LAKE WAYNEWOOD

REPORT ON LIMNOLOGICAL CONDITIONS IN 1990

Robert E. Moeller
Craig E. Williamson

POCONO COMPARATIVE LAKES PROGRAM

Lehigh University

Department of Biology
Williams Hall #31
Bethlehem, Pennsylvania 18015

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INTRODUCTION

Personnel from Lehigh University visited Lake Waynewood on 16 dates throughout 1990 as part of a routine monitoring program of three lakes. These lakes were selected to span a trophic gradient, Lake Waynewood lying at the nutrient-rich, productive ("eutrophic") end of the gradient. Similar reports will be submitted to the owners of Lake Giles, an acidic, unproductive ("oligotrophic") lake, and Lake Lacawac, a well protected lake of intermediate productivity ("mesotrophic").

The monitoring of these lakes in the Pocono region of northeastern Pennsylvania is a key component of Lehigh's Pocono Comparative Lakes Program (PCLP). This program aims to better understand the natural functioning of lakes, differences in lakes that arise through natural or man-made differences in their watersheds, and long-term trends that may be occurring in northeastern Pennsylvania. Through the cooperation of lake owners, scientists from Lehigh and other institutions are obtaining basic information that provides objective documentation of current lake conditions as well as a context for more intensive studies. Financial support from the Andrew W. Mellon Foundation has made these studies possible. Additional support from the Geraldine R. Dodge Foundation funded the summer internship program at the Lacawac Sanctuary.

1990 was the third consecutive year of the monitoring program, and the third year for summer sampling. This is the first year that winter and spring data were obtained, however. The present report summarizes conditions in Lake Waynewood over the full twelve-month period for 1990. Physical/chemical data are presented as tables for each date, and are summarized in figures. The following parameters were measured: **TEMPERATURE**, **LIGHT PENETRATION**, **SECCHI DEPTH**, **DISSOLVED OXYGEN**, **ALKALINITY**, **pH**, and algal **CHLOROPHYLL-a**. Samples for **TOTAL PHOSPHORUS** were obtained during spring turnover and again in midsummer. **ZOOPLANKTON DATA** are presented as graphs that give the concentration (number of individuals per liter) averaged over the entire water column. A few notes are added on the **DOMINANT ALGAE** in midsummer.

The report includes some information that will be acquired only irregularly from the core lakes, not as part of the routine monitoring:

BROAD CHEMICAL CHARACTERIZATION OF THE LAKE --A suite of chemical data from the lake on four dates in 1989, collected by Dr. Jonathan Cole and Dr. Nina Caraco of the Institute of Ecosystem Studies, New York Botanical Garden (Millbrook, NY), funded in part by a grant from the Pocono Comparative Lakes Program.

FISH SURVEY --The results of gill- and trap-netting undertaken in July by Aquatic Resource Consulting (Saylorsburg, PA), directed by Kenneth Ersbak and funded by the Pocono Comparative Lakes Project.

We wish to acknowledge the assistance of Dave Westpfahl and of the Fiene's and Bovard's at Lake Waynewood who provided boats and tolerated frequent visits at all hours of the day and night.

The Lacawac Sanctuary plays a major role in this program as the field laboratory and summer residence for the investigators. We especially appreciate the interest and cheerful assistance of its curator, Sally Jones.

1990 METHODS AND RESULTS

Data included in this report are extracted from an electronic database maintained at Lehigh University by Dr. Craig Williamson. The field sampling, laboratory analysis, and computer data entry were carried out by several graduate research assistants under the supervision of Dr. Robert Moeller. John Aufderheide and Scott Carpenter carried out most of the field sampling and laboratory analyses. John counted the microzooplankton, while Scott developed and managed all aspects of the computer database including data entry and printing of zooplankton graphs. Dr. Bruce Hargreaves played a major advisory role in the development of the computerized database. Karen Basehore and Gabriella Grad counted the macrozooplankton from Lake Waynewood. John Aufderheide identified and counted the microzooplankton. Paul Stutzman and Karen checked the zooplankton data entries. Vanessa Jones and Robert Moeller analyzed chlorophyll and phosphorus samples. Scott Carpenter and Steve Gould measured pH and alkalinity. Gina Novak entered the physical/chemical data, which Robert Moeller checked and abstracted as tables and graphs.

Although efforts have been made to assure the accuracy of data included in the database, and compiled in this report, we cannot guarantee complete accuracy and do not claim specific levels of accuracy or precision. The data have been collected as part of a lake characterization program and may not be suitable for uses not envisioned by the investigators. A brief description of sampling and analytical techniques is included here; a more complete description will be issued later in 1991 as a special report.

Information acquired through the Pocono Comparative Lakes Program is to be shared among scientists desiring to make broad comparative studies or considering research projects in these lakes. Inquiries to examine or use the data are invited. Of course, the primary right to publish extensive extracts from the database, or from this unpublished report to the lake owners, resides with the PCLP cooperating investigators and students who generated the data. As of May, 1991, most of the existing information is accessible through the software program Reflex™ (version 2, Borland International, copyright 1989) running on IBM PC-type microcomputers. Instructional workshops are offered periodically at Lehigh University.

SAMPLING PROGRAM

On each sampling occasion, Lake Waynewood was visited twice, once during the day (the nominal date) and again after dark (sometimes the previous night). The night-time visit was required for zooplankton sampling. Usually, other parameters were measured, and samples were collected, during the day. Sampling was carried out at a fixed station (site "A") at the deepest part of the lake (about 12.5 meters or 41 feet). The thermal stratification existing on any date dictated the depths from which other samples were collected **(Figure 1)**. The lake was sampled twice monthly when surficial water temperature stayed above 20°C, (June through September), then once monthly during cooler times.

TEMPERATURE AND PHYSICAL STRATIFICATION

Temperature was measured at 1-meter intervals with the thermister of a YSI™ oxygen meter, in degrees Celsius. Accuracy should be within 1 degree. (This is **Method #10**.)

Figure 2a shows the thermal stratification that develops during late spring and summer, then breaks down in the autumn. On day 26 (26 January) the lake was ice-covered, and displayed a "reverse stratification". After ice-out (sometime near 10 March) the water column circulated from top to bottom during "spring turnover" (e.g. day 84--25 March). By day 183 (2 July) the lake had warmed and become strongly stratified, producing an upper warm water layer circulating in contact with the atmosphere (the **EPILIMNION**, 0-2 meters, temperature 22.5°C); an intermediate layer of rapid temperature decrease with depth (the **METALIMNION**, 2-6 meters); and a deep layer of cold water (the **HYPOLIMNION**, 6-12+ meters, temperature 7-10°C).

The usual course of thermal stratification is that of slow, gradual thickening of an epilimnion during the summer. By day 257 (14 September) Lake Waynewood's epilimnion extended to 3.5 meters. As the lake cooled during the autumn, the epilimnion thickened more rapidly until the lakewater was circulating from top to bottom. This period of full circulation, or "fall turnover", was in progress long before day 323 (19 November). The lake continued to cool, down to 3°C, before freezing soon after day 347 (13 December).

The temperature pattern in the lake is controlled by climate, and will differ only slightly from year to year. Two major variables are the durations of winter ice-cover (ca. 12 weeks in 1990-91) and the completeness of spring turnover. Spring turnover was complete in 1990 and lasted at least 2 weeks. During an especially warm spring, Lake Waynewood might stratify quickly without a thorough mixing of deep and surficial layers. This might lead to some differences in the biology and chemistry of the summer plankton community. **Figure 2b** presents the detailed trends of water temperature at three fixed depths (2,6,10 meters) for comparison with other years.

Water samples for **pH**, **alkalinity**, **chlorophyll**, **algae**, and **total phosphorus** were collected from mid-depths of the three layers when thermal stratification was well developed. During turnover periods, the lake was divided into three equal layers. Under ice-cover (e.g. 26 January), the topmost layer was 0-1m, and the remaining depths were divided at the Secchi depth (see **SECCHI DEPTH** below).

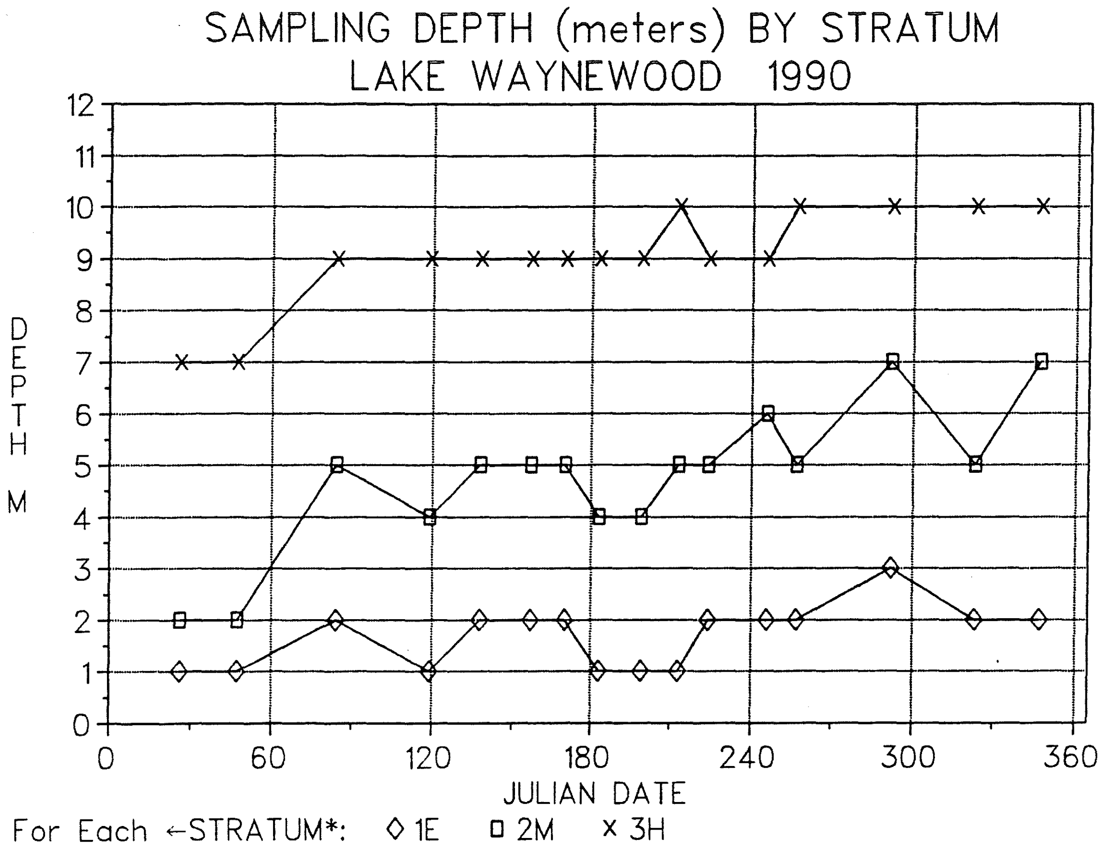


Figure 1. Depths of "EPI", "META", and "HYPO" samples from Lake Waynewood, 1990.

Sampling depths were selected by the field sampling crew based on the temperature profile on each date (see text for discussion).

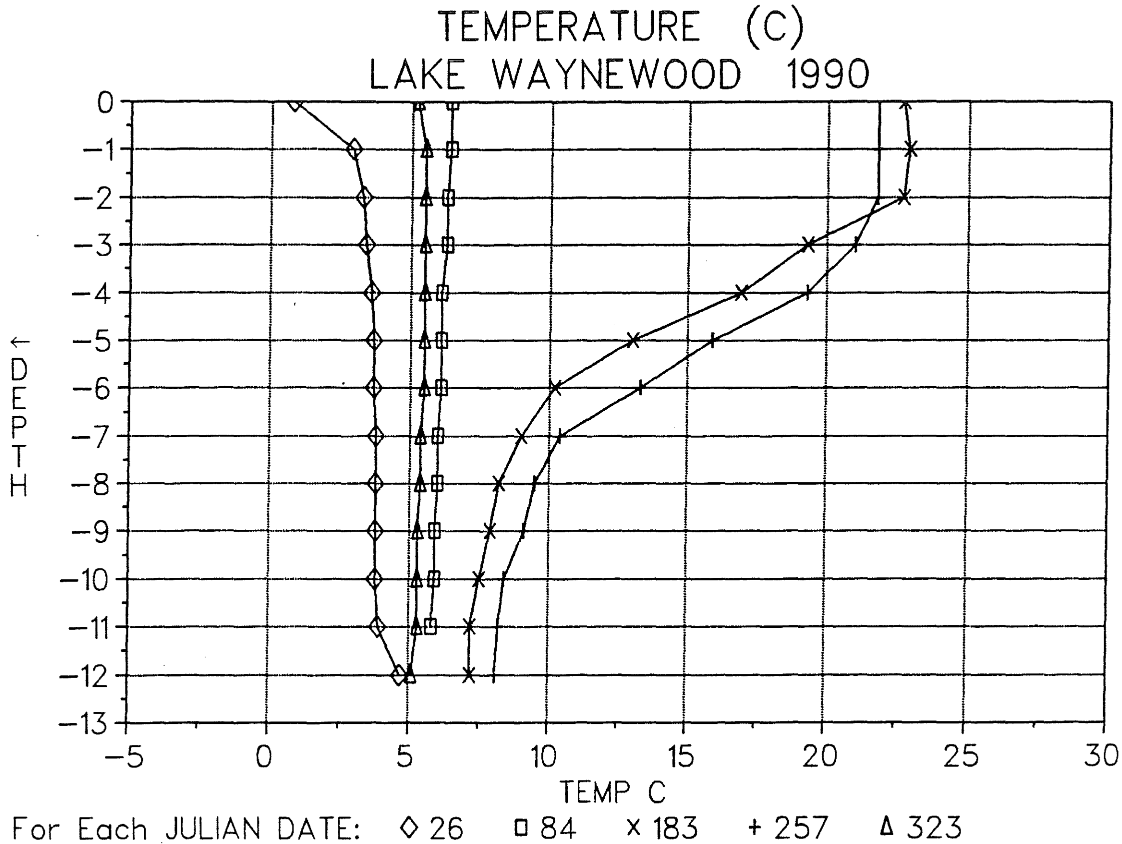


Figure 2a. Temperature profiles in Lake Waynewood, 1990.

Values (°C) are plotted for five dates: **26 January** (day 26 --winter ice cover), **25 March** (day 84 --spring turnover), **2 July** (day 183 --midsummer stratification), **14 September** (day 257 --late stratification), **19 November** (day 323 --early fall turnover).

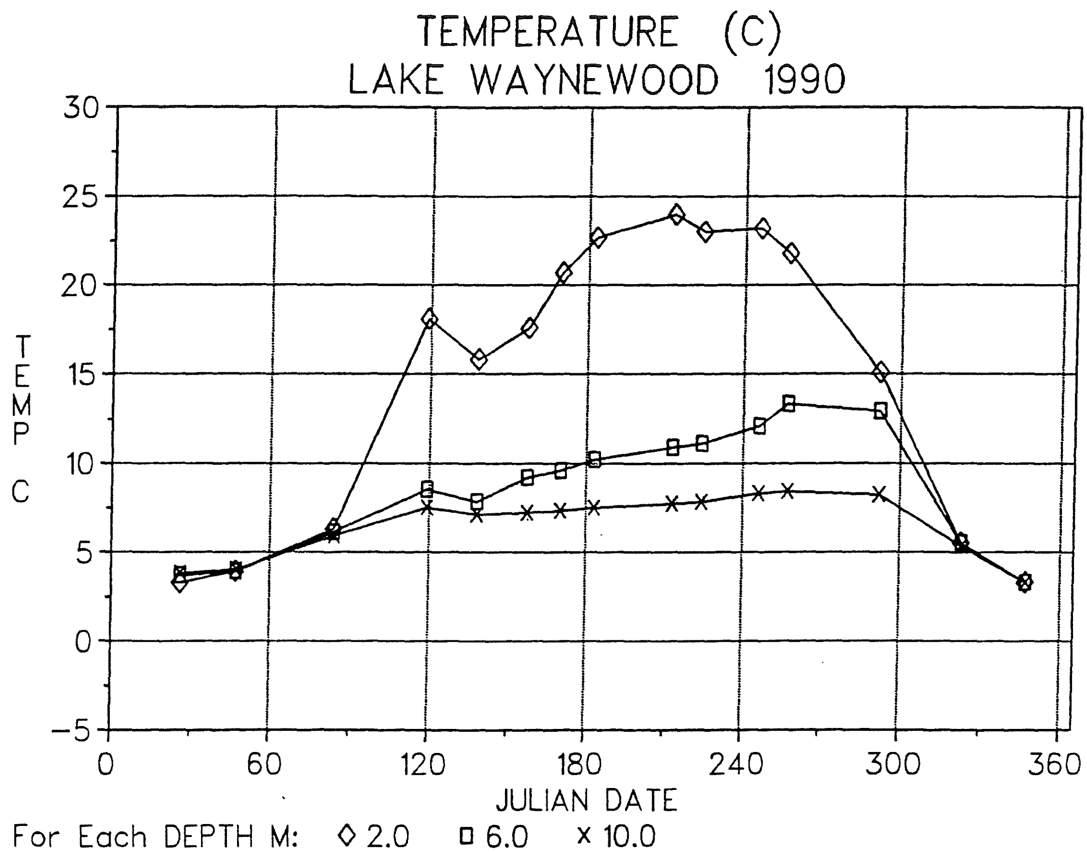


Figure 2b. Temperature trends within Lake Waynewood, 1990.

Values (°C) are plotted for three fixed depths.

LIGHT PENETRATION

Light intensity at 1-meter intervals was calculated as a percentage of the light just below the lake surface (10 cm). Since 1988, three slightly different methods have been used to construct a 0-12 m profile of light penetration; method #12 (numbers correspond to codes from data tables) was used on all 16 dates in 1990:

Method 12. Two Licor quantum sensors, mounted 1-m apart on a common line, electronically computed the ratio of quantum intensities between the nominal depth and the depth above it. The percentage penetration profile was constructed from these ratios.

Light penetration is plotted on a logarithmic scale for five dates **(Figure 3)**. During the summer, depths above 3.5 m (i.e. all of the epilimnion) usually received at least 2% of the light penetrating the lake surface, but light was reduced to $<1\%$ at 3m during August. The upper portion of the metalimnion received 0.1-2% of surface light, enough for low rates of algal growth. During autumn turnover light penetration was substantially decreased, when algal detritus and precipitated iron circulated in the water column.

SECCHI DEPTH

Secchi depth is the depth, in meters, at which a white-and-black quartered disk 20 cm in diameter just ceases to be visible to an observer lowering it from a boat. It is a measure of water transparency. We observed the Secchi disk with a small glass-bottomed viewing box to reduce glare from the lake surface.

The pattern of transparency **(Figure 4)** followed a common pattern in eutrophic lakes. Transparency increased during spring to relatively good conditions (ca. 4 meters) as zooplankton grazed down the spring algal populations. During June and July, however, relatively inedible bluegreen algae became established, reducing light penetration. Transparency stayed greater than one meter, because these algae remained distributed throughout the epilimnion rather than aggregating in the topmost meter.

OXYGEN CONTENT OF THE LAKEWATER

Dissolved oxygen was measured polarographically using a YSI™ submersible temperature-compensating oxygen meter. The meter was calibrated in air to 100% saturation immediately before use in the lake. The effect of Lake Waynewood's elevation above sea-level (1381 feet) was not taken into account when calibrating the meter, so all compiled values are roughly 5% too high. Units are mg O_2 per liter. (This is **Method #10.**)

Often the meter did not give a true "zero" when dropped into definitely anoxic (oxygen-free) water. Values flagged with error code "4" in the data tables, and plotted at depths greater than 7 meters for days 183 (2 July) and 257 (14 September) in **Figure 5**, should be treated as true zeros.

During winter ice cover, oxygen was partly depleted, then recharged during spring turnover. The onset of thermal stratification in mid-spring marked the onset of rapid depletion of oxygen within the hypolimnion. By day 183 (2 July) the hypolimnion was anoxic **(Figure 5)**. By day 257 (14 September) the lower portion of the metalimnion also was anoxic. Oxygen content of the epilimnion in summer was maintained somewhat above

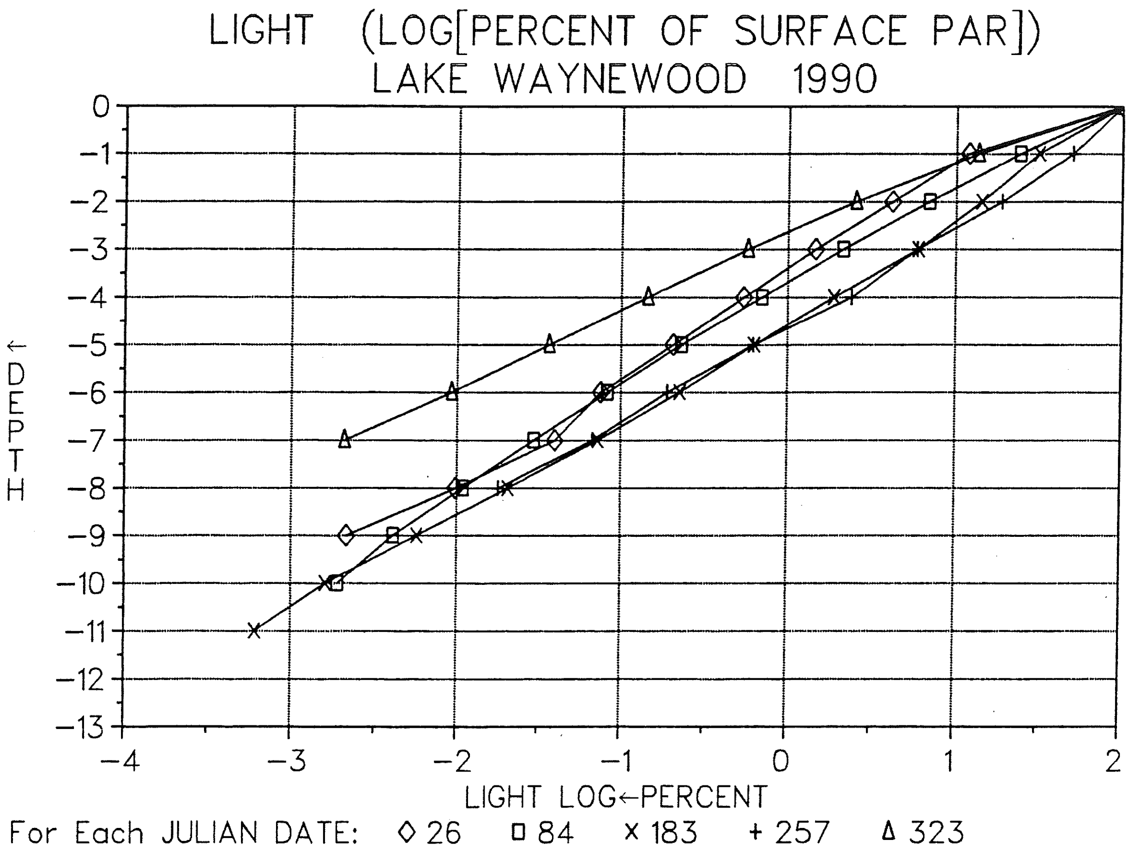


Figure 3. Light penetration in Lake Waynewood, 1990.

Values are percentages of the light at 0.1 m depth and are graphed on a logarithmic scale (i.e., 100% ="2", 10% ="1", 1% ="0", etc.) for five dates: **26 January** (day 26 --winter ice cover), **25 March** (day 84 --spring turnover), **2 July** (day 183 --midsummer stratification), **14 September** (day 257 --late stratification), **19 November** (day 323 --early fall turnover).

