	0	0	+
Odonata	0	0	0	0	0	0	2	0	+
Anisoptera	0	0	0	0	0	0	2	0	+
Macromiidae	0	0	0	0	0	0	2	0	+
Didymops	0	0	0	0	0	0	2	0	+
Coleoptera	0	0	0	0	0	2	0	0	+
Curculionidae	0	0	0	0	0	2	0	0	+
UID Curculionidae	0	0	0	0	0	2	0	0	+
Total density	5698	1385	396	1396	2894	2035	902	1773	2060
Number of families	8	8	9	10	7	11	6	6	21
Number of taxa	17	24	16	20	15	18	9	10	45
Crustacean density	81	8	54	19	17	98	2	6	36
Insect density	260	529	262	1029	987	296	31	94	436
Others density	5356	848	79	348	1890	1642	869	1673	1588

Table 135. Numerical density (#/m^2) by depth and by zone of reservoir benthos collected in June 1978 at eight stations on Schoharie Reservoir.

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Oligochaeta	1494	431	129	3075	1895	535	457	1602	1122
Diptera	690	751	81	117	819	490	859	99	567
UID* Diptera	1	1	0	0	0	2	2	0	1
Chironomidae	685	745	81	112	817	484	851	97	562
UID Chironomidae	81	94	25	25	71	68	126	25	72
Chironominae	407	509	25	42	547	294	538	33	353
Tanytarsus	201	378	17	12	286	160	424	15	221
Chironomus	99	40	2	15	145	15	49	8	54
Phaenopsectra	43	24	0	0	55	40	5	0	25
Polypedilum	18	8	0	2	4	31	4	1	10
Parachironomus	3	18	2	0	4	17	10	1	8
Paratanytarsus	6	14	0	0	9	0	21	0	8
Paratendipes	6	10	0	0	18	6	0	0	6
Stictochironomus	11	1	0	0	17	2	0	0	5
Cryptochironomus	8	1	2	0	1	13	0	0	3
Glyptotendipes	6	3	0	0	3	8	1	0	3
Harnischia	0	5	2	6	0	0	7	4	3
Paracladopelma	0	5	0	6	0	0	7	3	3
Cladotanytarsus	5	0	0	0	2	0	5	0	2
Cryptotendipes	0	3	0	0	0	2	2	1	1
Micropsectra	1	0	0	0	2	0	0	0	1
Dicrotendipes	1	0	0	0	0	0	1	0	+
Tanypodinae	143	137	31	44	129	109	182	38	115
Procladius	99	121	31	42	88	94	150	36	92
Ablabesmyia	41	15	0	2	39	14	32	1	21
Conchapelopia, Arctopelopia	1	1	0	0	1	2	0	0	1
Larsia	1	0	0	0	2	0	0	0	1
Orthocladiinae	54	5	0	2	70	14	5	1	22
Cricotopus	54	0	0	0	68	11	2	0	20
Psectrocladius	0	5	0	2	2	2	3	1	2
Ceratopogonidae	2	3	0	0	2	3	2	0	2
Palpomyia	2	1	0	0	2	3	0	0	1
Stilobezzia	0	1	0	0	0	0	2	0	1
Dolichopodidae	1	1	0	0	0	0	4	0	1
Hydrophorus	1	1	0	0	0	0	4	0	1
Chaoboridae	0	0	0	4	0	0	0	2	1
Chaoborus	0	0	0	4	0	0	0	2	1
Amphipoda	93	51	0	0	148	64	5	0	54
Gammaridae	93	51	0	0	148	64	5	0	54
Crangonyx	93	51	0	0	148	64	5	0	54

* UID = unidentified.
\+ = less than 0.5.
** IMM = too immature to identify.

Table 135 - (Continued).

Station	Depth (m) 1 33, 35, 37	3 34, 36, 38	6 39	10 40	Zone 1 33, 34	2 35, 36	3 37, 38	4 39, 40	Grand Mean
Ostracoda	7	73	0	0	15	101	4	0	30
Ephemeroptera	3	26	10	6	4	20	20	8	13
Ephemeridae	0	26	10	6	0	19	20	8	12
Hexagenia	0	26	10	6	0	19	20	8	12
Baetidae	3	1	0	0	4	1	0	0	1
Baetis	3	1	0	0	4	1	0	0	1
Nematoda	12	10	4	0	0	8	25	2	9
Hydracarina	1	6	12	4	2	4	4	0	5
Arrenuridae	0	3	6	4	0	2	2	5	2
Arrenurus	0	3	6	4	0	2	2	5	2
Unionicolidae	1	0	6	0	2	0	0	3	1
Neumania	1	0	6	0	2	0	0	3	1
Mideopsidae	0	1	0	0	0	0	2	0	1
Mideopsis	0	1	0	0	0	0	2	0	1
Pionidae	0	1	0	0	0	2	0	0	1
Piona	0	1	0	0	0	2	0	0	1
Decopoda	12	0	0	0	17	0	1	0	4
Astacidae	12	0	0	0	17	0	1	0	4
IMM** Astacidae	12	0	0	0	17	0	1	0	4
Coleoptera	0	1	0	0	1	0	1	0	1
Gyrinidae	0	1	0	0	1	0	1	0	1
Gyrinus	0	1	0	0	1	0	1	0	1
Pelecypoda	0	1	0	2	1	0	0	1	1
Sphaeriidae	0	1	0	2	1	0	0	1	1
Pisidium	0	1	0	2	1	0	0	1	1
Gastropoda	0	1	0	0	1	0	0	0	+
Planorbidae	0	1	0	0	1	0	0	0	+
Gyraulus	0	1	0	0	1	0	0	0	+
Hemiptera	1	0	0	0	1	0	0	0	+
Corixidae	1	0	0	0	1	0	0	0	+
UID Corixidae	1	0	0	0	1	0	0	0	+
Total density	2317	1351	238	3204	2903	1222	1377	1721	1806
Number of families	11	16	6	6	12	10	13	7	20
Number of taxa	29	33	11	13	29	24	28	17	42
Crustacean density	112	124	0	0	179	165	10	0	89
Insect density	698	778	92	123	825	509	880	107	580
Others density	1507	449	146	3081	1899	548	486	1614	1137

Table 136. Numerical density (#/m^2) of reservoir benthos collected in June 1978 at eight stations on Schoharie Reservoir.

Station	33	34	35	36	37	38	39	40	Grand
Depth (m)	1	3	1	3	1	3	6	10	Mean
Oligochaeta	3515	275	348	723	619	296	129	3075	1122
Diptera	1081	556	260	719	742	977	81	117	567
UID* Diptera	0	0	0	4	4	0	0	0	1
Chironomidae	1081	552	254	715	733	969	81	112	562
UID Chironomidae	104	38	67	69	75	177	25	25	72
Chironominae	717	377	150	438	362	712	25	42	353
Tanytarsus	298	275	2	319	306	542	17	12	221
Chironomus	250	40	15	15	33	65	2	15	54
Phaenopsectra	94	17	35	44	0	10	0	0	25
Polypedilum	4	4	42	21	8	0	0	2	10
Parachironomus	0	8	8	25	0	21	2	0	8
Paratanytarsus	19	0	0	0	0	42	0	0	8
Paratendipes	15	21	4	8	0	0	0	0	6
Stictochironomus	29	4	4	0	0	0	0	0	5
Cryptochironomus	0	2	25	0	0	0	2	0	3
Glyptotendipes	0	6	15	2	2	0	0	0	3
Harnischia	0	0	0	0	0	15	2	6	3
Paracladopelma	0	0	0	0	0	15	0	6	3
Cladotanytarsus	4	0	0	0	10	0	0	0	2
Cryptotendipes	0	0	0	4	0	4	0	0	1
Micropsectra	4	0	0	0	0	0	0	0	1
Dicrotendipes	0	0	0	0	2	0	0	0	+
Tanypodinae	125	133	15	204	292	73	31	44	115
Procladius	48	127	8	179	244	56	31	42	92
Ablabesmyia	73	4	2	25	48	17	0	2	21
Conchapelopia, Arctopelopia	0	2	4	0	0	0	0	0	1
Larsia	4	0	0	0	0	0	0	0	1
Orthocladiinae	135	4	23	4	4	6	0	2	22
Cricotopus	135	0	23	0	4	0	0	0	20
Psectrocladius	0	4	0	4	0	6	0	2	2
Ceratopogonidae	0	4	6	0	0	4	0	0	2
Palpomyia	0	4	6	0	0	0	0	0	1
Stilobezzia	0	0	0	0	0	4	0	0	1
Dolichopodidae	0	0	0	0	4	4	0	0	1
Hydrophorus	0	0	0	0	4	4	0	0	1
Chaoboridae	0	0	0	0	0	0	0	4	1
Chaoborus	0	0	0	0	0	0	0	4	1
Amphipoda	265	31	6	121	8	2	0	0	54
Gammaridae	265	31	6	121	8	2	0	0	54
Crangonyx	265	31	6	121	8	2	0	0	54

* UID = unidentified.
\+ = less than 0.5.
** IMM = too immature to identify.

Table 136 - (Continued).

Station Depth (m)	33 1	34 3	35 1	36 3	37 1	38 3	39 6	40 10	Grand Mean
Ostracoda	21	8	0	202	0	8	0	0	30
Ephemeroptera	8	0	0	40	0	40	10	6	13
Ephemeridae	0	0	0	38	0	40	10	6	12
Hexagenia	0	0	0	38	0	40	10	6	12
Baetidae	8	0	0	2	0	0	0	0	1
Baetis	8	0	0	2	0	0	0	0	1
Nematoda	0	0	8	8	27	23	4	0	9
Hydracarina	4	0	00	8	0	8	12	4	5
Arrenuridae	0	0	0	4	0	4	6	4	2
Arrenurus	0	0	0	4	0	4	6	4	2
Unionicolidae	4	0	0	0	0	0	6	0	1
Neumania	4	0	0	0	0	0	6	0	1
Mideopsidae	0	0	0	0	0	4	0	0	1
Mideopsis	0	0	0	0	0	4	0	0	1
Pionidae	0	0	0	4	0	0	0	0	1
Piona	0	0	0	4	0	0	0	0	1
Decapoda	33	0	0	0	2	0	0	0	4
Astacidae	33	0	0	0	2	0	0	0	4
IMM** Astacidae	33	0	0	0	2	0	0	0	4
Coleoptera	0	2	0	0	0	2	0	0	1
Gyrinidae	0	2	0	0	0	2	0	0	1
Gyrinus	0	2	0	0	0	2	0	0	1
Pelecypoda	0	2	0	0	0	0	0	2	1
Sphaeriidae	0	2	0	0	0	0	0	2	1
Pisidium	0	2	0	0	0	0	0	2	1
Gastropoda	0	2	0	0	0	0	0	0	+
Planorbidae	0	2	0	0	0	0	0	0	+
Gyraulus	0	2	0	0	0	0	0	0	+
Hemiptera	2	0	0	0	0	0	0	0	+
Corixidae	2	0	0	0	0	0	0	0	+
UID Corixidae	2	0	0	0	0	0	0	0	+
Total density	4929	877	623	1821	1398	1356	237	3204	1806
Number of families	8	8	5	10	7	11	6	6	20
Number of taxa	20	20	17	20	15	21	11	13	42
Crustacean density	319	40	6	323	10	10	0	0	89
Insect density	1092	558	260	758	742	1019	92	123	580
Others density	3519	279	356	740	646	327	146	3081	1137

Table 137. Numerical density (#/m2) by depth and by zone of reservoir benthos collected in August 1978 at eight stations on Schoharie Reservoir.

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Diptera	1620	981	42	190	3257	171	473	116	1004
Chironomidae	1619	981	42	190	3257	170	473	116	1004
UID* Chironomidae	181	15	2	17	232	8	53	9	76
Chironominae	1558	299	15	33	1791	54	341	24	552
Tanytarsus	622	219	0	0	1216	25	21	0	315
Chironomus	192	12	4	12	304	0	2	8	79
Polypedilum	158	26	2	0	38	8	230	1	69
Cryptotendipes	78	15	0	0	74	7	58	0	35
Cladopelma	20	8	0	0	43	0	0	0	11
Harnischia	6	10	6	15	9	6	8	10	9
Cryptochironomus	13	5	0	6	17	1	8	3	7
Micropsectra	17	0	0	0	26	0	0	0	7
Dicrotendipes	10	1	0	0	16	0	1	0	4
Pseudochironomus	11	0	0	0	10	1	5	0	4
Phaenopsectra	8	0	0	0	11	1	0	0	3
UID Chironomini A	8	0	0	0	11	0	0	0	3
Glyptotendipes	6	0	0	0	8	0	0	0	2
Paratendipes	3	1	0	0	5	2	0	0	2
Cladotanytarsus	3	1	0	0	0	0	6	0	2
Microtendipes	1	1	2	0	0	2	0	1	1
Stempellina	1	0	0	0	2	0	0	0	1
Tanypodinae	271	667	25	140	1225	105	76	82	372
Procladius	221	629	23	133	1174	65	36	78	338
Ablabesmyia	50	35	2	6	48	41	40	4	33
Clinotanypus	0	1	0	0	2	0	0	0	1
Macropelopia	0	1	0	0	1	0	0	0	+
Orthocladiinae	9	1	0	0	9	2	3	0	4
Psectrocladius	8	1	0	0	9	1	3	0	3
Smittia	1	0	0	0	0	1	0	0	+
Ceratopogonidae	1	0	0	0	0	1	0	0	+
Palpomyia group	1	0	0	0	0	1	0	0	+
Oligochaeta	261	581	1112	1994	371	220	673	1553	704
Amphipoda	125	3	0	73	0	192	0	36	57
Gammaridae	125	3	0	73	0	192	0	36	57
Crangonyx	125	3	0	73	0	192	0	36	57
Ephemeroptera	15	9	8	12	1	18	17	10	11
Ephemeridae	13	8	8	12	1	14	17	10	10
Hexagenia	13	8	8	12	1	14	17	10	10
Heptageniidae	1	1	0	0	0	3	0	0	1
Stenonema	1	1	0	0	0	3	0	0	1
Baetidae	1	0	0	0	0	1	0	0	+
UID Baetidae	1	0	0	0	0	1	0	0	+

* UID = unidentified.
\+ = less than 0.5.
** IMM = too immature to identify.

Table 137 - (Continued).

Station	Depth (m) 1 (33, 35, 37)	3 (34, 36, 38)	6 (39)	10 (40)	Zone 1 (33, 34)	2 (35, 36)	3 (37, 38)	4 (39, 40)	Grand Mean
Hydracarina	13	6	6	12	25	0	3	9	9
Unionicolidae	11	1	2	0	17	0	1	1	5
Neumania	11	0	2	0	16	0	1	1	4
Unionicola	0	1	0	0	1	0	0	0	+
Oxidae	1	1	0	8	4	0	0	4	2
Oxus	1	1	0	8	4	0	0	4	2
Arrenuridae	0	1	0	4	2	0	0	2	1
Arrenurus	0	1	0	4	2	0	0	2	1
Mideopsidae	0	3	0	0	2	0	2	0	1
Mideopsis	0	3	0	0	2	0	2	0	1
Limnesiidae	0	0	4	0	0	0	0	2	1
Limnesia	0	0	4	0	0	0	0	2	1
Trichoptera	6	8	8	19	5	5	10	14	9
Leptoceridae	6	8	8	19	5	5	10	14	9
Oecetis	1	6	8	19	0	0	10	14	6
Mystacides	4	3	0	0	5	5	0	0	3
Pelecypoda	2	21	0	0	34	0	0	0	9
Sphaeriidae	2	21	0	0	34	0	0	0	9
Sphaerium	0	21	0	0	31	0	0	0	8
Pisidium	2	0	0	0	3	0	0	0	1
Megaloptera	5	17	2	0	6	21	5	1	8
Sialidae	5	17	2	0	6	21	5	1	8
Sialis	5	17	2	0	6	21	5	1	8
Isopoda	8	1	0	12	0	14	0	6	5
Asellidae	8	1	0	12	0	14	0	6	5
Asellus	8	1	0	12	0	14	0	6	5
Nematoda	4	1	0	0	4	2	0	0	2
Decapoda	4	0	0	0	2	1	2	0	1
Astacidae	4	0	0	0	2	1	2	0	1
IMM** Astacidae	1	0	0	0	0	1	0	0	+
Orconectes	3	0	0	0	2	0	2	0	1
Odonata	1	1	0	0	1	2	1	0	1
Anisoptera	1	1	0	0	1	2	1	0	1
Macromiidae	1	1	0	0	1	1	1	0	1
Macromia	1	1	0	0	1	1	1	0	1
Libellulidae	0	1	0	0	0	1	0	0	+
IMM Libellulidae	0	1	0	0	0	1	0	0	+

Table 137 - (Continued).

	Depth (m)				Zone				Grand Mean
	1	3	6	10	1	2	3	4	
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	
Coleoptera	1	0	0	0	0	1	0	0	+
Gyrinidae	1	0	0	0	0	1	0	0	+
Gyrinus	1	0	0	0	0	1	0	0	+
Total density	2062	1630	1179	2313	3707	646	1184	1746	182
Number of families	17	16	7	8	13	15	9	11	21
Number of taxa	39	32	12	12	34	27	20	17	46
Crustacean density	136	4	0	85	2	206	2	43	63
Insect density	1647	1016	60	221	3271	218	506	141	1034
Others density	278	610	1119	2006	434	222	676	1562	724

Table 138. Numerical density (#/m^2) of reservoir benthos collected in August 1978 at eight stations on Schoharie Reservoir.

Station	33	34	35	36	37	38	39	40	Grand
Depth (m)	1	3	1	3	1	3	6	10	Mean
Diptera	4038	2477	90	252	733	212	42	190	1004
Chironomidae	4038	2477	88	252	733	212	42	190	1004
UID* Chironomidae	446	19	2	15	96	10	2	17	76
Chironominae	2875	706	25	83	575	106	15	33	552
Tanytarsus	1821	610	8	42	38	4	0	0	315
Chironomus	575	33	0	0	2	2	4	12	79
Polypedilum	71	4	8	8	396	65	2	0	69
Cryptotendipes	142	6	0	15	92	25	0	0	35
Cladopelma	60	25	0	0	0	0	0	0	11
Harnischia	2	17	0	12	17	0	6	15	9
Cryptochironomus	23	10	2	0	12	4	0	6	7
Micropsectra	52	0	0	0	0	0	0	0	7
Dicrotendipes	31	0	0	0	0	2	0	0	4
Pseudochironomus	21	0	2	0	10	0	0	0	4
Phaenopsectra	23	0	2	0	0	0	0	0	3
UID Chironomini A	23	0	0	0	0	0	0	0	3
Glyptotendipes	17	0	0	0	0	0	0	0	2
Paratendipes	10	0	0	4	0	0	0	0	2
Cladotanytarsus	0	0	0	0	8	4	0	0	2
Microtendipes	0	0	2	2	0	0	2	0	1
Stempellina	4	0	0	0	0	0	0	0	1
Tanypodinae	698	1752	56	154	58	94	25	140	372
Procladius	602	1746	17	112	44	29	23	133	338
Ablabesmyia	96	0	40	42	15	65	2	6	33
Clinotanypus	0	4	0	0	0	0	0	0	1
Macropelopia	0	2	0	0	0	0	0	0	+
Orthocladiinae	19	0	4	0	4	2	0	0	4
Psectrocladius	19	0	2	0	4	2	0	0	3
Smittia	0	0	2	0	0	0	0	0	+
Ceratopogonidae	0	0	2	0	0	0	0	0	+
Palpomyia group	0	0	2	0	0	0	0	0	+
Oligochaeta	119	623	148	292	517	829	1112	1994	704
Amphipoda	0	0	375	8	0	0	0	73	57
Gammaridae	0	0	375	8	0	0	0	73	57
Crangonyx	0	0	375	8	0	0	0	73	57
Ephemeroptera	2	0	21	15	21	12	8	12	11
Ephemeridae	2	0	15	12	21	12	8	12	10
Hexagenia	2	0	15	12	21	12	8	12	10
Heptageniidae	0	0	4	2	0	0	0	0	1
Stenonema	0	0	4	2	0	0	0	0	1
Baetidae	0	0	2	0	0	0	0	0	+
UID Baetidae	0	0	2	0	0	0	0	0	+

* UID = unidentified.
\+ = less than 0.5.
** IMM = too immature to identify.

Table 138 - (Continued).

Station	33	34	35	36	37	38	39	40	Grand
Depth (m)	1	3	1	3	1	3	6	10	Mean
Hydracarina	35	15	0	0	2	4	6	12	9
Unionicolidae	31	2	0	0	2	0	2	0	5
Neumania	31	0	0	0	2	0	2	0	4
Unionicola	0	2	0	0	0	0	0	0	+
Oxidae	4	4	0	0	0	0	0	8	2
Oxus	4	4	0	0	0	0	0	8	2
Arrenuridae	0	4	0	0	0	0	0	4	1
Arrenurus	0	4	0	0	0	0	0	4	1
Mideopsidae	0	4	0	0	0	4	0	0	1
Mideopsis	0	4	0	0	0	4	0	0	1
Limnesiidae	0	0	0	0	0	0	4	0	1
Limnesia	0	0	0	0	0	0	4	0	1
Trichoptera	10	0	2	8	4	17	8	19	9
Leptoceridae	10	0	2	8	4	17	8	19	9
Oecetis	0	0	0	0	4	17	8	19	6
Mystacides	10	0	2	8	0	0	0	0	3
Pelecypoda	6	62	0	0	0	0	0	0	9
Sphaeriidae	6	62	0	0	0	0	0	0	9
Sphaerium	0	62	0	0	0	0	0	0	8
Pisidium	6	0	0	0	0	0	0	0	1
Megaloptera	10	2	0	42	4	6	2	0	8
Sialidae	10	2	0	42	4	6	2	0	8
Sialis	10	2	0	42	4	6	2	0	8
Isopoda	0	0	23	4	0	0	0	12	5
Asellidae	0	0	23	4	0	0	0	12	5
Asellus	0	0	23	4	0	0	0	12	5
Nematoda	8	0	0	4	0	0	0	0	2
Decapoda	4	0	2	0	4	0	0	0	1
Astacidae	4	0	2	0	4	0	0	0	1
IMM** Astacidae	0	0	2	0	0	0	0	0	+
Orconectes	4	0	0	0	4	0	0	0	1
Odonata	2	0	0	4	2	0	0	0	1
Anisoptera	2	0	0	4	2	0	0	0	1
Macromiidae	2	0	0	2	2	0	0	0	1
Macromia	2	0	0	2	2	0	0	0	1
Libellulidae	0	0	0	2	0	0	0	0	+
IMM Libellulidae	0	0	0	2	0	0	0	0	+

Table 138 - (Continued).

Station Depth (m)	33 1	34 3	35 1	36 3	37 1	38 3	39 6	40 10	Grand Mean
Coleoptera	0	0	2	0	0	0	0	0	+
Gyrinidae	0	0	2	0	0	0	0	0	+
Gyrinus	0	0	2	0	0	0	0	0	+
Total density	4235	3179	662	629	1288	1081	1179	2312	1821
Number of families	11	8	11	11	8	6	7	8	21
Number of taxa	28	17	20	18	18	15	12	12	46
Crustacean density	4	0	400	12	4	0	0	85	63
Insect density	4062	2479	115	321	765	248	60	221	1034
Others density	169	700	148	296	519	833	1119	2006	724

Table 139. Numerical density (#/m^2) by depth and by zone of reservoir benthos collected in October 1978 at eight stations on Schoharie Reservoir.

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Oligochaeta	639	2769	2571	1725	3959	385	768	2148	1815
Diptera	27	397	77	90	548	30	57	83	180
UID* Diptera	1	0	0	0	1	0	0	0	+
Chironomidae	26	397	75	90	547	30	57	82	179
UID Chironomidae	5	46	2	0	64	5	7	1	19
Chironominae	15	311	15	21	453	19	17	18	127
Tanytarsus	4	123	0	0	178	7	5	0	48
Chironomus	3	111	4	8	171	1	0	6	45
Cryptochironomus	0	13	10	12	16	4	0	11	8
Stictochironomus	0	20	0	0	30	0	0	0	8
Polypedilum	5	12	0	0	22	1	2	0	6
Microtendipes	0	11	0	0	17	0	0	0	4
Dicrotendipes	1	6	0	0	8	0	1	0	2
Cryptotendipes	1	4	0	0	1	3	4	0	2
Paratendipes	0	3	0	0	5	0	0	0	1
Cladopelma	0	3	0	0	4	0	0	0	1
Micropsectra	0	1	0	0	0	0	2	0	1
Demicryptochironomus	0	1	0	0	0	2	0	0	1
Phaenopsectra	0	1	0	0	1	0	0	0	+
Glyptotendipes	0	1	0	0	0	0	1	0	+
Paracladopelma	0	1	0	0	0	0	1	0	+
Tanypodinae	4	38	58	69	26	5	31	64	32
Procladius	1	36	56	67	26	2	27	61	29
Ablabesmyia	3	1	2	2	0	3	4	2	2
Orthocladiinae	3	2	0	0	4	1	2	0	2
Psectrocladius	3	1	0	0	2	1	2	0	1
Cricotopus	0	1	0	0	2	0	0	0	1
Ceratopogonidae	0	0	2	0	0	0	0	1	+
Palpomyia group	0	0	2	0	0	0	0	1	+
Nematoda	39	4	154	304	0	0	65	229	73
Ephemeroptera	1	19	98	79	3	6	20	89	29
Ephemeridae	0	17	94	79	0	5	20	86	28
Hexagenia	0	13	94	79	0	0	20	86	27
Ephemera	0	3	0	0	0	5	0	0	1
Leptophlebiidae	1	2	0	0	3	1	0	0	1
UID Leptophlebiidae	0	2	0	0	2	1	0	0	1
Paraleptophlebiidae	1	0	0	0	1	0	0	0	+
Heptageniidae	0	0	4	0	0	0	0	2	1
Stenonema	0	0	4	0	0	0	0	2	1

* UID = unidentified.
\+ = less than 0.5.

Table 139 - (Continued).

Station	Depth (m) 1 33, 35, 37	3 34, 36, 38	6 39	10 40	Zone 1 33, 34	2 35, 36	3 37, 38	4 39, 40	Grand Mean
Hydracarina	0	12	33	69	2	6	10	51	17
Mideopsidae	0	7	23	42	0	2	8	32	11
Mideopsis	0	7	23	42	0	2	8	32	11
Unionicolidae	0	3	8	21	2	1	2	15	5
Neumania	0	3	8	21	2	1	2	15	5
Hygrobatidae	0	2	0	0	0	3	0	0	1
Hygrobates	0	2	0	0	0	3	0	0	1
Lebertiidae	0	0	0	4	0	0	0	2	1
Lebertia	0	0	0	4	0	0	0	2	1
Arrenuridae	0	0	0	2	0	0	0	1	+
Arrenurus	0	0	0	2	0	0	0	1	+
Limnesiidae	0	0	2	0	0	0	0	1	+
Limnesia	0	0	2	0	0	0	0	1	+
Trichoptera	0	18	6	15	0	2	25	10	9
Leptoceridae	0	18	6	15	0	2	25	10	9
Oecetis	0	16	6	15	0	0	24	10	9
Mystacides	0	2	0	0	0	2	1	0	1
Pelecypoda	0	13	0	0	18	2	0	0	5
Sphaeriidae	0	13	0	0	18	2	0	0	5
Pisidium	0	8	0	0	11	0	0	0	3
Sphaerium	0	6	0	0	6	2	0	0	2
Amphipoda	3	2	0	2	0	7	0	1	2
Gammaridae	3	2	0	2	0	7	0	1	2
Crangonyx	3	2	0	2	0	7	0	1	2
Megaloptera	0	1	6	6	0	1	0	6	2
Sialidae	0	1	6	6	0	1	0	6	2
Sialis	0	1	6	6	0	1	0	6	2
Odonata	0	0	2	4	0	0	0	3	1
Anisoptera	0	0	2	4	0	0	0	3	1
Macromiidae	0	0	2	4	0	0	0	3	1
Didymops	0	0	2	4	0	0	0	3	1
Decapoda	0	1	4	0	0	0	1	2	1
Astacidae	0	1	4	0	0	0	1	2	1
Orconectes	0	1	4	0	0	0	1	2	1
Coleoptera	0	1	0	0	2	0	0	0	1
Elmidae	0	1	0	0	2	0	0	0	1
Stenelmis	0	1	0	0	1	0	0	0	+
Optioservus	0	1	0	0	1	0	0	0	+
Total density	708	3238	2952	2294	4532	441	946	2623	2135
Number of families	6	14	13	12	6	11	8	16	21
Number of taxa	13	36	16	15	20	19	18	19	43
Crustacean density	3	3	4	2	0	7	1	3	3
Insect density	28	435	190	194	553	40	102	192	222
Others density	678	2799	2758	2098	3979	394	843	2428	1911

Table 140. Numerical density (#/m^2) of reservoir benthos collected in October 1978 at eight stations on Schoharie Reservoir.

Station	33	34	35	36	37	38	39	40	Grand
Depth (m)	1	3	1	3	1	3	6	10	Mean
Oligochaeta	444	7475	138	633	1335	200	2571	1725	1815
Diptera	38	1058	21	40	23	92	77	90	180
UID* Diptera	2	0	0	0	0	0	0	0	+
Chironomidae	35	1058	21	40	23	92	75	90	179
UID Chironomidae	4	123	6	4	4	10	2	0	19
Chironominae	27	879	10	27	6	27	15	21	127
Tanytarsus	8	348	2	12	2	8	0	0	48
Chironomus	8	333	2	0	0	0	4	8	45
Cryptochironomus	0	31	0	8	0	0	10	12	8
Stictochironomus	0	60	0	0	0	0	0	0	8
Polypedilum	10	33	2	0	2	2	0	0	6
Microtendipes	0	33	0	0	0	0	0	0	4
Dicrotendipes	0	17	0	0	2	0	0	0	2
Cryptotendipes	0	2	4	2	0	8	0	0	2
Paratendipes	0	10	0	0	0	0	0	0	1
Cladopelma	0	8	0	0	0	0	0	0	1
Micropsectra	0	0	0	0	0	4	0	0	1
Demicryptochironomus	0	0	0	4	0	0	0	0	1
Phaenopsectra	0	2	0	0	0	0	0	0	+
Glyptotendipes	0	0	0	0	0	2	0	0	+
Paracladopelma	0	0	0	0	0	2	0	0	+
Tanypodinae	0	52	4	6	8	54	58	69	32
Procladius	0	52	0	4	2	52	56	67	29
Ablabesmyia	0	0	4	2	6	2	2	2	2
Orthocladiinae	4	4	0	2	4	0	0	0	2
Psectrocladius	4	0	0	2	4	0	0	0	1
Cricotopus	0	4	0	0	0	0	0	0	1
Ceratopogonidae	0	0	0	0	0	0	2	0	+
Palpomyia group	0	0	0	0	0	0	2	0	+
Nematoda	0	0	0	0	117	12	154	304	73
Ephemeroptera	2	4	0	12	0	40	98	79	29
Ephemeridae	0	0	0	10	0	40	94	79	28
Hexagenia	0	0	0	0	0	40	94	79	27
Ephemera	0	0	0	10	0	0	0	0	1
Leptophlebiidae	2	4	0	2	0	0	0	0	1
UID Leptophlebiidae	0	4	0	2	0	0	0	0	1
Paraleptophlebia	2	0	0	0	0	0	0	0	+
Heptageniidae	0	0	0	0	0	0	4	0	1
Stenonema	0	0	0	0	0	0	4	0	1

* UID = unidentified.
\+ = less than 0.5.

Table 140 - (Continued).

Station	33	34	35	36	37	38	39	40	Grand
Depth (m)	1	3	1	3	1	3	6	10	Mean
Hydracarina	0	4	0	12	0	21	33	69	17
Mideopsidae	0	0	0	4	0	17	23	42	11
Mideopsis	0	0	0	4	0	17	23	42	11
Unionicolidae	0	4	0	2	0	4	8	21	5
Neumania	0	4	0	2	0	4	8	21	5
Hygrobatidae	0	0	0	6	0	0	0	0	1
Hygrobates	0	0	0	6	0	0	0	0	1
Lebertiidae	0	0	0	0	0	0	0	4	1
Lebertia	0	0	0	0	0	0	0	4	1
Arrenuridae	0	0	0	0	0	0	0	2	+
Arrenurus	0	0	0	0	0	0	0	2	+
Limnesiidae	0	0	0	0	0	0	2	0	+
Limnesia	0	0	0	0	0	0	2	0	+
Trichoptera	0	0	0	4	0	50	6	15	9
Leptoceridae	0	0	0	4	0	50	6	15	9
Oecetis	0	0	0	0	0	48	6	15	9
Mystacides	0	0	0	4	0	2	0	0	1
Pelecypoda	0	35	0	4	0	0	0	0	5
Sphaeriidae	0	35	0	4	0	0	0	0	5
Pisidium	0	23	0	0	0	0	0	0	3
Sphaerium	0	12	0	4	0	0	0	0	2
Amphipoda	0	0	8	6	0	0	0	2	2
Gammaridae	0	0	8	6	0	0	0	2	2
Crangonyx	0	0	8	6	0	0	0	2	2
Megaloptera	0	0	0	2	0	0	6	6	2
Sialidae	0	0	0	2	0	0	6	6	2
Sialis	0	0	0	2	0	0	6	6	2
Odonata	0	0	0	0	0	0	2	4	1
Anisoptera	0	0	0	0	0	0	2	4	1
Macromiidae	0	0	0	0	0	0	2	4	1
Didymops	0	0	0	0	0	0	2	4	1
Decapoda	0	0	0	0	0	2	4	0	1
Astacidae	0	0	0	0	0	2	4	0	1
Orconectes	0	0	0	0	0	2	4	0	1
Coleoptera	0	4	0	0	0	0	0	0	1
Elmidae	0	4	0	0	0	0	0	0	1
Stenelmis	0	2	0	0	0	0	0	0	+
Optioservus	0	2	0	0	0	0	0	0	+
Total density	483	8581	167	715	1475	417	2952	2294	2135
Number of families	4	6	3	11	3	8	13	12	21
Number of taxa	7	20	7	17	8	16	16	15	43
Crustacean density	0	0	8	6	0	2	4	2	3
Insect density	40	1067	21	58	23	181	190	194	222
Others density	444	1515	138	650	1452	233	2758	2098	1911

Table 141. Biomass density (g/m^2) by depth and by zone of reservoir benthos collected in May 1978 at eight stations on Schoharie Reservoir.

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Oligochaeta	0.9098	0.3323	0.1760	0.6436	1.1181	0.0584	0.6866	0.4082	0.5678
Diptera	0.0401	0.2447	0.0048	0.0220	0.0974	0.2062	0.1235	0.0133	0.1101
UID* Diptera	REF**	-	-	-	REF	REF	REF	-	REF
Chironomidae	0.0400	0.2447	0.0042	0.0211	0.0974	0.2062	0.1233	0.0126	0.1099
Ceratopogonidae	-	-	0.0006	0.0008	-	-	-	0.0007	0.0002
Dolichopodidae	0.0001	-	-	-	-	-	0.0002	-	0.0001
Ephemeroptera	0.1026	0.1078	0.0190	-	0.1396	0.1752	0.0009	0.0095	0.0813
Ephemeridae	0.0026	0.1038	0.0190	-	-	0.1585	0.0009	0.0095	0.0422
Leptophlebiidae	0.1001	0.0041	-	-	0.1396	0.0167	-	-	0.0391
Trichoptera	0.0274	0.0155	-	-	0.0456	-	0.0186	-	0.0161
Limnephilidae	0.0274	0.0149	-	-	0.0448	-	0.0186	-	0.0159
Polycentropodidae	-	0.0006	-	-	0.0008	-	-	-	0.0002
Amphipoda	0.0141	0.0049	0.0002	0.0010	0.0092	0.0106	0.0088	0.0006	0.0073
Gammaridae	0.0141	0.0049	0.0002	0.0010	0.0002	0.0106	0.0088	0.0006	0.0073
Nematoda	0.0007	0.0023	-	0.0008	0.0023	0.0014	0.0008	0.0004	0.0012
Gastropoda	0.0015	0.0014	-	-	-	0.0044	-	-	0.0011
Lymnaeidae	0.0012	0.0014	-	-	-	0.0040	-	-	0.0010
Planorbidae	0.0003	-	-	-	-	0.0004	-	-	0.0001
Turbellaria	-	0.0017	-	0.0021	-	0.0011	0.0015	0.0010	0.0009
Megaloptera	-	0.0015	-	-	-	0.0011	0.0010	-	0.0005
Sialidae	-	0.0015	-	-	-	0.0011	0.0010	-	0.0005
Ostracoda	0.0005	0.0003	-	-	-	0.0005	0.0007	-	0.0003
Hydracarina	-	0.0005	-	-	0.0006	-	0.0001	-	0.0002
Isopoda	-	0.0001	-	-	-	0.0002	-	-	0.0001
Asellidae	-	0.0001	-	-	-	0.0002	-	-	0.0001
Odonata	-	-	REF	-	-	-	-	REF	REF
Anisoptera	-	-	REF	-	-	-	-	REF	REF
Macromiidae	-	-	REF	-	-	-	-	REF	REF
Plecoptera	REF	-	-	-	REF	-	-	-	REF
Perlidae	REF	-	-	-	REF	-	-	-	REF

* UID = unidentified.
** REF = biomass not determined; organisms retained for reference.
\- = absent from collection.

Table 141 - (Continued).

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Coleoptera	-	REF	-	-	-	-	REF	-	REF
Curculionidae	-	REF	-	-	-	-	REF	-	REF
Total density	1.0967	0.7131	0.2000	0.6696	1.4128	0.4593	0.8426	0.4331	0.7870
Crustacean density	0.0146	0.0054	0.0002	0.0010	0.0092	0.0114	0.0095	0.0006	0.0077
Insect density	0.1701	0.3694	0.0238	0.0220	0.2826	0.3826	0.1442	0.0228	0.2080
Others density	0.9120	0.3382	0.1760	0.6466	1.1210	0.0653	0.6890	0.4097	0.5712

Table 142. Biomass density (g/m^2) of reservoir benthos collected in May 1978 at eight stations on Schoharie Reservoir.

Station Depth (m)	33 1	34 3	35 1	36 3	37 1	38 3	39 6	40 10	Grand Mean
Oligochaeta	1.9046	0.3317	0.0262	0.0906	0.7985	0.5746	0.1760	0.6404	0.5678
Diptera	0.0013	0.1935	0.0196	0.3929	0.0996	0.1475	0.0048	0.0219	0.1101
UID* Diptera	REF**	-	-	REF	REF	-	-	-	REF
Chironomidae	0.0013	0.1935	0.0196	0.3929	0.0992	0.1475	0.0042	0.0210	0.1099
Ceratopogonidae	-	-	-	-	-	-	0.0006	0.0008	0.0002
Dolichopodidae	-	-	-	-	0.0004	-	-	-	0.0001
Ephemeroptera	0.2669	0.0123	0.0410	0.3094	-	0.0019	0.0190	-	0.0813
Ephemeridae	-	-	0.0077	0.3094	-	0.0019	0.0190	-	0.0422
Leptophlebiidae	0.2669	0.0123	0.0333	-	-	-	-	-	0.0391
Trichoptera	0.0821	0.0092	-	-	-	0.0373	-	-	0.0161
Limnephilidae	0.0821	0.0075	-	-	-	0.0373	-	-	0.0159
Polycentropodidae	-	0.0017	-	-	-	-	-	-	0.0002
Amphipoda	0.0167	0.0017	0.0192	0.0021	0.0065	0.0110	0.0002	0.0010	0.0073
Gammaridae	0.0167	0.0017	0.0192	0.0021	0.0065	0.0110	0.0002	0.0010	0.0073
Nematoda	0.0004	0.0042	0.0010	0.0017	0.0006	0.0010	-	0.0008	0.0012
Gastropoda	-	-	0.0046	0.0042	-	-	-	-	0.0011
Lymnaeidae	-	-	0.0038	0.0042	-	-	-	-	0.0010
Planorbidae	-	-	0.0008	-	-	-	-	-	0.0001
Turbellaria	-	-	-	0.0023	-	0.0029	-	0.0021	0.0009
Megaloptera	-	-	-	0.0023	-	0.0021	-	-	0.0005
Sialidae	-	-	-	0.0023	-	0.0021	-	-	0.0005
Ostracoda	-	-	0.0010	-	0.0004	0.0010	-	-	0.0003
Hydracarina	-	0.0012	-	-	-	0.0002	-	-	0.0002
Isopoda	-	-	-	0.0004	-	-	-	-	0.0001
Asellidae	-	-	-	0.0004	-	-	-	-	0.0001
Odonata	-	-	-	-	-	-	REF	-	REF
Anisoptera	-	-	-	-	-	-	REF	-	REF
Macromiidae	-	-	-	-	-	-	REF	-	REF
Plecoptera	REF	-	-	-	-	-	-	-	REF
Perlidae	REF	-	-	-	-	-	-	-	REF

* UID = unidentified.
** REF = biomass not determined; organisms retained for reference.
\- = absent from collection.

Table 142 - (Continued).

Station Depth (m)	33 1	34 3	35 1	36 3	37 1	38 3	39 6	40 10	Grand Mean
Coleoptera	-	-	-	-	-	REF	-	-	REF
Curculionidae	-	-	-	-	-	REF	-	-	REF
Total density	2.2719	0.5538	0.1127	0.8058	0.9056	0.7796	0.2000	0.6662	0.7870
Crustacean density	0.0167	0.0017	0.0202	0.0025	0.0069	0.0121	0.0002	0.0010	0.0077
Insect density	0.3502	0.2150	0.0606	0.7046	0.0996	0.1888	0.0238	0.0219	0.2080
Others density	1.9050	0.3371	0.0319	0.0988	0.7992	0.5788	0.1760	0.6433	0.5712

Table 143. Biomass density (g/m^2) by depth and by zone of reservoir benthos collected in June 1978 at eight stations on Schoharie Reservoir.

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Oligochaeta	0.5310	0.1190	0.0229	0.7640	0.6269	0.1376	0.2105	0.3934	0.3421
Ephemeroptera	0.0007	0.2197	0.0073	0.0062	0.0010	0.1354	0.1942	0.0068	0.0843
Ephemeridae	-	0.2194	0.0073	0.0062	-	0.1349	0.1942	0.0068	0.0840
Baetidae	0.0007	0.0003	-	-	0.0010	0.0005	-	-	0.0004
Diptera	0.0727	0.0616	0.0073	0.0200	0.0909	0.0497	0.0608	0.0136	0.0538
UID* Diptera	REF**	-	-	-	-	-	REF	-	REF
Chironomidae	0.0723	0.0611	0.0073	0.0196	0.0907	0.0495	0.0599	0.0134	0.0534
Dolichopodidae	0.0003	0.0003	-	-	-	-	0.0008	-	0.0002
Ceratopogonidae	0.0001	0.0002	-	-	0.0002	0.0002	0.0001	-	0.0001
Chaoboridae	-	-	-	0.0004	-	-	-	0.0002	0.0001
Decapoda	0.0103	-	-	-	0.0135	-	0.0020	-	0.0039
Astacidae	0.0103	-	-	-	0.0135	-	0.00020	-	0.0039
Amphipoda	0.0049	0.0040	-	-	0.0073	0.0043	0.0019	-	0.0034
Gammaridae	0.0049	0.0040	-	-	0.0073	0.0043	0.0019	-	0.0034
Ostracoda	0.0003	0.0042	-	-	0.0006	0.0055	0.0006	-	0.0017
Nematoda	0.0006	0.0006	0.0002	-	-	0.0010	0.0008	0.0001	0.0005
Hydracarina	0.0001	0.0006	0.0008	0.0004	0.0002	0.0005	0.0003	0.0006	0.0004
Hemiptera	0.0001	-	-	-	0.0002	-	-	-	0.0001
Corixidae	0.0001	-	-	-	0.0002	-	-	-	0.0001
Pelecypoda	-	0.0001	-	0.0002	0.0001	-	-	0.0001	0.0001
Sphaeriidae	-	0.0001	-	0.0002	0.0001	-	-	0.0001	0.0001
Gastropoda	-	0.0001	-	-	0.0001	-	-	-	+
Planorbidae	-	0.0001	-	-	0.0001	-	-	-	+
Coleoptera	-	REF	-	-	REF	-	REF	-	REF
Gyrinidae	-	REF	-	-	REF	-	REF	-	REF
Total density	0.6208	0.4099	0.0385	0.7908	0.7409	0.3341	0.4711	0.4146	0.4902
Crustacean density	0.0156	0.0083	-	-	0.0215	0.0098	0.0045	-	0.0089
Insect density	0.0735	0.2813	0.0146	0.0262	0.0922	0.1851	0.2550	0.0204	0.1382
Others density	0.5317	0.1203	0.0240	0.7646	0.6273	0.1392	0.2117	0.3942	0.3431

\- = absent from collection.
* UID = unidentified.
** REF = biomass not determined; organisms retained for reference.
\+ = less than 0.00005.

Table 144. Biomass density (g/m^2) of reservoir benthos collected in June 1978 at eight stations on Schoharie Reservoir.

Station Depth (m)	33 1	34 3	35 1	36 3	37 1	38 3	39 66	40 10	Grand Mean
Oligochaeta	1.0985	0.1552	0.1802	0.0950	0.3142	0.1069	0.0229	0.7640	0.3421
Ephemeroptera	0.0021	-	-	0.2708	-	0.3883	0.0073	0.0062	0.0843
Ephemeridae	-	-	-	0.2698	-	0.3883	0.0073	0.0062	0.0840
Baetidae	0.0021	-	-	0.0010	-	-	-	-	0.0004
Diptera	0.1271	0.0544	0.0331	0.0663	0.0579	0.0638	0.0073	0.0200	0.0538
UID* Diptera	-	-	-	-	REF**	-	-	-	REF
Chironomidae	0.1271	0.0544	0.0327	0.0663	0.0571	0.0627	0.0073	0.0196	0.0534
Dolichopodidae	-	-	-	-	0.0008	0.0008	-	-	0.0002
Ceratopogonidae	-	0.0004	0.0004	-	-	0.0002	-	-	0.0001
Chaoboridae	-	-	-	-	-	-	-	0.0004	0.0001
Decapoda	0.0271	-	-	-	0.0040	-	-	-	0.0039
Astacidae	0.0271	-	-	-	0.0040	-	-	-	0.0039
Amphipoda	0.0129	0.0017	0.0006	0.0079	0.0012	0.0025	-	-	0.0034
Gammaridae	0.0129	0.0017	0.0006	0.0079	0.0012	0.0025	-	-	0.0034
Ostracoda	0.0008	0.0004	-	0.0110	-	0.0012	-	-	0.0017
Nematoda	-	-	0.0008	0.0012	0.0010	0.0006	0.0002	-	0.0005
Hydracarina	0.0004	-	-	0.0010	-	0.0006	0.0008	0.0004	0.0004
Hemiptera	0.0004	-	-	-	-	-	-	-	0.0001
Corixidae	0.0004	-	-	-	-	-	-	-	0.0001
Pelecypoda	-	0.0002	-	-	-	-	-	0.0002	0.0001
Sphaeriidae	-	0.0002	-	-	-	-	-	0.0002	0.0001
Gastropoda	-	0.0002	-	-	-	-	-	-	+
Planorbidae	-	0.0002	-	-	-	-	-	-	+
Coleoptera	-	REF	-	-	-	REF	-	-	REF
Gyrinidae	-	REF	-	-	-	REF	-	-	REF
Total density	1.2694	0.2125	0.2148	0.4533	0.3783	0.5640	0.0385	0.7908	0.4902
Crustacean density	0.0408	0.0021	0.0006	0.0190	0.0052	0.0038	-	-	0.0089
Insect density	0.1296	0.0548	0.0331	0.3371	0.0579	0.4521	0.0146	0.0262	0.1382
Others density	1.0990	0.1556	0.1810	0.0973	0.3152	0.1081	0.0240	0.7646	0.3431

- = absent from collection.
* UID = unidentified.
** REF = biomass not determined; organisms retained for reference.
\+ = less than 0.00005.

Table 145. Biomass density (g/m^2) by depth and by zone of reservoir benthos collected in August 1978 at eight stations on Schoharie Reservoir.

	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Oligochaeta	0.0349	0.0981	0.1546	0.1631	0.0449	0.0261	0.1283	0.1589	0.0896
Diptera	0.1078	0.0675	0.0062	0.0490	0.2320	0.0090	0.0220	0.0276	0.0726
Chironomidae	0.1077	0.0675	0.0062	0.0490	0.2320	0.0089	0.0220	0.0276	0.0726
Ceratopogonidae	0.0001	-	-	-	-	0.0001	-	-	+
Megaloptera	0.0117	0.0197	0.0081	-	0.0157	0.0253	0.0060	0.0041	0.0128
Sialidae	0.0117	0.0197	0.0081	-	0.0157	0.0253	0.0060	0.0041	0.0128
Decapoda	0.0334	-	-	-	REF*	0.0035	0.0466	-	0.0125
Astacidae	0.0334	-	-	-	REF	0.0035	0.0466	-	0.0125
Ephemeroptera	0.0138	0.0117	0.0048	0.0065	0.0177	0.0080	0.0126	0.0056	0.0110
Ephemeridae	0.0130	0.0115	0.0048	0.0065	0.0177	0.0065	0.0126	0.0056	0.0106
Heptageniidae	0.0007	0.0002	-	-	-	0.0014	-	-	0.0003
Baetidae	0.0001	-	-	-	-	0.0002	-	-	0.0001
Trichoptera	0.0031	0.0049	0.0031	0.0052	0.0034	0.0021	0.0064	0.0042	0.0040
Leptoceridae	0.0031	0.0049	0.0031	0.0052	0.0034	0.0021	0.0064	0.0042	0.0040
Amphipoda	0.0060	0.0002	-	0.0110	-	0.0094	-	0.0055	0.0037
Gammaridae	0.0060	0.0002	-	0.0110	-	0.0094	-	0.0055	0.0037
Pelecypoda	0.0010	0.0051	-	-	0.0093	-	-	-	0.0023
Sphaeriidae	0.0010	0.0051	-	-	0.0093	-	-	-	0.0023
Hydracarina	0.0003	0.0003	0.0008	0.0017	0.0005	-	0.0003	0.0012	0.0005
Isopoda	0.0002	0.0001	-	0.0023	-	0.0005	-	0.0011	0.0003
Asellidae	0.0002	0.0001	-	0.0023	-	0.0005	-	0.0011	0.0003
Nematoda	0.0001	0.0001	-	-	0.0002	0.0002	-	-	0.0001
Odonata	REF	REF	-	-	REF	REF	REF	-	REF
Anisoptera	REF	REF	-	-	REF	REF	REF	-	REF
Macromiidae	REF	REF	-	-	REF	REF	REF	-	REF
Libellulidae	-	REF	-	-	-	REF	-	-	REF
Coleoptera	REF	-	-	-	-	REF	-	-	REF
Gyrinidae	REF	-	-	-	-	REF	-	-	REF
Total density	0.2124	0.2077	0.1777	0.2388	0.3238	0.0842	0.2222	0.2082	0.2096
Crustacean density	0.0397	0.0003	-	0.0133	-	0.0134	0.0466	0.0067	0.0167
Insect density	0.1364	0.1038	0.0223	0.0606	0.2689	0.0444	0.0470	0.0415	0.1004
Others density	0.0363	0.1036	0.1554	0.1648	0.0549	0.0264	0.1286	0.1601	0.0925

- = absent from collection.
+ = less than 0.00005.
* REF = biomass not determined; organisms retained for reference.

Table 146. Biomass density (g/m^2) of reservoir benthos collected in August 1978 at eight stations on Schoharie Reservoir.

Station Depth (m)	33 1	34 3	35 1	36 3	37 1	38 3	39 6	40 10	Grand Mean
Oligochaeta	0.0127	0.0771	0.0206	0.0317	0.0712	0.1854	0.1546	0.1631	0.0896
Diptera	0.2850	0.1790	0.0054	0.0125	0.0329	0.0110	0.0062	0.0490	0.0726
Chironomidae	0.2850	0.1790	0.0052	0.0125	0.0329	0.0110	0.0062	0.0490	0.0726
Ceratopogonidae	-	-	0.0002	-	-	-	-	-	+
Megaloptera	0.0290	0.0025	-	0.0506	0.0062	0.0058	0.0081	-	0.0128
Sialidae	0.0290	0.0025	-	0.0506	0.0062	0.0058	0.0081	-	0.0128
Decapoda	REF*	-	0.0071	-	0.0931	-	-	-	0.0125
Astacidae	REF	-	0.0071	-	0.0931	-	-	-	0.0125
Ephemeroptera	0.0354	-	0.0038	0.0123	0.0023	0.0229	0.0048	0.0065	0.0110
Ephemeridae	0.0354	-	0.0012	0.0117	0.0023	0.0229	0.0048	0.0065	0.0106
Heptageniidae	-	-	0.0021	0.0006	-	-	-	-	0.0003
Baetidae	-	-	0.0004	-	-	-	-	-	0.0001
Trichoptera	0.0069	-	0.0006	0.0035	0.0017	0.0110	0.0031	0.0052	0.0040
Leptoceridae	0.0069	-	0.0006	0.0035	0.0017	0.0110	0.0031	0.0052	0.0040
Amphipoda	-	-	0.0181	0.0006	-	-	-	0.0110	0.0037
Gammaridae	-	-	0.0181	0.0006	-	-	-	0.0110	0.0037
Pelecypoda	0.0031	0.0154	-	-	-	-	-	-	0.0023
Sphaeriidae	0.0031	0.0154	-	-	-	-	-	-	0.0023
Hydracarina	0.0006	0.0004	-	-	0.0002	0.0004	0.0008	0.0017	0.0005
Isopoda	-	-	0.0006	0.0004	-	-	-	0.0023	0.0003
Asellidae	-	-	0.0006	0.0004	-	-	-	0.0023	0.0003
Nematoda	0.0004	-	-	0.0004	-	-	-	-	0.0001
Odonata	REF	-	-	REF	REF	-	-	-	REF
Anisoptera	REF	-	-	REF	REF	-	-	-	REF
Macromiidae	REF	-	-	REF	REF	-	-	-	REF
Libellulidae	-	-	-	REF	-	-	-	-	REF
Coleoptera	-	-	REF	-	-	-	-	-	REF
Gyrinidae	-	-	REF	-	-	-	-	-	REF
Total density	0.3731	0.2744	0.0562	0.1121	0.2077	0.2367	0.1777	0.2388	0.2096
Crustacean density	-	-	0.0258	0.0010	0.0931	-	-	0.0133	0.0167
Insect density	0.3562	0.1815	0.0098	0.0790	0.0431	0.0508	0.0223	0.0606	0.1004
Others density	0.0169	0.0929	0.0206	0.0321	0.0715	0.1858	0.1554	0.1648	0.0925

- = absent from collection.
+ = less than 0.00005.
* REF = biomass not determined; organisms retained for reference.

Table 147. Biomass density (g/m^2) by depth and by zone of reservoir benthos collected in October 1978 at eight stations on Schoharie Reservoir.

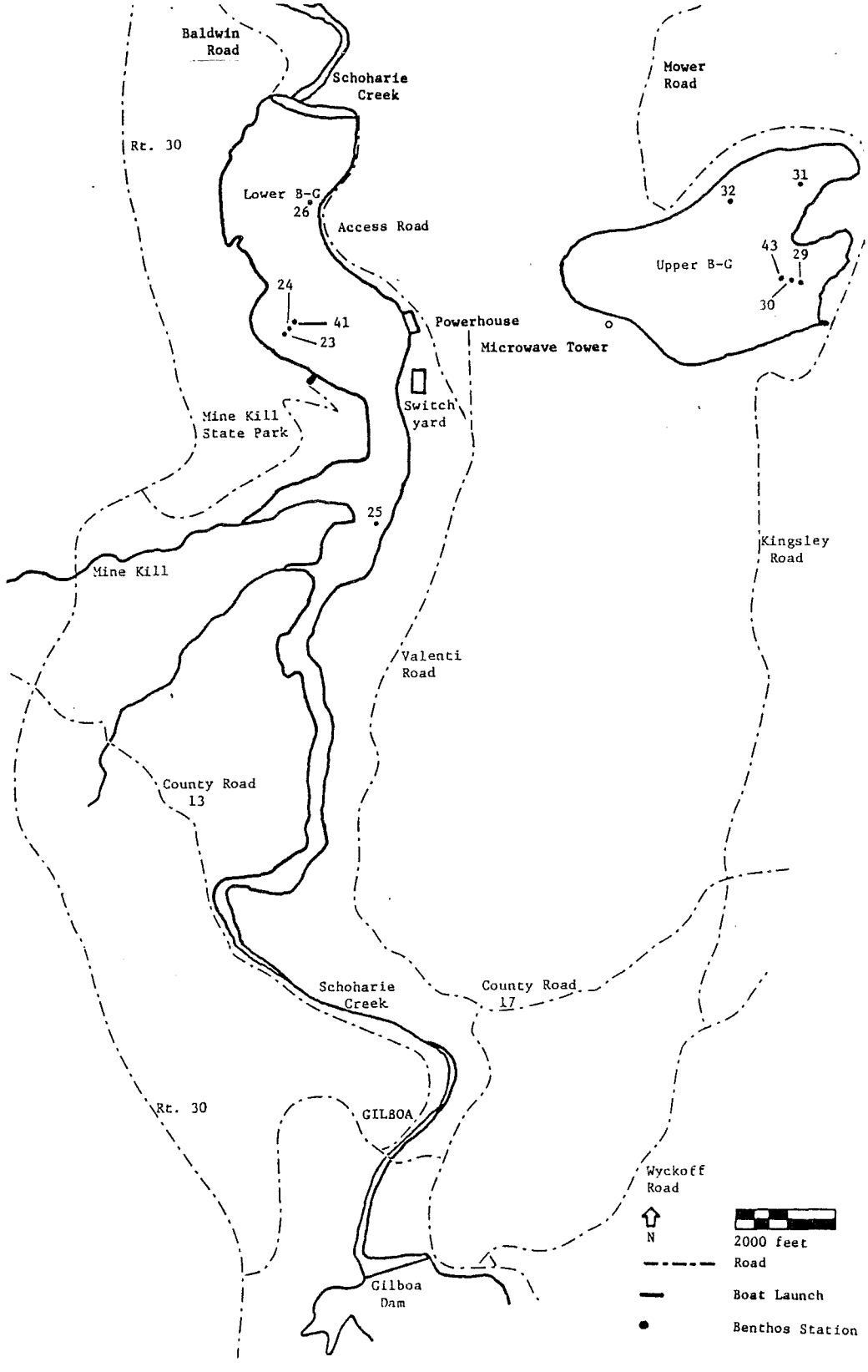
	Depth (m)				Zone				
	1	3	6	10	1	2	3	4	Grand
Station	33, 35, 37	34, 36, 38	39	40	33, 34	35, 36	37, 38	39, 40	Mean
Oligochaeta	0.1019	0.2240	0.2921	0.2700	0.3418	0.0421	0.1050	0.2810	0.1925
Decapoda	-	0.0047	0.2231	-	-	-	0.0071	0.1116	0.0297
Astacidae	-	0.0047	0.2231	-	-	-	0.0071	0.1116	0.0297
Ephemeroptera	0.0002	0.0094	0.1133	0.0279	0.0005	0.0014	0.0126	0.0706	0.0213
Ephemeridae	-	0.0094	0.1115	0.0279	-	0.0011	0.0126	0.0697	0.0209
Heptageniidae	-	-	0.0019	-	-	-	-	0.0009	0.0002
Leptophlebiidae	0.0002	0.0003	-	-	0.0005	0.0002	-	-	0.0002
Diptera	0.0022	0.0365	0.0175	0.0110	0.0534	0.0011	0.0033	0.0143	0.0180
UID* Diptera	REF**	-	-	-	REF	-	-	-	REF
Chironomidae	0.0022	0.0365	0.0171	0.0110	0.0534	0.0011	0.0033	0.0141	0.0180
Ceratopogonidae	-	-	0.0004	-	-	-	-	0.0002	0.0001
Megaloptera	-	0.0002	0.0092	0.0119	-	0.0003	-	0.0105	0.0027
Sialidae	-	0.0002	0.0092	0.0119	-	0.0003	-	0.0105	0.0027
Trichoptera	-	0.0022	0.0042	0.0046	-	0.0006	0.0027	0.0044	0.0019
Leptoceridae	-	0.0022	0.0042	0.0046	-	0.0006	0.0027	0.0044	0.0019
Nematoda	0.0003	0.0001	0.0029	0.0046	-	-	0.0006	0.0038	0.0011
Pelecypoda	-	0.0024	-	-	0.0035	0.0001	-	-	0.0009
Sphaeriidae	-	0.0024	-	-	0.0035	0.0001	-	-	0.0009
Hydracarina	-	0.0007	0.0021	0.0025	0.0006	0.0002	0.0002	0.0023	0.0008
Amphipoda	0.0003	0.0002	-	0.0021	-	0.0007	-	0.0010	0.0004
Gammaridae	0.0003	0.0002	-	0.0021	-	0.0007	-	0.0010	0.0004
Odonata	-	-	REF	REF	-	-	-	REF	REF
Anisoptera	-	-	REF	REF	-	-	-	REF	REF
Macromiidae	-	-	REF	REF	-	-	-	REF	REF
Coleoptera	-	REF	-	REF	-	-	-	-	REF
Elmidae	-	REF	-	REF	-	-	-	-	REF
Total density	0.1049	0.2805	0.6644	0.3346	0.3999	0.0466	0.1316	0.4995	0.2694
Crustacean density	0.0003	0.0049	0.2231	0.0021	-	0.0007	0.0071	0.1126	0.0301
Insect density	0.0024	0.0483	0.1442	0.0554	0.0540	0.0034	0.0186	0.0998	0.0440
Others density	0.1022	0.2272	0.2971	0.2771	0.3459	0.0424	0.1058	0.2871	0.1953

\- = absent from collection.
* UID = unidentified.
** REF = biomass not determined; organisms retained for reference.

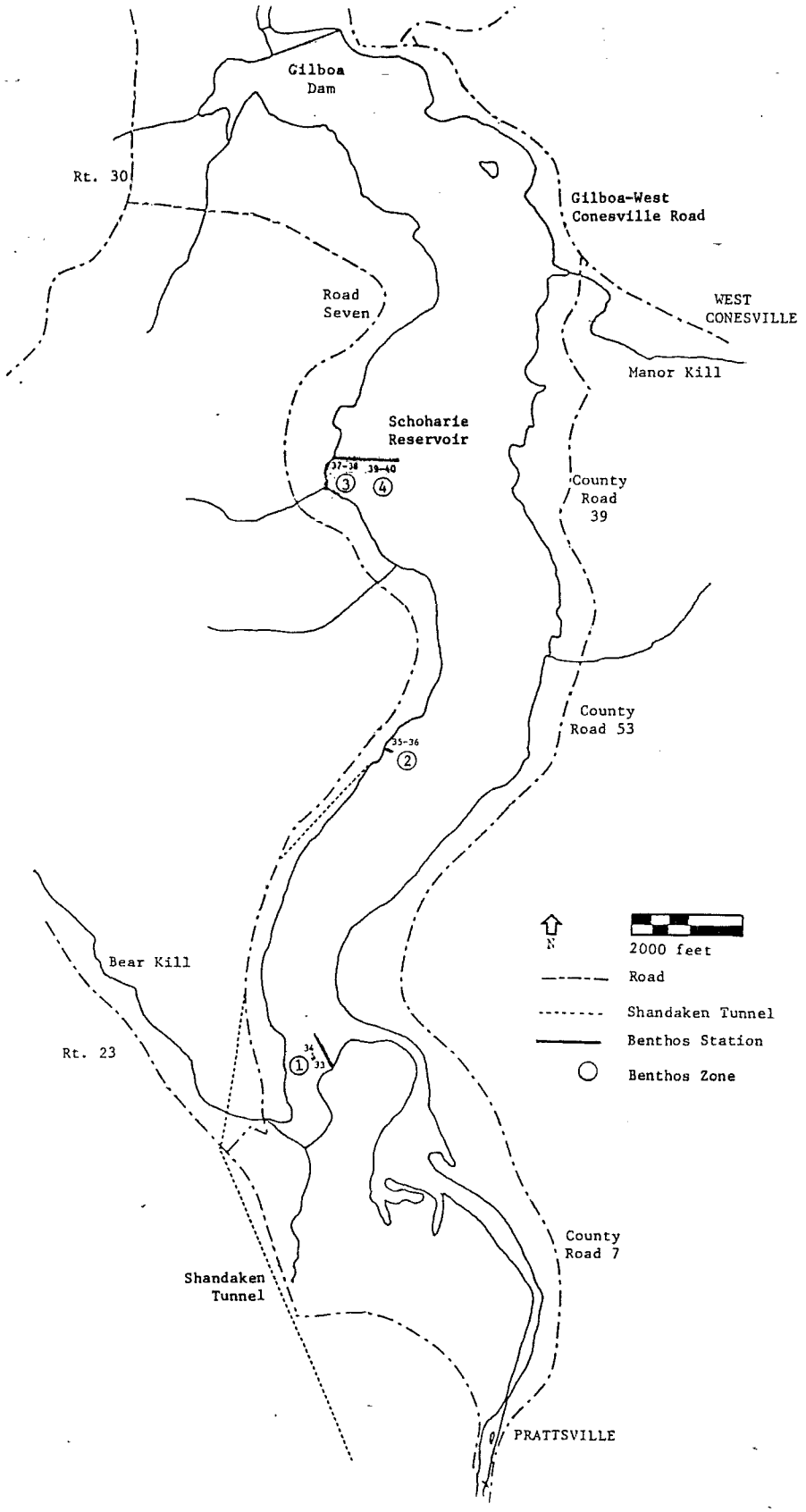
Table 148. Biomass density (g/m^2) of reservoir benthos collected in October 1978 at eight stations on Schoharie Reservoir.

Station Depth (m)	33 1	34 3	35 1	36 3	37 1	38 3	39 6	40 10	Grand Mean
Oligochaeta	0.0892	0.5944	0.0171	0.0671	0.1996	0.0104	0.2921	0.2700	0.1925
Decapoda	-	-	-	-	-	0.0142	0.2231	-	0.0297
Astacidae	-	-	-	-	-	0.0142	0.2231	-	0.0297
Ephemeroptera	0.0006	0.0004	-	0.0027	-	0.0252	0.1133	0.0279	0.0213
Ephemeridae	-	-	-	0.0023	-	0.0252	0.1115	0.0279	0.0209
Heptageniidae	-	-	-	-	-	-	0.0019	-	0.0002
Leptophlebiidae	0.0006	0.0004	-	0.0004	-	-	-	-	0.0002
Diptera	0.0038	0.1031	0.0017	0.0006	0.0010	0.0056	0.0175	0.0110	0.0180
UID* Diptera	REF**	-	-	-	-	-	-	-	REF
Chironomidae	0.0038	0.1031	0.0017	0.0006	0.0010	0.0056	0.0171	0.0110	0.0180
Ceratopogonidae	-	-	-	-	-	-	0.0004	-	0.0001
Megaloptera	-	-	-	0.0006	-	-	0.0092	0.0119	0.0027
Sialidae	-	-	-	0.0006	-	-	0.0092	0.0119	0.0027
Trichoptera	-	-	-	0.0012	-	0.0054	0.0042	0.0046	0.0019
Leptoceridae	-	-	-	0.0012	-	0.0054	0.0042	0.0046	0.0019
Nematoda	-	-	-	-	0.0008	0.0004	0.0029	0.0046	0.0011
Pelecypoda	-	0.0071	-	0.0002	-	-	-	-	0.0009
Sphaeriidae	-	0.0071	-	0.0002	-	-	-	-	0.0009
Hydracarina	-	0.0012	-	0.0004	-	0.0004	0.0021	0.0025	0.0008
Amphipoda	-	-	0.0008	0.0006	-	-	-	0.0021	0.0004
Gammaridae	-	-	0.0008	0.0006	-	-	-	0.0021	0.0004
Odonata	-	-	-	-	-	-	REF	-	REF
Anisoptera	-	-	-	-	-	-	REF	-	REF
Macromiidae	-	-	-	-	-	-	REF	-	REF
Coleoptera	-	REF	-	-	-	-	-	REF	REF
Elmidae	-	REF	-	-	-	-	-	REF	REF
Total density	0.0935	0.7062	0.0196	0.0735	0.2015	0.0617	0.6644	0.3346	0.2694
Crustacean density	-	-	0.0008	0.0006	-	0.0142	0.2231	0.0021	0.0301
Insect density	0.0044	0.1035	0.0171	0.0052	0.0010	0.0362	0.1442	0.0554	0.0440
Others density	0.0892	0.6027	0.0017	0.0677	0.2004	0.0112	0.2971	0.2771	0.1953

\- = absent from collection.
* UID = unidentified.
** REF = biomass not determined; organisms retained for reference.



Map 21. Benthos stations 23-26 and 41 sampled in May, June, August, and September 1978 in Lower B-G and 29-32 and 43 sampled in May, June, August, and October 1978 in Upper B-G.



Map 22. Benthos stations 33-40 and benthos zones 1-4 sampled in May, June, August, and October 1978 in Schoharie Reservoir.

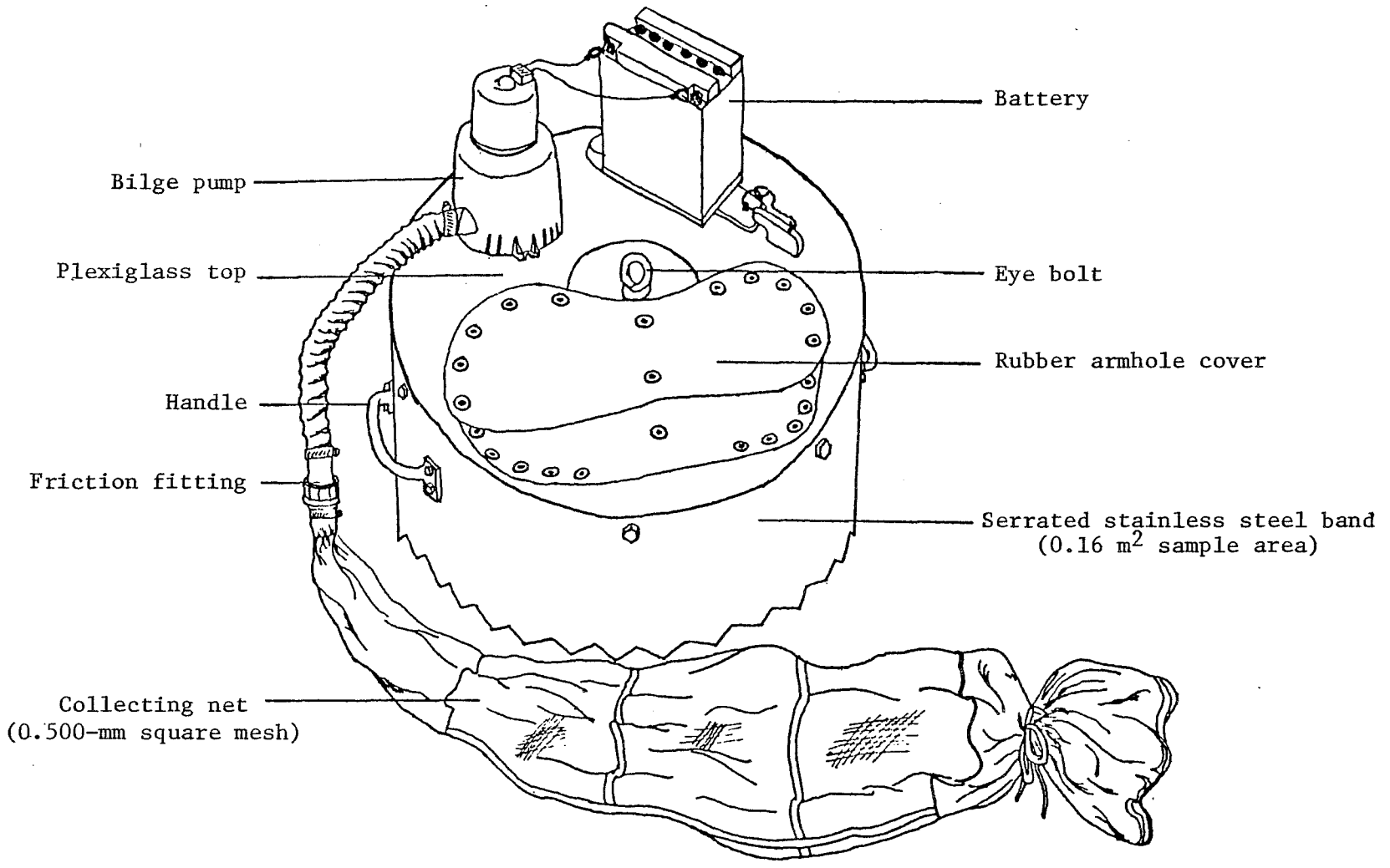


Fig. 12. Diagram of benthic suction sampler used to collect benthos in 1978 in Lower and Upper B-G and Schoharie Reservoir.

Appendix 48. Physicochemical measurements taken in May, June, August, and October 1978 at stations 33-40 on Schoharie Reservoir.

Station		33	34	35	36	37	38	39	40
Depth (m)		1	3	1	3	1	3	6	10
May	Date	5 May	5 May	5 May	9 May	5 May	9 May	3 May	3 May
	Time	1215	1315	1130	1400	1045	1315	1315	1215
	Air Temperature (C)	7.5	7.5	9.0	15.5	9.0	22.5	15.0	15.0
	Surface Water Temperature (C)	10.0	10.0	10.0	8.0	9.0	9.5	8.5	8.0
	Secchi Disc Transparency (m)	*	1.2	*	1.1	*	1.8	1.7	1.8
	Euphotic Zone (m)**	#	#	#	#	#	#	4.3	4.6
	Gradient	Moderate	Steep	Steep	Steep	Slight	Slight	Slight	Slight
	Weather	Lt. Rain	Lt. Rain	Lt. Rain	Overcast	Lt. Rain	Pt. Cloudy	Clear	Clear
	Reservoir Elevation (ft)	1130.0	1130.0	1130.0	1130.2	1130.0	1130.2	1130.1	1130.1
	Substrate##	Rubble/Gravel/ Pulpy Peat	Rubble/Gravel/ Pulpy Peat	Gravel/Sand/ Pulpy Peat	Rubble/Gravel/ Pulpy Peat	Clay/Silt/ Pulpy Peat	Clay/ Pulpy Peat	Clay/ Silt	Clay/ Silt
Jun	Date	23 Jun	23 Jun	23 Jun	23 Jun	23 Jun	23 Jun	23 Jun	23 Jun
	Time	1515	1430	1340	1310	1235	1150	1110	1020
	Air Temperature (C)	25.0	27.0	25.0	28.0	26.0	23.0	25.0	25.0
	Surface Water Temperature (C)	22.0	22.0	22.0	22.0	22.0	19.0	20.0	20.0
	Secchi Disc Transparency (m)	*	2.0	*	*	*	*	3.5	3.5
	Euphotic Zone (m)	#	#	#	#	#	#	#	DNC@
	Gradient	Moderate	Steep	Steep	Steep	Slight	Slight	Slight	Slight
	Weather	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy
	Reservoir Elevation (ft)	1130.0	1130.0	1130.0	1130.0	1130.0	1130.0	1130.0	1130.0
	Substrate	Rubble/ Gravel	Rubble/Boulders/ Fibrous Peat	Sand/ Gravel	Rubble/Gravel/ Pulpy Peat	Clay/ Pulpy Peat	Clay/ Pulpy Peat	Clay	Clay
Aug	Date	15 Aug	15 Aug	15 Aug	15 Aug	15 Aug	15 Aug	15 Aug	15 Aug
	Time	1610	1515	1010	1130	1435	1350	1305	1205
	Air Temperature (C)	28.0	29.5	28.0	29.0	29.0	28.0	28.5	29.0
	Surface Water Temperature (C)	28.5	26.5	24.0	26.0	30.0	27.0	25.0	26.5
	Secchi Disc Transparency (m)	*	2.0	*	*	*	2.1	2.7	3.0
	Euphotic Zone (m)	#	#	#	#	#	#	#	7.7
	Gradient	Steep	Slight	Steep	Steep	Slight	Slight	Slight	Steep
	Weather	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
	Reservoir Elevation (ft)	1110.7	1110.7	1110.7	1110.7	1110.7	1110.7	1110.7	1110.7
	Substrate	Gravel/Sand/ Pulpy Peat	Pulpy Peat/ Silt/Clay	Gravel/Sand/ Pulpy Peat	Rubble/Gravel/ Sand	Clay/ Silt	Clay/ Silt	Clay/ Silt	Rubble/Gravel/ Silt
Oct	Date	3 Oct	3 Oct	3 Oct	3 Oct	3 Oct	3 Oct	3 Oct	3 Oct
	Time	1105	1140	1210	1225	1300	1500	1415	1330
	Air Temperature (C)	18.0	17.0	17.0	16.0	18.0	19.0	18.0	18.0
	Surface Water Temperature (C)	15.0	14.0	15.0	15.0	16.0	16.0	15.0	15.0
	Secchi Disc Transparency (m)	*	2.2	*	*	*	2.4	2.5	2.9
	Euphotic Zone (m)	#	#	#	#	#	#	4.8	5.6
	Gradient	Slight	Slight	Steep	Steep	Slight	Slight	Steep	Steep
	Weather	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
	Reservoir Elevation (ft)	1099.3	1099.3	1099.3	1099.3	1099.3	1099.3	1099.3	1099.3
	Substrate	Clay	Clay/Silt/ Pulpy Peat	Sand/ Gravel	Sand/ Gravel	Clay	Clay	Silt	Clay/ Silt

* Secchi disc transparency (m) greater than station depth.
** Euphotic zone = depth of 1% surface illumination (APHA 1976).
\# Euphotic zone (m) greater than station depth.
Roelofs 1944.
@ DNC = data not collected.

Appendix 49. Physicochemical measurements taken in May, June, August, and September 1978 at five stations on Lower B-G.

Elevation (ft)		870	860			850
$\bar{x}$ % Exposure		24.4	0.1			0.0
Station		23	24	25	26	41
May	Date	9 May	7 May	7 May	7 May	7 May
	Time	1135	1250	1115	1330	1210
	Air Temperature (C)	21.0	16.0	17.0	16.5	15.0
	Water Temperature (C)	8.8	9.0	9.0	9.0	9.0
	Secchi Disc Transparency (m)	0.5	0.7	1.4	0.7	0.8
	Euphotic Zone (m)*	**	1.9	**	2.0	2.1
	Weather	Pt. Cloudy	Pt. Cloudy	Overcast	Pt. Cloudy	Pt. Cloudy
Jun	Date	25 Jun	25 Jun	25 Jun	25 Jun	25 Jun
	Time	0955	1040	1320	1230	1130
	Air Temperature (C)	25.0	26.0	25.5	28.0	27.0
	Water Temperature (C)	20.0	20.0	22.0	20.0	20.0
	Secchi Disc Transparency (m)	0.6	1.8	1.5	2.0	1.9
	Euphotic Zone (m)	**	**	**	**	**
	Weather	Clear	Clear	Pt. Cloudy	Pt. Cloudy	Clear
Aug	Date	13 Aug	13 Aug	13 Aug	13 Aug	13 Aug
	Time	1030	1120	1425	1330	1230
	Air Temperature (C)	28.0	25.0	28.5	30.0	29.0
	Water Temperature (C)	24.0	24.0	24.0	24.0	23.5
	Secchi Disc Transparency (m)	***	2.5	2.0	2.5	2.2
	Euphotic Zone (m)	**	3.7	3.7	3.7	5.8
	Weather	Overcast	Overcast	Pt. Cloudy	Pt. Cloudy	Overcast
Sep	Date	28 Sep	28 Sep	28 Sep	28 Sep	28 Sep
	Time	1145	1225	1440	1400	1300
	Air Temperature (C)	15.0	17.0	19.0	18.0	19.0
	Water Temperature (C)	17.0	17.0	16.0	16.0	17.0
	Secchi Disc Transparency (m)	***	1.2	1.1	1.3	1.2
	Euphotic Zone (m)	**	*	*	4.4	5.2
	Weather	Pt. Cloudy	Pt. Cloudy	Clear	Pt. Cloudy	Pt. Cloudy

* Euphotic zone = depth of 1% surface illumination (APHA 1976).
** Euphotic zone (m) greater than station depth.
*** Secchi disc transparency (m) greater than station depth.

Appendix 50. Physicochemical measurements taken in May, June, August, and October 1978 at five stations on Upper B-G.

Elevation (ft)		1980	1970			1960
$\bar{x}$ % Exposure		6.2	0.1			0.0
Station		29	30	31	32	43
May	Date	11 May	11 May	11 May	11 May	11 May
	Time	1130	1220	1415	1510	1300
	Air Temperature (C)	17.5	18.0	18.0	18.0	17.5
	Water Temperature (C)	10.0	10.0	13.0	13.0	11.0
	Secchi Disc Transparency (m)	0.5	0.5	0.5	0.5	0.5
	Euphotic Zone (m)*	1.6	1.5	1.5	1.5	1.5
	Weather	Clear	Clear	Clear	Clear	Clear
Jun	Date	29 Jun	29 Jun	29 Jun	29 Jun	29 Jun
	Time	1100	1140	1315	1410	1225
	Air Temperature (C)	23.0	22.0	22.0	23.0	21.0
	Water Temperature (C)	21.0	21.0	21.0	20.0	21.0
	Secchi Disc Transparency (m)	1.2	1.3	1.0	1.3	1.3
	Euphotic Zone (m)	4.8	5.2	4.1	4.9	5.3
	Weather	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy
Aug	Date	17 Aug	17 Aug	17 Aug	17 Aug	17 Aug
	Time	1015	1105	1240	1330	1150
	Air Temperature (C)	26.5	26.5	26.0	26.0	25.0
	Water Temperature (C)	23.5	23.5	24.0	24.0	23.5
	Secchi Disc Transparency (m)	1.8	2.3	2.3	2.3	2.3
	Euphotic Zone (m)	4.6	5.8	5.1	5.1	8.1
	Weather	Pt. Cloudy	Overcast	Overcast	Overcast	Overcast
Oct	Date	5 Oct	5 Oct	5 Oct	5 Oct	5 Oct
	Time	1140	1200	1315	1400	1245
	Air Temperature (C)	22.0	21.0	23.0	23.0	21.0
	Water Temperature (C)	16.0	16.0	16.0	16.0	16.0
	Secchi Disc Transparency (m)	1.8	2.6	1.8	1.8	2.5
	Euphotic Zone (m)	**	5.1	4.8	4.1	5.3
	Weather	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy	Pt. Cloudy

* Euphotic zone = depth of 1% surface illumination (APHA 1976).
** Euphotic zone (m) greater than station depth.

Section Leader:
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WATER QUALITY

Introduction

Eight physical and chemical water quality parameters (turbidity, suspended residue, Secchi disc transparency, depth of euphotic zone, settleable solids, air temperature, water temperature, and dissolved oxygen) important to raw water supply and aquatic life were measured by IA from March through December 1978. Water quality data were collected at three stations each on Lower and Upper B-G, five stations on Schoharie Reservoir, three stations on Schoharie Creek, two stations on tributaries of Schoharie Reservoir, one station on a tributary of Lower B-G, the Shandaken Tunnel intake (STI), the STO, six stations on Esopus Creek, and three stations on tributaries of Esopus Creek.

Materials and Methods

Description and location of all water quality stations are given in Table 157 and shown on Maps 23-26. Station 25 (Manor Kill) was relocated 50 ft upstream from 30 August through 27 September because of a construction-related Town of Gilboa stream diversion. Time period sampled, frequency of sampling, and location of sample collection at each station are outlined in Table 158. Time of day samples were collected at each station depended upon personnel availability, weather conditions, and equipment reliability (Table 159).

Procedures used for water quality determinations are described in Table 160. APHA (1976) and EPA (1974) recommendations for sample analysis, preservation, handling time prior to analysis, and minimum sample volume were met. The 10-ml volume remaining after gravimetric separation of samples taken for settleable solids analysis was filtered through a glass fiber filter (Gelman type A-E, 47 mm), rather than evaporated to dryness in a crucible, before drying for 24 hours at 104±1 C (APHA 1976).

Field thermometers were calibrated against a National Bureau of Standards certified thermometer (Fisher 75A-446 NBS 76). Thermistor thermometers (YSI Model 57) were read to the nearest tenth of a degree (C); seven-day recording thermometers (Partlow Models RFT and RFHTT) were read to the nearest half degree (C); and mercury hand-held (Taylor Model 21431), digital (IMC Model 2200), and minimum-maximum (Taylor Model 5458C) thermometers were read to the nearest degree (C). Partlow seven-day recording thermometers were calibrated against field thermometers daily. On days when calibration greater than 1 C was required, the data were not reported but were noted as "recorder malfunction" (RM). Mechanical failure or vandalism was also noted as RM.

Daily elevation and rainfall data in Lower and Upper B-G were provided by Mr. J. M. Collyer, Resident Manager of the Blenheim-Gilboa Pumped Storage Project. Daily elevation at Schoharie Reservoir, discharge through the Shandaken Tunnel, and rainfall data at Schoharie Reservoir and Ashokan Reservoir were provided by the New York City Department of Water Resources. Daily, monthly, and yearly mean discharge data at the United States Geological Survey (USGS) gaging stations on Schoharie Creek at Prattsville, Gilboa, and North Blenheim; the Mine Kill near North Blenheim; and Esopus Creek at Shandaken and Coldbrook prior to October 1977 are published in USGS annual reports (Maps 23-26). Data beyond September 1977 are considered provisional and are subject to revision.

Results and Discussion

Lower B-G (stations 13, 14, and 34 [Partlow]), Upper B-G (stations 16, 17, and 50 [Partlow]), and Schoharie Reservoir (stations 26-28 and 30)

Turbidity in Lower and Upper B-G was similar among stations and was generally similar or increased slightly with depth (Table 161). Surface values

ranged from 1.4 to 30 NTU and were greatest during April and May. Bottom values ranged from 1.8 to 82 NTU; occasional instances of high turbidity at the bottom may be attributed to disruption of the sediments by the water sampler. In Schoharie Reservoir turbidity was generally similar among stations, except at station 26 where from May through mid-September values were slightly higher than at stations 27, 28, and 30 (Table 162). Except at station 26, turbidity generally increased with depth; surface values ranged from 1.2 to 25 NTU.

Suspended residue in Lower and Upper B-G was similar among stations and generally increased with depth (Table 163). Surface values ranged from 0.7 to 20.0 mg/l and were greatest during April and May. In Schoharie Reservoir suspended residue was slightly greater at station 27 than at station 30 and generally increased with depth at both stations (Table 164). Surface values ranged from ND (not detectable) to 7.7 mg/l.

Secchi disc transparency in Lower and Upper B-G ranged from 37 to 335 cm (Table 165, Fig. 13). Yearly mean values were similar among stations 13, 16, and 17; yearly mean value was slightly lower at station 14 (less transparent) because of water turbulence keeping particles in suspension. In Schoharie Reservoir transparency ranged from 27 to 630 cm (Fig. 14). Yearly mean values were similar among stations 27, 28, and 30; yearly mean value at station 26 was lowest. Depth of euphotic zone was strongly correlated with Secchi disc transparency ($r = 0.905 \pm 0.346$ with 95% confidence; significantly different from zero with $\alpha = 0.0005$) and ranged from 0.9 to 7.2 m in Lower and Upper B-G and from 0.8 to 9.5 m in Schoharie Reservoir (Table 166).

Air temperature at Lower and Upper B-G and Schoharie Reservoir ranged from 3 to 33 C and was dependent upon weather conditions and time of sampling (Table 167). Water temperature in Lower B-G was generally homeothermous at station 14

and decreased slightly with depth at station 13 (Table 168). Values in Upper B-G decreased with depth, and ephemeral thermoclines were present from late June through mid-August. Surface values ranged from 2.0 to 25.2 C in Lower B-G and from 3.2 to 24.0 C in Upper B-G. Thermal stratification occurred at all stations in Schoharie Reservoir during much of June and July; thermoclines persisted at stations 28 and 30 until October (Table 169). Surface values ranged from 1.3 to 25.0 C.

Daily water temperature in Lower (station 34) and Upper (station 50) B-G showed little diurnal fluctuation and was similar between stations (Table 170). Values exceeded 19 C on 79 of 141 days (56.0%) and 82 of 137 days (59.9%) recorded in Lower and Upper B-G, respectively.

Dissolved oxygen concentration in Lower and Upper B-G was similar among stations and was generally similar or decreased slightly with depth (Table 171). Surface values ranged from 7.2 to 14.6 ppm. In Schoharie Reservoir dissolved oxygen concentration was similar among stations and was similar or decreased with depth during the spring and fall (Table 172). From early June through early September values at stations 26 and 27 generally decreased with depth. At stations with distinct thermoclines (stations 28 and 30) values were highest at the surface and directly below the thermocline, then decreased with depth in the epilimnion and hypolimnion. Ruttner (1968) defines this type of oxygen stratification as oxygen "minima" in the thermocline (heterograde oxygen curve) caused by accumulation of oxidizable materials (respiring and decomposing plankton) in and above the thermocline and the presence of the thermocline below the depth of effective photosynthesis. The greater density of the cold hypolimnic waters acts as a barrier and restricts oxidizable materials, which are able to settle through the warmer and less dense epilimnion, from entering.

Daily elevation fluctuation in Lower B-G ranged from 0.0 to 31.5 ft ($\bar{x}$ = 14.4) and in Upper B-G from 0.0 to 26.5 ft (12.1) (Table 173). Weekly elevation fluctuation ranged from 19.9 to 37.1 ft ($\bar{x}$ = 30.0) in Lower B-G and from 14.3 to 34.2 ft (24.8) in Upper B-G (Table 174). Mean weekly elevation fluctuation was greater in 1978 than in 1977 ($\bar{x}$ = 26.7 ft and 22.3 ft in Lower and Upper B-G, respectively) (Culp and Lechel 1978). Schoharie Reservoir elevation varied 40.93 ft, from 1133.48 ft on 9 January to 1092.55 ft on 14 October (Fig. 15).

Lower B-G vs Schoharie Reservoir (station 34 vs station 33, station 14 vs station 27, and station 13 vs station 28)

From March through May turbidity was generally lower in Schoharie Reservoir (station 33) than in Lower B-G (station 34) and was similar thereafter (Table 175, Fig. 16). Mean turbidity during the sampling period was greater at station 34 ($\bar{x}$ = 8.3 NTU, 1.5-35) than at station 33 (5.4, 1.5-27). Secchi disc transparency values were generally greater and showed more temporal fluctuation at stations 27 and 28 than at stations 13 and 14 (Fig. 17). Air temperature at stations 33 (range: -4 to 29 C) and 34 (-2 to 32) depended upon weather conditions and time of sampling (Table 176). Surface water temperature was slightly higher at station 33 ($\bar{x}$ = 15 C, 0-28) than at station 34 (14, 1-24) (Table 177, Fig. 18).

Schoharie Creek (stations 1, 2, and 4), Tributaries of Schoharie Reservoir (stations 24 and 25), and a Tributary of Lower B-G (station MK)

Turbidity ranged from 0.43 to 88 NTU (Table 178). From mid-July through December the greatest turbidity values were generally recorded after periods of excessive rainfall (≥1.27 cm in a 24-hour period). Values were generally highest at station 4 and lowest at station 25. Suspended residue ranged from

ND at stations 4 and 25 to 953.6 mg/l at station 24, and from mid-July through October the greatest values were recorded after excessive rainfall (Table 179). Yearly mean values of samples taken from mid-March through December were greatest at stations 24 ($\bar{x}$ = 25.0 mg/l), 25 (19.2), and 1 (14.6) and least at stations 2 (5.1), MK (7.3), and 4 (8.0).

Settleable solids ranged from ND at all stations to 201.3 mg/l at station 24 (Table 180). Values were strongly correlated with amount of rainfall at stations 1, 24, and 25 (r = 0.571, 0.501, and 0.434, respectively, ± 0.280 with 95% confidence; significantly different from zero with α = 0.05) but not at stations 2 and 4 (r = 0.179 and 0.216, respectively, ± 0.280 with 95% confidence; not significantly different from zero with α = 0.05).

Air temperature ranged from -6 to 30 C and was dependent upon weather conditions and time of sampling (Table 181).

Water temperature ranged from 0 to 25 C and varied among stations as much as 8 C on a given date (24 C at station 1 vs 16 at station MK on 23 August) (Table 182). Yearly mean values ranged from 14 C at stations 1, 24, 2, and 4 to 10 C at station MK. The lower value at station MK may be the result of a smaller number of samples (no samples collected after excessive rainfall). Minimum and maximum water temperature ranged from 3 to 32 C from 17 May through 20 September and varied as much as 23 C between 12 and 19 July at station 25 and between 13 and 20 September at station 4 (Table 183). Maximum weekly water temperature was generally greatest at station 4. Daily water temperature at station 1 increased steadily from 11 May to a high of 29.5 C on 23 July (Table 184). Daily temperature varied as much as 6 C on 13 and 18 June and 2 July and exceeded 19 C on 89 of 132 days (67.4%) recorded.

Dissolved oxygen concentration was slightly lower at stations 1, 24,

and 25 than at stations 2 and 4 from March through May and was generally similar among stations from June through December (Table 185). Values ranged from 7.4 to 16.7 ppm.

Daily discharge (cfs) at the Prattsville USGS gaging station in 1978 was greatest in January ($\bar{x}$ = 2210, 560-13,000) and least in September (94.6, 28-598) (Table 186). During 1977 and 1976 daily discharge (cfs) was highest in March ($\bar{x}$ = 2296, 480-10,000) and December (1123, 150-4740), respectively, and lowest in July (44.8, 30-69) and September (75.0, 38-235), respectively. Of all years from 1965 through 1978, mean yearly discharge (cfs) was highest in 1977 ($\bar{x}$ = 827, 23-11,700), in part because of abnormally high spring runoff and heavy rainfall during the latter part of that year.

Discharge at the Gilboa USGS gaging station was dependent upon flow over the Gilboa Dam. Mean monthly discharge from January 1976 through September 1978 varied from 0.041 (August 1976) to 2479 cfs (March 1977) (Table 187).

At the Mine Kill USGS gaging station mean monthly discharge from January 1976 through September 1978 varied from 2.40 (August 1975) to 126 cfs (March 1977) (Table 188).

Discharge at the North Blenheim USGS gaging station was dependent upon flow through the Lower B-G spillway. Mean monthly discharge from January 1971 through November 1978 varied from 0.15 (October 1972) to 2444 cfs (March 1977) (Table 189).

Esopus Creek (stations 21, 35, 36, 19, 31, and 37), the STI (station 32), the STO (station 20), and Tributaries of Esopus Creek (stations 38-40)

Turbidity ranged from 0.20 to 80 NTU and was generally greatest at stations 32, 20, and 39 and lowest at stations 21 and 40 (Table 190). From mid-July through December mean values taken after excessive rainfall were

higher than those taken during complete water quality sampling at Esopus Creek stations and lower at stations 32 and 20.

Suspended residue ranged from ND at stations 21, 19, 38, 40, and 37 to 50.5 mg/l at station 32; yearly mean values were highest at stations 32 (9.8) and 39 (9.1) and lowest at stations 21 (1.9) and 40 (2.0) (Table 191). From mid-July through October mean values taken after excessive rainfall were higher than those taken during complete water quality sampling at Esopus Creek stations and lower at stations 32 and 20.

Settleable solids ranged from ND at stations 21, 20, 19, 31, and 37 to 61.6 mg/l at station 37; yearly mean values were highest at stations 31 (3.3) and 37 (3.1) and lowest at stations 20 (0.6) and 21 (1.3) (Table 192). Data were strongly correlated with amount of rainfall during the previous 24-hour period at stations 21, 19, 31, and 37 ($r = 0.470$, 0.422, 0.456, and 0.433, respectively, $\pm$ 0.280 with 95% confidence; significantly different from zero with $\alpha = 0.05$) but not at stations 32 and 20 ($r = -0.103 \pm 0.213$ and $r = -0.093 \pm 0.204$, respectively, with 95% confidence; not significantly different from zero with $\alpha = 0.05$).

Air temperature ranged from -4 to 30 C and was dependent upon weather conditions and time of sampling (Table 193).

Water temperature ranged from 0 to 23 C and values above the STO were generally similar to or slightly warmer than below the STO from 13 March through 21 August and similar or slightly cooler thereafter (Table 194). Instantaneous water temperature above (station 35) and below (station 36) the STO varied as much as 9 C on 21 and 28 July, ranging from 22 C at station 35 to 13 C at station 36 on both dates. When the Shandaken Tunnel was closed or open, yearly mean, minimum, and maximum values at station 21 were similar to those at stations 19, 31, and 37.

Minimum and maximum water temperatures ranged from 5 to 30 C from 31 May through 20 September and varied as much as 20 C (range: 5-25) in a weekly interval (28 Jun-5 Jul) at station 40 (Table 195). Daily water temperature above the STO (station 35) varied as much as 8.0 C (range: 13.0-21.0), on 12 July (Table 196). Daily changes in water temperature at the STO (station 20) were generally small; at downstream stations 36, 19, and 37 daily changes were less when the Shandaken Tunnel was open than when closed. Maximum daily water temperature fluctuation (C) below the STO with the Shandaken Tunnel closed was 9.0 (9.5-18.5) on 6 June at station 19 and with the Shandaken Tunnel open was 7.0 (11.5-18.5) on 13 July at station 37. With the Shandaken Tunnel closed, mean daily water temperature was generally similar among stations or increased slightly with distance downstream. With the Shandaken Tunnel open, values decreased from station 35 to station 20, then increased with distance downstream until 23 August; thereafter, values increased from station 35 to station 20 and were generally similar downstream to those at station 20. Temperatures exceeded 19 C on 63 of 119 (52.9%), 25 of 81 (30.9%), 32 of 122 (26.2%), 42 of 112 (37.5%), and 64 of 117 (54.7%) days recorded at stations 35, 20, 36, 19, and 37, respectively.

Dissolved oxygen concentration ranged from 8.5 to 16.3 ppm; yearly mean value was highest at station 20 (12.6) and ranged from 11.2 to 10.8 at remaining stations (Table 197).

Mean monthly discharge (cfs) at the Shandaken USGS gaging station from January 1975 through December 1978 (except October 1978) varied from 13.3 (August 1977) to 553 (March 1977) (Table 198).

Mean monthly discharge from the Shandaken Tunnel at Allaben was greatest in July during 1978 (374 cfs) and in October during 1977 (547) (Table 199). The Shandaken Tunnel was closed for repair in 1978 from 14 through 25

September and from 16 October through 31 December.

Yearly discharge at the Coldbrook USGS gaging station in 1978 ($\bar{x}$ = 634 cfs, 25-11,800) was generally less than in 1977 (798, 113-10,800) and 1976 (701, 99-12,000) (Table 200).

Summary

Lower and Upper B-G

1. Turbidity and suspended residue were similar among stations and were similar or increased slightly with depth.

2. Secchi disc transparency was slightly lower (less transparent) at station 14 than at stations 13, 16, and 17. Depth of euphotic zone varied directly with Secchi disc transparency.

3. Water temperature decreased slightly with depth or was homeothermous in Lower B-G and decreased with depth in Upper B-G; it showed little diurnal fluctuation in both reservoirs.

4. Dissolved oxygen concentration was similar among stations and was similar or decreased slightly with depth.

5. Daily and weekly elevation fluctuations were greater in Lower B-G than in Upper B-G.

Schoharie Reservoir

6. Turbidity was greater at station 26 than at other stations from May through mid-September and was similar among stations during spring and fall. Except at station 26, turbidity generally increased with depth.

7. Suspended residue was slightly greater at station 27 than at station 30 and generally increased with depth at both stations.

8. Secchi disc transparency was generally lowest at station 26. Depth of euphotic zone varied directly with Secchi disc transparency.

9. Thermal stratification occurred at all stations; oxygen stratification (heterograde oxygen curve) occurred at stations 28 and 30.

10. Elevation varied about 41 ft between January and October.

Lower B-G vs Schoharie Reservoir

11. Turbidity in Lower B-G (station 34) was similar to or greater than that in Schoharie Reservoir (station 33).

12. Secchi disc transparency was generally greater and more variable in Schoharie Reservoir (stations 27 and 28) than in Lower B-G (stations 13 and 14).

13. Surface water temperature was slightly higher in Schoharie Reservoir (station 33) than in Lower B-G (station 34).

Schoharie Creek, Tributaries of Schoharie Reservoir, and a Tributary of Lower B-G

14. Turbidity was greatest at station 4 and least at station 25.

15. Suspended residue was generally greatest at station 24 and least at station 2.

16. Settleable solids values were generally greater after excessive rainfall at stations 1, 24, and 25 but not at stations 2 and 4.

17. Water temperature varied among stations and was dependent upon time of sampling and weather conditions.

18. Daily water temperature varied as much as 6 C at station 1, where it reached a maximum of 29.5 C on 23 July.

19. Dissolved oxgyen concentration was greatest at stations 2 and 4 from March through May and was similar among stations thereafter.

20. Of all years from 1965 through 1978, mean yearly discharge

in Schoharie Creek at the Prattsville USGS gaging station was highest in 1977, in part because of abnormally high spring runoff and heavy rainfall during the latter part of that year.

21. Discharges at the Gilboa and North Blenheim USGS gaging stations were dependent upon flows over the Gilboa Dam and through the Lower B-G spillway, respectively.

Esopus Creek, the STI, the STO, and Tributaries of Esopus Creek

22. Turbidity and suspended residue were generally greatest at stations 32 and 39 and least at stations 21 and 40.

23. Settleable solids were greatest at stations 31 and 37 and least at stations 20 and 21; values at Esopus Creek stations generally increased after excessive rainfall but those at stations 32 and 20 did not.

24. Water temperature above the STO was generally similar to or slightly higher than below the STO from March through late August and similar or slightly lower thereafter.

25. When the Shandaken Tunnel was closed or open, yearly mean water temperature and range at station 21 were similar to those at stations 19, 31, and 37.

26. Weekly water temperature varied as much as 20 C at station 40 from 28 June through 5 July.

27. Daily water temperature above the STO (station 35) varied as much as 8.0 C (13.0-21.0) on 12 July; daily fluctuations at the STO (station 20) were generally small and at downstream stations 36, 19, and 37 were less when the Shandaken Tunnel was open than when closed. Daily water temperature below the STO with the Shandaken Tunnel closed varied as much as 9.0 C (9.5-18.5) on 6 June at station 19 and with the Shandaken Tunnel open as much as 7.0 C

(11.5-18.5) on 13 July at station 37.

28. Dissolved oxygen concentration was generally highest at station 20.

29. Mean monthly discharge at the Shandaken USGS gaging station from 1975 through 1978 (except October 1978) was lowest in August 1977 and highest in March 1977.

30. Discharge through the Shandaken Tunnel was greatest during 1978 in July and during 1977 in October; the Shandaken Tunnel was closed for repair from 14 through 25 September and from 16 October through 31 December 1978.

31. Mean yearly discharge at the Coldbrook USGS gaging station was generally less in 1978 than in 1977 and 1976.

Table 157. Description of water quality stations sampled during 1978 in Lower and Upper B-G, Schoharie Reservoir, Schoharie Creek, tributaries of Schoharie Reservoir, a tributary of Lower B-G, Esopus Creek, the Shandaken Tunnel intake (STI), the Shandaken Tunnel outlet (STO), and tributaries of Esopus Creek.

Station		Description
13	Lower B-G	Located on the north end of the reservoir 200 ft from the spillway and 80 ft from the west shore. The west shore has a rock cliff of about 10 ft with a steep, grass-covered slope above. Depth varies because of pumped storage operation and is 55 ft at reservoir elevation 875 ft.
14	Lower B-G	Located 300 ft in front of the powerhouse along the east shore of the reservoir. The east shore is predominantly rocks and boulders, with sparse vegetation. Depth is 30 ft at reservoir elevation 875 ft.
16	Upper B-G	Located 300 ft from the west shore bay of the reservoir near the manifold. The west shore consists of large boulders forming a dike, beyond which grasses occur. Depth is 70 ft at reservoir elevation 2000 ft.
50	Upper B-G	Floating platform located 400 ft from the west shore bay of the reservoir near the manifold. The west shore consists of large boulders forming a dike, beyond which grasses occur.
17	Upper B-G	Located 300 ft from the south shore bay of the reservoir. The south shore consists of large boulders and gravel forming a dike, beyond which grasses occur. Depth is 70 ft at reservoir elevation 2000 ft.
26	Schoharie Reservoir	Located 10 ft from the east shore and 1.1 mi downstream from the entrance of Schoharie Creek into Schoharie Reservoir. The bottom is sandy silt (Roelofs 1944). The depth is 46 ft at elevation 1130 ft. High rock ledges are on either side of the channel. Overhanging vegetation is conifers and hardwoods.
27	Schoharie Reservoir	Located 0.1 mi southeast of the Shandaken Tunnel intake. The bottom is sandy silt. The depth is 59 ft at elevation 1130 ft. Shoreline vegetation consists of conifers and hardwoods.
28	Schoharie Reservoir	Located 0.4 mi from the west shore, 0.9 mi south of the entrance of the Manor Kill into Schoharie Reservoir, and 0.3 mi from the east shore. The depth is 75 ft at elevation 1130 ft. The bottom is sandy silt. Shoreline vegetation is conifers and hardwoods.
30	Schoharie Reservoir	Located 0.2 mi northwest of the island and 0.5 mi southeast of the east end of Gilboa Dam. The depth is 112 ft at elevation 1130 ft. The bottom is sandy silt. The shoreline vegetation is conifers and hardwoods.
33	Schoharie Reservoir	Surface site off middle of deck at Shandaken Tunnel intake building.
34	Lower B-G	Surface site off middle of deck at B-G pump-generator house.
1	Schoharie Creek	Located along the west shore 0.2 mi upstream from Schoharie Reservoir, 110 ft upstream from the Prattsville iron bridge, and about 10 ft upstream from the USGS gaging station (installed in November 1902). The banks are steep and contain large pines and hardwoods, saplings, brush, and grasses. The bottom is boulders. The elevation is 1240 ft.
24	Bear Kill	Located along the south shore 25 ft upstream from Schoharie Reservoir at Hardenburgh Falls. The banks are flat with bedrock ledges and contain hardwoods and conifers. The bottom is bedrock. The Grand Gorge Sewage Treatment Plant is located 2.6 mi upstream. The elevation is 1140 ft.
25	Manor Kill	Located along the north shore 10 ft upstream from a wood and metal bridge east of West Conesville. Extensive farming upstream. The banks are relatively flat and contain shrubs, grasses, and some conifers. The bottom is gravel, large rubble, and boulders. The elevation is 1280 ft.
2	Schoharie Creek	Located along the west shore 0.4 mi downstream from the Gilboa Dam, 50 ft upstream from the Gilboa iron bridge, and 150 ft downstream from the USGS gaging station (installed in October 1975). The west bank is steep and heavily forested with mixed hardwoods. The east bank is a gradual incline heavily forested with mixed hardwoods, with some open areas of grass. The bottom is boulders. The elevation is 970 ft.
MK	Mine Kill	Located along the south shore 0.6 mi upstream from the mouth, 50 ft west of the bridge on Route 30, and 150 ft downstream from the USGS gaging station (installed in December 1974). The north bank is a gradual incline with hardwoods and conifers. The south bank is relatively flat with shrubs and grasses. The bottom is rubble. The elevation is 1050 ft.

Table 157 - (Continued).

Station		Description
4	Schoharie Creek	Located along the west shore near the USGS gaging station (installed in October 1970) about 0.8 mi downstream from the Lower B-G spillway. The east bank contains mixed hardwoods with a few conifers, brush, and grasses on a flat plain. The west bank is lined with hardwoods only near the shore. Behind the trees are grasses leading up to a blacktop road. The bottom is gravel. The elevation is 800 ft.
21	Esopus Creek	Located along the south shore 1.6 mi upstream from the Shandaken Tunnel outlet (STO) at bridge on Route 28. The south bank is steep with shrubs and grasses. The north bank is flat with some hardwoods. The bottom is rubble. The elevation is 1040 ft.
35	Esopus Creek	Located along the north shore 100 ft upstream from the STO. The south bank is gradual with mature deciduous trees. The north bank is steep with boulders. The bottom is gravel. The elevation is 980 ft.
32	Shandaken Tunnel Intake (STI)	Located along the west shore of Schoharie Reservoir on the border of Delaware and Schoharie Counties. The bottom and sides are brick. Water is drawn into the chamber at elevations 1050 and 1070 ft.
20	Shandaken Tunnel Outlet (STO)	Located along the north shore of Esopus Creek at Allaben, New York. The bottom and sides are brick. The south bank is flat with shrubs and grasses. The elevation is 980 ft.
36	Esopus Creek	Located along the north shore 120 ft downstream from the STO. The south bank is gradual with mature deciduous trees. The north bank is steep with boulders. The bottom is boulders and gravel. The elevation is 980 ft.
19	Esopus Creek	Located along the north shore 2.4 mi downstream from the STO. The banks are flat with shrubs and grasses. The bottom is rubble. The elevation is 900 ft.
38	Woodland Creek	Located along the east shore 200 ft upstream from Esopus Creek (immediately above Herdman Road bridge). The west bank is steep with rubble and shrubs and few hardwoods. The east bank is sloping with rubble. The bottom is rubble and gravel. The elevation is 860 ft.
39	Stony Clove Creek	Located along the east shore 165 ft upstream from the Phoenicia Main Street bridge (Ulster County Route 40) adjacent to Route 214 and 0.1 mi upstream from Esopus Creek. The west bank is steep and rubble-strewn with shrubs, hardwoods, and conifers. The east bank is sloping with hardwoods and shrubs. The bottom is rubble and gravel. The elevation is 820 ft.
31	Esopus Creek	Located along the south shore 7.6 mi downstream from the STO at Mount Pleasant, New York. The south bank is steep with boulders. The north bank is flat and has hardwoods and shrubs. The bottom is boulders and gravel. The elevation is 700 ft.
40	Beaver Kill	Located along the east shore immediately upstream from the bridge (Ulster County Route 40) and 330 ft upstream from Esopus Creek. The west bank is cement and rubble with shrubs and few hardwoods. The east bank is sloping (floodplain) with rubble and hardwoods and shrubs. The bottom is rubble and gravel. The elevation is 700 ft.
37	Esopus Creek	Located along the north shore 10.6 mi downstream from the STO at the USGS gaging station at Coldbrook (installed in January 1914). Both banks are steep with conifers and hardwoods. The bottom is rubble and gravel. The elevation is 640 ft.

Table 158. Location and sampling schedule for parameters measured in 1978 in Lower and Upper B-G (LBG and UBG), Schoharie Reservoir (SR), Schoharie Creek (SC), tributaries of SR, a tributary of LBG, Esopus Creek (EC), the Shandaken Tunnel intake (STI), the Shandaken Tunnel outlet (STO), and tributaries of EC.

	Parameter*	Period of Sampling	Sampling Frequency	Location Sample Collected
LBG, UBG, SR				
13, 14, 16, 17	TURB, SR	6 Apr-26 Oct	Weekly	Surface, mid-depth, bottom
26-28, 30	TURB	6 Apr-26 Oct	Weekly	2-m intervals
27, 30	SR	6 Apr-26 Oct	Weekly	2-m intervals
13, 14, 16, 17, 27, 30	TURB, SR	2 Nov-29 Dec	Semimonthly	Surface, mid-depth, bottom
26, 28	TURB	2 Nov-29 Dec	Semimonthly	Surface, mid-depth, bottom
13, 14, 16, 17, 26-28, 30	SD, EZ, AT	6 Apr-26 Oct	Weekly	Surface
13, 14, 16, 17, 26-28, 30	SD, EZ, AT	2 Nov-29 Dec	Semimonthly	Surface
13, 14, 16, 17, 26-28, 30	WT, DO	6 Apr-26 Oct	Weekly	2-m intervals
13, 14, 16, 17, 26-28, 30	WT, DO	2 Nov-29 Dec	Semimonthly	Surface, mid-depth, bottom
50	WT	18 May- 5 Oct	Continuous	22-ft depth
SR, LBG				
33, 34	TURB, AT, WT	13 Mar-29 Dec	2-5/wk	Surface
34	WT	11 May- 4 Oct	Continuous	Elevation 850 ft
SC, Tribs of SR, Trib of LBG				
1, 24, 25, 2, MK, 4	TURB, SR, AT, WT	15, 29 Mar; 14 Nov-29 Dec	Semimonthly	Flowing water, 15-cm depth
1, 24, 25, 2, MK, 4	TURB, SR, AT, WT	5 Apr-31 Oct	Weekly	Flowing water, 15-cm depth
1, 24, 25, 2, 4	TURB	15 Jul-21 Dec	≥1.27 cm rainfall in 24-hr period	Flowing water, 15-cm depth
1, 24, 25, 2, 4	SR	11 Jul-27 Oct	≥1.27 cm rainfall in 24-hr period	Flowing water, 15-cm depth
1, 24, 25, 2, 4	SS	15 Mar-29 Dec	Semimonthly, ≥1.27 cm rainfall in 24-hr period	Flowing water, 15-cm depth
1, 24, 25, 2, 4	AT, WT	11 Jul-21 Dec	≥1.27 cm rainfall in 24-hr period	Flowing water, 15-cm depth

* TURB = turbidity, SR = suspended residue, SD = Secchi disc transparency, EZ = depth of euphotic zone, AT = air temperature, WT = water temperature, DO = dissolved oxygen, SS = settleable solids.

** When UBG was thermally stratified (i.e., reduction in temperature ≥1 C per m), additional sample was collected at the thermocline.

Table 158 - (Continued).

Location	Parameter	Period of Sampling	Sampling Frequency	Location Sample Collected
1, 24, 25, 2, MK, 4	WT	24 May-20 Sep	Weekly, min-max	Flowing water, 15-cm depth
1	WT	11 May- 4 Oct	Continuous	Flowing water, 15-cm depth
1, 24, 25, 2, 4	DO	15, 29 Mar; 14 Nov-29 Dec	Semimonthly	Flowing water, 15-cm depth
1, 24, 25, 2, 4	DO	5 Apr-31 Oct	Weekly	Flowing water, 15-cm depth
EC, STI, STO, Tribs of EC				
21, 20, 19, 38, 39, 31, 40, 37	TURB, SR, AT, WT, DO	15, 29 Mar; 14 Nov-29 Dec	Semimonthly	Flowing water, 15-cm depth
21, 20, 19, 38, 39, 31, 40, 37	TURB, SR, AT, WT, DO	5 Apr-31 Oct	Weekly	Flowing water, 15-cm depth
32	TURB, SR, WT	15, 29 Mar; 14 Nov-29 Dec	Semimonthly	Surface
32	TURB, SR, WT	5 Apr-31 Oct	Weekly	Surface
21, 32, 20, 19, 31, 37	TURB	15 Jul-21 Dec	≥1.27 cm rainfall in 24-hr period	Flowing water, 15-cm depth
21, 32, 20, 19, 31, 37	SR	11 Jul-27 Oct	≥1.27 cm rainfall in 24-hr period	Flowing water, 15-cm depth
21, 32, 20, 19, 31, 37	SS	15 Mar-29 Dec	Semimonthly, ≥1.27 cm rainfall in 24-hr period	Flowing water, 15-cm depth
21, 20, 19, 31, 37	TURB, AT, WT	13 Mar-29 Dec	2-5/wk	Flowing water, 15-cm depth
32	TURB, WT	13 Mar-29 Dec	2-5/wk	Surface
35, 36	AT, WT	13 Mar-29 Dec	2-5/wk	Flowing water, 15-cm depth
21, 32, 20, 19, 31, 37	AT, WT	11 Jul-21 Dec	≥1.27 cm rainfall in 24-hr period	Flowing water, 15-cm depth
21, 35, 36, 19, 38, 39, 40, 31, 37	WT	7 Jun-20 Oct	Weekly, min-max	Flowing water, 15-cm depth
20, 37	AT, WT	11 May- 4 Oct	Continuous	Flowing water, 15-cm depth
35, 36, 19, 31	WT	11 May- 4 Oct	Continuous	Flowing water, 15-cm depth

Table 159. Time of day water quality samples were collected from March through December 1978 in Lower and Upper B-G, Schoharie Reservoir, tributaries of Schoharie Reservoir, Schoharie Creek, the Mine Kill, Esopus Creek, the Shandaken Tunnel intake, the Shandaken Tunnel outlet, and tributaries of Esopus Creek.

Station	Date																							
	Mar									Apr												May		
	13	15	17	20	22	24	27	29	31	3	5	6	7	10	12	14	17	19	20	21	26	28	1	3
13	-	-	-	-	-	-	-	-	-	-	-	1415	-	-	1025	-	-	1530	-	-	1410	-	-	1445
14	-	-	-	-	-	-	-	-	-	-	-	1445	-	-	1050	-	-	1545	-	-	1415	-	-	1500
16,50	-	-	-	-	-	-	-	-	-	-	-	ICE*	-	-	ICE	-	-	1410	-	-	1300	-	-	1320
17	-	-	-	-	-	-	-	-	-	-	-	ICE	-	-	ICE	-	-	1430	-	-	1320	-	-	1340
26	-	-	-	-	-	-	-	-	-	-	-	ICE	-	-	ICE	-	-	0950	-	-	0940	-	-	0930
27	-	-	-	-	-	-	-	-	-	-	-	ICE	-	-	ICE	-	-	1115	-	-	1000	-	-	0950
28	-	-	-	-	-	-	-	-	-	-	-	ICE	-	-	ICE	-	-	1145	-	-	1030	-	-	1015
30	-	-	-	-	-	-	-	-	-	-	-	ICE	-	-	ICE	-	-	1200	-	-	1115	-	-	1045
33	ICE	1000	1405	1305	1300	1225	ICE	1415	1050	1320	1305	-	1415	1345	1345	1400	1400	1015	-	1305	1155	1330	1430	1143
34	1055	1440	1055	1025	1030	1020	1335	0925	1250	1035	0945	-	1010	1040	1045	1105	1000	1545	-	1055	1410	1040	1330	1455
1	-	1025	-	-	-	-	1255	1010	-	-	1030	-	-	-	1020	-	-	1040	1110	-	1020	-	-	1005
24	-	0940	-	-	-	-	1045	1400	-	-	1300	-	-	-	1325	-	-	1400	1150	-	1340	-	-	1350
25	-	1415	-	-	-	-	1315	0950	-	-	1010	-	-	-	1005	-	-	1020	1050	-	1005	-	-	0950
2	-	1430	-	-	-	-	1325	0940	-	-	0955	-	-	-	0955	-	-	1005	1035	-	0950	-	-	0940
MK	-	1515	-	-	-	-	-	0900	-	-	0920	-	-	-	0925	-	-	0940	-	-	0920	-	-	0905
4	-	1455	-	-	-	-	1340	0910	-	-	1930	-	-	-	0940	-	-	0950	1015	-	0925	-	-	0920
21	1150	1105	1200	1110	1130	1100	1115	1120	1120	1125	1120	-	1122	1130	1100	1105	1130	1115	1650	1135	1130	1130	1135	1115
35	1142	1137	1142	1137	1137	1141	1137	1137	1133	1137	1137	-	1130	1137	1117	1115	1137	1123	-	1142	1137	1142	1142	1137
32	0800	0800	0800	0800	0800	0800	TC**	TC	TC	TC	TC	-	TC	TC	TC	TC	TC	TC	TC	TC	TC	0800	0800	0800
20	1140	1140	1140	1140	1140	1140	TC	TC	TC	TC	TC	-	TC	TC	TC	TC	TC	TC	TC	TC	TC	1140	1140	1140
36	1145	1135	1145	1135	1135	1143	1135	1135	1130	1135	1135	-	1133	1135	1115	1117	1135	1120	-	1140	1135	1145	1145	1135
19	1320	1200	1310	1145	1145	1110	1140	1200	1140	1200	1140	-	1141	1200	1130	1130	1150	1140	1700	1150	1150	1200	1155	1150
38	-	1215	-	-	-	-	-	1215	-	-	1150	-	-	-	1140	-	-	1125	-	-	1200	-	-	1200
39	-	1240	-	-	-	-	-	1230	-	-	1200	-	-	-	1150	-	-	1240	-	-	1210	-	-	1215
31	1335	1305	1340	1200	1155	1120	1150	1255	1145	1215	1210	-	1225	1210	1210	1215	1200	1310	1710	1200	1235	1225	1210	1240
40	-	1255	-	-	-	-	-	1245	-	-	1205	-	-	-	1200	-	-	1300	-	-	1230	-	-	1225
37	1347	1320	1354	1215	1205	1125	1200	1310	1155	1225	1220	-	1238	1215	1220	1230	1215	1315	1720	1205	1250	1240	1220	1250

* ICE = no samples taken because of unsafe ice conditions.
** TC = Shandaken Tunnel closed.
*** DNR = data not recorded.

Table 159 - (Continued).

Station	Date																							
	May											Jun												
	5	8	10	12	15	17	19	24	25	26	31	1	2	3	5	7	8	12	14	15	16	19	21	22
13	-	-	1500	-	-	1500	-	1515	-	-	-	1530	-	-	-	-	1500	-	-	-	1145	-	-	1510
14	-	-	1515	-	-	1515	-	1530	-	-	-	1550	-	-	-	-	1425	-	-	-	1155	-	-	1530
16,50	-	-	1340	-	-	1320	-	1345	-	-	-	1400	-	-	-	-	1325	-	-	-	1025	-	-	1340
17	-	-	1400	-	-	1330	-	1410	-	-	-	1440	-	-	-	-	1345	-	-	-	1045	-	-	1400
26	-	-	0945	-	-	0955	-	1010	-	-	-	0940	-	-	-	-	0945	-	-	1930	-	-	-	0930
27	-	-	1010	-	-	1010	-	1030	-	-	-	1015	-	-	-	-	1010	-	-	1025	-	-	-	0950
28	-	-	1040	-	-	1025	-	1110	-	-	-	1125	-	-	-	-	1035	-	-	1130	-	-	-	1040
30	-	-	1115	-	-	1100	-	1135	-	-	-	1200	-	-	-	-	1100	-	-	1400	-	-	-	1125
33	1535	1640	1215	1415	1350	1145	1520	1230	-	1410	1740	-	1750	-	1320	1540	-	1135	1605	-	0940	1350	1510	-
34	1050	1045	1530	1000	1100	1500	1105	1530	-	1110	1010	-	1440	-	1150	1005	-	1215	1005	-	1120	1020	1000	-
1	-	-	1440	-	1110	1525	-	1150	1600	-	1700	-	-	1100	-	1500	1215	-	1515	-	-	-	1440	-
24	-	-	1500	-	1150	1005	-	1450	1700	-	1720	-	-	1245	-	1525	1225	-	1550	-	-	-	1450	-
25	-	-	1050	-	1050	1550	-	1030	1610	-	1120	-	-	1050	-	1050	1015	-	1040	-	-	-	1040	-
2	-	-	1040	-	1035	0950	-	1015	1620	-	1040	-	-	1040	-	1040	1005	-	1025	-	-	-	1020	-
MK	-	-	0940	-	-	0915	-	0935	-	-	0910	-	-	-	-	0925	-	-	0930	-	-	-	0935	-
4	-	-	1000	-	1015	0930	-	0950	1635	-	0950	-	-	1025	-	0950	0950	-	0945	-	-	-	0945	-
21	1135	1155	1125	1120	1205	1125	1230	1130	1530	1210	1200	-	1135	1130	1125	1425	1055	1135	1125	-	1120	1125	1125	-
35	1142	1202	1142	1130	1212	1145	-	1205	-	1222	1240	-	1146	-	1135	1140	-	1140	1140	-	1135	1142	1142	-
32	0800	0800	TC	TC	TC	TC	TC	TC	TC	TC	TC	-	0800	0800	0800	TC	TC	TC	TC	-	0800	0800	0800	-
20	1140	1200	TC	TC	TC	TC	TC	TC	TC	TC	TC	-	1140	1140	1140	TC	TC	TC	TC	-	1143	1140	1140	-
36	1145	1208	1145	1135	1214	1150	-	1150	-	1220	1230	-	1143	-	1142	1145	-	1155	1145	-	1140	1135	1210	-
19	1150	1305	1150	1155	1225	1240	1255	1220	1520	1230	1315	-	1200	1145	1150	1225	1115	1215	1155	-	1155	1205	1240	-
38	-	-	1245	-	-	1255	-	1235	-	-	1400	-	-	-	-	1235	-	-	1220	-	-	-	1255	-
39	-	-	1255	-	-	1305	-	1250	-	-	1450	-	-	-	-	1250	-	-	1230	-	-	-	1305	-
31	1155	1320	1325	1300	1235	1400	1335	1325	1510	1255	1530	-	1230	1155	1207	1335	1125	1225	1305	-	1215	1230	1330	-
40	-	-	1315	-	-	1325	-	1305	-	-	1600	-	-	-	-	1320	-	-	1245	-	-	-	1320	-
37	1205	1335	1355	1315	1245	1425	1400	1340	1505	1310	1550	-	1250	1205	1222	1400	1135	1240	1315	-	1225	1240	1400	-

Table 159 - (Continued).

Station	Date																							
	Jun			Jul																				Aug
	26	28	29	3	4	5	6	7	10	11	12	13	14	15	17	19	20	21	24	26	27	28	31	1
13	-	-	1505	-	-	-	1430	-	-	-	-	1445	-	-	-	-	1515	-	-	-	1505	-	-	-
14	-	-	1520	-	-	-	1450	-	-	-	-	1500	-	-	-	-	1535	-	-	-	1515	-	-	-
16,50	-	-	1340	-	-	-	1315	-	-	-	-	1315	-	-	-	-	1320	-	-	-	1330	-	-	-
17	-	-	1400	-	-	-	1340	-	-	-	-	1345	-	-	-	-	1400	-	-	-	1355	-	-	-
26	-	-	1000	-	-	-	1000	-	-	-	-	1000	-	-	-	-	0935	-	-	-	1000	-	-	-
27	-	-	1035	-	-	-	1010	-	-	-	-	1030	-	-	-	-	1010	-	-	-	1025	-	-	-
28	-	-	1100	-	-	-	1030	-	-	-	-	1050	-	-	-	-	1030	-	-	-	1050	-	-	-
30	-	-	1130	-	-	-	1105	-	-	-	-	1110	-	-	-	-	1110	-	-	-	1120	-	-	-
33	1345	1500	-	1145	-	1500	-	1330	1415	-	1550	-	1425	-	1325	1625	-	1345	1425	0815	-	0815	0830	-
34	1055	1005	-	0830	-	1000	-	1045	1050	-	1000	-	1100	-	0925	1010	-	1045	1050	0955	-	1025	1055	-
1	-	1430	-	-	1500	1430	-	-	-	1320	1515	-	-	1115	-	1355	-	-	-	1540	-	1350	-	1115
24	-	1445	-	-	1150	1450	-	-	-	1335	1535	-	-	1050	-	1610	-	-	-	1555	-	1400	-	1130
25	-	1040	-	-	1515	1045	-	-	-	1125	1040	-	-	1030	-	1045	-	-	-	1045	-	1100	-	1055
2	-	1020	-	-	1135	1025	-	-	-	1110	1025	-	-	1015	-	1025	-	-	-	1010	-	1040	-	1035
MK	-	0935	-	-	-	0925	-	-	-	-	0925	-	-	-	-	0935	-	-	-	0920	-	-	-	-
4	-	0950	-	-	1115	0940	-	-	-	1055	0945	-	-	1005	-	0955	-	-	-	0940	-	1015	-	1015
21	1135	1125	-	1250	1240	1140	-	1125	1135	1155	1125	-	1215	1155	1120	1135	-	1130	1135	1120	-	1135	1155	1210
35	1142	1142	-	1300	-	1138	-	1138	1143	-	1143	-	1155	-	1138	1150	-	1143	1147	1143	-	1148	1215	-
32	0800	0800	-	1140	0920	0800	-	0800	0800	0830	0800	-	0800	0820	0800	0800	-	0800	0800	0800	-	0800	0830	0850
20	1140	1140	-	1446	1300	1140	-	1140	1140	1210	1140	-	1140	1200	1140	1140	-	1140	1140	1140	-	1145	1210	1230
36	1150	1150	-	1305	-	1145	-	1145	1152	-	1200	-	1205	-	1135	1200	-	1150	1155	1230	-	1200	1220	-
19	1220	1220	-	1320	1325	1225	-	1210	1208	1225	1235	-	1235	1220	1210	1245	-	1205	1210	1305	-	1220	1305	1250
38	-	1240	-	-	-	1240	-	-	-	-	1250	-	-	-	-	1315	-	-	-	1320	-	-	-	-
39	-	1300	-	-	-	1255	-	-	-	-	1305	-	-	-	-	1340	-	-	-	1345	-	-	-	-
31	1235	1325	-	1335	1345	1330	-	1225	1250	1240	1340	-	1250	1230	1225	1415	-	1215	1225	1415	-	1230	1320	1320
40	-	1315	-	-	-	1310	-	-	-	-	1330	-	-	-	-	1405	-	-	-	1400	-	-	-	-
37	1250	1350	-	1350	1410	1345	-	1235	1300	1345	1405	-	1305	1240	1235	1450	-	1225	1240	1440	-	1245	1330	1340

Table 159 - (Continued).

Station	Date																							
	Aug																					Sep		
	2	3	4	6	7	8	9	10	11	14	16	17	18	21	23	24	25	28	29	30	31	1	6	7
13	-	1500	-	-	-	-	-	1440	-	-	-	1510	-	-	-	1620	-	-	-	-	1615	-	-	1610
14	-	1525	-	-	-	-	-	1500	-	-	-	1520	-	-	-	1640	-	-	-	-	1640	-	-	1635
16,50	-	1330	-	-	-	-	-	1300	-	-	-	1330	-	-	-	1445	-	-	-	-	1430	-	-	1445
17	-	1400	-	-	-	-	-	1340	-	-	-	1355	-	-	-	1510	-	-	-	-	1500	-	-	1515
26	-	0940	-	-	-	-	-	0945	-	-	-	1015	-	-	-	1050	-	-	-	-	1040	-	-	1010
27	-	1010	-	-	-	-	-	1000	-	-	-	1040	-	-	-	1110	-	-	-	-	1100	-	-	1040
28	-	1050	-	-	-	-	-	1020	-	-	-	1100	-	-	-	1145	-	-	-	-	1130	-	-	1110
30	-	1130	-	-	-	-	-	1050	-	-	-	1120	-	-	-	1225	-	-	-	-	1200	-	-	1200
33	1115	-	0830	-	1230	-	1530	-	1055	1440	1200	-	1230	1345	1730	-	1440	1420	-	1535	-	1310	1550	-
34	1010	-	1030	-	1125	-	1010	-	1020	1100	1000	-	1130	1055	0930	-	0955	1445	-	0955	-	1400	0955	-
1	1115	-	1120	1300	-	1135	1100	-	-	-	1130	-	-	-	1645	-	1035	-	1130	1315	1040	1320	1530	-
24	1535	-	1105	1245	-	1200	1515	-	-	-	1215	-	-	-	1710	-	1430	-	1145	1530	1230	1230	1540	-
25	1050	-	1050	1240	-	1122	1040	-	-	-	1040	-	-	-	1035	-	1020	-	1120	1025	1030	1340	1030	-
2	1030	-	1040	1330	-	1110	1025	-	-	-	1025	-	-	-	1010	-	1010	-	1100	1010	1020	1350	1020	-
MK	0925	-	-	-	-	-	0930	-	-	-	0930	-	-	-	0840	-	-	-	-	0935	-	-	0925	-
4	0945	-	1020	1315	-	1100	0950	-	-	-	0945	-	-	-	0905	-	0945	-	1045	0945	1005	1430	0940	-
21	1155	-	1150	1425	1220	1130	1215	-	1135	1230	1120	-	1130	1135	1250	-	1130	1130	1225	1125	1110	1200	1130	-
35	1215	-	1205	-	1155	-	1142	-	1145	1143	1135	-	1142	1142	1200	-	1135	1142	-	1142	-	1142	1145	-
32	TC	-	0820	1230	0800	0800	0800	-	0800	0800	0800	-	0800	0800	0800	-	0800	0800	0800	0800	0800	0800	0800	-
20	TC	-	1200	1610	1150	1140	1140	-	1140	1140	1140	-	1140	1140	1140	-	1140	1140	1240	1140	1145	1140	1140	-
36	1225	-	1210	-	1200	-	1150	-	1155	1150	1155	-	1135	1145	1220	-	1150	1150	-	1150	-	1145	1155	-
19	1255	-	1250	1440	1230	1150	1250	-	1210	1245	1230	-	1155	1215	1315	-	1220	1220	1250	1235	1120	1135	1245	-
38	1320	-	-	-	-	-	1315	-	-	-	1015	-	-	-	1355	-	-	-	-	1255	-	-	1300	-
39	1340	-	-	-	-	-	1325	-	-	-	1030	-	-	-	1415	-	-	-	-	1320	-	-	1320	-
31	1415	-	1325	1455	1245	1200	1355	-	1245	1300	1255	-	1205	1230	1510	-	1235	1240	1305	1350	1125	1115	1400	-
40	1400	-	-	-	-	-	1345	-	-	-	1050	-	-	-	1445	-	-	-	-	1340	-	-	1345	-
37	1435	-	1340	1505	1300	1220	1415	-	1300	1315	1320	-	1215	1240	1545	-	1250	1255	1315	1410	1135	1105	1420	-

Table 159 - (Continued).

Station	Date																							
	Sep												Oct											
	8	11	13	14	18	19	20	21	25	27	28	29	4	5	6	11	12	13	14	17	19	20	24	26
13	-	-	-	1510	-	-	-	1535	-	-	1530	-	-	1410	-	-	1415	-	-	-	1435	-	-	1535
14	-	-	-	1520	-	-	-	1600	-	-	1545	-	-	1430	-	-	1450	-	-	-	1500	-	-	1555
16,50	-	-	-	1340	-	-	-	1410	-	-	1410	-	-	1235	-	-	1300	-	-	-	1325	-	-	1430
17	-	-	-	1412	-	-	-	1435	-	-	1440	-	-	1250	-	-	1320	-	-	-	1335	-	-	1445
26	-	-	-	1030	-	-	-	1040	-	-	1050	-	-	0935	-	-	0950	-	-	-	1010	-	-	1120
27	-	-	-	1050	-	-	-	1110	-	-	1110	-	-	0950	-	-	1020	-	-	-	1040	-	-	1140
28	-	-	-	1105	-	-	-	1130	-	-	1125	-	-	1010	-	-	1030	-	-	-	1100	-	-	1200
30	-	-	-	1135	-	-	-	1150	-	-	1145	-	-	1040	-	-	1100	-	-	-	1125	-	-	1230
33	1300	1350	1545	-	1325	-	1620	-	1430	1010	-	1340	1350	-	1410	1400	-	1110	-	1440	-	1200	1530	-
34	1030	1100	1010	-	1050	-	1010	-	1215	0920	-	1410	1010	-	1325	0955	-	1545	-	1110	-	1240	1105	-
1	-	-	1515	-	-	1015	1545	-	-	1040	-	-	1050	-	1250	1040	-	-	1250	1145	-	-	1200	-
24	-	-	1530	-	-	1130	1610	-	-	1025	-	-	1340	-	1425	1345	-	-	0950	1425	-	-	1515	-
25	-	-	1040	-	-	1005	1045	-	-	0950	-	-	1035	-	1305	1020	-	-	1230	1135	-	-	1140	-
2	-	-	1030	-	-	0955	1035	-	-	0940	-	-	1025	-	1315	1005	-	-	1215	1125	-	-	1125	-
MK	-	-	0945	-	-	-	0940	-	-	0900	-	-	0950	-	-	0930	-	-	-	1050	-	-	1030	-
4	-	-	0955	-	-	0940	0950	-	-	0910	-	-	1000	-	1335	0940	-	-	1200	1100	-	-	1045	-
21	1125	1130	1120	-	1135	1040	1130	-	1255	1110	-	1135	1120	-	1135	1115	-	1625	1315	1215	-	1000	1240	-
35	1142	1145	1142	-	1140	-	1135	-	1305	1145	-	1141	1138	-	1142	1135	-	1442	-	1220	-	1005	1250	-
32	0800	0800	0800	-	TC	TC	TC	-	TC	0800	-	0800	0800	-	0800	DNR***	-	1100	0940	TC	-	TC	TC	-
20	1140	1140	1140	-	TC	TC	TC	-	TC	1140	-	1140	1140	-	1140	1140	-	1440	1320	TC	-	TC	TC	-
36	1135	1150	1130	-	1142	-	1140	-	1310	1130	-	1145	1135	-	1145	1130	-	1445	-	1225	-	1007	1255	-
19	1150	1200	1215	-	1150	1050	1230	-	1320	1155	-	1200	1150	-	1150	1155	-	1550	1330	1230	-	1110	1305	-
38	-	-	1235	-	-	-	1255	-	-	1210	-	-	1200	-	-	1205	-	-	-	1240	-	-	1330	-
39	-	-	1300	-	-	-	1310	-	-	1220	-	-	1210	-	-	1215	-	-	-	1250	-	-	1340	-
31	1200	1235	1345	-	1205	1100	1405	-	1330	1240	-	1215	1215	-	1155	1235	-	1600	1340	1320	-	1015	1405	-
40	-	-	1330	-	-	-	1345	-	-	1230	-	-	1220	-	-	1225	-	-	-	1310	-	-	1355	-
37	1210	1240	1420	-	1215	1105	1430	-	1340	1250	-	1225	1230	-	1205	1250	-	1610	1350	1330	-	1025	1420	-

Table 159 - (Continued).