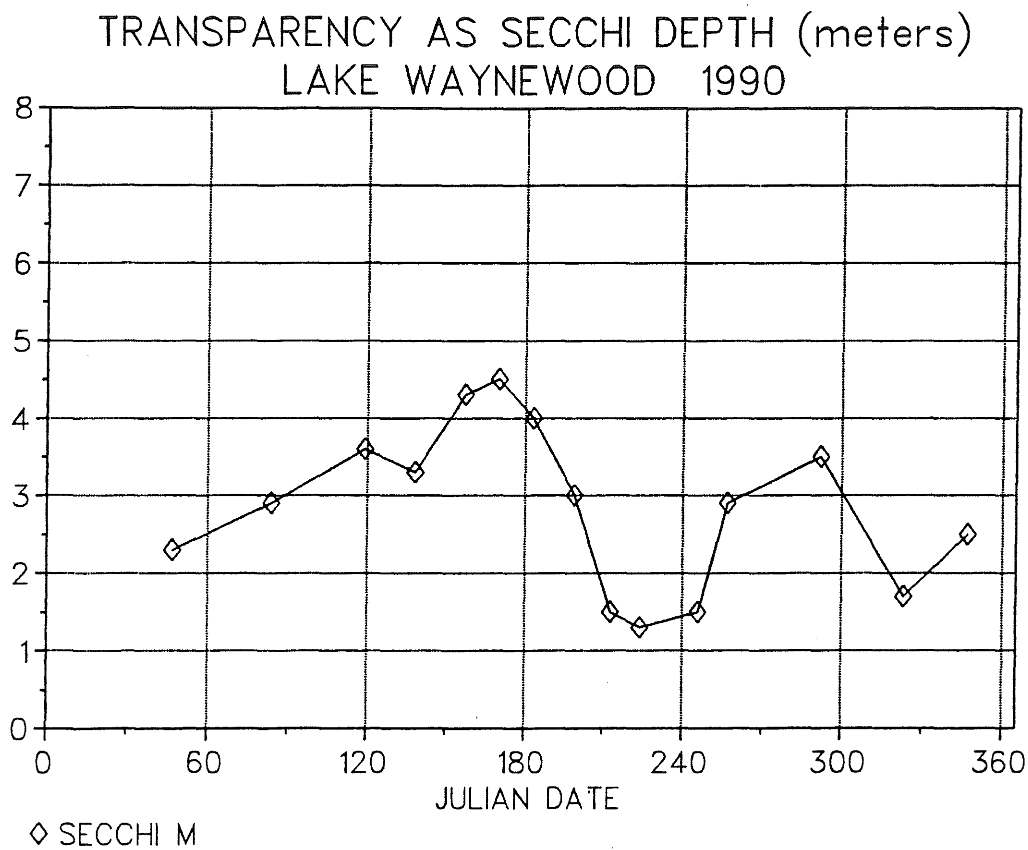


Figure 4. Transparency in Lake Waynewood, 1990.

Values plotted are the Secchi depths, in meters.

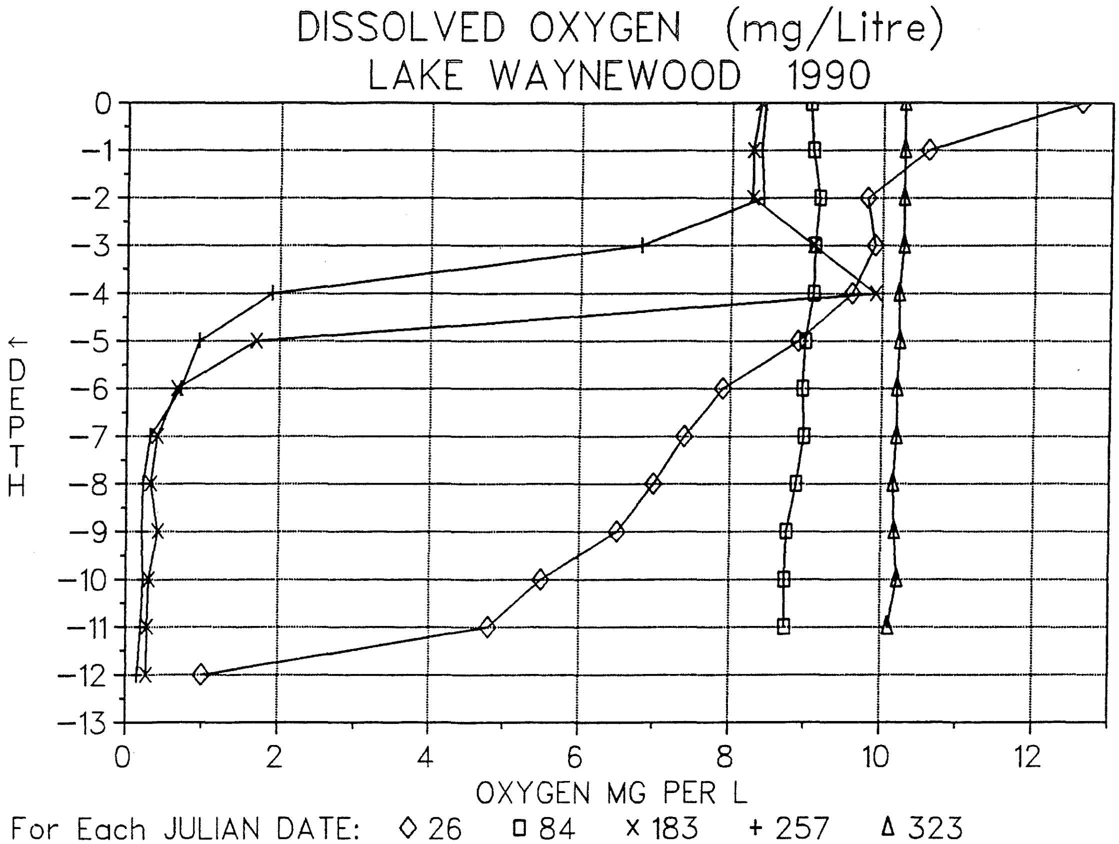


Figure 5. Dissolved oxygen in Lake Waynewood, 1990.

Values (mg oxygen per liter) are plotted for five dates: **26 January** (day 26 --winter ice cover), **25 March** (day 84 --spring turnover), **2 July** (day 183 --midsummer stratification), **14 September** (day 257 --late stratification), **19 November** (day 323 --early fall turnover). Values of <0.5 mg/L on days 183 and 257 represent anoxic conditions (oxygen = 0 mg/L).

atmospheric saturation, at least during the day, by algal photosynthesis (usually oxygen was sampled in late morning or early afternoon). During turnover the water column was progressively recharged with oxygen; on day 323 (19 November), less than halfway through the turnover period, the oxygen content of about 10.2 mg/L was already ca. 100% of the saturation level for that temperature (5.5°C).

ALKALINITY AND pH

Alkalinity is a measure of the acid neutralizing, or buffering capacity. Alkalinity was determined by potentiometric titration of a 100-ml sample using 0.100 N sulfuric acid as titrant and monitoring pH change with an Orion™ model SA250 pH meter and Ross™ epoxy-body combination electrode. Titration points between pH 4.4 and 3.7 were plotted, after Gran transformation, to give alkalinity in microequivalents per liter (μeq./L). (This is **Method #11.**) Alkalinity was analyzed monthly, on alternate sampling dates during summer.

Samples for alkalinity and pH were taken from duplicate water collections (acrylic plastic Van Dorn bottle) at three depths, designated "**E**" (epilimnion), "**M**" (metalimnion), and "**H**" (hypolimnion). Selection of these depths is described in the section **TEMPERATURE AND THERMAL STRATIFICATION**. Samples were stored in air-tight polypropylene bottles for up to 24 hr (refrigerated) before analysis. Samples were warmed to room temperature before analysis. The pH meter and electrode described above were calibrated with commercial high ionic strength buffers. The pH was measured in 50-ml aliquots of sample, usually with gently mixing. Three variants of the method were employed:

Method 10. The basic procedure outlined above.
Method 11. As above, but a quality assurance protocol was followed, verifying electrode performance in distilled water and stability of calibration.
Method 12. As above, but 0.5 ml salt solution (Orion™ pHix™ solution) was added to increase ionic strength. Usually, this had little or no effect on the sample (pH change <0.1 unit).

Trends of pH are plotted for each layer in **Figure 6**. In the absence of intense biological activity, the pH of Waynewood would be about 6.5-7 with an alkalinity of about 200-300 ueq/L (**Figure 7**), judging from values in late spring and late autumn. These values portray a relatively softwater lake.

Algal photosynthesis during the summer drove the epilimnial pH much higher. At the same time, intense microbial activities drove the hypolimnial alkalinity much higher, with a slight increasing effect on pH. Algal photosynthesis drove pH above 8, and this is a minimal estimate, since our collections are from about noon--not late afternoon--and were usually stored 24 hr before analysis. True pH values in the lake in late afternoon probably reached 10, a level that stresses some aquatic organisms. Microbial metabolism generated substantial alkalinity in the anoxic hypolimnion (**Figure 7**), but this was lost upon reoxidation of the water column during fall turnover.

One notable difference between 1989 and 1990 is evident in the alkalinity values. Alkalinity increased from about 220 to 340 ueq/L during 1989. Most of the increase was retained through 1990; but during fall turnover, alkalinity returned to 200. Ongoing studies by Steve Gould (Lehigh Geology Department) may shed light on the hydrologic or

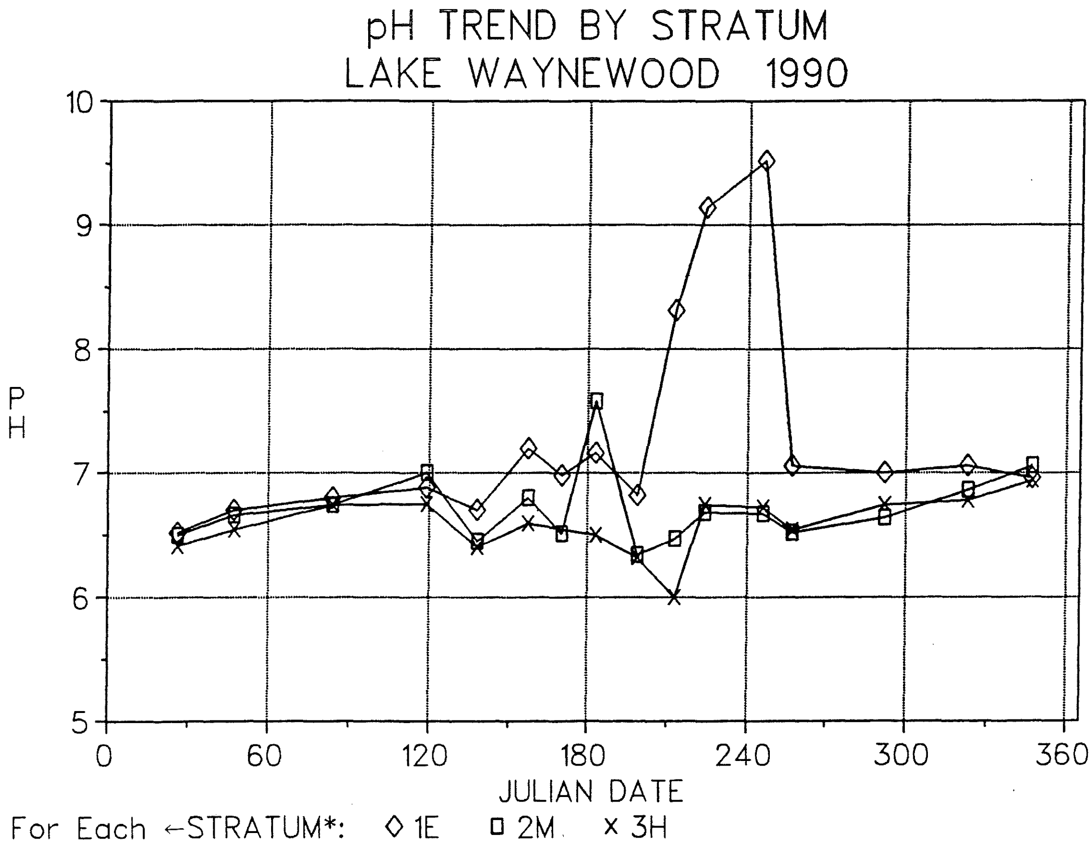


Figure 6. Trends of pH in Lake Waynewood, 1990.

Values are plotted for the mid-depths of the three layers, Epilimnion (1E), Metalimnion (2M), and Hypolimnion (3H). In autumn and winter, when these layers are not developed, samples are collected as described in **RESULTS AND METHODS**.

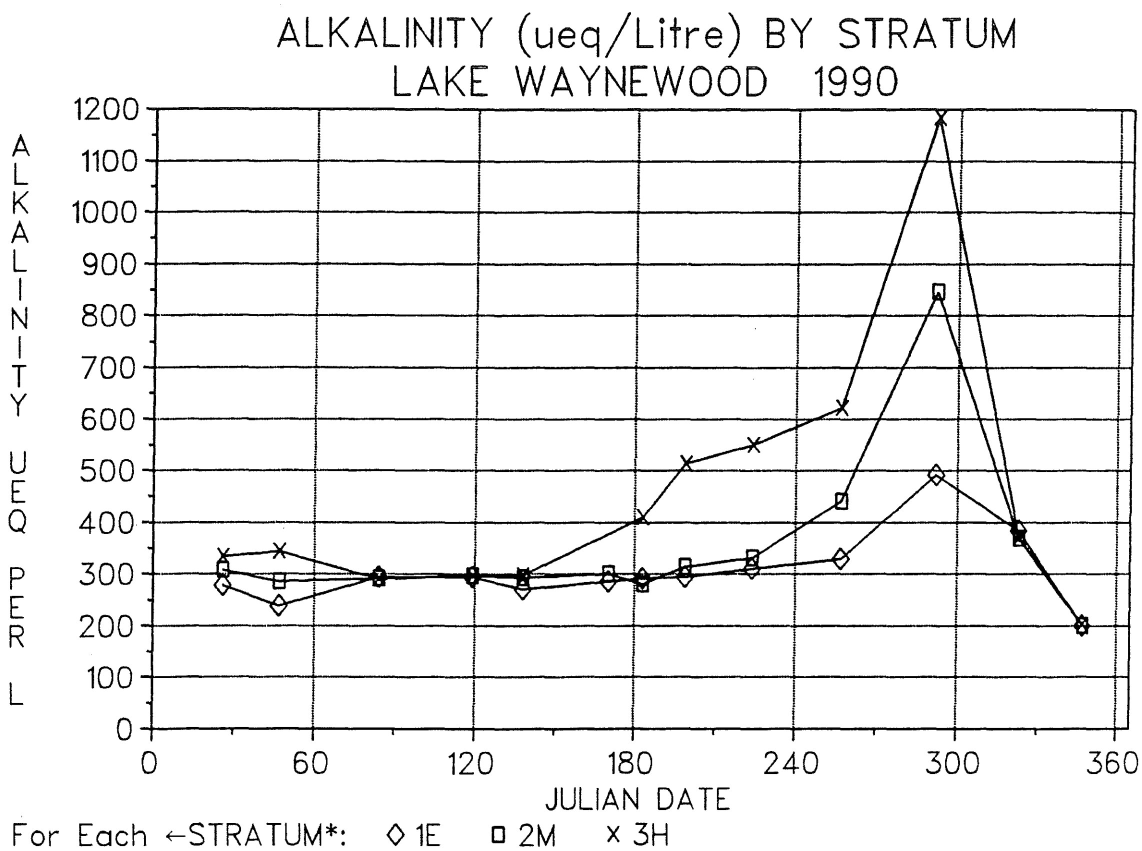


Figure 7. Trends of Alkalinity in Lake Waynewood, 1990.

Values are plotted for the mid-depths of the three layers, Epilimnion (**1E**), Metalimnion (**2M**), and Hypolimnion (**3H**). In autumn and winter, when these layers are not developed, samples are collected as described in **RESULTS AND METHODS**.

chemical cause of this variation.

ALGAL CHLOROPHYLL-a

Chlorophyll-a is a measure of algal mass, since all algae contain this pigment. It is a widely used parameter for comparisons of lake trophic conditions.

Chlorophyll samples came from the same Van Dorn collections used for pH and alkalinity. Samples were stored in 1-L polyethylene bottles for 2-24 hr (refrigerated in darkness) before being filtered (0.5-1 L onto Gelman™ A/E filters) and frozen. Two extraction methods were used:

Method 11. Filters were ground in 90% basic acetone, then extracted overnight at 2-4°C, in darkness, in 12 ml of the solvent.
Method 12. Intact filters were extracted overnight at 2-4°C, in darkness, in 12 ml of a 5:1 (vol/vol) mixture of 90% basic acetone and methanol.

In both methods the extracts were centrifuged and read in a Sequoia-Turner™ model 112 fluorometer equipped with F4T5/B lamp, red-sensitive photomultiplier, 5-60 excitation filter and 2-64 emission filter. The meter was calibrated with dilutions of pure chlorophyll-a or chlorophyll-a,b extracts from higher plants; these were assayed first by standard spectrophotometric techniques. Each sample was reread after acidification (to 0.03 N) to allow correction for pheopigments. We verified that chlorophyll behaves virtually the same in both solvents, and that the extractions gave similar results. Two values are presented: Chlorophyll-a corrected for pheopigments (**CHLAC** in data tables and **Figure 8**) and Chlorophyll-a including pheopigments (**CHLASUM** in data tables).

Chlorophyll trends in Lake Waynewood **(Figure 8)** reveal the high summer levels characteristic of a moderately eutrophic lake (10-40 μg/L in the epilimnion and the metalimnion). In late July and August the bluegreen algae apparently moved from the metalimnion into the epilimnion in great masses; at this time high epilimnial photosynthesis drove pH above 9 and generated significant supersaturation of oxygen during the day. Secchi depth decreased almost to 1 meter during this period. Chlorophyll levels eventually decreased during fall turnover, when algae spent much time circulating in deeper, dark waters; the diatom *Melosira* became abundant at this time. An extraordinarily low chlorophyll concentration of only 1-2 ug/L briefly occurred at the end of April. Presumably this reflects heavy grazing by the cladoceran zooplankter *Daphnia*, which reached a peak of 25/L at that time **(Figure 23)**.

CHEMISTRY INCLUDING TOTAL PHOSPHORUS

Table W.A.1 (Appendix I) lists data on 13 chemical parameters not routinely included in the lake sampling. These include major cations (Ca,Mg,K,Na), anions (SO4--Cl not yet available), dissolved inorganic carbon (DIC), methane (CH4), sulfide (S2-), and conductivity, as well as total dissolved iron and phosphorus (tdFe, tdP), and total iron and phosphorus (tFe, tP).

These data were obtained by Dr. Jonathan Cole and Dr. Nina Caraco of the Institute of Ecosystem Studies, New York Botanical Garden, during the summer stratification period of 1989. The analyses are part of a broader geochemical study of North American lakes that is not yet completed. The data are included here to provide a better chemical characteriza-

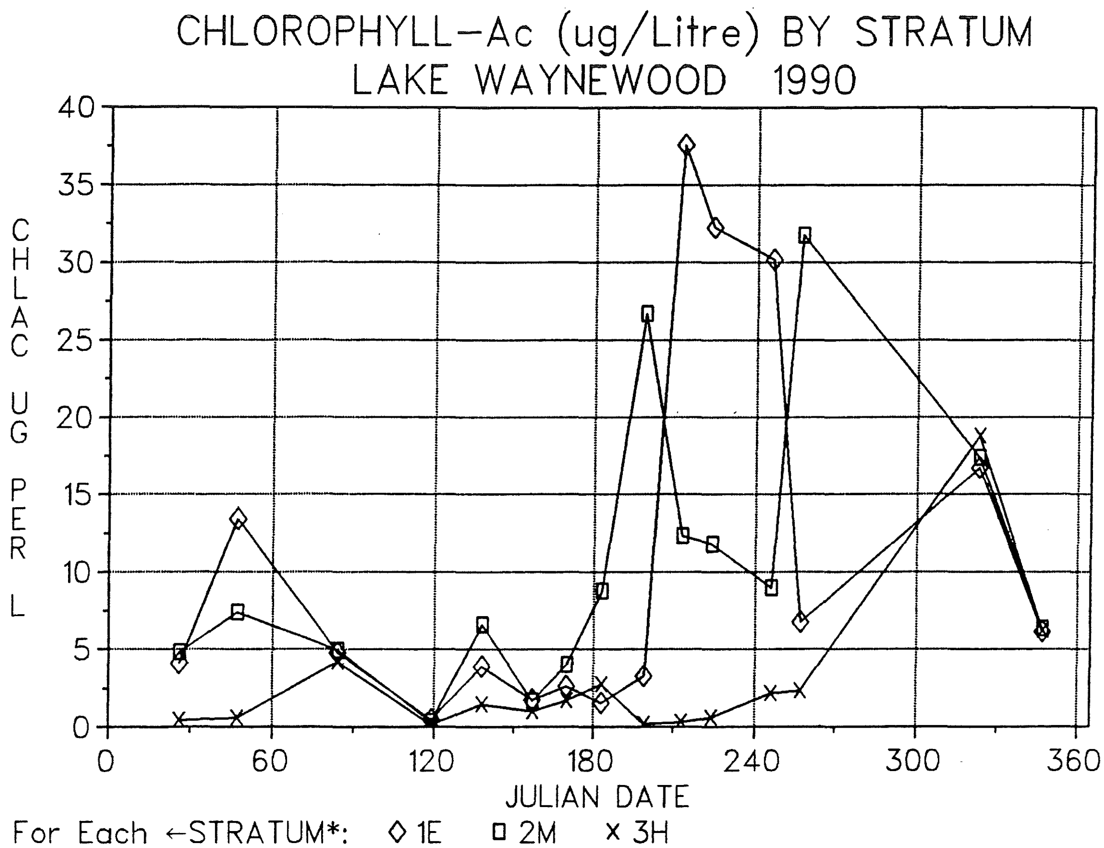


Figure 8. Trends of Chlorophyll-a in Lake Waynewood, 1990.

Values are plotted for the mid-depths of the three layers, Epilimnion (**1E**), Metalimnion (**2M**), and Hypolimnion (**3H**). In autumn and winter, when these layers are not developed, samples are collected as described in **RESULTS AND METHODS**. Chlorophyll-a values are corrected for pheopigments.

tion of Lake Waynewood. These data should not be cited or used for critical comparisons without first consulting Jon Cole or Nina Caraco.

In addition to the total phosphorus values listed in **Table W.A.1**, total phosphorus was determined in aliquots of the regular samples from 25 March 1990 (during spring turnover) and 12 August (during summer stratification). Unfiltered samples were stored frozen, then thawed and analyzed for molybdate reactive phosphorus following acid persulfate digestion **(Table 1).**

Table 1. TOTAL PHOSPHORUS IN LAKE WAYNEWOOD, 1990

	Day 84 (3/25/90) Depth (m)	tP (uM)	Day 224 (8/12/90) Depth (m)	tP (uM)
EPI a	2	1.36	2	0.92
EPI b		1.32		0.84
average		1.34		0.88
META	5	1.28	5	0.75
HYPO	9	1.27	9	7.77
Outlet stream		- -		0.93
Siphon		- -		2.25

These phosphorus values underscore the chemical basis for the eutrophic character of the lake. The large buildup in the hypolimnion during summer reflects phosphate released during decomposition of settling detritus plus phosphate released chemically from the sediment under anerobic conditions. Since the effectiveness of the outlet siphon is a function of the increase in P concentration in the discharged water (i.e. 2.25-0.93=1.32), the siphon would be about 5 times more effective if its intake were lowered to 9 meters.

ALGAE

Although algal samples were taken from the same Van Dorn collections used for pH and alkalinity, and were preserved with acid Lugol's solution (at ca. 2%), they have not been analyzed. Selected epilimnial samples were mounted on slides and examined to determine what algae played the largest role in the summer and fall chlorophyll peaks.