Station	Date																							
	Oct		Nov												Dec									
	27	31	2	3	7	10	14	16	17	20	22	24	28	30	5	7	8	9	12	14	19	21	26	29
13	-	-	1525	-	-	-	-	1515	-	-	-	-	-	-	-	1515	-	-	-	-	-	-	-	ICE
14	-	-	1545	-	-	-	-	1535	-	-	-	-	-	-	-	1530	-	-	-	-	-	-	-	ICE
16,50	-	-	1425	-	-	-	-	1400	-	-	-	-	-	-	-	1350	-	-	-	-	-	-	-	ICE
17	-	-	1440	-	-	-	-	1415	-	-	-	-	-	-	-	1410	-	-	-	-	-	-	-	ICE
26	-	-	0930	-	-	-	-	1045	-	-	-	-	-	-	-	1050	-	-	-	-	-	-	-	ICE
27	-	-	1000	-	-	-	-	1100	-	-	-	-	-	-	-	1110	-	-	-	-	-	-	-	ICE
28	-	-	1020	-	-	-	-	1115	-	-	-	-	-	-	-	1135	-	-	-	-	-	-	-	ICE
30	-	-	1120	-	-	-	-	1130	-	-	-	-	-	-	-	1200	-	-	-	-	-	-	-	ICE
33	1240	1505	-	1330	1420	1345	1520	-	1255	1330	1320	-	1340	1420	1335	-	1325	-	1250	1435	1325	1420	1415	1555
34	0955	1050	-	1110	1105	1050	1105	-	1030	1100	1235	-	1100	1055	1115	-	1110	-	1045	1040	1045	1150	1505	1115
1	1030	1140	-	-	-	-	1200	-	-	-	-	1125	-	1140	-	-	-	1010	-	1110	-	1115	-	1225
24	1220	1455	-	-	-	-	1500	-	-	-	-	1350	-	1405	-	-	-	1200	-	1420	-	1405	-	1540
25	1020	1120	-	-	-	-	1140	-	-	-	-	1115	-	1120	-	-	-	0955	-	1055	-	1050	-	1155
2	1010	1105	-	-	-	-	1125	-	-	-	-	1055	-	1105	-	-	-	0945	-	1040	-	1030	-	1135
MK	-	1025	-	-	-	-	1045	-	-	-	-	-	-	1030	-	-	-	-	-	0955	-	-	-	1035
4	0950	1040	-	-	-	-	1055	-	-	-	-	1030	-	1040	-	-	-	0925	-	1005	-	1150	-	1055
21	1055	1215	-	1155	1155	1145	1230	-	1125	1145	1135	1200	1155	1215	1200	-	1150	1045	1125	1150	1145	1155	1340	1310
35	1105	1220	-	1200	1215	1155	1240	-	1133	1150	1140	-	1205	1225	1210	-	1200	-	1133	1205	1150	1205	1335	1320
32	TC	TC	-	TC	TC	TC	TC	-	TC	TC	TC	TC	TC	TC	TC	-	TC	TC	TC	TC	TC	TC	TC	TC
20	TC	TC	-	TC	TC	TC	TC	-	TC	TC	TC	TC	TC	TC	TC	-	TC	TC	TC	TC	TC	TC	TC	TC
36	1107	1222	-	1202	1220	1200	1242	-	1135	1152	1142	-	1207	1227	1212	-	1202	-	1135	1207	1153	1207	1333	1323
19	1115	1235	-	1210	1240	1215	1255	-	1140	1200	1150	1215	1215	1235	1215	-	1215	1055	1145	1215	1200	1220	1320	1335
38	-	1245	-	-	-	-	1305	-	-	-	-	-	-	1240	-	-	-	-	-	1225	-	-	-	1350
39	-	1255	-	-	-		1315	-	-	-	-	-	-	1250	-	-	-	-	-	1240	-	-	-	1400
31	1125	1325	-	1215	1250	1230	1340	-	1150	1210	1155	1230	1220	1315	1220	-	1225	1110	1155	1305	1215	1235	1305	1430
40	-	1310	-	-	-	-	1330	-	-	-	-	-	-	1305	-	-	-	-	-	1250	-	-	-	1415
37	1130	1350	-	1225	1310	1245	1350	-	1200	1220	1200	1250	1240	1325	1225	-	1235	1120	1205	1315	1230	1255	1250	1440

Table 160. Procedures used for water quality determinations.

Parameter	Procedure	Volume Analyzed (ml)	Where Measured	Unit
Turbidity	Nephelometric method[1,2]	25	Lab	nephelometer turbidity units (NTU)
Suspended residue	Gravimetric, dried 24 hr at 104±1 C[1,2]	1000(≤12 NTU) 500(>12 NTU)	Lab	mg/l
Secchi disc transparency	8-inch Secchi disc	-	Field	cm
Depth of euphotic zone	Submarine photometer[1]	-	Field	m
Air temperature:				
Instantaneous	Hand-held thermometer, digital thermometer	-	Field	C
Continuous	Seven-day recording thermometer	-	Field	C
Water temperature:				
Profiles	Thermistor thermometer	-	Field	C
Instantaneous	Hand-held thermometer, digital thermometer	-	Field	C
Continuous	Seven-day recording thermometer	-	Field	C
Minimum-maximum	Minimum-maximum thermometer	-	Field	C
Dissolved oxygen:	Azide modification of Winkler titration	200	Field	ppm O_2
Profiles	Oxygen electrode	-	Field	ppm O_2
Settleable solids	Gravimetric, Imhoff cone, dried 24 hr at 104 C[1,2]	1000	Lab	mg/l

[1]APHA 1976.
[2]EPA 1974.

Table 161. Summary of turbidity data (nephelometer turbidity units) taken from April through December 1978 in Lower and Upper B-G.

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22
13												
6 Apr	30	-	-	31(5)*	-	35	-	-	-	-	-	-
12 Apr	25	-	25	-	26(7)	-	-	-	-	-	-	-
19 Apr	22	-	-	22(5)	-	22(9)	-	-	-	-	-	-
26 Apr	18	-	-	18	-	18(9)	-	-	-	-	-	-
3 May	17	-	-	19	-	19(11)	-	-	-	-	-	-
10 May	15	-	-	-	16(7)	-	-	18(13)	-	-	-	-
17 May	7.1	-	-	-	7.5(7)	-	-	8.4	-	-	-	-
24 May	5.8	-	-	6.5	-	-	6.2(11)	-	-	-	-	-
1 Jun	3.1	-	-	3.4	-	-	82(11)	-	-	-	-	-
8 Jun	2.9	-	-	2.9	-	-	12	-	-	-	-	-
16 Jun	3.3	-	-	4.2(5)	-	4.1(9)	-	-	-	-	-	-
22 Jun	3.3	-	-	4.4	-	-	9.3	-	-	-	-	-
29 Jun	4.1	-	-	-	4.2(7)	-	-	3.8(13)	-	-	-	-
6 Jul	4.1	-	-	4.4	-	-	8.7(11)	-	-	-	-	-
13 Jul	4.2	-	-	4.4	-	-	6.4	-	-	-	-	-
20 Jul	3.2	-	-	-	4.0	-	-	-	4.0(15)	-	-	-
27 Jul	3.7	-	-	4.3(5)	-	18	-	-	-	-	-	-
3 Aug	3.4	-	-	-	3.4	-	-	-	3.7	-	-	-
10 Aug	3.2	-	-	-	-	4.4(9)	-	-	-	17	-	-
17 Aug	1.6	-	-	-	2.7(7)	-	-	5.6(13)	-	-	-	-
24 Aug	1.5	-	-	-	2.0(7)	-	-	4.1	-	-	-	-
31 Aug	2.7	-	-	-	2.8	-	-	-	3.4(15)	-	-	-
7 Sep	2.7	-	-	-	-	-	3.5(11)	-	-	-	-	18(21)
14 Sep	5.2	-	-	-	6.4	-	-	-	7.7	-	-	-
21 Sep	5.2	-	-	-	-	6.5	-	-	-	-	56	-
28 Sep	3.9	-	-	-	4.0	-	-	-	22	-	-	-
5 Oct	2.0	-	-	-	-	3.3	-	-	-	-	8.1(19)	-
12 Oct	1.8	-	-	-	-	2.2	-	-	-	-	2.5(19)	-
19 Oct	2.1	-	-	-	-	2.4	-	-	-	-	6.6(19)	-
26 Oct	2.6	-	-	-	-	2.7	-	-	-	-	3.8	-
2 Nov	1.7	-	-	-	-	2.5	-	-	-	-	66	-
16 Nov	2.1	-	-	-	-	2.0(9)	-	-	-	3.0	-	-
7 Dec	1.8	-	-	-	-	3.1	-	-	-	-	3.1(19)	-
29 Dec	ICE**	-	-	-	-	-	-	-	-	-	-	-
14												
6 Apr	28	-	28	-	30	-	-	-	-	-	-	-
12 Apr	23	23	23	-	-	-	-	-	-	-	-	-
19 Apr	22	-	22(3)	22(5)	-	-	-	-	-	-	-	-
26 Apr	18	-	18(3)	18(5)	-	-	-	-	-	-	-	-
3 May	17	-	18(3)	18	-	-	-	-	-	-	-	-
10 May	15	-	-	16(5)	-	15(9)	-	-	-	-	-	-
17 May	7.3	-	-	7.2(5)	-	7.4	-	-	-	-	-	-
24 May	6.2	-	6.3	-	6.1(7)	-	-	-	-	-	-	-
1 Jun	3.7	-	-	4.0(5)	-	4.0(9)	-	-	-	-	-	-
8 Jun	5.5	-	6.0(3)	7.0	-	-	-	-	-	-	-	-
16 Jun	4.7	-	5.0(3)	4.9(5)	-	-	-	-	-	-	-	-
22 Jun	4.2	-	4.4	-	4.7	-	-	-	-	-	-	-
29 Jun	4.8	-	4.8	-	7.5	-	-	-	-	-	-	-
6 Jul	4.3	-	4.6(3)	4.5	-	-	-	-	-	-	-	-
13 Jul	5.1	-	5.2	-	6.3	-	-	-	-	-	-	-
20 Jul	3.7	-	-	-	4.0(7)	-	-	4.1	-	-	-	-
27 Jul	3.8	-	3.9(3)	3.8	-	-	-	-	-	-	-	-

* Depth in parentheses.
** ICE = no samples taken because of unsafe ice conditions.

Table 161 - (Continued).

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22
14 - (Continued)												
3 Aug	3.3	-	-	3.6	-	-	3.4	-	-	-	-	-
10 Aug	5.1	-	4.8(3)	4.9	-	-	-	-	-	-	-	-
17 Aug	3.5	-	3.6	-	3.8	-	-	-	-	-	-	-
24 Aug	2.5	-	-	2.7(5)	-	2.7(9)	-	-	-	-	-	-
31 Aug	3.7	-	-	3.7(5)	-	3.7	-	-	-	-	-	-
7 Sep	3.4	-	-	3.7(5)	-	3.6(9)	-	-	-	-	-	-
14 Sep	3.2	-	-	3.2(5)	-	3.2(9)	-	-	-	-	-	-
21 Sep	4.9	-	-	4.9(5)	-	4.9	-	-	-	-	-	-
28 Sep	3.3	-	3.4	-	3.4	-	-	-	-	-	-	-
5 Oct	2.5	-	-	2.5(5)	-	2.5(9)	-	-	-	-	-	-
12 Oct	2.2	-	2.2	-	2.2	-	-	-	-	-	-	-
19 Oct	2.4	-	-	2.3(5)	-	2.3(9)	-	-	-	-	-	-
26 Oct	3.0	-	3.0	-	3.3	-	-	-	-	-	-	-
2 Nov	1.9	-	-	2.1(5)	-	2.0(9)	-	-	-	-	-	-
16 Nov	1.9	-	3.2(3)	1.8	-	-	-	-	-	-	-	-
7 Dec	1.8	-	1.8	-	1.8(7)	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-
16												
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
19 Apr	23	-	-	-	-	23(9)	-	-	-	58(17)	-	-
26 Apr	17	-	-	-	-	17(9)	-	-	-	18	-	-
3 May	17	-	-	-	-	17	-	-	-	75	-	-
10 May	15	-	-	-	15(7)	-	-	15	-	-	-	-
17 May	6.4	-	-	-	6.8(7)	-	-	21	-	-	-	-
24 May	5.1	-	-	-	5.8	-	-	-	16	-	-	-
1 Jun	3.2	-	-	-	3.1	-	-	-	3.9	-	-	-
8 Jun	4.0	-	-	-	2.8	-	-	-	26	-	-	-
16 Jun	4.6	-	-	-	-	3.7(9)	-	-	-	5.1	-	-
22 Jun	4.1	-	-	-	4.1	-	-	-	3.7	-	-	-
29 Jun	4.2	-	-	-	4.6	-	-	3.9	7.9	-	-	-
6 Jul	3.8	-	-	-	-	4.2(9)	-	-	-	8.8(17)	-	-
13 Jul	4.1	-	-	-	4.6	-	-	-	5.4	-	-	-
20 Jul	2.7	-	-	-	3.3	-	4.2	24	-	-	-	-
27 Jul	3.1	-	-	-	-	3.6(9)	-	-	3.8	4.7	-	-
3 Aug	2.8	-	-	3.0	-	-	4.2	-	-	-	-	-
10 Aug	4.2	-	-	-	-	4.2(9)	-	-	-	18(17)	-	-
17 Aug	2.4	-	-	-	3.5	-	-	-	6.5	-	-	-
24 Aug	1.5	-	-	-	1.7(7)	-	-	4.2	-	-	-	-
31 Aug	3.0	-	-	-	3.1(7)	-	-	7.5	-	-	-	-
7 Sep	2.7	-	-	-	2.9	-	-	-	5.2(15)	-	-	-
14 Sep	2.4	-	-	-	-	3.0(9)	-	-	-	4.1	-	-
21 Sep	2.7	-	-	-	3.5(7)	-	-	3.9	-	-	-	-
28 Sep	2.6	-	-	-	-	3.9(9)	-	-	-	3.3(17)	-	-
5 Oct	2.2	-	-	-	2.2	-	-	-	3.6(15)	-	-	-
12 Oct	1.6	-	-	-	1.8	-	-	-	3.7	-	-	-
19 Oct	1.6	-	-	-	1.8	-	-	-	2.2(15)	-	-	-
26 Oct	2.6	-	-	-	2.4(7)	-	-	3.5	-	-	-	-
2 Nov	1.7	-	-	-	1.8	-	-	-	2.1(15)	-	-	-
16 Nov	1.4	-	-	-	1.6	-	-	-	2.4	-	-	-
7 Dec	1.7	-	-	-	1.5	-	-	-	2.4(15)	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-

Table 161 - (Continued).

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22
17												
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
19 Apr	23	-	-	-	-	23(9)	-	-	-	39	-	-
26 Apr	17	-	-	-	-	17(9)	-	-	-	17	-	-
3 May	17	-	-	-	-	17	-	-	-	-	24(19)	-
10 May	15	-	-	-	15	-	-	-	29	-	-	-
17 May	6.4	-	-	-	8.2	-	-	-	20(15)	-	-	-
24 May	5.9	-	-	-	6.2	-	-	-	9.9	-	-	-
1 Jun	2.8	-	-	-	3.7	-	-	-	3.8	-	-	-
8 Jun	4.4	-	-	-	-	4.4(9)	-	-	-	3.2(17)	-	-
16 Jun	4.2	-	-	-	-	4.0	-	-	-	-	6.4(19)	-
22 Jun	3.4	-	-	-	4.2	-	-	-	4.1	-	-	-
29 Jun	4.5	-	-	-	-	4.5	-	-	4.0	2.2	-	-
6 Jul	3.9	-	-	-	-	4.8(9)	-	-	-	5.7(17)	-	-
13 Jul	4.6	-	-	-	-	4.4(9)	-	4.7	-	5.7(17)	-	-
20 Jul	2.7	-	-	-	3.7	-	-	4.1	7.8(15)	-	-	-
27 Jul	3.6	-	-	-	-	3.7	-	-	5.2	-	16(19)	-
3 Aug	2.9	-	-	-	2.9(7)	-	8.3	12	-	-	-	-
10 Aug	4.8	-	-	-	-	5.0(9)	-	-	-	5.4(17)	-	-
17 Aug	2.6	-	-	-	-	3.1	-	3.4	-	9.3(17)	-	-
24 Aug	1.8	-	-	-	2.6(7)	-	-	4.1(13)	-	-	-	-
31 Aug	3.5	-	-	-	3.4(7)	-	-	13	-	-	-	-
7 Sep	2.9	-	-	-	3.0	-	-	-	12(15)	-	-	-
14 Sep	2.3	-	-	-	-	3.0(9)	-	-	-	7.5	-	-
21 Sep	2.4	-	-	-	4.0	-	-	-	5.1(15)	-	-	-
28 Sep	2.7	-	-	-	-	2.8(9)	-	-	-	2.8	-	-
5 Oct	2.2	-	-	-	2.2	-	-	-	4.5	-	-	-
12 Oct	1.6	-	-	-	-	2.1(9)	-	-	-	20(17)	-	-
19 Oct	1.5	-	-	-	1.6	-	-	-	3.2	-	-	-
26 Oct	2.0	-	-	-	2.1	-	-	-	3.0	-	-	-
2 Nov	1.5	-	-	-	1.8	-	-	-	33	-	-	-
16 Nov	1.6	-	-	-	-	1.6(9)	-	-	-	4.3	-	-
7 Dec	1.8	-	-	-	1.4	-	-	-	1.8	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-

Table 162. Summary of turbidity data (nephelometer turbidity units) taken from April through December 1978 in Schoharie Reservoir.

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
26																		
6 Apr	ICE*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	3.6	3.5	4.1	5.1	6.5	7.1	7.6	7.4	-	-	-	-	-	-	-	-	-	-
26 Apr	2.7	2.7	3.0	3.2	4.0	4.4	4.3	4.1	-	-	-	-	-	-	-	-	-	-
3 May	2.3	2.1	2.0	1.8	2.0	1.9	1.8	1.9	-	-	-	-	-	-	-	-	-	-
10 May	6.4	7.2	5.8	4.7	5.0	5.0	5.4	5.6	-	-	-	-	-	-	-	-	-	-
17 May	25	26	26	31	28	30	33	31	-	-	-	-	-	-	-	-	-	-
24 May	5.2	5.2	7.8	6.8	8.5	7.5	6.5	6.1	-	-	-	-	-	-	-	-	-	-
1 Jun	4.2	4.0	4.3	2.3	2.8	2.6	2.5	2.2	-	-	-	-	-	-	-	-	-	-
8 Jun	9.8	11	8.0	5.1	7.8	5.1	8.2	6.9	-	-	-	-	-	-	-	-	-	-
15 Jun	4.3	4.7	4.1	4.8	4.2	4.4	5.3	5.5	-	-	-	-	-	-	-	-	-	-
22 Jun	8.1	5.5	4.0	3.4	14	12	14	16	-	-	-	-	-	-	-	-	-	-
29 Jun	5.7	2.6	2.8	2.6	3.1	6.2	12	23(13)**	-	-	-	-	-	-	-	-	-	-
6 Jul	3.7	3.7	4.6	5.3	7.8	9.1	12	-	-	-	-	-	-	-	-	-	-	-
13 Jul	4.3	6.3	4.8	6.1	7.9	13	12	-	-	-	-	-	-	-	-	-	-	-
20 Jul	3.9	3.5	3.8	5.3	6.2	8.2	-	-	-	-	-	-	-	-	-	-	-	-
27 Jul	3.1	3.1	4.4	4.8	8.7	9.2	-	-	-	-	-	-	-	-	-	-	-	-
3 Aug	2.2	3.4	4.3	7.1	9.3	-	-	-	-	-	-	-	-	-	-	-	-	-
10 Aug	2.7	3.7	4.4	4.4	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-
17 Aug	2.9	3.5	3.8	4.3	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-
24 Aug	2.6	3.4	3.6	6.9	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-
31 Aug	4.3	5.2	7.8	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7 Sep	3.9	5.6	4.6	5.1(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14 Sep	5.2	4.7	4.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21 Sep	4.1	4.2	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28 Sep	2.0	2.2	2.3	2.3(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Oct	2.2	1.8	1.7	1.7(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Oct	1.3	1.6	1.9(3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Oct	2.1	1.7	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26 Oct	1.5	1.4	2.0	5.1(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 Nov	2.2	-	1.8(3)	1.4(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16 Nov	1.3	-	1.3	-	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-
7 Dec	1.2	-	-	3.2	-	-	7.6(11)	-	-	-	-	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27																		
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	7.5	7.8	8.0	8.8	8.8	9.2	12	12	11	8.5	-	-	-	-	-	-	-	-
26 Apr	3.1	3.2	3.8	4.3	4.9	5.6	6.4	6.8	7.2	42	-	-	-	-	-	-	-	-
3 May	3.3	3.3	3.4	3.4	3.5	3.4	3.5	3.3	4.1	8.7	-	-	-	-	-	-	-	-
10 May	2.9	3.4	3.5	3.7	4.0	4.5	4.6	5.3	5.6	6.5	-	-	-	-	-	-	-	-
17 May	2.3	6.4	9.1	16	27	31	32	15	9.1	18	-	-	-	-	-	-	-	-
24 May	4.7	5.3	6.9	6.5	7.3	7.8	8.4	7.4	6.2	6.7	-	-	-	-	-	-	-	-
1 Jun	2.3	2.6	2.7	3.5	2.8	3.1	3.6	3.2	3.4	6.2	-	-	-	-	-	-	-	-
8 Jun	3.1	2.8	2.8	3.1	2.7	3.2	2.8	2.9	5.6	4.2	-	-	-	-	-	-	-	-
15 Jun	2.4	2.6	3.3	3.8	5.1	4.7	3.3	3.4	4.9	9.8	-	-	-	-	-	-	-	-
22 Jun	1.7	1.8	2.2	2.4	4.2	6.3	5.1	3.6	3.4	21	-	-	-	-	-	-	-	-
29 Jun	1.4	1.5	1.7	1.8	1.9	2.6	5.6	7.7	8.3	14(17)	-	-	-	-	-	-	-	-
6 Jul	2.0	2.7	2.7	3.1	5.0	8.6	6.4	5.4	8.9	-	-	-	-	-	-	-	-	-
13 Jul	3.7	3.6	2.8	2.5	3.7	3.6	4.1	6.3	24	-	-	-	-	-	-	-	-	-
20 Jul	2.1	1.8	1.7	2.3	3.3	4.6	5.5	12	-	-	-	-	-	-	-	-	-	-
27 Jul	2.2	2.6	2.4	3.3	2.6	3.9	7.7	18	-	-	-	-	-	-	-	-	-	-

* ICE = no samples taken because of unsafe ice conditions.
** Depth in parentheses.
*** DNR = data not recorded.

Table 162 - (Continued).

Station & Date	Surface	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
		Depth (m)																
27 - (Continued)																		
3 Aug	1.6	1.7	2.2	2.4	3.3	5.7	9.9	-	-	-	-	-	-	-	-	-	-	-
10 Aug	1.6	2.1	2.2	3.6	9.0	17	9.0	-	-	-	-	-	-	-	-	-	-	-
17 Aug	2.2	3.1	2.5	2.4	3.5	7.7	13	-	-	-	-	-	-	-	-	-	-	-
24 Aug	1.9	2.0	2.8	2.6	5.1	6.5	16(11)	-	-	-	-	-	-	-	-	-	-	-
31 Aug	2.0	1.9	1.9	2.7	3.1	5.4	-	-	-	-	-	-	-	-	-	-	-	-
7 Sep	2.9	2.9	3.2	5.7	8.2	14(9)	-	-	-	-	-	-	-	-	-	-	-	-
14 Sep	5.4	7.3	7.1	8.6	39	-	-	-	-	-	-	-	-	-	-	-	-	-
21 Sep	2.9	3.2	4.8	7.7	11(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
28 Sep	2.4	2.9	2.8	3.3	5.2	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Oct	2.2	2.2	2.4	2.2	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Oct	2.1	2.2	2.4	2.4	2.8(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Oct	2.3	2.4	2.6	2.4	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-
26 Oct	4.1	4.1	4.7	5.2	6.9	17	-	-	-	-	-	-	-	-	-	-	-	-
2 Nov	1.9	-	-	1.9(5)	-	2.2	-	-	-	-	-	-	-	-	-	-	-	-
16 Nov	1.7	-	-	1.9	-	-	1.7	-	-	-	-	-	-	-	-	-	-	-
7 Dec	2.0	-	-	-	2.3	-	-	-	4.0(15)	-	-	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28																		
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	9.6	9.5	9.1	9.2	9.4	9.1	8.8	8.3	8.6	1.5	1.8	4.0	-	-	-	-	-	-
26 Apr	4.6	4.7	4.6	4.5	4.9	4.9	5.8	6.6	6.7	6.8	16	15	-	-	-	-	-	-
3 May	4.2	4.1	3.9	4.2	4.4	5.1	5.2	5.5	6.5	6.7	8.2	31	-	-	-	-	-	-
10 May	2.2	2.9	3.5	3.7	4.0	4.2	4.1	4.5	5.6	5.3	7.1	45	-	-	-	-	-	-
17 May	1.9	2.9	4.6	8.0	6.9	3.4	4.1	3.9	4.6	5.5	5.2	19	-	-	-	-	-	-
24 May	4.8	5.2	4.9	5.8	5.7	7.7	7.5	6.3	5.8	5.9	5.8	9.4	-	-	-	-	-	-
1 Jun	2.3	2.2	2.2	2.4	2.8	2.7	3.1	3.1	2.9	3.2	3.3	6.8	-	-	-	-	-	-
8 Jun	3.5	2.6	2.4	2.4	2.7	2.2	2.1	2.6	2.6	3.2	3.9	6.4	-	-	-	-	-	-
15 Jun	2.4	2.7	3.0	2.2	1.7	1.7	1.9	2.3	2.4	2.8	3.4	5.2	-	-	-	-	-	-
22 Jun	1.7	2.0	2.2	1.9	2.1	2.7	2.1	1.8	1.7	2.5	3.2	5.7	-	-	-	-	-	-
29 Jun	1.2	1.4	1.6	1.7	2.1	2.2	1.8	2.2	3.5	3.6	4.8	12(21)	-	-	-	-	-	-
6 Jul	1.4	1.3	1.3	2.4	2.7	4.7	3.9	2.8	4.0	3.8	4.6	-	-	-	-	-	-	-
13 Jul	1.6	1.9	2.1	2.0	2.7	2.7	2.4	2.6	3.6	3.4	8.6	-	-	-	-	-	-	-
20 Jul	1.5	1.5	1.8	1.8	2.5	2.8	2.9	2.5	2.5	4.3	-	-	-	-	-	-	-	-
27 Jul	2.4	2.8	2.3	2.1	4.1	5.1	1.8	2.7	4.4	9.7	-	-	-	-	-	-	-	-
3 Aug	1.5	1.7	2.2	1.5	2.1	3.8	2.7	2.7	3.4	4.2	-	-	-	-	-	-	-	-
10 Aug	1.4	1.5	1.6	2.8	6.5	3.4	3.8	2.4	6.9	-	-	-	-	-	-	-	-	-
17 Aug	1.6	1.9	1.8	1.8	3.2	7.8	3.6	4.0	6.5	-	-	-	-	-	-	-	-	-
24 Aug	1.7	2.7	2.0	2.1	3.8	6.7	7.1	8.6	68(15)	-	-	-	-	-	-	-	-	-
31 Aug	2.8	1.6	1.7	2.3	5.6	6.5	7.3	42	-	-	-	-	-	-	-	-	-	-
7 Sep	2.5	2.6	2.8	2.5	3.6	6.1	8.2	36(13)	-	-	-	-	-	-	-	-	-	-
14 Sep	3.8	3.9	4.3	4.3	7.8	15	15	-	-	-	-	-	-	-	-	-	-	-
21 Sep	2.4	3.0	7.0	8.8	9.5	11	11	-	-	-	-	-	-	-	-	-	-	-
28 Sep	2.3	2.5	2.8	2.7	3.4	4.0	6.7	11(13)	-	-	-	-	-	-	-	-	-	-
5 Oct	2.0	2.2	2.3	2.3	2.4	5.1	13	13(13)	-	-	-	-	-	-	-	-	-	-
12 Oct	2.6	2.7	2.7	2.7	3.7	9.1	18(11)	-	-	-	-	-	-	-	-	-	-	-
19 Oct	2.8	3.1	3.2	2.8	3.1	3.9	7.2	-	-	-	-	-	-	-	-	-	-	-
26 Oct	4.0	3.6	3.6	3.8	3.9	5.5	6.4	7.7(13)	-	-	-	-	-	-	-	-	-	-
2 Nov	1.9	-	-	-	2.1(7)	-	-	3.8	-	-	-	-	-	-	-	-	-	-
16 Nov	2.4	-	-	-	2.8	-	-	-	7.3	-	-	-	-	-	-	-	-	-
7 Dec	2.4	-	-	-	-	2.1	-	-	-	-	6.1(19)	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 162 - (Continued).

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
30																		
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	13	13	14	14	13	14	14	13	13	13	14	14	15	16	16	16	16	51
26 Apr	6.3	6.0	6.1	7.2	7.5	7.3	7.2	7.2	7.1	7.6	8.3	8.8	9.0	9.0	9.2	12	14	22
3 May	5.0	4.9	5.0	5.8	6.0	6.2	6.2	6.1	6.5	6.9	6.8	7.5	7.7	7.6	7.7	7.9	7.6	8.3
10 May	2.8	2.9	3.1	3.2	4.1	4.0	4.0	4.3	5.1	5.2	5.8	6.0	5.8	6.5	6.8	6.6	6.6	15
17 May	2.4	3.7	7.5	7.7	7.2	5.8	3.7	3.7	4.1	4.1	4.9	5.0	5.3	5.3	5.5	5.9	5.7	6.6
24 May	5.2	5.2	5.6	5.4	5.5	5.1	5.2	4.4	5.2	4.8	4.7	5.3	5.2	5.2	5.6	6.0	5.9	7.8
1 Jun	1.4	1.5	1.7	1.8	1.7	1.8	1.9	1.9	2.0	2.3	2.0	2.2	2.7	2.7	3.0	2.7	3.4	33
8 Jun	1.9	2.2	2.3	2.2	2.2	2.2	1.9	2.0	2.3	2.2	2.2	2.7	2.8	2.8	3.6	3.8	4.1	3.6
15 Jun	DNR***	2.8	2.7	2.0	2.2	1.8	2.2	2.5	2.4	2.2	2.3	3.2	3.4	3.8	3.8	4.0	4.2	4.4
22 Jun	2.6	2.3	2.1	2.4	2.6	2.1	1.9	1.9	2.3	2.3	2.4	2.7	2.6	3.1	3.2	3.3	3.6	14
29 Jun	1.7	1.7	1.7	1.8	1.7	2.2	2.4	2.2	2.4	2.4	2.5	2.9	3.1	3.6	3.4	3.7	3.9	50(33)
6 Jul	1.3	1.8	1.9	2.0	3.2	2.6	1.6	1.8	1.9	2.1	2.4	2.7	3.3	2.9	3.7	7.5	5.6	-
13 Jul	1.5	1.7	1.8	2.4	2.9	2.3	1.8	1.7	1.8	2.4	2.3	2.6	2.9	3.0	3.6	3.8	18	-
20 Jul	1.6	1.7	1.9	2.3	2.8	2.9	2.4	2.4	2.0	2.3	2.2	2.6	2.7	3.2	3.5	2.3	-	-
27 Jul	2.7	2.8	2.1	2.3	2.9	3.5	3.2	2.9	2.2	2.6	2.2	2.8	3.4	3.4	3.7	13	-	-
3 Aug	1.3	1.6	1.8	1.8	1.9	3.4	3.0	2.4	2.1	2.2	2.2	3.0	2.4	2.6	3.1	4.7(29)	-	-
10 Aug	3.3	2.2	4.0	4.2	4.5	9.6	5.4	3.6	2.7	3.0	2.5	3.8	4.5	4.8	8.6	-	-	-
17 Aug	2.5	2.6	2.3	3.4	6.0	7.7	6.0	4.3	4.3	4.0	3.5	3.7	5.3	6.3	9.2	-	-	-
24 Aug	1.6	1.8	1.9	2.0	2.3	6.1	3.7	3.8	4.7	4.0	4.6	6.6	7.4	8.7	72(27)	-	-	-
31 Aug	1.9	2.0	2.1	2.1	3.7	7.0	5.1	4.3	4.5	5.4	6.3	7.2	7.5	11	-	-	-	-
7 Sep	2.1	2.6	2.8	4.2	5.1	5.6	5.2	5.2	5.0	6.0	5.9	8.8	8.7	12(25)	-	-	-	-
14 Sep	3.7	3.9	4.2	4.5	5.9	5.5	6.7	5.8	6.6	7.2	8.9	11	13(23)	-	-	-	-	-
21 Sep	2.1	2.4	3.7	7.5	9.8	8.8	6.2	6.0	5.3	5.7	6.2	6.8	7.5(23)	-	-	-	-	-
28 Sep	2.5	2.5	2.8	3.2	6.2	9.4	7.0	6.7	5.0	6.3	6.8	9.4	9.7	-	-	-	-	-
5 Oct	2.1	2.4	2.4	2.4	2.5	2.4	4.6	7.4	7.4	5.7	7.7	7.1	8.4	31(25)	-	-	-	-
12 Oct	2.4	2.4	2.3	2.4	2.4	2.7	6.5	5.4	4.9	5.0	6.0	7.6	13(23)	-	-	-	-	-
19 Oct	3.0	3.3	3.3	3.2	3.3	3.9	6.9	7.3	6.8	8.5	9.2	9.7	14	-	-	-	-	-
26 Oct	3.8	3.8	3.7	3.9	4.1	4.1	4.0	5.1	6.9	9.6	13	14	14	22(25)	-	-	-	-
2 Nov	2.2	-	-	-	-	-	-	3.0(13)	-	-	-	-	-	18	-	-	-	-
16 Nov	2.7	-	-	-	-	-	-	3.3	-	-	-	-	-	-	7.0	-	-	-
7 Dec	2.8	-	-	-	-	-	-	-	2.8(15)	-	-	-	-	-	-	5.9	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 163. Summary of suspended residue data (mg/l) taken from April through December 1978 in Lower and Upper B-G.

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22
13												
6 Apr	DNR*	-	-	DNR(5)**	-	DNR	-	-	-	-	-	-
12 Apr	13.6	-	14.2	-	15.4(7)	-	-	-	-	-	-	-
19 Apr	8.7	-	-	9.2(5)	-	12.1(9)	-	-	-	-	-	-
26 Apr	9.1	-	-	6.5(5)	-	7.0(9)	-	-	-	-	-	-
3 May	8.0	-	-	1.2	-	-	1.0(11)	-	-	-	-	-
10 May	7.8	-	-	-	9.4(7)	-	-	14.6(13)	-	-	-	-
17 May	6.5	-	-	-	8.1(7)	-	-	13.1	-	-	-	-
24 May	3.6	-	-	5.2	-	-	4.5(11)	-	-	-	-	-
1 Jun	2.3	-	-	3.8	-	-	299.6(11)	-	-	-	-	-
8 Jun	1.3	-	-	1.7	-	-	29.8	-	-	-	-	-
16 Jun	2.6	-	-	3.9(5)	-	4.3(9)	-	-	-	-	-	-
22 Jun	2.2	-	-	3.4	-	-	17.6	-	-	-	-	-
29 Jun	3.2	-	-	-	3.8(7)	-	-	3.6(13)	-	-	-	-
6 Jul	3.7	-	-	3.7	-	-	19.5(11)	-	-	-	-	-
13 Jul	3.8	-	-	4.0	-	-	10.8	-	-	-	-	-
20 Jul	2.3	-	-	-	3.8	-	-	-	3.9(15)	-	-	-
27 Jul	4.0	-	-	5.2(5)	-	37.0	-	-	-	-	-	-
3 Aug	3.3	-	-	-	3.7	-	-	-	4.9	-	-	-
10 Aug	1.9	-	-	-	-	3.5(9)	-	-	-	15.8	-	-
17 Aug	0.8	-	-	-	2.1(7)	-	-	14.4(13)	-	-	-	-
24 Aug	0.8	-	-	-	1.8(7)	-	-	7.4	-	-	-	-
31 Aug	2.2	-	-	-	1.5	-	-	-	3.0(15)	-	-	-
7 Sep	2.8	-	-	-	-	-	2.9(11)	-	-	-	-	8.0(21)
14 Sep	5.5	-	-	-	6.0	-	-	-	11.3	-	-	-
21 Sep	5.6	-	-	-	-	7.8	-	-	-	-	51.1	-
28 Sep	4.7	-	-	-	5.8	-	-	-	27.0	-	-	-
5 Oct	2.6	-	-	-	-	8.5	-	-	-	-	24.9(19)	-
12 Oct	3.8	-	-	-	-	5.4	-	-	-	-	6.2(19)	-
19 Oct	4.4	-	-	-	-	5.1	-	-	-	-	34.4(19)	-
26 Oct	4.2	-	-	-	-	4.4	-	-	-	-	6.8	-
2 Nov	2.1	-	-	-	-	6.2	-	-	-	-	51.9	-
16 Nov	3.2	-	-	-	-	3.8(9)	-	-	-	4.1	-	-
7 Dec	2.3	-	-	-	-	3.0	-	-	-	-	10.2(19)	-
29 Dec	ICE***	-	-	-	-	-	-	-	-	-	-	-
14												
6 Apr	DNR	-	DNR	-	DNR	-	-	-	-	-	-	-
12 Apr	20.0	22.0	23.2	-	-	-	-	-	-	-	-	-
19 Apr	11.8	-	11.8(3)	10.5(5)	-	-	-	-	-	-	-	-
26 Apr	8.2	-	6.2(3)	7.8(5)	-	-	-	-	-	-	-	-
3 May	6.8	-	8.3	7.2	-	-	-	-	-	-	-	-
10 May	7.0	-	-	7.8(5)	-	8.8(9)	-	-	-	-	-	-
17 May	7.2	-	-	7.6(5)	-	7.1	-	-	-	-	-	-
24 May	3.5	-	4.9	-	4.6(7)	-	-	-	-	-	-	-
1 Jun	3.2	-	-	3.6	-	4.2(9)	-	-	-	-	-	-
8 Jun	6.7	-	6.8(3)	24.4	-	-	-	-	-	-	-	-
16 Jun	4.8	-	4.7(3)	7.0	-	-	-	-	-	-	-	-
22 Jun	3.3	-	3.0(3)	5.2	-	-	-	-	-	-	-	-
29 Jun	4.2	-	4.3(3)	20.5	-	-	-	-	-	-	-	-
6 Jul	3.3	-	3.1	7.0	-	-	-	-	-	-	-	-
13 Jul	6.4	-	6.2	-	12.0	-	-	-	-	-	-	-
20 Jul	4.1	-	-	-	4.4(7)	-	-	5.2	-	-	-	-
27 Jul	3.8	-	4.4(3)	4.6	-	-	-	-	-	-	-	-

* DNR = data not recorded.
** Depth in parentheses.
** ICE = no samples taken because of unsafe ice conditions.

Table 163 - (Continued).

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22
14 - (Continued)												
3 Aug	3.5	-	-	4.0	-	-	4.0	-	-	-	-	-
10 Aug	4.5	-	4.3(3)	5.1	-	-	-	-	-	-	-	-
17 Aug	4.1	-	3.9	-	4.5	-	-	-	-	-	-	-
24 Aug	2.2	-	-	2.9(5)	-	2.8(9)	-	-	-	-	-	-
31 Aug	3.4	-	-	2.1(5)	-	3.2	-	-	-	-	-	-
7 Sep	3.8	-	-	3.8(5)	-	4.4(9)	-	-	-	-	-	-
14 Sep	3.5	-	-	3.5(5)	-	3.5(9)	-	-	-	-	-	-
21 Sep	7.6	-	-	7.6(5)	-	7.6	-	-	-	-	-	-
28 Sep	5.8	-	5.7(3)	6.0	-	-	-	-	-	-	-	-
5 Oct	5.6	-	-	5.6(5)	-	5.6(9)	-	-	-	-	-	-
12 Oct	5.9	-	5.9	-	6.0	-	-	-	-	-	-	-
19 Oct	4.8	-	-	5.2(5)	-	5.3(9)	-	-	-	-	-	-
26 Oct	4.3	-	4.7	-	5.6	-	-	-	-	-	-	-
2 Nov	4.3	-	-	4.8	-	5.0(9)	-	-	-	-	-	-
16 Nov	3.0	-	3.5(3)	3.0	-	-	-	-	-	-	-	-
7 Dec	2.8	-	3.1	-	3.0(7)	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-
16												
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
19 Apr	13.5	-	-	-	-	13.5(9)	-	-	-	133.2(17)	-	-
26 Apr	6.4	-	-	-	-	4.5(9)	-	-	-	8.1	-	-
3 May	6.0	-	-	-	-	7.4	-	-	-	286.0	-	-
10 May	8.8	-	-	-	8.4(7)	-	-	11.2	-	-	-	-
17 May	5.5	-	-	-	6.2(7)	-	-	30.4	-	-	-	-
24 May	5.4	-	-	-	5.1	-	-	-	31.2	-	-	-
1 Jun	2.5	-	-	-	2.3	-	-	-	4.9	-	-	-
8 Jun	2.9	-	-	-	1.5	-	-	-	41.4	-	-	-
16 Jun	3.9	-	-	-	-	3.5(9)	-	-	-	5.1	-	-
22 Jun	2.9	-	-	-	2.9	-	-	-	2.7	-	-	-
29 Jun	3.4	-	-	-	3.5	-	-	1.5	14.6	-	-	-
6 Jul	2.0	-	-	-	3.0	-	-	-	-	3.4(17)	-	-
13 Jul	3.8	-	-	-	4.2	-	-	-	6.3	-	-	-
20 Jul	2.6	-	-	-	3.7(7)	-	3.7	50.7	-	-	-	-
27 Jul	3.9	-	-	-	-	4.6	-	-	4.2	7.4	-	-
3 Aug	3.0	-	-	3.5	-	-	6.5	-	-	-	-	-
10 Aug	3.7	-	-	-	-	3.7(9)	-	-	-	22.7(17)	-	-
17 Aug	1.9	-	-	-	3.1	-	-	-	14.8	-	-	-
24 Aug	1.1	-	-	-	1.4(7)	-	-	5.8	-	-	-	-
31 Aug	2.1	-	-	-	1.9(7)	-	-	12.6	-	-	-	-
7 Sep	2.7	-	-	-	2.9	-	-	-	6.4(15)	-	-	-
14 Sep	1.9	-	-	-	-	3.0(9)	-	-	-	7.6	-	-
21 Sep	2.9	-	-	-	4.6(7)	-	-	7.2	-	-	-	-
28 Sep	4.2	-	-	-	-	4.8(9)	-	-	-	5.6(17)	-	-
5 Oct	4.0	-	-	-	4.5	-	-	-	10.5(15)	-	-	-
12 Oct	3.9	-	-	-	4.3	-	-	-	12.7	-	-	-
19 Oct	3.7	-	-	-	4.6	-	-	-	6.4(15)	-	-	-
26 Oct	3.5	-	-	-	3.0(7)	-	-	5.4	-	-	-	-
2 Nov	3.2	-	-	-	3.4	-	-	-	4.5(15)	-	-	-
16 Nov	2.0	-	-	-	2.5	-	-	-	5.3	-	-	-
7 Dec	2.4	-	-	-	2.1	-	-	-	15.5(15)	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-

Table 163 - (Continued).

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22
17												
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
19 Apr	11.5	-	-	-	-	12.5(9)	-	-	-	69.4	-	-
26 Apr	7.9	-	-	-	-	5.1(9)	-	-	-	6.7	-	-
3 May	8.5	-	-	-	-	7.6	-	-	-	-	35.5(19)	-
10 May	8.6	-	-	-	7.8	-	-	-	50.4	-	-	-
17 May	6.0	-	-	-	9.0	-	-	-	19.8(15)	-	-	-
24 May	5.1	-	-	-	5.6	-	-	-	16.3	-	-	-
1 Jun	2.1	-	-	-	2.8	-	-	-	4.3	-	-	-
8 Jun	3.1	-	-	-	-	3.9(9)	-	-	-	4.1(17)	-	-
16 Jun	0.7	-	-	-	-	5.2	-	-	-	-	2.1(19)	-
22 Jun	1.9	-	-	-	2.9	-	-	-	3.5	-	-	-
29 Jun	3.7	-	-	-	-	3.9(9)	-	-	3.8	20.2	-	-
6 Jul	2.0	-	-	-	-	3.0(9)	-	-	-	3.4(17)	-	-
13 Jul	4.2	-	-	-	-	3.9(9)	-	4.4	-	5.0(17)	-	-
20 Jul	2.2	-	-	-	4.0	-	-	2.8	9.1(15)	-	-	-
27 Jul	3.7	-	-	-	-	4.0	-	-	5.3	-	19.1(19)	-
3 Aug	3.0	-	-	-	2.9(7)	-	7.8	12.2	-	-	-	-
10 Aug	4.8	-	-	-	-	4.9(9)	-	-	-	5.5(17)	-	-
17 Aug	2.9	-	-	-	-	2.6(9)	-	4.0	-	15.1(17)	-	-
24 Aug	1.6	-	-	-	1.8(7)	-	-	5.1(13)	-	-	-	-
31 Aug	2.2	-	-	-	2.5(7)	-	-	21.6	-	-	-	-
7 Sep	2.2	-	-	-	2.3	-	-	-	30.6(15)	-	-	-
14 Sep	2.2	-	-	-	-	2.6(9)	-	-	-	11.5	-	-
21 Sep	3.5	-	-	-	5.3	-	-	-	8.1(15)	-	-	-
28 Sep	4.3	-	-	-	-	4.9(9)	-	-	-	4.8	-	-
5 Oct	4.6	-	-	-	5.0	-	-	-	11.6	-	-	-
12 Oct	3.7	-	-	-	-	5.2(9)	-	-	-	26.8(17)	-	-
19 Oct	3.4	-	-	-	4.0	-	-	-	8.3	-	-	-
26 Oct	1.8	-	-	-	3.5	-	-	-	6.5	-	-	-
2 Nov	2.8	-	-	-	3.5	-	-	-	60.7	-	-	-
16 Nov	2.0	-	-	-	-	2.3(9)	-	-	-	2.4	-	-
7 Dec	2.3	-	-	-	3.2	-	-	-	4.3	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-

Table 164. Summary of suspended residue data (mg/l) taken from April through December 1978 in Schoharie Reservoir.

Station & Date	Surface	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
		Depth (m)																
27																		
6 Apr	ICE*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	7.7	7.4	5.0	8.3	8.0	10.7	10.1	10.5	10.9	7.6	-	-	-	-	-	-	-	-
26 Apr	3.1	3.5	3.8	4.0	4.1	5.0	6.0	5.0	10.3	96.5	-	-	-	-	-	-	-	-
3 May	2.7	2.5	2.1	1.9	2.1	2.3	2.2	2.3	3.6	35.7	-	-	-	-	-	-	-	-
10 May	1.6	2.1	2.8	2.5	2.8	2.8	3.0	3.3	5.1	11.4	-	-	-	-	-	-	-	-
17 May	1.5	2.4	12.5	13.2	35.2	42.0	43.6	18.6	18.6	41.2	-	-	-	-	-	-	-	-
24 May	3.2	3.9	3.8	4.7	5.7	6.5	6.8	5.7	5.6	14.7	-	-	-	-	-	-	-	-
1 Jun	2.1	2.2	2.6	3.2	1.8	2.1	2.7	1.6	2.7	9.0	-	-	-	-	-	-	-	-
8 Jun	1.4	1.0	0.9	1.0	ND**	0.4	ND	ND	6.6	2.2	-	-	-	-	-	-	-	-
16 Jun	2.3	2.6	3.5	4.5	6.2	7.2	3.4	3.4	6.0	19.1	-	-	-	-	-	-	-	-
22 Jun	0.6	1.0	1.1	1.0	2.4	4.1	3.4	2.8	3.9	46.2	-	-	-	-	-	-	-	-
29 Jun	0.5	0.5	2.0	0.9	1.1	2.2	4.6	5.9	7.3	9.0	-	-	-	-	-	-	-	-
6 Jul	1.1	1.3	1.6	1.4	2.2	6.2	5.1	7.2	2.8	-	-	-	-	-	-	-	-	-
13 Jul	2.8	3.5	1.9	1.3	2.6	2.2	2.2	8.3	49.6	-	-	-	-	-	-	-	-	-
20 Jul	1.0	1.1	0.9	1.3	1.3	3.3	5.4	6.4	-	-	-	-	-	-	-	-	-	-
27 Jul	1.6	1.9	2.1	3.1	2.6	3.7	6.5	20.4	-	-	-	-	-	-	-	-	-	-
3 Aug	1.6	1.4	1.4	2.2	2.6	5.2	10.8	-	-	-	-	-	-	-	-	-	-	-
10 Aug	0.6	1.8	1.8	2.5	9.2	23.7	13.0	-	-	-	-	-	-	-	-	-	-	-
17 Aug	2.6	3.9	2.9	3.2	3.7	8.3	20.2	-	-	-	-	-	-	-	-	-	-	-
24 Aug	1.5	1.9	3.7	2.3	3.1	4.9	26.6	-	-	-	-	-	-	-	-	-	-	-
31 Aug	1.3	0.6	0.8	1.8	2.0	5.9	-	-	-	-	-	-	-	-	-	-	-	-
7 Sep	2.7	2.3	2.6	5.9	8.4	18.5(9)#	-	-	-	-	-	-	-	-	-	-	-	-
14 Sep	6.2	8.9	8.6	9.8	52.8	-	-	-	-	-	-	-	-	-	-	-	-	-
21 Sep	3.4	3.9	4.5	9.8	23.3(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
28 Sep	1.8	2.6	2.0	2.8	8.3	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Oct	1.8	1.8	1.9	1.2	15.7	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Oct	2.4	2.4	2.3	2.8	3.6(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Oct	2.1	2.4	2.2	2.6	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-
26 Oct	4.9	5.3	4.9	8.0	7.6	24.7	-	-	-	-	-	-	-	-	-	-	-	-
2 Nov	6.4	-	-	2.3(5)	-	4.7	-	-	-	-	-	-	-	-	-	-	-	-
16 Nov	1.3	-	-	1.5	-	-	2.5	-	-	-	-	-	-	-	-	-	-	-
7 Dec	1.8	-	-	-	2.3	-	-	-	21.6(15)	-	-	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30																		
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	6.6	6.8	6.3	5.9	5.7	7.5	5.8	5.8	7.0	7.0	6.7	8.0	5.9	9.6	6.6	ND	9.1	33.6
26 Apr	3.8	3.2	4.1	5.0	5.2	5.6	4.7	5.0	4.7	6.5	5.1	5.6	4.7	10.3	4.7	5.3	5.8	19.2
3 May	1.9	1.5	1.6	3.5	2.2	1.8	2.0	1.7	3.9	2.7	2.9	3.7	3.2	3.4	2.9	2.5	2.9	8.4
10 May	2.0	1.1	1.6	1.6	1.2	0.8	1.0	0.6	1.6	1.1	3.8	3.2	2.3	3.2	3.2	2.6	3.2	11.4
17 May	1.7	5.5	8.7	9.6	8.8	6.9	5.0	4.1	4.4	4.1	1.6	2.3	2.1	2.5	2.8	2.2	2.7	3.4
24 May	4.0	4.1	3.6	3.0	3.9	3.0	3.6	3.2	3.4	3.2	2.9	2.8	1.4	1.6	2.0	4.0	3.6	5.9
1 Jun	2.0	1.8	1.6	1.2	1.1	1.2	0.9	1.4	1.7	1.3	1.2	1.7	1.8	2.0	2.1	2.3	2.5	53.4
8 Jun	ND	ND	ND	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	1.6
15 Jun	DNR##	2.3	1.7	0.6	0.5	1.1	0.7	1.0	0.4	5.5	0.6	1.1	0.9	1.5	1.4	1.3	1.2	2.8
22 Jun	1.2	1.4	0.7	0.9	1.2	1.0	0.7	0.3	1.4	1.3	1.4	1.9	1.4	1.5	1.8	1.8	1.7	19.3
29 Jun	0.8	0.7	1.0	1.7	1.0	1.0	1.5	1.3	1.5	1.4	1.6	1.5	1.1	1.6	1.6	2.1	2.3	81.6
6 Jul	0.8	1.1	1.7	1.5	2.2	2.3	1.6	1.2	1.2	1.6	1.8	2.0	1.8	1.5	1.7	2.2	6.1	-
13 Jul	0.2	0.8	1.1	1.7	1.7	1.0	1.4	1.2	0.9	1.4	1.2	1.3	1.2	1.3	1.6	2.1	22.0	-
20 Jul	0.5	1.2	1.7	1.5	1.8	1.5	1.3	1.0	0.9	0.8	0.9	1.2	1.2	2.7	1.4	1.2	-	-
27 Jul	1.7	2.1	2.1	2.4	2.8	2.1	2.1	2.1	1.0	0.7	0.2	0.9	0.5	0.3	0.7	9.4	-	-

* ICE = no samples taken because of unsafe ice conditions.
** ND = not detectable.
\# Depth in parentheses.

Table 164 - (Continued).

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
30 - (Continued)																		
3 Aug	1.1	2.2	1.8	1.8	1.5	2.6	2.5	2.1	1.6	1.3	1.1	1.6	0.7	0.9	0.9	2.0(29)	-	-
10 Aug	3.0	1.1	3.2	2.0	1.6	3.1	5.2	3.7	1.8	1.5	1.0	1.3	1.7	1.0	2.6	-	-	-
17 Aug	1.8	2.1	1.8	1.8	1.5	2.2	4.3	4.3	3.0	2.9	3.0	3.0	2.9	3.0	5.0	-	-	-
24 Aug	0.7	0.9	1.0	0.7	1.4	2.9	3.1	2.8	3.3	2.4	2.6	3.8	5.7	7.3	124.8(27)	-	-	-
31 Aug	1.5	1.3	1.6	1.4	1.6	4.0	4.1	3.2	3.0	2.2	3.8	4.2	5.2	5.9	-	-	-	-
7 Sep	1.4	2.0	1.9	2.8	3.1	3.6	4.6	4.0	2.6	4.0	4.3	5.5	7.4	7.8(25)	-	-	-	-
14 Sep	2.6	3.2	3.7	3.8	4.4	4.4	4.5	4.4	4.8	4.3	6.3	8.1	9.4	-	-	-	-	-
21 Sep	1.6	2.8	3.7	5.1	9.0	11.7	9.5	9.1	6.8	4.7	6.6	7.0	8.2(23)	-	-	-	-	-
28 Sep	1.9	2.4	1.5	2.1	2.8	5.5	6.8	6.6	5.1	6.5	5.8	10.2	9.7	-	-	-	-	-
5 Oct	1.2	1.8	1.8	1.8	2.1	1.8	3.1	6.4	6.3	5.3	5.9	6.3	5.7	41.0(25)	-	-	-	-
12 Oct	2.8	3.1	2.9	3.0	2.7	3.1	5.2	4.9	4.6	4.4	5.3	5.3	14.2(23)	-	-	-	-	-
19 Oct	2.5	3.1	2.3	2.8	2.9	3.5	7.2	8.1	6.7	7.5	6.6	6.8	8.6	-	-	-	-	-
26 Oct	4.0	2.8	3.1	3.5	3.9	3.4	3.5	3.8	4.6	5.7	6.8	7.6	7.2	20.0(25)	-	-	-	-
2 Nov	1.5	-	-	-	-	-	-	3.0(13)	-	-	-	-	-	11.8	-	-	-	-
16 Nov	2.4	-	-	-	-	-	-	3.8	-	-	-	-	-	-	10.7	-	-	-
7 Dec	1.6	-	-	-	-	-	-	-	2.3(15)	-	-	-	-	-	-	12.9	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 165. Summary of Secchi disc transparency data (cm) measured from April through December 1978 in Lower and Upper B-G and Schoharie Reservoir.

Date	Station							
	Lower B-G		Upper B-G		Schoharie Reservoir			
	13	14	16	17	26	27	28	30
6 Apr	DNR*	DNR	ICE**	ICE	ICE	ICE	ICE	ICE
12 Apr	37	40	ICE	ICE	ICE	ICE	ICE	ICE
19 Apr	45	38	50	45	110	86	60	60
26 Apr	60	65	70	70	200	200	135	130
$\bar{x}$	47	48	60	58	155	143	98	95
3 May	65	60	70	70	275	225	175	134
10 May	80	65	70	70	95	240	235	265
17 May	95	90	110	105	27	180	275	250
24 May	160	145	160	145	185	170	170	160
$\bar{x}$	100	90	103	98	146	204	214	202
1 Jun	213	210	196	229	120	280	151	162
8 Jun	144	89	102	102	74	192	274	268
15 Jun	-	-	-	-	151	297	273	178
16 Jun	218	140	137	161	-	-	-	-
22 Jun	195	170	151	195	80	490	375	375
29 Jun	177	120	120	145	96	560	580	440
$\bar{x}$	189	146	141	166	104	364	331	285
6 Jul	180	175	200	200	180	475	525	475
13 Jul	169	125	180	165	160	220	530	560
20 Jul	212	200	275	255	176	505	630	565
27 Jul	130	152	185	183	127	273	220	358
$\bar{x}$	173	163	210	201	161	368	476	490
3 Aug	150	198	208	215	156	297	410	450
10 Aug	180	113	132	117	205	425	480	265
17 Aug	325	148	211	190	176	323	328	300
24 Aug	325	223	279	335	230	390	382	434
31 Aug	280	168	185	154	141	275	353	355
$\bar{x}$	252	170	203	202	182	342	391	361
7 Sep	236	142	250	200	136	250	134	317
14 Sep	100	150	245	260	132	95	154	167
21 Sep	87	86	152	175	102	153	125	225
28 Sep	122	124	147	163	217	214	221	216
$\bar{x}$	136	126	199	200	147	178	159	231
5 Oct	178	117	140	170	246	225	223	293
12 Oct	175	156	198	216	245	245	198	235
19 Oct	220	180	223	248	250	250	200	175
26 Oct	175	195	198	225	350	162	200	210
$\bar{x}$	187	162	190	215	273	221	205	228
2 Nov	235	200	240	230	146	304	280	274
16 Nov	190	175	255	210	360	275	180	180
$\bar{x}$	213	188	248	220	253	290	230	227
7 Dec	187	175	199	181	317	206	164	173
29 Dec	ICE	ICE	ICE	ICE	ICE	ICE	ICE	ICE
$\bar{x}$	-	-	-	-	-	-	-	-
Grand $\bar{x}$	167	139	172	175	176	274	279	279
SD	73.1	51.1	62.5	64.7	80.0	116.7	146.6	127.8
Minimum	37	38	50	45	27	86	60	60
Maximum	325	223	279	335	360	560	630	565
n (days)	32	32	31	31	31	31	31	31

* DNR = data not recorded.
** ICE = no samples taken because of unsafe ice conditions.

Table 166. Summary of depth of euphotic zone data (m) measured from April through December 1978 in Lower and Upper B-G and Schoharie Reservoir.

Date	Station							
	Lower B-G		Upper B-G		Schoharie Reservoir			
	13	14	16	17	26	27	28	30
6 Apr	DNR*	DNR	ICE**	ICE	ICE	ICE	ICE	ICE
12 Apr	1.2	1.0	ICE	ICE	ICE	ICE	ICE	ICE
19 Apr	1.2	0.9	1.3	1.3	4.0	3.0	2.0	2.0
26 Apr	1.4	1.8	1.8	1.8	4.9	4.7	3.7	3.4
$\bar{x}$	1.3	1.2	1.6	1.6	4.5	3.9	2.9	2.7
3 May	1.9	1.9	1.9	1.9	5.5	4.5	4.0	3.7
10 May	2.0	2.0	2.5	2.0	2.8	5.0	5.2	6.4
17 May	3.0	2.6	2.8	2.7	0.8	3.0	4.7	4.3
24 May	4.0	3.9	3.6	3.4	4.0	3.9	3.9	3.8
$\bar{x}$	2.8	2.6	2.7	2.5	3.3	4.1	4.5	4.6
1 Jun	5.1	6.1	5.6	5.9	3.4	5.0	5.7	6.2
8 Jun	4.4	3.2	4.3	3.5	2.2	4.4	5.4	6.0
15 Jun	-	-	-	-	4.7	5.6	6.3	6.3
16 Jun	5.2	5.0	4.8	4.9	-	-	-	-
22 Jun	4.0	5.0	4.9	6.1	3.8	6.4	6.2	6.2
29 Jun	4.9	4.8	5.4	5.2	4.0	9.2	9.5	9.0
$\bar{x}$	4.7	4.8	5.0	5.1	3.6	6.1	6.6	6.7
6 Jul	5.0	5.0	4.9	5.1	4.0	6.9	7.5	7.8
13 Jul	5.3	4.6	5.5	4.8	3.1	5.5	8.9	8.9
20 Jul	5.7	5.0	6.0	5.4	4.0	6.6	7.5	7.3
27 Jul	4.7	5.0	5.5	5.7	5.3	6.9	7.8	8.3
$\bar{x}$	5.2	4.9	5.5	5.3	4.1	6.5	7.9	8.1
3 Aug	5.0	5.4	4.9	5.0	4.1	7.3	7.0	8.6
10 Aug	4.6	4.2	4.5	4.4	3.8	6.9	7.3	5.7
17 Aug	6.9	4.5	6.0	5.2	3.6	6.0	7.0	7.0
24 Aug	6.9	5.3	7.2	6.7	4.5	6.8	7.5	7.9
31 Aug	5.9	4.6	5.4	4.6	3.0	7.0	7.5	7.2
$\bar{x}$	5.9	4.8	5.6	5.2	3.8	6.8	7.3	7.3
7 Sep	4.8	5.5	5.9	5.7	3.7	5.0	5.2	6.5
14 Sep	3.7	4.4	6.1	7.0	5.6	2.6	4.4	4.3
21 Sep	3.0	3.0	4.2	4.7	2.6	3.5	4.6	4.8
28 Sep	3.0	3.4	4.6	4.4	5.8	4.8	4.9	6.6
$\bar{x}$	3.6	4.1	5.2	5.5	4.4	4.0	4.8	5.6
5 Oct	4.6	4.5	4.7	4.0	5.0***	4.1	4.5	4.7
12 Oct	5.0	5.0	4.6	5.0	3.0***	5.0	4.1	5.2
19 Oct	5.2	4.8	6.2	6.3	4.0***	5.1	4.2	4.3
26 Oct	4.7	5.0	5.7	5.3	5.0***	3.9	4.7	4.6
$\bar{x}$	4.9	4.8	5.3	5.2	-	4.5	4.4	4.7
2 Nov	3.8	4.0	4.6	4.6	2.5	4.8	4.1	4.3
16 Nov	4.6	4.0	5.4	4.7	6.3	5.2	4.4	4.6
$\bar{x}$	4.2	4.0	5.0	4.7	4.4	5.0	4.3	4.5
7 Dec	5.4	5.4	4.4	5.0	3.8	3.8	4.3	4.2
29 Dec	ICE	ICE	ICE	ICE	ICE	ICE	ICE	ICE
$\bar{x}$	-	-	-	-	-	-	-	-
Grand $\bar{x}$	4.3	4.1	4.7	4.6	3.9	5.2	5.6	5.8
SD	1.50	1.36	1.39	1.43	1.21	1.49	1.74	1.79
Minimum	1.2	0.9	1.3	1.3	0.8	3.0	2.0	2.0
Maximum	6.9	6.1	7.2	7.0	6.3	9.2	9.5	9.0
n (days)	32	32	31	31	27	31	31	31

* DNR = data not recorded.
** ICE = no samples taken because of unsafe ice conditions.
*** Euphotic zone was greater than depth of station; data not included in calculations.

Table 167. Air temperature data (C) measured from April through December 1978 in Lower and Upper B-G and Schoharie Reservoir.

Date	Station							
	Lower B-G		Upper B-G		Schoharie Reservoir			
	13	14	16	17	26	27	28	30
6 Apr	7	5	ICE*	ICE	ICE	ICE	ICE	ICE
12 Apr	12	10	ICE	ICE	ICE	ICE	ICE	ICE
19 Apr	7	7	3	3	10	6	5	5
26 Apr	15	17	12	11	15	19	16	16
3 May	14	12	13	13	12	13	12	11
10 May	12	10	8	8	13	15	13	13
17 May	17	16	11	12	14	14	14	13
24 May	15	14	14	13	18	17	16	17
1 Jun	29	27	26	24	21	22	22	22
8 Jun	23	22	22	22	21	21	22	23
15 Jun	-	-	-	-	18	18	20	19
16 Jun	27	27	22	23	-	-	-	-
22 Jun	25	25	25	24	22	21	25	24
29 Jun	29	25	26	26	28	27	28	30
6 Jul	24	27	26	25	25	26	26	29
13 Jul	28	27	24	26	21	24	26	26
20 Jul	33	31	30	31	29	29	30	31
27 Jul	27	29	25	26	23	25	24	26
3 Aug	30	31	28	29	25	25	27	27
10 Aug	27	27	25	25	23	26	26	26
17 Aug	27	26	25	23	29	28	28	27
24 Aug	24	23	23	23	24	24	24	23
31 Aug	16	16	15	15	15	15	15	15
7 Sep	22	22	22	22	23	23	22	22
14 Sep	20	19	18	17	15	16	17	18
21 Sep	29	25	26	25	22	22	23	23
28 Sep	13	13	10	9	13	12	11	11
5 Oct	16	15	15	15	8	10	11	14
12 Oct	18	17	16	16	17	16	16	16
19 Oct	10	11	8	9	10	11	11	10
26 Oct	14	15	13	13	14	14	14	14
2 Nov	14	11	12	12	7	11	11	13
16 Nov	5	6	3	3	4	6	4	5
7 Dec	6	7	5	5	5	7	4	6
29 Dec	ICE	ICE	ICE	ICE	ICE	ICE	ICE	ICE
Minimum	5	5	3	3	4	6	4	5
Maximum	33	31	30	31	29	29	30	31

* ICE = no samples taken because of unsafe ice conditions.

Table 168. Summary of water temperature data (C) measured from April through December 1978 in Lower and Upper B-G.