Bluegreen algae (or "cyanobacteria") dominated the summer chlorophyll peak. These became very abundant during July, first within the metalimnion, then in the epilimnion. The species were the same as in 1989. *Aphanizomenon flos-aquae* was strongly dominant, especially during the August chlorophyll maximum in the epilimnion. The *Aphanizomenon* population subsided abruptly in early September. The relatively high algal chlorophyll in November and December was dominated by other algae, especially the diatom *Melosira*.

ZOOPLANKTON

Zooplankton receive a major emphasis in the PCLP program. These animals represent the key link between algal primary producers and fish populations. The intensity of grazing by herbivorous zooplankton strongly affects the kind of algae that dominate, and potentially can control (i.e. reduce) algal populations even in the face of abundant nutrient supply. Consequently the kinds and abundances of zooplankton have important implications for the perceived recreational quality of a lake.

Zooplankton were sampled at day and night, but only the nighttime data are presented here. Some species avoid the water column during the day. Zooplankton were collected with closing-style plankton nets that could be pulled through part of the water column open, collecting animals, then closed and pulled the rest of the way to the surface. In this way the water column was sampled as the three layers defined by temperature. In the present report, data are calculated as mean concentrations (numbers of individuals per liter) over the entire 12.5-m water column. Details of the depth-distributions, and daily patterns of vertical movement, are still being analyzed.

Two sizes of nets were used: a 30-cm diameter net with a mesh of 202 μm, for macrozooplankton; and a 15-cm diameter Wisconsin-style net with a 48-μm mesh for microzooplankton. These were mounted side-by-side in "bongo" configuration. Microzooplankton includes mainly rotifers, but small copepods also were counted from these samples. Collections were duplicated from each depth. Mean values are presented.

Seasonal trends in abundance are presented as a series of graphs for the most frequently encountered zooplankton, identified to genus and sometimes to species (**Figures 9-32**). **Table 2** lists the zooplankton identified to date. Several points can be highlighted:

(1) The cladoceran *Daphnia* was apparently the dominant grazer during spring and fall (5-15/L), but was reduced to low levels (1-2/L) during late summer. The calanoid copepod *Diaptomus oregonensis* was relatively common throughout the year (0.5-2 adult females/L), especially during the autumn.

(2) The various rotifers displayed pronounced seasonalities, which differed among species. There were also pronounced differences in distribution among the three layers. Densities were quite high: 300-1100/L in summer, which imply densities of twice this in the upper water layers where they mainly occurred. Rotifer densities peaked during the epilimnetic bluegreen maximum in August; this was possibly an indirect result of low *Daphnia* density, since rotifers do not eat the dominant colonial bluegreens, instead competing with *Daphnia* for the more edible algae.

(3) In general hard-bodied rotifers (e.g. *Keratella*, esp. *K. cochlearis*), those with swift escape reactions (e.g. *Polyarthra*), or those forming large colonies (e.g. *Conochilus*) were most common during the summer, perhaps implying heavy predation pressure. Several potential predators were quite common in summer: the large dipteran *Chaoborus* (ca. 0.5/L) and the cyclopoid copepod *Mesocyclops edax* (1-2/L). In spring and autumn two different cyclopoids were common: *Cyclops bicuspidatus* (1-3/L) and *Tropocyclops prasinus* (up to 40/L in the autumn).

(5) In contrast to 1989, populations of many zooplankton remained at moderate or high levels through the December sampling (lake still not ice-covered on 12/13/90). In 1989 the later December sampling followed the development of winter ice-cover.

Table 2. Zooplankton species recorded from open-water samples in Lake Waynewood 1988-1990. Seasons of especially high or low abundance are indicated.

	Taxon	Seasonal Abundance in 1990 High	Low
Diptera			
**	*Chaoborus* spp.		[W]
	C. flavicans		
	C. punctipennis		
Cyclopoid Copepoda			
*	*Cyclops bicuspidatus thomasi* =*Diacyclops thomasi*	Sp,F	[W,Su]
	Cyclops scutifer		
	Macrocyclops albidus (rare)		
*	*Mesocyclops edax*	Su	[W,Sp]
**	*Tropocyclops prasinus*	F	[Su]
Calanoid Copepoda			
**	*Diaptomus oregonensis*	late Su,F	[Sp]
Cladocera			
	Bosmina longirostris		
	Ceriodaphnia spp.		
	Chydorus spp.		
**	*Daphnia* spp.	Sp,F	[W, late Su]
	D. pulex/pulicaria		
	D. laevis		
	Diaphanosoma spp.		
	Holopedium gibberum		
	Leptodora kindtii		
Rotifera			
	Anuraeopsis spp.		
	Ascomorpha spp.		
*	*A. ovalis*	Su	[F,W,Sp]
*	*Asplanchna* spp.		
*	*Collotheca* spp.	late Su	[F,W,Sp,early Su]
	C. mutabilis		
**	*Conochilus* spp.	late Su	[W,Sp,early Su]
*	*Filinia longiseta*	Su	[F,W,Sp]
*	*Gastropus* spp.	Sp,F	[W]
	G. hyptopus (?)		
	G. stylifer		

continued next page

Table 2. Zooplankton in Lake Waynewood, 1990 (continued)

	Taxon	Seasonal Abundance in 1990 High	Low
	Kellicottia spp.		
*	*K. bostoniensis*	late Su	
*	*K. longispina*	late F	[W,Sp,Su]
	Keratella spp.		
**	*K. cochlearis*	late Su,F	[W]
*	*K. crassa*		
*	*K. earlinae*	F	[W]
*	*K. hiemalis*	W,Sp	[late Su,F]
	K. serrulata f. *curvicornis*		
	K. taurocephala		
	Lecane spp.		
	L. luna		
	Monostyla spp.		
	Notholca spp.		
	N. acuminata		
	Ploesoma spp.		
	P. truncatum		
	Polyarthra spp.		
	P. dolichoptera		
	P. euryptera		
	P. remata		
	P. vulgaris		
**	*Polyarthra* ("large")	Sp,F	[late Su,W]
**	*Polyarthra* ("small")	Su,F	[W,Sp]
	Pompholyx spp.		
*	*Synchaeta* spp.	F	
*	*Trichocerca* spp.	late Su,F	[W,Sp]
	Trichocerca ("small")		
*	*T. cylindrica*		
	T. lophoessa		
*	*T. multicrinus*		
*	*T. rousseleti*		
*	*T. similis*		
	Trichotria spp.		
	Wolga spp.		

Abbreviations for seasons of maximal or [minimal] abundance:
W (winter), Sp (spring), Su (summer), F (fall).

** Dominant species included in Figures
* Other common species included in Figures

FISH

The fish survey of 12-13 July 1990 was undertaken to provide a comparative idea of the species and their abundances in Lake Waynewood and the other core lakes. This survey was designed and carried out by Kenneth Ersbak and Aquatic Resource Consulting (Saylorsburg, PA). Data summarized in **Table 3** and listed in detail in **Appendix II** are taken from their final report (25 September 1990: "Fishery Survey of the Three 'Core' Lakes of the Pocono Comparative Lakes Program"). The sampling strategy was to set gill and trap nets at several sites around the lake, with equal day and night sampling. Details of the nets are available in the original report.

Lake Waynewood yielded so many fish that the sampling intensity was reduced to 75% of that used in the other lakes. Net surveys in general are difficult to relate to absolute population sizes, and are known to preferentially collect some species. The survey nonetheless established the preponderance of golden shiners and yellow perch, and suggested disproportionately small population of large piscivorous predators like largemouth bass **Table 3**.

Table 3. SUMMARY OF FISH COLLECTED IN LAKE WAYNEWOOD (72.9 kg total)[1]

FISH SPECIES	NUMBER	LENGTH (mm)		MASS (g)		% of TOTAL MASS
		Mean	STD	Mean	STD	
Yellow perch	145	256	28	236	84	49
Golden shiner	136	199	38	114	71	21
Pumpkinseed	42	162	28	94	42	5
Bluegill	28	159	50	112	102	4
Rock bass	25	161	29	83	45	3
Redbreasted sunfish	12	154	11	73	17	1
Brown bullhead	10	318	70	583	272	8
White sucker	8	345	66	512	265	6
Largemouth bass	6	213	25	130	50	1
Brook trout	1	300		298		<1
Brown trout	1	325		409		<1

[1] Total Effort: 9 12-hr gill nets and 3 12-hr trap nets.
Masses are fresh weight in grams.

Stomach analyses of a few golden shiners revealed that some were eating littoral filamentous green algae, while others were feeding on zooplankton, especially *Daphnia* from the water column (Scott R. Carpenter, personal communication). These shiners may contribute to the low population of *Daphnia* in midsummer, though young perch probably contribute in a major way to zooplankton mortality. Although the adult perch may feed intensively on small shiners, the abundance of exceptionally large adult shiners in Lake Waynewood indicates that the shiner population cannot be effectively controlled by yellow perch. Augmentation of large predatory fish in Lake Waynewood might lower algal concentrations by allowing large herbivorous *Daphnia* to maintain higher densities.

Ken Ersbak noted the prevalence of "Black Spot" disease in the centrarchids (sunfish and bass). Although not considered harmful to humans, this disease may adversely impact efforts to augment the population of largemouth bass.

DISCUSSION

Lake Waynewood in 1990 was very similar to the lake in 1989. Chlorophyll reached levels of 10-40 ug/L; the summer algae were dominated by *Aphanizomenon flos-aquae*; Secchi disk transparency dropped to only slightly more than one meter during August.

The total phosphorus values (1.3 umoles/L during spring turnover) are those of a eutrophic lake, and the source of this phosphorus should be sought. Currently phosphorus is being analyzed on some of the samples Steve Gould collects from the watershed streams and wells as part of a geochemical characterization of the basin. These will provide important insights.

Although large herbivorous zooplankton, in particular *Daphnia*, are relatively abundant, their numbers were reduced during midsummer. This pattern was somewhat clearer, and possibly stronger, than in 1989. Perhaps not coincidentally, the *Daphnia* minimum coincided with high bluegreen algal concentrations in August. There is some evidence that *Daphnia* are more effective than most other zooplankton in controlling (i.e eating) these algae.

The fish survey confirmed the abundance of two fish that may eat important numbers of the *Daphnia*. Golden shiners are very abundant and often very large; although some apparently feed on littoral algae in Lake Waynewood, others eat large zooplankton. Yellow perch are also abundant. Adult perch may eat small shiners, but apparently cannot control the existing population of large adult shiners. And very young perch, probably produced annually in large numbers, eat zooplankton during their first summer.

One possible strategy for reducing the algal turbidity of Lake Waynewood in summer, therefore, would be to augment the populations of larger predatory fish that could eat shiners and perch. Such a strategy would require careful consideration of the species of fish to augment or alternatively to introduce and the required initial stocking. A plan of monitoring should be devised to assure that the success of the fish manipulation can be assessed independently of any change in algal turbidity in subsequent years. This strategy hinges on the assumption that *Daphnia* will eat the bluegreens. Initial studies by Donna Mensching and Robert Moeller in July 1990 suggested they do, and we will be examining this issue in greater detail in 1991.

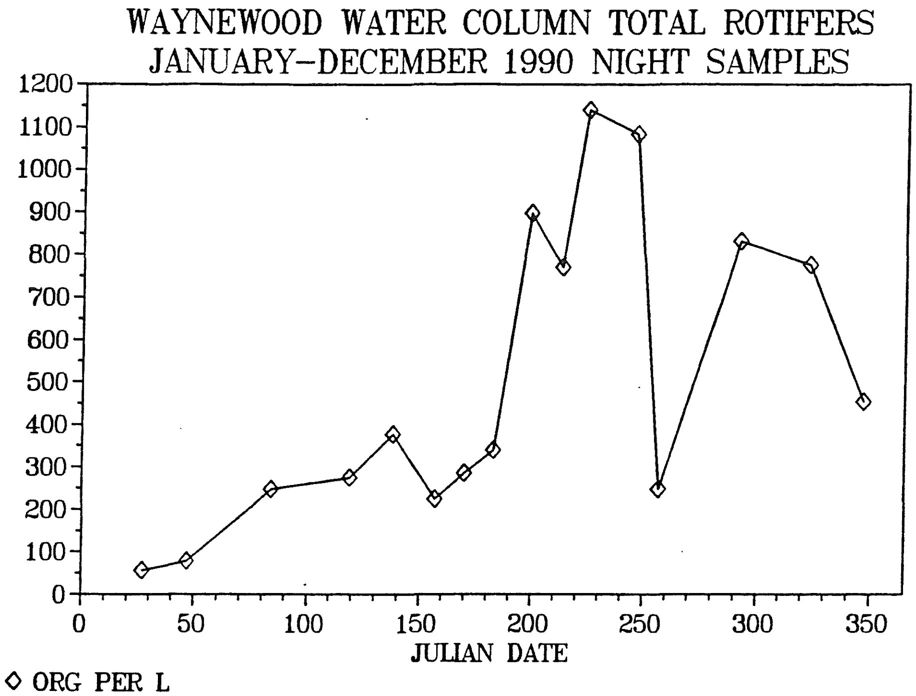
ZOOPLANKTON GRAPHS

The following graphs present water-column mean nighttime concentrations of the common zooplankton at the main sampling station. Each data point is calculated by weighting concentrations in the three layers (EPI, META, HYPO) on each date by the relative thickness of the layer at the station, which is in the deepest part of the lake. Two replicate samples were taken in quick succession.

The electronic database contains the component concentrations within the three layers, separate counts for the two replicates, and similarly complete data from the comparable daytime sampling.

In a few instances, organisms that were absent from the counts were treated as "missing"; instead of plotted "0"'s, a straight line joins the bracketing dates (see Figures 22,24,27).

For numerous zooplankton species, the taxonomic resolution has been increased part way through the year. This will be evident from the plotted data (see Figures 10,12,13,14,15,19,21,24).



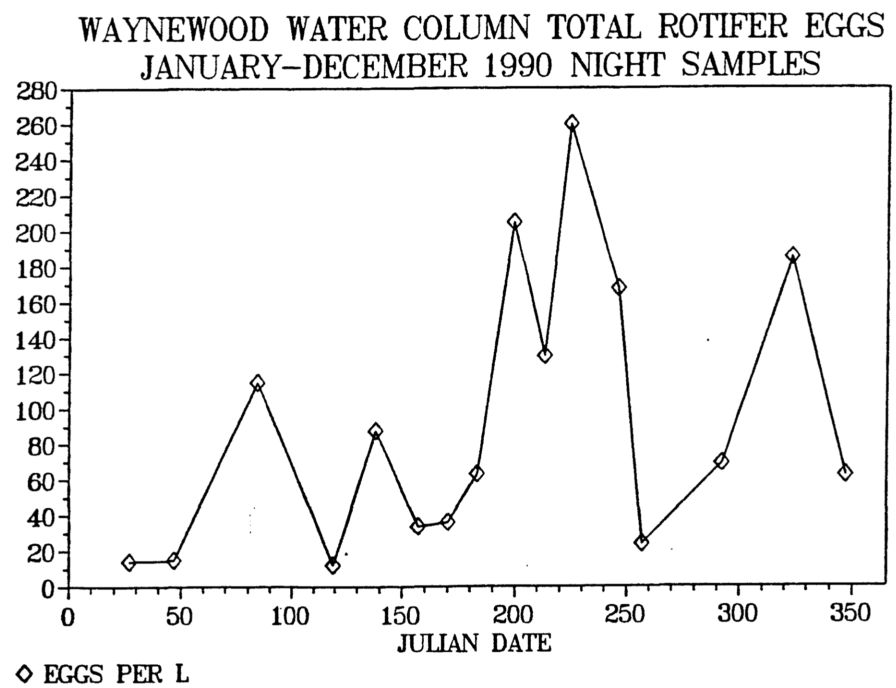
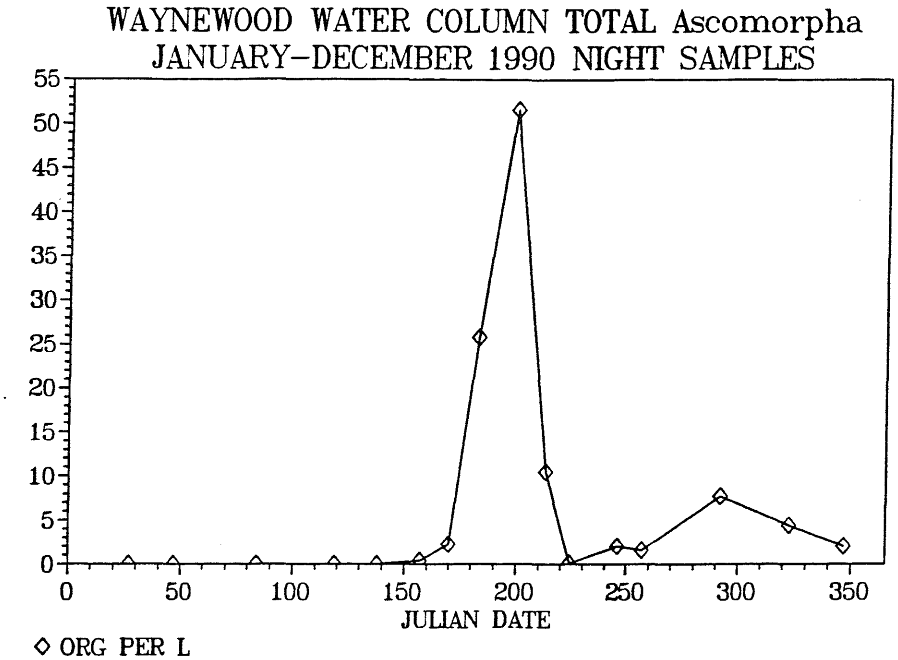


Figure 9. Rotifers in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. **(Top)** Total individuals per liter. **(Bottom)** Rotifer eggs per liter.



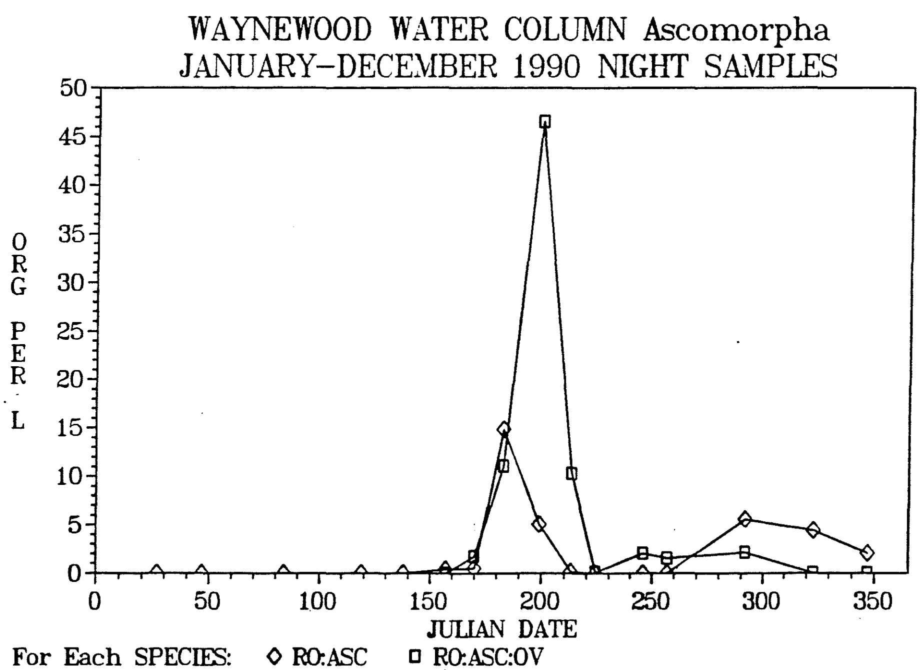


Figure 10. The rotifer *Ascomorpha* in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. **(Top)** Total individuals of all species per liter. **(Bottom)** *Ascomorpha* by species: **ASC** undifferentiated, **OV** *A. ovalis*.

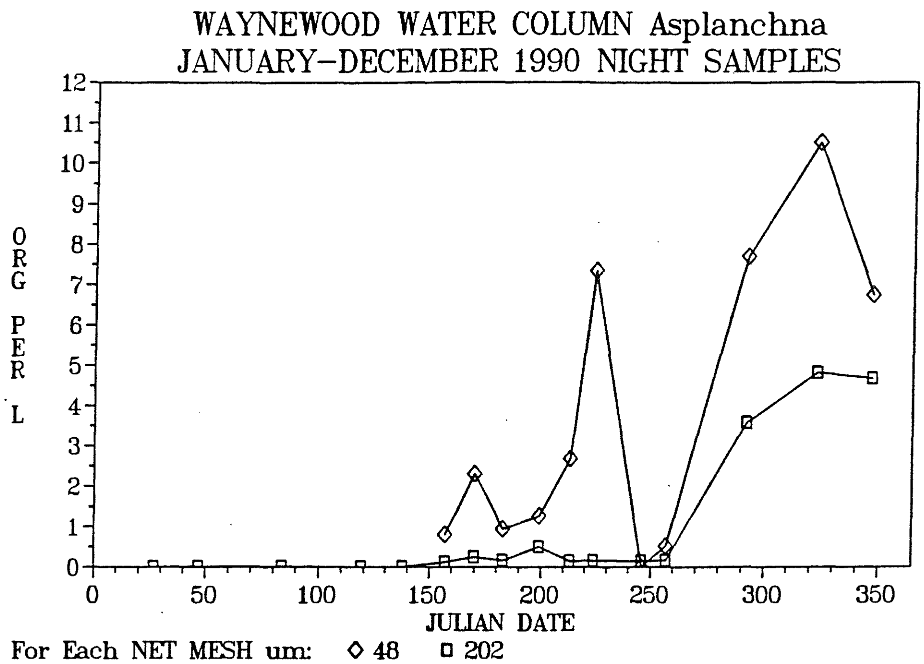


Figure 11. The rotifer *Asplanchna* in Lake Waynewood, 1990.

Nighttime net collections from three depths have been combined to give a water column mean. Note that the 48μm net collects with greater efficiency than the 202μm net.

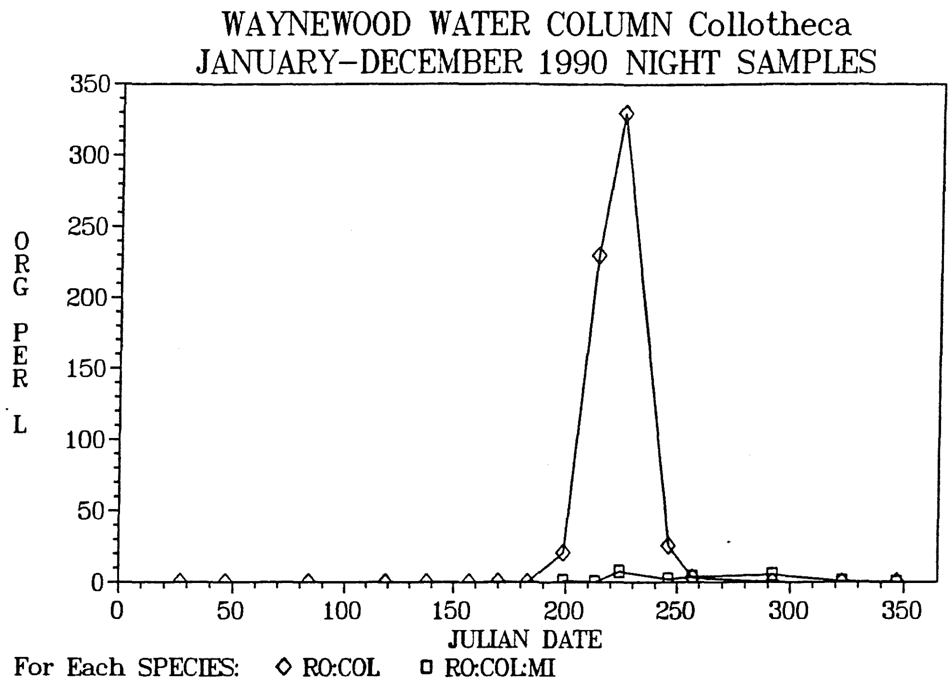


Figure 12. The rotifer *Collotheca* in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. **COL** undifferentiated *Collotheca*, **MI** *C. mutabilis*.

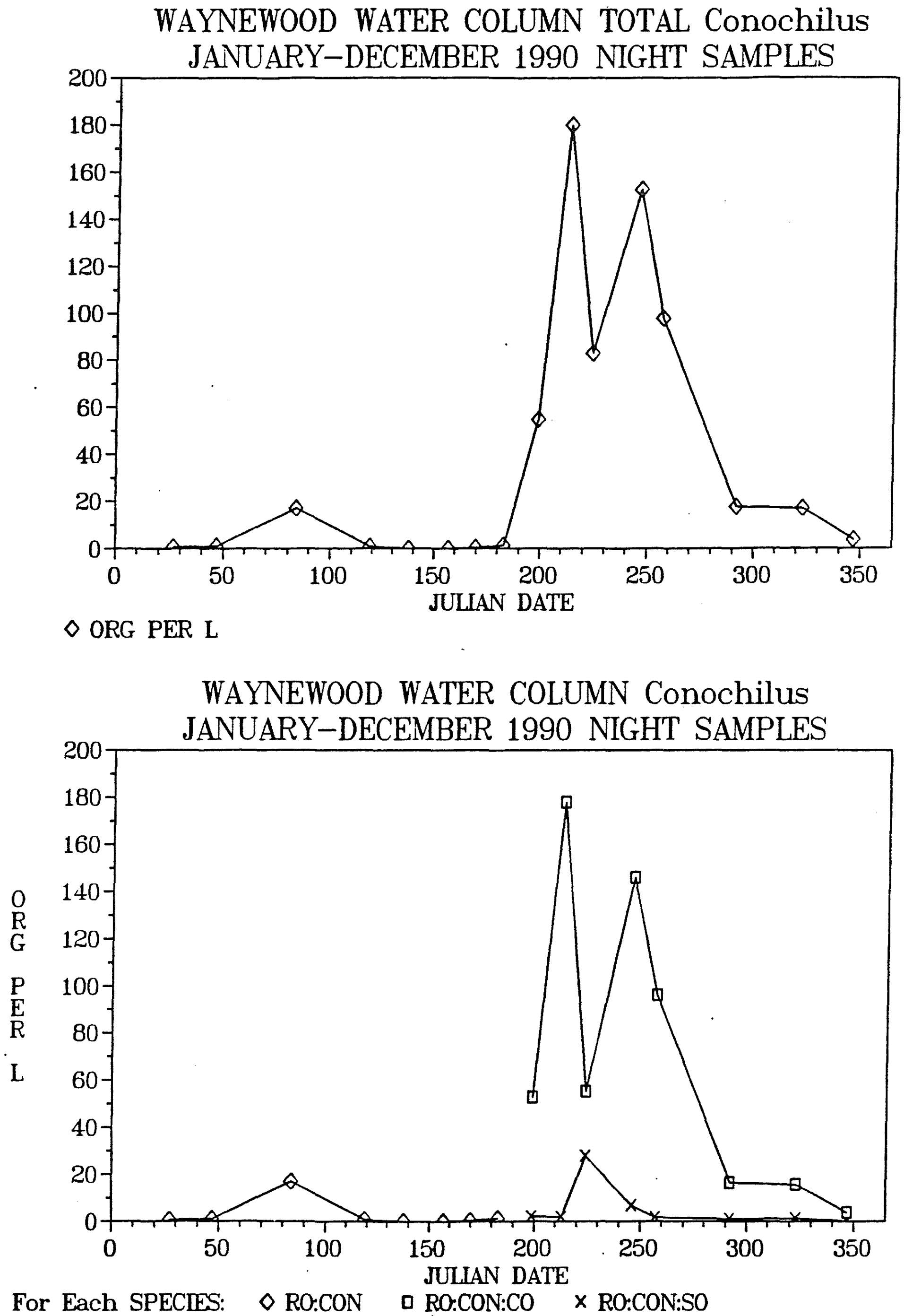


Figure 13. The rotifer *Conochilus* in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. **(Top)** Total individuals of all species per liter. **(Bottom)** *Conochilus* by group: **CON** undifferentiated (before day 190), **CO** colonial spp, **SO** solitary spp.

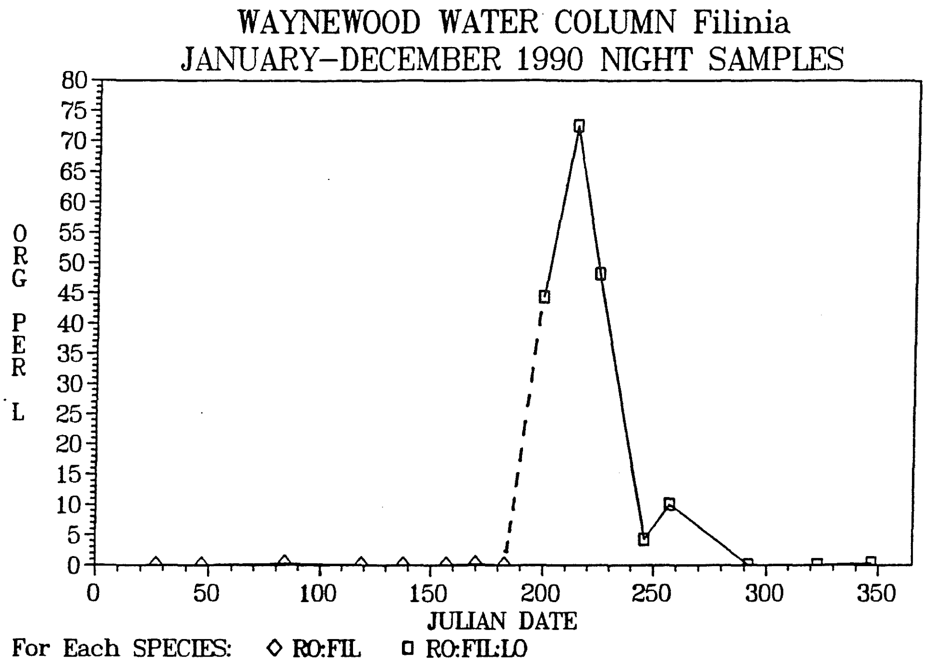
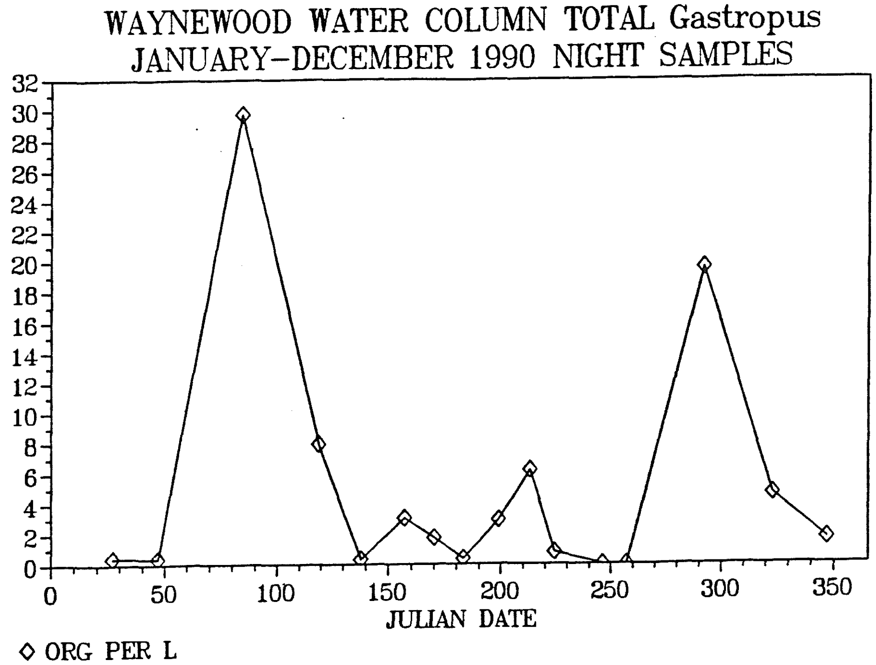


Figure 14. The rotifer *Filinia* in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. **FIL** undifferentiated *Filinia* (before day 190), **LO** *F. longiseta*.



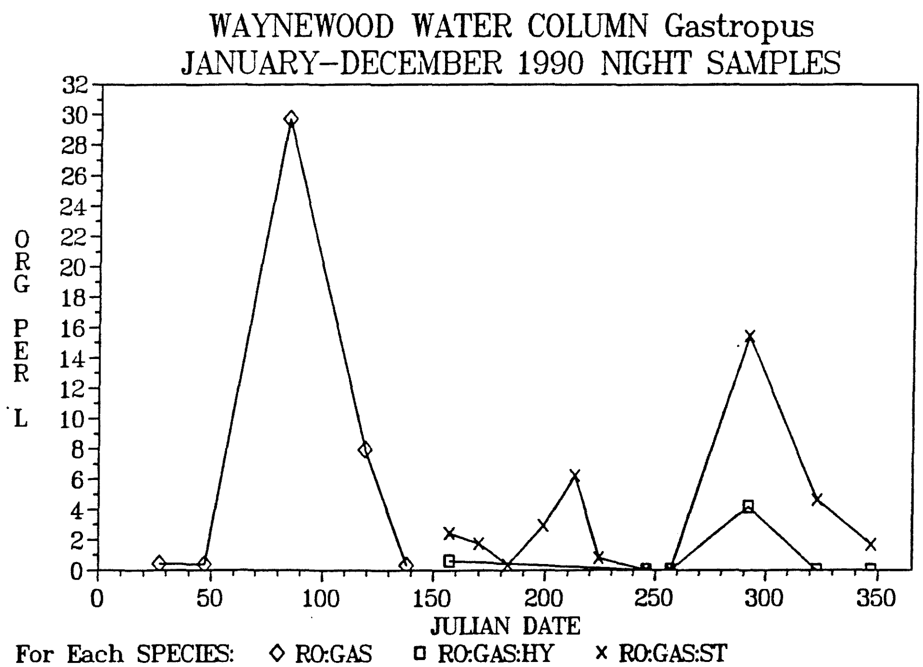
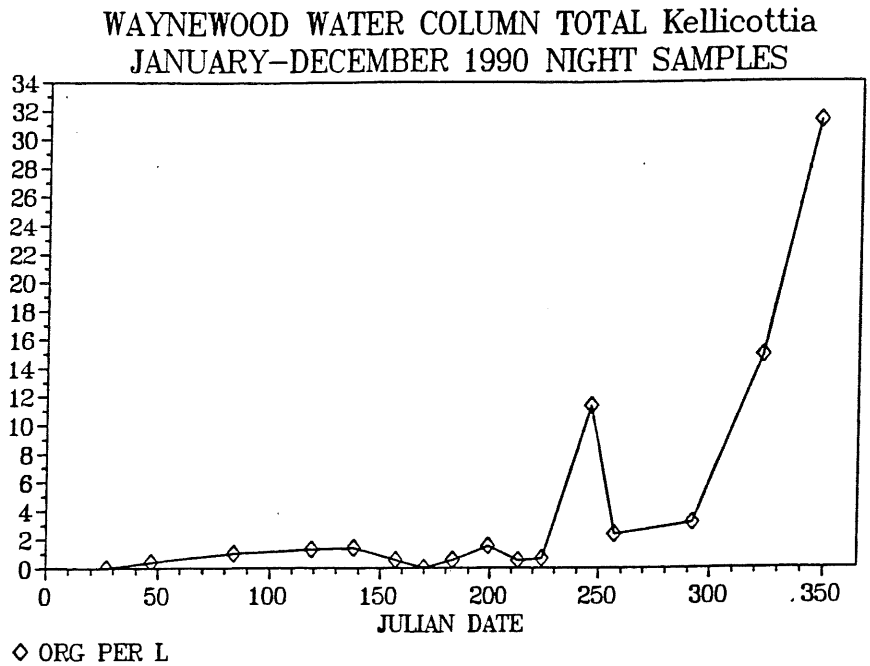


Figure 15. The rotifer *Gastropus* in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. **(Top)** Total individuals of all species per liter. **(Bottom)** *Gastropus* by species: **GAS** undifferentiated (before day 150), **HY** *G. hyptopus*, **ST** *G. stylifer*.



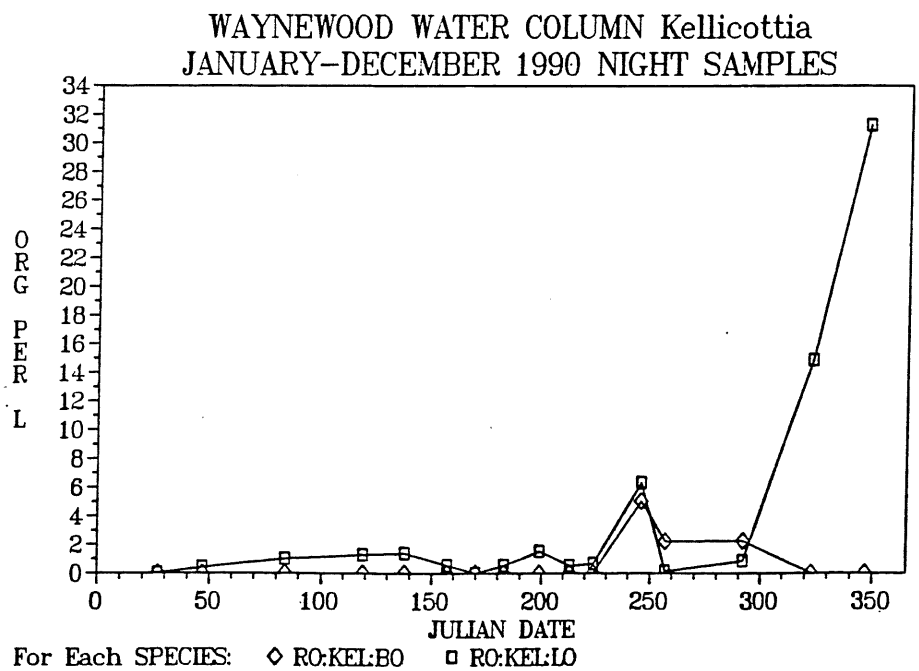


Figure 16. The rotifer *Kellicottia* in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. **(Top)** Total individuals per liter. **(Bottom) BO** *K. bostoniensis* and **LO** *K. longispina*.

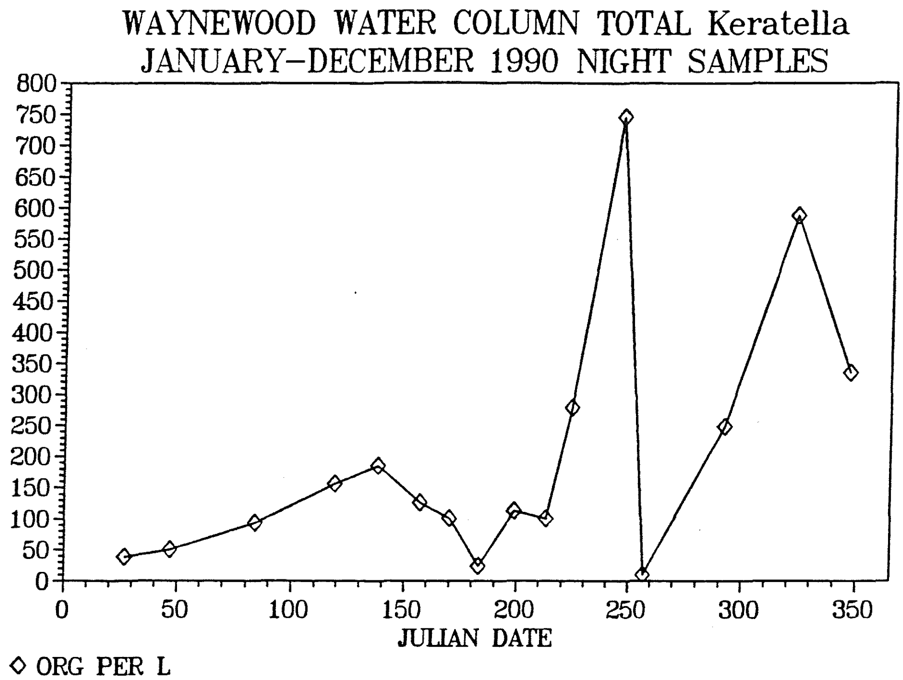
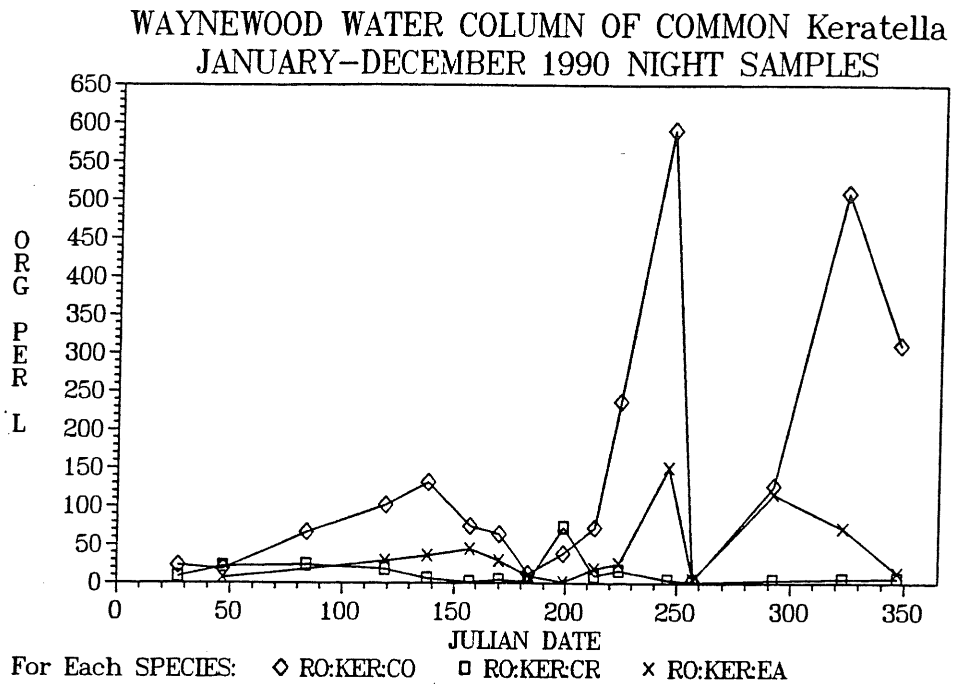


Figure 17. The rotifer *Keratella* in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. Total individuals per liter.



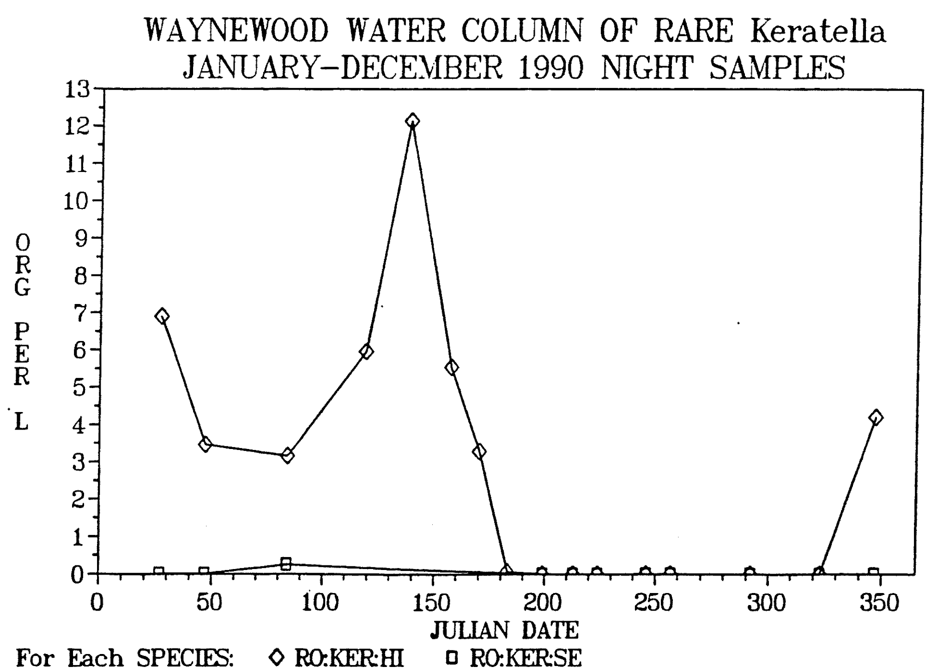
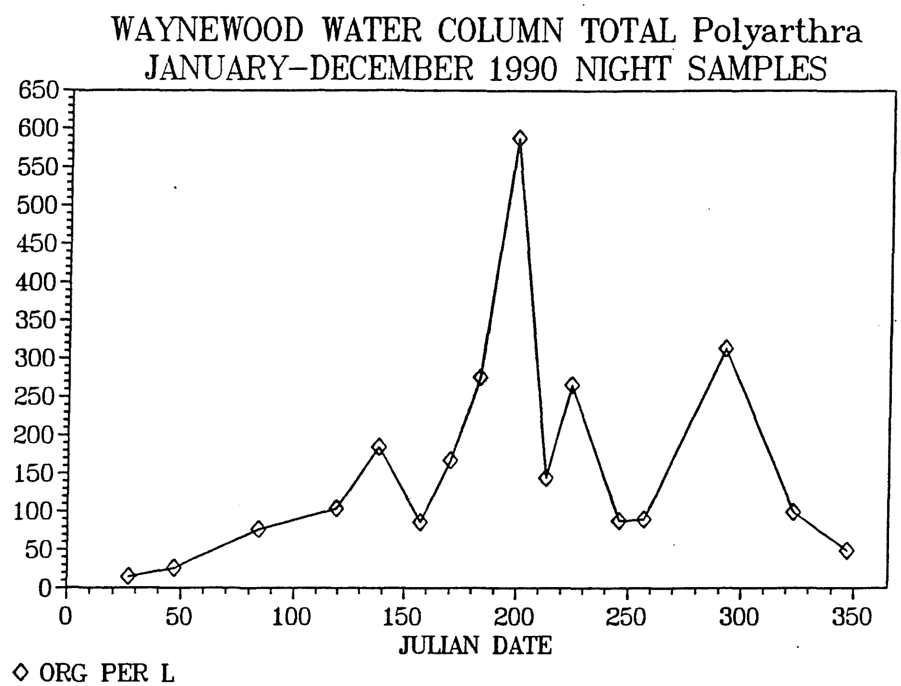


Figure 18. The rotifer *Keratella* (by species) in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. **(Top) CO** *K. cochlearis*, **CR** *K. crassa*, and **EA** *K. earlinae*. **(Bottom) HI** *K. hiemalis* and **SE** *K. serrulata*.