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22
13												
6 Apr	2.0	2.0	2.0	2.0	2.0	2.0	-	-	-	-	-	-
12 Apr	3.0	2.8	2.8	2.8	2.8(7)*	-	-	-	-	-	-	-
19 Apr	4.0	4.0	4.0	4.0	4.0	4.0(9)	-	-	-	-	-	-
26 Apr	5.6	5.2	5.2	5.2	5.2	5.2(9)	-	-	-	-	-	-
3 May	6.5	6.1	6.1	6.1	6.1	6.1	6.1(11)	-	-	-	-	-
10 May	8.3	8.0	8.0	7.9	7.9	7.9	7.8	7.8(13)	-	-	-	-
17 May	9.7	9.5	9.5	9.4	9.4	9.4	9.3	9.3	-	-	-	-
24 May	12.9	12.6	12.2	12.0	11.7	11.3	11.2(11)	-	-	-	-	-
1 Jun	17.8	17.0	17.0	16.5	16.5	16.2	16.0(11)	-	-	-	-	-
8 Jun	18.3	18.3	17.9	17.6	17.5	17.2	17.2	-	-	-	-	-
16 Jun	19.6	17.8	17.6	17.5	17.5	17.3(9)	-	-	-	-	-	-
22 Jun	19.9	18.7	18.5	18.2	18.2	18.1	17.5	-	-	-	-	-
29 Jun	20.5	20.0	19.8	19.7	19.6	19.5	19.4	19.1(13)	-	-	-	-
6 Jul	23.5	20.8	20.1	19.9	19.7	19.7	19.5(11)	-	-	-	-	-
13 Jul	22.9	22.3	21.8	21.1	21.1	21.0	20.9	-	-	-	-	-
20 Jul	25.2	23.9	22.5	22.1	22.1	22.0	22.0	22.0	21.8(15)	-	-	-
27 Jul	23.6	23.6	23.5	23.5	23.5	23.5	-	-	-	-	-	-
3 Aug	23.9	23.7	23.5	22.6	22.5	22.5	22.5	22.5	22.1	-	-	-
10 Aug	23.7	23.0	22.9	22.9	22.8	22.8	22.5	22.2	21.6	21.8	-	-
17 Aug	24.5	24.0	23.8	23.4	23.4	23.3	23.2	22.9(13)	-	-	-	-
24 Aug	23.8	23.8	23.2	23.1	23.0	23.0	23.0	22.9	-	-	-	-
31 Aug	22.5	22.5	22.5	22.4	22.2	22.2	22.2	22.2	22.2(15)	-	-	-
7 Sep	21.9	21.9	21.8	21.8	21.8	21.8	21.8	21.7	21.7	21.4	21.1	20.8(21)
14 Sep	20.8	20.7	20.3	20.3	20.1	19.9	19.9	19.9	19.9	-	-	-
21 Sep	21.3	19.4	19.0	18.8	18.6	18.6	18.5	18.2	17.2	17.0	16.6	-
28 Sep	17.9	17.8	17.8	17.8	17.6	17.6	17.6	17.5	17.0	-	-	-
5 Oct	17.0	16.3	16.1	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0(19)	-
12 Oct	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.6	14.6	14.6	14.6(19)	-
19 Oct	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9(19)	-
26 Oct	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	-
2 Nov	11.0	-	-	-	-	10.8	-	-	-	-	10.7	-
16 Nov	9.2	-	-	-	-	9.2(9)	-	-	-	9.2	-	-
7 Dec	4.8	-	-	-	-	4.5	-	-	-	-	4.5(19)	-
29 Dec	ICE**	-	-	-	-	-	-	-	-	-	-	-
14												
6 Apr	2.0	1.9	1.9	1.8	1.8	-	-	-	-	-	-	-
12 Apr	3.1	3.0	3.0	-	-	-	-	-	-	-	-	-
19 Apr	3.9	3.9	3.4	3.9(5)	-	-	-	-	-	-	-	-
26 Apr	5.5	5.5	5.5	5.5(5)	-	-	-	-	-	-	-	-
3 May	6.2	6.1	6.1	6.1	-	-	-	-	-	-	-	-
10 May	8.1	8.1	8.1	8.1	8.1	8.1(9)	-	-	-	-	-	-
17 May	9.7	9.6	9.5	9.5	9.5	9.5	-	-	-	-	-	-
24 May	12.3	12.3	12.3	12.3	12.3(7)	-	-	-	-	-	-	-
1 Jun	16.7	16.7	16.7	16.7	16.7	16.6(9)	-	-	-	-	-	-
8 Jun	17.6	17.6	17.6	17.6	-	-	-	-	-	-	-	-
16 Jun	17.3	17.3	17.3	17.2(5)	-	-	-	-	-	-	-	-
22 Jun	18.6	18.6	18.6	18.6	18.5	-	-	-	-	-	-	-
29 Jun	19.9	19.9	19.9	19.9	19.9	-	-	-	-	-	-	-
6 Jul	20.1	20.1	20.1	20.1	-	-	-	-	-	-	-	-
13 Jul	21.3	21.2	21.2	21.2	21.2	-	-	-	-	-	-	-
20 Jul	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	-	-	-	-
27 Jul	23.1	23.1	23.1	23.1	-	-	-	-	-	-	-	-

* Depth in parentheses.
** ICE = no samples taken because of unsafe ice conditions.

Table 168 - (Continued).

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22
14 - (Continued)												
3 Aug	22.5	22.5	22.5	22.5	22.5	22.5	22.4	-	-	-	-	-
10 Aug	23.0	23.0	23.0	23.0	-	-	-	-	-	-	-	-
17 Aug	23.6	23.6	23.6	23.6	23.6	-	-	-	-	-	-	-
24 Aug	23.0	23.0	23.0	23.0	23.0	23.0(9)	-	-	-	-	-	-
31 Aug	22.2	22.2	22.2	22.2	22.2	22.2	-	-	-	-	-	-
7 Sep	21.6	21.6	21.6	21.6	21.6	21.6(9)	-	-	-	-	-	-
14 Sep	19.9	19.9	19.9	19.9	19.9	19.9(9)	-	-	-	-	-	-
21 Sep	18.8	18.8	18.8	18.8	18.8	18.8	-	-	-	-	-	-
28 Sep	17.5	17.5	17.5	17.5	-	-	-	-	-	-	-	-
5 Oct	15.3	15.3	15.3	15.3	15.3	15.3(9)	-	-	-	-	-	-
12 Oct	14.5	14.5	14.5	14.5	14.5	-	-	-	-	-	-	-
19 Oct	12.7	12.7	12.7	12.7	12.7	12.7(9)	-	-	-	-	-	-
26 Oct	11.9	11.9	11.9	11.9	11.9	-	-	-	-	-	-	-
2 Nov	10.8	-	-	10.8(5)	-	10.8(9)	-	-	-	-	-	-
16 Nov	9.2	-	9.2(3)	9.2	-	-	-	-	-	-	-	-
7 Dec	4.5	-	4.5	-	4.5	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-
16												
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
19 Apr	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2(17)	-	-
26 Apr	5.3	5.3	5.3	5.2	5.2	5.1	5.0	4.7	4.7	4.6	-	-
3 May	6.1	6.0	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9	-	-
10 May	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.7	-	-	-	-
17 May	9.6	9.6	9.5	9.4	9.2	9.1	9.1	9.1	-	-	-	-
24 May	13.3	13.0	12.6	12.6	12.1	12.0	11.8	11.1	10.5	-	-	-
1 Jun	17.9	17.0	16.6	16.4	16.2	16.0	16.0	15.2	12.0	-	-	-
8 Jun	17.5	17.4	17.2	17.2	17.2	17.1	17.1	16.9	15.2	-	-	-
16 Jun	18.2	17.3	17.2	17.2	17.1	17.1	17.1	17.0	17.0	16.0	-	-
22 Jun	19.1	19.0	18.5	18.2	18.1	18.0	17.8	17.3	16.7	-	-	-
29 Jun	20.0	20.0	19.9	19.8	19.7	19.6	19.6	19.1	17.0	-	-	-
6 Jul	22.5	20.2	20.0	19.9	19.8	19.7	19.6	19.6	19.2	18.3(17)	-	-
13 Jul	21.9	21.8	21.2	21.1	21.0	20.9	20.8	20.7	18.9	-	-	-
20 Jul	23.9	22.2	22.0	22.0	22.0	21.9	21.8	19.5	-	-	-	-
27 Jul	23.2	23.1	23.1	23.1	23.1	23.1	23.0	22.9	22.4	19.9	-	-
3 Aug	22.8	22.7	22.5	22.2	22.1	22.0	21.9	-	-	-	-	-
10 Aug	23.0	23.0	22.9	22.9	22.9	22.8	22.8	22.7	22.3	21.9(17)	-	-
17 Aug	23.5	23.5	23.5	23.5	23.4	23.2	23.2	23.1	22.0	-	-	-
24 Aug	23.5	23.5	23.4	23.2	23.2	23.2	23.0	22.5	-	-	-	-
31 Aug	22.1	22.2	22.2	22.2	22.2	22.2	22.1	21.8	-	-	-	-
7 Sep	21.7	21.7	21.7	21.6	21.6	21.5	21.5	21.3	21.3(15)	-	-	-
14 Sep	19.9	19.9	19.9	19.9	19.8	19.6	19.6	19.5	19.4	19.3	-	-
21 Sep	20.0	18.6	18.6	18.6	18.5	18.5	18.5	18.2	-	-	-	-
28 Sep	17.4	17.4	17.4	17.3	17.2	17.2	17.2	17.2	17.2	17.2(17)	-	-
5 Oct	16.2	16.0	15.9	15.9	15.9	15.7	15.7	15.7	15.5(15)	-	-	-
12 Oct	14.5	14.5	14.5	14.2	14.2	14.2	14.0	14.0	14.0	-	-	-
19 Oct	12.7	12.7	12.7	12.7	12.6	12.5	12.5	12.5	12.5(15)	-	-	-
26 Oct	11.9	11.8	11.8	11.8	11.6	11.5	11.5	11.5	-	-	-	-
2 Nov	10.8	-	-	-	10.3	-	-	-	10.2(15)	-	-	-
16 Nov	9.1	-	-	-	9.1	-	-	-	9.0	-	-	-
7 Dec	4.2	-	-	-	4.1	-	-	-	4.1(15)	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-

Table 168 - (Continued).

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22
17												
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
19 Apr	3.5	3.5	3.5	3.5	3.5	3.4	3.4	3.4	3.4	3.4	-	-
26 Apr	6.6	5.8	5.7	5.6	5.6	5.6	5.6	5.5	5.1	5.0	-	-
3 May	6.5	6.4	6.4	6.3	6.3	6.3	6.3	6.3	6.3	6.1	6.1(19)	-
10 May	8.1	8.1	8.1	8.1	8.1	8.1	8.0	8.0	7.5	-	-	-
17 May	9.5	9.5	9.3	9.2	9.2	9.2	9.1	9.0	9.0(15)	-	-	-
24 May	12.3	12.2	12.1	12.1	11.9	11.8	11.4	11.4	10.9	-	-	-
1 Jun	19.6	19.1	17.0	16.9	16.2	16.1	16.0	15.3	12.2	-	-	-
8 Jun	17.4	17.3	17.3	17.2	17.2	17.1	16.8	15.3	15.3	11.4(17)	-	-
16 Jun	18.6	17.5	17.2	17.2	17.2	17.2	17.1	17.1	17.0	16.0	11.5(19)	-
22 Jun	20.1	20.1	19.9	18.5	18.3	18.0	17.5	17.0	16.8	-	-	-
29 Jun	20.4	20.3	20.3	20.3	20.2	20.0	19.5	18.8	17.0	12.7	-	-
6 Jul	20.2	20.2	20.0	20.0	19.9	19.8	19.7	19.5	19.3	19.1(17)	-	-
13 Jul	21.7	21.2	21.1	21.1	21.0	21.0	20.9	20.4	18.2	15.6(17)	-	-
20 Jul	24.0	22.2	22.1	22.0	22.0	21.8	21.0	19.0	15.5(15)	-	-	-
27 Jul	23.2	23.1	23.0	23.0	23.0	22.9	22.9	22.8	22.4	17.6	15.7(19)	-
3 Aug	22.8	22.6	22.1	22.1	22.0	22.0	22.0	13.9	-	-	-	-
10 Aug	23.1	23.1	23.1	23.0	23.0	22.9	22.9	22.5	22.2	22.1(17)	-	-
17 Aug	23.5	23.5	23.5	23.5	23.5	23.5	23.3	23.0	19.9	16.8(17)	-	-
24 Aug	23.2	23.3	23.3	23.3	23.2	23.2	23.0	23.0(13)	-	-	-	-
31 Aug	22.2	22.2	22.2	22.2	22.2	22.0	22.0	22.0	-	-	-	-
7 Sep	21.9	21.8	21.9	21.9	21.8	21.8	21.7	21.7	21.7(15)	-	-	-
14 Sep	19.9	19.8	19.8	19.7	19.7	19.6	19.5	19.2	19.1	19.2	-	-
21 Sep	19.5	19.2	18.5	18.5	18.5	18.5	18.3	18.3	18.3(15)	-	-	-
28 Sep	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.2	17.2	17.2	-	-
5 Oct	16.0	15.9	15.9	15.8	15.8	15.7	15.7	15.7	15.5	-	-	-
12 Oct	14.3	14.2	14.2	14.2	14.1	14.0	14.0	14.0	14.0	14.0(17)	-	-
19 Oct	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	-	-	-
26 Oct	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	-	-	-
2 Nov	10.8	-	-	-	10.6	-	-	-	10.5	-	-	-
16 Nov	9.2	-	-	-	-	9.1(9)	-	-	-	9.0	-	-
7 Dec	4.5	-	-	-	4.1	-	-	-	4.1	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-

Table 169. Summary of water temperature data (C) measured from April through December 1978 in Schoharie Reservoir.

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
26																		
6 Apr	ICE*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	5.8	5.8	5.7	5.3	4.6	4.3	3.9	3.9	-	-	-	-	-	-	-	-	-	-
26 Apr	7.6	6.6	6.4	6.0	5.7	5.3	5.2	5.2	-	-	-	-	-	-	-	-	-	-
3 May	8.5	8.3	8.1	8.0	7.9	7.9	7.8	6.7	-	-	-	-	-	-	-	-	-	-
10 May	10.5	10.3	7.9	5.8	5.5	5.5	5.3	5.3	-	-	-	-	-	-	-	-	-	-
17 May	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	-	-	-	-	-	-	-	-	-	-
24 May	13.9	13.2	10.8	10.5	10.1	9.3	8.3	7.6	-	-	-	-	-	-	-	-	-	-
1 Jun	18.3	18.0	17.0	12.0	9.5	8.5	7.8	7.3	-	-	-	-	-	-	-	-	-	-
8 Jun	15.8	15.7	14.4	11.9	8.7	8.3	8.0	7.8	-	-	-	-	-	-	-	-	-	-
15 Jun	17.2	16.9	16.7	16.3	15.1	13.1	9.6	8.0	-	-	-	-	-	-	-	-	-	-
22 Jun	20.4	18.9	18.0	17.1	14.0	8.6	8.0	7.9	-	-	-	-	-	-	-	-	-	-
29 Jun	23.2	21.7	18.1	16.8	16.1	15.1	14.2	13.4(13)**		-	-	-	-	-	-	-	-	-
6 Jul	20.8	20.2	18.6	17.4	16.5	16.0	14.8	-	-	-	-	-	-	-	-	-	-	-
13 Jul	22.5	20.1	19.7	19.2	18.2	15.9	13.0	-	-	-	-	-	-	-	-	-	-	-
20 Jul	23.0	22.8	22.2	21.6	19.0	17.0	-	-	-	-	-	-	-	-	-	-	-	-
27 Jul	23.0	23.0	22.7	22.1	21.2	19.4	-	-	-	-	-	-	-	-	-	-	-	-
3 Aug	22.9	22.2	22.0	21.8	20.1	-	-	-	-	-	-	-	-	-	-	-	-	-
10 Aug	22.6	22.3	22.0	21.3	21.2	-	-	-	-	-	-	-	-	-	-	-	-	-
17 Aug	23.0	22.6	22.2	21.6	20.6	-	-	-	-	-	-	-	-	-	-	-	-	-
24 Aug	23.2	23.1	23.0	22.8	22.5(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
31 Aug	22.0	21.9	21.2	21.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7 Sep	20.5	20.5	20.1	20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14 Sep	18.1	16.6	15.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21 Sep	18.1	18.5	16.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28 Sep	15.2	15.0	14.6	14.5(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Oct	13.2	13.0	12.0	12.0(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Oct	12.0	12.0	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Oct	9.9	7.0	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26 Oct	8.5	8.4	8.2	8.0(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 Nov	8.5	-	7.5(3)	6.0(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16 Nov	7.1	-	6.0	-	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-
7 Dec	1.3	-	-	2.8	-	-	3.0(11)	-	-	-	-	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27																		
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	4.8	4.7	4.6	4.6	4.5	4.2	4.1	4.0	4.0	4.0	-	-	-	-	-	-	-	-
26 Apr	8.7	7.9	6.3	5.3	5.2	5.0	5.0	4.9	4.8	4.7	-	-	-	-	-	-	-	-
3 May	7.9	7.8	7.7	7.4	7.4	7.2	7.0	6.4	5.8	5.8	-	-	-	-	-	-	-	-
10 May	8.6	8.1	8.0	7.9	7.7	7.2	6.8	6.3	6.3	5.8	-	-	-	-	-	-	-	-
17 May	9.9	8.9	8.8	8.3	8.2	8.2	8.2	7.9	7.2	7.1	-	-	-	-	-	-	-	-
24 May	13.8	13.4	11.3	10.0	9.2	8.9	8.1	7.6	7.0	6.7	-	-	-	-	-	-	-	-
1 Jun	20.2	20.0	16.1	11.5	9.1	8.2	8.0	7.5	7.0	6.7	-	-	-	-	-	-	-	-
8 Jun	17.0	16.8	15.8	14.8	10.0	8.2	7.8	7.3	7.0	7.0	-	-	-	-	-	-	-	-
15 Jun	17.3	17.0	16.9	16.0	13.8	11.7	9.0	8.1	7.0	6.9	-	-	-	-	-	-	-	-
22 Jun	19.9	19.4	18.5	17.0	16.0	10.2	8.0	7.8	7.0	7.0	-	-	-	-	-	-	-	-
29 Jun	22.0	21.4	20.5	17.8	15.8	14.1	11.3	9.1	7.6	7.4(17)	-	-	-	-	-	-	-	-
6 Jul	20.8	20.2	19.2	18.1	17.0	15.1	13.0	9.4	7.8	-	-	-	-	-	-	-	-	-
13 Jul	22.4	22.0	21.2	19.3	18.2	16.4	15.0	12.1	10.5	-	-	-	-	-	-	-	-	-
20 Jul	23.5	23.0	22.9	21.8	19.2	17.1	14.8	11.1	-	-	-	-	-	-	-	-	-	-
27 Jul	23.8	23.8	23.6	22.2	20.1	18.0	15.1	9.5	-	-	-	-	-	-	-	-	-	-

* ICE = no samples taken because of unsafe ice conditions.
** Depth in parentheses.
*** Sampled with Kemmerer bottle; high winds prevented sampling with thermistor for full profile.

Table 169 - (Continued).

Station & Date	Surface	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
		Depth (m)																
27 - (Continued)																		
3 Aug	22.4	22.4	22.1	21.5	20.8	18.6	15.9	-	-	-	-	-	-	-	-	-	-	-
10 Aug	23.2	23.2	23.1	22.8	21.8	20.4	17.3	-	-	-	-	-	-	-	-	-	-	-
17 Aug	23.9	23.5	23.2	23.0	22.1	20.7	19.5	-	-	-	-	-	-	-	-	-	-	-
24 Aug	23.5	23.5	23.1	22.5	21.5	19.8	17.1(11)	-	-	-	-	-	-	-	-	-	-	-
31 Aug	22.0	22.0	22.0	22.0	21.8	21.6	-	-	-	-	-	-	-	-	-	-	-	-
7 Sep	21.0	21.0	20.9	20.8	20.4	20.2(9)	-	-	-	-	-	-	-	-	-	-	-	-
14 Sep	18.8	18.2	18.2	18.1	14.0	-	-	-	-	-	-	-	-	-	-	-	-	-
21 Sep	19.0	17.5	17.0	16.5	16.1(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
28 Sep	15.8	15.8	15.8	15.2	14.8	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Oct	14.1	14.0	14.0	14.0	13.9	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Oct	13.0	13.0	13.0	13.0	12.3(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Oct	11.0	11.0	11.0	11.0	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-
26 Oct	9.8	9.8	9.8	9.8	9.5	9.0	-	-	-	-	-	-	-	-	-	-	-	-
2 Nov	9.2	-	-	9.0(5)	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-
16 Nov	7.8	-	-	7.0	-	-	7.0	-	-	-	-	-	-	-	-	-	-	-
7 Dec	3.2	-	-	-	3.2	-	-	-	3.2(15)	-	-	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28																		
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.4	-	-	-	-	-	-
26 Apr	6.6	5.9	5.8	5.3	5.1	5.0	4.9	4.5	4.5	4.5	4.5	4.5	-	-	-	-	-	-
3 May	7.0	6.9	6.9	6.6	6.3	6.1	6.1	5.9	5.1	4.9	4.9	4.8	-	-	-	-	-	-
10 May	9.0	8.5	8.1	7.9	7.5	7.0	6.9	6.6	6.1	5.8	5.8	5.7	-	-	-	-	-	-
17 May	9.9	9.2	9.0	8.4	8.1	8.0	7.5	7.1	6.9	6.6	6.1	5.8	-	-	-	-	-	-
24 May	13.5	13.4	13.2	9.5	8.5	8.1	7.9	7.2	6.8	6.5	6.1	6.0	-	-	-	-	-	-
1 Jun	20.7	19.9	14.2	11.4	9.1	8.4	7.8	7.4	7.0	6.9	6.8	6.7	-	-	-	-	-	-
8 Jun	18.1	17.8	17.2	16.1	11.5	9.1	8.0	7.5	6.8	6.5	6.3	6.2	-	-	-	-	-	-
15 Jun	17.1	17.0	16.8	12.4	11.9	9.5	8.0	7.8	7.1	7.0	7.0	6.5	-	-	-	-	-	-
22 Jun	20.2	19.9	18.5	16.9	15.1	12.4	8.9	7.9	7.1	6.8	6.5	6.5	-	-	-	-	-	-
29 Jun	21.9	21.3	20.7	19.6	16.9	13.4	10.2	10.2	7.8	6.9	6.7	6.5(21)	-	-	-	-	-	-
6 Jul	20.8	20.2	20.0	19.3	17.2	14.3	11.5	9.2	7.8	6.9	6.8	-	-	-	-	-	-	-
13 Jul	22.6	22.0	21.3	20.2	18.8	15.9	12.8	9.9	8.4	7.0	6.6	-	-	-	-	-	-	-
20 Jul	24.2	23.4	22.9	21.1	19.9	17.1	14.2	9.5	7.2	7.0	-	-	-	-	-	-	-	-
27 Jul	24.0	24.0	24.0	21.9	20.3	17.8	13.8	7.8	6.8	6.6	-	-	-	-	-	-	-	-
3 Aug	22.6	22.5	22.5	22.1	21.2	18.0	14.8	7.6	6.9	6.4(17)	-	-	-	-	-	-	-	-
10 Aug	23.8	23.7	23.5	22.1	21.5	19.8	15.9	8.3	6.9	-	-	-	-	-	-	-	-	-
17 Aug	24.2	24.0	23.5	23.0	21.1	20.9	14.2	7.0	6.5	-	-	-	-	-	-	-	-	-
24 Aug	23.4	23.1	23.0	22.9	21.9	19.7	13.5	7.3	7.0(15)	-	-	-	-	-	-	-	-	-
31 Aug	22.0	22.1	22.1	22.0	21.2	19.2	8.1	6.9	-	-	-	-	-	-	-	-	-	-
7 Sep	21.1	21.0	21.0	20.9	20.6	17.5	7.5	7.0(13)	-	-	-	-	-	-	-	-	-	-
14 Sep	18.9	18.9	18.7	18.3	17.0	8.5	6.9	-	-	-	-	-	-	-	-	-	-	-
21 Sep	18.9	17.7	17.2	16.8	15.2	13.2	10.4(11)	-	-	-	-	-	-	-	-	-	-	-
28 Sep	16.0	15.9	15.9	15.8	15.7	15.0	13.6	11.6(13)	-	-	-	-	-	-	-	-	-	-
5 Oct	14.2	14.2	14.2	14.2	14.1	14.0	10.0	9.1(13)	-	-	-	-	-	-	-	-	-	-
12 Oct	13.0	13.0	13.0	13.0	12.2	11.0	10.0(11)	-	-	-	-	-	-	-	-	-	-	-
19 Oct	11.0	11.0	11.0	11.0	11.0	10.8	10.0	-	-	-	-	-	-	-	-	-	-	-
26 Oct	10.0	10.0	10.0	9.9	9.6	9.2	8.9	8.9(13)	-	-	-	-	-	-	-	-	-	-
2 Nov	9.5	-	-	-	9.0(7)	-	-	8.0	-	-	-	-	-	-	-	-	-	-
16 Nov	7.9	-	-	-	7.8	-	-	-	7.8	-	-	-	-	-	-	-	-	-
7 Dec	4.2	-	-	-	-	4.2	-	-	-	-	4.0(19)	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 169 - (Continued).

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
30																		
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.7	3.7	3.6
26 Apr	6.2	5.6	5.2	4.8	4.8	4.8	4.8	4.8	4.7	4.5	4.3	4.2	4.1	4.1	4.0	4.0	3.9	3.9
3 May	6.1	6.1	6.1	6.0	6.0	5.5	5.5	5.5	5.4	5.2	5.0	4.9	4.9	4.9	4.8	4.8	4.7	4.5
10 May	8.9	8.8	8.6	7.9	7.2	7.0	7.0	6.9	6.8	6.5	6.3	6.2	5.8	5.3	5.1	5.1	5.1	5.0
17 May	9.6	8.9	8.7	8.3	8.2	8.1	7.8	7.0	6.6	6.2	5.9	5.9	5.7	5.5	5.5	5.5	5.4	5.3
24 May	14.5	14.3	12.5	10.2	8.6	8.2	7.8	7.5	6.8	6.5	6.2	6.1	6.0	5.9	5.8	5.7	5.6	5.5
1 Jun	19.7	16.5	13.5	11.8	9.1	8.5	8.1	7.4	6.7	6.4	6.1	6.0	6.0	6.0	6.0	6.0	6.0	6.0
8 Jun	18.3	18.1	17.9	17.0	11.3	9.7	8.2	7.8	7.1	6.8	6.4	5.3	6.2	6.1	6.1	6.0	5.9	5.9
15 Jun***	16.8	-	-	-	-	-	-	-	-	8.8(17)-		-	-	-	-	-	-	8.8
22 Jun	20.3	20.1	17.0	16.1	14.9	13.1	9.9	7.7	7.1	6.6	6.5	6.3	6.2	6.1	6.1	6.0	6.0	4.9
29 Jun	21.0	20.9	20.1	19.4	16.5	11.5	8.6	7.5	6.9	6.6	6.3	6.2	6.2	6.1	6.1	6.0	6.0	6.0(33)
6 Jul	20.8	20.1	20.0	19.9	19.0	14.9	11.6	7.7	7.1	6.6	6.5	6.3	6.2	6.1	6.1	6.0	6.0	-
13 Jul	22.0	21.8	21.7	21.4	20.6	15.8	13.1	8.1	6.9	6.6	6.3	6.2	6.2	6.1	6.1	6.0	6.0	-
20 Jul	25.0	23.9	23.0	21.0	19.8	18.2	13.9	9.0	7.0	6.7	6.3	6.1	6.0	6.0	6.0	6.0	-	-
27 Jul	24.5	24.5	24.3	24.2	21.0	17.9	14.5	11.3	7.5	6.6	6.3	6.1	6.1	6.1	6.1	6.1	-	-
3 Aug	23.1	22.9	22.9	22.8	21.9	20.3	14.5	7.9	6.9	6.6	6.4	6.3	6.1	6.0	6.0	6.0(29)-		-
10 Aug	24.2	23.9	23.3	21.8	20.9	19.9	16.0	9.0	7.1	6.6	6.1	6.0	6.0	6.0	6.0	-	-	-
17 Aug	25.0	25.0	24.0	23.0	21.0	19.8	16.8	8.0	6.4	6.1	6.0	6.0	6.0	6.0	6.0	-	-	-
24 Aug	23.0	23.0	22.8	22.8	22.8	20.9	9.8	6.8	6.1	6.0	6.0	6.0	6.0	5.9	5.9(27)-		-	-
31 Aug	22.0	22.0	22.0	22.0	21.5	18.0	10.0	6.8	6.2	6.0	5.9	5.9	5.9	5.9	-	-	-	-
7 Sep	21.2	21.1	21.1	20.9	18.8	14.1	8.0	6.5	6.0	6.0	6.0	6.0	6.0	5.9(25)-		-	-	-
14 Sep	18.9	18.8	18.6	18.2	17.9	7.1	6.2	6.0	5.9	5.9	5.9	5.9	5.9(23)-		-	-	-	-
21 Sep	19.0	18.0	17.7	17.0	15.0	13.6	7.8	6.5	6.0	6.0	6.0	6.0	6.0(23)-		-	-	-	-
28 Sep	16.2	16.2	16.1	16.1	16.0	12.3	8.8	7.0	6.0	6.0	6.0	6.0	6.0	-	-	-	-	-
5 Oct	14.8	14.7	14.5	14.5	14.3	14.1	10.3	7.5	6.5	6.0	6.0	6.0	6.0	6.0(25)-		-	-	-
12 Oct	13.3	13.3	13.2	13.2	13.1	13.0	8.1	6.3	6.0	6.0	6.0	6.0	6.0(23)-		-	-	-	-
19 Oct	11.0	11.0	11.0	11.0	11.0	11.0	8.9	7.2	6.3	6.1	6.0	6.0	6.0	-	-	-	-	-
26 Oct	10.3	10.2	10.1	10.1	10.0	10.0	10.0	10.0	8.0	6.2	6.1	6.1	6.0	6.0(25)-		-	-	-
2 Nov	9.5	-	-	-	-	-	-	8.8(13)-		-	-	-	-	6.1	-	-	-	-
16 Nov	7.9	-	-	-	-	-	-	7.9	-	-	-	-	-	-	7.0	-	-	-
7 Dec	4.5	-	-	-	-	-	-	-	4.2(15)-		-	-	-	-	-	4.1	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 170. Summary of daily water temperature data (C) monitored by Partlow seven-day recording thermometers from May through October 1978 in Lower and Upper B-G.

Date		Station LBG 34	Station UBG 50*	Date		Station LBG 34	Station UBG 50	Date		Station LBG 34	Station UBG 50
11 May	$\bar{x}$	9.5	-	22 May	$\bar{x}$	RM#	11.0	1 Jun	$\bar{x}$	16.5	16.5
	SD	0.25	-		SD	-	0.00		SD	0.22	0.21
	Minimum	9.5	-		Minimum	-	11.0		Minimum	16.0	16.0
	Maximum	10.0	-		Maximum	-	11.0		Maximum	16.5	16.5
	19+C**	0	-		19+C	-	0		19+C	0	0
12 May	$\bar{x}$	9.0	-	23 May	$\bar{x}$	RM	11.5	2 Jun	$\bar{x}$	16.5	17.0
	SD	0.28	-		SD	-	0.18		SD	0.00	0.23
	Minimum	9.0	-		Minimum	-	11.0		Minimum	16.5	16.5
	Maximum	10.0	-		Maximum	-	12.0		Maximum	16.5	17.0
	19+C	0	-		19+C	-	0		19+C	0	0
13 May	$\bar{x}$	9.0	-	24 May	$\bar{x}$	11.5	12.5	3 Jun	$\bar{x}$	16.5	17.0
	SD	0.25	-		SD	0.48	0.26		SD	0.00	0.00
	Minimum	9.0	-		Minimum	11.0	12.0		Minimum	16.5	17.0
	Maximum	9.5	-		Maximum	12.0	12.5		Maximum	16.5	17.0
	19+C	0	-		19+C	0	0		19+C	0	0
14 May	$\bar{x}$	9.5	-	25 May	$\bar{x}$	11.5	13.0	4 Jun	$\bar{x}$	17.0	17.0
	SD	0.43	-		SD	0.25	0.42		SD	0.38	0.00
	Minimum	9.0	-		Minimum	11.0	12.5		Minimum	16.5	17.0
	Maximum	10.0	-		Maximum	11.5	13.5		Maximum	17.5	17.0
	19+C	0	-		19+C	0	0		19+C	0	0
15 May	$\bar{x}$	9.0	-	26 May	$\bar{x}$	11.5	13.0	5 Jun	$\bar{x}$	17.0	17.0
	SD	0.61	-		SD	0.00	0.00		SD	0.23	0.00
	Minimum	7.5	-		Minimum	11.5	13.0		Minimum	17.0	17.0
	Maximum	10.0	-		Maximum	11.5	13.0		Maximum	17.5	17.0
	19+C	0	-		19+C	0	0		19+C	0	0
16 May	$\bar{x}$	8.5	-	27 May	$\bar{x}$	11.5	13.0	6 Jun	$\bar{x}$	17.5	16.5
	SD	0.51	-		SD	0.14	0.00		SD	0.50	0.00
	Minimum	7.5	-		Minimum	11.5	13.0		Minimum	17.0	16.5
	Maximum	9.0	-		Maximum	12.0	13.0		Maximum	18.0	16.5
	19+C	0	-		19+C	0	0		19+C	0	0
17 May	$\bar{x}$	9.0	-	28 May	$\bar{x}$	14.5	14.0	7 Jun	$\bar{x}$	17.5	17.0
	SD	0.00	-		SD	1.22	0.38		SD	0.14	0.00
	Minimum	9.0	-		Minimum	12.0	13.0		Minimum	17.5	17.0
	Maximum	9.0	-		Maximum	16.0	14.5		Maximum	18.0	17.0
	19+C	0	-		19+C	0	0		19+C	0	0
18 May	$\bar{x}$	9.0	10.0	29 May	$\bar{x}$	15.5	14.5	8 Jun	$\bar{x}$	18.0	17.0
	SD	0.00	0.00		SD	0.67	0.19		SD	0.19	0.00
	Minimum	9.0	10.0		Minimum	14.5	14.0		Minimum	17.5	17.0
	Maximum	9.0	10.0		Maximum	16.5	14.5		Maximum	18.0	17.0
	19+C	0	0		19+C	0	0		19+C	0	0
19 May	$\bar{x}$	9.5	10.0	30 May	$\bar{x}$	14.5	15.0	9 Jun	$\bar{x}$	18.0	17.0
	SD	0.25	0.00		SD	0.69	0.33		SD	0.00	0.00
	Minimum	9.0	10.0		Minimum	13.0	14.5		Minimum	18.0	17.0
	Maximum	9.5	10.0		Maximum	15.5	15.5		Maximum	18.0	17.0
	19+C	0	0		19+C	0	0		19+C	0	0
20 May	$\bar{x}$	10.0	10.5	31 May	$\bar{x}$	15.5	16.0	10 Jun	$\bar{x}$	18.0	17.0
	SD	0.51	0.26		SD	0.73	0.27		SD	0.19	0.00
	Minimum	9.5	10.0		Minimum	14.5	15.5		Minimum	18.0	17.0
	Maximum	11.0	11.0		Maximum	16.0	16.5		Maximum	18.5	17.0
	19+C	0	0		19+C	0	0		19+C	0	0
21 May	$\bar{x}$	11.5	11.0	Monthly	$\bar{x}$##	11.0	12.5	11 Jun	$\bar{x}$	18.0	17.0
	SD	0.74	0.00		SD	2.36	1.91		SD	0.17	0.25
	Minimum	10.5	11.0		Minimum	7.5	10.0		Minimum	18.0	17.0
	Maximum	12.5	11.0		Maximum	16.5	16.5		Maximum	18.5	17.5
	19+C	0	0		n (days)	19	14		19+C	0	0
					19+C@	0(-)	0(-)				

* First sampled 18 May 1978.
** Number of hours per day that water temperature exceeded 19 C.
\# RM = recorder malfunction.
\#\# Based on mean daily water temperatures.
@ Number of days and mean hours per day (in parentheses) that water temperature exceeded 19 C.
@@ Total number of days from 11 May through 4 October that water temperature exceeded 19 C/total number of days recorded.

Table 170 - (Continued).

Date		Station LBG 34	Station UBG 50
12 Jun	$\bar{x}$	19.0	17.5
	SD	0.29	0.23
	Minimum	18.0	17.5
	Maximum	19.0	18.0
	19+C	0	0
13 Jun	$\bar{x}$	19.0	18.0
	SD	0.26	0.25
	Minimum	18.5	17.5
	Maximum	19.0	18.0
	19+C	0	0
14 Jun	$\bar{x}$	18.5	17.5
	SD	0.25	0.00
	Minimum	18.0	17.5
	Maximum	18.5	17.5
	19+C	0	0
15 Jun	$\bar{x}$	18.0	17.5
	SD	0.00	0.00
	Minimum	18.0	17.5
	Maximum	18.0	17.5
	19+C	0	0
16 Jun	$\bar{x}$	17.5	17.0
	SD	0.46	0.00
	Minimum	17.0	17.0
	Maximum	18.0	17.0
	19+C	0	0
17 Jun	$\bar{x}$	17.0	17.0
	SD	0.00	0.00
	Minimum	17.0	17.0
	Maximum	17.0	17.0
	19+C	0	0
18 Jun	$\bar{x}$	17.0	17.0
	SD	0.00	0.21
	Minimum	17.0	17.0
	Maximum	17.0	17.5
	19+C	0	0
19 Jun	$\bar{x}$	17.0	17.5
	SD	0.25	0.00
	Minimum	16.5	17.5
	Maximum	17.0	17.5
	19+C	0	0
20 Jun	$\bar{x}$	RM	17.5
	SD	-	0.19
	Minimum	-	17.5
	Maximum	-	18.0
	19+C	-	0
21 Jun	$\bar{x}$	18.0	18.5
	SD	0.00	0.29
	Minimum	18.0	18.0
	Maximum	18.0	19.0
	19+C	0	0
22 Jun	$\bar{x}$	18.0	18.5
	SD	0.00	0.00
	Minimum	18.0	18.5
	Maximum	18.0	18.5
	19+C	0	0
23 Jun	$\bar{x}$	18.0	18.5
	SD	0.00	0.00
	Minimum	18.0	18.5
	Maximum	18.0	18.5
	19+C	0	0
24 Jun	$\bar{x}$	18.0	18.5
	SD	0.25	0.00
	Minimum	18.0	18.5
	Maximum	18.5	18.5
	19+C	0	0
25 Jun	$\bar{x}$	18.5	18.5
	SD	0.25	0.25
	Minimum	18.0	18.5
	Maximum	18.5	19.0
	19+C	0	0
26 Jun	$\bar{x}$	18.5	19.0
	SD	0.33	0.00
	Minimum	18.0	19.0
	Maximum	19.0	19.0
	19+C	0	0
27 Jun	$\bar{x}$	19.5	19.0
	SD	0.26	0.00
	Minimum	19.0	19.0
	Maximum	19.5	19.0
	19+C	12	0
28 Jun	$\bar{x}$	19.5	19.0
	SD	0.22	0.25
	Minimum	19.5	19.0
	Maximum	20.0	19.5
	19+C	24	9
29 Jun	$\bar{x}$	20.0	19.5
	SD	0.21	0.25
	Minimum	19.5	19.5
	Maximum	20.0	20.0
	19+C	24	24
30 Jun	$\bar{x}$	20.0	20.0
	SD	0.00	0.00
	Minimum	20.0	20.0
	Maximum	20.0	20.0
	19+C	24	24
Monthly	$\bar{x}$	18.0	17.5
	SD	1.00	0.94
	Minimum	16.0	16.0
	Maximum	20.0	20.0
	n	29	30
	19+C	4(21)	3(19)
1 Jul	$\bar{x}$	20.0	20.0
	SD	0.00	0.00
	Minimum	20.0	20.0
	Maximum	20.0	20.0
	19+C	24	24
2 Jul	$\bar{x}$	20.0	20.0
	SD	0.00	0.00
	Minimum	20.0	20.0
	Maximum	20.0	20.0
	19+C	24	24
3 Jul	$\bar{x}$	20.0	20.0
	SD	0.10	0.00
	Minimum	19.5	20.0
	Maximum	20.0	20.0
	19+C	24	24
4 Jul	$\bar{x}$	19.5	19.5
	SD	0.22	0.21
	Minimum	19.5	19.5
	Maximum	20.0	20.0
	19+C	24	24
5 Jul	$\bar{x}$	19.5	19.5
	SD	0.25	0.25
	Minimum	19.5	19.5
	Maximum	20.0	20.0
	19+C	24	24
6 Jul	$\bar{x}$	20.0	20.0
	SD	0.14	0.14
	Minimum	20.0	20.0
	Maximum	20.5	20.5
	19+C	24	24
7 Jul	$\bar{x}$	20.0	20.5
	SD	0.14	0.25
	Minimum	20.0	20.0
	Maximum	20.5	20.5
	19+C	24	24
8 Jul	$\bar{x}$	20.5	20.5
	SD	0.25	0.00
	Minimum	20.5	20.5
	Maximum	21.0	20.5
	19+C	24	24
9 Jul	$\bar{x}$	20.5	21.0
	SD	0.00	0.23
	Minimum	20.5	20.5
	Maximum	20.5	21.0
	19+C	24	24
10 Jul	$\bar{x}$	21.5	21.0
	SD	0.41	0.14
	Minimum	20.5	21.0
	Maximum	22.5	21.5
	19+C	24	24
11 Jul	$\bar{x}$	21.0	21.0
	SD	0.00	0.00
	Minimum	21.0	21.0
	Maximum	21.0	21.0
	19+C	24	24
12 Jul	$\bar{x}$	21.0	21.0
	SD	0.29	0.00
	Minimum	20.5	21.0
	Maximum	21.5	21.0
	19+C	24	24
13 Jul	$\bar{x}$	21.0	21.5
	SD	0.25	0.26
	Minimum	21.0	21.0
	Maximum	21.5	21.5
	19+C	24	24
14 Jul	$\bar{x}$	21.5	21.5
	SD	0.00	0.21
	Minimum	21.5	21.0
	Maximum	21.5	21.5
	19+C	24	24
15 Jul	$\bar{x}$	21.0	21.0
	SD	0.22	0.23
	Minimum	21.0	21.0
	Maximum	21.5	21.5
	19+C	24	24
16 Jul	$\bar{x}$	21.5	21.5
	SD	0.23	0.17
	Minimum	21.0	21.5
	Maximum	21.5	22.0
	19+C	24	24

Table 170 - (Continued).

Date		Station LBG 34	Station UBG 50
17 Jul	$\bar{x}$	22.0	21.5
	SD	0.27	0.00
	Minimum	21.5	21.5
	Maximum	22.5	21.5
	19+C	24	24
18 Jul	$\bar{x}$	22.0	21.5
	SD	0.26	0.14
	Minimum	21.5	21.5
	Maximum	22.0	22.0
	19+C	24	24
19 Jul	$\bar{x}$	21.5	22.0
	SD	0.17	0.00
	Minimum	21.5	22.0
	Maximum	22.0	22.0
	19+C	24	24
20 Jul	$\bar{x}$	21.5	22.0
	SD	0.25	0.00
	Minimum	21.5	22.0
	Maximum	22.0	22.0
	19+C	24	24
21 Jul	$\bar{x}$	22.5	22.5
	SD	0.26	0.00
	Minimum	22.0	22.5
	Maximum	22.5	22.5
	19+C	24	24
22 Jul	$\bar{x}$	22.5	22.5
	SD	0.00	0.00
	Minimum	22.5	22.5
	Maximum	22.5	22.5
	19+C	24	24
23 Jul	$\bar{x}$	23.0	22.5
	SD	0.41	0.23
	Minimum	22.5	22.5
	Maximum	24.5	23.0
	19+C	24	24
24 Jul	$\bar{x}$	24.0	23.0
	SD	0.57	0.22
	Minimum	23.5	23.0
	Maximum	25.0	23.5
	19+C	24	24
25 Jul	$\bar{x}$	23.5	23.5
	SD	0.22	0.21
	Minimum	23.0	23.0
	Maximum	23.5	23.5
	19+C	24	24
26 Jul	$\bar{x}$	23.5	23.0
	SD	0.25	0.00
	Minimum	23.0	23.0
	Maximum	23.5	23.0
	19+C	24	24
27 Jul	$\bar{x}$	23.5	23.0
	SD	0.00	0.00
	Minimum	23.5	23.0
	Maximum	23.5	23.0
	19+C	24	24
28 Jul	$\bar{x}$	23.0	23.0
	SD	0.14	0.00
	Minimum	23.0	23.0
	Maximum	23.5	23.0
	19+C	24	24
29 Jul	$\bar{x}$	23.0	22.5
	SD	0.00	0.00
	Minimum	23.0	22.5
	Maximum	23.0	22.5
	19+C	24	24
30 Jul	$\bar{x}$	23.0	22.5
	SD	0.00	0.00
	Minimum	23.0	22.5
	Maximum	23.0	22.5
	19+C	24	24
31 Jul	$\bar{x}$	22.5	22.5
	SD	0.17	0.26
	Minimum	22.5	22.0
	Maximum	23.0	22.5
	19+C	24	24
Monthly	$\bar{x}$	21.5	21.5
	SD	1.33	1.15
	Minimum	19.5	19.5
	Maximum	25.0	23.5
	n	31	31
	19+C	31(24)	31(24)
1 Aug	$\bar{x}$	22.5	22.0
	SD	0.00	0.00
	Minimum	22.5	22.0
	Maximum	22.5	22.0
	19+C	24	24
2 Aug	$\bar{x}$	22.5	22.5
	SD	0.14	0.00
	Minimum	22.0	22.5
	Maximum	22.5	22.5
	19+C	24	24
3 Aug	$\bar{x}$	22.5	22.5
	SD	0.00	0.00
	Minimum	22.5	22.5
	Maximum	22.5	22.5
	19+C	24	24
4 Aug	$\bar{x}$	22.5	22.5
	SD	0.00	0.00
	Minimum	22.5	22.5
	Maximum	22.5	22.5
	19+C	24	24
5 Aug	$\bar{x}$	22.5	22.5
	SD	0.00	0.00
	Minimum	22.5	22.5
	Maximum	22.5	22.5
	19+C	24	24
6 Aug	$\bar{x}$	22.5	22.5
	SD	0.00	0.00
	Minimum	22.5	22.5
	Maximum	22.5	22.5
	19+C	24	24
7 Aug	$\bar{x}$	22.5	22.5
	SD	0.00	0.00
	Minimum	22.5	22.5
	Maximum	22.5	22.5
	19+C	24	24
8 Aug	$\bar{x}$	22.5	22.5
	SD	0.00	0.00
	Minimum	22.5	22.5
	Maximum	22.5	22.5
	19+C	24	24
9 Aug	$\bar{x}$	RM	22.5
	SD	-	0.00
	Minimum	-	22.5
	Maximum	-	22.5
	19+C	-	24
10 Aug	$\bar{x}$	RM	22.5
	SD	-	0.25
	Minimum	-	22.5
	Maximum	-	23.0
	19+C	-	24
11 Aug	$\bar{x}$	23.0	22.5
	SD	0.00	0.21
	Minimum	23.0	22.5
	Maximum	23.0	23.0
	19+C	24	24
12 Aug	$\bar{x}$	23.0	22.5
	SD	0.00	0.00
	Minimum	23.0	22.5
	Maximum	23.0	22.5
	19+C	24	24
13 Aug	$\bar{x}$	23.0	22.5
	SD	0.00	0.00
	Minimum	23.0	22.5
	Maximum	23.0	22.5
	19+C	24	24
14 Aug	$\bar{x}$	23.0	22.5
	SD	0.25	0.00
	Minimum	23.0	22.5
	Maximum	23.5	22.5
	19+C	24	24
15 Aug	$\bar{x}$	23.5	23.0
	SD	0.24	0.00
	Minimum	23.0	23.0
	Maximum	23.5	23.0
	19+C	24	24
16 Aug	$\bar{x}$	23.5	23.5
	SD	0.00	0.00
	Minimum	23.5	23.5
	Maximum	23.5	23.5
	19+C	24	24
17 Aug	$\bar{x}$	23.5	23.5
	SD	0.00	0.00
	Minimum	23.5	23.5
	Maximum	23.5	23.5
	19+C	24	24
18 Aug	$\bar{x}$	23.5	23.5
	SD	0.00	0.00
	Minimum	23.5	23.5
	Maximum	23.5	23.5
	19+C	24	24
19 Aug	$\bar{x}$	23.5	23.5
	SD	0.00	0.00
	Minimum	23.5	23.5
	Maximum	23.5	23.5
	19+C	24	24
20 Aug	$\bar{x}$	23.5	23.5
	SD	0.00	0.00
	Minimum	23.5	23.5
	Maximum	23.5	23.5
	19+C	24	24

Table 170 - (Continued).

Date		Station LBG 34	Station UBG 50	Date		Station LBG 34	Station UBG 50	Date		Station LBG 34	Station UBG 50
21 Aug	$\bar{x}$	23.5	23.5	1 Sep	$\bar{x}$	22.5	22.5	13 Sep	$\bar{x}$	20.0	20.5
	SD	0.17	0.00		SD	0.00	0.00		SD	0.26	0.00
	Minimum	23.0	23.5		Minimum	22.5	22.5		Minimum	19.5	20.5
	Maximum	23.5	23.5		Maximum	22.5	22.5		Maximum	20.0	20.5
	19+C	24	24		19+C	24	24		19+C	24	24
22 Aug	$\bar{x}$	23.5	23.5	2 Sep	$\bar{x}$	22.0	22.0	14 Sep	$\bar{x}$	19.5	20.0
	SD	0.00	0.00		SD	0.24	0.25		SD	0.23	0.00
	Minimum	23.5	23.5		Minimum	22.0	22.0		Minimum	19.5	20.0
	Maximum	23.5	23.5		Maximum	22.5	22.5		Maximum	20.0	20.0
	19+C	24	24		19+C	24	24		19+C	24	24
23 Aug	$\bar{x}$	23.5	23.5	3 Sep	$\bar{x}$	22.0	22.0	15 Sep	$\bar{x}$	19.5	19.5
	SD	0.00	0.00		SD	0.21	0.00		SD	0.00	0.21
	Minimum	23.5	23.5		Minimum	22.0	22.0		Minimum	19.5	19.5
	Maximum	23.5	23.5		Maximum	22.5	22.0		Maximum	19.5	20.0
	19+C	24	24		19+C	24	24		19+C	24	24
24 Aug	$\bar{x}$	23.5	23.5	4 Sep	$\bar{x}$	22.5	22.0	16 Sep	$\bar{x}$	19.0	19.5
	SD	0.00	0.00		SD	0.00	0.14		SD	0.00	0.00
	Minimum	23.5	23.5		Minimum	22.5	21.5		Minimum	19.0	19.5
	Maximum	23.5	23.5		Maximum	22.5	22.0		Maximum	19.0	19.5
	19+C	24	24		19+C	24	24		19+C	0	24
25 Aug	$\bar{x}$	23.0	23.0	5 Sep	$\bar{x}$	22.0	RM	17 Sep	$\bar{x}$	19.0	19.5
	SD	0.19	0.23		SD	0.00	-		SD	0.00	0.00
	Minimum	23.0	23.0		Minimum	22.0	-		Minimum	19.0	19.5
	Maximum	23.5	23.5		Maximum	22.0	-		Maximum	19.0	19.5
	19+C	24	24		19+C	24	-		19+C	0	24
26 Aug	$\bar{x}$	23.0	22.5	6 Sep	$\bar{x}$	21.5	RM	18 Sep	$\bar{x}$	19.0	19.5
	SD	0.00	0.00		SD	0.25	-		SD	0.00	0.00
	Minimum	23.0	22.5		Minimum	21.5	-		Minimum	19.0	19.5
	Maximum	23.0	22.5		Maximum	22.0	-		Maximum	19.0	19.5
	19+C	24	24		19+C	24	-		19+C	0	24
27 Aug	$\bar{x}$	23.0	23.0	7 Sep	$\bar{x}$	21.5	RM	19 Sep	$\bar{x}$	18.0	19.5
	SD	0.00	0.25		SD	0.00	-		SD	0.33	0.00
	Minimum	23.0	22.5		Minimum	21.5	-		Minimum	17.5	19.5
	Maximum	23.0	23.0		Maximum	21.5	-		Maximum	18.5	19.5
	19+C	24	24		19+C	24	-		19+C	0	24
28 Aug	$\bar{x}$	23.0	22.5	8 Sep	$\bar{x}$	21.0	21.5	20 Sep	$\bar{x}$	18.0	19.5
	SD	0.00	0.25		SD	0.22	0.00		SD	0.25	0.23
	Minimum	23.0	22.5		Minimum	21.0	21.5		Minimum	18.0	19.0
	Maximum	23.0	23.0		Maximum	21.5	21.5		Maximum	18.5	19.5
	19+C	24	24		19+C	24	24		19+C	0	17
29 Aug	$\bar{x}$	23.0	22.5	9 Sep	$\bar{x}$	21.0	21.5	21 Sep	$\bar{x}$	18.5	19.0
	SD	0.00	0.00		SD	0.00	0.17		SD	0.00	0.25
	Minimum	23.0	22.5		Minimum	21.0	21.0		Minimum	18.5	18.5
	Maximum	23.0	22.5		Maximum	21.0	21.5		Maximum	18.5	19.0
	19+C	24	24		19+C	24	24		19+C	0	0
30 Aug	$\bar{x}$	23.0	23.0	10 Sep	$\bar{x}$	20.5	21.0	22 Sep	$\bar{x}$	18.5	18.5
	SD	0.26	0.23		SD	0.21	0.00		SD	0.00	0.00
	Minimum	22.5	22.5		Minimum	20.5	21.0		Minimum	18.5	18.5
	Maximum	23.0	23.0		Maximum	21.0	21.0		Maximum	18.5	18.5
	19+C	24	24		19+C	24	24		19+C	0	0
31 Aug	$\bar{x}$	22.5	22.5	11 Sep	$\bar{x}$	20.0	21.0	23 Sep	$\bar{x}$	18.0	18.5
	SD	0.25	0.25		SD	0.25	0.00		SD	0.14	0.00
	Minimum	22.5	22.5		Minimum	20.0	21.0		Minimum	18.0	18.5
	Maximum	23.0	23.0		Maximum	20.5	21.0		Maximum	18.5	18.5
	19+C	24	24		19+C	24	24		19+C	0	0
Monthly	$\bar{x}$	23.0	23.0	12 Sep	$\bar{x}$	20.0	20.5	24 Sep	$\bar{x}$	18.0	18.5
	SD	0.41	0.47		SD	0.00	0.00		SD	0.00	0.00
	Minimum	22.0	22.0		Minimum	20.0	20.5		Minimum	18.0	18.5
	Maximum	23.5	23.5		Maximum	20.0	20.5		Maximum	18.0	18.5
	n	29	31		19+C	24	24		19+C	0	0
	19+C	29(24)	31(24)								

Table 170 - (Continued).

Date		Station LBG 34	Station UBG 50
25 Sep	$\bar{x}$	18.0	18.0
	SD	0.00	0.24
	Minimum	18.0	18.0
	Maximum	18.0	18.5
	19+C	0	0
26 Sep	$\bar{x}$	18.0	17.5
	SD	0.25	0.22
	Minimum	17.5	17.5
	Maximum	18.0	18.0
	19+C	0	0
27 Sep	$\bar{x}$	17.5	17.5
	SD	0.25	0.00
	Minimum	17.5	17.5
	Maximum	18.0	17.5
	19+C	0	0
28 Sep	$\bar{x}$	17.5	17.0
	SD	0.24	0.25
	Minimum	17.5	17.0
	Maximum	18.0	17.5
	19+C	0	0
29 Sep	$\bar{x}$	17.0	17.0
	SD	0.22	0.00
	Minimum	17.0	17.0
	Maximum	17.5	17.0
	19+C	0	0
30 Sep	$\bar{x}$	17.0	16.5
	SD	0.00	0.23
	Minimum	17.0	16.5
	Maximum	17.0	17.0
	19+C	0	0
Monthly	$\bar{x}$	19.5	19.5
	SD	1.74	1.72
	Minimum	17.0	16.5
	Maximum	22.5	22.5
	n	30	27
	19+C	15(24)	17(24)
1 Oct	$\bar{x}$	17.0	16.5
	SD	0.00	0.00
	Minimum	17.0	16.5
	Maximum	17.0	16.5
	19+C	0	0
2 Oct	$\bar{x}$	16.5	16.5
	SD	0.21	0.25
	Minimum	16.5	16.0
	Maximum	17.0	16.5
	19+C	0	0
3 Oct	$\bar{x}$	16.5	16.0
	SD	0.00	0.00
	Minimum	16.5	16.0
	Maximum	16.5	16.0
	19+C	0	0
4 Oct	$\bar{x}$	-	16.0
	SD	-	0.25
	Minimum	-	15.5
	Maximum	-	16.0
	19+C	-	0
Monthly	$\bar{x}$	16.5	16.5
	SD	0.29	0.29
	Minimum	16.5	15.5
	Maximum	17.0	16.5
	n	3	4
	19+C	0(-)	0(-)
	Σ19+C@@	79/141	82/137

Table 171. Summary of dissolved oxygen data (ppm) measured from April through December 1978 in Lower and Upper B-G.

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22
13												
6 Apr	14.6	14.6	14.8	15.0	15.0	15.1	-	-	-	-	-	-
12 Apr	13.6	11.2	9.2	9.0	9.0(7)*	-	-	-	-	-	-	-
19 Apr	13.5	13.5	13.5	13.5	13.5	13.5(9)	-	-	-	-	-	-
26 Apr	13.1	13.1	13.1	13.1	13.0	13.0(9)	-	-	-	-	-	-
3 May	11.5	11.5	11.4	11.4	11.4	11.4	11.4(11)	-	-	-	-	-
10 May	12.7	12.7	12.7	12.7	12.6	12.6	12.6	12.6(13)	-	-	-	-
17 May	12.1	12.1	12.1	12.1	12.0	11.9	11.9	11.8	-	-	-	-
24 May	12.1	12.1	12.1	12.1	12.0	11.9	11.9(11)	-	-	-	-	-
1 Jun	9.6	9.6	9.6	9.6	9.5	9.2	9.2(11)	-	-	-	-	-
8 Jun	9.8	9.5	9.5	9.4	9.3	9.2	9.0	-	-	-	-	-
16 Jun	9.6	9.6	9.4	9.4	9.4	9.4(9)	-	-	-	-	-	-
22 Jun	9.4	9.2	9.0	8.8	8.7	8.4	7.5	-	-	-	-	-
29 Jun	9.7	9.5	9.3	9.2	9.1	9.0	8.9	8.8(13)	-	-	-	-
6 Jul	9.5	9.6	9.4	9.0	8.8	8.7	7.8(11)	-	-	-	-	-
13 Jul	9.1	9.0	9.0	8.7	8.7	8.6	8.4	-	-	-	-	-
20 Jul	8.7	8.9	8.8	8.5	8.4	8.2	8.2	7.8	7.6(15)	-	-	-
27 Jul	8.9	8.9	8.9	8.9	8.8	8.8	-	-	-	-	-	-
3 Aug	8.6	8.6	8.5	8.3	8.2	8.0	8.0	7.9	7.4	-	-	-
10 Aug	7.7	7.6	7.6	7.4	7.3	7.1	6.7	6.3	5.3	4.2	-	-
17 Aug	8.7	8.7	8.4	8.0	8.0	8.0	7.8	6.7(13)	-	-	-	-
24 Aug	7.9	7.9	7.6	7.5	7.4	7.2	7.2	6.4	-	-	-	-
31 Aug	7.9	7.9	7.7	7.7	7.7	7.7	7.7	7.6	7.5(15)	-	-	-
7 Sep	7.2	7.2	7.1	7.0	7.0	6.8	6.6	6.6	6.4	6.2	4.5	2.9(21)
14 Sep	8.1	7.9	7.9	7.9	7.7	7.5	7.6	7.5	7.4	-	-	-
21 Sep	9.3	9.1	9.0	8.9	8.8	8.7	8.5	8.5	8.6	8.6	8.3	-
28 Sep	9.3	9.2	9.2	9.2	9.0	8.8	8.8	8.2	8.0	-	-	-
5 Oct	10.4	10.4	10.1	10.1	10.1	10.0	10.0	10.0	10.0	9.9	9.8(19)	-
12 Oct	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.5	9.4	9.4	9.4(19)	-
19 Oct	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.4	9.4	9.3	9.2(19)	-
26 Oct	10.1	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.8	-
2 Nov	9.9	-	-	-	-	9.7	-	-	-	-	9.5	-
16 Nov	10.2	-	-	-	-	10.1(9)	-	-	-	10.0	-	-
7 Dec	10.8	-	-	-	-	10.6	-	-	-	-	10.4(19)	-
29 Dec	ICE**	-	-	-	-	-	-	-	-	-	-	-
14												
6 Apr	14.6	14.6	14.6	14.6	14.5	-	-	-	-	-	-	-
12 Apr	14.0	13.0	13.0	-	-	-	-	-	-	-	-	-
19 Apr	13.3	13.3	13.3	13.3(5)	-	-	-	-	-	-	-	-
26 Apr	13.1	13.1	12.9	12.8	-	-	-	-	-	-	-	-
3 May	11.4	11.4	11.4	11.4	-	-	-	-	-	-	-	-
10 May	12.7	12.7	12.6	12.6	12.5	12.5(9)	-	-	-	-	-	-
17 May	12.1	12.1	12.1	12.0	11.9	11.8	-	-	-	-	-	-
24 May	12.0	11.9	11.8	11.6	11.6(7)	-	-	-	-	-	-	-
1 Jun	8.8	8.8	8.8	8.8	8.6	8.6(9)	-	-	-	-	-	-
8 Jun	9.4	9.4	9.4	9.4	-	-	-	-	-	-	-	-
16 Jun	9.6	9.6	9.5	9.5(5)	-	-	-	-	-	-	-	-
22 Jun	9.2	9.2	9.2	9.0	8.9	-	-	-	-	-	-	-
29 Jun	9.1	9.1	9.1	9.1	9.0	-	-	-	-	-	-	-
6 Jul	9.1	9.1	9.1	9.1	9.1	-	-	-	-	-	-	-
13 Jul	8.8	8.7	8.8	8.7	8.7	-	-	-	-	-	-	-
20 Jul	8.4	8.5	8.5	8.6	8.6	8.6	8.6	8.4	-	-	-	-
27 Jul	8.5	8.5	8.5	8.4	-	-	-	-	-	-	-	-

* Depth in parentheses.
** ICE = no samples taken because of unsafe ice conditions.

Table 171 - (Continued).

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22
14 - (Continued)												
3 Aug	8.2	8.2	8.2	8.2	8.2	8.0	8.1	-	-	-	-	-
10 Aug	7.5	7.4	7.4	7.4	-	-	-	-	-	-	-	-
17 Aug	8.2	8.2	8.2	8.2	8.1	-	-	-	-	-	-	-
24 Aug	7.5	8.0	8.0	8.0	8.2	7.9(9)	-	-	-	-	-	-
31 Aug	8.0	8.0	8.0	8.0	8.0	7.9	-	-	-	-	-	-
7 Sep	7.2	7.2	7.2	7.2	7.2	7.2(9)	-	-	-	-	-	-
14 Sep	7.9	7.9	7.9	7.9	7.9	7.9(9)	-	-	-	-	-	-
21 Sep	8.8	8.8	8.8	8.8	8.8	8.8	-	-	-	-	-	-
28 Sep	8.6	8.6	8.6	8.6	-	-	-	-	-	-	-	-
5 Oct	10.1	10.1	10.1	10.1	10.1	10.1(9)	-	-	-	-	-	-
12 Oct	9.5	9.4	9.4	9.4	9.4	-	-	-	-	-	-	-
19 Oct	9.4	9.4	9.4	9.4	9.0	9.0(9)	-	-	-	-	-	-
26 Oct	10.1	10.0	10.0	10.0	10.0	-	-	-	-	-	-	-
2 Nov	9.9	-	-	9.9(5)	-	9.8(9)	-	-	-	-	-	-
16 Nov	10.0	-	10.0(3)	10.0	-	-	-	-	-	-	-	-
7 Dec	10.2	-	10.2	-	10.0	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-
16												
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
19 Apr	13.7	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4(17)	-	-
26 Apr	12.1	12.1	12.1	12.1	12.1	12.1	12.0	12.0	11.8	11.8	-	-
3 May	12.1	12.1	12.1	12.1	12.1	12.0	12.0	12.0	12.0	12.0	-	-
10 May	11.8	11.8	11.7	11.7	11.6	11.6	11.6	11.6	-	-	-	-
17 May	11.8	11.8	11.6	11.6	11.5	11.4	11.3	11.2	-	-	-	-
24 May	11.8	11.8	11.8	11.8	11.8	11.8	11.7	11.4	11.3	-	-	-
1 Jun	9.2	9.2	9.2	9.2	9.0	9.0	9.0	9.0	8.6	-	-	-
8 Jun	9.3	9.2	9.2	9.2	9.2	9.2	9.0	9.0	8.6	-	-	-
16 Jun	9.4	9.2	9.1	9.1	9.1	9.1	9.1	8.8	8.7	8.4	-	-
22 Jun	9.0	8.8	8.8	8.8	8.8	8.8	8.7	8.0	8.0	-	-	-
29 Jun	9.0	9.0	9.0	8.7	8.7	8.6	8.6	8.4	7.4	-	-	-
6 Jul	9.5	9.6	9.4	9.2	9.2	9.1	9.1	9.0	8.6	7.4	-	-
13 Jul	9.4	9.3	9.1	8.9	8.9	8.7	8.6	8.4	6.5	-	-	-
20 Jul	8.7	8.6	8.5	8.3	8.0	8.0	7.7	5.4	-	-	-	-
27 Jul	8.2	8.3	8.2	8.2	8.2	8.2	8.1	7.9	7.2	1.9	-	-
3 Aug	8.1	8.1	8.0	8.0	8.0	8.0	7.8	-	-	-	-	-
10 Aug	8.2	8.2	8.1	8.1	8.1	8.0	7.9	7.8	7.2	6.7(17)	-	-
17 Aug	9.0	8.9	8.8	8.8	8.7	8.6	8.6	8.5	8.0	-	-	-
24 Aug	8.7	8.7	8.6	8.5	8.5	8.4	8.0	6.4	-	-	-	-
31 Aug	8.0	8.0	7.9	8.0	8.0	8.0	7.8	7.2	-	-	-	-
7 Sep	9.4	9.4	9.4	9.4	9.4	9.2	9.2	8.8	8.7(15)	-	-	-
14 Sep	8.5	8.4	8.4	8.4	8.3	8.3	8.2	8.2	8.2	7.4	-	-
21 Sep	8.6	8.5	8.4	8.3	8.2	8.2	8.1	7.3	-	-	-	-
28 Sep	8.8	8.8	8.8	8.7	8.7	8.7	8.7	8.7	8.6	8.6(17)	-	-
5 Oct	8.4	8.3	8.2	8.1	8.1	8.1	8.0	7.8	7.8(15)	-	-	-
12 Oct	9.8	9.7	9.7	9.7	9.6	9.6	9.4	9.2	9.2	-	-	-
19 Oct	9.8	9.8	9.8	9.8	9.7	9.7	9.6	9.6	9.6(15)	-	-	-
26 Oct	8.6	8.6	8.6	8.5	8.5	8.5	8.4	8.4	-	-	-	-
2 Nov	9.9	-	-	-	9.8	-	-	-	9.7(15)	-	-	-
16 Nov	10.4	-	-	-	10.2	-	-	-	10.2	-	-	-
7 Dec	11.3	-	-	-	11.3	-	-	-	11.3(15)	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-

Table 171 - (Continued).