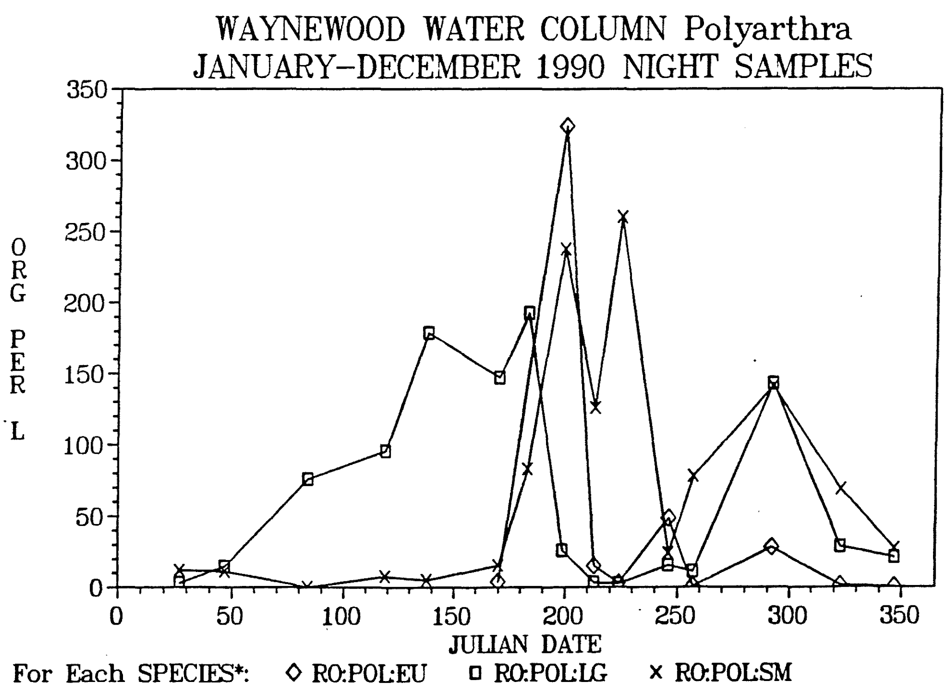


Figure 19. The rotifer *Polyarthra* in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. **(Top)** Total individuals per liter. **(Bottom)** *Polyarthra* by species: **EU** *P. euryptera* (after day 150), **LG** large spp., and **SM** small spp.

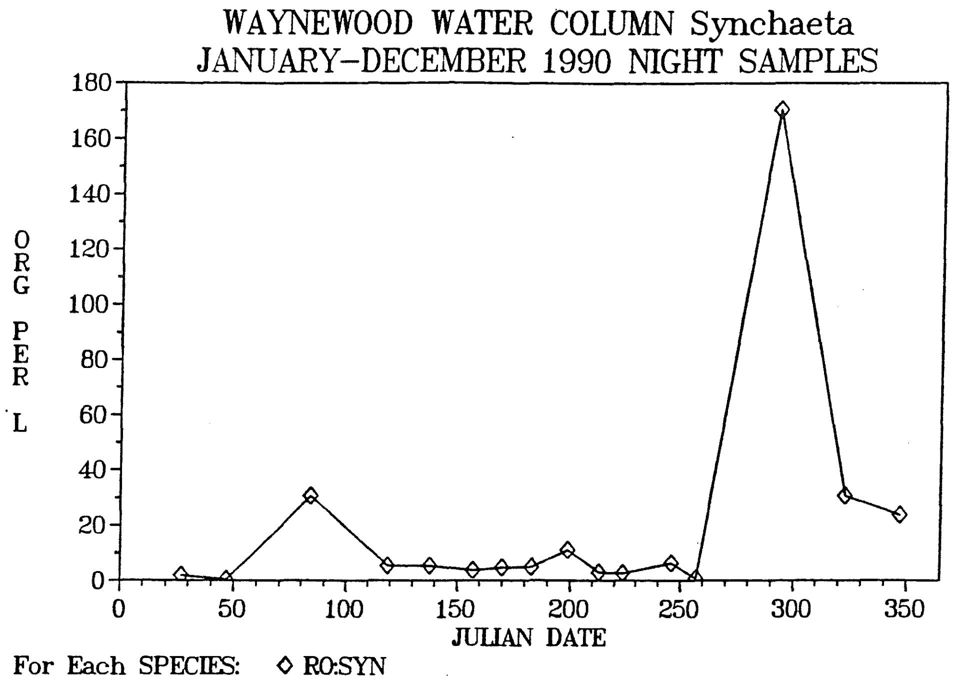
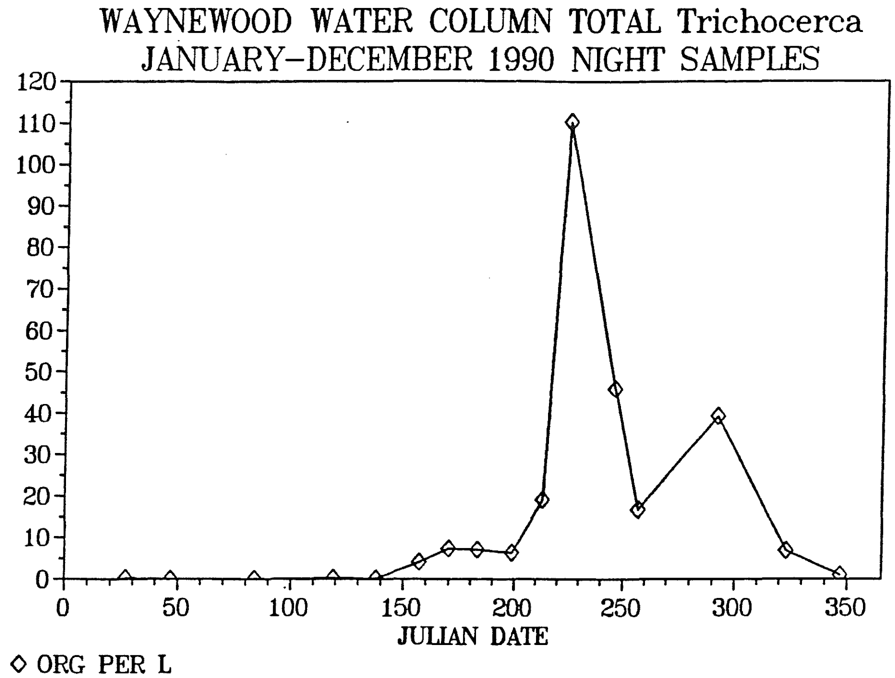


Figure 20. The rotifer *Synchaeta* in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean.



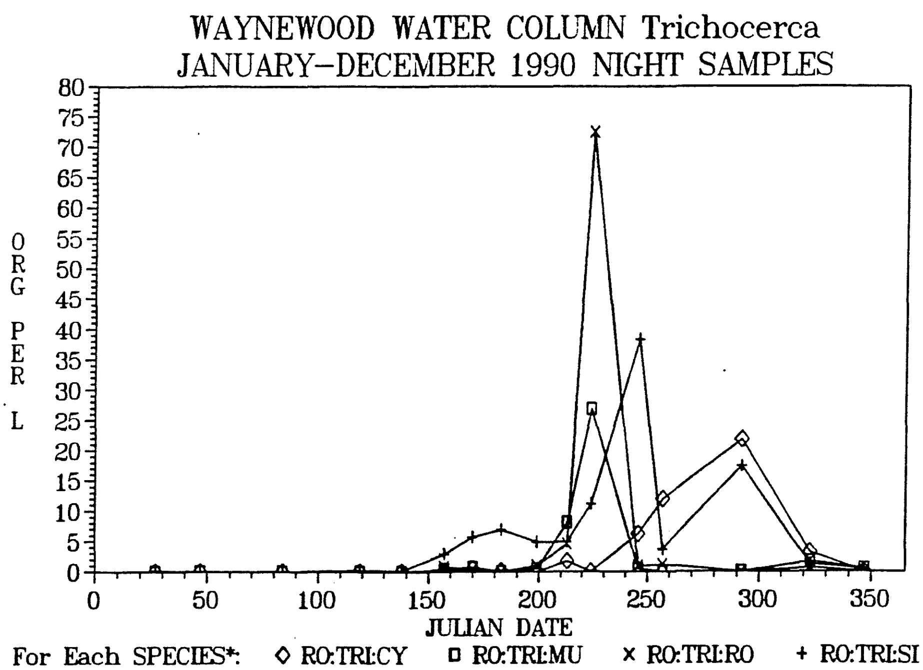


Figure 21. The rotifer *Trichocerca* in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. **(Top)** Total individuals per liter. **(Bottom)** *Trichocerca* by species: **CY** *T. cylindrica*, **MU** *T. multicrinus*, **RO** *T. rousseleti* and **SI** *T. similis*.

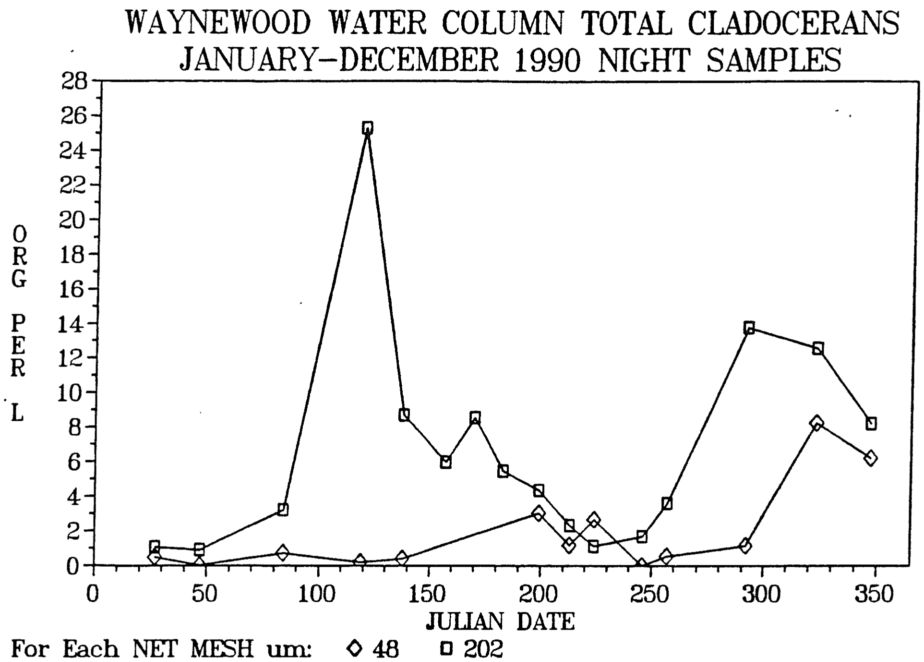
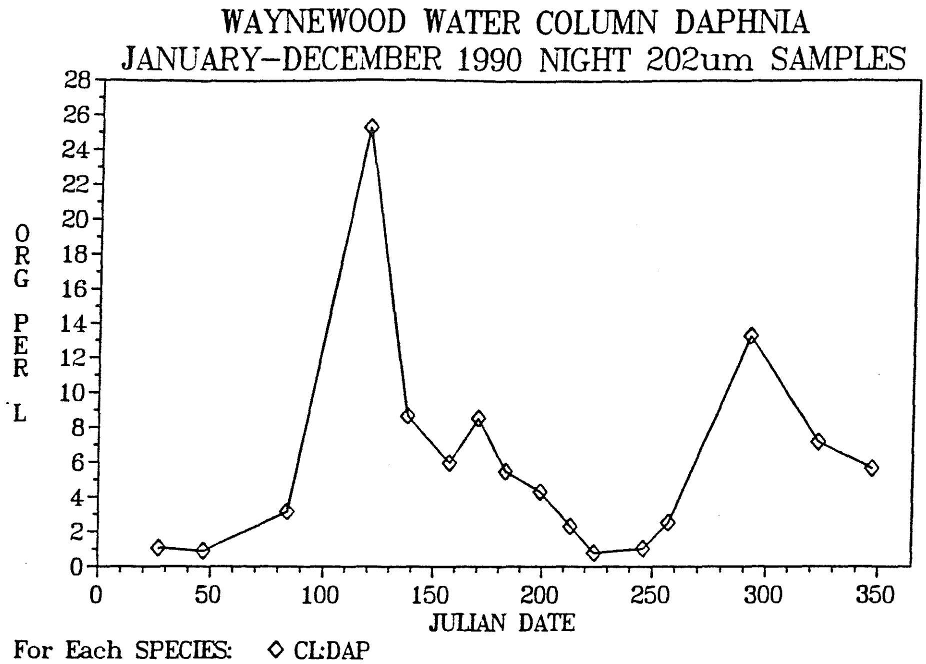


Figure 22. Cladocera in Lake Waynewood, 1990.

Nighttime net collections from three depths have been combined to give a water column mean. Different organisms were counted from the 202μm net (mainly *Daphnia* spp.) and the 48μm net (mainly *Bosmina* spp.).



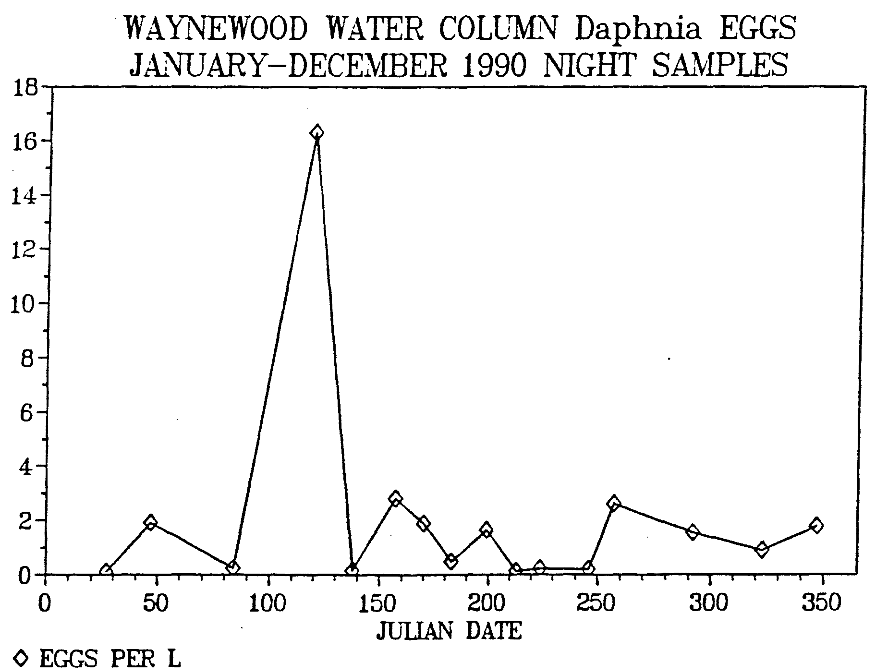


Figure 23. The cladoceran *Daphnia* in Lake Waynewood, 1990.

Nighttime net collections (202μm) from three depths have been combined to give a water column mean. **(Top)** Total individuals per liter. **(Bottom)** *Daphnia* eggs per liter.

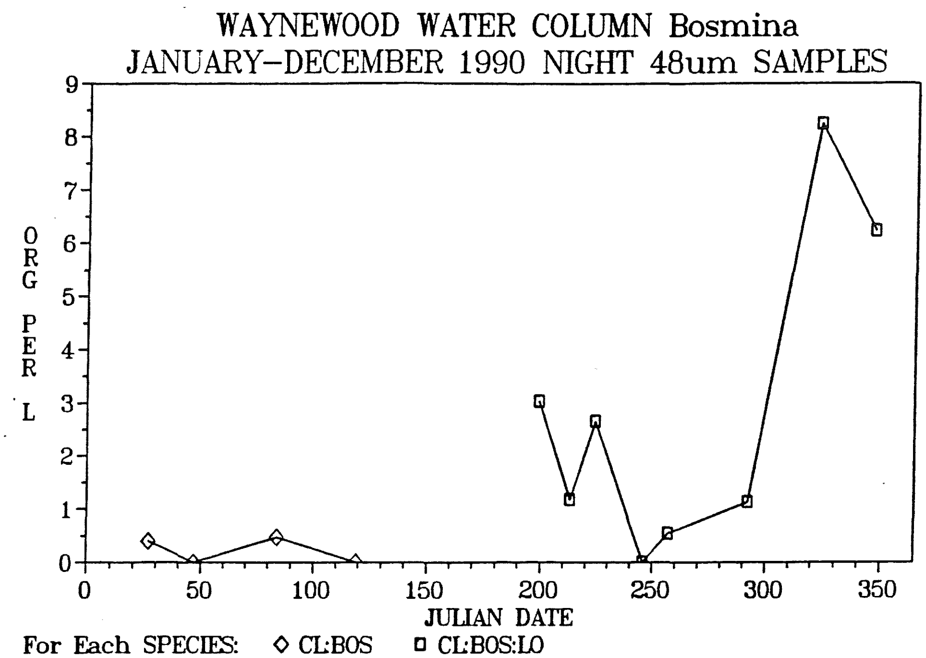


Figure 24. The cladoceran *Bosmina* in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. **LO** *B. longirostris* was differentiated after day 190. This species was essentially absent between day 130 and day 190, although the points were not plotted.

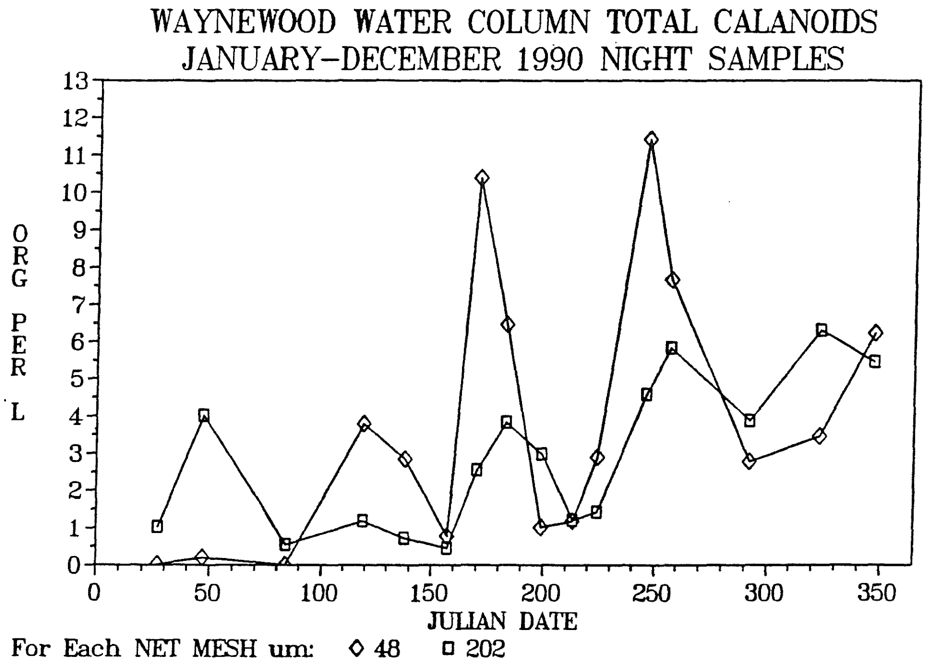
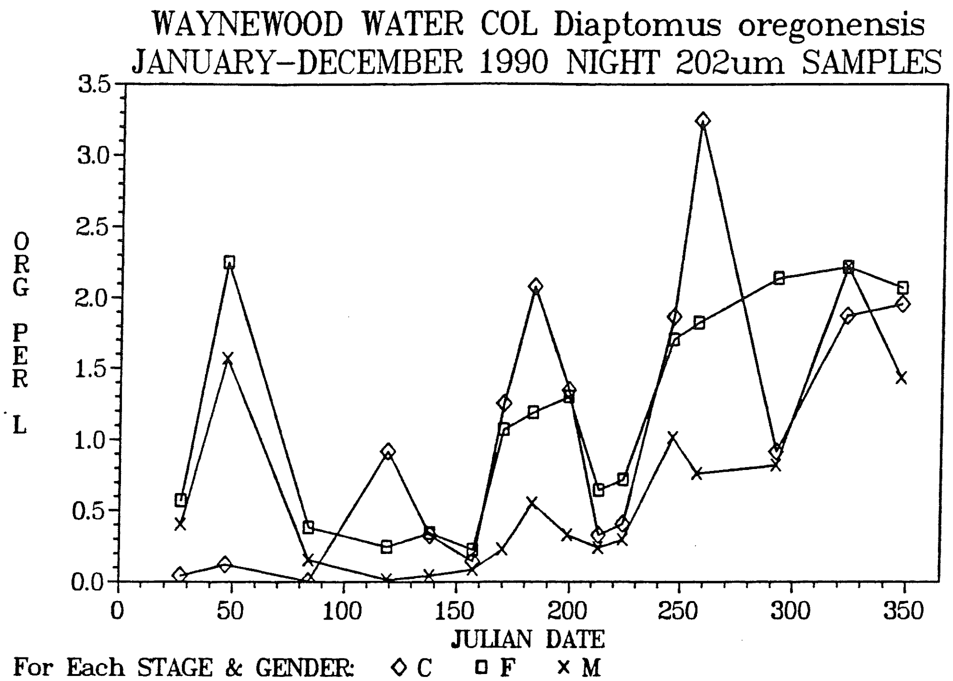


Figure 25. Calanoid copepods in Lake Waynewood, 1990.

Nighttime net collections from three depths have been combined to give a water column mean. The 48μm net counts represent copepodids only; the 202μm net counts include all adults and some of the larger copepodids. *Diaptomus oregonensis* was the only calanoid present.



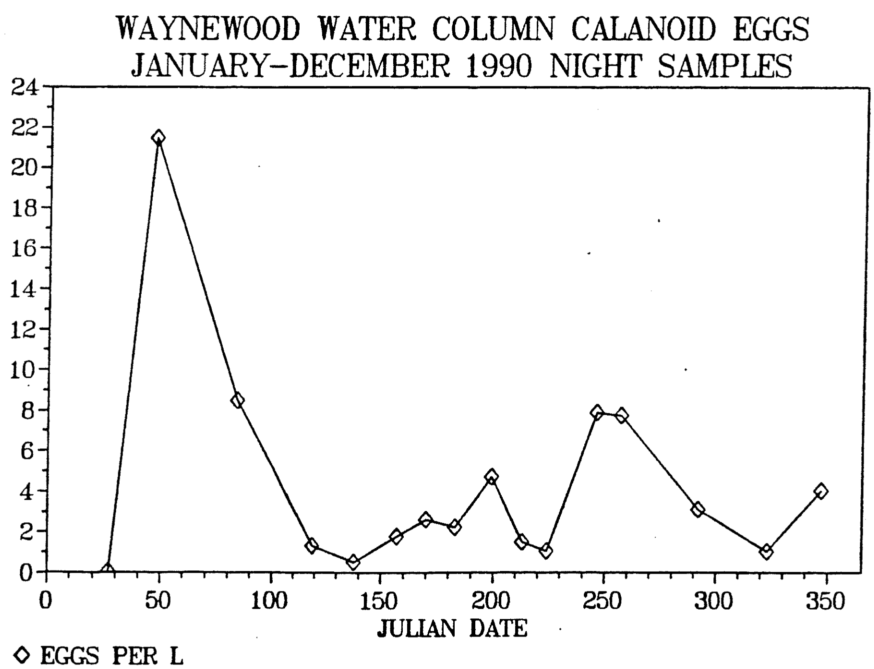
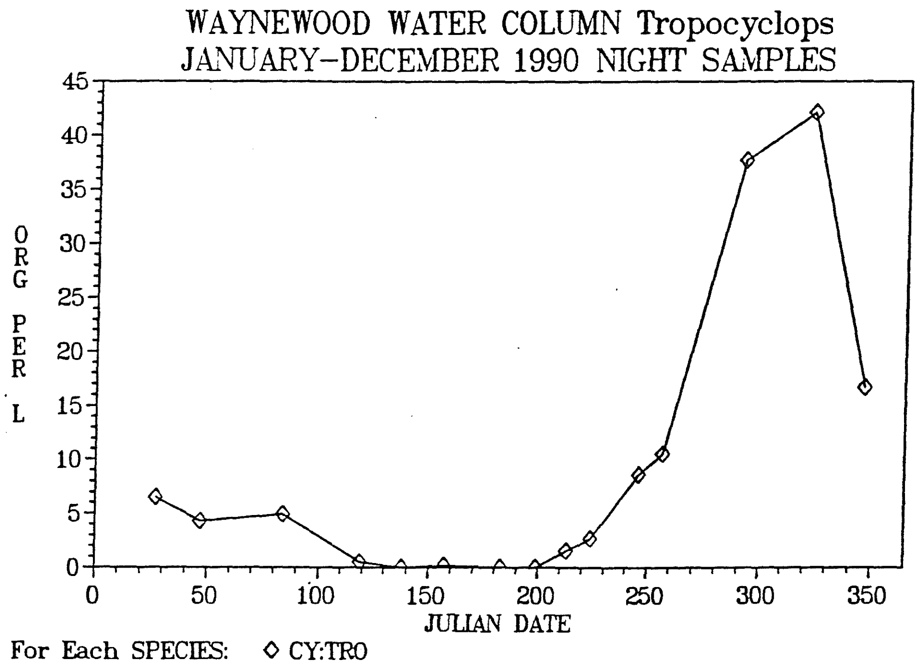


Figure 26. The calanoid copepod *Diaptomus oregonensis* in Lake Waynewood, 1990.

Nighttime net collections (202μm) from three depths have been combined to give a water column mean. **(Top)** Adults (males and females separately) and some copepodids (see **Figure 25** for a more complete count of copepodids). **(Bottom)** *D. oregonensis* eggs per liter.



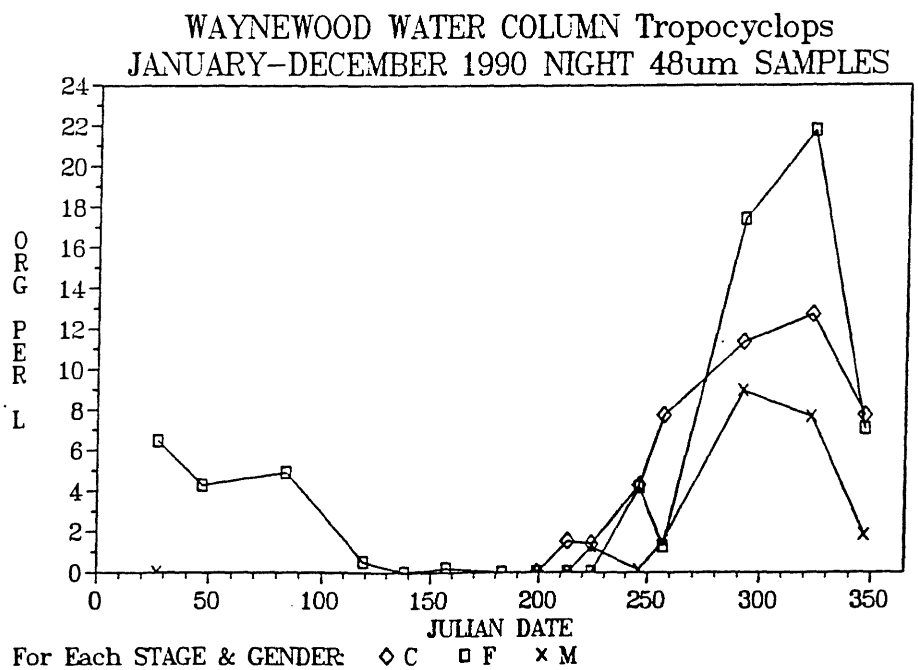
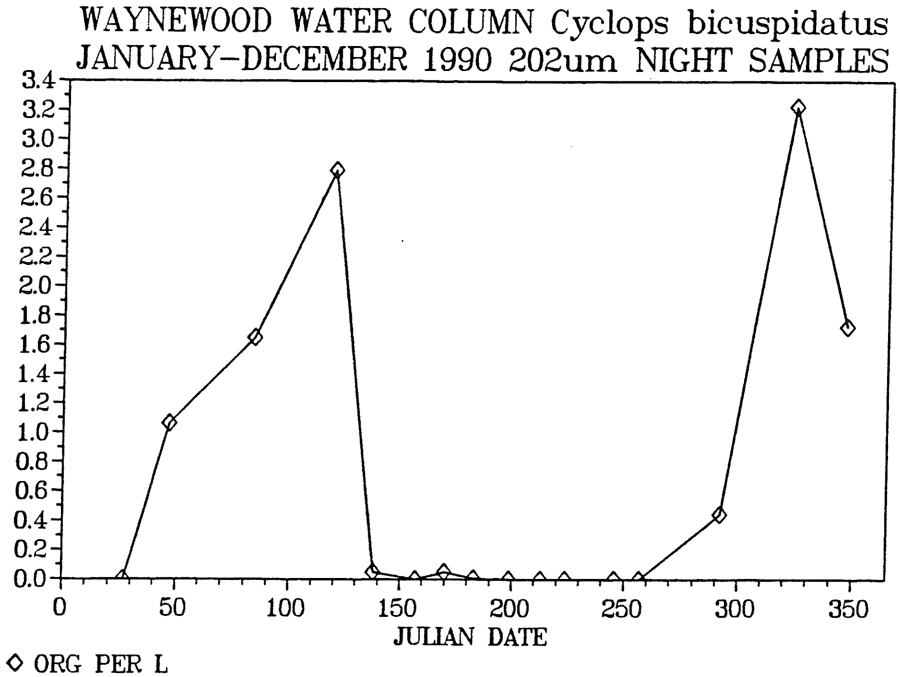


Figure 27. The cyclopoid copepod *Tropocyclops* in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. **(Top)** Total individuals per liter. **(Bottom)** Adults (males and females separately) and copepodids.



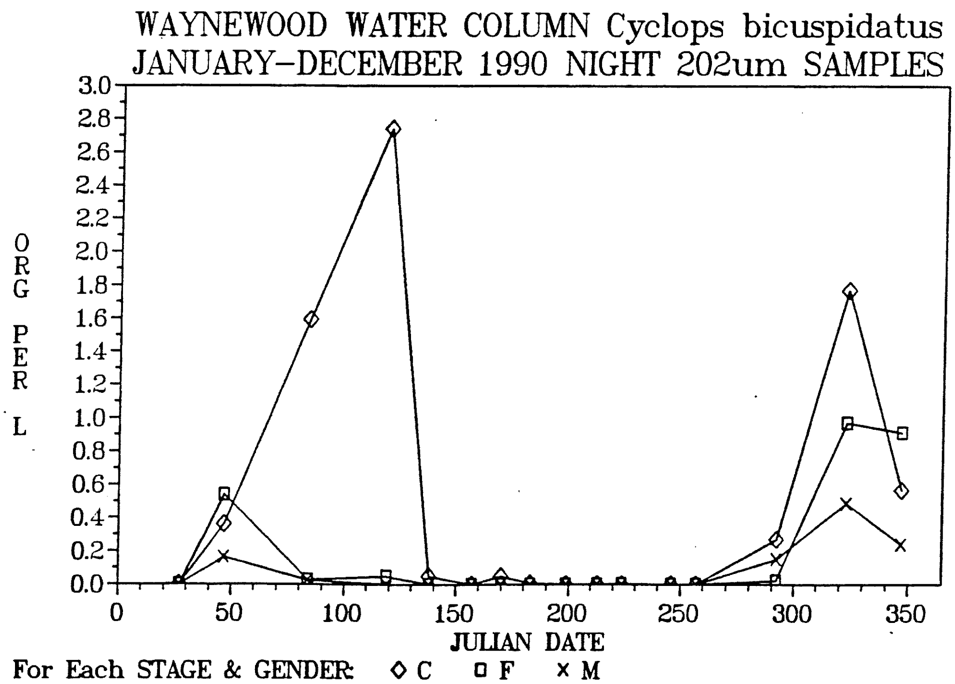
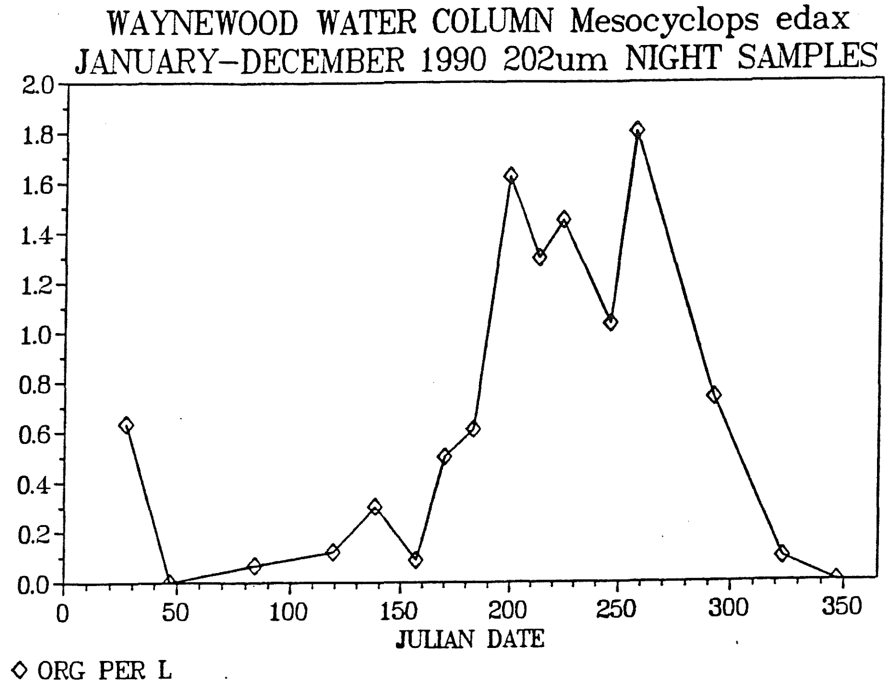


Figure 28. The cyclopoid copepod *Cyclops bicuspidatus* (=*Diacyclops thomasi*) in Lake Waynewood, 1990.

Nighttime net collections (202μm) from three depths have been combined to give a water column mean. **(Top)** Total individuals per liter. **(Bottom)** Separated into adults (males and females separately) and copepodids. Note: we plan to use the designation *Diacyclops thomasi* in future.



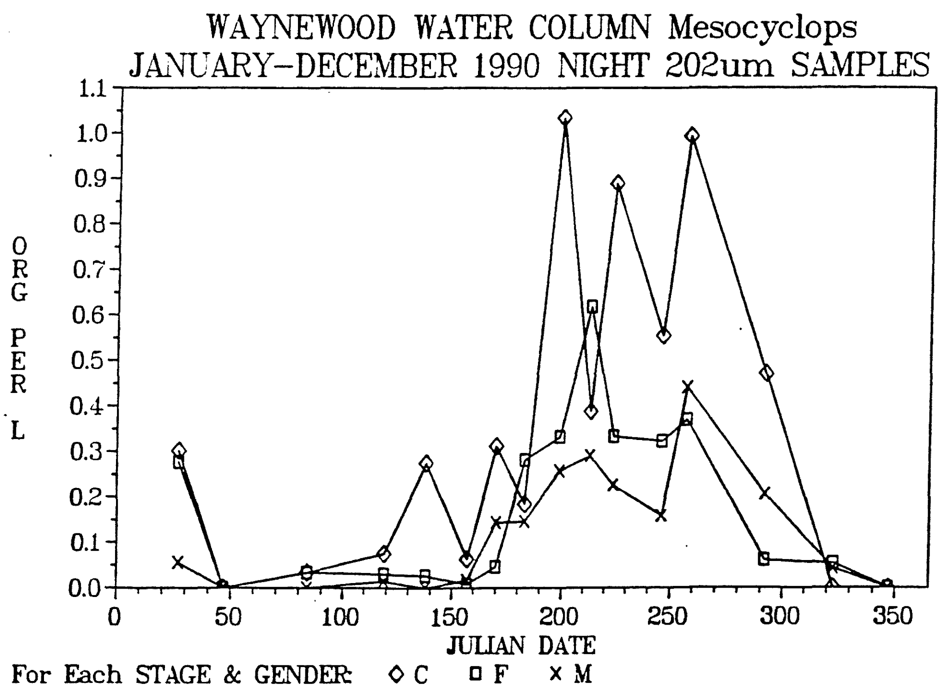


Figure 29. The cyclopoid copepod *Mesocyclops edax* in Lake Waynewood, 1990.

Nighttime net collections (202μm) from three depths have been combined to give a water column mean. **(Top)** Total individuals per liter. **(Bottom)** Separated into adults (males and females separately) and copepodids.

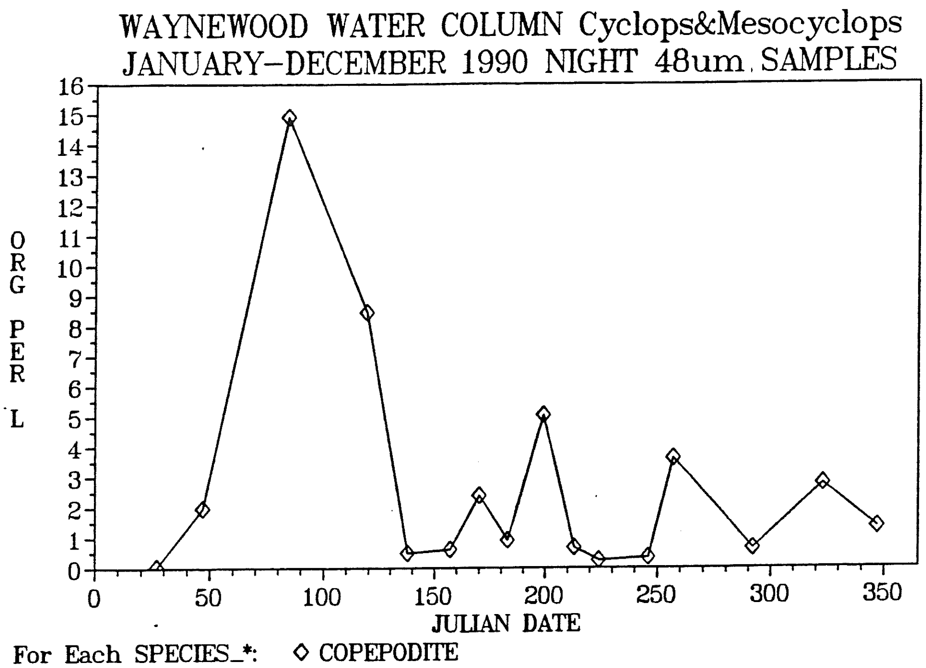


Figure 30. Copepodids of the larger cyclopoids in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. Although copepodids of *Cyclops bicuspidatus* were not differentiated from those of *Mesocyclops edax*, a comparison of data in this graph with copepodid data for these species from the 202μm net **(Figures 28, 29)** demonstrates that many copepodids passed through the 202μm net.

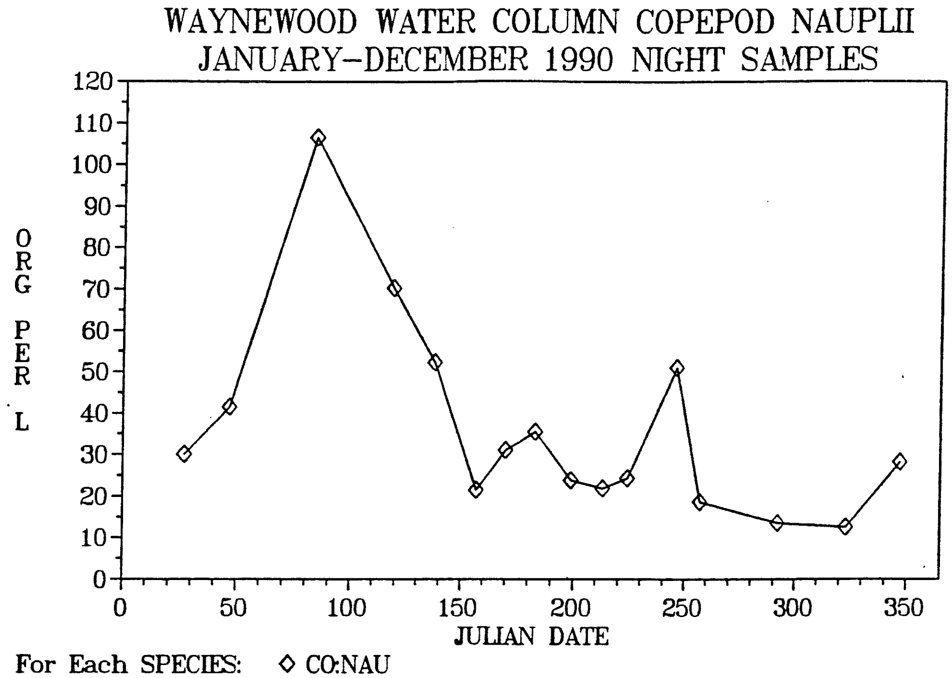


Figure 31. Copepod nauplii in Lake Waynewood, 1990.

Nighttime net collections (48μm) from three depths have been combined to give a water column mean. Nauplii of calanoid and cyclopoid species were not differentiated.

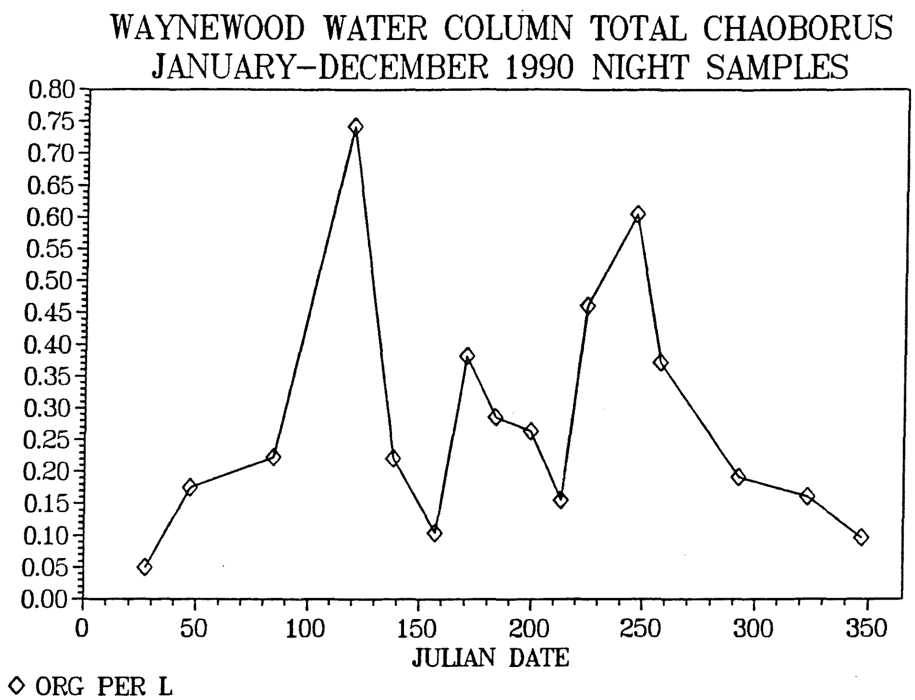


Figure 32. The dipteran *Chaoborus* in Lake Waynewood, 1990.

Nighttime net collections (202μm) from three depths have been combined to give a water column mean.

EXPLANATION OF DATA TABLES

The following 16 tables present the physical/chemical information acquired on each date in 1990. The headings, abbreviations, and analytical units are explained here.

DATE OF SAMPLE: Date of the daytime visit, as month/day/year.

JULIAN DATE: Day of the year, from 1-365.

TIME: Approximate mid-time of sampling, 24-hr clock in decimal format (e.g. 1:30 PM is "13.50").

SECCHI M: Secchi depth in meters (m).

WEATHER: Brief comments on weather, especially cloudiness.

PERSONNEL: Initials of sampling crew (see names below).

TMETHOD: Temperature method #10 (see **METHODS AND RESULTS**).

LMETHOD: Light method #12 (see **METHODS AND RESULTS**).

AMETHOD: Alkalinity method #11 (see **METHODS AND RESULTS**).

OMETHOD: Oxygen method #10 (see **METHODS AND RESULTS**).

PHMETHOD: pH methods #10,11,12 (see **METHODS AND RESULTS**).

CAMETHOD: Chlorophyll-a methods #11,12 (see **METHODS AND RESULTS**).

COMMENTS: Notes on unusual procedures, also ice thickness.

DATE OF: Date of sample (month/day/year).

JULIAN: Julian date.

STRA: Stratum or layer: **S** (air above surface), **E** (epilimnion), **M**(metalimnion), **H** (hypolimnion).

REP: Replicate (1 or 2); Replicates were usually analyzed for pH, alkalinity, chlorophyll--other data are merely repeated on rep 2 line for convenience in graphing.

DEPTH: Depth of sample (meters); **-1** for air above surface.

TEMP C: Temperature in degrees Celsius (°C).

OXYGEN: Dissolved oxygen (mg per liter).

OFLAG: Error flag for oxygen; "4" means reported value should be interpreted as a true "zero".

LIGHT PC: Light as percent of intensity at 0.1-m depth

pH: pH.

ALKAL: Alkalinity as microequivalents per liter (μeq/L).

CHLAC: Chlorophyll-a, corrected for pheopigments (μg/L).

CHLASUM: Chlorophyll-a, including pheopigments (μg/L).

Names of Sampling Personnel:

JAA	John Aufderheide
KB	Karen Basehore
SRC	Scott Carpenter
SMF	Sue Foreman
GG	Gaby Grad
SJJ	Sally Jones
DAM	Donna Mensching
REM	Robert Moeller
MR	Miriam Rappelt
JS	John Slotterback
PS	Paul Stutzman

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 1/26/90 JULIAN DATE: 26 TIME: 16.55

SECCHI M: WEATHER: Overcast, light snow, cold PERSONNEL: REM SRC SJJ

TMETHOD: 10 LMETHOD: 12 AMETHOD: 11
OMETHOD: 10 PHMETHOD: 10 CAMETHOD: 11

COMMENTS: Ice=11", 90% snow cover. No secchi depth recorded.