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22
17												
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-
19 Apr	13.4	13.4	13.4	13.3	13.3	13.3	13.2	13.2	13.2	13.2	-	-
26 Apr	11.9	11.9	11.9	11.9	11.9	11.9	11.8	11.8	11.6	11.5	-	-
3 May	12.2	12.2	12.2	12.1	12.1	12.1	12.0	12.0	12.0	11.9	11.8(19)	-
10 May	11.7	11.7	11.6	11.6	11.5	11.5	11.4	11.2	11.0	-	-	-
17 May	12.0	12.0	12.0	11.9	11.8	11.6	11.6	11.5	11.5(15)	-	-	-
24 May	11.7	11.5	11.4	11.4	11.6	11.6	11.5	11.5	11.2	-	-	-
1 Jun	8.4	9.0	9.0	8.8	8.8	8.8	8.8	8.8	8.7	-	-	-
8 Jun	9.3	9.5	9.3	9.2	9.2	9.2	9.2	8.9	8.7	8.7(17)	-	-
16 Jun	9.4	9.4	9.4	9.3	9.3	9.1	9.1	8.8	8.7	8.4	7.9(19)	-
22 Jun	9.1	9.1	8.9	8.8	8.5	8.7	8.6	8.4	8.4	-	-	-
29 Jun	9.3	9.2	9.2	9.2	9.2	9.0	8.8	8.6	8.0	3.6	-	-
6 Jul	9.4	9.4	9.4	9.3	9.3	9.2	9.1	9.0	8.8	8.6(17)	-	-
13 Jul	9.2	9.1	9.0	8.9	8.8	8.8	8.6	8.3	7.1	5.8(17)	-	-
20 Jul	8.6	8.6	8.4	8.2	8.0	7.6	6.8	5.3	4.3(15)	-	-	-
27 Jul	8.2	8.3	8.2	8.2	8.1	8.0	7.8	7.6	7.2	4.3	2.1(19)	-
3 Aug	8.1	8.0	8.0	8.0	8.0	7.9	7.6	3.5	-	-	-	-
10 Aug	8.1	8.1	8.1	8.0	8.1	8.0	7.8	7.7	7.5	7.2(17)	-	-
17 Aug	8.9	8.9	8.8	8.8	8.8	8.7	8.6	8.2	4.7	2.0(17)	-	-
24 Aug	8.6	8.6	8.6	8.6	8.6	8.4	7.9	7.6(13)	-	-	-	-
31 Aug	8.2	8.2	8.2	8.2	8.2	8.0	7.9	7.7	-	-	-	-
7 Sep	9.3	9.3	9.2	9.3	9.3	9.3	9.2	9.1	9.1(15)	-	-	-
14 Sep	8.3	8.3	8.2	8.2	8.3	8.2	8.2	8.2	8.1	8.0	-	-
21 Sep	8.8	8.7	8.3	8.3	8.3	8.3	8.2	8.2	7.9(15)	-	-	-
28 Sep	8.7	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.5	8.4	-	-
5 Oct	7.5	7.3	7.2	7.2	7.2	7.0	7.0	7.0	6.6	-	-	-
12 Oct	9.7	9.6	9.6	9.6	9.6	9.5	9.4	9.3	9.1	9.0(17)	-	-
19 Oct	9.8	9.8	9.7	9.7	9.7	9.7	9.7	9.7	9.7	-	-	-
26 Oct	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.4	8.3	-	-	-
2 Nov	9.8	-	-	-	9.7	-	-	-	9.6	-	-	-
16 Nov	10.5	-	-	-	-	10.4(9)	-	-	-	10.2	-	-
7 Dec	11.4	-	-	-	11.3	-	-	-	11.2	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-

Table 172. Summary of dissolved oxygen data (ppm) measured from April through December 1978 in Schoharie Reservoir.

Station & Date	Surface	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
		Depth (m)																
26																		
6 Apr	ICE*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	12.3	12.2	12.2	12.4	12.4	12.5	12.5	12.5	-	-	-	-	-	-	-	-	-	-
26 Apr	11.7	11.7	11.8	11.8	11.8	11.7	11.2	11.1	-	-	-	-	-	-	-	-	-	-
3 May	12.1	12.0	11.9	11.8	11.7	11.6	11.5	11.0	-	-	-	-	-	-	-	-	-	-
10 May	11.1	11.3	11.7	11.7	11.7	11.6	11.6	11.0	-	-	-	-	-	-	-	-	-	-
17 May	12.3	12.2	12.2	12.2	12.2	12.1	11.9	11.7	-	-	-	-	-	-	-	-	-	-
24 May	10.6	10.8	11.6	11.4	11.3	10.6	10.2	8.6	-	-	-	-	-	-	-	-	-	-
1 Jun	9.2	9.0	8.8	9.2	9.0	8.4	7.2	5.0	-	-	-	-	-	-	-	-	-	-
8 Jun	9.4	9.4	8.8	8.6	7.8	7.8	6.8	5.6	-	-	-	-	-	-	-	-	-	-
15 Jun	8.8	8.7	8.6	8.6	8.6	8.4	7.0	5.8	-	-	-	-	-	-	-	-	-	-
22 Jun	8.2	8.2	8.2	7.8	6.3	5.0	4.7	4.6	-	-	-	-	-	-	-	-	-	-
29 Jun	8.2	9.2	8.2	7.9	7.8	7.3	7.0	4.1(13)**	-	-	-	-	-	-	-	-	-	-
6 Jul	9.1	9.0	9.0	9.0	9.0	8.9	8.7	-	-	-	-	-	-	-	-	-	-	-
13 Jul	9.0	7.8	7.7	7.6	7.3	5.8	1.7	-	-	-	-	-	-	-	-	-	-	-
20 Jul	7.0	6.8	6.6	6.3	3.5	2.0	-	-	-	-	-	-	-	-	-	-	-	-
27 Jul	7.7	7.6	7.2	6.6	6.1	2.8	-	-	-	-	-	-	-	-	-	-	-	-
3 Aug	7.0	6.7	6.5	6.1	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-
10 Aug	8.4	8.2	8.3	8.4	8.3	-	-	-	-	-	-	-	-	-	-	-	-	-
17 Aug	6.6	6.3	5.9	5.3	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-
24 Aug	7.4	7.0	6.9	6.8	6.4(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
31 Aug	7.4	7.4	7.6	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7 Sep	8.8	8.8	8.6	8.0(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14 Sep	8.8	9.3	9.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21 Sep	8.8	9.2	9.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28 Sep	8.8	9.0	9.0	8.4(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Oct	9.0	9.2	9.8	9.8(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Oct	10.4	10.4	10.3(3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Oct	9.6	11.5	11.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26 Oct	10.7	10.6	10.5	10.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 Nov	10.6	-	11.0(3)	11.2(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16 Nov	10.8	-	11.2	-	11.4	-	-	-	-	-	-	-	-	-	-	-	-	-
7 Dec	12.4	-	-	11.2	-	-	10.8	-	-	-	-	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27																		
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	13.8	13.8	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.2	-	-	-	-	-	-	-	-
26 Apr	11.9	11.9	12.0	12.1	12.0	12.0	12.0	11.8	10.7	10.0	-	-	-	-	-	-	-	-
3 May	12.2	12.2	12.2	12.1	12.1	12.0	11.9	11.7	11.2	10.8	-	-	-	-	-	-	-	-
10 May	12.2	12.3	12.3	12.2	12.2	12.1	12.1	11.8	11.1	10.7	-	-	-	-	-	-	-	-
17 May	11.8	11.8	11.7	11.7	11.7	11.6	11.4	11.1	10.4	10.4	-	-	-	-	-	-	-	-
24 May	11.6	11.8	11.8	11.9	11.8	11.4	11.2	11.0	10.4	9.8	-	-	-	-	-	-	-	-
1 Jun	10.8	10.8	11.0	10.8	10.8	10.8	10.8	10.9	10.2	9.8	-	-	-	-	-	-	-	-
8 Jun	10.0	9.9	9.8	9.7	9.8	9.8	9.8	9.3	9.3	9.2	-	-	-	-	-	-	-	-
15 Jun	9.1	9.1	8.9	8.7	8.2	8.2	9.2	8.4	7.9	8.2	-	-	-	-	-	-	-	-
22 Jun	8.6	8.2	8.6	8.3	7.7	8.0	8.0	7.7	7.6	7.1	-	-	-	-	-	-	-	-
29 Jun	9.7	9.5	9.3	8.6	8.7	8.5	8.4	6.9	7.1	6.9	-	-	-	-	-	-	-	-
6 Jul	9.2	8.7	8.5	8.2	8.0	8.6	7.8	7.2	5.8	-	-	-	-	-	-	-	-	-
13 Jul	9.3	9.1	8.8	8.3	7.8	7.6	7.6	7.1	5.4	-	-	-	-	-	-	-	-	-
20 Jul	8.2	8.0	7.6	7.1	5.6	5.8	5.4	4.6	-	-	-	-	-	-	-	-	-	-
27 Jul	8.4	8.4	8.4	7.0	6.8	5.2	5.2	5.6	-	-	-	-	-	-	-	-	-	-

* ICE = no samples taken because of unsafe ice conditions.
** Depth in parentheses.
*** Sampled with Kemmerer bottle; high winds prevented sampling with DO meter for full profile.

Table 172 - (Continued).

Station & Date	Surface	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
		Depth (m)																
27 - (Continued)																		
3 Aug	7.4	7.4	7.0	6.3	5.5	4.6	4.5	-	-	-	-	-	-	-	-	-	-	-
10 Aug	8.6	8.6	8.6	8.1	7.5	7.1	4.3	-	-	-	-	-	-	-	-	-	-	-
17 Aug	8.6	8.6	8.4	8.1	7.0	5.5	4.0	-	-	-	-	-	-	-	-	-	-	-
24 Aug	7.1	7.0	6.9	5.5	4.4	3.2	1.0(11)	-	-	-	-	-	-	-	-	-	-	-
31 Aug	8.1	8.0	8.0	7.9	6.9	6.3	-	-	-	-	-	-	-	-	-	-	-	-
7 Sep	9.0	9.0	8.6	8.2	7.3	6.4(9)	-	-	-	-	-	-	-	-	-	-	-	-
14 Sep	8.7	8.5	8.3	8.0	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-
21 Sep	8.9	8.5	8.2	8.1	8.0(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
28 Sep	8.3	8.3	8.2	7.8	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Oct	9.0	9.0	8.9	8.9	8.6	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Oct	9.7	9.6	9.4	9.3	8.9(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Oct	9.8	9.8	9.8	10.0	11.0	-	-	-	-	-	-	-	-	-	-	-	-	-
26 Oct	9.5	9.4	9.4	9.3	8.9	8.6	-	-	-	-	-	-	-	-	-	-	-	-
2 Nov	10.0	-	-	10.0(5)	-	10.5	-	-	-	-	-	-	-	-	-	-	-	-
16 Nov	10.4	-	-	10.4	-	-	11.0	-	-	-	-	-	-	-	-	-	-	-
7 Dec	11.2	-	-	-	11.2	-	-	-	11.0(15)	-	-	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28																		
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	13.2	13.2	13.2	13.2	13.2	13.2	13.0	13.0	13.0	13.0	12.9	12.9	-	-	-	-	-	-
26 Apr	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.8	11.6	-	-	-	-	-	-
3 May	12.4	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.4	12.4	12.4	-	-	-	-	-	-
10 May	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.2	12.2	12.2	12.2	-	-	-	-	-	-
17 May	11.9	11.8	11.6	11.6	11.6	11.6	11.6	11.5	11.4	11.2	11.2	11.0	-	-	-	-	-	-
24 May	12.1	12.1	11.9	12.0	12.0	11.9	11.7	11.7	11.7	11.7	11.7	11.5	-	-	-	-	-	-
1 Jun	11.0	10.8	11.9	11.3	11.6	11.5	11.5	11.5	11.4	10.9	10.7	10.0	-	-	-	-	-	-
8 Jun	9.8	9.4	9.5	9.3	9.9	10.3	10.4	10.3	10.0	9.9	9.6	9.6	-	-	-	-	-	-
15 Jun	9.3	9.1	9.1	9.1	9.2	9.3	9.7	9.7	9.1	9.0	9.1	9.1	-	-	-	-	-	-
22 Jun	8.6	8.5	8.7	8.6	8.0	8.0	9.2	9.0	8.6	8.5	8.4	7.6	-	-	-	-	-	-
29 Jun	9.6	9.6	9.5	9.0	9.1	9.0	9.3	8.2	9.6	9.2	8.7	8.8(21)	-	-	-	-	-	-
6 Jul	9.2	9.2	9.1	8.6	7.8	7.8	8.0	9.2	9.0	8.2	8.2	-	-	-	-	-	-	-
13 Jul	9.2	9.3	9.3	9.0	8.2	7.8	8.0	9.0	8.2	8.4	8.2	-	-	-	-	-	-	-
20 Jul	7.8	8.0	7.8	7.3	6.6	6.3	6.7	7.6	7.3	6.9	-	-	-	-	-	-	-	-
27 Jul	8.2	8.2	8.2	7.3	7.0	6.1	5.0	7.9	7.8	7.4	-	-	-	-	-	-	-	-
3 Aug	7.6	7.5	7.5	7.2	6.8	5.0	5.0	7.0	6.2	6.1(17)	-	-	-	-	-	-	-	-
10 Aug	8.7	8.5	8.5	6.8	6.6	6.8	5.3	7.9	6.2	-	-	-	-	-	-	-	-	-
17 Aug	8.8	8.8	8.7	8.1	6.6	5.6	4.0	7.6	6.4	-	-	-	-	-	-	-	-	-
24 Aug	7.3	7.2	7.2	7.1	5.1	4.0	5.0	4.9	4.6(15)	-	-	-	-	-	-	-	-	-
31 Aug	8.2	8.2	8.2	7.5	5.6	3.5	6.0	5.2	-	-	-	-	-	-	-	-	-	-
7 Sep	9.4	9.4	9.3	9.2	9.0	3.4	4.6	4.8(13)	-	-	-	-	-	-	-	-	-	-
14 Sep	8.8	8.7	8.5	8.2	6.4	4.7	4.3	-	-	-	-	-	-	-	-	-	-	-
21 Sep	8.9	8.8	8.3	8.0	7.2	6.8	6.3(11)	-	-	-	-	-	-	-	-	-	-	-
28 Sep	8.3	8.2	8.1	8.0	7.8	7.2	6.0	5.4(13)	-	-	-	-	-	-	-	-	-	-
5 Oct	9.0	9.0	9.0	9.0	8.8	8.4	4.3	3.5(13)	-	-	-	-	-	-	-	-	-	-
12 Oct	9.5	9.4	9.4	9.2	8.3	7.0	5.4(11)	-	-	-	-	-	-	-	-	-	-	-
19 Oct	9.5	9.4	9.4	9.3	9.2	9.0	7.4	-	-	-	-	-	-	-	-	-	-	-
26 Oct	9.4	9.4	9.2	9.0	8.8	8.2	7.6	7.4(13)	-	-	-	-	-	-	-	-	-	-
2 Nov	9.7	-	-	-	9.6(7)	-	-	9.6	-	-	-	-	-	-	-	-	-	-
16 Nov	9.8	-	-	-	9.6	-	-	-	9.6	-	-	-	-	-	-	-	-	-
7 Dec	10.7	-	-	-	-	10.6	-	-	-	-	10.7(19)	-	-	-	-	-	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 172 - (Continued).

Station & Date	Surface	Depth (m) 2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
30																		
6 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Apr	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Apr	13.2	13.2	13.1	13.1	13.1	13.2	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.0	13.0	13.0	13.0	12.6
26 Apr	12.0	12.0	12.1	12.1	12.1	12.1	12.1	12.0	12.0	12.0	12.0	12.0	11.9	11.9	11.8	11.6	11.1	10.9
3 May	12.6	12.6	12.6	12.6	12.7	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.5	12.5	12.5	12.5	12.5	12.6
10 May	12.1	12.2	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.2	11.9	11.5
17 May	11.8	11.7	11.7	11.7	11.8	11.8	11.8	11.8	11.8	11.9	11.8	11.8	11.7	11.6	11.5	11.3	10.8	9.8
24 May	12.3	12.1	11.8	11.9	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.1	12.0	12.0	12.0	11.9	11.7	11.2
1 Jun	11.3	12.0	11.7	11.1	11.4	11.5	11.3	11.8	11.7	11.7	11.6	11.6	11.7	11.7	11.5	10.5	9.5	9.5
8 Jun	10.0	9.9	9.6	9.3	10.1	10.2	10.5	10.5	10.6	10.5	10.6	10.6	10.6	10.5	10.3	10.3	10.1	10.0
15 Jun***	8.8	-	-	-	-	-	-	-	-	9.7(17)-		-	-	-	-	-	-	10.0
22 Jun	8.7	8.5	8.4	8.3	8.2	8.3	9.2	9.5	9.5	9.5	9.5	9.5	8.9	8.9	8.8	8.7	8.5	8.1
29 Jun	9.8	9.8	9.7	9.5	9.3	9.9	10.8	10.8	10.8	10.8	10.7	10.7	10.2	10.2	10.0	9.9	9.8	9.6(33)
6 Jul	9.2	9.3	9.2	9.1	8.5	8.2	8.8	10.0	9.8	9.8	9.4	9.2	9.2	9.2	8.8	8.6	7.9	-
13 Jul	9.3	9.3	9.2	9.1	8.8	7.8	7.9	10.0	10.0	9.9	9.7	9.4	9.2	9.1	9.0	8.8	8.5	-
20 Jul	8.0	8.0	7.8	7.4	6.8	6.5	6.8	8.5	8.5	8.5	8.6	8.7	8.5	8.4	7.4	7.3	-	-
27 Jul	8.3	8.3	8.3	8.2	7.3	6.3	6.6	7.3	9.2	9.3	9.1	9.0	8.8	8.0	7.6	4.8	-	-
3 Aug	7.7	7.7	7.6	7.4	6.9	5.7	5.8	8.4	8.6	8.5	8.4	8.0	7.7	7.0	6.8	6.7(29)-		-
10 Aug	8.8	8.8	8.6	7.0	6.5	5.4	5.5	8.6	8.9	8.7	8.4	8.1	7.3	5.8	3.9	-	-	-
17 Aug	8.8	8.8	8.8	7.6	6.1	5.3	5.2	8.7	8.8	8.4	8.6	8.6	7.2	6.0	4.6	-	-	-
24 Aug	7.1	7.1	7.2	7.2	7.1	4.6	6.9	7.0	7.1	7.0	6.8	5.4	4.6	3.3	2.4(27)-		-	-
31 Aug	8.2	8.3	8.2	8.2	6.5	4.1	6.6	8.1	7.9	7.7	7.0	5.0	3.7	1.7	-	-	-	-
7 Sep	9.6	9.4	9.2	8.7	4.5	5.1	9.0	9.8	9.4	9.8	5.4	4.8	3.8	3.6(25)-		-	-	-
14 Sep	8.7	8.6	8.6	8.4	7.4	8.0	7.6	6.8	5.7	4.5	4.5	3.4	3.2(23)-		-	-	-	-
21 Sep	8.9	8.8	8.6	7.8	7.4	6.8	6.2	6.4	6.0	5.3	4.8	3.4	2.6(23)-		-	-	-	-
28 Sep	8.4	8.4	8.3	8.2	7.8	5.6	5.3	5.1	4.6	4.4	4.4	2.6	2.6	-	-	-	-	-
5 Oct	9.1	9.1	9.0	9.0	9.0	8.6	5.2	4.4	4.4	5.1	4.6	3.1	2.6	0.9(25)-		-	-	-
12 Oct	9.7	9.6	9.6	9.6	9.4	9.4	5.3	5.0	4.0	4.0	3.7	2.8	2.3(23)-		-	-	-	-
19 Oct	9.4	9.4	9.4	9.3	9.3	9.0	7.2	3.7	3.8	3.0	2.1	1.7	1.6	-	-	-	-	-
26 Oct	9.6	9.6	9.5	9.4	9.4	9.3	9.2	8.8	5.2	2.2	2.0	2.0	2.0	2.0(25)-		-	-	-
2 Nov	9.6	-	-	-	-	-	-	8.8(13)-		-	-	-	-	1.9	-	-	-	-
16 Nov	9.7	-	-	-	-	-	-	9.3	-	-	-	-	-	-	5.2	-	-	-
7 Dec	10.6	-	-	-	-	-	-	-	10.6(15)-		-	-	-	-	-	10.2	-	-
29 Dec	ICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 173. Summary of monthly fluctuation (ft) from January through December 1978 in Lower and Upper B-G as calculated from daily elevation data recorded by the Power Authority of the State of New York.

	Lower B-G						Upper B-G					
	# Days		Daily Fluctuation (ft)				# Days		Daily Fluctuation (ft)			
Month	Fluctuation	No Fluctuation	Minimum	Maximum	Mean	SD	Fluctuation	No Fluctuation	Minimum	Maximum	Mean	SD
Jan	31	0	6.8	31.5	15.6	5.76	31	0	5.4	22.4	12.5	3.92
Feb	28	0	6.7	25.5	13.3	4.41	28	0	4.7	19.8	10.5	3.60
Mar	31	0	6.6	23.3	15.9	4.43	31	0	6.6	19.3	12.6	3.33
Apr	30	0	5.0	19.8	13.0	3.95	30	0	3.7	17.0	10.2	3.30
May	31	0	5.1	28.0	18.9	6.20	31	0	5.5	26.5	16.2	5.25
Jun	30	0	3.9	29.8	15.7	6.54	30	0	3.2	24.6	13.3	5.60
Jul	31	0	4.8	24.3	15.2	4.75	31	0	4.7	25.8	12.7	4.87
Aug	31	0	3.8	30.1	16.3	6.91	31	0	3.5	25.2	14.5	5.93
Sep	27	3	0.0	23.0	9.5	5.86	28	2	0.0	17.4	8.0	4.78
Oct	31	0	3.2	24.2	12.4	4.71	31	0	3.0	19.1	10.6	3.51
Nov	30	0	5.5	24.0	12.8	4.23	30	0	5.2	17.9	10.9	2.93
Dec	31	0	4.1	24.0	14.7	5.46	31	0	4.6	23.2	13.2	3.95
Jan-Dec*			0.0	31.5	14.4	2.41			0.0	26.5	12.1	2.19

* Based on monthly values.

Table 174. Summary of weekly elevation data (ft) recorded from January through December 1978 in Lower and Upper B-G by the Power Authority of the State of New York.

Date	Lower B-G Maximum Elevation (ft)	Lower B-G Minimum Elevation (ft)	Lower B-G Difference (ft)*	Upper B-G Maximum Elevation (ft)	Upper B-G Minimum Elevation (ft)	Upper B-G Difference (ft)
1-7 Jan	891.6	860.5	31.1	2003.0	1976.7	26.3
8-14 Jan	892.1	860.6	31.5	2003.0	1981.7	21.3
15-21 Jan	892.2	860.1	32.1	2003.0	1976.1	26.9
22-28 Jan	891.4	859.9	31.5	2003.0	1976.9	26.1
29 Jan-4 Feb	888.8	860.1	28.7	2003.0	1979.8	23.2
5-11 Feb	881.9	860.2	21.7	2003.0	1987.6	15.4
12-18 Feb	881.2	859.5	21.7	2003.0	1987.9	15.1
19-25 Feb	893.0	859.9	33.1	2003.0	1975.1	27.9
26 Feb-4 Mar	888.0	860.0	28.0	2003.0	1980.9	22.1
5-11 Mar	887.9	860.1	27.8	2003.0	1981.1	21.9
12-18 Mar	890.9	860.0	30.9	2003.0	1977.5	25.5
19-25 Mar	889.2	860.1	29.1	2003.0	1980.3	22.7
26 Mar-1 Apr	883.8	860.0	23.8	2003.0	1985.1	17.9
2-8 Apr	887.2	860.6	26.6	2003.0	1981.9	21.1
9-15 Apr	891.9	860.6	31.3	2003.0	1976.5	26.5
16-22 Apr	885.0	860.2	24.8	2003.0	1983.9	19.1
23-29 Apr	887.0	860.1	26.9	2002.9	1981.9	21.0
30 Apr-6 May	889.9	859.8	30.1	2003.0	1978.9	24.1
7-13 May	894.6	860.0	34.6	2003.0	1973.8	29.2
14-20 May	896.8	861.1	35.7	2003.0	1970.4	32.6
21-27 May	895.6	860.7	34.9	2003.0	1972.3	30.7
28 May-3 Jun	896.9	860.9	36.0	2003.0	1970.8	32.2
4-10 Jun	887.2	860.9	26.3	2003.0	1982.5	20.5
11-17 Jun	888.6	860.6	28.0	2003.0	1981.1	21.9
18-24 Jun	892.7	861.1	31.6	2003.0	1976.1	26.9
25 Jun-1 Jul	895.7	861.1	34.6	2003.0	1972.4	30.6
2-8 Jul	895.0	861.1	33.9	2002.9	1973.0	29.9
9-15 Jul	895.1	861.0	34.1	2003.0	1972.9	30.1
16-22 Jul	898.1	861.0	37.1	2003.0	1968.8	34.2
23-29 Jul	886.3	860.8	25.5	2003.0	1983.3	19.7
30 Jul-5 Aug	897.2	861.0	36.2	2003.0	1970.0	33.0
6-12 Aug	895.3	861.0	34.3	2003.0	1972.5	30.5
13-19 Aug	895.3	860.8	34.5	2003.0	1972.5	30.5
20-26 Aug	890.6	860.8	29.8	2002.9	1978.3	24.6
27 Aug-2 Sep	894.6	860.9	33.7	2003.0	1973.7	29.3
3-9 Sep	890.4	861.0	29.4	2003.0	1978.9	24.1
10-16 Sep	880.7	860.8	19.9	2002.9	1988.6	14.3
17-23 Sep	890.2	861.2	29.0	2002.5	1978.4	24.1
24-30 Sep	881.8	860.4	21.4	2002.7	1987.1	15.6
1-7 Oct	891.9	861.7	30.2	2002.0	1976.5	25.5
8-14 Oct	888.4	860.0	28.4	2003.0	1980.5	22.5
15-21 Oct	888.6	860.0	28.6	2002.9	1980.3	22.6
22-28 Oct	888.1	861.8	26.3	2002.0	1980.7	21.3
29 Oct-4 Nov	890.1	860.7	29.4	2002.5	1978.8	23.7
5-11 Nov	887.3	860.9	26.4	2002.8	1982.4	20.4
12-18 Nov	887.5	861.1	26.4	2003.0	1981.6	21.4
19-25 Nov	891.0	859.9	31.1	2003.0	1977.5	25.5
26 Nov-2 Dec	892.2	860.0	32.2	2002.9	1976.2	26.7
3-9 Dec	891.4	862.7	28.7	2001.6	1977.2	24.4
10-16 Dec	894.1	860.0	34.1	2003.0	1973.7	29.3
17-23 Dec	895.8	860.0	35.8	2003.0	1971.7	31.3
24-30 Dec	891.8	860.2	31.6	2002.9	1976.6	26.3
1 Jan-30 Dec**	898.1	859.5	$\bar{x}$ = 30.0 SD = 4.18	2003.0	1968.8	$\bar{x}$ = 24.8 SD = 4.90

* Based on Sunday through Saturday.
** Based on weekly values.

Table 175. Summary of turbidity data (nephelometer turbidity units) taken from March through December 1978 in Schoharie Reservoir (SR) and Lower B-G.

Date	Station SR 33*	Station Lower B-G 34
13 Mar	ICE**	21
15 Mar	ICE	26
17 Mar	3.3	25
Weekly $\bar{x}$	-	24
20 Mar	ICE	26
22 Mar	ICE	35
24 Mar	27	24
Weekly $\bar{x}$	-	28
27 Mar	ICE	32
29 Mar	24	24
31 Mar	22	29
Weekly $\bar{x}$	23	28
Monthly $\bar{x}$	19	27
3 Apr	25	34
5 Apr	17	29
7 Apr	15	28
Weekly $\bar{x}$	19	30
10 Apr	23	26
12 Apr	16	25
14 Apr	8.8	26
Weekly $\bar{x}$	16	26
17 Apr	17	19
19 Apr	11	22
21 Apr	8.6	19
Weekly $\bar{x}$	12	20
26 Apr	3.3	18
28 Apr	4.4	16
Weekly $\bar{x}$	3.9	17
Monthly $\bar{x}$	14	24
1 May	2.9	15
3 May	3.5	18
5 May	2.8	14
Weekly $\bar{x}$	3.1	16
8 May	4.6	9.3
10 May	3.2	15
12 May	3.9	8.3
Weekly $\bar{x}$	3.9	11
15 May	3.9	8.8
17 May	4.0	7.5
19 May	6.7	5.6
Weekly $\bar{x}$	4.9	7.3
24 May	4.8	6.5
26 May	4.6	4.9
Weekly $\bar{x}$	4.7	5.7
31 May	3.8	2.9
Monthly $\bar{x}$	4.1	9.7
2 Jun	4.5	3.0
Weekly $\bar{x}$	4.2	3.0
5 Jun	2.5	2.9
7 Jun	3.1	4.4
Weekly $\bar{x}$	2.8	3.7
12 Jun	1.8	3.9
14 Jun	2.4	4.1
16 Jun	3.0	4.8
Weekly $\bar{x}$	2.4	4.3
19 Jun	2.4	5.4
21 Jun	3.9	4.7
Weekly $\bar{x}$	3.2	5.1
26 Jun	4.2	4.8
28 Jun	1.5	3.8
Weekly $\bar{x}$	2.9	4.3
Monthly $\bar{x}$	2.9	4.2
3 Jul	2.7	3.9
5 Jul	2.2	5.1
7 Jul	6.5	4.1
Weekly $\bar{x}$	3.8	4.4
10 Jul	4.7	3.9
12 Jul	2.8	4.3
14 Jul	2.1	4.3
Weekly $\bar{x}$	3.2	4.2
17 Jul	1.8	3.6
19 Jul	3.7	3.8
21 Jul	1.9	3.5
Weekly $\bar{x}$	2.5	3.6
24 Jul	2.4	3.0
26 Jul	4.7	3.8
28 Jul	3.2	3.6
Weekly $\bar{x}$	3.4	3.5
31 Jul	3.3	3.0
Monthly $\bar{x}$	3.2	3.8
2 Aug	2.2	2.5
4 Aug	3.5	2.7
Weekly $\bar{x}$	3.0	2.7
7 Aug	2.2	3.5
9 Aug	6.4	4.6
11 Aug	2.3	3.6
Weekly $\bar{x}$	3.6	3.9
14 Aug	3.3	3.2
16 Aug	3.3	2.7
18 Aug	2.4	3.6
Weekly $\bar{x}$	3.0	3.2
21 Aug	2.9	2.9
23 Aug	3.2	2.4
25 Aug	3.1	2.0
Weekly $\bar{x}$	3.1	2.4
28 Aug	4.0	3.3
30 Aug	3.1	2.9
Monthly $\bar{x}$	3.2	3.1

* Samples taken through the ice from 17 March through 21 April and from 12 through 29 December.

** ICE = no samples taken because of heavy ice cover.

Table 175 - (Continued).

Date	Station SR 33	Station Lower B-G 34
1 Sep	2.5	3.6
Weekly $\bar{x}$	3.2	3.3
6 Sep	17	3.6
8 Sep	7.9	3.6
Weekly $\bar{x}$	12	3.6
11 Sep	7.1	2.7
13 Sep	8.8	3.9
Weekly $\bar{x}$	8.0	3.3
18 Sep	7.7	1.9
20 Sep	6.4	11
Weekly $\bar{x}$	7.1	6.5
25 Sep	7.8	5.1
27 Sep	3.1	3.2
29 Sep	2.7	2.6
Weekly $\bar{x}$	4.5	3.6
Monthly $\bar{x}$	7.1	4.1
4 Oct	2.8	2.9
6 Oct	2.5	2.3
Weekly $\bar{x}$	2.7	2.6
11 Oct	2.1	2.6
13 Oct	2.5	2.3
Weekly $\bar{x}$	2.3	2.5
17 Oct	4.8	1.9
20 Oct	3.3	2.2
Weekly $\bar{x}$	4.1	2.1
24 Oct	6.0	2.3
27 Oct	4.1	2.9
Weekly $\bar{x}$	5.1	2.6
31 Oct	3.3	3.0
Monthly $\bar{x}$	3.5	2.5

Date	Station SR 33	Station Lower B-G 34
3 Nov	2.1	1.8
Weekly $\bar{x}$	2.7	2.4
7 Nov	1.8	1.7
10 Nov	1.8	2.2
Weekly $\bar{x}$	1.8	2.0
14 Nov	4.5	1.5
17 Nov	2.7	1.8
Weekly $\bar{x}$	3.6	1.7
20 Nov	2.2	1.6
22 Nov	2.5	2.0
Weekly $\bar{x}$	2.4	1.8
28 Nov	3.5	1.6
30 Nov	2.5	1.6
Weekly $\bar{x}$	2.0	1.6
Monthly $\bar{x}$	2.6	1.8
5 Dec	2.8	2.1
8 Dec	2.6	2.1
Weekly $\bar{x}$	2.7	2.1
12 Dec	2.3	2.3
14 Dec	2.5	3.4
Weekly $\bar{x}$	2.4	2.9
19 Dec	2.4	4.5
21 Dec	1.7	5.1
Weekly $\bar{x}$	2.1	4.8
26 Dec	2.9	4.5
29 Dec	2.3	3.6
Weekly $\bar{x}$	2.6	4.1
Monthly $\bar{x}$	2.4	3.5
Grand $\bar{x}$	5.4	8.3
SD	5.50	9.03
Minimum	1.5	1.5
Maximum	27	35

Table 176. Summary of air temperature data (C) measured from March through December 1978 in Schoharie Reservoir (SR) and Lower B-G.

Date	Station SR 33	Station Lower B-G 34	Date	Station SR 33	Station Lower B-G 34
13 Mar	ICE*	4	2 Aug	24	28
15 Mar	ICE	1	4 Aug	20	24
17 Mar	4	0	7 Aug	27	27
20 Mar	ICE	0	9 Aug	23	23
22 Mar	ICE	4	11 Aug	23	24
24 Mar	1	0	14 Aug	28	30
27 Mar	ICE	5	16 Aug	29	28
29 Mar	3	6	18 Aug	24	25
31 Mar	4	6	21 Aug	20	25
			23 Aug	24	16
3 Apr	0	3	25 Aug	15	15
5 Apr	2	3	28 Aug	21	24
7 Apr	8	7	30 Aug	23	20
10 Apr	3	3			
12 Apr	5	10	1 Sep	19	23
14 Apr	6	5	6 Sep	26	20
17 Apr	3	4	8 Sep	17	13
19 Apr	7	7	11 Sep	22	20
21 Apr	3	3	13 Sep	15	14
26 Apr	15	17	18 Sep	15	19
28 Apr	18	14	20 Sep	22	16
			25 Sep	13	15
1 May	5	4	27 Sep	16	13
3 May	12	12	29 Sep	13	13
5 May	6	6			
8 May	13	19	4 Oct	8	9
10 May	13	10	6 Oct	14	15
12 May	21	19	11 Oct	15	10
15 May	10	11	13 Oct	18	15
17 May	16	16	17 Oct	6	1
19 May	18	16	20 Oct	6	9
24 May	16	16	24 Oct	6	4
26 May	28	18	27 Oct	8	11
31 May	21	23	31 Oct	14	13
2 Jun	21	32	3 Nov	13	12
5 Jun	17	18	7 Nov	9	10
7 Jun	16	17	10 Nov	17	12
12 Jun	24	30	14 Nov	12	12
14 Jun	12	10	17 Nov	4	6
16 Jun	23	28	20 Nov	8	6
19 Jun	25	28	22 Nov	4	4
21 Jun	23	23	28 Nov	5	7
26 Jun	23	25	30 Nov	7	7
28 Jun	21	26			
			5 Dec	5	11
3 Jul	20	15	8 Dec	11	13
5 Jul	22	21	12 Dec	1	2
7 Jul	23	30	14 Dec	-1	0
10 Jul	28	29	19 Dec	-4	-1
12 Jul	21	21	21 Dec	0	4
14 Jul	24	25	26 Dec	3	-2
17 Jul	21	24	29 Dec	0	-1
19 Jul	27	23			
21 Jul	30	32	Minimum	-4	-2
24 Jul	23	26	Maximum	29	32
26 Jul	19	22			
28 Jul	19	24			
31 Jul	15	20			

* ICE = no samples taken because of heavy ice cover.

Table 177. Summary of water temperature data (C) measured from March through December 1978 in Schoharie Reservoir (SR) and Lower B-G.

Date	Station SR 33*	Station Lower B-G 34
13 Mar	ICE**	2
15 Mar	ICE	3
17 Mar	0	2
Weekly $\bar{x}$	-	2
20 Mar	ICE	3
22 Mar	ICE	4
24 Mar	1	2
Weekly $\bar{x}$	-	3
27 Mar	ICE	4
29 Mar	3	2
31 Mar	3	3
Weekly $\bar{x}$	3	3
Monthly $\bar{x}$	2	3
3 Apr	3	3
5 Apr	4	3
7 Apr	4	3
Weekly $\bar{x}$	4	3
10 Apr	5	4
12 Apr	5	4
14 Apr	6	5
Weekly $\bar{x}$	5	4
17 Apr	8	3
19 Apr	5	5
21 Apr	7	5
Weekly $\bar{x}$	7	4
26 Apr	10	6
28 Apr	11	8
Weekly $\bar{x}$	11	7
Monthly $\bar{x}$	6	4
1 May	10	4
3 May	9	7
5 May	9	7
Weekly $\bar{x}$	10	6
8 May	9	8
10 May	10	8
12 May	11	10
Weekly $\bar{x}$	10	9
15 May	11	9
17 May	11	10
19 May	17	11
Weekly $\bar{x}$	13	10
24 May	15	13
26 May	16	14
Weekly $\bar{x}$	16	14
31 May	22	16
Monthly $\bar{x}$	13	10
2 Jun	21	19
Weekly $\bar{x}$	22	18
5 Jun	19	17
7 Jun	18	18
Weekly $\bar{x}$	19	18
12 Jun	20	20
14 Jun	18	18
16 Jun	19	18
Weekly $\bar{x}$	19	19
19 Jun	24	20
21 Jun	22	20
Weekly $\bar{x}$	23	20
26 Jun	21	20
28 Jun	23	21
Weekly $\bar{x}$	22	21
Monthly $\bar{x}$	21	19
3 Jul	21	20
5 Jul	22	21
7 Jul	25	21
Weekly $\bar{x}$	23	21
10 Jul	25	22
12 Jul	23	22
14 Jul	24	22
Weekly $\bar{x}$	24	22
17 Jul	23	23
19 Jul	26	22
21 Jul	28	24
Weekly $\bar{x}$	26	23
24 Jul	26	24
26 Jul	23	24
28 Jul	23	24
Weekly $\bar{x}$	24	24
31 Jul	22	23
Monthly $\bar{x}$	24	22
2 Aug	24	23
4 Aug	22	23
Weekly $\bar{x}$	23	23
7 Aug	24	23
9 Aug	24	23
11 Aug	23	23
Weekly $\bar{x}$	24	23
14 Aug	26	23
16 Aug	24	24
18 Aug	24	24
Weekly $\bar{x}$	25	24
21 Aug	25	24
23 Aug	25	22
25 Aug	22	23
Weekly $\bar{x}$	24	23
28 Aug	22	23
30 Aug	24	22
Monthly $\bar{x}$	24	23

* Samples taken through the ice from 17 March through 21 April and from 12 through 29 December.

** ICE = no samples taken because of heavy ice cover.

Table 177 - (Continued).

Date	Station SR 33	Station Lower B-G 34
1 Sep	22	22
Weekly $\bar{x}$	23	22
6 Sep	22	21
8 Sep	21	21
Weekly $\bar{x}$	22	21
11 Sep	20	20
13 Sep	19	19
Weekly $\bar{x}$	20	20
18 Sep	18	19
20 Sep	20	18
Weekly $\bar{x}$	19	19
25 Sep	18	18
27 Sep	16	18
29 Sep	16	18
Weekly $\bar{x}$	17	18
Monthly $\bar{x}$	19	19
4 Oct	14	16
6 Oct	15	17
Weekly $\bar{x}$	15	17
11 Oct	14	14
13 Oct	14	15
Weekly $\bar{x}$	14	15
17 Oct	12	13
20 Oct	11	12
Weekly $\bar{x}$	12	13
24 Oct	12	12
27 Oct	12	12
Weekly $\bar{x}$	12	12
31 Oct	14	13
Monthly $\bar{x}$	13	14

Date	Station SR 33	Station Lower B-G 34
3 Nov	13	12
Weekly $\bar{x}$	14	13
7 Nov	10	11
10 Nov	13	11
Weekly $\bar{x}$	12	11
14 Nov	9	10
17 Nov	8	9
Weekly $\bar{x}$	9	10
20 Nov	9	9
22 Nov	8	8
Weekly $\bar{x}$	9	9
28 Nov	8	7
30 Nov	8	7
Weekly $\bar{x}$	8	7
Monthly $\bar{x}$	10	9
5 Dec	7	6
8 Dec	7	7
Weekly $\bar{x}$	7	7
12 Dec	4	4
14 Dec	2	3
Weekly $\bar{x}$	3	4
19 Dec	3	3
21 Dec	2	2
Weekly $\bar{x}$	3	3
26 Dec	3	3
29 Dec	1	1
Weekly $\bar{x}$	2	2
Monthly $\bar{x}$	4	4
Grand $\bar{x}$	15	14
SD	7.80	7.78
Minimum	0	1
Maximum	28	24

Table 178. Summary of turbidity data (nephelometer turbidity units) taken from March through December 1978 in Schoharie Creek, two tributaries of Schoharie Reservoir, and a tributary of Lower B-G.

Date	Station 1	24	25	2	MK	4
15 Mar	30*	18	18	14*	33	33
29 Mar	18	13	4.0	24	25	31
x̄	24	16	11	19	29	32
5 Apr	78	8.9	8.0	27	35	35
12 Apr	17	6.8	6.7	21	23	26
19 Apr	3.4	2.5	1.0	14	10	19
26 Apr	2.5	1.5	1.2	8.3	4.5	15
x̄	25	4.9	4.2	18	18	24
3 May	2.1	1.3	1.1	6.5	3.2	15
10 May	4.0	1.6	1.0	3.1	3.9	15
17 May	18	3.7	4.7	4.3	9.7	12
24 May	3.2	3.9	1.5	5.2	6.6	5.6
31 May	29	3.1	1.1	2.9	4.5	3.1
x̄	11	2.7	1.9	4.4	5.6	10
7 Jun	1.9	3.4	1.2	3.4	3.2	5.3
14 Jun	1.9	3.2	1.3	2.9	3.9	5.0
21 Jun	2.4	3.3	1.4	3.5	3.8	6.9
28 Jun	2.7	2.6	1.4	1.8	2.4	5.8
x̄	2.2	3.1	1.3	2.9	3.3	5.8
5 Jul	5.6	3.5	3.1	4.1	6.4	5.8
12 Jul	2.9	2.2	1.6	1.6	1.7	4.9
15 Jul**	2.4	1.6	1.1	1.1	-	3.2
19 Jul	3.4	2.4	1.3	1.6	3.1	3.8
26 Jul	2.9	1.6	1.4	1.3	1.4	3.5
28 Jul**	5.5	3.2	1.1	1.6	-	3.8
x̄	3.8	2.4	1.6	1.9	3.2	4.2
1 Aug**	1.5	0.80	0.95	1.2	-	1.5
2 Aug	1.6	1.0	0.55	0.72	1.1	2.5
4 Aug**	2.6	42	6.2	2.2	-	11
8 Aug**	20	10	3.6	2.2	-	20
9 Aug	4.5	5.5	1.5	2.0	7.2	9.6
16 Aug	1.8	2.1	0.70	1.2	2.2	5.4
23 Aug	2.2	1.2	0.60	1.3	1.5	3.1
25 Aug**	7.6	3.7	1.5	1.0	-	3.1
29 Aug**	2.3	1.7	0.60	0.91	-	2.9
30 Aug	3.5	1.7	1.3	1.2	1.2	4.2
31 Aug**	25	16	5.5	1.0	-	5.3
x̄	6.6	7.8	2.1	1.4	2.6	6.2
1 Sep**	4.7	4.6	1.1	1.0	-	8.5
6 Sep	3.2	1.9	0.70	1.3	1.4	5.4
13 Sep	2.7	1.0	0.54	1.1	1.3	4.5
19 Sep**	88	20	58	80	-	56
20 Sep	4.4	4.2	4.7	28	12	42
27 Sep	1.3	1.2	1.0	8.1	2.1	16
x̄	17	5.5	11	20	4.2	22
4 Oct	1.5	1.0	0.93	1.9	1.5	3.8
6 Oct**	6.5	7.3	4.9	2.9	-	7.3
11 Oct	1.2	0.80	0.50	0.90	1.1	2.5
14 Oct**	7.3	4.7	1.7	2.5	-	8.0
17 Oct	0.72	0.82	0.97	2.3	1.5	4.0
24 Oct	1.1	1.1	0.43	1.2	2.4	4.1
27 Oct**	13	12	6.2	9.8	-	12
31 Oct	1.0	0.82	0.80	1.5	0.98	4.3
x̄	4.0	3.6	2.1	2.9	1.5	5.8
14 Nov	1.5	1.2	0.76	2.9	1.2	4.0
24 Nov**	0.98	3.6	2.6	0.49*	-	1.8
30 Nov	0.90	2.6	1.2	3.1*	2.0	1.8
x̄	1.1	2.5	1.5	2.2	1.6	2.5

* Sample taken through the ice.
** Samples taken after rainfall ≥1.27 cm in a 24-hour period.
# Based on days of rainfall ≥1.27 cm in a 24-hour period from 15 July through 21 December.
Based on days of complete water quality sampling from 19 July through 29 December.

Table 178 - (Continued).

Date	Station 1	24	25	2	MK	4
9 Dec**	22	21	10	1.7*	-	9.8
14 Dec	5.7	4.7	4.3	2.9*	4.2	3.3
21 Dec**	5.4	7.3	4.1	3.4	-	5.0
29 Dec	3.4*	1.5	0.88	3.0	2.7	2.7
$\bar{x}$	9.1	8.6	4.8	2.8	3.5	5.2
Grand $\bar{x}$#	13	10	6.8	7.1	-	10
SD	21.3	10.7	13.90	19.57	-	13.2
Minimum	0.98	0.80	0.60	0.49	-	1.5
Maximum	88	42	58	80	-	56
n (days)	16	16	16	16	-	16
Grand $\bar{x}$##	2.4	1.9	1.3	3.4	2.6	6.5
SD	1.41	1.36	1.16	6.01	2.64	6.91
Minimum	0.72	0.80	0.43	0.72	0.98	1.8
Maximum	5.7	5.5	4.7	28	12	42
n	20	20	20	20	20	20
Grand $\bar{x}$	9.2	5.3	3.6	6.2	6.3	10
SD	16.55	7.14	8.20	12.24	8.62	11.2
Minimum	0.72	0.80	0.43	0.49	0.98	1.5
Maximum	88	42	58	80	35	56
n	53	53	53	53	37	53

Table 179. Summary of suspended residue data (mg/l) taken from March through December 1978 in Schoharie Creek, two tributaries of Schoharie Reservoir, and a tributary of Lower B-G.

Date	Station 1	24	25	2	MK	4
15 Mar	22.1*	27.5	39.2	15.2*	38.0	24.4
29 Mar	23.1	15.9	15.7	9.0	31.8	17.8
x̄	22.6	21.7	27.5	12.1	34.9	21.1
5 Apr	112.3	6.6	20.0	20.2	61.8	17.6
12 Apr	51.1	11.3	15.5	14.8	40.6	23.6
19 Apr	3.7	1.7	1.7	6.3	15.7	14.7
26 Apr	5.2	3.2	0.6	5.3	3.0	0.8
x̄	43.1	5.7	9.5	11.7	30.3	14.2
3 May	2.0	0.6	0.6	3.6	1.4	9.3
10 May	6.1	1.8	2.1	2.2	3.4	3.5
17 May	28.2	3.6	27.0	4.2	13.4	10.0
24 May	7.6	2.1	7.7	4.4	4.5	4.7
31 May	26.2	5.8	2.0	1.9	2.3	1.7
x̄	14.0	2.8	7.9	3.3	5.0	5.8
7 Jun	1.3	2.2	ND**	0.5	0.5	2.2
14 Jun	3.3	4.9	1.4	2.9	3.4	6.7
21 Jun	3.5	4.4	2.9	2.5	2.1	4.9
28 Jun	4.1	4.2	1.8	4.4	1.6	4.2
x̄	3.1	3.9	2.0	2.6	1.9	4.5
5 Jul	9.8	6.1	4.2	4.5	3.5	3.8
11 Jul#	6.5	5.2	2.0	2.2	-	3.4
12 Jul	3.2	1.7	1.2	1.7	0.5	5.4
15 Jul#	2.0	1.1	1.3	0.7	-	1.9
19 Jul	3.3	3.0	1.4	1.2	1.8	3.5
26 Jul	1.8	0.6	1.3	0.2	0.5	1.8
28 Jul#	2.6	4.1	1.7	0.4	-	3.2
x̄	4.2	3.1	1.9	1.6	1.6	3.3
1 Aug#	1.6	1.3	4.0	0.6	-	3.0
2 Aug	0.9	1.4	1.0	1.1	4.3	ND
4 Aug#	2.9	24.6	12.5	1.8	-	1.7
6 Aug#	14.9	953.6	603.2	1.5	-	22.9
8 Aug#	30.0	16.7	9.7	1.3	-	20.7
9 Aug	6.6	9.9	2.5	2.0	6.3	9.4
16 Aug	4.1	2.2	0.9	1.2	1.9	4.7
23 Aug	4.0	2.0	2.2	1.7	1.2	2.3
25 Aug#	8.8	4.6	1.8	1.0	-	2.4
30 Aug	3.2	1.8	0.7	1.8	0.3	1.8
31 Aug#	14.6	32.8	7.4	1.3	-	2.0
x̄	8.3	95.5	58.7	1.4	2.8	6.4
1 Sep#	4.6	5.9	1.5	1.0	-	5.5
6 Sep	3.1	1.6	0.3	2.0	0.9	3.4
13 Sep	3.4	1.2	1.4	2.8	2.3	5.9
19 Sep#	270.4	37.9	137.0	72.4	-	31.8
20 Sep	7.4	9.2	15.6	13.2	9.1	51.6
27 Sep	2.4	1.7	1.4	11.9	0.9	8.4
x̄	48.6	9.6	26.2	17.2	3.3	17.8
4 Oct	2.3	2.4	1.9	3.8	0.7	3.8
6 Oct#	5.6	9.8	4.7	3.2	-	8.8
11 Oct	2.5	1.7	1.3	2.1	0.6	4.4
14 Oct#	2.6	3.3	1.9	0.7	-	6.6
17 Oct	1.0	1.2	0.9	3.7	1.0	5.0
24 Oct	2.2	1.0	0.4	1.2	0.4	3.8
27 Oct#	6.1	12.6	6.9	5.5	-	9.0
31 Oct	0.9	2.7	1.3	1.5	1.2	3.4
x̄	2.9	4.3	2.4	2.7	0.8	5.6
14 Nov	2.1	1.2	1.1	1.7	0.7	6.7
30 Nov	0.6	8.1	0.8	3.3*	1.5	1.8
x̄	1.4	4.7	1.0	2.5	1.1	4.3

* Sample taken through the ice.
** ND = not detectable, equal to 0.0 for determination of mean.
\# Samples taken after rainfall ≥1.27 cm in a 24-hour period.
Based on days of rainfall ≥1.27 cm in a 24-hour period from 11 July through 27 October.
@ Based on days of complete water quality sampling from 12 July through 31 October.

Table 179 - (Continued).

Date	Station 1	24	25	2	MK	4
14 Dec	2.9	3.2	2.1	2.6*	4.1	2.8
29 Dec	6.3*	1.6	2.7	2.0	2.0	3.2
$\bar{x}$	4.6	2.4	2.4	2.3	3.1	3.0
Grand $\bar{x}$##	26.7	79.5	56.8	6.7	-	8.8
SD	70.57	251.85	161.20	18.96	-	9.46
Minimum	1.6	1.1	1.3	0.4	-	1.9
Maximum	270.4	953.6	603.2	72.4	-	31.8
n (days)	14	14	14	14	-	14
Grand $\bar{x}$@	3.1	2.7	2.1	3.1	2.0	7.0
SD	1.78	2.66	3.53	3.67	2.41	11.73
Minimum	0.9	0.6	0.3	0.2	0.3	ND
Maximum	7.4	9.9	15.6	13.2	9.1	51.6
n	17	17	17	17	17	17
Grand $\bar{x}$	14.6	25.0	19.2	5.1	7.3	8.0
SD	40.50	132.88	85.76	10.50	13.59	9.42
Minimum	0.6	0.6	ND	0.2	0.3	ND
Maximum	270.4	953.6	603.2	72.4	61.8	51.6
n	51	51	51	51	37	51

Table 180. Summary of settleable solids data (mg/l) in Schoharie Creek and two tributaries of Schoharie Reservoir and rainfall data at Lower B-G (LBG) and Schoharie Reservoir (SR) taken from March through December 1978.

Date	Rainfall (inches) LBG	Rainfall (inches) SR	Station 1	Station 24	Station 25	Station 2	Station 4
15 Mar	0.46	0.38	ND*	4.6	31.4	4.4**	3.6
27 Mar	1.29	0.82	164.7	22.6	97.1	6.6	11.0
29 Mar	TR***	0.00	1.7	3.4	2.6	4.1	0.7
$\bar{x}$			55.5	10.2	43.7	5.0	5.1
12 Apr	0.25	0.26	3.9	1.7	7.8	1.4	1.3
20 Apr	0.42	0.41	2.1	1.0	1.4	0.9	1.5
26 Apr	0.00	0.00	ND	ND	0.5	ND	ND
$\bar{x}$			2.0	0.9	3.2	0.8	0.9
10 May	0.10	0.06	0.8	1.1	1.4	1.1	1.3
15 May	0.58	0.82	15.4	2.3	1.5	2.6	5.4
17 May	0.66	0.43	9.0	3.9	1.5	0.5	2.9
24 May	0.05	0.00	0.5	0.3	0.8	ND	0.7
25 May	TR	0.16	0.2	0.5	1.6	0.8	0.1
$\bar{x}$			5.2	1.6	1.4	1.0	2.1
3 Jun	1.07	1.17	17.2	23.6	2.1	3.6	7.2
7 Jun	0.00	0.00	6.4	0.1	ND	ND	ND
8 Jun	1.09	0.80	ND	ND	1.0	0.2	0.6
14 Jun	0.00	0.13	ND	1.0	ND	0.8	ND
19 Jun	1.13	0.58	1.0	0.5	1.7	0.5	0.6
28 Jun	0.00	0.00	0.4	0.7	0.7	1.2	0.9
$\bar{x}$			4.2	4.3	0.9	1.1	1.6
4 Jul	1.48	2.20	59.6	54.9	2.6	ND	0.2
11 Jul	0.11	0.55	0.3	0.4	0.3	0.1	0.3
12 Jul	0.00	0.00	ND	ND	ND	ND	1.5
15 Jul	0.12	0.03	0.1	0.4	ND	0.2	0.5
26 Jul	0.00	0.00	ND	ND	ND	0.1	ND
28 Jul	0.93	0.32	1.0	0.4	0.4	0.4	0.2
$\bar{x}$			10.2	9.4	0.6	0.1	0.5
1 Aug	0.13	0.22	0.8	ND	ND	0.3	0.6
4 Aug	1.55	1.47	0.8	22.0	1.7	0.4	1.5
6 Aug	1.86	2.01	3.5	201.3	39.1	0.4	2.3
8 Aug	0.97	0.79	5.5	1.6	1.5	ND	1.8
9 Aug	TR	0.00	0.8	1.2	0.6	0.7	0.6
23 Aug	0.00	0.00	0.4	0.6	0.2	0.3	0.4
25 Aug	0.64	1.01	0.3	0.2	ND	0.1	1.5
29 Aug	0.04	0.03	0.2	0.4	ND	0.1	0.3
31 Aug	1.14	0.92	1.0	4.7	0.7	0.3	0.3
$\bar{x}$			1.5	25.8	4.9	0.3	1.0
1 Sep	1.14	0.45	0.5	1.0	0.3	0.1	ND
6 Sep	0.00	0.00	0.8	0.1	0.1	0.1	0.1
19 Sep	3.16	2.28	153.0	5.9	45.0	2.4	1.5
20 Sep	0.00	TR	0.7	1.0	3.3	0.8	7.8
$\bar{x}$			38.8	2.0	12.2	0.9	2.4
4 Oct	0.26	0.00	0.4	0.4	1.5	0.1	0.1
6 Oct	0.93	0.95	0.6	0.9	0.4	0.2	0.2
14 Oct	1.07	0.51	0.1	0.1	0.1	0.1	0.1
17 Oct	0.00	0.00	ND	ND	ND	0.1	0.3
27 Oct	0.75	0.67	0.9	1.5	2.3	0.1	0.7
31 Oct	0.00	0.00	0.3	0.8	0.4	0.8	0.6
$\bar{x}$			0.4	0.6	0.8	0.2	0.3
14 Nov	TR	0.00	0.3	0.2	0.1	0.2	0.5
24 Nov	0.23	0.18	0.1	1.9	0.3	1.7**	2.0
30 Nov	0.08	0.07	ND	0.8	0.1	0.2**	0.1
$\bar{x}$			0.1	1.0	0.2	0.7	0.9
9 Dec	0.70	0.97	4.9	6.1	15.3	0.2**	1.1
14 Dec	0.02	0.01	0.4	0.8	0.9	0.6**	0.5
21 Dec	0.63	0.61	0.7	0.6	2.5	0.2	0.1
29 Dec	TR	TR	0.7**	0.3	1.0	ND	0.6
$\bar{x}$			1.7	2.0	4.9	0.3	0.6
Grand $\bar{x}$			9.4	7.7	5.6	0.8	1.3
SD			32.43	29.70	16.33	1.34	2.19
Minimum			ND	ND	ND	ND	ND
Maximum			164.7	201.3	97.1	6.6	11.0
n (days)			49	49	49	49	49

* ND = not detectable, equal to 0.0 for determination of mean.
** Sample taken through the ice.
*** TR = trace.

Table 181. Summary of air temperature data (C) measured from March through December 1978 in Schoharie Creek, two tributaries of Schoharie Reservoir, and a tributary of Lower B-G.

Date	Station 1	24	25	2	MK	4
15 Mar	3*	4	0	2	0	1
29 Mar	3	1	4	5	5	9
5 Apr	1	2	1	2	3	3
12 Apr	4	10	4	4	4	4
19 Apr	6	6	4	4	4	4
26 Apr	6	7	7	6	5	5
3 May	5	5	4	5	5	5
10 May	8	8	8	8	9	9
15 May	9	9	10	11	-	10
17 May	11	11	12	11	11	11
24 May	11	13	14	15	14	13
25 May	24	23	22	20	-	23
31 May	20	22	22	22	23	22
3 Jun	DNR**	DNR	14	12	-	15
7 Jun	16	16	17	19	19	17
8 Jun	20	19	17	19	-	20
14 Jun	12	11	10	11	11	11
19 Jun	21	24	21	25	-	28
21 Jun	24	23	24	20	24	24
28 Jun	22	22	21	24	21	20
4 Jul	14	12	13	12	-	15
5 Jul	20	17	20	19	19	19
11 Jul	17	16	19	19	-	22
12 Jul	20	21	18	20	17	21
15 Jul	22	22	22	21	-	22
19 Jul	28	24	26	25	23	23
26 Jul	23	22	23	22	23	21
28 Jul	21	18	22	22	-	25
1 Aug	20	19	19	20	-	19
2 Aug	24	23	23	22	22	25
4 Aug	23	23	23	23	-	24
6 Aug	23	20	23	23	-	20
8 Aug	26	24	26	27	-	27
9 Aug	24	26	23	24	24	25
16 Aug	30	27	27	28	26	25
23 Aug	25	23	21	19	14	15
25 Aug	15	16	15	15	-	16
29 Aug	24	22	23	23	-	26
30 Aug	20	21	18	18	20	18
31 Aug	14	15	14	15	-	14
1 Sep	21	17	17	22	-	23
6 Sep	24	24	20	20	17	18
13 Sep	18	17	11	14	17	14
19 Sep	15	13	14	14	-	15
20 Sep	20	18	16	17	14	16
27 Sep	15	10	9	11	11	11
4 Oct	8	9	9	9	9	9
6 Oct	14	13	13	13	-	15
11 Oct	12	16	9	11	7	10
14 Oct	15	12	9	9	-	9
17 Oct	0	2	0	1	0	0
24 Oct	4	7	3	5	0	3
27 Oct	8	10	8	9	-	9
31 Oct	9	9	8	10	7	11
14 Nov	12	11	11	11	11	12
24 Nov	5	5	5	5	-	5
30 Nov	3	1	3	7	2	7
9 Dec	4	3	3	2	-	3
14 Dec	0	-2	0	0	0	0
21 Dec	2	0	2	2	-	4
29 Dec	-3	0	-6	-4	-1	-3
Minimum	-3	-2	-6	-4	-1	-3
Maximum	30	27	27	28	26	28

* Sample taken through the ice.
** DNR = data not recorded.

Table 182. Summary of water temperature data (C) measured from March through December 1978 in Schoharie Creek, two tributaries of Schoharie Reservoir, and a tributary of Lower B-G.

Date	Station 1	24	25	2	MK	4
15 Mar	1*	0	0	0*	0	1
29 Mar	3	5	3	1	2	2
$\bar{x}$	2	3	2	1	1	2
5 Apr	3	3	3	2	3	3
12 Apr	5	8	5	3	4	4
19 Apr	6	7	5	4	5	5
26 Apr	7	12	7	6	6	9
$\bar{x}$	5	8	5	4	5	5
3 May	7	11	6	5	6	7
10 May	9	11	9	9	10	9
15 May	8	9	9	10	-	10
17 May	9	9	11	9	9	10
24 May	13	13	11	15	13	12
25 May	13	14	13	12	-	13
31 May	21	23	18	21	18	17
$\bar{x}$	11	13	11	12	11	11
3 Jun	18**	DNR***	DNR	DNR	-	DNR
7 Jun	16	15	14	19	14	17
8 Jun	15	17	15	19	-	18
14 Jun	17	17	13	11	13	18
19 Jun	20	20	19	20	-	20
21 Jun	22	20	18	19	18	19
28 Jun	25	23	21	22	20	23
$\bar{x}$	19	19	17	18	16	19
4 Jul	13	17	14	17	-	16
5 Jul	18	19	16	19	15	19
11 Jul	21	19	19	22	-	21
12 Jul	22	20	18	21	17	19
15 Jul	21	19	23	21	-	22
19 Jul	25	23	20	22	18	22
26 Jul	25	23	20	23	20	23
28 Jul	24	22	21	24	-	24
$\bar{x}$	21	20	19	21	18	21
1 Aug	19	18	18	20	-	17
2 Aug	21	23	19	20	18	21
4 Aug	23	20	20	23	-	21
6 Aug	21	19	18	21	-	19
8 Aug	20	21	20	23	-	22
9 Aug	20	23	19	21	18	21
16 Aug	24	24	22	24	20	24
23 Aug	24	21	17	21	16	19
25 Aug	19	17	17	20	-	19
29 Aug	21	22	20	20	-	23
30 Aug	22	21	17	21	18	21
31 Aug	19	16	16	20	-	19
$\bar{x}$	21	20	19	21	18	21
1 Sep	18	17	19	21	-	21
6 Sep	21	20	16	19	15	18
13 Sep	19	17	14	18	15	15
19 Sep	14	14	13	15	-	17
20 Sep	18	17	14	15	12	16
27 Sep	11	9	9	13	8	12
$\bar{x}$	17	16	14	17	13	17
4 Oct	11	10	10	12	9	12
6 Oct	14	13	13	16	-	16
11 Oct	10	10	9	11	7	12
14 Oct	13	11	12	12	-	13
17 Oct	6	6	6	9	4	10
24 Oct	7	8	7	9	5	4
27 Oct	9	9	8	10	-	12
31 Oct	7	9	7	9	5	11
$\bar{x}$	10	10	9	11	6	11

* Sample taken through the ice.
** Value taken from Partlow seven-day recording thermometer.
*** DNR = data not recorded.

Table 182 - (Continued).

Date	Station 1	24	25	2	MK	4
14 Nov	6	7	7	6	6	10
24 Nov	3	3	4	2*	-	5
30 Nov	2	1	3	2*	1	5
$\bar{x}$	4	4	5	3	4	7
9 Dec	5	3	3	2*	-	3
14 Dec	1	0	1	1*	0	3
21 Dec	0	0	0	3	-	2
29 Dec	0*	0	0	1	0	1
$\bar{x}$	2	1	1	2	0	2
Grand $\bar{x}$	14	14	12	14	10	14
SD	7.7	7.2	6.6	7.7	6.6	7.0
Minimum	0	0	0	0	0	1
Maximum	25	24	23	24	20	24
n (days)	61	60	60	60	37	60

Table 183. Weekly minimum-maximum water temperature data (C) measured from May through September 1978 in Schoharie Creek, two tributaries of Schoharie Reservoir, and a tributary of Lower B-G.

Date		Station 1	24*	25	2	MK	4
17-24 May**	Minimum	9	-	HWL***	M#	TM##	M
	Maximum	16	-	-	-	TM	-
24-31 May	Minimum	12	TM	HWL	M	TM	M
	Maximum	22	TM	-	-	TM	-
31 May-7 Jun	Minimum	14###	TM	TM	LWL@	TM	12
	Maximum	21###	TM	TM	-	TM	21
7-14 Jun	Minimum	12	TM	7	11	TM	12
	Maximum	23	TM	25	20	TM	27
14-21 Jun	Minimum	13###	TM	11	LWL	10	10
	Maximum	23###	TM	25	-	23	23
21-28 Jun	Minimum	17	TM	10	11	9	LWL
	Maximum	26	TM	26	24	23	-
28 Jun-5 Jul	Minimum	8	13	TM	16	12	LWL
	Maximum	28	26	21	27	24	-
5-12 Jul	Minimum	16	TM	10	17	13	17
	Maximum	26	TM	20	26	27	31
12-19 Jul	Minimum	16	15	3	10	15	18
	Maximum	27	29	26	27	23	29
19-26 Jul	Minimum	21	19	12	M	17	21
	Maximum	29	29	29	-	28	32
26 Jul-2 Aug	Minimum	17	15	8	18	15	17
	Maximum	26	TM	26	26	27	28
2-9 Aug	Minimum	18###	TM	15	19	TM	17
	Maximum	26###	TM	26	27	TM	23
9-16 Aug	Minimum	18	TM	19	20	16	19
	Maximum	27	27	27	26	23	29
16-23 Aug	Minimum	19	16	15	17	11	18
	Maximum	26###	26	28	TM	22	30
23-30 Aug	Minimum	17	21	TM	17	10	17
	Maximum	24	24	TM	29	19	29
30 Aug-6 Sep	Minimum	16###	19	TM	18	13	16
	Maximum	22###	TM	TM	TM	22	24
6-13 Sep	Minimum	15	13	TM	14	12	15
	Maximum	21	20	TM	21	22	26
13-20 Sep	Minimum	15###	TM	TM	8	HWL	5
	Maximum	19###	TM	TM	20	-	28

* First sampled 24-31 May.
** Minimum-maximum water temperatures recorded weekly at the time of complete water quality sampling.
*** HWL = high water level prevented thermometer retrieval.
\# M = thermometer missing because of vandalism.
TM = thermometer malfunction.
Data taken from Partlow seven-day temperature recorder.
@ LWL = thermometer exposed because of low water level.

Table 184. Summary of daily water temperature data (C) monitored by a Partlow seven-day recording thermometer from May through October 1978 in Schoharie Creek.