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
1/26/90	26	S	1	16.55	-1.0	1.0							
1/26/90	26		1	16.55	0.0	0.8	12.60		100.0000				
1/26/90	26	E	1	16.55	1.0	2.9	10.60		12.0100	6.50	272	3.02	4.53
1/26/90	26	E	2	16.55	1.0	2.9	10.60		12.0100	6.53	281	5.14	7.54
1/26/90	26	M	1	16.55	2.0	3.3	9.80		4.2050	6.53	309	5.22	7.38
1/26/90	26	M	2	16.55	2.0	3.3	9.80		4.2050	6.46	308	4.37	6.45
1/26/90	26		1	16.55	3.0	3.4	9.90		1.4506				
1/26/90	26		1	16.55	4.0	3.6	9.60		0.5407				
1/26/90	26		1	16.55	5.0	3.7	8.90		0.2080				
1/26/90	26		1	16.55	6.0	3.7	7.90		0.0751				
1/26/90	26	H	1	16.55	7.0	3.8	7.40		0.0396	6.44	341	0.46	1.35
1/26/90	26	H	2	16.55	7.0	3.8	7.40		0.0396	6.38	326	0.36	1.25
1/26/90	26		1	16.55	8.0	3.8	7.00		0.0098				
1/26/90	26		1	16.55	9.0	3.8	6.50		0.0022				
1/26/90	26		1	16.55	10.0	3.8	5.50						
1/26/90	26		1	16.55	11.0	3.9	4.80						
1/26/90	26		1	16.55	12.0	4.7	1.00						

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 2/16/90 JULIAN DATE: 47 TIME: 12.75

SECCHI M: 2.3 WEATHER: Overcast PERSONNEL: SRC SJJ REM

TMETHOD: 10 LMETHOD: 12 AMETHOD: 11
OMETHOD: 10 PHMETHOD: 10 CAMETHOD: 11

COMMENTS: Ice translucent, 7", snow-free, lake level 1 cm below ice

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
2/16/90	47	S	1	12.75	-1.0	6.9							
2/16/90	47		1	12.75	0.0	1.4	13.70		100.0000				
2/16/90	47	E	1	12.75	1.0	4.2	12.96		20.5500	6.68	248	13.39	16.47
2/16/90	47	E	2	12.75	1.0	4.2	12.96		20.5500	6.73	227		
2/16/90	47	M	1	12.75	2.0	3.9	10.26		7.2130	6.65	287	7.38	10.15
2/16/90	47	M	2	12.75	2.0	3.9	10.26		7.2130	6.68	283		
2/16/90	47		1	12.75	3.0	3.8	9.14		2.7660				
2/16/90	47		1	12.75	4.0	3.8	8.85		1.1060				
2/16/90	47		1	12.75	5.0	3.9	8.20		0.4540				
2/16/90	47		1	12.75	6.0	3.9	7.55		0.1880				
2/16/90	47	H	1	12.75	7.0	3.9	7.21		0.0781	6.55	336	0.58	1.62
2/16/90	47	H	2	12.75	7.0	3.9	7.21		0.0781	6.52	352		
2/16/90	47		1	12.75	8.0	3.9	6.19		0.0325				
2/16/90	47		1	12.75	9.0	4.0	4.48		0.0127				
2/16/90	47		1	12.75	10.0	4.0	3.60						
2/16/90	47		1	12.75	11.0	4.2	0.76						
2/16/90	47		1	12.75	12.0								

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 3/25/90 JULIAN DATE: 84 TIME: 13.75

SECCHI M: 2.9 WEATHER: Sunny, clear, slight breeze PERSONNEL: JAA SRC REM

TMETHOD: 10 LMETHOD: 12 AMETHOD: 11
OMETHOD: 10 PHMETHOD: 10 CAMETHOD: 11

COMMENTS: Water is tea colored

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
3/25/90	84	S	1	13.75	-1.0	5.8							
3/25/90	84		1	13.75	0.0	6.4	9.04		100.0000				
3/25/90	84		1	13.75	1.0	6.4	9.07		24.2700				
3/25/90	84	E	1	13.75	2.0	6.3	9.17		6.9350	6.77	289	4.76	6.22
3/25/90	84	E	2	13.75	2.0	6.3	9.17		6.9350	6.84	298		
3/25/90	84		1	13.75	3.0	6.3	9.11		2.1340				
3/25/90	84		1	13.75	4.0	6.1	9.09		0.6970				
3/25/90	84	M	1	13.75	5.0	6.1	8.99		0.2317	6.72	290	4.92	6.04
3/25/90	84	M	2	13.75	5.0	6.1	8.99		0.2317	6.77	295		
3/25/90	84		1	13.75	6.0	6.1	8.96		0.0827				
3/25/90	84		1	13.75	7.0	6.0	8.98		0.0295				
3/25/90	84		1	13.75	8.0	6.0	8.88		0.0109				
3/25/90	84	H	1	13.75	9.0	5.9	8.76		0.0041	6.69	288	4.16	5.76
3/25/90	84	H	2	13.75	9.0	5.9	8.76		0.0041	6.78	293		
3/25/90	84		1	13.75	10.0	5.9	8.74		0.0019				
3/25/90	84		1	13.75	11.0	5.8	8.74						

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 4/29/90 JULIAN DATE: 119 TIME: 15.75

SECCHI M: 3.6 WEATHER: Overcast, breezy PERSONNEL: JAA SJJ PS SRC

TMETHOD: 10 LMETHOD: 12 AMETHOD: 11
OMETHOD: 10 PHMETHOD: 12 CAMETHOD: 11

COMMENTS:

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
4/29/90	119	S	1	15.75	-1.0	17.2							
4/29/90	119		1	15.75	0.0	18.4	8.90		100.0000				
4/29/90	119	E	1	15.75	1.0	18.5	9.01		20.2350	6.77	297	0.47	0.66
4/29/90	119	E	2	15.75	1.0	18.5	9.01		20.2350	6.98	286	0.47	0.60
4/29/90	119		1	15.75	2.0	18.1	9.18		8.4450				
4/29/90	119		1	15.75	3.0	12.4	10.40		3.8350				
4/29/90	119	M	1	15.75	4.0	10.1	10.33		1.4500	6.99	295	0.39	0.78
4/29/90	119	M	2	15.75	4.0	10.1	10.33		1.4500	7.01	296	0.26	0.47
4/29/90	119		1	15.75	5.0	9.0	8.97		0.6190				
4/29/90	119		1	15.75	6.0	8.5	9.39		0.2720				
4/29/90	119		1	15.75	7.0	8.1	9.01		0.1150				
4/29/90	119		1	15.75	8.0	7.8	8.33		0.0522				
4/29/90	119	H	1	15.75	9.0	7.8	7.68		0.0224	6.72	293	0.10	1.03
4/29/90	119	H	2	15.75	9.0	7.8	7.68		0.0224	6.78	298	0.12	1.07
4/29/90	119		1	15.75	10.0	7.5	7.13		0.0080				
4/29/90	119		1	15.75	11.0	7.4	5.50						
4/29/90	119		1	15.75	12.0	7.3	3.00						

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 5/18/90 JULIAN DATE: 138 TIME: 12.25

SECCHI M: 3.3 WEATHER: Windy, partly sunny PERSONNEL: JAA SRC REM

TMETHOD: 10 LMETHOD: 12 AMETHOD: 11
OMETHOD: 10 PHMETHOD: 11 CAMETHOD: 11

COMMENTS:

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
5/18/90	138	S	1	12.25	-1.0	12.3							
5/18/90	138		1	12.25	0.0	16.0	9.60		100.0000				
5/18/90	138		1	12.25	1.0	16.0	9.60		27.7000				
5/18/90	138	E	1	12.25	2.0	15.8	9.65		9.6520	6.73	270	3.88	5.62
5/18/90	138	E	2	12.25	2.0	15.8	9.65		9.6520	6.66	271		
5/18/90	138		1	12.25	3.0	14.8	9.75		4.0730				
5/18/90	138		1	12.25	4.0	12.6	8.95		1.4970				
5/18/90	138	M	1	12.25	5.0	9.2	7.25		0.6190	6.45	298	6.59	9.48
5/18/90	138	M	2	12.25	5.0	9.2	7.25		0.6190	6.45	288		
5/18/90	138		1	12.25	6.0	7.8	6.60		0.2690				
5/18/90	138		1	12.25	7.0	7.4	6.06		0.1120				
5/18/90	138		1	12.25	8.0	7.3	6.00		0.0412				
5/18/90	138	H	1	12.25	9.0	7.2	4.95		0.0129	6.40	295	1.45	3.44
5/18/90	138	H	2	12.25	9.0	7.2	4.95		0.0129	6.40	301		
5/18/90	138		1	12.25	10.0	7.1	4.75		0.0030				
5/18/90	138		1	12.25	11.0	7.0	3.80						
5/18/90	138		1	12.25	12.0	6.9	2.65						

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 6/06/90 JULIAN DATE: 157 TIME: 10.00

SECCHI M: 4.3 WEATHER: Partly cloudy, slight breeze PERSONNEL: JAA SRC MR

TMETHOD: 10 LMETHOD: 12 AMETHOD:
OMETHOD: 10 PHMETHOD: 10 CAMETHOD: 11

COMMENTS: No alkalinity data

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
6/06/90	157	S	1	10.00	-1.0								
6/06/90	157		1	10.00	0.0	17.8	9.50		100.0000				
6/06/90	157		1	10.00	1.0	17.8	9.44		30.1390				
6/06/90	157	E	1	10.00	2.0	17.6	9.23		10.8180	7.13		1.75	2.79
6/06/90	157	E	2	10.00	2.0	17.6	9.23		10.8180	7.26			
6/06/90	157		1	10.00	3.0	17.3	9.10		4.6490				
6/06/90	157		1	10.00	4.0	15.4	8.08		1.6810				
6/06/90	157	M	1	10.00	5.0	11.9	4.78		0.6170	6.90		1.66	3.04
6/06/90	157	M	2	10.00	5.0	11.9	4.78		0.6170	6.71			
6/06/90	157		1	10.00	6.0	9.2	3.73		0.2560				
6/06/90	157		1	10.00	7.0	8.3	3.16		0.0986				
6/06/90	157		1	10.00	8.0	7.8	2.21		0.0327				
6/06/90	157	H	1	10.00	9.0	7.4	1.90		0.0094	6.58		0.98	3.01
6/06/90	157	H	2	10.00	9.0	7.4	1.90		0.0094	6.60			
6/06/90	157		1	10.00	10.0	7.2	1.00		0.0019				
6/06/90	157		1	10.00	11.0	7.1	0.32	4					
6/06/90	157		1	10.00	12.0	7.0	0.28	4					

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 6/19/90 JULIAN DATE: 170 TIME: 10.75

SECCHI M: 4.5 WEATHER: Mostly cloudy, sl. breeze. PERSONNEL: JAA DAM JS

TMETHOD: 10 LMETHOD: 12 AMETHOD: 11
OMETHOD: 10 PHMETHOD: 12 CAMETHOD: 11

COMMENTS: pH, alkalinities refrigerated 72 hr

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
6/19/90	170	S	1	10.75	-1.0	22.5							
6/19/90	170		1	10.75	0.0	22.8	8.57		100.0000				
6/19/90	170		1	10.75	1.0	22.4	8.61		44.8200				
6/19/90	170	E	1	10.75	2.0	20.7	9.16		22.7300	6.99	283	2.65	3.02
6/19/90	170	E	2	10.75	2.0	20.7	9.16		22.7300	6.98	287	2.53	3.08
6/19/90	170		1	10.75	3.0	19.1	9.27		9.5700				
6/19/90	170		1	10.75	4.0	16.0	6.22		4.5000				
6/19/90	170	M	1	10.75	5.0	12.7	3.13		2.1200	6.53	301	4.23	4.53
6/19/90	170	M	2	10.75	5.0	12.7	3.13		2.1200	6.49	300	3.81	4.56
6/19/90	170		1	10.75	6.0	9.6	1.91		0.9600				
6/19/90	170		1	10.75	7.0	8.6	1.62		0.3700				
6/19/90	170		1	10.75	8.0	7.9	1.26		0.1100				
6/19/90	170	H	1	10.75	9.0	7.6	0.70		0.0300			1.89	3.91
6/19/90	170	H	2	10.75	9.0	7.6	0.70		0.0300			1.50	3.56
6/19/90	170		1	10.75	10.0	7.3	0.50	4	0.0030				
6/19/90	170		1	10.75	11.0	7.2	0.53	4					
6/19/90	170		1	10.75	12.0	7.2	0.50	4					

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 7/02/90 JULIAN DATE: 183 TIME: 9.75

SECCHI M: 4.0 WEATHER: Partly cloudy PERSONNEL: SRC KB

TMETHOD: 10 LMETHOD: 12 AMETHOD: 11
OMETHOD: 10 PHMETHOD: 12 CAMETHOD: 12

COMMENTS:

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
7/02/90	183	S	1	9.75	-1.0	20.0							
7/02/90	183		1	9.75	0.0	22.7	8.38		100.0000				
7/02/90	183	E	1	9.75	1.0	22.9	8.28		31.4700	7.19	290	1.56	2.03
7/02/90	183	E	2	9.75	1.0	22.9	8.28		31.4700	7.14	293	1.52	2.04
7/02/90	183		1	9.75	2.0	22.7	8.28		14.2250				
7/02/90	183		1	9.75	3.0	19.3	9.09		5.9690				
7/02/90	183	M	1	9.75	4.0	16.9	9.91		1.8770	7.36	276	7.02	8.51
7/02/90	183	M	2	9.75	4.0	16.9	9.91		1.8770	7.51	284	10.51	11.94
7/02/90	183		1	9.75	5.0	13.0	1.69		0.6260				
7/02/90	183		1	9.75	6.0	10.2	0.65		0.2261				
7/02/90	183		1	9.75	7.0	9.0	0.40	4	0.0720				
7/02/90	183		1	9.75	8.0	8.2	0.32	4	0.0205				
7/02/90	183	H	1	9.75	9.0	7.9	0.41	4	0.0057	6.52	411	3.09	5.22
7/02/90	183	H	2	9.75	9.0	7.9	0.41	4	0.0057	6.48	409	2.39	4.50
7/02/90	183		1	9.75	10.0	7.5	0.30	4	0.0016				
7/02/90	183		1	9.75	11.0	7.2	0.28	4	0.0006				
7/02/90	183		1	9.75	12.0	7.2	0.27	4					

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 7/18/90 JULIAN DATE: 199 TIME: 10.75

SECCHI M: 3.0 WEATHER: Sunny, slight breeze PERSONNEL: JAA MR

TMETHOD: LMETHOD: 12 AMETHOD: 11
OMETHOD: PHMETHOD: 11 CAMETHOD: 12

COMMENTS: Temp/O2 readings way off--discarded

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
7/18/90	199	S	1	10.75	-1.0								
7/18/90	199		1	10.75	0.0				100.0000				
7/18/90	199	E	1	10.75	1.0				33.6400	6.86	289	3.66	3.77
7/18/90	199	E	2	10.75	1.0				33.6400	6.77	300	2.87	3.32
7/18/90	199		1	10.75	2.0				12.9300				
7/18/90	199		1	10.75	3.0				4.8850				
7/18/90	199	M	1	10.75	4.0				1.4700	6.35	312	26.43	26.93
7/18/90	199	M	2	10.75	4.0				1.4700	6.32	316	26.93	28.05
7/18/90	199		1	10.75	5.0				0.4925				
7/18/90	199		1	10.75	6.0				0.2084				
7/18/90	199		1	10.75	7.0				0.0734				
7/18/90	199		1	10.75	8.0				0.0275				
7/18/90	199	H	1	10.75	9.0				0.0117	6.31	521	0.17	3.54
7/18/90	199	H	2	10.75	9.0				0.0117	6.32	506	0.18	3.28
7/18/90	199		1	10.75	10.0				0.0050				
7/18/90	199		1	10.75	11.0				0.0020				
7/18/90	199		1	10.75	12.0								

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 8/01/90 JULIAN DATE: 213 TIME: 12.10

SECCHI M: 1.5 WEATHER: Sunny, windy PERSONNEL: JAA DAM

TMETHOD: 10 LMETHOD: 12 AMETHOD:
OMETHOD: 10 PHMETHOD: 10 CAMETHOD: 12

COMMENTS: No alkalinity this date

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
8/01/90	213	S	1	12.10	-1.0	23.1							
8/01/90	213		1	12.10	0.0	24.0	10.30		100.0000				
8/01/90	213	E	1	12.10	1.0	24.1	10.53		13.7900	8.31		38.44	38.44
8/01/90	213	E	2	12.10	1.0	24.1	10.53		13.7900			36.72	36.72
8/01/90	213		1	12.10	2.0	24.0	10.65		2.0100				
8/01/90	213		1	12.10	3.0	21.3	9.38		0.2592				
8/01/90	213		1	12.10	4.0	18.3	4.10		0.1105				
8/01/90	213	M	1	12.10	5.0	15.2	0.40	4	0.0521	6.47		9.55	22.04
8/01/90	213	M	2	12.10	5.0	15.2	0.40	4	0.0521			15.08	29.75
8/01/90	213		1	12.10	6.0	10.9	0.33	4	0.0264				
8/01/90	213		1	12.10	7.0	9.4	0.31	4	0.0118				
8/01/90	213		1	12.10	8.0	8.6	0.29	4	0.0054				
8/01/90	213		1	12.10	9.0	8.0	0.28	4	0.0021				
8/01/90	213	H	1	12.10	10.0	7.7	0.28	4		6.00		0.25	3.72
8/01/90	213	H	2	12.10	10.0	7.7	0.28	4				0.29	3.78
8/01/90	213		1	12.10	11.0	7.4	0.27	4					
8/01/90	213		1	12.10	12.0	7.4	0.27	4					

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 8/12/90 JULIAN DATE: 224 TIME: 12.75

SECCHI M: 1.3 WEATHER: mostly sunny PERSONNEL: REM SRC

TMETHOD: 10 LMETHOD: 12 AMETHOD: 11
OMETHOD: 10 PHMETHOD: 11 CAMETHOD: 12

COMMENTS:

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
8/12/90	224	S	1	12.75	-1.0	24.0							
8/12/90	224		1	12.75	0.0	25.2	9.45		100.0000				
8/12/90	224		1	12.75	1.0	23.6	9.80		15.4540				
8/12/90	224	E	1	12.75	2.0	23.0	9.55		3.1620	9.07	307	32.55	32.55
8/12/90	224	E	2	12.75	2.0	23.0	9.55		3.1620	9.20	313	32.13	32.66
8/12/90	224		1	12.75	3.0	22.2	7.35		0.7190				
8/12/90	224		1	12.75	4.0	18.9	1.30		0.2520				
8/12/90	224	M	1	12.75	5.0	14.5	0.31	4	0.0983	6.72	330	11.65	20.54
8/12/90	224	M	2	12.75	5.0	14.5	0.31	4	0.0983	6.65	332	11.95	20.23
8/12/90	224		1	12.75	6.0	11.1	0.27	4	0.0384				
8/12/90	224		1	12.75	7.0	9.4	0.24	4	0.0134				
8/12/90	224		1	12.75	8.0	8.6	0.22	4	0.0042				
8/12/90	224	H	1	12.75	9.0	8.1	0.22	4	0.0009	6.74	552	0.77	4.20
8/12/90	224	H	2	12.75	9.0	8.1	0.22	4	0.0009	6.73	548	0.40	4.26
8/12/90	224		1	12.75	10.0	7.8	0.21	4					
8/12/90	224		1	12.75	11.0	7.7	0.21	4					
8/12/90	224		1	12.75	12.0	7.4	0.20	4					

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 9/03/90 JULIAN DATE: 246 TIME: 10.05

SECCHI M: 1.5 WEATHER: Mostly sunny PERSONNEL: SRC REM

TMETHOD: 10 LMETHOD: 12 AMETHOD:
OMETHOD: 10 PHMETHOD: 11 CAMETHOD: 12

COMMENTS: No alkalinity this date

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
9/03/90	246	S	1	10.05	-1.0	22.9							
9/03/90	246		1	10.05	0.0	22.8	10.64		100.0000				
9/03/90	246		1	10.05	1.0	23.1	10.74		14.6800				
9/03/90	246	E	1	10.05	2.0	23.2	10.73		2.9310	9.49		29.04	29.04
9/03/90	246	E	2	10.05	2.0	23.2	10.73		2.9310	9.54		31.24	31.24
9/03/90	246		1	10.05	3.0	21.3	3.88		0.3331				
9/03/90	246		1	10.05	4.0	18.5	0.21	4	0.1260				
9/03/90	246		1	10.05	5.0	14.8	0.21	4	0.0523				
9/03/90	246	M	1	10.05	6.0	12.1	0.21	4	0.0174	6.72		2.98	46.04
9/03/90	246	M	2	10.05	6.0	12.1	0.21	4	0.0174	6.62		14.98	54.65
9/03/90	246		1	10.05	7.0	10.5	0.21	4	0.0064				
9/03/90	246		1	10.05	8.0	9.7	0.21	4	0.0027				
9/03/90	246	H	1	10.05	9.0	9.0	0.21	4	0.0009	6.71		2.11	8.80
9/03/90	246	H	2	10.05	9.0	9.0	0.21	4	0.0009	6.73		2.23	8.75
9/03/90	246		1	10.05	10.0	8.3	0.21	4					
9/03/90	246		1	10.05	11.0	8.1	0.21	4					
9/03/90	246		1	10.05	12.0	8.0	0.21	4					

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 9/14/90 JULIAN DATE: 257 TIME: 14.25

SECCHI M: 2.9 WEATHER: Mostly cloudy, windy PERSONNEL: JAA GG SMF

TMETHOD: 10 LMETHOD: 12 AMETHOD: 11
OMETHOD: 10 PHMETHOD: 11 CAMETHOD: 12

COMMENTS:

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
9/14/90	257	S	1	14.25	-1.0	20.0							
9/14/90	257		1	14.25	0.0	21.8	8.44		100.0000				
9/14/90	257		1	14.25	1.0	21.8	8.39		50.7870				
9/14/90	257	E	1	14.25	2.0	21.8	8.42		18.9720	6.91	336	7.48	7.81
9/14/90	257	E	2	14.25	2.0	21.8	8.42		18.9720	7.21	322	5.98	6.64
9/14/90	257		1	14.25	3.0	21.0	6.81		5.8990				
9/14/90	257		1	14.25	4.0	19.3	1.90		2.3970				
9/14/90	257	M	1	14.25	5.0	15.9	0.95		0.6205	6.52	453	29.73	39.37
9/14/90	257	M	2	14.25	5.0	15.9	0.95		0.6205	6.51	427	33.71	45.53
9/14/90	257		1	14.25	6.0	13.3	0.70		0.1915				
9/14/90	257		1	14.25	7.0	10.4	0.31	4	0.0675				
9/14/90	257		1	14.25	8.0	9.5	0.22	4	0.0179				
9/14/90	257		1	14.25	9.0	9.1	0.20	4					
9/14/90	257	H	1	14.25	10.0	8.4	0.23	4		6.55	643	2.49	11.04
9/14/90	257	H	2	14.25	10.0	8.4	0.23	4		6.52	601	2.15	8.88
9/14/90	257		1	14.25	11.0	8.2	0.19	4					
9/14/90	257		1	14.25	12.0	8.1	0.15	4					

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 10/19/90 JULIAN DATE: 292 TIME: 13.50

SECCHI M: 3.5 WEATHER: Mostly cloudy, strong winds PERSONNEL: JAA GG

TMETHOD: 10 LMETHOD: 12 AMETHOD: 11
OMETHOD: 10 PHMETHOD: 11 CAMETHOD:

COMMENTS: Chlorophylls lost for this date

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
10/19/90	292	S	1	13.50	-1.0								
10/19/90	292		1	13.50	0.0	15.0	7.12		100.0000				
10/19/90	292		1	13.50	1.0	15.1	7.06		41.3400				
10/19/90	292		1	13.50	2.0	15.1	6.91		20.7000				
10/19/90	292	E	1	13.50	3.0	15.1	6.90		8.8700	7.00	491		
10/19/90	292	E	2	13.50	3.0	15.1	6.90		8.8700	7.00	492		
10/19/90	292		1	13.50	4.0	15.1	6.89		3.9000				
10/19/90	292		1	13.50	5.0	15.1	6.68		1.8600				
10/19/90	292		1	13.50	6.0	12.9	0.28	4	0.8300				
10/19/90	292	M	1	13.50	7.0	10.7	0.22	4	0.1800	6.65	934		
10/19/90	292	M	2	13.50	7.0	10.7	0.22	4	0.1800	6.63	757		
10/19/90	292		1	13.50	8.0	9.2	0.22	4					
10/19/90	292		1	13.50	9.0	8.6	0.22	4					
10/19/90	292	H	1	13.50	10.0	8.2	0.22	4		6.73	1208		
10/19/90	292	H	2	13.50	10.0	8.2	0.22	4		6.74	1159		
10/19/90	292		1	13.50	11.0	8.0	0.22	4					
10/19/90	292		1	13.50	12.0	7.9	0.23	4					

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 11/19/90 JULIAN DATE: 323 TIME: 14.75

SECCHI M: 1.7 WEATHER: Sunny, windy, cold PERSONNEL: JAA SRC

TMETHOD: 10 LMETHOD: 12 AMETHOD: 11
OMETHOD: 10 PHMETHOD: 11 CAMETHOD: 12

COMMENTS:

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
11/19/90	323	S	1	14.75	-1.0	4.8							
11/19/90	323		1	14.75	0.0	5.2	10.28		100.0000				
11/19/90	323		1	14.75	1.0	5.5	10.28		13.6460				
11/19/90	323	E	1	14.75	2.0	5.5	10.28		2.5480	7.04	395	18.31	18.31
11/19/90	323	E	2	14.75	2.0	5.5	10.28		2.5480	7.09	372	15.15	16.05
11/19/90	323		1	14.75	3.0	5.5	10.28		0.5710				
11/19/90	323		1	14.75	4.0	5.5	10.22		0.1446				
11/19/90	323	M	1	14.75	5.0	5.5	10.24		0.0364	6.87	371	17.85	17.85
11/19/90	323	M	2	14.75	5.0	5.5	10.24		0.0364	6.84	364	16.90	17.47
11/19/90	323		1	14.75	6.0	5.5	10.20		0.0092				
11/19/90	323		1	14.75	7.0	5.4	10.20		0.0021				
11/19/90	323		1	14.75	8.0	5.4	10.16						
11/19/90	323		1	14.75	9.0	5.3	10.18						
11/19/90	323	H	1	14.75	10.0	5.3	10.22			6.72	372	19.57	19.57
11/19/90	323	H	2	14.75	10.0	5.3	10.22			6.85	373	17.99	18.73
11/19/90	323		1	14.75	11.0	5.3	10.10						
11/19/90	323		1	14.75	12.0	5.1							

LAKE WAYNEWOOD: SUMMARY OF PHYSICAL/CHEMICAL DATA

DATE OF SAMPLE: 12/13/90 JULIAN DATE: 347 TIME: 14.00

SECCHI M: 2.5 WEATHER: Partly sunny, slight wind PERSONNEL: JAA SRC

TMETHOD: 10 LMETHOD: 12 AMETHOD: 11
OMETHOD: 10 PHMETHOD: 11 CAMETHOD: 12

COMMENTS:

DATE OF	JULIAN	STRA	REP	TIME	DEPTH	TEMP C	OXYGEN	OFLAG	LIGHT PC	PH	ALKAL	CHLAC U	CHLASUM
12/13/90	347	S	1	14.00	-1.0	10.9							
12/13/90	347		1	14.00	0.0	3.3	11.51		100.0000				
12/13/90	347		1	14.00	1.0	3.3	11.48		19.4630				
12/13/90	347	E	1	14.00	2.0	3.3	11.48		4.7100	6.85	201	5.53	6.70
12/13/90	347	E	2	14.00	2.0	3.3	11.48		4.7100	7.08	200	6.72	8.44
12/13/90	347		1	14.00	3.0	3.3	11.44		1.6450				
12/13/90	347		1	14.00	4.0	3.3	11.40		0.5550				
12/13/90	347		1	14.00	5.0	3.3	11.40		0.1990				
12/13/90	347		1	14.00	6.0	3.3	11.45		0.0698				
12/13/90	347	M	1	14.00	7.0	3.3	11.51		0.0233	7.08	202	5.88	7.62
12/13/90	347	M	2	14.00	7.0	3.3	11.51		0.0233	7.04	197	6.79	7.74
12/13/90	347		1	14.00	8.0	3.3	11.45		0.0078				
12/13/90	347		1	14.00	9.0	3.3	11.42		0.0021				
12/13/90	347	H	1	14.00	10.0	3.3	11.44			6.92	191	5.76	7.39
12/13/90	347	H	2	14.00	10.0	3.3	11.44		.	6.96	212	6.62	7.35
12/13/90	347		1	14.00	11.0	3.3	11.32						
12/13/90	347		1	14.00	12.0	3.5							

APPENDIX I: CHEMISTRY

Table W.A.1 was compiled from unpublished data generated by Nina Caraco and Jon Cole at the Institute of Ecosystem Studies, New York Botanical Garden, Millbrook, New York. Note that the sampling dates were in 1989.