Date		Station 1	Date		Station 1	Date		Station 1	Date		Station 1
11 May	$\bar{x}$	10.5	22 May	$\bar{x}$	13.0	1 Jun	$\bar{x}$	19.0	12 Jun	$\bar{x}$	20.0
	SD	2.20		SD	1.65		SD	0.88		SD	1.51
	Minimum	8.0		Minimum	11.0		Minimum	17.5		Minimum	18.0
	Maximum	13.5		Maximum	15.0		Maximum	21.0		Maximum	22.0
	19+C*	0		19+C	0		19+C	11		19+C	15
12 May	$\bar{x}$	11.5	23 May	$\bar{x}$	14.0	2 Jun	$\bar{x}$	19.5	13 Jun	$\bar{x}$	18.5
	SD	0.98		SD	1.49		SD	1.45		SD	1.69
	Minimum	10.0		Minimum	12.0		Minimum	17.5		Minimum	15.0
	Maximum	12.5		Maximum	16.0		Maximum	21.0		Maximum	21.0
	19+C	0		19+C	0		19+C	11		19+C	7
13 May	$\bar{x}$	11.0	24 May	$\bar{x}$	13.5	3 Jun	$\bar{x}$	18.5	14 Jun	$\bar{x}$	15.0
	SD	0.31		SD	0.68		SD	0.91		SD	1.67
	Minimum	11.0		Minimum	13.0		Minimum	16.5		Minimum	13.0
	Maximum	12.0		Maximum	15.0		Maximum	20.0		Maximum	17.5
	19+C	0		19+C	0		19+C	4		19+C	0
14 May	$\bar{x}$	11.0	25 May	$\bar{x}$	14.0	4 Jun	$\bar{x}$	16.0	15 Jun	$\bar{x}$	16.0
	SD	0.25		SD	1.24		SD	0.98		SD	1.86
	Minimum	11.0		Minimum	12.5		Minimum	14.5		Minimum	13.5
	Maximum	11.5		Maximum	15.5		Maximum	17.0		Maximum	18.5
	19+C	0		19+C	0		19+C	0		19+C	0
15 May	$\bar{x}$	9.5	26 May	$\bar{x}$	15.5	5 Jun	$\bar{x}$	15.0	16 Jun	$\bar{x}$	17.0
	SD	0.69		SD	1.77		SD	0.84		SD	1.53
	Minimum	8.5		Minimum	13.0		Minimum	13.5		Minimum	14.5
	Maximum	11.0		Maximum	17.5		Maximum	16.0		Maximum	19.0
	19+C	0		19+C	0		19+C	0		19+C	0
16 May	$\bar{x}$	8.5	27 May	$\bar{x}$	17.0	6 Jun	$\bar{x}$	16.0	17 Jun	$\bar{x}$	16.0
	SD	0.00		SD	1.75		SD	2.02		SD	0.52
	Minimum	8.5		Minimum	15.0		Minimum	13.5		Minimum	15.5
	Maximum	8.5		Maximum	19.5		Maximum	18.5		Maximum	17.5
	19+C	0		19+C	5		19+C	0		19+C	0
17 May	$\bar{x}$	8.5	28 May	$\bar{x}$	18.5	7 Jun	$\bar{x}$	16.0	18 Jun	$\bar{x}$	18.0
	SD	0.25		SD	1.17		SD	0.51		SD	2.63
	Minimum	8.5		Minimum	17.0		Minimum	15.0		Minimum	15.5
	Maximum	9.0		Maximum	20.0		Maximum	17.0		Maximum	21.5
	19+C	0		19+C	10		19+C	0		19+C	10
18 May	$\bar{x}$	9.0	29 May	$\bar{x}$	19.0	8 Jun	$\bar{x}$	16.0	19 Jun	$\bar{x}$	20.5
	SD	0.48		SD	0.87		SD	0.25		SD	1.45
	Minimum	8.5		Minimum	17.5		Minimum	16.0		Minimum	18.5
	Maximum	9.0		Maximum	20.0		Maximum	16.5		Maximum	22.5
	19+C	0		19+C	12		19+C	0		19+C	18
19 May	$\bar{x}$	11.0	30 May	$\bar{x}$	19.5	9 Jun	$\bar{x}$	15.5	20 Jun	$\bar{x}$	20.5
	SD	2.33		SD	1.36		SD	0.41		SD	1.68
	Minimum	8.5		Minimum	17.5		Minimum	15.0		Minimum	18.0
	Maximum	14.0		Maximum	21.0		Maximum	16.5		Maximum	22.5
	19+C	0		19+C	11		19+C	0		19+C	17
20 May	$\bar{x}$	13.0	31 May	$\bar{x}$	20.0	10 Jun	$\bar{x}$	16.0	21 Jun	$\bar{x}$	RM##
	SD	1.57		SD	0.92		SD	1.73		SD	-
	Minimum	11.0		Minimum	18.5		Minimum	14.0		Minimum	-
	Maximum	15.0		Maximum	21.0		Maximum	18.5		Maximum	-
	19+C	0		19+C	17		19+C	0		19+C	-
21 May	$\bar{x}$	14.0	Monthly	$\bar{x}$**	13.5	11 Jun	$\bar{x}$	18.0	22 Jun	$\bar{x}$	21.0
	SD	0.55		SD	3.67		SD	2.03		SD	0.74
	Minimum	13.0		Minimum	8.0		Minimum	15.0		Minimum	20.0
	Maximum	14.5		Maximum	21.0		Maximum	20.5		Maximum	22.0
	19+C	0		n (days)	21		19+C	9		19+C	24
				19+C#	5(11)						

* Number of hours per day that water temperature exceeded 19 C.
** Based on mean daily water temperatures.
\# Number of days and mean hours per day (in parentheses) that water temperature exceeded 19 C.
RM = recorder malfunction.
@ Total number of days from 11 May through 3 October that water temperature exceeded 19 C/total number of days recorded.

Table 184 - (Continued).

Date		Station 1
23 Jun	$\bar{x}$	20.0
	SD	1.37
	Minimum	18.0
	Maximum	22.0
	19+C	16
24 Jun	$\bar{x}$	20.0
	SD	1.88
	Minimum	17.5
	Maximum	22.5
	19+C	13
25 Jun	$\bar{x}$	21.0
	SD	2.05
	Minimum	18.0
	Maximum	23.5
	19+C	18
26 Jun	$\bar{x}$	20.0
	SD	0.73
	Minimum	19.0
	Maximum	22.0
	19+C	22
27 Jun	$\bar{x}$	21.0
	SD	2.37
	Minimum	18.5
	Maximum	24.0
	19+C	13
28 Jun	$\bar{x}$	RM
	SD	-
	Minimum	-
	Maximum	-
	19+C	-
29 Jun	$\bar{x}$	24.0
	SD	1.33
	Minimum	22.0
	Maximum	25.5
	19+C	24
30 Jun	$\bar{x}$	23.0
	SD	0.82
	Minimum	21.5
	Maximum	24.0
	19+C	24
Monthly	$\bar{x}$	18.5
	SD	2.49
	Minimum	13.0
	Maximum	25.5
	n	28
	19+C	17(15)
1 Jul	$\bar{x}$	21.5
	SD	1.44
	Minimum	19.0
	Maximum	23.0
	19+C	21
2 Jul	$\bar{x}$	21.5
	SD	2.16
	Minimum	18.5
	Maximum	24.5
	19+C	20
3 Jul	$\bar{x}$	20.5
	SD	1.00
	Minimum	19.0
	Maximum	23.0
	19+C	23

Date		Station 1
4 Jul	$\bar{x}$	RM
	SD	-
	Minimum	-
	Maximum	-
	19+C	-
5 Jul	$\bar{x}$	RM
	SD	-
	Minimum	-
	Maximum	-
	19+C	-
6 Jul	$\bar{x}$	19.0
	SD	2.01
	Minimum	16.5
	Maximum	21.5
	19+C	10
7 Jul	$\bar{x}$	RM
	SD	-
	Minimum	-
	Maximum	-
	19+C	-
8 Jul	$\bar{x}$	23.5
	SD	1.79
	Minimum	21.0
	Maximum	25.5
	19+C	24
9 Jul	$\bar{x}$	25.0
	SD	1.35
	Minimum	23.0
	Maximum	26.5
	19+C	24
10 Jul	$\bar{x}$	24.0
	SD	0.88
	Minimum	22.0
	Maximum	25.5
	19+C	24
11 Jul	$\bar{x}$	20.0
	SD	0.90
	Minimum	18.5
	Maximum	21.5
	19+C	17
12 Jul	$\bar{x}$	RM
	SD	-
	Minimum	-
	Maximum	-
	19+C	-
13 Jul	$\bar{x}$	21.0
	SD	2.14
	Minimum	18.0
	Maximum	23.5
	19+C	16
14 Jul	$\bar{x}$	22.0
	SD	0.76
	Minimum	21.0
	Maximum	23.0
	19+C	24
15 Jul	$\bar{x}$	22.5
	SD	1.47
	Minimum	20.5
	Maximum	24.0
	19+C	24

Date		Station 1
16 Jul	$\bar{x}$	23.0
	SD	0.94
	Minimum	21.5
	Maximum	24.0
	19+C	24
17 Jul	$\bar{x}$	22.0
	SD	0.44
	Minimum	21.5
	Maximum	23.0
	19+C	24
18 Jul	$\bar{x}$	22.5
	SD	1.82
	Minimum	20.5
	Maximum	25.0
	19+C	24
19 Jul	$\bar{x}$	23.5
	SD	2.13
	Minimum	20.5
	Maximum	26.0
	19+C	24
20 Jul	$\bar{x}$	25.0
	SD	1.66
	Minimum	22.5
	Maximum	27.0
	19+C	24
21 Jul	$\bar{x}$	26.0
	SD	1.57
	Minimum	24.0
	Maximum	28.0
	19+C	24
22 Jul	$\bar{x}$	27.0
	SD	0.99
	Minimum	25.5
	Maximum	28.0
	19+C	24
23 Jul	$\bar{x}$	28.0
	SD	1.31
	Minimum	26.0
	Maximum	29.5
	19+C	24
24 Jul	$\bar{x}$	26.0
	SD	1.07
	Minimum	25.0
	Maximum	29.0
	19+C	24
25 Jul	$\bar{x}$	23.5
	SD	0.99
	Minimum	21.5
	Maximum	25.0
	19+C	24
26 Jul	$\bar{x}$	23.5
	SD	1.38
	Minimum	21.5
	Maximum	25.0
	19+C	24
27 Jul	$\bar{x}$	24.5
	SD	1.24
	Minimum	23.0
	Maximum	26.0
	19+C	24

Date		Station 1
28 Jul	$\bar{x}$	24.0
	SD	0.52
	Minimum	23.5
	Maximum	25.5
	19+C	24
29 Jul	$\bar{x}$	22.0
	SD	0.73
	Minimum	20.5
	Maximum	23.0
	19+C	24
30 Jul	$\bar{x}$	21.5
	SD	0.39
	Minimum	21.0
	Maximum	22.5
	19+C	24
31 Jul	$\bar{x}$	19.5
	SD	1.11
	Minimum	17.5
	Maximum	21.5
	19+C	14
Monthly	$\bar{x}$	23.0
	SD	2.24
	Minimum	16.5
	Maximum	29.5
	n	27
	19+C	27(22)
1 Aug	$\bar{x}$	18.5
	SD	1.29
	Minimum	17.0
	Maximum	20.0
	19+C	10
2 Aug	$\bar{x}$	21.0
	SD	1.81
	Minimum	19.0
	Maximum	23.0
	19+C	18
3 Aug	$\bar{x}$	23.0
	SD	1.13
	Minimum	21.5
	Maximum	24.5
	19+C	24
4 Aug	$\bar{x}$	23.5
	SD	0.70
	Minimum	22.0
	Maximum	24.0
	19+C	24
5 Aug	$\bar{x}$	22.0
	SD	0.94
	Minimum	20.5
	Maximum	23.0
	19+C	24
6 Aug	$\bar{x}$	22.0
	SD	0.48
	Minimum	21.5
	Maximum	23.0
	19+C	24
7 Aug	$\bar{x}$	21.5
	SD	0.43
	Minimum	21.0
	Maximum	22.0
	19+C	24

Table 184 - (Continued).

Date		Station 1	Date		Station 1	Date		Station 1	Date		Station 1
8 Aug	$\bar{x}$	21.0	20 Aug	$\bar{x}$	23.5	Monthly	$\bar{x}$	22.0	12 Sep	$\bar{x}$	20.0
	SD	0.94		SD	0.43		SD	1.49		SD	0.52
	Minimum	19.5		Minimum	22.5		Minimum	17.0		Minimum	18.5
	Maximum	22.0		Maximum	24.5		Maximum	26.0		Maximum	20.5
	$19^{+}C$	24		$19^{+}C$	24		n	30		$19^{+}C$	20
							$19^{+}C$	30(22)			
9 Aug	$\bar{x}$	21.0	21 Aug	$\bar{x}$	22.0				13 Sep	$\bar{x}$	18.0
	SD	0.99		SD	1.52	1 Sep	$\bar{x}$	18.0		SD	0.87
	Minimum	20.0		Minimum	19.5		SD	1.36		Minimum	16.5
	Maximum	22.5		Maximum	23.5		Minimum	16.5		Maximum	19.0
	$19^{+}C$	24		$19^{+}C$	24		Maximum	20.0		$19^{+}C$	0
							$19^{+}C$	6			
10 Aug	$\bar{x}$	22.0	22 Aug	$\bar{x}$	22.0				14 Sep	$\bar{x}$	16.5
	SD	0.87		SD	1.35	2 Sep	$\bar{x}$	18.5		SD	0.97
	Minimum	20.5		Minimum	20.0		SD	1.65		Minimum	14.5
	Maximum	23.0		Maximum	23.5		Minimum	16.5		Maximum	17.5
	$19^{+}C$	24		$19^{+}C$	24		Maximum	21.0		$19^{+}C$	0
							$19^{+}C$	10			
11 Aug	$\bar{x}$	20.5	23 Aug	$\bar{x}$	22.5				15 Sep	$\bar{x}$	16.0
	SD	0.98		SD	1.51	3 Sep	$\bar{x}$	19.0		SD	0.44
	Minimum	19.0		Minimum	20.0		SD	1.17		Minimum	15.0
	Maximum	21.5		Maximum	24.0		Minimum	17.0		Maximum	16.5
	$19^{+}C$	19		$19^{+}C$	24		Maximum	20.0		$19^{+}C$	0
							$19^{+}C$	11			
12 Aug	$\bar{x}$	21.0	24 Aug	$\bar{x}$	22.0				16 Sep	$\bar{x}$	16.0
	SD	1.15		SD	0.58	4 Sep	$\bar{x}$	19.0		SD	0.84
	Minimum	20.0		Minimum	21.0		SD	0.56		Minimum	15.0
	Maximum	23.0		Maximum	23.5		Minimum	18.0		Maximum	17.0
	$19^{+}C$	24		$19^{+}C$	24		Maximum	19.5		$19^{+}C$	0
							$19^{+}C$	9			
13 Aug	$\bar{x}$	22.5	25 Aug	$\bar{x}$	20.0				17 Sep	$\bar{x}$	17.0
	SD	1.16		SD	0.76	5 Sep	$\bar{x}$	18.0		SD	1.02
	Minimum	21.0		Minimum	19.0		SD	1.00		Minimum	15.5
	Maximum	24.0		Maximum	21.5		Minimum	16.0		Maximum	18.5
	$19^{+}C$	24		$19^{+}C$	19		Maximum	19.0		$19^{+}C$	0
							$19^{+}C$	0			
14 Aug	$\bar{x}$	23.0	26 Aug	$\bar{x}$	20.0				18 Sep	$\bar{x}$	17.0
	SD	1.82		SD	1.66	6 Sep	$\bar{x}$	19.0		SD	0.51
	Minimum	21.0		Minimum	18.0		SD	1.84		Minimum	16.0
	Maximum	25.5		Maximum	22.0		Minimum	17.0		Maximum	17.5
	$19^{+}C$	24		$19^{+}C$	13		Maximum	21.5		$19^{+}C$	0
							$19^{+}C$	11			
15 Aug	$\bar{x}$	24.5	27 Aug	$\bar{x}$	21.5				19 Sep	$\bar{x}$	15.5
	SD	1.24		SD	1.69	7 Sep	$\bar{x}$	20.5		SD	0.39
	Minimum	23.0		Minimum	19.0		SD	0.39		Minimum	14.5
	Maximum	26.0		Maximum	23.5		Minimum	20.0		Maximum	16.0
	$19^{+}C$	24		$19^{+}C$	22		Maximum	21.5		$19^{+}C$	0
							$19^{+}C$	24			
16 Aug	$\bar{x}$	25.0	28 Aug	$\bar{x}$	RM				20 Sep	$\bar{x}$	16.0
	SD	0.86		SD	-	8 Sep	$\bar{x}$	18.5		SD	1.28
	Minimum	23.5		Minimum	-		SD	1.00		Minimum	15.0
	Maximum	26.0		Maximum	-		Minimum	16.5		Maximum	18.0
	$19^{+}C$	24		$19^{+}C$	-		Maximum	19.5		$19^{+}C$	0
							$19^{+}C$	2			
17 Aug	$\bar{x}$	24.0	29 Aug	$\bar{x}$	21.0				21 Sep	$\bar{x}$	18.0
	SD	0.59		SD	0.93	9 Sep	$\bar{x}$	18.0		SD	1.61
	Minimum	23.0		Minimum	20.0		SD	0.64		Minimum	16.0
	Maximum	25.0		Maximum	22.0		Minimum	17.0		Maximum	20.0
	$19^{+}C$	24		$19^{+}C$	24		Maximum	19.0		$19^{+}C$	8
							$19^{+}C$	0			
18 Aug	$\bar{x}$	22.5	30 Aug	$\bar{x}$	21.0				22 Sep	$\bar{x}$	17.5
	SD	0.77		SD	1.04	10 Sep	$\bar{x}$	16.0		SD	0.99
	Minimum	21.5		Minimum	19.5		SD	0.91		Minimum	15.5
	Maximum	23.5		Maximum	22.0		Minimum	14.5		Maximum	19.0
	$19^{+}C$	24		$19^{+}C$	24		Maximum	17.5		$19^{+}C$	0
							$19^{+}C$	0			
19 Aug	$\bar{x}$	22.5	31 Aug	$\bar{x}$	19.0				23 Sep	$\bar{x}$	15.5
	SD	1.94		SD	1.30	11 Sep	$\bar{x}$	18.5		SD	1.05
	Minimum	20.0		Minimum	17.5		SD	2.16		Minimum	14.0
	Maximum	25.0		Maximum	21.5		Minimum	16.5		Maximum	17.0
	$19^{+}C$	24		$19^{+}C$	9		Maximum	21.0		$19^{+}C$	0
							$19^{+}C$	11			

Table 184 - (Continued).

Date		Station 1
24 Sep	$\bar{x}$	15.0
	SD	1.25
	Minimum	13.5
	Maximum	17.0
	19+C	0
25 Sep	$\bar{x}$	14.5
	SD	0.59
	Minimum	14.0
	Maximum	15.5
	19+C	0
26 Sep	$\bar{x}$	13.0
	SD	1.12
	Minimum	11.0
	Maximum	14.5
	19+C	0
27 Sep	$\bar{x}$	12.5
	SD	1.42
	Minimum	10.5
	Maximum	14.5
	19+C	0
28 Sep	$\bar{x}$	13.0
	SD	0.29
	Minimum	12.5
	Maximum	13.5
	19+C	0
29 Sep	$\bar{x}$	11.5
	SD	0.98
	Minimum	10.0
	Maximum	13.0
	19+C	0
30 Sep	$\bar{x}$	11.5
	SD	1.07
	Minimum	10.0
	Maximum	13.0
	19+C	0
Monthly	$\bar{x}$	16.5
	SD	2.43
	Minimum	10.0
	Maximum	21.5
	n	30
	19+C	10(11)
1 Oct	$\bar{x}$	13.5
	SD	0.68
	Minimum	12.5
	Maximum	14.0
	19+C	0
2 Oct	$\bar{x}$	13.0
	SD	0.40
	Minimum	12.5
	Maximum	14.0
	19+C	0
3 Oct	$\bar{x}$	12.5
	SD	0.95
	Minimum	11.0
	Maximum	13.5
	19+C	0
Monthly	$\bar{x}$	13.0
	SD	0.50
	Minimum	11.0
	Maximum	14.0
	n	3
	19+C	0(-)
	Σ19+C@	89/132

Table 185. Summary of dissolved oxygen data (ppm) taken from March through December 1978 in Schoharie Creek and two tributaries of Schoharie Reservoir.

Date	Station 1	24	25	2	4
15 Mar	13.6*	13.8	13.3	16.2*	13.8
29 Mar	13.7	12.8	13.3	15.3	16.6
$\bar{x}$	13.7	13.3	13.3	15.8	15.2
5 Apr	13.5	13.3	12.6	14.5	16.7
12 Apr	13.5	11.2	12.6	14.5	16.0
19 Apr	13.0	13.1	13.3	13.3	14.2
26 Apr	13.5	11.4	12.7	12.6	14.3
$\bar{x}$	13.4	12.3	12.8	13.7	15.3
3 May	11.7	10.8	11.7	13.2	13.4
10 May	11.8	11.4	12.1	12.0	13.9
17 May	11.4	11.4	11.7	12.8	14.7
24 May	11.2	10.3	11.1	10.1	12.4
31 May	9.2	8.5	10.1	9.5	10.9
$\bar{x}$	11.1	10.5	11.3	11.5	13.1
7 Jun	10.5	9.9	11.0	9.5	10.2
14 Jun	9.9	9.3	10.3	9.8	10.0
21 Jun	9.2	8.6	9.5	9.4	9.4
28 Jun	9.9	7.8	9.0	9.4	8.7
$\bar{x}$	9.9	8.9	10.0	9.5	9.6
5 Jul	9.5	9.0	9.7	9.5	9.2
12 Jul	9.6	9.5	9.4	11.5	9.9
19 Jul	9.0	8.8	9.6	9.0	9.0
26 Jul	9.5	8.3	9.2	8.0	9.2
$\bar{x}$	9.4	8.9	9.5	9.5	9.3
2 Aug	9.6	8.5	9.3	9.5	10.2
9 Aug	9.4	8.3	9.2	10.0	9.5
16 Aug	9.3	9.4	8.9	10.3	9.1
23 Aug	9.2	9.0	10.0	8.8	9.8
30 Aug	9.1	8.5	9.8	8.7	8.6
$\bar{x}$	9.3	8.7	9.4	9.5	9.4
6 Sep	9.4	8.7	10.0	10.0	9.4
13 Sep	9.5	9.1	9.6	8.4	9.5
20 Sep	9.3	8.7	9.7	8.0	8.6
27 Sep	10.6	8.7	10.5	7.4	9.4
$\bar{x}$	9.7	8.8	10.0	8.5	9.2
4 Oct	10.4	8.0	10.4	9.6	9.6
11 Oct	11.3	10.0	11.7	9.9	10.1
17 Oct	11.9	11.3	11.8	10.0	10.7
24 Oct	11.8	10.3	11.7	10.3	11.2
31 Oct	12.8	10.2	11.8	10.5	11.1
$\bar{x}$	11.6	10.0	11.5	10.1	10.5
14 Nov	12.6	10.9	12.2	10.4	11.1
30 Nov	12.0	13.1	13.1	12.8*	12.5
$\bar{x}$	12.3	12.0	12.7	11.6	11.8
14 Dec	13.8	13.7	13.3	13.3*	12.9
29 Dec	14.1	13.8	14.3	13.9	14.0
$\bar{x}$	14.0	13.8	13.8	13.6	13.5
Grand $\bar{x}$	11.1	10.3	11.1	10.9	11.3
SD	1.71	1.85	1.54	2.23	2.41
Minimum	9.0	7.8	8.9	7.4	8.6
Maximum	14.1	13.8	14.3	16.2	16.7
n (days)	37	37	37	37	37

* Sample taken through the ice.

Table 186. Summary of daily discharge data (cfs) measured from January 1976 through December 1978 (October 1977 through December 1978 provisional) and mean monthly discharge data (cfs) measured from January 1965 through December 1975 in Schoharie Creek at the USGS gaging station, Prattsville, New York.

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly Mean and Range
						Mean Daily Values - 1978							
1	700	1100	250	2250	476	517	68	37	179	49	157	180	
2	660	900	250	3100	420	368	62	37	110	48	148	165	
3	620	800	250	1670	378	368	55	34	81	45	141	157	
4	580	720	240	1300	344	470	916	46	68	43	136	229	
5	560	640	240	1910	348	373	618	50	59	49	130	435	
6	560	600	240	1570	389	320	325	223	51	101	125	331	
7	580	560	240	1650	353	280	230	315	48	133	122	285	
8	2000	520	240	1540	329	765	179	950	42	94	135	292	
9	13000	500	240	1160	442	624	150	353	37	77	134	882	
10	4990	460	240	1020	693	436	147	234	33	68	124	837	
11	3500	440	250	1160	487	329	169	166	33	64	116	609	
12	2200	420	270	2160	415	275	126	135	33	60	111	515	
13	1800	400	300	1960	378	284	108	124	31	58	106	437	
14	1600	380	500	1880	373	302	97	110	29	169	103	393	
15	1400	370	1200	1260	2770	234	102	97	28	368	101	365	
16	1200	350	800	967	2730	197	95	88	28	238	100	352	
17	1100	340	500	811	3770	173	90	79	29	187	98	306	
18	1000	330	450	714	2240	163	95	70	31	160	320	287	
19	940	310	450	707	1750	288	83	64	598	151	315	713	
20	880	300	500	1420	1200	200	73	59	302	178	229	701	
21	840	290	1000	1280	1080	163	64	48	179	160	195	1130	
22	800	290	2500	924	835	246	59	40	144	142	172	1020	
23	800	280	1700	780	686	186	53	36	126	133	161	854	
24	1000	270	1300	707	624	144	53	39	108	126	202	817	
25	2500	270	1160	658	835	118	45	105	95	119	261	1530	
26	10000	260	883	631	645	110	39	77	86	125	221	1590	
27	4500	250	3580	618	523	113	36	59	75	257	203	1480	
28	3000	250	2910	592	459	105	48	48	64	219	213	1390	
29	2200	-	2090	572	425	88	46	61	59	189	200	1270	
30	1700	-	1590	535	378	77	40	42	53	172	184	1380	
31	1300	-	1340	-	348	-	37	124	-	163	-	1430	
Mean	2210	450	894	1250	875	277	139	127	94.6	134	165	721	611
Minimum	560	250	240	535	329	77	36	34	28	43	98	157	28
Maximum	13000	1100	3580	3100	3770	765	916	950	598	368	320	1590	13000
						Mean Daily Values - 1977							
1	560	76	2000	2600	500	130	69	30	32	1050	354	2380	
2	540	76	1700	1720	447	130	61	32	31	2500	329	2260	
3	500	76	1600	1960	413	127	45	31	32	1300	304	1590	
4	490	76	1800	1540	364	110	50	29	32	1110	290	1270	
5	450	76	10000	1740	435	97	48	30	31	821	359	1050	
6	420	74	1500	1780	402	92	46	43	30	711	369	1000	
7	390	74	844	1260	349	113	46	41	29	608	380	853	
8	350	74	679	1070	309	110	46	38	26	506	8390	820	
9	300	74	782	853	447	102	48	33	26	1140	8530	780	
10	250	80	1540	719	988	902	42	32	23	1260	3230	720	
11	220	100	1930	644	1780	500	40	110	23	845	3800	700	
12	200	130	2070	622	2050	309	59	78	25	688	2160	720	
13	170	150	6410	806	2080	228	61	110	23	580	1640	800	
14	140	170	9230	829	1520	189	50	92	36	566	1320	1500	
15	120	150	3470	651	1110	167	43	156	38	1230	1130	3530	
16	100	130	2230	533	877	146	36	90	43	1010	1030	1890	
17	90	110	1620	458	719	124	52	133	181	11700	952	1440	
18	78	100	1000	418	601	118	61	146	130	4360	1130	1160	
19	76	96	800	380	608	189	45	90	1210	2480	877	1040	
20	76	100	700	354	506	150	40	69	5350	2170	758	911	
21	74	100	580	334	447	124	37	57	2980	1570	696	942	
22	74	100	540	324	402	107	38	71	1350	1250	651	1080	
23	74	120	520	354	334	99	36	78	1030	1040	587	800	
24	74	180	500	1390	304	87	31	65	995	886	559	740	
25	74	4500	500	1630	369	80	36	57	2100	774	519	1540	
26	74	4000	490	1100	276	99	53	50	3500	681	601	1300	
27	74	3200	480	995	232	95	43	45	2460	615	580	1200	
28	76	3000	673	837	204	78	35	41	1430	546	506	1000	
29	78	-	3320	673	178	76	30	37	1040	482	476	900	
30	78	-	6100	566	156	80	31	35	790	435	470	800	
31	76	-	5560	-	140	-	31	32	-	391	-	740	
Mean	205	614	2296	971	631	165	44.8	63.9	834	1461	1433	1208	827
Minimum	74	74	480	324	140	76	30	29	23	391	290	700	23
Maximum	560	4500	10000	2600	2080	902	69	156	5350	11700	8530	3530	11700

Table 186 - (Continued).

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly Mean and Range
						Mean Daily Values - 1976							
1	290	869	715	1950	651	309	1640	68	70	90	722	150	
2	280	1500	644	1620	2030	339	557	74	65	80	532	150	
3	260	1100	577	1100	1140	292	386	52	63	74	477	150	
4	240	800	820	852	914	247	322	41	59	68	538	170	
5	220	700	1630	686	722	224	255	37	56	63	477	250	
6	250	560	1490	590	603	209	209	33	54	59	466	292	
7	300	480	999	514	557	344	185	53	50	59	460	2640	
8	280	430	774	454	526	271	202	143	46	117	431	1650	
9	250	400	600	410	431	209	171	99	43	3590	372	2300	
10	240	400	580	372	386	181	143	6980	39	1360	349	3000	
11	260	400	532	358	349	165	125	2080	60	715	317	4740	
12	280	400	430	322	999	158	125	1010	65	507	292	1450	
13	350	430	489	304	644	137	120	538	56	396	275	1300	
14	500	500	466	283	495	131	114	442	46	460	263	1200	
15	430	620	396	263	454	143	107	391	41	381	251	1100	
16	350	1000	353	1370	391	128	94	320	38	322	239	1100	
17	300	4110	310	887	442	137	107	255	39	279	224	1100	
18	250	1980	400	665	896	120	92	202	56	251	224	1000	
19	220	2830	391	570	1370	102	78	168	165	228	217	1000	
20	210	1660	679	501	1990	92	70	146	122	317	217	1100	
21	220	1120	737	448	1800	109	65	128	87	3800	195	1100	
22	240	2160	828	410	1480	175	63	117	78	1460	188	1100	
23	260	1670	590	381	1120	178	57	104	65	905	175	1000	
24	320	1100	532	349	844	217	59	97	57	715	165	900	
25	500	942	483	520	708	158	57	97	52	722	155	840	
26	1500	905	448	1700	610	128	48	80	46	980	158	800	
27	11600	942	426	1110	557	107	45	112	46	729	178	700	
28	4840	905	914	942	460	104	43	143	235	583	192	680	
29	1940	759	665	782	386	158	43	114	217	507	213	640	
30	1230	-	557	658	353	405	52	102	134	460	160	620	
31	828	-	501	-	322	-	52	80	-	752	-	580	
Mean	943	1092	644	712	795	189	183	461	75.0	678	304	1123	600
Minimum	210	400	310	263	322	92	43	33	38	59	155	150	33
Maximum	11600	4110	1630	1950	2030	405	1640	6980	235	3800	722	4740	11600
						Mean Monthly Values - 1975							
Mean	659	649	768	870	642	406	232	159	248	680	510	469	523
Minimum	140	160	190	410	204	121	63	63	50	140	220	270	50
Maximum	2450	4850	5370	4620	1650	992	1040	505	1470	3590	1140	1150	5370
						Mean Monthly Values - 1974							
Mean	511	367	624	1165	507	190	251	75.3	283	227	483	1023	476
Minimum	200	200	240	296	197	78	56	27	98	141	133	190	27
Maximum	1370	1200	1440	3840	2850	633	1510	487	1080	501	1770	10800	10800
						Mean Monthly Values - 1973							
Mean	1326	651	675	972	947	746	378	93.6	34.7	74.9	163	1723	650
Minimum	370	290	280	340	290	154	58	27	23	22	81	179	22
Maximum	5000	2500	2310	3420	3460	8520	3030	412	56	898	429	16100	16100
						Mean Monthly Values - 1972							
Mean	450	605	918	1277	943	1230	339	52.4	25.9	121	1252	1113	692
Minimum	320	350	390	365	213	151	46	29	16	17	134	401	16
Maximum	1120	1200	2880	5200	2260	8500	2060	115	46	739	7780	3970	8500
						Mean Monthly Values - 1971							
Mean	154	484	790	1219	808	81.3	24.9	159	383	181	247	993	460
Minimum	130	130	342	356	221	32	16	13	50	71	140	260	13
Maximum	210	1780	3600	2950	2420	201	60	2270	3900	500	602	3270	3900
						Mean Monthly Values - 1970							
Mean	387	1001	404	1658	392	84.4	63.1	33.2	28.7	253	310	197	395
Minimum	270	300	132	416	171	37	30	16	16	26	85	160	16
Maximum	1000	2500	1670	3270	909	207	151	78	52	3080	908	262	3270

Table 186 - (Continued).

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly Mean and Range
						Mean Monthly Values - 1969							
Mean	369	229	502	1413	500	280	406	219	56.9	31.1	1339	667	519
Minimum	140	100	66	518	246	116	51	35	28	23	26	279	23
Maximum	1610	520	2930	4580	1600	851	3990	683	300	55	8700	5220	8700
						Mean Monthly Values - 1968							
Mean	167	572	1305	634	845	672	196	32.4	24.1	29.5	452	545	456
Minimum	92	86	66	172	303	248	52	17	15	12	33	170	12
Maximum	360	4600	6400	4360	5610	1650	638	55	83	112	2260	1820	6400
						Mean Monthly Values - 1967							
Mean	408	323	534	1097	544	172	92.3	45.7	40.4	227	402	578	372
Minimum	140	170	160	356	315	75	59	24	16	45	183	270	16
Maximum	1370	754	1850	3510	1100	443	190	80	281	1440	1750	1980	3510
						Mean Monthly Values - 1966							
Mean	179	379	1164	391	327	154	21.8	11.1	41.5	90.2	427	259	287
Minimum	72	52	465	242	214	42	11	8.3	7.6	47	57	160	7.6
Maximum	415	1350	3670	738	482	450	38	16	241	314	2810	404	3670
						Mean Monthly Values - 1965							
Mean	305	551	252	774	260	50.3	11.1	143	272	369	175	261	283
Minimum	125	150	170	153	92	14	6.4	7.0	60	132	104	188	6.4
Maximum	960	2450	385	1580	676	180	21	1500	1860	1770	466	480	2450
						Mean Monthly Values - 1965-1975							
Mean	447	528	721	1043	610	370	183	93	131	208	524	712	465
Minimum	72	52	66	172	92	14	6.4	7.0	7.6	12	26	160	6.4
Maximum	5000	4350	6400	5200	5610	8520	3990	2270	3900	3590	8700	16100	16100

Table 187. Summary of daily discharge data (cfs) measured from January 1976 through September 1978 (October 1977 through September 1978 provisional) in Schoharie Creek at the USGS gaging station, Gilboa, New York.

Day	Month												Yearly Mean and Range
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
						Mean Daily Values - 1978							
1	483	938	2.0	2680	268	241	0.66	0.60	0.75	-*	-	-	
2	431	800	1.5	3820	45	6.4	0.66	0.60	0.63	-	-	-	
3	323	677	1.3	2240	16	1.5	0.66	0.60	0.58	-	-	-	
4	293	640	1.2	1670	4.3	1.1	1.3	1.1	0.58	-	-	-	
5	336	640	1.2	2430	3.8	35	0.99	0.75	0.55	-	-	-	
6	235	760	1.2	2000	109	276	0.85	1.3	0.55	-	-	-	
7	127	780	1.2	2100	120	257	0.79	1.1	0.63	-	-	-	
8	74	640	1.3	2000	177	887	0.75	1.2	0.55	-	-	-	
9	6900	620	1.3	1400	354	813	0.75	0.85	0.55	-	-	-	
10	1130	560	1.2	1400	730	520	0.75	0.72	0.53	-	-	-	
11	658	580	1.2	1800	530	347	0.79	0.64	0.53	-	-	-	
12	339	520	1.1	2900	411	260	0.69	0.58	0.55	-	-	-	
13	230	450	1.1	3230	369	244	0.69	0.52	0.53	-	-	-	
14	163	370	1.5	3100	333	269	0.69	0.48	0.48	-	-	-	
15	110	150	3.3	2330	2970	153	0.72	0.45	0.50	-	-	-	
16	58	110	2.0	1820	3110	25	0.72	0.44	0.55	-	-	-	
17	44	140	1.0	1440	4430	14	0.72	0.43	0.58	-	-	-	
18	38	98	0.72	1200	3150	2.4	0.72	0.42	0.79	-	-	-	
19	33	86	0.78	1120	2640	29	0.69	0.41	2.8	-	-	-	
20	32	46	4.5	1450	1770	26	0.69	0.40	0.95	-	-	-	
21	24	38	902	2050	1490	8.6	0.69	0.38	0.79	-	-	-	
22	21	21	2840	1570	1090	8.5	0.69	0.37	0.72	-	-	-	
23	19	4.4	1780	1190	930	9.0	0.69	0.36	0.66	-	-	-	
24	14	3.8	1940	1020	839	1.1	0.69	0.35	0.63	-	-	-	
25	30	3.8	1300	916	1120	0.78	0.66	0.38	0.63	-	-	-	
26	4640	3.6	1050	846	902	0.72	0.66	0.37	0.60	-	-	-	
27	4940	3.0	3370	730	666	0.72	0.66	0.35	0.60	-	-	-	
28	2940	2.5	3690	530	554	0.72	0.72	0.35	0.66	-	-	-	
29	1960	-	2840	478	488	0.69	0.66	0.35	0.63	-	-	-	
30	1340	-	2200	407	435	0.66	0.66	0.35	0.63	-	-	-	
31	1100	-	1820	-	333	-	0.63	0.60	-	-	-	-	
Mean	938	346	767	1729	980	148	0.73	0.57	0.69	-	-	-	546**
Minimum	14	2.5	0.72	407	3.8	0.66	0.63	0.35	0.48	-	-	-	0.35
Maximum	6900	938	3690	3820	4430	887	1.3	1.3	2.8	-	-	-	6900

* Data not available.
** Yearly mean and range based on January through September.

Table 187 -(Continued).

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly Mean and Range
						Mean Daily Values - 1977							
1	1.7	0.32	0.65	4140	761	1.0	0.45	1.5	0.12	120	69	3210	
2	1.7	0.31	1.4	3010	660	0.83	0.40	1.3	0.13	3450	27	3310	
3	1.7	0.30	1.0	3150	600	0.74	0.40	0.66	0.13	902	10	2490	
4	1.7	0.29	3.7	2720	520	0.66	0.40	0.51	0.13	470	9.5	1950	
5	1.7	0.28	3010	2710	643	0.51	0.40	0.45	0.13	83	1.8	1500	
6	1.7	0.27	2250	3060	474	0.51	0.40	0.45	0.13	12	1.8	1390	
7	0.50	0.26	800	2220	103	0.66	0.35	0.45	0.12	0.93	5.5	1120	
8	0.50	0.25	444	1820	47	0.51	0.21	0.40	0.12	1.2	8280	839	
9	0.50	0.24	539	1350	205	0.58	0.27	0.40	0.12	1.4	9510	819	
10	0.50	0.23	2090	1130	982	0.74	0.24	1.3	0.12	114	4310	643	
11	0.50	0.22	2720	990	2490	0.51	0.27	2.4	0.12	81	4880	515	
12	0.50	0.21	2930	902	3230	0.45	0.66	0.93	0.10	11	3220	474	
13	0.50	0.20	6220	1110	3170	0.45	0.35	0.66	0.12	1.7	2510	595	
14	0.50	0.19	11300	1210	2540	0.45	0.40	0.66	0.27	1.9	1910	1800	
15	0.50	0.19	5110	960	1860	0.40	0.40	0.66	0.24	2.2	1500	4630	
16	0.50	0.19	3750	761	1390	0.40	0.40	0.66	0.27	9.3	1320	2980	
17	0.50	0.18	2980	649	1080	0.40	0.40	1.9	0.66	14700	1180	2260	
18	0.50	0.17	2330	520	880	0.51	0.40	1.0	0.58	6300	1500	1670	
19	0.50	0.16	1880	269	880	0.74	0.40	0.07	5.4	4160	1060	1400	
20	0.50	0.16	1490	184	730	0.51	0.40	0.40	11	3870	819	1150	
21	0.40	0.16	1270	61	627	0.66	0.40	0.20	2.8	3050	712	1140	
22	0.40	0.16	1350	14	544	0.45	0.40	0.20	1.4	2600	654	1360	
23	0.40	0.15	1080	11	350	0.40	0.40	0.20	1.2	2130	616	982	
24	0.39	0.15	997	1670	136	0.40	0.40	0.20	1.0	1560	534	819	
25	0.38	4.0	800	2820	157	0.45	0.58	0.18	3.1	1070	501	2070	
26	0.37	0.35	761	2130	32	0.45	0.66	0.18	5.7	737	627	1880	
27	0.36	3.2	743	1820	8.9	0.40	0.40	0.16	2.5	544	574	813	
28	0.35	5.0	1030	1440	1.5	0.40	0.40	0.13	160	411	501	605	
29	0.34	-	4500	1100	1.2	0.66	0.40	0.12	376	326	457	465	
30	0.33	-	7330	894	0.93	0.58	0.40	0.12	58	202	440	515	
31	0.32	-	7150	-	0.83	-	0.40	0.12	-	159	-	611	
Mean	0.69	0.64	2479	1494	810	0.55	0.40	0.60	21.1	1519	1591	1484	783
Minimum	0.32	0.15	0.65	11	0.83	0.40	0.21	0.07	0.10	0.93	1.8	465	0.07
Maximum	1.7	5.0	11300	4140	3230	1.0	0.66	2.4	376	14700	9510	4630	14700
						Mean Daily Values - 1976							
1	1.4	900	1170	2680	1100	556	2080	0.04	0.04	0.04	0.91	1.6	
2	0.97	2270	1080	2650	2640	620	786	0.04	0.04	0.04	0.81	1.3	
3	0.86	1210	1000	1810	1760	443	484	0.04	0.04	0.04	0.74	1.1	
4	0.84	1040	1270	1450	1540	52	320	0.04	0.04	0.04	0.76	1.0	
5	0.76	1400	2370	1210	1240	0.06	332	0.04	0.04	0.04	0.81	0.90	
6	0.48	1100	2230	1060	1050	0.04	357	0.04	0.04	0.04	61	2.1	
7	0.24	551	1580	949	976	0.05	323	0.04	0.04	0.04	479	2830	
8	0.16	580	1270	849	932	0.05	339	0.04	0.04	0.05	399	2760	
9	0.16	532	993	781	786	126	295	0.04	0.04	1.1	293	839	
10	0.13	448	988	714	705	295	242	0.06	0.05	0.76	232	677	
11	0.13	926	932	688	647	242	206	0.04	0.05	0.08	184	743	
12	0.13	752	786	616	1300	64	193	0.04	0.04	0.07	142	479	
13	0.38	710	810	590	1080	30	193	0.04	0.04	0.06	113	369	
14	5.0	777	839	551	839	0.91	172	0.05	0.04	0.08	91	95	
15	4.0	517	714	488	754	0.07	65	0.04	0.04	0.08	80	194	
16	1.0	946	647	1680	684	2.7	18	0.04	0.04	0.07	65	163	
17	0.80	3800	541	988	736	4.8	0.07	0.04	0.05	0.07	50	159	
18	0.60	2580	528	556	1230	7.0	0.04	0.04	0.05	0.06	41	108	
19	0.50	4050	688	420	2050	14	0.04	0.04	0.05	0.06	38	37	
20	0.40	2690	1090	528	2900	0.31	0.04	0.04	0.04	0.10	37	98	
21	0.40	1830	895	597	2740	0.06	0.04	0.04	0.04	2.8	26	157	
22	0.40	3280	1050	475	2260	0.05	0.04	0.04	0.04	0.89	18	109	
23	0.40	2710	697	409	1770	0.04	0.04	0.04	0.04	0.59	10	3.0	
24	0.40	1760	597	354	1410	38	0.04	0.04	0.04	0.38	4.6	2.3	
25	0.40	1560	514	585	1210	51	0.04	0.04	0.04	0.38	1.1	1.8	
26	0.70	1460	443	2480	1060	3.7	0.04	0.04	0.04	1.1	2.4	1.2	
27	0.60	1520	431	1700	982	0.10	0.04	0.05	0.06	0.81	1.7	1.0	
28	0.60	1410	1080	1610	839	0.38	0.04	0.04	0.05	0.59	1.3	0.80	
29	0.50	1230	844	1380	714	0.89	0.04	0.04	0.05	0.59	4.5	1.9	
30	0.50	-	714	1170	636	198	0.04	0.04	0.04	0.31	10	1.8	
31	0.40	-	911	-	601	-	0.04	0.04	-	1.0	-	1.7	
Mean	0.78	1536	958	1067	1264	91.7	207	0.041	0.043	0.40	79.6	317	456
Minimum	0.13	448	431	354	601	0.04	0.04	0.04	0.04	0.04	0.74	0.80	0.04
Maximum	5.0	4050	2370	2680	2900	620	2080	0.06	0.06	2.8	479	2830	4050

Table 188. Summary of daily discharge data (cfs) measured from January 1976 through October 1978 (October 1977 through October 1978 provisional) and mean monthly discharge data (cfs) measured from January through December 1975 in the Mine Kill at the USGS gaging station near North Blenheim, New York.

Day	Month												Yearly Mean and Range
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
						Mean Daily Values - 1978							
1	19	43	13	153	13	8.9	1.5	1.7	9.6	3.0	-	-	
2	18	40	12	140	14	7.0	1.3	1.5	3.7	2.9	-	-	
3	17	38	12	82	12	7.6	1.1	1.3	2.3	2.9	-	-	
4	16	37	12	71	11	8.9	15	18	1.8	-*	-	-	
5	16	35	12	112	12	7.0	7.6	6.3	1.5	-	-	-	
6	18	33	12	80	15	6.3	3.4	80	1.5	-	-	-	
7	21	34	12	99	13	7.6	2.3	38	1.3	-	-	-	
8	30	35	12	89	10	26	1.8	48	1.3	-	-	-	
9	236	32	12	67	10	12	1.7	18	1.3	-	-	-	
10	100	28	12	59	10	10	1.5	10	1.3	-	-	-	
11	70	26	13	67	9.6	7.0	1.5	7.0	1.3	-	-	-	
12	50	24	15	92	8.2	5.6	1.3	5.6	1.3	-	-	-	
13	42	23	17	82	7.6	4.5	1.1	4.5	1.3	-	-	-	
14	35	22	25	76	7.6	4.5	0.93	3.4	1.3	-	-	-	
15	31	20	77	60	26	4.5	1.3	3.1	1.3	-	-	-	
16	29	19	57	49	31	3.7	1.3	2.8	1.3	-	-	-	
17	27	18	34	41	53	3.4	4.1	2.3	1.7	-	-	-	
18	25	17	25	36	46	5.6	6.3	1.7	2.8	-	-	-	
19	24	16	22	32	45	22	2.5	1.7	150	-	-	-	
20	22	16	22	59	34	7.0	1.7	1.5	45	-	-	-	
21	21	15	112	48	29	4.5	1.3	1.1	26	-	-	-	
22	20	15	163	38	25	6.3	1.3	0.93	21	-	-	-	
23	19	15	126	31	21	4.5	1.1	0.77	16	-	-	-	
24	20	14	94	28	19	3.4	1.1	0.77	12	-	-	-	
25	50	14	65	25	20	3.1	0.93	1.7	11	-	-	-	
26	281	14	55	22	18	2.8	0.93	1.8	8.9	-	-	-	
27	137	14	143	21	14	2.8	0.77	1.8	7.6	-	-	-	
28	84	13	123	19	12	2.5	8.2	1.5	6.3	-	-	-	
29	66	-	99	18	11	2.3	3.1	1.5	5.6	-	-	-	
30	54	-	80	15	9.6	1.8	2.3	1.5	4.5	-	-	-	
31	47	-	71	-	8.9	-	1.7	12	-	-	-	-	
Mean	53.1	23.9	50.3	60.4	18.6	6.77	2.64	9.09	11.7	-	-	-	26.3**
Minimum	16	13	12	15	7.6	1.8	0.77	0.77	1.3	-	-	-	0.77
Maximum	281	43	163	153	53	26	15	80	150	-	-	-	281

* Data not available.
** Yearly mean and range based on January through September.

Table 188 - (Continued).

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly Mean and Range
						Mean Daily Values - 1977							
1	13	3.0	41	152	35	7.0	1.5	16	2.1	61	24	129	
2	12	3.0	40	105	25	5.2	1.1	17	9.0	90	20	109	
3	11	3.0	38	105	19	4.0	0.89	6.3	4.3	61	18	76	
4	10	3.0	38	84	13	3.6	0.89	3.2	3.9	58	17	60	
5	9.0	3.1	123	86	25	3.2	0.80	1.1	2.7	44	17	43	
6	8.0	3.1	76	80	18	2.9	0.89	1.1	2.4	45	17	40	
7	7.4	3.1	52	55	13	3.9	0.89	1.1	1.9	37	25	32	
8	7.0	3.1	47	50	18	3.6	0.89	1.1	1.7	30	150	29	
9	6.6	3.1	67	38	35	4.3	0.99	1.2	1.5	50	150	25	
10	6.4	3.1	123	40	90	20	0.99	2.9	1.4	44	96	23	
11	6.0	3.1	116	37	107	10	0.89	44	1.2	34	140	26	
12	5.6	3.4	116	36	71	4.5	22	12	1.2	30	78	30	
13	5.0	4.0	409	36	51	3.7	3.9	6.3	1.2	25	59	45	
14	4.6	5.0	610	35	38	3.0	2.4	3.9	10	28	46	134	
15	4.3	4.0	219	30	31	2.7	1.5	4.3	6.3	64	43	236	
16	4.0	4.0	141	26	26	2.4	1.2	2.9	12	49	42	137	
17	4.0	5.0	98	23	22	1.7	1.9	59	41	350	60	104	
18	3.8	7.0	67	20	18	2.4	3.6	35	46	190	67	76	
19	3.6	5.6	59	18	23	3.9	3.6	22	103	135	46	67	
20	3.5	4.5	59	16	14	2.7	3.2	20	138	141	40	60	
21	3.5	4.2	44	15	11	2.9	3.2	21	115	88	36	50	
22	3.4	4.2	38	13	9.2	2.1	3.2	16	82	72	36	45	
23	3.4	4.3	32	32	8.0	1.7	2.7	12	65	61	32	41	
24	3.4	4.5	38	305	7.0	1.5	2.1	6.3	68	52	31	38	
25	3.4	180	35	212	6.2	1.5	10	3.9	121	46	28	35	
26	3.4	50	36	130	5.8	2.7	20	3.9	118	42	28	32	
27	3.3	43	38	100	5.2	1.9	9.0	3.2	110	40	28	31	
28	3.3	74	43	80	4.9	1.4	5.5	2.7	79	35	29	29	
29	3.2	-	301	60	4.5	1.7	4.3	2.4	67	32	28	26	
30	3.1	-	432	45	4.2	2.1	4.3	2.1	53	28	28	23	
31	3.0	-	323	-	4.0	-	3.9	1.9	-	25	-	21	
Mean	5.52	15.7	126	68.8	24.6	3.81	3.94	10.8	42.3	67.3	48.6	59.7	39.8
Minimum	3.0	3.0	32	13	4.0	1.4	0.80	1.1	1.2	25	17	21	0.80
Maximum	13	180	610	305	107	20	22	59	138	350	150	236	610

Table 188 - (Continued).

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly Mean and Range
						Mean Daily Values - 1976							
1	24	68	41	197	57	26	71	7.5	2.2	3.8	36	10	
2	19	80	37	100	63	29	34	6.2	2.8	3.8	29	12	
3	18	56	34	72	80	20	30	4.2	3.1	3.4	27	14	
4	16	50	72	59	55	16	28	3.1	2.8	2.8	28	17	
5	14	45	84	48	44	13	22	5.1	2.8	2.8	25	19	
6	16	35	58	43	40	16	18	3.8	2.5	2.5	24	17	
7	18	30	48	37	38	30	18	13	2.0	2.5	27	70	
8	17	28	41	33	36	18	18	20	2.0	6.8	28	67	
9	16	26	40	30	30	13	16	12	1.6	96	23	32	
10	15	25	38	27	27	10	12	38	2.2	42	23	44	
11	15	25	36	28	28	8.8	11	20	6.2	24	21	41	
12	14	25	33	24	46	8.8	13	13	4.6	20	20	34	
13	15	26	36	23	30	7.5	15	9.5	3.1	18	20	26	
14	25	28	32	22	24	6.2	15	14	2.5	29	20	30	
15	19	32	28	20	23	22	13	12	2.2	24	19	35	
16	15	170	23	128	21	12	10	8.8	2.2	20	18	31	
17	12	100	24	58	24	40	14	6.8	3.8	18	16	30	
18	11	180	28	44	30	16	9.5	5.6	5.1	16	16	24	
19	10	195	33	40	61	11	7.5	4.6	5.1	15	16	20	
20	9.2	92	45	34	138	14	6.2	3.8	3.8	47	16	25	
21	8.8	66	63	31	98	22	6.2	3.8	3.8	102	16	33	
22	8.6	209	54	29	71	16	8.8	3.4	3.8	43	15	20	
23	8.4	90	40	27	58	16	6.2	3.1	3.4	34	14	20	
24	8.2	69	37	24	47	16	6.2	2.8	3.1	31	13	19	
25	8.0	59	35	50	42	13	5.1	2.2	2.5	35	13	19	
26	25	55	32	161	37	10	4.2	2.5	2.8	54	13	18	
27	240	54	34	84	34	6.8	3.8	5.6	18	35	13	17	
28	90	47	92	74	29	6.2	5.1	4.6	11	32	13	16	
29	66	41	50	61	25	6.8	4.2	4.2	6.8	25	15	15	
30	64	-	42	47	22	47	8.2	3.8	5.1	24	13	15	
31	62	-	36	-	21	-	6.2	2.8	-	52	-	14	
Mean	29.3	69.2	42.8	55.2	44.5	16.6	14.4	8.06	4.10	27.9	19.7	25.9	29.8
Minimum	8.0	25	23	20	21	6.2	3.8	2.2	1.6	2.5	13	10	1.6
Maximum	240	209	92	197	138	47	71	38	18	102	36	70	240
						Mean Monthly Values - 1975							
Mean	35.2	46.1	37.7	50.8	41.3	8.50	2.76	2.40	12.7	23.9	22.9	23.1	25.5
Minimum	11	13	16	17	8.8	1.9	1.0	0.60	0.50	4.6	9.5	13	0.50
Maximum	241	399	142	369	203	32	25	22	142	220	41	38	399

Table 189. Summary of daily discharge data (cfs) measured from January 1976 through November 1978 (October 1977 through November 1978 provisional) and mean monthly discharge data (cfs) measured from January 1971 through December 1975 in Schoharie Creek at the USGS gaging station, North Blenheim, New York.

Day	Month												Yearly Mean and Range
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
	Mean Daily Values - 1978												
1	620	900	70	2870	374	343	5.0	4.2	27	3.7	8.6	-	
2	600	780	35	4050	146	83	4.5	4.2	9.0	2.9	-*	-	
3	500	760	28	2340	40	102	4.0	4.8	8.3	0.90	-	-	
4	420	540	16	1860	20	73	96	77	7.6	0.74	-	-	
5	450	600	16	2470	8.6	60	36	23	5.3	0.94	-	-	
6	490	640	15	2130	137	311	14	185	4.0	34	-	-	
7	400	660	15	2200	285	352	11	123	4.8	14	-	-	
8	430	600	28	2140	204	953	5.9	231	4.5	6.6	-	-	
9	8000	540	45	1670	406	853	5.3	60	4.2	4.8	-	-	
10	5440	500	56	1560	798	545	4.5	27	4.2	4.4	-	-	
11	2350	480	40	1520	568	434	4.5	15	3.6	4.6	-	-	
12	1680	390	30	2600	434	307	4.8	14	3.6	3.1	-	-	
13	1580	390	30	2500	485	356	5.0	11	3.8	1.0	-	-	
14	1200	370	48	2400	464	369	5.6	8.0	4.5	88	-	-	
15	1000	190	260	1800	2460	243	6.3	8.3	13	31	-	-	
16	880	130	98	1600	2460	83	5.6	8.0	22	18	-	-	
17	660	180	107	1300	4080	34	4.8	7.0	25	8.7	-	-	
18	740	180	63	1100	2630	70	4.8	7.0	20	8.2	-	-	
19	700	130	55	1100	2110	121	5.3	7.3	574	9.5	-	-	
20	700	150	115	1600	1610	113	5.9	6.6	83	23	-	-	
21	580	100	959	1900	1430	70	6.3	5.9	57	36	-	-	
22	540	60	3140	1300	1130	32	5.9	5.6	60	15	-	-	
23	580	28	1930	1100	935	32	5.6	5.9	38	19	-	-	
24	480	40	2120	1030	709	23	4.8	6.3	22	19	-	-	
25	520	40	1510	882	1070	11	4.5	6.6	19	12	-	-	
26	5870	40	1410	865	893	11	4.5	5.9	20	6.8	-	-	
27	4990	45	3680	781	702	9.4	4.8	5.6	12	148	-	-	
28	2490	54	3810	608	619	8.0	5.9	4.8	19	29	-	-	
29	1720	-	2700	580	568	6.3	4.5	4.8	16	26	-	-	
30	1200	-	2190	534	596	4.8	4.5	5.3	17	26	-	-	
31	1000	-	1870	-	392	-	4.2	15	-	7.6	-	-	
Mean	1575	340	854	1680	928	200	9.49	29.1	37.0	19.8	-	-	567**
Minimum	400	28	15	534	8.6	4.8	4.0	4.2	3.6	0.74	-	-	0.74
Maximum	8000	900	3810	4050	4080	953	96	231	574	148	-	-	8000

* Data not available.
** Yearly mean and range based on January through October.

Table 189 - (Continued).

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly Mean and Range
						Mean Daily Values - 1977							
1	30	10	174	3640	760	37	4.2	7.3	5.0	243	100	2620	
2	20	15	104	2320	562	27	4.5	14	5.0	2810	171	2800	
3	30	20	19	2400	684	13	4.2	7.0	5.3	959	173	1920	
4	17	20	40	2050	636	11	4.0	6.0	5.3	602	56	1540	
5	23	20	2190	2000	556	8.3	3.6	4.5	4.8	218	56	1330	
6	25	15	1950	2510	545	7.3	4.2	4.0	4.2	127	56	1280	
7	23	12	1040	1480	187	10	4.0	3.6	4.5	105	94	984	
8	28	13	555	1370	146	7.3	4.5	3.2	4.2	64	3800	870	
9	27	13	642	1100	365	7.6	4.5	3.8	4.2	139	11400	803	
10	32	15	1780	1070	953	21	4.0	5.9	4.2	162	3910	702	
11	18	20	2140	923	1920	19	4.5	55	4.2	231	4730	539	
12	3.4	25	2260	734	2590	25	25	66	4.0	72	2630	528	
13	3.2	20	6650	947	2290	35	37	57	4.0	59	1970	715	
14	3.2	14	12300	1100	1820	29	33	43	7.0	46	1570	1600	
15	3.2	16	6140	888	1440	7.3	4.8	15	10	148	1420	4320	
16	3.0	13	3370	709	1110	6.6	4.5	12	9.4	119	1210	2250	
17	3.5	13	2340	596	978	4.0	4.0	182	38	14800	1150	1820	
18	7.0	16	1730	522	792	5.0	3.6	58	37	7660	1520	1330	
19	100	13	1450	343	814	3.8	4.0	25	260	3860	1030	1250	
20	80	10	1190	281	747	8.6	4.0	13	781	3130	1030	1050	
21	70	20	1180	87	602	17	4.0	14	237	2180	836	1040	
22	60	45	1230	28	608	3.2	4.0	19	169	1740	825	1230	
23	60	60	978	28	303	3.0	4.0	14	123	1470	760	905	
24	60	77	876	1550	105	3.2	3.8	13	113	1200	715	876	
25	64	296	740	2360	257	3.8	4.8	8.6	369	859	672	1740	
26	74	129	715	1690	93	3.4	5.0	7.6	528	740	771	1510	
27	70	131	792	1410	31	3.0	3.8	5.0	218	591	672	818	
28	70	174	1050	1250	31	4.0	3.8	4.8	534	464	728	715	
29	60	-	4190	984	21	4.8	3.8	8.0	534	365	574	652	
30	7.0	-	8150	876	19	4.5	4.5	14	167	348	690	761	
31	6.0	-	7810	-	27	-	4.0	5.0	-	171	-	700	
Mean	34.9	44.5	2444	1242	709	11.4	6.83	22.5	140	1474	1511	1329	747
Minimum	3.0	10	19	28	19	3.0	3.6	3.2	4.0	46	56	528	3.0
Maximum	100	296	12300	3640	2590	37	37	182	781	14800	11400	4320	14800
						Mean Daily Values - 1976							
1	66	610	1130	2550	903	530	1730	3.5	5.4	1.5	104	38	
2	56	2220	841	2830	2410	476	806	2.4	4.9	1.6	51	16	
3	52	1010	928	1570	1630	353	330	2.7	4.7	1.5	38	14	
4	29	1180	1130	1260	1360	28	243	3.0	4.7	1.3	30	6.3	
5	21	909	2240	1140	1010	6.4	227	2.6	4.5	1.3	74	4.5	
6	18	669	2050	872	934	27	396	2.9	3.9	2.3	137	8.3	
7	13	674	1390	884	818	94	215	4.9	3.0	2.3	343	2200	
8	20	562	1280	594	866	13	189	6.2	1.7	2.1	485	2110	
9	43	605	772	664	624	73	320	2.2	1.6	350	348	842	
10	30	476	853	578	491	221	200	120	1.8	96	285	585	
11	28	859	824	505	619	203	75	13	3.5	15	212	776	
12	28	794	573	556	1180	73	224	5.4	3.0	11	201	430	
13	31	644	706	467	941	61	145	5.9	1.5	12	169	253	
14	110	818	800	320	600	9.3	168	5.4	1.5	11	113	195	
15	61	573	515	435	639	89	63	4.9	1.5	17	93	339	
16	14	947	583	1630	467	37	28	4.2	1.6	14	113	234	
17	14	4210	384	954	685	44	15	4.2	2.0	12	104	250	
18	18	2340	486	472	1070	65	6.7	4.5	1.9	11	115	201	
19	33	4130	510	323	1940	17	6.2	4.5	1.8	8.6	91	74	
20	37	2550	1090	418	2650	21	6.2	4.7	1.5	18	63	123	
21	24	1600	794	578	2630	104	6.4	4.7	1.6	350	67	267	
22	84	3490	1000	384	2020	54	6.4	4.2	1.6	100	77	77	
23	61	2550	556	302	1600	33	6.4	4.0	1.7	33	57	23	
24	24	1650	486	306	1230	32	6.4	4.2	1.7	19	30	16	
25	10	1570	556	594	1040	84	6.2	4.2	1.9	62	14	19	
26	166	1140	221	2520	954	52	4.5	4.7	2.0	148	8.3	13	
27	993	1370	349	1700	853	40	3.2	5.1	2.3	82	5.3	36	
28	453	1360	1090	1500	701	7.6	3.0	4.9	3.5	28	5.0	25	
29	163	1060	853	1320	639	6.7	3.5	4.5	2.7	15	46	16	
30	122	-	583	1070	458	92	3.7	3.9	1.8	16	87	34	
31	106	-	695	-	431	-	3.5	4.0	-	95	-	23	
Mean	94.5	1468	847	977	1109	98.2	176	8.24	2.56	49.6	119	298	437
Minimum	10	476	221	302	431	6.4	3.0	2.2	1.5	1.3	5.0	4.5	1.3
Maximum	993	4210	2240	2830	2650	530	1730	120	5.4	350	485	2200	4210

Table 189 - (Continued).

Day	Month												Yearly Mean and Range
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
						Mean Monthly Values - 1975							
Mean	905	1328	1237	1351	782	275	9.93	13.6	26.7	73.0	48.8	40.0	502
Minimum	115	91	244	446	6.0	6.5	3.0	6.2	1.6	9.3	6.4	8.9	1.6
Maximum	4470	8200	7040	6170	2270	1100	34	65	280	835	112	110	8200
						Mean Monthly Values - 1974							
Mean	729	774	950	1585	640	10.7	41.2	26.2	73.3	35.8	72.6	1164	507
Minimum	3.3	236	396	421	6.0	0.40	0.34	0.46	7.2	7.7	6.8	48	0.34
Maximum	2250	4930	2200	4930	3350	98	304	186	281	113	263	11500	11500
						Mean Monthly Values - 1973							
Mean	917	610	916	1499	1452	671	452	1.53	0.25	0.27	5.83	1078	635
Minimum	162	88	158	378	260	1.2	0.10	0.02	0	0.04	0.17	1.9	0
Maximum	6920	5340	3550	5180	5380	11600	4490	7.7	1.2	2.5	14	10200	11600
						Mean Monthly Values - 1972							
Mean	631	254	1900	1782	1477	1561	396	1.62	0.50	0.15	877	1522	868
Minimum	133	15	50	438	290	7.2	0.10	0.17	0.23	0	0	530	0
Maximum	1130	1500	8890	7300	3830	15700	3870	11	4.6	0.86	2890	6490	15700
						Mean Monthly Values - 1971							
Mean	23.8	52.0	129	1248	1378	28.1	8.39	10.8	12.5	12.3	15.9	239	264
Minimum	19	19	52	66	342	3.6	2.3	1.3	0.80	5.0	8.3	31	0.80
Maximum	30	300	576	4410	3380	326	37	104	70	60	56	884	4410
						Mean Monthly Values - 1971-1975							
Mean	641	604	1026	1493	1146	509	182	10.8	22.7	24.3	204	809	556
Minimum	3.3	15	50	66	6.0	0.40	0.10	0.02	0.00	0.00	0.00	1.9	0.00
Maximum	5920	8200	8890	7300	5380	15700	4490	186	281	835	2890	11500	15700

Table 190. Summary of turbidity data (nephelometer turbidity units) taken from March through December 1978 in Esopus Creek, the Shandaken Tunnel intake, the Shandaken Tunnel outlet, and three tributaries of Esopus Creek.