The analyses were not complete when this report was prepared, and all data may be subject to revision.

Table W.A.1. CHEMICAL CHARACTERIZATION OF LAKE WAYNEWOOD (1989)

Date	Depth m	Temp C	O2 mg/L	DIC uM	CH4 uM	S2- uM	Cond umho/cm	pH	Ca mg/L	Mg mg/L	K mg/L	Na mg/L	Cl uM	SO4 uM	Fe tdFe uM	N tdN uM	P tdP uM	Fe tFe uM	N tN uM	P tP uM
06/20/89	0.5	22.6	9.7	223	<LD	--	67	7.15	7.49	1.17	1.25	3.22	--	119.0	3.5	--	0.64	3.6	--	0.79
06/20/89	4.6	10.8	4.4	434	<LD	--	79	6.53	--	--	--	--	--	146.2	1.9	--	0.51	2.4	--	0.61
06/20/89	6.2	9.2	1.6	534	<LD	--	92	6.56	--	--	--	--	--	151.6	2.0	--	0.71	3.9	--	0.86
06/20/89	9.2	8.0	0.3	678	<LD	--	99	6.59	--	--	--	--	--	138.4	6.0	--	1.30	11.2	--	1.75
06/20/89	11.4	7.6	0.1	756	37	--	108	6.62	--	--	--	--	--	126.7	26.9	--	5.86	31.0	--	6.79
08/03/89	0.5	24.0	9.4	179	<LD	0.1	70	9.30	7.26	1.17	1.16	3.06	--	129.8	0.5	--	0.26	1.3	--	0.64
08/03/89	4.0	15.9	0.5	506	<LD	0.1	78	6.54	--	--	--	--	--	156.3	1.9	--	0.31	4.6	--	0.61
08/03/89	5.0	11.4	0.5	504	<LD	0.1	85	6.52	--	--	--	--	--	170.3	1.1	--	0.32	2.7	--	0.55
08/03/89	7.0	8.9	0.5	628	24	4.1	102	6.71	--	--	--	--	--	142.3	20.4	--	2.99	22.6	--	3.39
08/03/89	9.0	8.0	0.5	850	108	5.4	116	6.79	--	--	--	--	--	105.7	35.7	--	11.63	37.6	--	11.76
08/03/89	11.0	7.7	0.5	--	167	7.7	123	6.82	--	--	--	--	--	86.3	31.5	--	12.95	44.4	--	13.92
09/14/89	0.5	22.3	9.2	231	<LD	0.3	70	7.30	7.40	1.21	1.19	3.08	--	115.1	0.6	--	0.22	2.5	--	0.43
09/14/89	4.0	17.3	0.4	566	<LD	0.1	83	6.56	--	--	--	--	--	129.1	0.7	--	0.34	0.7	--	0.75
09/14/89	5.0	12.7	0.4	645	18	0.3	91	6.63	--	--	--	--	--	130.6	0.4	--	0.29	0.5	--	0.68
09/14/89	8.0	8.5	0.5	885	111	0.9	113	6.80	--	--	--	--	--	71.5	54.6	--	7.26	52.0	--	7.68
09/14/89	11.0	7.8	0.5	1106	305	9.6	123	6.75	--	--	--	--	--	24.1	64.6	--	15.94	71.1	--	16.53
10/04/89	0.5	14.1	8.5	293	<LD	0.2	76	6.94	8.13	1.20	1.30	3.26	--	109.6	0.9	--	0.37	1.7	--	0.68
10/04/89	6.0	10.5	0.6	683	56	0.4	102	6.89	10.50	1.42	1.62	3.84	--	105.0	10.2	--	0.49	12.9	--	1.43
10/04/89	8.0	8.6	0.4	836	124	20.9	115	6.85	11.70	1.59	1.82	4.05	--	59.9	39.1	--	8.56	43.0	--	9.02
10/04/89	11.0	7.8	0.4	1072	412	23.8	126	6.77	11.90	1.63	1.91	4.16	--	13.2	19.4	--	17.61	50.2	--	18.25

Sampling and analyses supervised by Jon Cole and Nina Caraco of the Institute of Ecosystem Studies (Millbrook, NY).
Abbreviations: LD--limit of detection, td--total dissolved, t--total (particulate plus dissolved).
Oxygen values < =0.5 mg/L should be interpreted as true "0.0".

APPENDIX II: FISH SURVEY

The census of fish captured in Lake Waynewood in July 1990 that follows on the next nine pages is reformatted from an electronic file provided by Kenneth Ersbak. It is a complete record of the fish collected by Aquatic Resource Consulting of Saylorsburg, PA. More details of this survey are contained in the final report:

Ersbak, K. 1990. Fishery Survey on the three "core" lakes of the Pocono Comparative Lakes Program. Aquatic Resources Consulting, Unpublished Report, 25 September 1990, 27 pp.

The modified electronic file will be maintained with the PCLP database. Currently it is a Quattro-Pro (vers. 1, Borland International, 1989) file called "FSH90W01.WQ1".

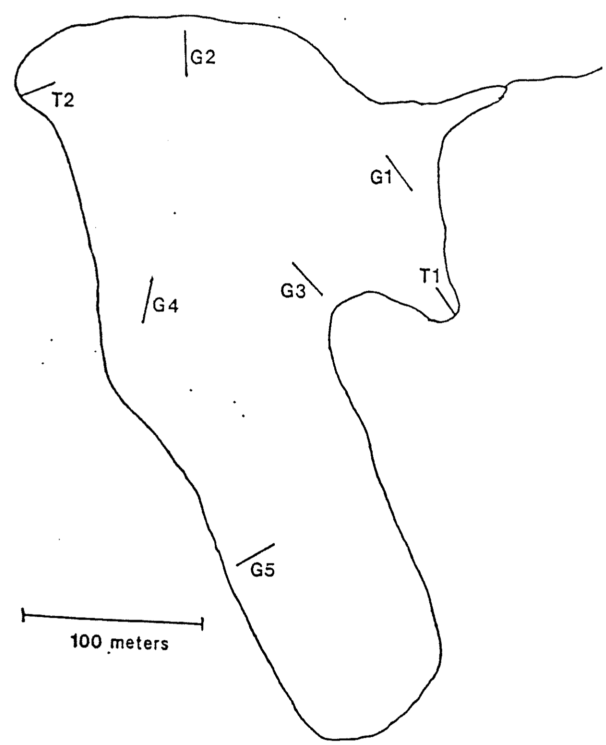
A sketch showing sampling sites is inserted below.

LAKE WAYNEWOOD

Location of Survey Sites:

G1-G5 --Gill Nets

T1-T2 --Trap Nets



POCONO COMPARATIVE LAKES PROGRAM FISH SURVEY - DATA SHEET

<FSH90W01.WQ1> -- Quattro Pro File for Waynewood fish survey of July 1990

<04/30/91> [modified by EMN 4/30/91]

OWNER OF DATA:	PCLP PROJECT (for general use)
QUESTIONS TO:	Kenneth Ersbak, Craig Williamson

GEAR: Gill Nets or Trap Nets
SET: Day (8am-8pm) or night (7pm-7am) deployment
SITE: Sampling location; see original Report

FISH CODE:

BB	Brown bullhead (Ictalurus nebulosus)
BG	Bluegill sunfish (Lepomis macrochirus)
BT	Brown trout (Salmo trutta)
GS	Golden shiner (Notemigonus crysoleucas)
LMB	Largemouth bass (Micropterus salmoides)
PS	Pumpkinseed sunfish (Lepomis gibbosus)
RB	Rock bass (Ambloplites rupestris)
RBS	Redbreasted sunfish (Lepomis auritus)
ST	Brook trout (Salvelinus fontinalis)
WS	White sucker (Catostomus commersoni)
YP	Yellow perch (Perca flavescens)

LENGTH: Length of fish in millimeters (1 inch = 25.4 mm)
WEIGHT: Weight of freshly caught fish in grams (1 pound = 454 g)
COND.: Condition according to Carlander's scale

LAKE	DATE	GEAR	SET	SITE	FISH CODE	LENGTH (mm)	WEIGHT (g wet)	COND.
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	176	64	1.17
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	177	62	1.12
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	200	88	1.10
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	203	99	1.18
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	204	103	1.21
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	204	101	1.19
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	205	112	1.30
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	208	104	1.16
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	210	118	1.27
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	211	110	1.17
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	212	124	1.30
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	220	138	1.30
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	224	132	1.17
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	226	150	1.30
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	228	150	1.27
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	229	149	1.24
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	234	174	1.36
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	236	172	1.31
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	238	170	1.26
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	240	182	1.32
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	240	190	1.37
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	240	206	1.49

POCONO COMPARATIVE LAKES PROGRAM FISH SURVEY - DATA SHEET

WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	243	196	1.37
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	246	187	1.26
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	250	208	1.33
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	253	228	1.41
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	255	214	1.29
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	261	252	1.42
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	263	282	1.55
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	264	250	1.36
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	271	283	1.42
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	272	327	1.62
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	278	302	1.41
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	279	310	1.43
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	279	308	1.42
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	282	295	1.32
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	283	318	1.40
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	283	309	1.36
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	283	364	1.61
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	285	338	1.46
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	286	337	1.44
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	287	354	1.50
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	288	332	1.39
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	299	351	1.31
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	307	386	1.33
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	YP	307	414	1.43
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	149	35	1.06
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	162	50	1.18
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	163	44	1.02
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	165	54	1.20
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	165	54	1.20
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	172	62	1.22
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	172	52	1.02
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	173	61	1.18
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	175	68	1.27
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	176	64	1.17
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	178	61	1.08
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	179	70	1.22
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	182	78	1.29
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	183	75	1.22
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	184	73	1.17
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	188	87	1.31
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	208	184	2.04
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	214	134	1.37
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	217	130	1.27
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	217	134	1.31
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	220	144	1.35
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	220	132	1.24
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	220	159	1.49
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	222	161	1.47
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	223	136	1.23
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	223	138	1.24
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	224	132	1.17
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	224	146	1.30
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	225	138	1.21
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	226	158	1.37
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	227	142	1.21

POCONO COMPARATIVE LAKES PROGRAM FISH SURVEY - DATA SHEET

WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	229	176	1.47
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	230	154	1.27
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	233	160	1.26
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	233	176	1.39
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	234	182	1.42
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	234	162	1.26
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	239	201	1.47
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	241	159	1.14
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	245	224	1.52
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	249	228	1.48
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	255	201	1.21
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	258	180	1.05
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	265	233	1.25
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	268	280	1.45
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	269	250	1.28
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	270	254	1.29
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	271	234	1.18
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	272	294	1.46
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	GS	287	307	1.30
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	BG	235	272	2.10
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	PS	106	23	1.93
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	PS	183	114	1.86
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	PS	185	136	2.15
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	PS	188	134	2.02
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	RB	128	37	1.76
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	RB	146	62	1.99
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	RB	152	62	1.77
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	RB	205	174	2.02
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	LMB	200	103	1.29
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	WS	311	359	1.19
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	BB	295	428	1.67
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	BB	300	423	1.57
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	BB	333	682	1.85
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	BB	365	800	1.65
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 1	BB	374	776	1.48
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	YP	193	82	1.14
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	YP	221	120	1.11
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	YP	234	164	1.28
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	YP	245	192	1.31
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	YP	245	197	1.34
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	YP	257	230	1.35
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	YP	260	211	1.20
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	YP	279	288	1.33
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	YP	322	440	1.32
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	112	16	1.14
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	143	35	1.20
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	150	40	1.19
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	150	43	1.27
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	151	45	1.31
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	155	56	1.50
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	157	50	1.29
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	158	49	1.24
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	159	44	1.09
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	159	49	1.22
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	160	50	1.22

POCONO COMPARATIVE LAKES PROGRAM FISH SURVEY - DATA SHEET

WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	163	52	1.20
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	165	55	1.22
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	167	50	1.07
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	167	53	1.14
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	167	51	1.10
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	168	58	1.22
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	169	57	1.18
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	169	58	1.20
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	169	52	1.08
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	170	61	1.24
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	170	58	1.18
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	170	57	1.16
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	171	57	1.14
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	171	63	1.26
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	171	59	1.18
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	171	63	1.26
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	172	59	1.16
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	173	67	1.29
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	173	65	1.26
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	175	70	1.31
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	176	66	1.21
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	176	70	1.28
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	176	71	1.30
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	176	84	1.54
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	177	56	1.01
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	177	70	1.26
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	178	78	1.38
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	178	75	1.33
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	178	84	1.49
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	179	68	1.19
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	180	71	1.22
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	180	69	1.18
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	180	72	1.23
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	182	68	1.13
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	183	73	1.19
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	196	97	1.29
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	201	111	1.37
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	201	110	1.35
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	203	139	1.66
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	207	148	1.67
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	211	134	1.43
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	219	130	1.24
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	225	166	1.46
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	228	166	1.40
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	230	174	1.43
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	230	160	1.32
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	233	172	1.36
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	GS	277	301	1.42
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	BG	114	18	1.21
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	BG	175	86	1.60
WAYNEWOOD	7/12/90	GILL	NIGHT	NET 2	LMB	253	218	1.35
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	GS	184	72	1.16
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	GS	242	191	1.35
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	GS	248	166	1.09
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	GS	255	202	1.22

POCONO COMPARATIVE LAKES PROGRAM FISH SURVEY - DATA SHEET

WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	GS	267	253	1.33
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	93	15	1.86
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	94	14	1.69
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	100	19	1.90
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	100	17	1.70
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	102	20	1.88
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	109	24	1.85
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	118	27	1.64
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	120	33	1.91
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	122	30	1.65
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	128	38	1.81
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	157	91	2.35
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	185	162	2.56
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BG	229	256	2.13
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	103	21	1.92
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	120	37	2.14
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	120	35	2.03
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	122	40	2.20
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	126	35	1.75
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	127	38	1.86
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	134	45	1.87
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	136	56	2.23
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	143	72	2.46
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	145	51	1.67
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	163	100	2.31
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	164	95	2.15
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	168	94	1.98
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	177	118	2.13
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	193	145	2.02
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	PS	195	144	1.94
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	102	20	1.88
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	119	28	1.66
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	138	49	1.86
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	141	58	2.07
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	143	51	1.74
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	144	53	1.77
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	144	48	1.61
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	146	55	1.77
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	150	61	1.81
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	168	83	1.75
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	176	91	1.67
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	185	103	1.63
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	196	128	1.70
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	196	143	1.90
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RB	212	176	1.85
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	RBS	148	64	1.97
WAYNEWOOD	7/12/90	TRAP	NIGHT	NET 1	BB	265	311	1.67
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	YP	182	75	1.24
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	YP	201	94	1.16
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	YP	210	106	1.14
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	YP	231	158	1.28
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	YP	247	190	1.26
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	YP	255	254	1.53
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	YP	255	231	1.39
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	YP	255	240	1.45

POCONO COMPARATIVE LAKES PROGRAM FISH SURVEY - DATA SHEET

WAYNEWOOD	7/12/90	GILL	DAY	NET 1	YP	284	359	1.57
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	BG	223	242	2.18
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	PS	167	104	2.23
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	PS	172	103	2.02
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	PS	172	99	1.95
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	PS	182	121	2.01
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	LMB	195	89	1.20
WAYNEWOOD	7/12/90	GILL	DAY	NET 1	LMB	198	100	1.29
WAYNEWOOD	7/12/90	GILL	DAY	NET 2	YP	204	112	1.32
WAYNEWOOD	7/12/90	GILL	DAY	NET 2	YP	244	198	1.36
WAYNEWOOD	7/12/90	GILL	DAY	NET 2	YP	302	382	1.39
WAYNEWOOD	7/12/90	GILL	DAY	NET 2	YP	314	423	1.37
WAYNEWOOD	7/12/90	GILL	DAY	NET 2	BG	201	183	2.25
WAYNEWOOD	7/12/90	GILL	DAY	NET 2	BT	325	409	1.19
WAYNEWOOD	7/12/90	GILL	DAY	NET 3	YP	261	268	1.51
WAYNEWOOD	7/12/90	GILL	DAY	NET 3	YP	269	285	1.46
WAYNEWOOD	7/12/90	GILL	DAY	NET 3	YP	275	315	1.51
WAYNEWOOD	7/12/90	GILL	DAY	NET 3	YP	275	292	1.40
WAYNEWOOD	7/12/90	GILL	DAY	NET 3	YP	286	312	1.33
WAYNEWOOD	7/12/90	GILL	DAY	NET 3	YP	297	370	1.41
WAYNEWOOD	7/12/90	GILL	DAY	NET 3	GS	165	49	1.09
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	YP	170	49	1.00
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	BG	128	45	2.15
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	BG	132	45	1.96
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	BG	167	108	2.32
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	BG	178	92	1.63
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	BG	179	114	1.99
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	PS	145	63	2.07
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	PS	145	68	2.23
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	PS	157	94	2.43
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	PS	157	93	2.40
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	PS	172	111	2.18
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	PS	178	118	2.09
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	PS	189	129	1.91
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	PS	191	138	1.98
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	RB	168	82	1.73
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	RBS	142	54	1.89
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	RBS	143	57	1.95
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	RBS	148	64	1.97
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	RBS	149	62	1.87
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	RBS	149	59	1.78
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	RBS	153	72	2.01
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	RBS	154	75	2.05
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	RBS	158	85	2.16
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	RBS	162	76	1.79
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	RBS	166	90	1.97
WAYNEWOOD	7/12/90	TRAP	DAY	NET 1	RBS	180	112	1.92
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 3	YP	207	114	1.29
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 3	YP	283	324	1.43
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 3	GS	230	138	1.13
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 3	GS	272	263	1.31
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 3	RB	138	50	1.90
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 3	RB	166	89	1.95
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 3	RB	166	82	1.79
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	210	110	1.19

POCONO COMPARATIVE LAKES PROGRAM FISH SURVEY - DATA SHEET

WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	216	122	1.21
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	220	114	1.07
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	220	124	1.16
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	221	130	1.20
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	222	118	1.08
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	238	171	1.27
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	239	166	1.22
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	245	182	1.24
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	248	214	1.40
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	248	204	1.34
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	250	198	1.27
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	250	227	1.45
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	253	217	1.34
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	256	232	1.38
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	266	237	1.26
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	266	238	1.26
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	266	250	1.33
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	269	266	1.37
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	269	262	1.35
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	270	267	1.36
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	273	272	1.34
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	273	291	1.43
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	274	297	1.44
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	274	313	1.52
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	275	326	1.57
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	277	326	1.53
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	277	288	1.36
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	277	302	1.42
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	280	328	1.49
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	280	305	1.39
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	280	263	1.20
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	281	304	1.37
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	282	318	1.42
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	285	300	1.30
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	285	327	1.41
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	285	358	1.55
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	286	378	1.62
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	287	333	1.41
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	290	357	1.46
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	291	380	1.54
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	294	367	1.44
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	294	360	1.42
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	294	382	1.50
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	295	293	1.14
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	310	378	1.27
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	322	436	1.31
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	YP	331	492	1.36
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	158	46	1.17
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	165	54	1.20
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	167	57	1.22
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	173	53	1.02
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	179	58	1.01
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	179	70	1.22
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	180	67	1.15
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	218	130	1.25

WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	225	144	1.26
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	225	157	1.38
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	241	214	1.53
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	265	256	1.38
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	GS	271	272	1.37
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	PS	193	142	1.98
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	PS	200	152	1.90
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	RB	182	114	1.89
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	RB	207	168	1.89
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	WS	246	175	1.18
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	WS	340	454	1.16
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	WS	390	656	1.11
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	WS	454	1018	1.09
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	BB	355	704	1.57
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 4	ST	300	298	1.10
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	246	200	1.34
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	248	195	1.28
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	252	228	1.42
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	258	250	1.46
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	258	261	1.52
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	260	232	1.32
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	268	272	1.41
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	269	248	1.27
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	270	260	1.32
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	271	302	1.52
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	274	292	1.42
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	276	305	1.45
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	279	300	1.38
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	280	334	1.52
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	284	342	1.49
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	286	348	1.49
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	287	388	1.64
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	288	306	1.28
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	301	404	1.48
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	YP	307	368	1.27
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	GS	163	49	1.13
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	GS	163	57	1.32
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	GS	165	50	1.11
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	GS	215	130	1.31
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	GS	276	276	1.31
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	BG	242	328	2.31
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	BG	245	288	1.96
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	LMB	198	106	1.37
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	WS	282	263	1.17
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	WS	351	558	1.29
WAYNEWOOD	7/13/90	GILL	NIGHT	NET 5	WS	385	612	1.07
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	BG	156	84	2.21
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	BG	201	194	2.39
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	BG	220	278	2.61
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	PS	109	21	1.62
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	PS	140	64	2.33
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	PS	176	116	2.13
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	PS	183	122	1.99
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	PS	184	121	1.94
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	PS	187	134	2.05

POCONO COMPARATIVE LAKES PROGRAM FISH SURVEY - DATA SHEET

WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	PS	188	142	2.14
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	PS	198	179	2.31
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	LMB	235	162	1.25
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	BB	152	39	1.11
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	BB	355	758	1.69
WAYNEWOOD	7/13/90	TRAP	NIGHT	NET 2	BB	385	908	1.59