	Station								
Date	21	32	20	19	38	39	31	40	37
13 Mar	1.0	27	20	17	-	-	16	-	15
15 Mar	5.4	25	23	18	42	49	26	28	19
17 Mar	1.4	36	22	15	-	-	16	-	12
Weekly $\bar{x}$*	2.6	29	22	17	-	-	19	-	15
20 Mar	1.5	28	21	15	-	-	15	-	12
22 Mar	5.4	22	17	15	-	-	23	-	18
24 Mar	3.5	39	27	17	-	-	21	-	13
Weekly $\bar{x}$	3.5	30	22	16	-	-	20	-	14
27 Mar	23	TC**	TC	28	-	-	70	-	56
29 Mar	4.3	TC	TC	6.7	12	37	23	6.4	15
31 Mar	2.7	TC	TC	3.7	-	-	8.1	-	5.5
Weekly $\bar{x}$	10	-	-	13	-	-	34	-	26
$\bar{x}_{TC}$	10	-	-	13	-	-	34	-	26
SD	11.3	-	-	13.2	-	-	32.3	-	26.8
Minimum	2.7	-	-	3.7	12	37	8.1	6.4	5.5
Maximum	23	-	-	28	12	37	70	6.4	56
n (days)	3	-	-	3	-	-	3	-	3
$\bar{x}_{TO}$***	3.0	30	22	16	-	-	20	-	15
SD	2.03	6.6	3.3	1.3	-	-	4.5	-	3.1
Minimum	1.0	22	17	15	42	49	15	28	12
Maximum	5.4	39	27	18	42	49	26	28	19
n	6	6	6	6	-	-	6	-	6
$\bar{x}$	5.4	30	22	15	27	43	24	17	18
SD	6.82	6.6	3.3	6.9	21.2	8.5	18.0	15.3	14.6
3 Apr	2.9	TC	TC	3.9	-	-	8.2	-	5.0
5 Apr	5.2	TC	TC	6.0	7.9	27	13	3.3	7.1
7 Apr	3.0	TC	TC	5.1	-	-	9.5	-	6.1
Weekly $\bar{x}$	3.7	-	-	5.0	-	-	10	-	6.1
10 Apr	1.9	TC	TC	2.4	-	-	6.1	-	4.2
12 Apr	3.7	TC	TC	4.6	5.8	22	11	2.7	7.8
14 Apr	2.6	TC	TC	3.5	-	-	6.8	-	5.5
Weekly $\bar{x}$	2.7	-	-	3.5	-	-	8.0	-	5.8
17 Apr	1.2	TC	TC	2.2	-	-	3.3	-	2.8
19 Apr	1.0	TC	TC	1.4	3.3	7.8	4.0	1.5	2.4
21 Apr	1.4	TC	TC	1.8	-	-	4.8	-	3.8
Weekly $\bar{x}$	1.2	-	-	1.8	-	-	4.0	-	3.0
26 Apr	1.1	TC	TC	1.4	2.0	8.2	3.1	0.93	2.4
28 Apr	1.1	9.5	6.1	3.0	-	-	3.7	-	3.0
Weekly $\bar{x}$	1.1	-	-	2.2	-	-	3.4	-	2.7
$\bar{x}_{TC}$	2.4	-	-	3.2	4.8	16	7.0	2.1	4.7
SD	1.35	-	-	1.64	2.63	9.7	3.39	1.08	1.92
Minimum	1.0	-	-	1.4	2.0	7.8	3.1	0.93	2.4
Maximum	5.2	-	-	6.0	7.9	27	13	3.3	7.8
n	10	-	-	10	4	4	10	4	10
$\bar{x}_{TO}$	-	-	-	-	-	-	-	-	-
SD	-	-	-	-	-	-	-	-	-
Minimum	1.1	9.5	6.1	3.0	-	-	3.7	-	3.0
Maximum	1.1	9.5	6.1	3.0	-	-	3.7	-	3.0
n	-	-	-	-	-	-	-	-	-
$\bar{x}$	2.3	-	-	3.2	4.8	16	6.7	2.1	4.6
SD	1.34	-	-	1.55	2.63	9.7	3.36	1.08	1.90

* Based on Sunday through Saturday.
** TC = Shandaken Tunnel closed.
*** TO = Shandaken Tunnel open.
\# DNR = data not recorded.
Samples taken after rainfall ≥1.27 cm in a 24-hour period.
Sample taken through the ice.
@ Based on days of rainfall ≥1.27 cm in a 24-hour period from 15 July through 21 December.
@@ Based on days of complete water quality sampling from 19 July through 29 December.

Table 190 - (Continued).

Date	Station 21	32	20	19	38	39	31	40	37
1 May	1.7	6.2	5.0	3.0	-	-	3.1	-	3.0
3 May	1.0	5.5	4.7	3.2	1.8	5.6	4.2	1.0	2.9
5 May	1.5	10	5.1	3.5	-	-	4.3	-	3.7
Weekly $\bar{x}$	1.4	7.2	4.9	3.2	-	-	3.9	-	3.2
8 May	0.61	9.2	4.6	2.7	-	-	DNR#	-	2.5
10 May	1.8	TC	TC	1.7	3.6	22	4.7	1.4	3.6
12 May	1.0	TC	TC	1.2	-	-	DNR	-	2.5
Weekly $\bar{x}$	1.1	-	-	1.9	-	-	-	-	2.9
15 May	25	TC	TC	28	-	-	44	-	33
17 May	5.6	TC	TC	6.5	21	21	18	4.0	7.9
19 May	2.9	TC	TC	4.1	-	-	7.5	-	4.7
Weekly $\bar{x}$	11	-	-	13	-	-	23	-	15
24 May	2.1	TC	TC	2.4	8.5	11	4.9	2.4	3.6
26 May	1.7	TC	TC	1.8	-	-	4.5	-	3.1
Weekly $\bar{x}$	1.9	-	-	2.1	-	-	4.7	-	3.4
31 May	1.6	TC	TC	1.6	11	9.0	3.9	3.1	3.4
$\bar{x}_{TC}$	5.2	-	-	5.9	11	16	13	2.7	7.7
SD	8.12	-	-	9.10	7.3	6.7	14.7	1.10	10.35
Minimum	1.0	-	-	1.2	3.6	9.0	3.9	1.4	2.5
Maximum	25	-	-	28	21	22	44	4.0	33
n	8	-	-	8	4	4	7	4	8
$\bar{x}_{TO}$	1.2	7.7	4.9	3.1	-	-	3.9	-	3.0
SD	0.49	2.21	0.24	0.34	-	-	0.67	-	0.50
Minimum	0.61	5.5	4.6	2.7	1.8	5.6	3.1	1.0	2.5
Maximum	1.7	10	5.1	3.5	1.8	5.6	4.3	1.0	3.7
n	4	4	4	4	-	-	3	-	4
$\bar{x}$	3.9	7.7	4.9	5.0	9.2	14	9.9	2.4	6.2
SD	6.78	2.21	0.24	7.39	7.57	7.4	12.74	1.23	8.58
2 Jun	1.0	5.2	1.9	1.8	-	-	2.8	-	2.6
Weekly $\bar{x}$	1.3	-	-	1.7	-	-	3.4	-	3.0
5 Jun	1.2	5.2	2.7	2.7	-	-	2.6	-	2.4
7 Jun	1.4	TC	TC	1.5	5.4	6.4	3.4	1.3	2.9
8 Jun	5.6	TC	TC	6.6	-	-	13	-	9.4
Weekly $\bar{x}$	2.7	-	-	3.6	-	-	6.3	-	4.9
12 Jun	0.89	TC	TC	1.1	-	-	2.3	-	1.9
14 Jun	1.4	TC	TC	1.4	4.0	6.7	3.4	1.5	2.7
16 Jun	1.2	7.0	3.7	2.5	-	-	3.4	-	3.9
Weekly $\bar{x}$	1.2	-	-	1.7	-	-	3.0	-	2.8
19 Jun	1.5	9.7	3.6	3.0	-	-	3.2	-	3.1
21 Jun	1.4	5.1	3.9	2.6	3.1	5.2	3.3	1.1	2.6
Weekly $\bar{x}$	1.5	7.4	3.8	2.8	-	-	3.3	-	2.9
26 Jun	1.6	13	3.8	3.3	-	-	3.6	-	3.0
28 Jun	1.3	8.4	5.1	3.9	3.0	6.2	3.9	1.1	3.1
Weekly $\bar{x}$	1.5	11	4.5	3.6	-	-	3.8	-	3.1
$\bar{x}_{TC}$	2.3	-	-	2.7	4.7	6.6	5.5	1.4	4.2
SD	2.20	-	-	2.64	0.99	0.21	5.01	0.14	3.48
Minimum	0.89	-	-	1.1	4.0	6.4	2.3	1.3	1.9
Maximum	5.6	-	-	6.6	5.4	6.7	13	1.5	9.4
n	4	-	-	4	2	2	4	2	4
$\bar{x}_{TO}$	1.3	7.7	3.5	2.8	3.1	5.7	3.3	1.1	3.0
SD	0.20	2.95	1.00	0.66	0.07	0.71	0.45	0.00	0.50
Minimum	1.0	5.1	1.9	1.8	3.0	5.2	2.6	1.1	2.4
Maximum	1.6	13	5.1	3.9	3.1	6.2	3.9	1.1	3.9
n	7	7	7	7	2	2	7	2	7
$\bar{x}$	1.7	7.7	3.5	2.8	3.9	6.1	4.1	1.3	3.4
SD	1.32	2.95	1.00	1.54	1.11	0.65	2.99	0.19	2.05
3 Jul	0.88	5.3	3.8	3.8	-	-	4.7	-	5.5
5 Jul	1.7	7.9	5.4	4.6	4.8	6.7	4.9	2.4	3.8
7 Jul	0.95	38	4.5	3.5	-	-	3.7	-	3.5
Weekly $\bar{x}$	1.2	17	4.6	4.0	-	-	4.4	-	4.3

Table 190 - (Continued).

Date	Station 21	32	20	19	38	39	31	40	37
10 Jul	1.2	9.7	6.1	4.2	-	-	4.3	-	3.7
12 Jul	1.1	7.2	5.8	4.7	2.4	4.4	4.1	1.1	3.3
14 Jul	0.71	5.0	DNR	3.0	-	-	3.1	-	3.3
15 Jul##	1.7	3.1	3.5	3.3	-	-	3.3	-	2.9
Weekly $\bar{x}$	1.2	6.3	5.1	3.8	-	-	3.7	-	3.3
17 Jul	1.3	5.1	4.5	3.5	-	-	3.8	-	3.4
19 Jul	1.4	6.9	5.6	4.7	2.4	4.2	4.4	1.2	3.7
21 Jul	1.2	4.9	4.2	3.4	-	-	3.9	-	3.9
Weekly $\bar{x}$	1.3	5.6	4.8	3.9	-	-	4.0	-	3.7
24 Jul	1.2	8.1	3.6	3.2	-	-	3.2	-	3.8
26 Jul	1.3	6.1	6.0	6.2	2.4	3.9	4.6	1.1	3.7
28 Jul	1.2	5.4	4.8	4.3	-	-	4.6	-	3.6
Weekly $\bar{x}$	1.2	6.5	4.8	4.6	-	-	4.1	-	3.7
31 Jul	0.79	6.7	DNR	5.2	-	-	4.2	-	3.6
$\bar{x}_{TC}$	-	-	-	-	-	-	-	-	-
SD	-	-	-	-	-	-	-	-	-
Minimum	-	-	-	-	-	-	-	-	-
Maximum	-	-	-	-	-	-	-	-	-
n	-	-	-	-	-	-	-	-	-
$\bar{x}_{TO}$	1.2	8.5	4.8	4.1	3.0	4.8	4.1	1.5	3.7
SD	0.30	8.64	0.94	0.90	1.20	1.28	0.58	0.64	0.58
Minimum	0.71	3.1	3.5	3.0	2.4	3.9	3.1	1.1	2.9
Maximum	1.7	38	6.1	6.2	4.8	6.7	4.9	2.4	5.5
n	14	14	12	14	4	4	14	4	14
$\bar{x}$	1.2	8.5	4.8	4.1	3.0	4.8	4.1	1.5	3.7
SD	0.30	8.64	0.94	0.90	1.20	1.28	0.58	0.64	0.58
1 Aug##	0.70	7.2	6.1	4.3	-	-	4.2	-	3.8
2 Aug	0.87	TC	TC	1.2	1.5	2.7	1.8	0.48	1.9
4 Aug##	1.2	4.5	3.7	4.2	-	-	4.8	-	4.7
Weekly $\bar{x}$	0.89	6.1	4.9	3.7	-	-	3.8	-	3.5
7 Aug	1.2	11	7.9	5.7	-	-	5.7	-	4.5
8 Aug##	2.8	13	8.8	6.2	-	-	6.0	-	5.8
9 Aug	1.4	12	8.9	7.3	1.8	3.1	6.6	0.70	5.8
11 Aug	1.0	14	6.3	4.6	-	-	4.0	-	3.6
Weekly $\bar{x}$	1.6	13	8.0	6.0	-	-	5.6	-	4.9
14 Aug	1.0	16	6.4	6.1	-	-	5.9	-	4.9
16 Aug	0.76	6.2	6.2	5.3	1.5	2.5	4.8	0.55	4.2
18 Aug	0.98	9.0	4.2	3.6	-	-	3.5	-	3.2
Weekly $\bar{x}$	0.91	10	5.6	5.0	-	-	4.7	-	4.1
21 Aug	1.0	11	6.2	5.0	-	-	4.9	-	4.3
23 Aug	0.60	DNR	5.9	4.9	1.1	2.2	4.2	0.60	3.8
25 Aug##	1.0	7.1	6.5	4.9	-	-	4.5	-	3.7
Weekly $\bar{x}$	0.87	9.1	6.2	4.9	-	-	4.5	-	3.9
28 Aug	0.87	14	7.6	5.2	-	-	4.3	-	3.6
29 Aug##	0.84	4.7	5.2	3.4	-	-	4.1	-	3.2
30 Aug	0.80	12	6.8	5.2	1.6	2.4	4.5	0.70	3.7
31 Aug##	5.1	5.0	6.9	5.3	-	-	5.8	-	5.0
$\bar{x}_{TC}$	-	-	-	-	-	-	-	-	-
SD	-	-	-	-	-	-	-	-	-
Minimum	0.87	-	-	1.2	1.5	2.7	1.8	0.48	1.9
Maximum	0.87	-	-	1.2	1.5	2.7	1.8	0.48	1.9
n	-	-	-	-	-	-	-	-	-
$\bar{x}_{TO}$	1.3	9.8	6.5	5.1	1.5	2.6	4.9	0.63	4.2
SD	1.12	3.79	1.41	0.98	0.29	0.39	0.88	0.075	0.82
Minimum	0.60	4.5	3.7	3.4	1.1	2.2	3.5	0.55	3.2
Maximum	5.1	16	8.9	7.3	1.8	3.1	6.6	0.70	5.8
n	16	15	16	16	4	4	16	4	16
$\bar{x}$	1.3	9.8	6.5	4.8	1.5	2.6	4.7	0.61	4.1
SD	1.09	3.79	1.41	1.34	0.25	0.34	1.13	0.096	0.98

Table 190 - (Continued).

Date	Station 21	32	20	19	38	39	31	40	37
1 Sep##	1.6	12	6.8	5.3	-	-	5.5	-	4.8
Weekly $\bar{x}$	1.8	9.5	6.7	4.9	-	-	4.8	-	4.1
6 Sep	0.80	15	6.9	5.3	1.4	2.7	4.2	0.70	DNR
8 Sep	1.7	14	8.9	7.6	-	-	3.5	-	3.2
Weekly $\bar{x}$	1.3	15	7.9	6.5	-	-	3.9	-	-
11 Sep	0.63	13	8.7	6.4	-	-	5.2	-	4.6
13 Sep	0.57	13	8.0	5.1	1.1	1.3	4.6	0.39	3.0
Weekly $\bar{x}$	0.60	13	8.4	5.8	-	-	4.9	-	3.8
18 Sep	0.81	TC	TC	1.1	-	-	0.98	-	1.0
19 Sep##	5.2	TC	TC	4.6	-	-	15	-	16
20 Sep	0.96	TC	TC	0.99	5.1	1.7	1.8	0.77	1.3
Weekly $\bar{x}$	2.3	-	-	2.2	-	-	5.9	-	6.1
25 Sep	1.1	TC	TC	1.3	-	-	0.86	-	0.80
27 Sep	0.64	6.9	6.0	2.9	0.85	1.0	1.9	0.40	3.2
29 Sep	0.73	3.5	3.7	1.8	-	-	1.9	-	1.8
Weekly $\bar{x}$	0.82	5.2	4.9	2.0	-	-	1.6	-	1.9
$\bar{x}_{TC}$	2.0	-	-	2.0	-	-	4.7	-	4.8
SD	2.12	-	-	1.74	-	-	6.91	-	7.49
Minimum	0.81	-	-	0.99	5.1	1.7	0.86	0.77	0.80
Maximum	5.2	-	-	4.6	5.1	1.7	15	0.77	16
n	4	-	-	4	-	-	4	-	4
$\bar{x}_{TO}$	0.95	11	7.0	4.9	1.1	1.7	3.8	0.50	3.4
SD	0.483	4.2	1.80	1.98	0.28	0.91	1.47	0.176	1.11
Minimum	0.57	3.5	3.7	1.8	0.85	1.0	1.9	0.39	1.8
Maximum	1.7	15	8.9	7.6	1.4	2.7	5.5	0.70	4.8
n	7	7	7	7	3	3	7	3	6
$\bar{x}$	1.3	11	7.0	3.9	2.1	1.7	4.1	0.57	4.0
SD	1.34	4.2	1.80	2.33	2.00	0.74	3.97	0.198	4.5
4 Oct	0.78	4.8	4.0	3.4	0.79	1.0	2.9	0.40	3.0
6 Oct##	1.5	3.2	2.7	2.3	-	-	3.6	-	2.8
Weekly $\bar{x}$	1.1	4.0	3.4	2.9	-	-	3.3	-	2.9
11 Oct	0.71	DNR	2.2	1.6	0.20	1.6	1.4	0.20	1.5
13 Oct	15	5.0	3.0	2.0	-	-	1.7	-	1.5
14 Oct##	5.1	4.4	4.9	2.0	-	-	2.6	-	2.7
Weekly $\bar{x}$	6.9	4.7	3.4	1.9	-	-	1.9	-	1.9
17 Oct	0.64	TC	TC	0.70	0.77	0.80	0.98	0.46	2.2
20 Oct	1.3	TC	TC	DNR	-	-	1.5	-	2.0
Weekly $\bar{x}$	0.97	-	-	-	-	-	1.2	-	2.1
24 Oct	0.46	TC	TC	0.51	0.54	1.2	0.68	0.27	0.86
27 Oct##	2.3	TC	TC	3.1	-	-	4.5	-	7.2
Weekly $\bar{x}$	1.4	-	-	1.8	-	-	2.6	-	4.0
31 Oct	0.41	TC	TC	0.34	0.39	0.68	0.71	0.40	0.51
$\bar{x}_{TC}$	1.0	-	-	1.2	0.57	0.89	1.7	0.38	2.6
SD	0.80	-	-	1.30	0.191	0.272	1.61	0.097	2.70
Minimum	0.41	-	-	0.34	0.39	0.68	0.68	0.27	0.51
Maximum	2.3	-	-	3.1	0.77	1.2	4.5	0.46	7.2
n	5	-	-	4	3	3	5	3	5
$\bar{x}_{TO}$	4.6	4.4	3.4	2.3	0.50	1.3	2.4	0.30	2.3
SD	6.08	0.81	1.08	0.68	0.417	0.42	0.90	0.141	0.74
Minimum	0.71	3.2	2.2	1.6	0.20	1.0	1.4	0.20	1.5
Maximum	15	5.0	4.9	3.4	0.79	1.6	3.6	0.40	3.0
n	5	4	5	5	2	2	5	2	5
$\bar{x}$	2.8	4.4	3.4	1.8	0.54	1.1	2.1	0.35	2.4
SD	4.50	0.81	1.08	1.10	0.252	0.36	1.30	0.107	1.87
3 Nov	0.39	TC	TC	0.37	-	-	0.58	-	0.84
Weekly $\bar{x}$	0.40	-	-	0.36	-	-	0.65	-	0.68

Table 190 - (Continued).

Date	Station 21	32	20	19	38	39	31	40	37
7 Nov	0.52	TC	TC	0.49	-	-	0.77	-	0.74
10 Nov	0.48	TC	TC	0.38	-	-	0.61	-	0.65
Weekly $\bar{x}$	0.50	-	-	0.44	-	-	0.69	-	0.70
14 Nov	0.72	TC	TC	0.81	0.57	0.91	0.68	0.29	0.95
17 Nov	0.43	TC	TC	0.63	-	-	0.56	-	0.78
Weekly $\bar{x}$	0.58	-	-	0.72	-	-	0.62	-	0.87
20 Nov	0.57	TC	TC	0.67	-	-	1.0	-	6.4
22 Nov	0.69	TC	TC	0.64	-	-	0.99	-	3.4
24 Nov##	0.54	TC	TC	0.88	-	-	0.80	-	2.7
Weekly $\bar{x}$	0.60	-	-	0.73	-	-	0.93	-	4.2
28 Nov	0.62	TC	TC	0.65	-	-	1.0	-	2.6
30 Nov	0.69	TC	TC	0.88	0.78	1.1	1.1	0.73	1.9
Weekly $\bar{x}$	0.66	-	-	0.77	-	-	1.1	-	2.3
$\bar{x}_{TC}$	0.57	-	-	0.64	0.68	1.0	0.81	0.51	2.1
SD	0.114	-	-	0.185	0.148	0.13	0.201	0.311	1.81
Minimum	0.39	-	-	0.37	0.57	0.91	0.56	0.29	0.74
Maximum	0.72	-	-	0.88	0.78	1.1	1.1	0.73	6.4
n	10	-	-	10	2	2	10	2	10
$\bar{x}_{TO}$	-	-	-	-	-	-	-	-	-
SD	-	-	-	-	-	-	-	-	-
Minimum	-	-	-	-	-	-	-	-	-
Maximum	-	-	-	-	-	-	-	-	-
n	-	-	-	-	-	-	-	-	-
$\bar{x}$	0.57	-	-	0.64	0.68	1.0	0.81	0.51	2.1
SD	0.114	-	-	0.185	0.148	0.13	0.201	0.311	1.81
5 Dec	0.83	TC	TC	0.88	-	-	1.8	-	3.1
8 Dec	0.75	TC	TC	1.0	-	-	1.8	-	1.5
9 Dec##	6.8	TC	TC	7.8	-	-	13	-	16
Weekly $\bar{x}$	2.8	-	-	3.2	-	-	5.5	-	6.9
12 Dec	0.90	TC	TC	1.1	-	-	1.4	-	1.7
14 Dec	1.2	TC	TC	1.6	1.3	2.6	3.8	0.58	6.3
Weekly $\bar{x}$	1.1	-	-	1.4	-	-	2.6	-	4.0
19 Dec	0.63	TC	TC	1.3	-	-	1.5	-	3.0
21 Dec##	1.2	TC	TC	1.7	-	-	2.5	-	3.9
Weekly $\bar{x}$	0.92	-	-	1.5	-	-	2.0	-	3.5
26 Dec	0.55	TC	TC	0.51	-	-	1.1	-	1.2
29 Dec	4.5###	TC	TC	0.42	2.0	1.7	0.80	0.72	1.2
Weekly $\bar{x}$	2.5	-	-	0.47	-	-	0.95	-	1.2
$\bar{x}_{TC}$	1.9	-	-	1.8	1.7	2.2	3.1	0.65	4.2
SD	2.20	-	-	2.29	0.49	0.64	3.82	0.099	4.72
Minimum	0.55	-	-	0.42	1.3	1.7	0.80	0.58	1.2
Maximum	6.8	-	-	7.8	2.0	2.6	13	0.72	16
n	9	-	-	9	2	2	9	2	9
$\bar{x}_{TO}$	-	-	-	-	-	-	-	-	-
SD	-	-	-	-	-	-	-	-	-
Minimum	-	-	-	-	-	-	-	-	-
Maximum	-	-	-	-	-	-	-	-	-
n	-	-	-	-	-	-	-	-	-
$\bar{x}$	1.9	-	-	1.8	1.7	2.2	3.1	0.65	4.2
SD	2.20	-	-	2.29	0.49	0.64	3.82	0.099	4.72
Grand $\bar{x}_{TC}$	2.6	-	-	3.1	4.9	8.9	6.5	1.7	5.5
SD	4.52	-	-	5.33	5.16	10.42	11.52	1.62	8.80
Minimum	0.39	-	-	0.34	0.34	0.68	0.56	0.27	0.51
Maximum	25	-	-	28	21	37	80	6.4	56
n	54	-	-	53	20	19	53	19	54
Grand $\bar{x}_{TO}$	1.7	11	7.0	5.3	4.2	6.9	5.6	2.4	4.7
SD	2.08	8.4	5.38	3.92	9.79	11.51	5.02	6.41	3.67
Minimum	0.57	3.1	1.9	1.6	0.85	1.0	1.4	0.20	1.5
Maximum	15	39	27	18	42	49	26	28	19
n	60	58	58	60	17	18	59	18	59

Table 190 - (Continued).

Date	Station 21	32	20	19	38	39	31	40	37
Grand $\bar{x}$@	2.5	6.4	5.5	4.0	-	-	5.3	-	5.7
SD	2.02	3.49	1.87	1.84	-	-	3.79	-	4.38
Minimum	0.54	3.1	2.7	0.88	-	-	0.80	-	2.7
Maximum	6.8	13	8.8	7.8	-	-	15	-	16
n	15	10	10	15	-	-	15	-	15
Grand $\bar{x}$@@	1.0	9.2	6.0	3.0	1.4	2.0	2.8	0.58	2.8
SD	0.87	3.75	1.80	2.30	1.07	1.03	1.83	0.257	1.63
Minimum	0.41	4.8	2.2	0.42	0.20	0.68	0.68	0.20	0.51
Maximum	4.5	15	8.9	7.3	5.1	4.2	6.6	1.2	6.3
n	20	9	11	20	20	20	20	20	19
Grand $\bar{x}$	2.1	11	7.0	4.3	4.6	8.0	6.0	2.0	5.1
SD	3.47	8.4	5.38	4.73	7.54	10.85	8.66	4.57	6.62

Table 191. Summary of suspended residue data (mg/l) taken from March through December 1978 in Esopus Creek, the Shandaken Tunnel intake, the Shandaken Tunnel outlet, and three tributaries of Esopus Creek.

Date	Station 21	32	20	19	38	39	31	40	37
15 Mar	12.3	11.5	11.5	20.9	28.0	26.7	18.2	14.8	17.3
29 Mar	6.2	TC*	TC	7.5	11.4	45.6	17.0	13.4	16.4
$\bar{x}$	9.3	-	-	14.2	19.7	36.2	17.6	14.1	16.9
5 Apr	3.1	TC	TC	6.5	15.6	45.2	17.3	6.9	9.2
12 Apr	8.4	TC	TC	7.6	6.9	34.6	14.2	3.2	9.1
19 Apr	0.8	TC	TC	3.5	4.3	20.6	4.1	1.0	4.4
26 Apr	0.8	TC	TC	2.6	2.9	10.9	4.8	0.7	3.1
$\bar{x}$	3.3	-	-	5.1	7.4	27.8	10.1	3.0	6.5
3 May	ND**	2.3	3.8	2.7	0.6	6.8	2.7	0.7	3.2
10 May	1.9	TC	TC	2.1	4.3	30.4	7.3	1.4	4.9
17 May	10.0	TC	TC	12.8	25.0	24.8	27.6	11.2	DNR#
24 May	1.9	TC	TC	1.8	7.8	13.8	4.5	2.6	2.9
31 May	1.4	TC	TC	3.4	10.2	6.8	3.3	2.5	2.5
$\bar{x}$	3.0	-	-	4.6	9.6	16.5	9.1	3.7	3.4
7 Jun	ND	TC	TC	ND	2.1	4.5	0.3	ND	ND
14 Jun	1.0	TC	TC	1.1	3.5	8.7	3.5	1.6	2.1
21 Jun	2.0	5.3	1.6	3.0	2.3	5.0	3.5	1.0	2.2
28 Jun	1.5	5.3	5.7	3.4	2.3	5.9	3.4	0.5	2.9
$\bar{x}$	1.1	5.3	3.7	1.9	2.6	6.0	2.7	0.8	1.8
5 Jul	1.3	8.2	4.5	5.0	4.0	7.5	9.9	2.8	4.6
11 Jul##	1.0	4.7	3.5	2.0	-	-	2.7	-	2.1
12 Jul	1.2	6.0	5.1	3.6	2.1	3.2	3.1	0.3	3.6
15 Jul##	1.3	3.2	1.7	2.6	-	-	2.6	-	2.3
19 Jul	1.1	10.4	4.1	4.1	2.1	3.7	4.4	1.1	3.9
26 Jul	0.7	5.3	4.8	4.4	0.8	2.2	3.6	0.6	2.9
28 Jul##	1.7	6.2	4.5	3.4	-	-	4.3	-	2.9
$\bar{x}$	1.2	6.3	4.0	3.6	2.3	4.2	4.4	1.2	3.2
1 Aug##	1.0	10.7	6.9	4.4	-	-	4.3	-	4.7
2 Aug	0.6	TC	TC	1.1	0.7	1.8	1.2	ND	1.3
4 Aug##	1.9	6.3	4.7	7.5	-	-	9.5	-	10.0
6 Aug##	0.8	5.2	1.6	4.8	-	-	4.9	-	4.8
8 Aug##	2.8	15.4	8.2	5.8	-	-	6.7	-	6.4
9 Aug	0.7	11.9	9.3	7.1	0.9	1.9	5.8	ND	4.8
16 Aug	0.2	3.4	5.3	3.5	1.0	1.4	4.0	0.5	3.0
23 Aug	1.1	DNR	5.2	4.8	0.7	2.2	4.7	0.6	4.9
25 Aug##	0.6	11.0	6.7	4.6	-	-	3.5	-	3.2
30 Aug	0.5	11.1	5.5	3.8	1.0	3.7	3.6	0.2	3.1
31 Aug##	6.1	9.3	7.3	6.1	-	-	7.3	-	6.0
$\bar{x}$	1.5	9.4	6.1	4.9	0.9	2.2	5.0	0.3	4.7
1 Sep##	1.2	8.7	5.8	4.2	-	-	4.2	-	4.2
6 Sep	0.2	5.9	6.3	4.9	0.4	1.5	3.9	0.2	2.4
13 Sep	0.5	9.2	6.2	5.4	0.8	1.0	0.1	2.5	2.4
19 Sep##	7.0	TC	TC	5.0	-	-	12.9	-	13.2
20 Sep	1.2	TC	TC	1.4	4.9	2.1	2.5	0.5	2.3
27 Sep	0.3	14.8	12.6	2.6	0.7	0.9	1.8	0.4	2.9
$\bar{x}$	1.7	9.7	7.7	3.9	1.7	1.4	4.2	0.9	4.6
4 Oct	1.0	50.5	5.0	4.7	0.8	1.0	3.1	ND	3.9
6 Oct##	2.1	8.3	2.3	2.7	-	-	3.6	-	4.1
11 Oct	0.4	DNR	3.7	1.9	0.2	0.9	1.5	0.1	2.1
14 Oct##	2.8	13.3	2.2	2.2	-	-	1.7	-	1.7
17 Oct	0.3	TC	TC	0.9	ND	0.6	0.4	ND	2.9
24 Oct	0.1	TC	TC	0.6	0.4	0.8	0.6	0.2	0.9
27 Oct##	1.7	TC	TC	1.2	-	-	1.0	-	1.4
31 Oct	0.5	TC	TC	0.5	0.6	1.4	1.7	0.4	1.2
$\bar{x}$	1.1	24.0	3.3	1.8	0.4	0.9	1.7	0.1	2.3

* TC = Shandaken Tunnel closed.
** ND = not detectable, equal to 0.0 for determination of mean.
\# DNR = data not recorded.
\#\# Samples taken after rainfall ≥1.27 cm in a 24-hour period.
@ Based on days of rainfall ≥1.27 cm in a 24-hour period from 11 July through 27 October.
@@ Based on days of complete water quality sampling from 12 July through 31 October.

Table 191 - (Continued).

Date	Station 21	32	20	19	38	39	31	40	37
14 Nov	0.1	TC	TC	0.5	0.1	0.9	1.7	0.1	1.2
30 Nov	0.7	TC	TC	0.7	0.8	1.0	2.6	0.5	2.2
$\bar{x}$	0.4	-	-	0.6	0.5	1.0	2.2	0.3	1.7
14 Dec	1.1	TC	TC	1.2	1.4	2.8	2.7	2.0	2.7
29 Dec	1.0	TC	TC	1.1	3.2	2.1	1.6	1.2	0.7
$\bar{x}$	1.1	-	-	1.2	2.3	2.5	2.2	1.6	1.7
Grand $\bar{x}$@	2.3	8.5	4.6	4.0	-	-	4.9	-	4.8
SD	1.94	3.64	2.36	1.78	-	-	3.22	-	3.32
Minimum	0.6	3.2	1.6	1.2	-	-	1.0	-	1.4
Maximum	7.0	15.4	8.2	7.5	-	-	12.9	-	13.2
n (days)	14	12	12	14	-	-	14	-	14
Grand $\bar{x}$@@	0.6	12.9	6.1	3.3	1.1	1.8	2.7	0.4	2.9
SD	0.37	13.69	2.49	1.93	1.13	0.98	1.65	0.60	1.15
Minimum	0.1	3.4	3.7	0.5	ND	0.6	0.1	ND	0.9
Maximum	1.2	50.5	12.6	7.1	4.9	3.7	5.8	2.5	4.9
n	17	10	12	17	17	17	17	17	17
Grand $\bar{x}$	1.9	9.8	5.4	3.9	4.2	9.1	5.2	2.0	4.1
SD	2.58	8.87	2.65	3.42	6.4	12.5	5.35	3.62	3.59
Minimum	ND	2.3	1.6	ND	ND	0.6	0.1	ND	ND
Maximum	12.3	50.5	12.6	20.9	28.0	45.6	27.6	14.8	17.3
n	51	27	29	51	37	37	51	37	50

Table 192. Summary of settleable solids data (mg/l) in Esopus Creek, the Shandaken Tunnel intake, and the Shandaken Tunnel outlet and rainfall data at Ashokan Reservoir (AR) and Schoharie Reservoir (SR) taken from March through December 1978.

Date	Rainfall (inches)		Station					
	AR	SR	21	32	20	19	31	37
15 Mar	1.09	0.38	4.1	7.5	3.6	3.3	0.1	1.9
27 Mar	2.23	0.82	11.0	TC*	TC	13.4	49.4	61.6
29 Mar	0.00	0.00	0.4	TC	TC	1.2	1.3	3.9
$\bar{x}$			5.2	-	-	6.0	16.9	22.5
12 Apr	0.06	0.26	1.0	TC	TC	3.0	1.5	1.4
20 Apr	1.30	0.41	0.7	TC	TC	1.5	0.8	0.7
26 Apr	0.00	0.00	ND**	TC	TC	0.2	0.5	ND
$\bar{x}$			0.6	-	-	1.6	0.9	0.7
10 May	1.18	0.06	1.0	TC	TC	0.9	1.1	1.1
15 May	2.82	0.82	12.9	TC	TC	22.8	29.3	18.1
17 May	0.80	0.43	3.1	TC	TC	3.7	11.2	6.7
24 May	0.00	0.00	0.8	TC	TC	0.5	2.2	1.3
25 May	1.39	0.16	0.4	TC	TC	ND	1.4	0.4
$\bar{x}$			3.6	-	-	5.6	9.0	5.5
3 Jun	1.06	1.17	15.2	0.7	ND	28.7	37.3	19.9
7 Jun	0.00	0.00	ND	TC	TC	ND	ND	ND
8 Jun	1.28	0.80	ND	TC	TC	0.4	0.2	0.5
14 Jun	0.22	0.13	0.3	TC	TC	0.1	0.1	0.1
19 Jun	0.11	0.58	1.1	DNR#	0.6	0.4	0.6	0.5
28 Jun	0.00	0.00	0.3	1.6	0.3	0.2	0.1	0.4
$\bar{x}$			2.8	1.2	0.3	5.0	6.4	3.6
4 Jul	2.17	2.20	0.9	0.8	0.2	0.6	3.6	7.8
11 Jul	0.26	0.55	0.3	0.6	ND	ND	0.1	ND
12 Jul	0.00	0.00	ND	1.3	0.8	0.3	0.1	0.8
15 Jul	0.55	0.03	0.7	1.3	0.3	0.2	0.2	0.4
26 Jul	0.00	0.00	ND	5.7	ND	ND	0.1	ND
28 Jul	0.36	0.32	0.5	0.8	0.3	0.1	0.7	0.7
$\bar{x}$			0.4	1.8	0.3	0.2	0.8	1.6
1 Aug	0.67	0.22	0.2	2.6	0.2	ND	0.7	0.6
4 Aug	0.00	1.47	0.1	0.9	0.1	1.7	1.6	1.5
6 Aug	1.39	2.01	0.8	0.5	ND	0.5	1.1	0.7
8 Aug	1.03	0.79	1.1	2.1	1.2	1.2	0.9	1.2
9 Aug	0.00	0.00	0.8	1.2	1.1	1.3	0.9	0.9
23 Aug	0.00	0.00	0.2	DNR	0.8	0.2	0.7	1.0
25 Aug	0.53	1.01	0.5	1.4	0.9	0.4	0.7	0.5
29 Aug	0.57	0.03	ND	1.8	0.4	0.2	ND	0.3
31 Aug	0.56	0.92	0.4	1.5	0.7	ND	0.1	ND
$\bar{x}$			0.5	1.5	0.6	0.6	0.7	0.7
1 Sep	0.74	0.45	0.2	3.8	0.9	0.7	0.8	0.8
6 Sep	0.00	0.00	0.3	0.8	0.5	0.2	0.3	0.3
19 Sep	1.69	2.28	0.7	TC	TC	0.3	0.9	0.7
20 Sep	0.00	TR##	0.1	TC	TC	0.3	0.1	0.6
$\bar{x}$			0.3	2.3	0.7	0.4	0.5	0.6
4 Oct	0.00	0.00	ND	1.1	0.9	0.5	0.1	0.3
6 Oct	0.81	0.95	ND	2.4	0.2	0.5	0.6	0.5
14 Oct	0.87	0.51	0.1	5.7	0.2	0.1	0.1	0.1
17 Oct	0.00	0.00	ND	TC	TC	ND	ND	0.1
27 Oct	0.34	0.67	0.1	TC	TC	0.4	0.4	0.5
31 Oct	0.00	0.00	ND	TC	TC	ND	0.4	0.5
$\bar{x}$			ND	3.1	0.4	0.3	0.3	0.3
14 Nov	0.00	0.00	ND	TC	TC	0.3	ND	ND
24 Nov	0.72	0.18	0.3	TC	TC	0.3	0.4	0.6
30 Nov	0.23	0.07	0.2	TC	TC	0.1	0.1	0.3
$\bar{x}$			0.2	-	-	0.2	0.2	0.3

* TC = Shandaken Tunnel closed.
** ND = not detectable, equal to 0.0 for determination of mean.
\# DNR = data not recorded.
\#\# TR = trace.

Table 192 - (Continued).

Date	Rainfall (inches) AR	Rainfall (inches) SR	Station 21	32	20	19	31	37
9 Dec	0.91	0.97	1.5	TC	TC	3.5	6.2	8.1
14 Dec	0.00	0.01	0.3	TC	TC	0.3	0.7	0.5
21 Dec	0.75	0.61	0.2	TC	TC	0.2	0.2	0.9
29 Dec	0.00	TR	ND	TC	TC	0.1	0.1	0.2
$\bar{x}$			0.5	-	-	1.0	1.8	2.4
Grand $\bar{x}$			1.3	2.1	0.6	1.9	3.3	3.1
SD			3.15	1.90	0.74	5.40	9.54	9.43
Minimum			ND	0.5	ND	ND	ND	ND
Maximum			15.2	7.5	3.6	28.7	49.4	61.6
n (days)			49	22	24	49	49	49

Table 193. Summary of air temperature data (C) measured from March through December 1978 in Esopus Creek, the Shandaken Tunnel outlet, and three tributaries of Esopus Creek.

Date	Station									
	21	35	20	36	19	38	39	31	40	37
13 Mar	5	9	9	9	6	-	-	6	-	7
15 Mar	5	3	3	3	4	4	3	4	3	3
17 Mar	0	3	3	3	2	-	-	1	-	1
20 Mar	0	0	0	0	2	-	-	3	-	3
22 Mar	2	2	2	2	2	-	-	2	-	2
24 Mar	1	0	0	0	2	-	-	2	-	2
27 Mar	4	4	TC*	4	4	-	-	5	-	3
29 Mar	4	4	TC	4	9	5	6	7	5	6
31 Mar	5	5	TC	5	5	-	-	4	-	8
3 Apr	3	3	TC	3	3	-	-	3	-	0
5 Apr	3	2	TC	2	2	3	3	3	3	4
7 Apr	6	5	TC	5	6	-	-	7	-	9
10 Apr	7	7	TC	7	6	-	-	10	-	13
12 Apr	6	5	TC	5	6	6	7	6	7	6
14 Apr	3	4	TC	4	5	-	-	5	-	5
17 Apr	4	4	TC	4	4	-	-	5	-	5
19 Apr	4	4	TC	4	3	4	5	5	5	5
20 Apr	8	-	TC	-	8	-	-	8	-	8
21 Apr	3	3	TC	3	4	-	-	3	-	4
26 Apr	6	7	TC	7	7	7	13	9	12	15
28 Apr	13	15	15	15	14	-	-	12	-	15
1 May	6	6	6	6	6	-	-	6	-	7
3 May	6	5	5	6	6	6	6	8	6	7
5 May	4	4	4	4	4	-	-	5	-	5
8 May	16	17	17	17	17	-	-	15	-	16
10 May	11	10	TC	10	14	9	14	10	14	13
12 May	16	18	TC	19	19	-	-	21	-	21
15 May	10	10	TC	10	10	-	-	10	-	10
17 May	10	11	TC	11	10	10	11	11	12	11
19 May	20	21	TC	21	22	-	-	22	-	24
24 May	12	12	TC	12	12	12	12	12	13	13
25 May	20	-	TC	-	21	-	-	21	-	20
26 May	16	25	TC	25	14	-	-	24	-	20
31 May	19	26	TC	26	21	21	20	20	21	22
2 Jun	27	27	27	27	27	-	-	23	-	27
3 Jun	DNR**	-	13***	-	DNR	-	-	DNR	-	DNR
5 Jun	14	15	15	15	15	-	-	17	-	17
7 Jun	14	15	TC	15	16	15	15	16	16	16
8 Jun	19	-	TC	-	20	-	-	21	-	20
12 Jun	27	25	TC	25	25	-	-	25	-	25
14 Jun	12	10	TC	10	14	11	11	10	11	10
16 Jun	23	24	21	24	22	-	-	22	-	21
19 Jun	24	22	22	24	22	-	-	24	-	22
21 Jun	24	21	20	21	21	23	22	22	24	24
26 Jun	21	22	22	22	18	-	-	20	-	20
28 Jun	21	21	21	21	22	21	22	19	20	21
3 Jul	20	18	18	18	17	-	-	18	-	19
4 Jul	13	-	15	-	13	-	-	14	-	15
5 Jul	18	19	19	18	19	20	19	19	19	20
7 Jul	29	26	23	28	27	-	-	26	-	22
10 Jul	28	28	28	28	28	-	-	28	-	24
11 Jul	19	-	19	-	19	-	-	18	-	17
12 Jul	19	19	19	20	19	20	20	20	22	20
14 Jul	23	22	22	22	22	-	-	21	-	22
15 Jul	25	-	25	-	25	-	-	25	-	24
17 Jul	23	21	19	20	21	-	-	20	-	22
19 Jul	29	25	25	25	26	24	28	27	27	26
21 Jul	28	26	26	26	25	-	-	26	-	25
24 Jul	23	22	22	22	21	-	-	21	-	24
26 Jul	21	20	25	20	23	22	23	22	22	22
28 Jul	24	22	22	22	20	-	-	21	-	22
31 Jul	17	17	17	17	17	-	-	16	-	15

* TC = Shandaken Tunnel closed.
** DNR = data not recorded.
*** Value taken from Partlow seven-day recording thermometer.

Table 193 - (Continued).

Date	Station 21	35	20	36	19	38	39	31	40	37
1 Aug	23	-	23	-	22	-	-	21	-	22
2 Aug	27	24	TC	24	26	25	25	26	24	23
4 Aug	25	24	22	24	27	-	-	24	-	21
6 Aug	24	-	26	-	22	-	-	22	-	22
7 Aug	24	24	24	24	24	-	-	25	-	24
8 Aug	23	-	23	-	24	-	-	25	-	26
9 Aug	24	23	23	22	22	24	24	24	23	25
11 Aug	24	22	22	22	22	-	-	23	-	23
14 Aug	29	27	27	27	30	-	-	28	-	29
16 Aug	30	25	25	25	28	28	26	26	26	27
18 Aug	24	25	25	25	23	-	-	23	-	23
21 Aug	23	20	20	20	18	-	-	18	-	18
23 Aug	26	24	24	25	27	26	27	25	25	28
25 Aug	15	15	15	15	17	-	-	16	-	15
28 Aug	21	20	20	20	20	-	-	20	-	19
29 Aug	26	-	26	-	25	-	-	23	-	26
30 Aug	21	22	22	21	24	26	26	21	25	25
31 Aug	15	-	16	-	16	-	-	16	-	16
1 Sep	17	19	19	19	19	-	-	21	-	20
6 Sep	23	23	23	23	24	25	25	24	25	24
8 Sep	15	14	14	19	16	-	-	17	-	14
11 Sep	19	19	19	19	21	-	-	23	-	21
13 Sep	21	18	18	16	18	18	18	17	20	18
18 Sep	19	16	TC	16	16	-	-	16	-	16
19 Sep	14	-	TC	-	15	-	-	14	-	14
20 Sep	17	17	TC	17	20	22	20	21	19	21
25 Sep	15	17	TC	17	14	-	-	13	-	18
27 Sep	14	16	16	16	14	15	16	15	14	16
29 Sep	12	13	13	12	13	-	-	13	-	13
4 Oct	8	9	9	9	9	8	8	8	8	9
6 Oct	13	14	14	14	15	-	-	14	-	14
11 Oct	15	15	15	15	15	15	16	15	14	15
13 Oct	16	18	18	18	16	-	-	17	-	17
14 Oct	13	-	13	-	13	-	-	13	-	13
17 Oct	2	3	TC	3	3	3	4	3	6	5
20 Oct	9	9	TC	9	9	-	-	8	-	9
24 Oct	4	4	TC	4	4	6	8	6	8	8
27 Oct	10	10	TC	10	8	-	-	8	-	9
31 Oct	9	9	TC	9	10	10	10	9	9	10
3 Nov	10	10	TC	10	11	-	-	9	-	10
7 Nov	12	12	TC	12	12	-	-	12	-	11
10 Nov	14	15	TC	15	15	-	-	15	-	16
14 Nov	10	12	TC	12	11	11	11	11	11	11
17 Nov	3	3	TC	3	3	-	-	3	-	3
20 Nov	5	6	TC	6	6	-	-	5	-	6
22 Nov	3	3	TC	3	2	-	-	1	-	1
24 Nov	5	-	TC	-	5	-	-	5	-	5
28 Nov	5	5	TC	5	5	-	-	3	-	3
30 Nov	4	5	TC	5	6	4	4	4	4	6
5 Dec	4	4	TC	4	5	-	-	4	-	3
8 Dec	14	15	TC	15	10	-	-	8	-	8
9 Dec	5	-	TC	-	4	-	-	4	-	5
12 Dec	2	2	TC	2	2	-	-	2	-	1
14 Dec	0	0	TC	0	0	0	0	0	0	0
19 Dec	-4	-4	TC	-4	-4	-	-	-4	-	-4
21 Dec	1	1	TC	1	1	-	-	2	-	2
26 Dec	0	0	TC	0	0	-	-	0	-	0
29 Dec	0	0	TC	0	-1	-1	0	0	0	0
Minimum	-4	-4	0	-4	-4	-1	0	-4	0	-4
Maximum	30	28	28	28	30	28	28	28	27	29

Table 194. Summary of water temperature data (C) measured from March through December 1978 in Esopus Creek, the Shandaken Tunnel intake, the Shandaken Tunnel outlet, and three tributaries of Esopus Creek.

	Station										
Date	21	35	32	20	36	19	38	39	31	40	37
13 Mar	1	3	2	1	1	2	-	-	3	-	2
15 Mar	1	2	2	1	1	2	1	0	2	0	1
17 Mar	2	3	2	1	1	2	-	-	3	-	3
Weekly $\bar{x}$*	1	3	2	1	1	2	-	-	3	-	2
20 Mar	3	3	2	1	1	3	-	-	3	-	3
22 Mar	3	3	2	2	2	3	-	-	3	-	3
24 Mar	4	4	2	1	2	3	-	-	3	-	3
Weekly $\bar{x}$	3	3	2	1	2	3	-	-	3	-	3
27 Mar	2	2	TC**	TC	2	2	-	-	2	-	1
29 Mar	5	5	TC	TC	5	5	5	5	5	5	5
31 Mar	4	4	TC	TC	4	5	-	-	4	-	4
Weekly $\bar{x}$	4	4	-	-	4	4	-	-	4	-	3
$\bar{x}_{TC}$	4	4	-	-	4	4	-	-	4	-	3
SD	1.5	1.5	-	-	1.5	1.7	-	-	1.5	-	2.1
Minimum	2	2	-	-	2	2	5	5	2	5	1
Maximum	5	5	-	-	5	5	5	5	5	5	5
n (days)	3	3	-	-	3	3	-	-	3	-	3
$\bar{x}_{TO}$#	2	3	2	1	1	3	-	-	3	-	3
SD	1.2	0.6	0.0	0.4	0.5	0.5	-	-	0.4	-	0.8
Minimum	1	2	2	1	1	2	1	0	2	0	1
Maximum	4	4	2	2	2	3	1	0	3	0	3
n	6	6	6	6	6	6	-	-	6	-	6
$\bar{x}$	3	3	2	1	2	3	3	3	3	3	3
SD	1.4	1.0	0.0	0.4	1.5	1.2	2.8	3.5	0.9	3.5	1.3
3 Apr	4	4	TC	TC	4	4	-	-	3	-	3
5 Apr	4	4	TC	TC	4	4	4	5	5	4	5
7 Apr	5	5	TC	TC	4	5	-	-	4	-	5
Weekly $\bar{x}$	4	4	-	-	4	4	-	-	4	-	4
10 Apr	6	6	TC	TC	6	7	-	-	5	-	5
12 Apr	7	6	TC	TC	6	7	7	7	7	7	7
14 Apr	6	6	TC	TC	6	6	-	-	6	-	7
Weekly $\bar{x}$	6	6	-	-	6	7	-	-	6	-	6
17 Apr	7	6	TC	TC	6	6	-	-	6	-	6
19 Apr	6	6	TC	TC	6	6	5	5	6	6	6
20 Apr	6	-	TC	TC	-	7	-	-	6	-	7
21 Apr	5	5	TC	TC	5	5	-	-	5	-	6
Weekly $\bar{x}$	6	6	-	-	6	6	-	-	6	-	6
26 Apr	9	9	TC	TC	9	9	9	9	9	9	9
28 Apr	10	10	6	7	8	10	-	-	10	-	10
Weekly $\bar{x}$	10	10	-	-	9	10	-	-	10	-	10
$\bar{x}_{TC}$	6	6	-	-	6	6	6	7	6	7	6
SD	1.4	1.4	-	-	1.5	1.5	2.2	1.9	1.6	2.1	1.5
Minimum	4	4	-	-	4	4	4	5	3	4	3
Maximum	9	9	-	-	9	9	9	9	9	9	9
n	11	10	-	-	10	11	4	4	11	4	11
$\bar{x}_{TO}$	-	-	-	-	-	-	-	-	-	-	-
SD	-	-	-	-	-	-	-	-	-	-	-
Minimum	10	10	6	7	8	10	-	-	10	-	10
Maximum	10	10	6	7	8	10	-	-	10	-	10
n	-	-	-	-	-	-	-	-	-	-	-
$\bar{x}$	6	6	-	-	6	6	6	7	6	7	6
SD	1.8	1.9	-	-	1.6	1.8	2.2	1.9	2.0	2.1	1.9

* Based on Sunday through Saturday.
** TC = Shandaken Tunnel closed.
\# TO = Shandaken Tunnel open.
DNR = data not recorded.
@ Data taken from Partlow seven-day recording thermometer.
@@ Sample taken through the ice.

Table 194 - (Continued).

Date	Station 21	35	32	20	36	19	38	39	31	40	37
1 May	7	7	7	7	7	8	-	-	9	-	7
3 May	9	8	7	8	7	9	9	9	9	10	10
5 May	5	5	7	6	6	6	-	-	6	-	7
Weekly $\bar{x}$	7	7	7	7	7	8	-	-	8	-	8
8 May	11	10	7	6	8	9	-	-	9	-	10
10 May	9	9	TC	TC	9	10	8	9	9	10	10
12 May	9	8	TC	TC	9	9	-	-	10	-	10
Weekly $\bar{x}$	10	9	-	-	9	9	-	-	9	-	10
15 May	8	8	TC	TC	8	8	-	-	8	-	9
17 May	8	9	TC	TC	8	8	8	8	8	9	9
19 May	11	11	TC	TC	11	12	-	-	12	-	12
Weekly $\bar{x}$	9	9	-	-	9	9	-	-	9	-	10
24 May	10	10	TC	TC	10	10	10	10	10	11	11
25 May	15	-	TC	TC	-	15	-	-	14	-	15
26 May	15	13	TC	TC	14	14	-	-	14	-	15
Weekly $\bar{x}$	13	12	-	-	12	13	-	-	13	-	14
31 May	16	16	TC	TC	16	17	14	16	17	17	18
$\bar{x}$TC	11	11	-	-	11	11	10	11	11	12	12
SD	3.2	2.8	-	-	2.9	3.2	2.8	3.6	3.1	3.6	3.2
Minimum	8	8	-	-	8	8	8	8	8	9	9
Maximum	16	16	-	-	16	17	14	16	17	17	18
n	9	8	-	-	8	9	4	4	9	4	9
$\bar{x}$TO	8	8	7	7	7	8	-	-	8	-	9
SD	2.6	2.1	0.0	1.0	0.8	1.4	-	-	1.5	-	1.7
Minimum	5	5	7	6	6	6	9	9	6	10	7
Maximum	11	10	7	8	8	9	9	9	9	10	10
n	4	4	4	4	4	4	-	-	4	-	4
$\bar{x}$	10	10	7	7	9	10	10	10	10	11	11
SD	3.1	2.9	0.0	1.0	3.0	3.0	2.5	3.2	3.0	3.2	3.2
2 Jun	16	16	10	9	10	12	-	-	13	-	15
Weekly $\bar{x}$	16	16	-	-	13	15	-	-	15	-	17
3 Jun	DNR##	-	10	DNR	-	10@	-	-	DNR	-	11@
5 Jun	11	10	8	8	9	10	-	-	11	-	11
7 Jun	13	12	TC	TC	12	13	13	13	13	14	14
8 Jun	13	-	TC	TC	-	14	-	-	14	-	14
Weekly $\bar{x}$	12	11	9	-	11	12	-	-	13	-	13
12 Jun	15	16	TC	TC	15	17	-	-	17	-	18
14 Jun	13	13	TC	TC	13	13	13	13	15	14	15
16 Jun	14	15	8	8	10	13	-	-	13	-	14
Weekly $\bar{x}$	14	15	-	-	13	14	-	-	15	-	16
19 Jun	19	18	9	10	11	14	-	-	16	-	17
21 Jun	18	17	9	10	10	13	17	17	17	18	16
Weekly $\bar{x}$	19	18	9	10	11	14	-	-	17	-	17
26 Jun	17	16	10	10	10	12	-	-	13	-	14
28 Jun	20	20	11	10	12	14	19	20	17	22	19
Weekly $\bar{x}$	19	18	11	10	11	13	-	-	15	-	17
$\bar{x}$TC	14	14	-	-	13	14	13	13	15	14	15
SD	1.0	2.1	-	-	1.5	1.9	0.0	0.0	1.7	0.0	1.9
Minimum	13	12	-	-	12	13	13	13	13	14	14
Maximum	15	16	-	-	15	17	13	13	17	14	18
n	4	3	-	-	3	4	2	2	4	2	4
$\bar{x}$TO	16	16	9	9	10	12	18	19	14	20	15
SD	3.1	3.1	1.1	1.0	1.0	1.6	1.4	2.1	2.4	2.8	2.8
Minimum	11	10	8	8	9	10	17	17	11	18	11
Maximum	20	20	11	10	12	14	19	20	17	22	19
n	7	7	8	7	7	8	2	2	7	2	8
$\bar{x}$	15	15	9	9	11	13	16	16	14	17	15
SD	2.9	2.9	1.1	1.0	1.8	1.9	3.0	3.4	2.1	3.8	2.4

Table 196 - (Continued).

Date		Station						
		EC	STO		EC			
		35	20		36	19	37	
		WT	WT	AT	WT	WT	WT	AT
2 Jul	$\bar{x}$	17.0	11.0	16.0	12.5	11.0	14.5	17.5
	SD	2.54	0.77	6.82	0.67	0.23	2.05	4.23
	Minimum	13.5	10.0	7.0	11.5	10.5	12.0	11.5
	Maximum	20.5	12.0	26.5	13.5	11.0	17.5	23.5
	19+C	8	0	-	0	0	0	-
3 Jul	$\bar{x}$	15.5	9.5	13.5	10.0	12.0	RM	15.5
	SD	0.65	0.33	3.44	0.53	1.57	-	3.09
	Minimum	14.5	9.0	8.5	9.5	10.5	-	11.0
	Maximum	17.0	10.0	18.0	11.0	15.0	-	19.5
	19+C	0	0	-	0	0	-	-
4 Jul	$\bar{x}$	14.0	9.5	12.0	10.0	12.5	11.50	13.0
	SD	0.44	0.40	1.29	0.24	1.00	0.390	1.45
	Minimum	13.5	9.0	10.5	9.5	11.0	10.5	10.5
	Maximum	15.0	10.0	14.0	10.0	14.0	11.5	15.0
	19+C	0	0	-	0	0	0	-
5 Jul	$\bar{x}$	15.5	10.00	16.5	RM	12.5	RM	RM
	SD	2.39	0.53	6.42	-	1.17	-	-
	Minimum	12.5	9.5	9.0	-	11.0	-	-
	Maximum	18.5	11.0	27.0	-	14.0	-	-
	19+C	0	0	-	-	0	-	-
6 Jul	$\bar{x}$	16.5	10.5	19.5	12.0	13.0	15.5	16.0
	SD	2.17	0.72	6.67	0.91	1.42	1.95	4.57
	Minimum	14.0	9.5	12.0	11.0	11.0	13.0	10.0
	Maximum	20.0	11.5	32.0	13.5	15.0	18.5	23.5
	19+C	4	0	-	0	0	0	-
7 Jul	$\bar{x}$	17.5	11.0	RM	12.5	13.5	16.0	18.0
	SD	2.31	0.71	-	0.80	1.15	2.01	4.46
	Minimum	14.5	10.0	-	11.5	12.0	13.5	11.5
	Maximum	20.5	11.5	-	13.5	15.0	19.5	24.0
	19+C	9	0	-	0	0	1	-
8 Jul	$\bar{x}$	18.0	11.0	18.5	12.5	13.5	16.5	18.5
	SD	1.77	0.29	5.50	0.24	0.61	1.59	4.02
	Minimum	15.5	10.5	12.0	12.0	12.5	14.5	13.0
	Maximum	20.0	11.5	29.5	12.5	14.5	19.0	24.5
	19+C	8	0	-	0	0	0	-
9 Jul	$\bar{x}$	18.5	11.0	19.5	12.5	13.0	16.5	20.0
	SD	1.65	0.41	4.42	0.45	0.64	1.73	3.50
	Minimum	16.5	10.5	15.0	11.5	12.5	14.5	16.0
	Maximum	21.0	12.0	26.5	13.0	14.0	19.5	25.5
	19+C	10	0	-	0	0	3	-
10 Jul	$\bar{x}$	18.5	11.0	17.0	12.0	13.5	16.0	18.0
	SD	1.76	0.57	4.91	0.43	0.68	1.01	3.54
	Minimum	16.0	10.0	11.5	11.5	12.5	15.0	14.0
	Maximum	21.0	12.0	28.0	13.0	14.5	18.0	25.0
	19+C	9	0	-	0	0	0	-
11 Jul	$\bar{x}$	16.5	11.0	13.0	12.0	12.5	14.0	13.0
	SD	1.26	0.78	3.99	0.79	0.92	1.32	3.14
	Minimum	15.0	10.0	8.0	11.0	11.5	12.5	8.0
	Maximum	18.5	12.5	19.5	13.0	14.0	16.5	17.5
	19+C	0	0	-	0	0	0	-
12 Jul	$\bar{x}$	17.0	11.5	13.5	12.0	12.5	14.5	14.0
	SD	3.02	1.10	6.59	1.12	1.56	2.29	5.31
	Minimum	13.0	10.0	5.5	10.5	10.5	11.5	7.5
	Maximum	21.0	13.0	24.5	13.5	15.0	18.0	23.0
	19+C	8	0	-	0	0	0	-
13 Jul	$\bar{x}$	18.0	12.0	12.5	12.5	13.0	14.5	16.0
	SD	2.60	1.16	7.20	1.27	1.88	2.52	4.89
	Minimum	14.5	10.5	4.0	10.5	10.5	11.5	9.0
	Maximum	21.5	13.5	24.0	14.0	15.5	18.5	23.0
	19+C	9	0	-	0	0	0	-

Table 196 - (Continued).

Date		Station						
		EC	STO		EC			
		35	20		36	19	37	
		WT	WT	AT	WT	WT	WT	AT
14 Jul	$\bar{x}$	18.5	11.5	14.5	12.5	12.5	15.0	16.5
	SD	0.94	0.47	2.96	0.58	0.48	1.11	2.29
	Minimum	17.0	10.5	11.0	11.5	12.0	13.5	13.5
	Maximum	19.5	12.0	19.5	13.5	13.5	16.5	19.5
	19+C	4	0	-	0	0	0	-
15 Jul	$\bar{x}$	19.0	11.5	17.5	12.5	13.5	16.0	RM
	SD	1.64	0.39	6.11	0.65	0.49	1.31	-
	Minimum	17.0	11.0	10.5	11.5	13.0	14.5	-
	Maximum	21.0	12.5	26.5	13.5	14.5	18.0	-
	19+C	12	0	-	0	0	0	-
16 Jul	$\bar{x}$	19.0	11.5	20.5	11.5	13.0	15.5	22.0
	SD	0.94	0.41	2.76	0.44	0.68	1.11	2.40
	Minimum	17.5	10.5	17.5	11.0	12.0	14.0	19.0
	Maximum	20.0	12.0	25.5	12.5	14.0	17.0	25.5
	19+C	10	0	-	0	0	0	-
17 Jul	$\bar{x}$	18.0	12.5	RM	13.0	13.5	15.5	21.0
	SD	0.44	0.56	-	0.75	0.48	1.16	0.94
	Minimum	17.5	11.5	-	11.5	13.0	14.0	19.5
	Maximum	18.5	13.0	-	13.5	14.5	17.5	23.0
	19+C	0	0	-	0	0	0	-
18 Jul	$\bar{x}$	18.5	12.5	18.5	13.5	14.0	16.5	21.5
	SD	2.42	0.36	6.20	0.17	0.83	2.02	3.57
	Minimum	15.5	12.0	12.5	13.0	13.0	14.5	17.0
	Maximum	22.0	13.0	30.0	13.5	15.5	20.0	27.5
	19+C	11	0	-	0	0	4	-
19 Jul	$\bar{x}$	RM	13.0	18.5	13.5	14.5	16.5	22.0
	SD	-	0.57	6.81	0.79	1.52	2.33	4.63
	Minimum	-	12.0	10.5	12.5	12.5	13.5	16.0
	Maximum	-	13.5	29.0	15.0	16.5	20.0	29.5
	19+C	-	0	-	0	0	4	-
20 Jul	$\bar{x}$	19.5	12.0	20.5	12.5	14.0	16.5	24.0
	SD	1.90	0.62	5.89	0.68	0.95	1.68	4.09
	Minimum	16.5	11.0	13.5	11.5	12.5	14.5	18.5
	Maximum	22.0	12.5	31.0	13.5	15.0	19.0	30.0
	19+C	13	0	-	0	0	0	-
21 Jul	$\bar{x}$	RM	RM	20.5	13.5	14.5	17.0	23.5
	SD	-	-	3.58	0.74	0.46	1.67	2.40
	Minimum	-	-	16.5	12.0	14.0	15.0	20.5
	Maximum	-	-	27.0	14.5	15.0	20.0	27.5
	19+C	-	-	-	0	0	3	-
22 Jul	$\bar{x}$	21.0	RM	RM	14.0	15.0	18.0	24.0
	SD	1.62	-	-	0.50	0.41	2.02	2.93
	Minimum	19.0	-	-	13.5	14.5	16.0	20.0
	Maximum	23.5	-	-	15.0	15.5	21.5	28.5
	19+C	21	-	-	0	0	7	-
23 Jul	$\bar{x}$	22.0	12.5	25.5	14.0	15.0	18.5	24.0
	SD	1.96	0.61	5.67	0.57	1.22	2.23	3.96
	Minimum	19.5	11.5	19.5	13.5	13.5	16.0	20.0
	Maximum	24.5	13.0	35.0	15.0	16.5	22.0	30.5
	19+C	24	0	-	0	0	9	-
24 Jul	$\bar{x}$	21.5	13.0	22.0	14.0	15.0	18.0	RM
	SD	1.71	0.96	3.67	0.85	0.84	1.62	-
	Minimum	19.5	11.5	15.5	13.0	13.5	16.0	-
	Maximum	24.0	14.5	29.5	15.5	16.5	20.5	-
	19+C	24	0	-	0	0	6	-
25 Jul	$\bar{x}$	20.0	12.5	18.5	13.0	14.0	17.0	20.0
	SD	0.98	0.65	3.82	0.57	0.91	1.44	2.68
	Minimum	18.0	11.0	13.5	12.0	12.5	15.0	16.5
	Maximum	21.0	13.0	24.0	14.0	15.5	19.0	23.5
	19+C	17	0	-	0	0	0	-

Table 196 - (Continued).

Date		Station						
		EC	STO		EC			
		35	20		36	19	37	
		WT	WT	AT	WT	WT	WT	AT
26 Jul	$\bar{x}$	19.5	13.5	19.5	14.0	14.5	16.5	RM
	SD	0.98	0.45	4.37	0.33	0.98	2.16	-
	Minimum	18.0	12.5	13.5	13.5	12.5	14.0	-
	Maximum	20.5	14.0	26.5	14.5	16.5	20.0	-
	19+C	13	0	-	0	0	4	-
27 Jul	$\bar{x}$	20.0	14.5	23.0	14.5	15.5	18.0	22.5
	SD	1.29	1.03	3.46	0.88	0.73	1.65	2.55
	Minimum	18.5	13.5	19.0	13.5	14.5	16.0	19.0
	Maximum	21.5	16.5	28.5	16.5	16.5	20.0	26.5
	19+C	12	0	-	0	0	7	-
28 Jul	$\bar{x}$	RM	14.5	18.5	14.5	16.0	18.0	20.0
	SD	-	1.39	2.80	1.21	0.55	1.60	2.24
	Minimum	-	12.5	12.0	12.5	15.0	16.0	16.5
	Maximum	-	17.0	24.0	16.5	17.0	20.5	24.0
	19+C	-	0	-	0	0	6	-
29 Jul	$\bar{x}$	19.5	14.5	15.0	14.5	16.0	16.5	17.5
	SD	1.37	0.64	4.08	0.70	0.99	1.36	3.13
	Minimum	17.5	13.5	9.5	13.5	14.5	15.0	12.5
	Maximum	21.5	15.5	22.5	15.5	17.5	18.5	21.5
	19+C	15	0	-	0	0	0	-
30 Jul	$\bar{x}$	19.5	14.0	16.0	13.5	15.0	16.5	18.0
	SD	0.61	0.59	3.17	0.49	0.75	1.15	1.56
	Minimum	18.5	13.0	10.5	13.0	14.0	15.0	15.0
	Maximum	20.5	15.0	24.5	14.5	16.5	18.0	21.0
	19+C	13	0	-	0	0	0	-
31 Jul	$\bar{x}$	16.5	14.5	11.0	14.5	15.0	15.0	14.0
	SD	0.58	0.92	1.25	0.74	0.59	0.60	0.61
	Minimum	16.0	12.5	9.0	13.0	14.0	14.0	13.0
	Maximum	18.0	15.5	12.5	15.5	16.0	15.5	14.5
	19+C	0	0	-	0	0	0	-
	$\bar{x}_{TC}$	-	-	-	-	-	-	-
	SD	-	-	-	-	-	-	-
	Minimum	-	-	-	-	-	-	-
	Maximum	-	-	-	-	-	-	-
	n	-	-	-	-	-	-	-
	19+C	-	-	-	-	-	-	-
	$\bar{x}_{TO}$	18.5	12.0	17.5	13.0	13.5	16.0	19.0
	SD	1.85	1.47	3.49	1.17	1.34	1.49	3.43
	Minimum	12.5	9.0	4.0	9.5	10.0	9.0	7.0
	Maximum	24.5	17.0	35.0	16.5	17.5	22.0	30.5
	n	28	29	28	30	31	29	27
	19+C	22(12)	0(-)	-	0(-)	0(-)	11(5)	-
	Monthly $\bar{x}$	18.5	12.0	17.5	13.0	13.5	16.0	19.0
	SD	1.85	1.47	3.49	1.17	1.34	1.49	3.43
	Minimum	12.5	9.0	4.0	9.5	10.0	9.0	7.0
	Maximum	24.5	17.0	35.0	16.5	17.5	22.0	30.5
	n	28	29	28	30	31	29	27
	19+C	22(12)	0(-)	-	0(-)	0(-)	11(5)	-
1 Aug	$\bar{x}$	18.0	14.0	RM	14.5	15.0	16.0	RM
	SD	1.76	0.60	-	1.19	1.37	1.60	-
	Minimum	16.0	13.0	-	13.0	13.5	14.0	-
	Maximum	20.0	14.5	-	17.0	16.5	18.0	-
	19+C	8	0	-	0	0	0	-
2 Aug	$\bar{x}$	20.5	TC	18.0	19.0	19.5	19.5	19.5
	SD	2.31	-	3.92	3.32	2.93	2.74	2.92
	Minimum	17.5	-	13.0	12.0	16.0	16.5	16.0
	Maximum	23.5	-	24.5	23.5	23.5	23.5	25.0
	19+C	14	-	-	11	12	11	-
3 Aug	$\bar{x}$	22.5	15.0	20.5	16.0	16.0	19.5	22.5
	SD	2.03	1.92	4.37	1.77	1.56	1.74	2.79
	Minimum	20.0	11.5	16.0	13.0	13.0	16.5	19.5
	Maximum	25.0	18.0	27.5	19.0	18.0	21.5	27.0
	19+C	24	0	-	0	0	13	-

Table 196 - (Continued).

Date		Station						
		EC	STO		EC			
		35	20		36	19	37	
		WT	WT	AT	WT	WT	WT	AT
4 Aug	x̄	21.5	RM	RM	19.0	19.0	19.5	20.5
	SD	0.60	-	-	0.41	0.17	0.78	1.27
	Minimum	20.0	-	-	18.5	18.5	18.5	18.5
	Maximum	22.5	-	-	20.0	19.0	21.0	23.0
	19+C	24	-	-	7	0	14	-
5 Aug	x̄	19.0	20.0	17.5	19.5	19.5	19.5	18.5
	SD	0.85	0.29	2.58	0.33	0.25	0.94	1.57
	Minimum	17.5	19.0	14.0	18.5	19.0	18.5	16.0
	Maximum	20.0	20.0	21.0	19.5	19.5	21.0	21.0
	19+C	13	23	-	14	13	12	-
6 Aug	x̄	19.0	19.0	19.5	18.5	18.5	19.5	20.0
	SD	0.74	1.02	2.36	0.90	0.61	0.83	1.66
	Minimum	18.0	16.5	17.0	16.0	17.0	18.5	18.0
	Maximum	20.0	20.0	26.5	19.0	19.5	21.0	24.0
	19+C	9	13	-	0	3	13	-
7 Aug	x̄	19.5	16.0	RM	16.5	17.0	19.0	RM
	SD	0.61	0.36	-	0.67	0.71	0.90	-
	Minimum	18.5	15.5	-	15.0	15.5	17.5	-
	Maximum	20.0	17.0	-	17.0	17.5	20.0	-
	19+C	12	0	-	0	0	8	-
8 Aug	x̄	19.5	15.5	23.5	16.5	17.0	19.5	22.0
	SD	1.31	0.47	3.68	0.59	0.66	1.06	2.58
	Minimum	18.0	15.0	20.0	15.5	16.0	18.0	19.5
	Maximum	21.5	16.0	31.5	17.5	18.0	21.0	26.0
	19+C	13	0	-	0	0	10	-
9 Aug	x̄	19.5	RM	RM	17.0	17.0	19.0	20.5
	SD	1.50	-	-	0.39	0.37	1.37	3.11
	Minimum	17.5	-	-	16.0	16.5	17.0	16.5
	Maximum	22.0	-	-	17.5	17.5	21.5	26.0
	19+C	13	-	-	0	0	8	-
10 Aug	x̄	20.0	18.0	17.0	17.5	17.0	19.5	21.0
	SD	1.51	0.38	3.94	0.36	0.56	1.53	2.70
	Minimum	18.0	17.5	11.0	16.5	16.0	18.0	16.0
	Maximum	22.5	19.0	25.0	18.0	18.0	22.0	25.0
	19+C	13	0	-	0	0	10	-
11 Aug	x̄	18.5	18.0	RM	17.5	17.5	18.5	RM
	SD	1.71	0.85	-	1.16	1.63	1.68	-
	Minimum	16.0	16.5	-	15.5	15.0	16.5	-
	Maximum	21.0	19.0	-	19.0	20.0	21.0	-
	19+C	9	0	-	0	4	10	-
12 Aug	x̄	18.5	17.0	20.5	17.0	17.5	18.5	21.5
	SD	0.53	0.35	1.29	0.37	0.44	0.47	0.78
	Minimum	18.0	16.5	19.0	16.5	17.0	18.0	20.5
	Maximum	19.5	17.5	22.5	17.5	18.0	19.5	22.5
	19+C	4	0	-	0	0	1	-
13 Aug	x̄	20.0	18.0	22.5	18.0	19.0	20.0	23.0
	SD	1.49	0.92	3.22	0.73	0.57	1.91	1.88
	Minimum	18.0	16.5	19.0	16.5	18.0	18.0	20.5
	Maximum	22.0	19.5	29.0	19.0	20.0	23.0	26.0
	19+C	14	2	-	0	10	13	-
14 Aug	x̄	20.5	18.0	RM	18.0	20.0	20.0	23.5
	SD	2.14	0.31	-	0.38	1.31	2.20	3.74
	Minimum	17.5	17.5	-	17.0	18.0	18.0	18.5
	Maximum	23.0	18.5	-	18.5	21.5	23.5	28.5
	19+C	14	0	-	0	15	12	-
15 Aug	x̄	21.0	17.0	21.0	17.0	19.5	20.5	24.5
	SD	1.51	0.90	4.63	1.01	1.01	1.58	3.06
	Minimum	18.5	15.5	15.5	15.5	17.5	18.5	20.5
	Maximum	22.5	18.0	28.0	18.5	20.5	23.0	30.0
	19+C	19	0	-	9	14	18	-

Table 196 - (Continued).

Date		Station						
		EC	STO		EC			
		35	20		36	19	37	
		WT	WT	AT	WT	WT	WT	AT
6 Sep	x̄	18.5	19.0	RM	19.5	20.0	19.5	-
	SD	2.44	0.67	-	0.25	0.80	2.06	-
	Minimum	15.5	18.5	-	19.0	19.0	17.5	-
	Maximum	21.5	20.0	-	19.5	21.5	23.0	-
	19+C	12	11	-	14	17	11	-
7 Sep	x̄	19.5	19.0	18.0	19.5	20.5	20.0	19.0
	SD	0.85	0.42	3.93	0.44	0.67	1.17	3.33
	Minimum	18.0	18.5	9.0	19.0	19.5	18.5	10.5
	Maximum	21.0	19.5	23.0	20.0	21.5	22.0	21.5
	19+C	16	12	-	17	24	13	-
8 Sep	x̄	17.0	18.5	10.5	19.5	20.0	18.0	10.0
	SD	1.36	0.29	4.28	0.44	0.48	1.16	2.73
	Minimum	14.5	18.5	3.5	19.0	19.0	16.5	5.5
	Maximum	18.5	19.5	17.5	20.0	20.5	20.0	14.0
	19+C	0	1	-	14	20	4	-
9 Sep	x̄	17.0	18.0	13.0	20.0	20.5	19.0	12.5
	SD	1.12	0.10	4.14	0.26	0.37	0.82	2.86
	Minimum	16.0	17.5	6.0	19.5	20.0	18.0	6.5
	Maximum	19.0	18.0	20.0	20.0	21.0	20.5	17.0
	19+C	0	0	-	24	24	6	-
10 Sep	x̄	15.5	RM	9.5	19.5	19.5	18.5	9.0
	SD	1.41	-	4.87	0.25	0.22	1.05	4.19
	Minimum	13.0	-	2.5	19.0	19.5	17.5	3.5
	Maximum	17.0	-	17.5	19.5	20.0	20.5	14.5
	19+C	0	-	-	13	24	7	-
11 Sep	x̄	16.0	19.0	RM	19.0	19.5	19.0	RM
	SD	0.46	0.22	-	0.22	0.22	0.71	-
	Minimum	15.5	19.0	-	19.0	19.0	18.5	-
	Maximum	16.5	19.5	-	19.5	20.0	20.0	-
	19+C	0	6	-	6	20	12	-
12 Sep	x̄	17.0	19.0	18.5	19.0	19.0	19.5	19.5
	SD	0.82	0.00	3.10	0.25	0.25	0.68	2.77
	Minimum	16.0	19.0	13.0	19.0	19.0	18.5	14.5
	Maximum	18.5	19.0	24.0	19.5	19.5	20.5	24.0
	19+C	0	0	-	10	10	11	-
13 Sep	x̄	16.0	19.0	14.5	19.0	19.0	18.5	13.0
	SD	1.56	0.00	5.16	0.10	0.58	1.43	2.58
	Minimum	14.0	19.0	8.0	19.0	18.5	17.0	9.5
	Maximum	18.5	19.0	24.5	19.5	20.0	21.0	18.0
	19+C	0	0	-	1	6	7	-
14 Sep	x̄	15.0	TC	12.5	18.5	18.0	17.0	12.5
	SD	1.67	-	6.24	0.29	0.67	1.74	4.37
	Minimum	12.5	-	4.5	18.0	17.5	15.0	6.0
	Maximum	17.0	-	22.0	19.0	19.5	19.5	18.5
	19+C	0	-	-	0	3	4	-
15 Sep	x̄	15.5	TC	14.5	17.0	17.0	16.5	14.5
	SD	0.43	-	2.03	0.68	0.47	0.71	1.78
	Minimum	15.0	-	13.0	15.0	15.5	15.5	12.5
	Maximum	16.0	-	20.5	17.5	17.5	17.5	19.5
	19+C	0	-	-	0	0	0	-
16 Sep	x̄	15.5	TC	16.0	15.0	16.5	16.5	16.0
	SD	1.02	-	3.71	1.25	1.44	1.31	3.70
	Minimum	14.5	-	11.0	13.5	14.5	15.0	11.5
	Maximum	17.0	-	22.5	17.0	18.5	18.5	23.0
	19+C	0	-	-	0	0	0	-
17 Sep	x̄	16.0	TC	15.0	15.5	16.5	17.0	14.0
	SD	1.43	-	4.74	1.77	2.20	1.53	3.36
	Minimum	13.5	-	8.5	12.5	13.0	14.5	8.5
	Maximum	17.5	-	24.5	17.5	19.5	19.0	19.0
	19+C	0	-	-	0	1	0	-

Table 196 - (Continued).

Date		Station						
		EC	STO		EC			
		35	20		36	19	37	
		WT	WT	AT	WT	WT	WT	AT
18 Sep	$\bar{x}$	16.0	TC	15.0	15.5	16.5	17.0	15.0
	SD	0.23	-	0.48	0.41	0.29	0.42	0.58
	Minimum	15.5	-	14.0	15.0	15.5	16.5	14.0
	Maximum	16.5	-	15.5	16.0	16.5	17.5	16.0
	19+C	0	-	-	0	0	0	-
19 Sep	$\bar{x}$	15.5	TC	14.0	15.0	15.0	15.0	14.5
	SD	0.57	-	1.60	0.69	0.64	0.45	1.12
	Minimum	14.5	-	12.5	14.5	14.5	14.5	13.5
	Maximum	16.0	-	17.5	16.5	16.0	15.5	17.0
	19+C	0	-	-	0	0	0	-
20 Sep	$\bar{x}$	16.0	TC	-	16.0	16.5	16.0	16.0
	SD	1.01	-	-	1.36	1.82	1.51	3.66
	Minimum	15.0	-	-	14.5	14.5	14.0	11.0
	Maximum	17.5	-	-	18.0	19.5	18.0	22.5
	19+C	0	-	-	0	2	0	-
21 Sep	$\bar{x}$	17.0	TC	-	17.0	18.0	18.0	21.5
	SD	1.69	-	-	1.91	2.42	2.05	4.48
	Minimum	15.0	-	-	14.5	15.0	15.5	15.5
	Maximum	19.0	-	-	19.5	21.5	21.0	28.5
	19+C	0	-	-	4	8	11	-
22 Sep	$\bar{x}$	16.5	TC	-	16.0	16.5	17.5	17.5
	SD	0.94	-	-	1.17	1.08	1.09	2.87
	Minimum	14.0	-	-	13.5	14.0	15.5	11.5
	Maximum	17.5	-	-	17.5	18.0	19.5	20.5
	19+C	0	-	-	0	0	1	-
23 Sep	$\bar{x}$	14.0	TC	-	13.5	14.5	14.5	12.5
	SD	1.42	-	-	1.66	1.84	1.45	3.11
	Minimum	12.0	-	-	11.5	12.5	12.5	9.0
	Maximum	16.0	-	-	16.5	18.0	17.0	18.5
	19+C	0	-	-	0	0	0	-
24 Sep	$\bar{x}$	14.0	TC	-	13.5	14.5	14.0	13.5
	SD	1.40	-	-	1.74	2.08	1.73	4.43
	Minimum	12.0	-	-	11.0	12.0	11.5	8.5
	Maximum	16.0	-	-	16.5	18.0	17.0	21.0
	19+C	0	-	-	0	0	0	-
25 Sep	$\bar{x}$	13.5	TC	-	13.0	14.0	15.0	14.0
	SD	1.06	-	-	1.38	1.69	1.64	3.88
	Minimum	12.0	-	-	11.5	12.0	13.0	9.5
	Maximum	15.0	-	-	15.5	17.0	18.0	20.0
	19+C	0	-	-	0	0	0	-
26 Sep	$\bar{x}$	12.0	TO	-	11.5	12.0	13.5	9.5
	SD	1.24	-	-	1.59	1.94	1.54	3.94
	Minimum	10.0	-	-	9.0	9.0	11.0	3.5
	Maximum	13.5	-	-	14.0	15.0	16.0	17.0
	19+C	0	-	-	0	0	0	-
27 Sep	$\bar{x}$	11.0	TO	-	13.0	12.5	13.0	11.0
	SD	1.26	-	-	0.70	1.55	1.71	4.72
	Minimum	9.0	-	-	12.0	10.5	10.5	5.0
	Maximum	13.0	-	-	14.0	15.0	15.0	21.5
	19+C	0	-	-	0	0	0	-
28 Sep	$\bar{x}$	11.5	TO	-	13.5	11.5	14.0	12.0
	SD	0.72	-	-	0.19	0.95	1.03	2.77
	Minimum	10.0	-	-	13.0	10.0	13.0	8.0
	Maximum	12.5	-	-	13.5	13.5	16.0	16.5
	19+C	0	-	-	0	0	0	-
29 Sep	$\bar{x}$	10.5	TO	-	13.5	-	12.5	9.0
	SD	1.68	-	-	0.99	-	1.44	4.08
	Minimum	8.0	-	-	12.5	-	10.0	3.5
	Maximum	12.5	-	-	15.0	-	14.5	16.0
	19+C	0	-	-	0	-	0	-

Table 196 - (Continued).

Date		Station						
		EC	STO		EC			
		35	20		36	19	37	
		WT	WT	AT	WT	WT	WT	AT
30 Sep	$\bar{x}$	11.0	TO	-	14.5	15.0	12.5	11.0
	SD	1.55	-	-	0.25	1.48	1.82	5.46
	Minimum	8.5	-	-	14.0	13.5	10.5	3.0
	Maximum	12.5	-	-	14.5	17.5	15.0	18.0
	19+C	0	-	-	0	0	0	-
	$\bar{x}$TC	15.0	-	14.5	15.0	16.0	16.0	14.5
	SD	1.39	-	1.18	1.90	1.71	1.42	2.84
	Minimum	10.0	-	4.5	9.0	9.0	11.0	3.5
	Maximum	19.0	-	24.5	19.5	21.5	21.0	28.5
	n	13	-	6	13	13	13	13
	19+C	0(-)	-	-	1(4)	4(4)	3(5)	-
	$\bar{x}$TO	15.5	19.5	15.5	18.0	18.5	17.5	14.0
	SD	2.86	0.80	3.13	2.60	2.83	2.74	3.83
	Minimum	8.0	17.5	2.5	12.0	10.0	10.0	3.0
	Maximum	21.5	21.0	28.0	20.5	21.5	23.0	24.5
	n	17	12	11	17	16	17	15
	19+C	5(9)	9(17)	-	13(15)	13(18)	13(9)	-
	Monthly $\bar{x}$	15.5	19.5	15.0	17.0	17.5	17.0	14.5
	SD	2.32	0.80	2.60	2.73	2.71	2.39	3.35
	Minimum	8.0	17.5	2.5	9.0	9.0	10.0	3.0
	Maximum	21.5	21.0	28.0	20.5	21.5	23.0	28.5
	n	30	12	17	30	29	30	28
	19+C	5(9)	9(17)	-	14(14)	17(15)	16(9)	-
1 Oct	$\bar{x}$	12.5	TO	-	13.5	17.0	14.5	15.5
	SD	0.86	-	-	0.52	0.80	0.84	2.25
	Minimum	11.5	-	-	12.5	15.5	13.5	12.5
	Maximum	13.5	-	-	14.0	18.0	15.5	19.0
	19+C	0	-	-	0	0	0	-
2 Oct	$\bar{x}$	12.5	TO	-	14.5	18.0	14.5	13.5
	SD	0.97	-	-	0.26	0.70	1.13	2.44
	Minimum	11.0	-	-	14.0	17.5	12.5	9.0
	Maximum	14.0	-	-	14.5	19.5	16.0	18.0
	19+C	0	-	-	0	3	0	-
3 Oct	$\bar{x}$	10.5	TO	-	14.5	17.0	13.0	10.0
	SD	1.17	-	-	0.23	0.31	0.83	2.23
	Minimum	9.0	-	-	14.0	16.5	12.0	6.0
	Maximum	12.0	-	-	14.5	17.5	14.0	12.5
	19+C	0	-	-	0	0	0	-
	$\bar{x}$TC	-	-	-	-	-	-	-
	SD	-	-	-	-	-	-	-
	Minimum	-	-	-	-	-	-	-
	Maximum	-	-	-	-	-	-	-
	n	-	-	-	-	-	-	-
	19+C	-	-	-	-	-	-	-
	$\bar{x}$TO	12.0	-	-	14.0	17.5	14.0	13.0
	SD	1.15	-	-	0.58	0.58	0.87	2.78
	Minimum	9.0	-	-	12.5	15.5	12.0	6.0
	Maximum	14.0	-	-	14.5	19.5	16.0	19.0
	n	3	-	-	3	3	3	3
	19+C	0(-)	-	-	0(-)	1(3)	0(-)	-
	Monthly $\bar{x}$	12.0	-	-	14.0	17.5	14.0	13.0
	SD	1.15	-	-	0.58	0.58	0.87	2.78
	Minimum	9.0	-	-	12.5	15.5	12.0	6.0
	Maximum	14.0	-	-	14.5	19.5	16.0	19.0
	n	3	-	-	3	3	3	3
	19+C	0(-)	-	-	0(-)	1(3)	0(-)	-
	£19+C@@	63/119	25/81	-	32/122	42/112	64/117	-

Table 197. Summary of dissolved oxygen data (ppm) taken from March through December 1978 in Esopus Creek, the Shandaken Tunnel outlet, and three tributaries of Esopus Creek.

Date	Station 21	20	19	38	39	31	40	37
15 Mar	14.0	16.3	15.2	14.7	14.5	14.0	14.2	15.0
29 Mar	12.6	TC*	13.3	12.6	12.9	14.0	12.9	13.3
$\bar{x}$	13.3	-	14.3	13.7	13.7	14.0	13.6	14.2
5 Apr	12.7	TC	13.4	13.5	12.9	13.6	13.1	13.4
12 Apr	12.7	TC	10.6	12.6	12.4	13.5	12.7	11.9
19 Apr	13.4	TC	13.0	12.9	12.9	13.0	13.4	13.0
26 Apr	12.2	TC	12.0	12.6	12.2	12.6	11.9	12.1
$\bar{x}$	12.8	-	12.3	12.9	12.6	13.2	12.8	12.6
3 May	11.3	13.7	10.8	11.2	11.3	11.1	10.7	11.1
10 May	12.0	TC	11.8	12.9	12.0	12.1	11.3	11.6
17 May	12.0	TC	12.3	12.0	11.9	11.5	11.7	12.3
24 May	12.2	TC	11.4	11.3	11.1	11.4	10.9	11.5
31 May	10.0	TC	10.2	11.0	10.0	10.0	9.5	9.8
$\bar{x}$	11.5	-	11.3	11.7	11.3	11.2	10.8	11.3
7 Jun	11.0	TC	11.0	11.1	10.8	10.6	10.3	10.6
14 Jun	10.4	TC	10.5	10.7	10.4	10.8	10.1	10.5
21 Jun	10.6	12.9	11.5	9.6	8.5	10.4	10.0	10.1
28 Jun	11.1	12.9	10.7	9.2	8.5	10.0	8.7	9.8
$\bar{x}$	10.8	12.9	10.9	10.2	9.6	10.5	9.8	10.3
5 Jul	10.0	13.8	11.2	9.7	9.8	10.2	9.8	10.2
12 Jul	10.7	14.3	11.6	10.2	10.5	10.5	9.4	10.3
19 Jul	9.8	13.8	11.0	9.5	9.2	9.9	9.1	9.3
26 Jul	9.3	12.3	11.0	8.9	9.0	9.5	8.8	9.6
$\bar{x}$	10.0	13.6	11.2	9.6	9.6	10.0	9.3	9.9
2 Aug	9.3	TC	8.8	8.9	8.7	9.1	9.0	9.2
9 Aug	9.4	14.2	10.0	8.8	9.3	9.2	9.0	9.2
16 Aug	9.6	12.0	9.2	9.0	8.8	9.8	9.1	9.3
23 Aug	9.5	11.4	9.7	9.1	9.9	9.5	10.5	9.3
30 Aug	10.0	11.0	9.1	9.0	9.4	9.1	9.1	9.0
$\bar{x}$	9.6	12.2	9.4	9.0	9.2	9.3	9.3	9.2
6 Sep	9.7	10.7	9.6	8.9	9.4	8.6	10.0	9.0
13 Sep	10.1	10.9	9.3	9.6	9.8	9.1	9.5	9.3
20 Sep	10.0	TC	10.0	9.4	9.2	9.4	9.3	9.6
27 Sep	9.8	9.2	10.6	10.3	10.5	9.7	10.0	10.5
$\bar{x}$	9.9	10.3	9.9	9.6	9.8	9.2	9.7	9.6
4 Oct	10.6	12.2	10.0	10.5	10.5	10.0	10.0	10.8
11 Oct	11.2	12.5	11.0	11.0	10.6	10.6	10.9	10.5
17 Oct	11.1	TC	11.4	11.1	11.3	11.5	11.2	11.7
24 Oct	11.7	TC	11.6	11.2	11.4	10.3	10.0	11.8
31 Oct	11.4	TC	10.0	11.5	11.7	11.4	11.4	11.1
$\bar{x}$	11.2	12.4	10.8	11.1	11.1	10.8	10.7	11.2
14 Nov	11.8	TC	12.4	11.7	12.4	12.6	11.8	12.0
30 Nov	12.9	TC	12.4	12.6	12.6	12.8	12.7	12.4
$\bar{x}$	12.4	-	12.4	12.2	12.5	12.7	12.3	12.2
14 Dec	12.8	TC	13.1	13.3	13.1	13.2	13.2	13.1
29 Dec	14.3**	TC	14.0	14.1	14.2	14.2	14.3	14.3
$\bar{x}$	13.6	-	13.6	13.7	13.7	13.7	13.8	13.7
Grand $\bar{x}$	11.2	12.6	11.2	11.0	10.9	11.0	10.8	11.0
SD	1.38	1.70	1.46	1.66	1.63	1.64	1.61	1.59
Minimum	9.3	9.2	8.8	8.8	8.5	8.6	8.7	9.0
Maximum	14.3	16.3	15.2	14.7	14.5	14.2	14.3	15.0
n (days)	37	17	37	37	37	37	37	37

* TC = Shandaken Tunnel closed.
** Sample taken through the ice.

Table 198 - (Continued).

Day	Month												Yearly Mean and Range
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
						Mean Monthly Values - 1975							
Mean	179	200	258	266	218	119	82.3	47.3	80.9	166	153	122	157
Minimum	62	60	102	130	80	49	38	25	26	66	82	60	25
Maximum	535	1120	1160	778	419	219	204	80	372	453	223	183	1160

Table 199. Summary of daily discharge data (cfs) measured from January 1977 through December 1978 in the Shandaken Tunnel at Allaben, New York, by the New York City Department of Water Resources.

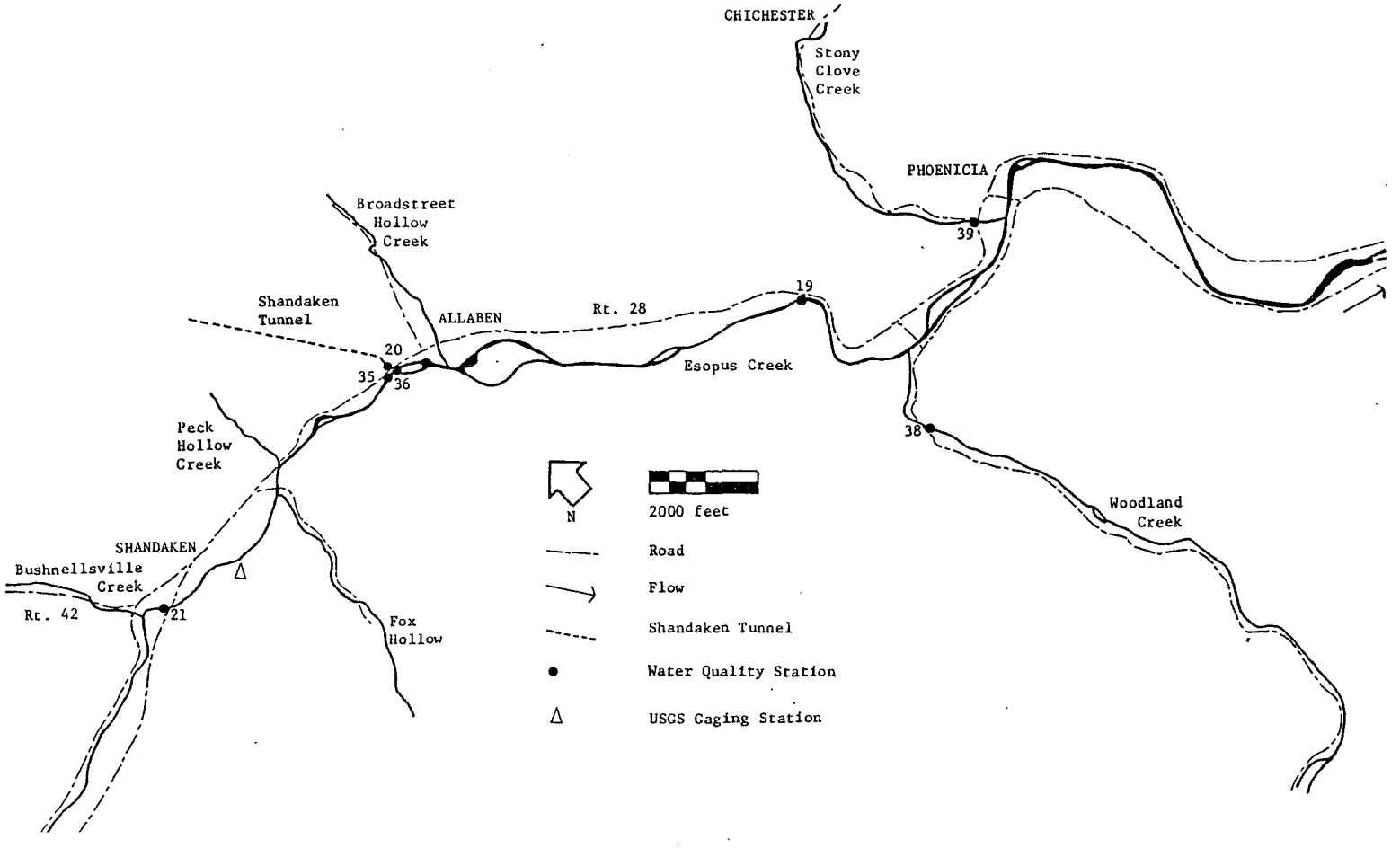
Day	Month												Yearly Mean and Range
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
						Average Daily Values - 1978							
1	0	0	315	0	391	605	795	34	296	93	0	0	
2	0	0	315	0	465	682	460	186	296	223	0	0	
3	0	0	315	0	465	682	422	716	295	453	0	0	
4	0	0	312	0	465	264	422	792	293	437	0	0	
5	0	0	310	0	264	20	423	791	293	431	0	0	
6	0	0	310	0	217	0	423	377	290	429	0	0	
7	0	0	308	0	217	0	386	313	290	429	0	0	
8	0	0	307	0	26	0	372	319	775	428	0	0	
9	0	0	307	0	0	0	370	322	842	423	0	0	
10	0	0	305	0	0	0	370	322	505	419	0	0	
11	0	0	304	0	0	0	369	322	417	412	0	0	
12	0	0	304	0	0	0	369	319	105	405	0	0	
13	0	0	299	0	0	0	369	318	3	265	0	0	
14	0	163	299	0	0	0	367	318	0	143	0	0	
15	0	194	308	0	0	144	366	316	0	25	0	0	
16	0	194	315	0	0	217	364	315	0	0	0	0	
17	0	194	316	0	0	217	364	312	0	0	0	0	
18	0	194	318	0	0	217	361	310	0	0	0	0	
19	0	194	318	0	0	217	358	310	0	0	0	0	
20	0	194	318	0	0	217	350	308	0	0	0	0	
21	0	251	319	0	0	217	339	307	0	0	0	0	
22	0	312	322	0	0	217	335	307	0	0	0	0	
23	0	318	322	0	0	298	335	305	0	0	0	0	
24	0	318	67	0	0	310	332	304	0	0	0	0	
25	0	318	0	0	0	310	327	304	0	0	0	0	
26	0	318	0	0	0	308	327	304	22	0	0	0	
27	0	316	0	110	0	307	322	302	31	0	0	0	
28	0	315	0	126	0	307	316	301	31	0	0	0	
29	0	-	0	126	0	398	312	301	81	0	0	0	
30	0	-	0	126	0	702	310	298	93	0	0	0	
31	0	-	0	-	94	-	259	296	-	0	-	0	
Mean	0	135	233	16	84	229	374	344	165	162	0	0	145
Minimum	0	0	0	0	0	0	259	34	0	0	0	0	0
Maximum	0	318	322	126	465	702	795	792	842	453	0	0	842
						Average Daily Values - 1977							
1	202	175	240	0	0	358	394	268	273	476	384	0	
2	202	175	240	0	0	360	392	264	270	918	388	0	
3	200	175	432	0	0	518	391	259	268	952	388	0	
4	198	236	310	0	0	603	389	256	267	952	388	0	
5	198	236	484	0	0	601	388	276	265	952	388	0	
6	198	236	484	0	257	386	386	279	259	952	388	0	
7	198	234	484	0	310	310	386	277	200	952	389	0	
8	198	233	484	0	310	296	322	276	130	952	65	0	
9	198	233	484	0	310	296	279	274	93	952	0	0	
10	198	229	484	0	312	301	166	273	93	952	0	0	
11	195	228	484	0	71	301	273	273	93	952	0	0	
12	194	228	484	0	0	301	279	273	48	952	0	0	
13	194	226	40	0	0	301	276	273	37	952	0	0	
14	194	225	0	0	0	301	273	270	37	952	0	0	
15	194	225	0	0	0	301	273	268	229	952	0	0	
16	192	225	0	0	0	298	273	268	400	958	0	0	
17	191	222	0	0	0	296	273	268	403	0	0	0	
18	191	220	0	130	0	296	273	268	403	0	0	0	
19	188	220	0	186	0	295	273	267	309	0	0	0	
20	186	220	0	281	0	293	273	265	353	0	0	0	
21	186	219	0	395	0	293	271	262	313	0	0	0	
22	184	217	0	434	0	290	268	260	318	0	0	0	
23	183	217	0	434	169	288	268	260	374	0	0	0	
24	183	219	0	436	302	341	268	259	383	194	0	0	
25	183	226	0	17	310	339	268	257	391	220	0	0	
26	180	234	0	0	358	338	268	279	400	264	0	0	
27	178	237	0	0	361	400	268	281	860	299	0	0	
28	178	240	0	0	361	398	268	279	952	301	0	0	
29	178	-	0	0	361	397	268	277	952	301	0	0	
30	178	-	0	0	360	395	268	276	952	301	0	0	
31	177	-	0	-	358	-	268	274	-	347	-	0	
Mean	190	222	166	77	145	350	296	270	348	547	93	0	225
Minimum	177	175	0	0	0	288	166	256	37	0	0	0	0
Maximum	202	240	484	436	361	603	394	281	952	958	389	0	958

Table 200. Summary of daily discharge data (cfs) measured from January 1976 through December 1978 (October 1977 through December 1978 provisional) in Esopus Creek at the USGS gaging station, Coldbrook, New York.

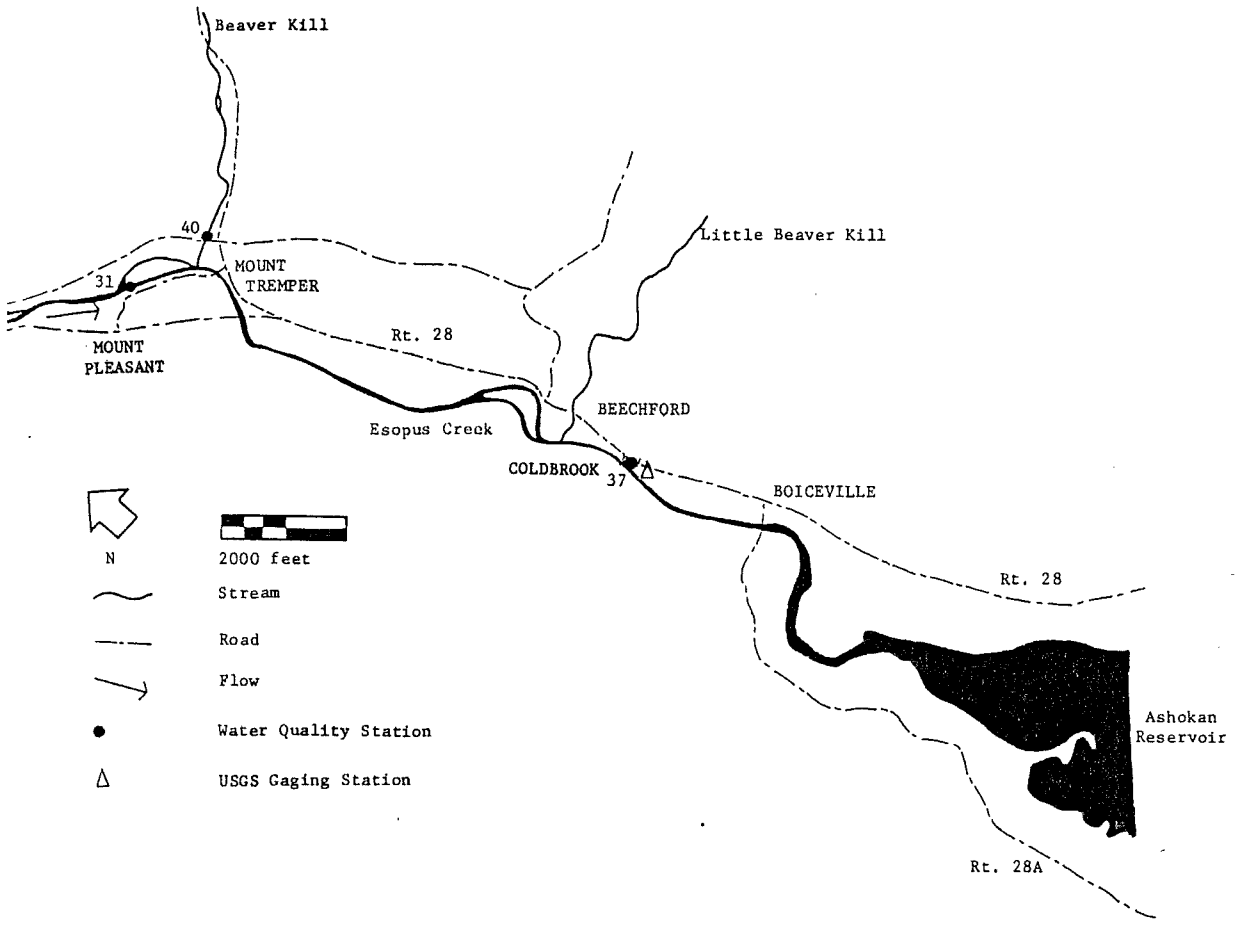
Day	Month												Yearly Mean and Range
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
						Mean Daily Values - 1978							
1	290	560	470	1840	667	725	940	291	385	281	109	195	
2	260	500	460	2600	851	1060	795	77	363	196	106	184	
3	240	450	460	1840	795	1070	479	260	358	244	103	181	
4	220	390	450	1460	742	993	1380	880	348	459	99	117	
5	210	340	450	1630	733	505	890	871	348	445	96	230	
6	200	300	450	1530	560	295	716	795	348	498	94	309	
7	190	280	450	1650	526	291	643	442	343	458	91	297	
8	139	290	450	1650	461	1010	589	532	473	440	94	321	
9	11800	290	450	1380	604	804	560	448	890	428	89	876	
10	3410	300	450	1220	795	604	546	424	768	418	84	910	
11	1770	300	450	1230	597	499	539	413	492	412	80	686	
12	1220	300	450	1760	519	430	512	413	424	407	77	575	
13	900	320	358	2020	492	467	499	407	338	384	73	508	
14	700	340	619	2010	659	401	486	396	269	383	70	443	
15	600	520	1170	1430	5630	343	492	390	150	315	69	388	
16	540	520	861	1090	4120	519	479	385	35	166	68	351	
17	490	363	742	861	4210	499	479	379	25	128	76	335	
18	450	323	675	716	3330	479	473	374	27	116	65	300	
19	420	420	667	759	2630	512	454	369	214	111	28	272	
20	400	400	659	1380	1860	454	442	363	109	114	136	317	
21	380	410	890	1320	1520	499	430	358	72	103	200	386	
22	370	440	1550	1050	1190	667	419	353	58	98	189	317	
23	370	470	1590	880	951	505	413	348	50	92	185	278	
24	370	480	1530	777	951	519	407	348	44	86	208	259	
25	420	480	1000	699	1060	492	401	369	39	83	268	269	
26	3100	480	880	659	795	479	396	353	34	88	234	266	
27	2330	480	3750	659	683	473	390	348	83	130	238	276	
28	1430	470	3260	759	597	454	390	348	97	127	241	105	
29	1030	-	2520	725	519	454	379	353	97	118	200	60	
30	760	-	1930	667	454	691	374	343	167	113	200	42	
31	660	-	1610	-	424	-	369	419	-	110	-	38	
Mean	1151	401	1023	1275	1288	573	541	414	248	244	129	326	634
Minimum	139	280	358	659	424	291	369	77	25	83	28	38	25
Maximum	11800	560	3750	2600	5630	1070	1380	880	890	498	268	910	11800

Table 200 -(Continued).

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly Mean and Range
						Mean Daily Values - 1977							
1	270	280	751	2370	557	491	445	309	296	2380	630	982	
2	280	280	689	1580	512	507	436	305	292	3070	636	1060	
3	300	290	702	1670	470	518	431	296	292	2330	621	861	
4	290	290	1430	1320	412	656	426	296	288	1920	620	675	
5	280	290	3320	1700	507	643	422	301	284	1650	633	553	
6	290	290	2070	1710	507	580	422	318	276	1520	619	479	
7	280	290	1500	1290	702	465	422	313	265	1400	752	369	
8	280	290	1230	1070	669	417	412	313	235	1320	10800	400	
9	280	280	1190	854	871	574	377	309	180	2410	10200	330	
10	270	280	1520	723	1380	967	356	309	168	2410	2600	280	
11	270	280	2060	636	1230	630	242	309	165	1990	2230	250	
12	280	280	2400	592	1130	557	364	322	157	1760	1430	250	
13	290	280	6770	656	1330	513	360	313	113	1590	1030	260	
14	300	290	8170	662	1130	486	351	313	115	1530	716	400	
15	300	280	3320	580	871	470	347	313	126	1730	539	1260	
16	320	280	2210	518	696	450	343	305	356	1670	430	940	
17	320	280	1580	475	592	440	343	318	460	6790	401	699	
18	330	280	1230	445	523	440	335	313	426	3380	413	539	
19	320	280	975	574	580	455	331	305	481	2110	314	448	
20	310	280	773	568	455	426	331	301	1160	1700	265	363	
21	310	280	669	662	422	417	326	296	837	1250	232	436	
22	330	284	837	730	399	408	339	313	574	1000	210	407	
23	320	288	1030	766	394	399	322	305	523	815	190	304	
24	310	301	689	1590	523	403	318	301	571	739	183	260	
25	300	1520	568	1720	605	431	326	296	1210	795	161	532	
26	290	879	513	1150	574	440	322	296	2610	732	448	600	
27	280	737	534	1030	568	436	313	313	2220	727	273	450	
28	280	914	623	862	546	460	309	309	1840	700	221	380	
29	280	-	1670	716	529	465	305	305	1530	657	190	350	
30	280	-	4370	623	513	455	305	305	1360	625	186	320	
31	280	-	4240	-	496	-	305	301	-	605	-	320	
Mean	294	388	1924	995	668	500	354	307	647	1720	1272	508	798
Minimum	270	280	513	445	394	399	242	296	113	605	161	250	113
Maximum	330	1520	8170	2370	1380	967	445	322	2610	6790	10800	1260	10800
						Mean Daily Values - 1976							
1	1090	1010	854	2360	862	292	1090	540	551	470	773	330	
2	1000	1500	766	1940	2450	246	636	523	546	460	837	330	
3	960	940	702	1370	1450	326	523	534	540	470	780	330	
4	960	840	689	1070	1100	586	486	580	529	460	773	330	
5	980	720	1180	854	871	643	377	586	523	445	730	340	
6	900	640	1420	716	723	649	257	574	513	440	702	340	
7	740	560	1100	617	630	656	231	649	507	431	656	1470	
8	540	520	888	540	546	431	231	623	496	431	611	1310	
9	450	470	737	486	481	231	207	1140	491	2740	568	923	
10	450	430	662	440	431	213	187	1810	496	1720	546	820	
11	470	475	586	412	399	228	177	1070	491	1060	513	744	
12	560	436	512	377	682	351	177	941	475	689	491	656	
13	700	426	636	356	496	339	168	1080	470	502	475	580	
14	943	436	551	331	460	343	162	1090	460	502	460	518	
15	830	399	475	309	431	335	235	1040	445	507	450	540	
16	740	529	450	820	403	335	253	1030	460	574	436	502	
17	680	1300	426	967	507	343	335	950	496	540	422	486	
18	500	1240	394	932	766	331	301	730	502	513	417	460	
19	470	1850	412	862	1110	322	292	643	455	491	412	436	
20	500	1590	529	656	1050	322	284	630	394	730	399	440	
21	450	1250	845	551	1150	386	284	623	203	3840	394	436	
22	470	1860	983	534	1150	450	318	611	107	1850	386	380	
23	440	1860	923	518	950	390	431	598	99	1310	381	370	
24	440	1380	871	496	773	377	445	605	165	1100	373	360	
25	470	1130	837	580	656	364	422	605	445	1070	368	350	
26	1100	1050	796	992	574	351	436	598	481	1200	364	300	
27	12000	1110	773	845	513	339	546	636	598	845	364	280	
28	5830	1090	1040	662	445	335	540	574	523	617	364	280	
29	2570	967	923	617	399	335	540	592	491	546	377	270	
30	1560	-	820	563	373	766	557	574	475	491	364	270	
31	1070	-	529	-	347	-	540	563	-	820	-	270	
Mean	1318	966	752	759	748	387	376	753	448	899	506	498	701
Minimum	440	399	394	309	347	213	162	523	99	431	364	270	99
Maximum	12000	1860	1420	2360	2450	766	1090	1810	598	3840	837	1470	12000



Map 25. Water quality stations sampled from March through December 1978 in Esopus Creek above and below the STO (21, 35, 36, 19), the Shandaken Tunnel outlet (20), and two tributaries of Esopus Creek (38, 39).



Map 26. Water quality stations sampled from March through December 1978 in Esopus Creek below the STO (31, 37) and a tributary of Esopus Creek.

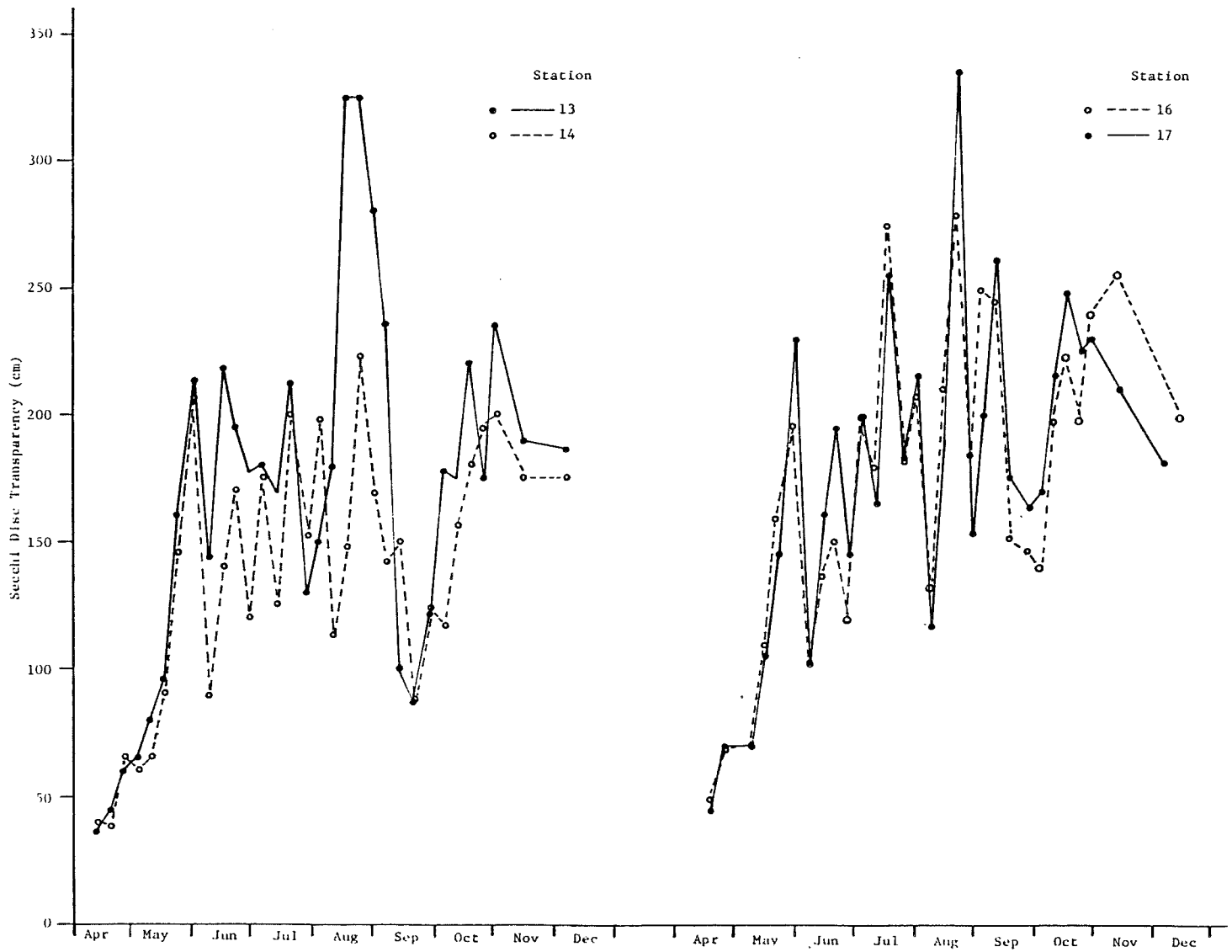


Fig. 13. Secchi disc transparency (cm) measured from April through December 1978 in Lower and Upper B-G.

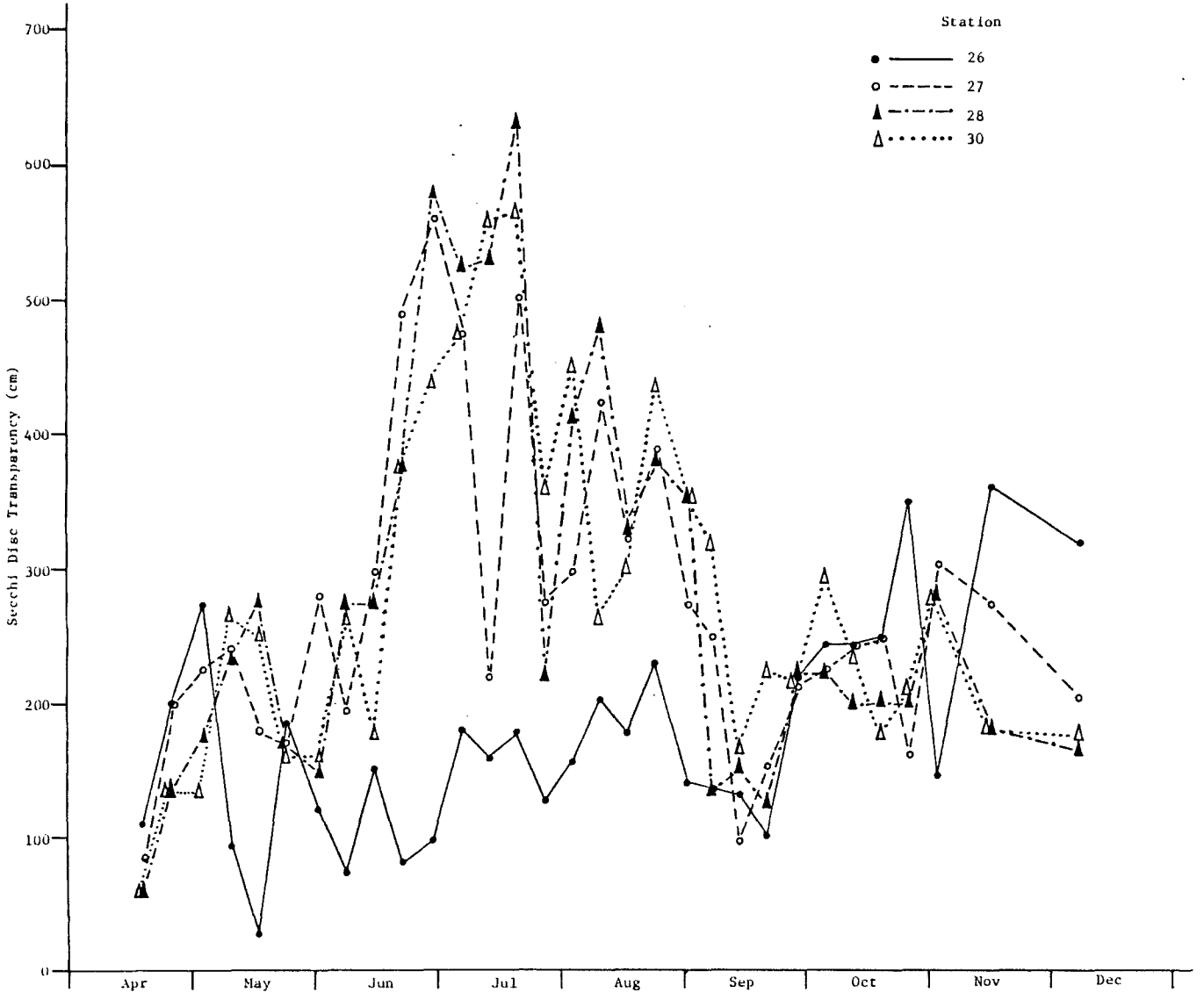


Fig. 14. Secchi disc transparency (cm) measured from April through December 1978 in Schoharie Reservoir.

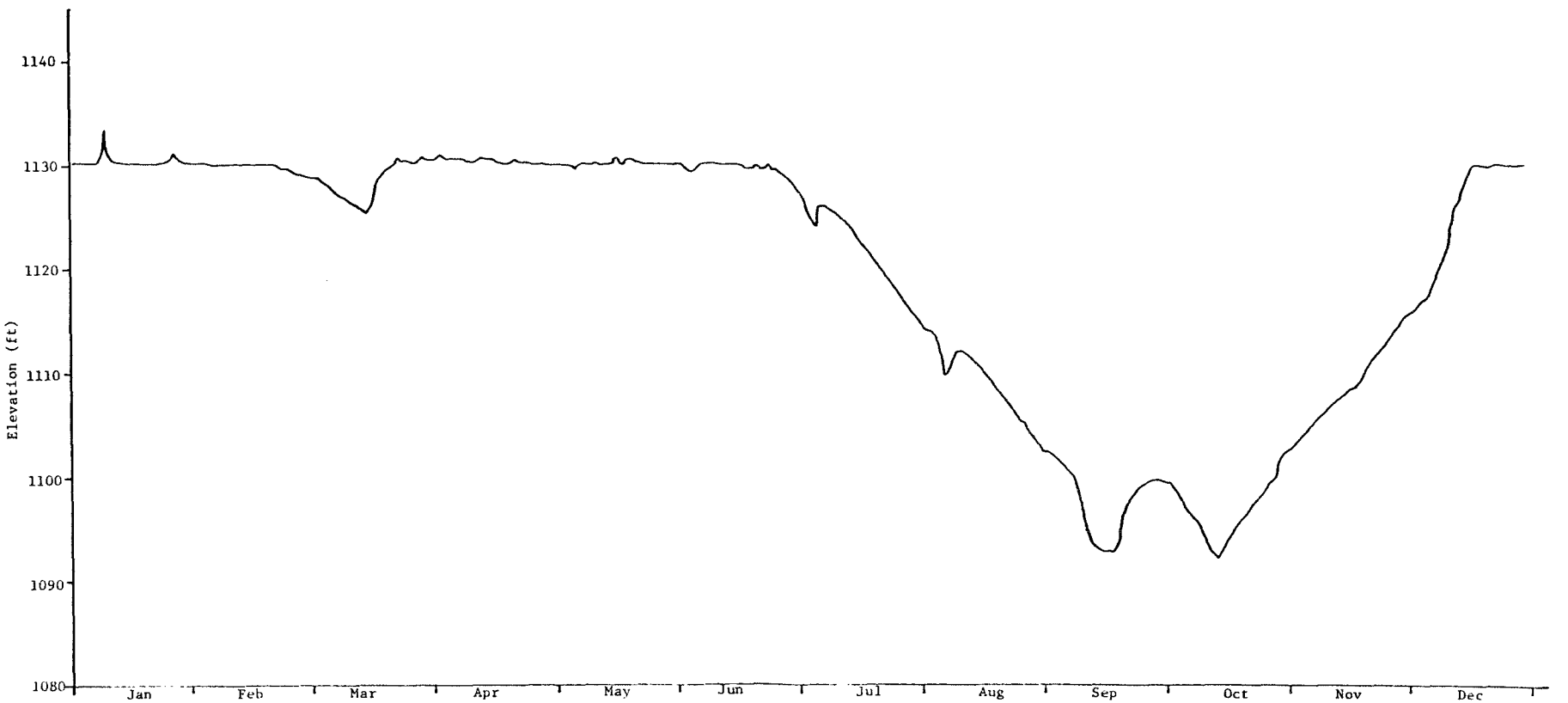


Fig. 15. Summary of elevation data (ft) recorded from January through December 1978 in Schoharie Reservoir by the New York City Department of Water Resources.

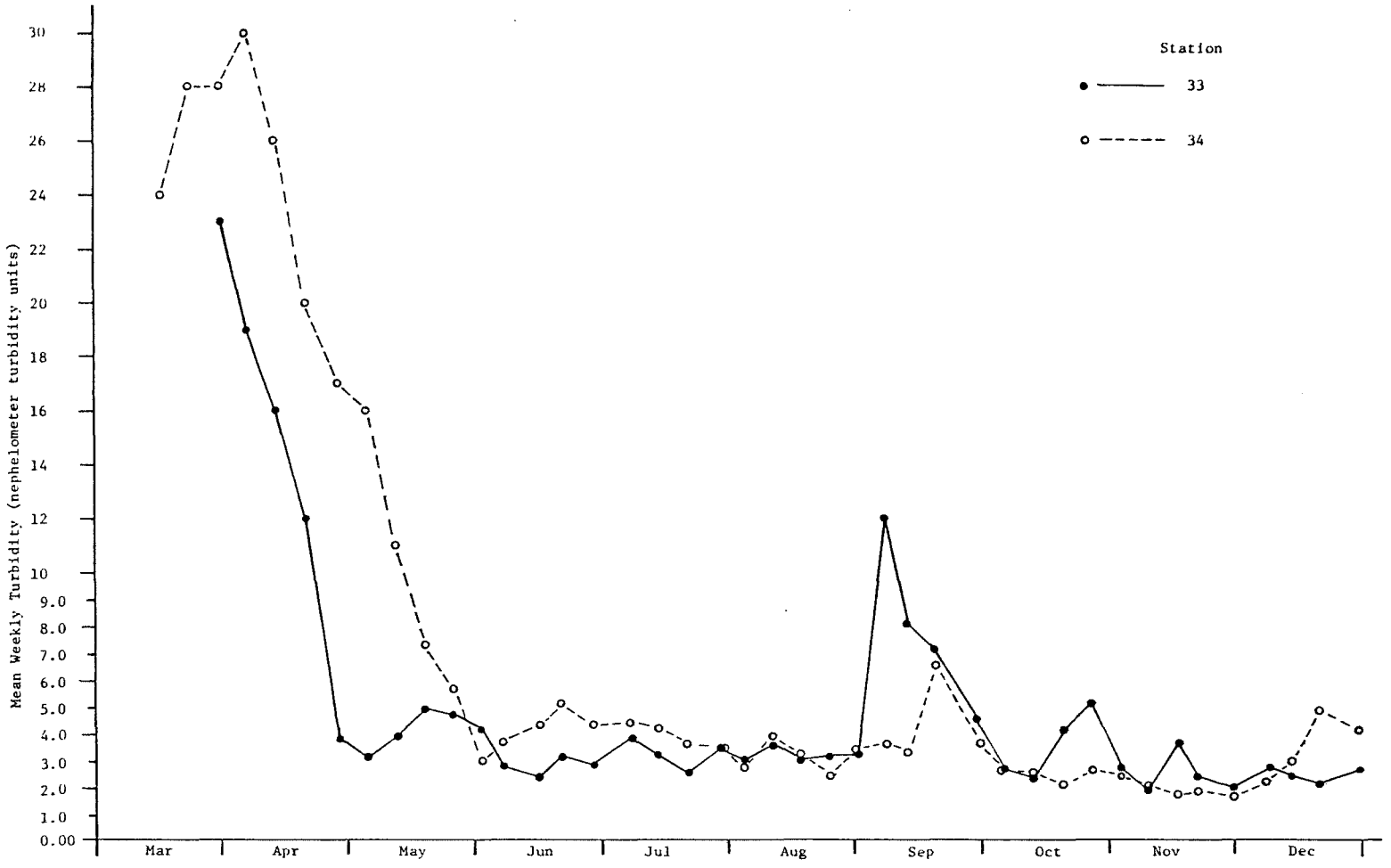


Fig. 16. Summary of mean weekly turbidity data (nephelometer turbidity units) taken from March through December 1978 in Schoharie Reservoir and Lower B-G.

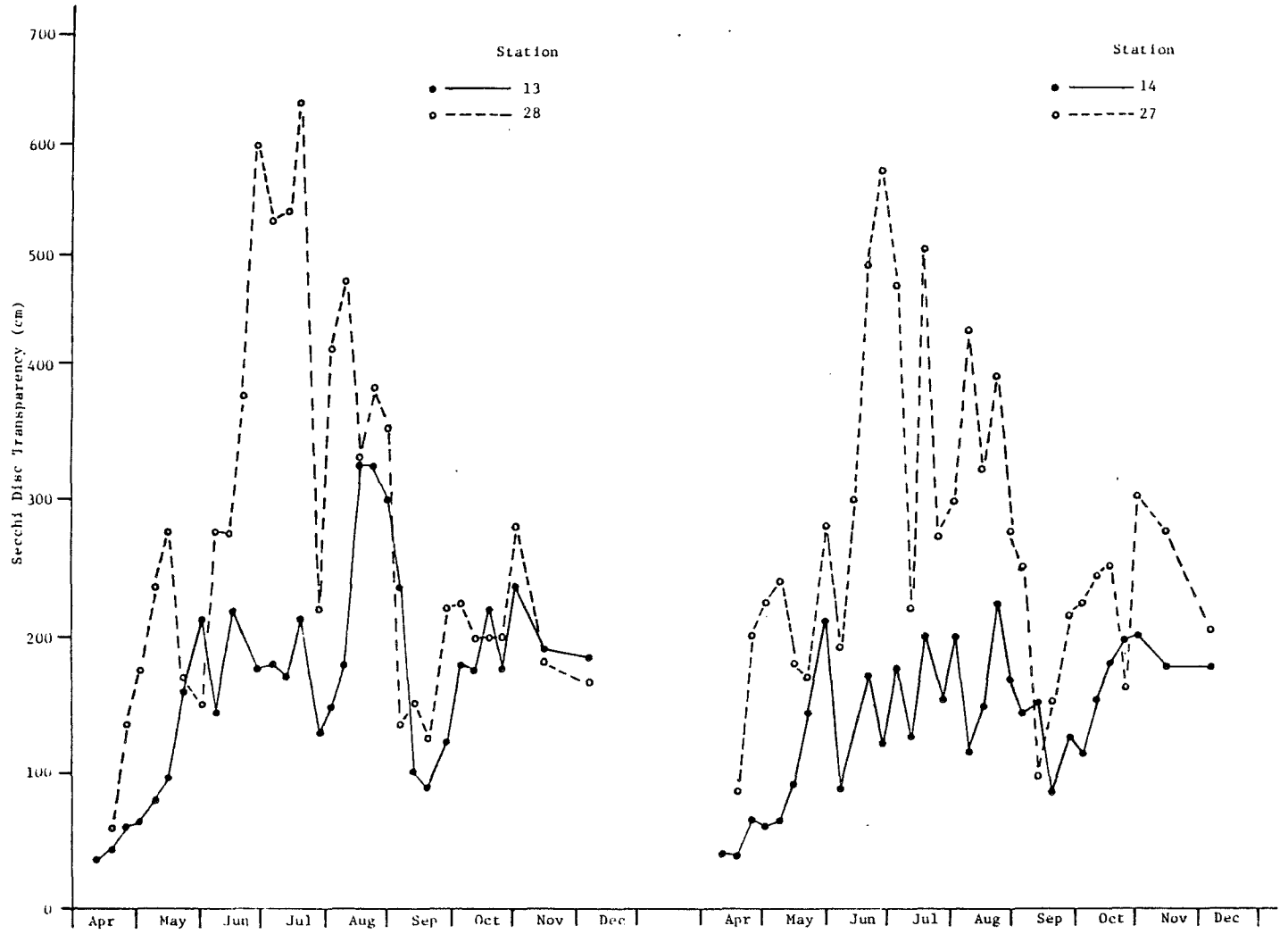


Fig. 17. Secchi disc transparency (cm) measured from April through December 1978 in Lower B-G and Schoharie Reservoir.

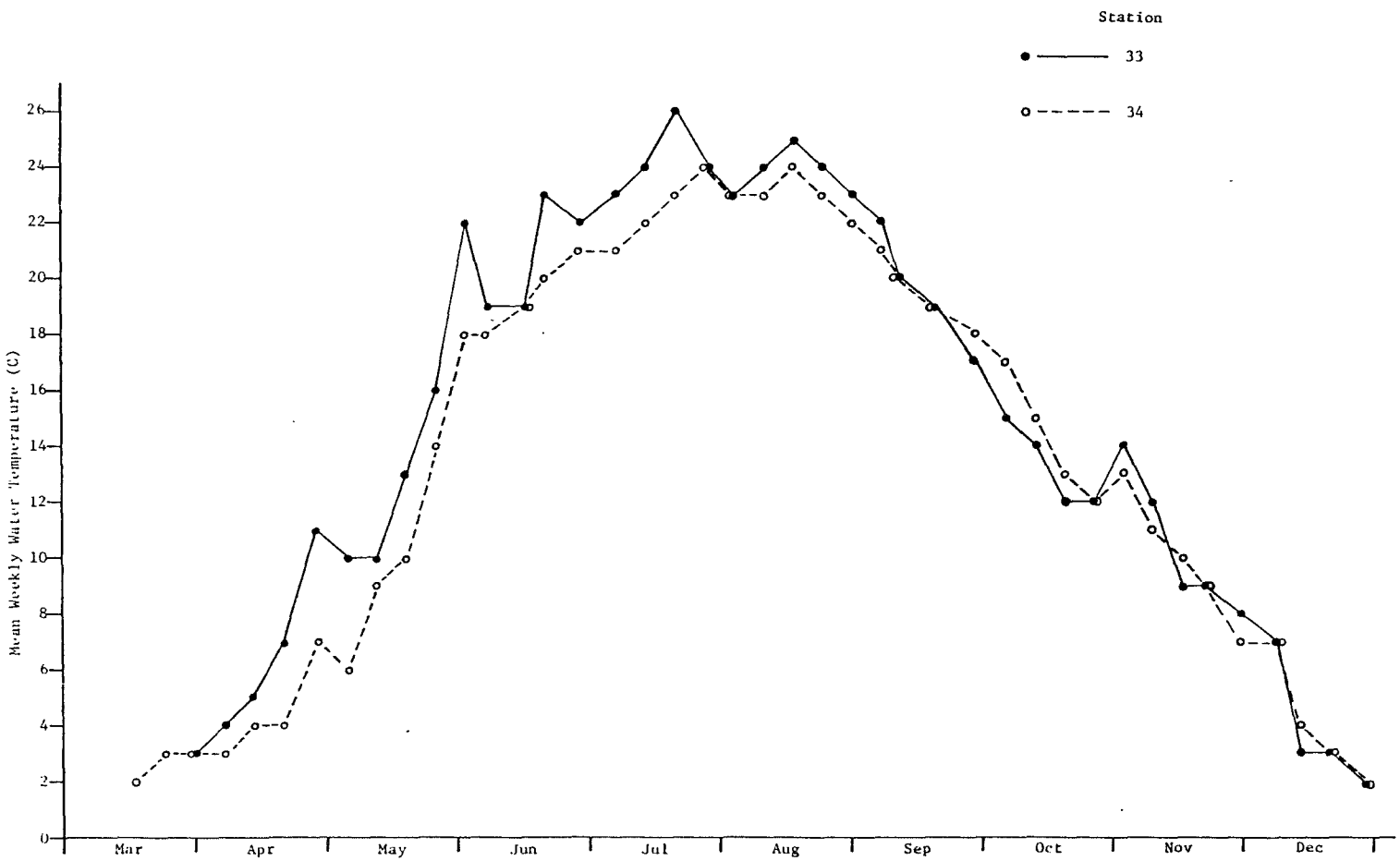


Fig. 18. Summary of mean weekly water temperature data (C) measured from March through December 1978 in Schoharie Reservoir and Lower B-G.

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