Lake Variation and Climate Change Study: Crustacean Plankton of a Lake Size Series in the Red Lake District, Northwest Ontario, 1991-1993 and Lakes Nipigon and Superior, 1991

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1995

Canadian Data Report of Fisheries and Aquatic Sciences 966

Fisheries and Oceans
Pêches et Océans
Canada

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This is the 101st Data Report

from the Central and Arctic Region, Winnipeg

Cat. no. 97-13/966E ISSN 0707-6465

Correct citation for this publication is:

Salki, A.G. 1995. Lake variation and climate change study: Crustacean plankton of a lake size series in the Red Lake District, Northwest Ontario, 1991 - 1993, and lakes Nipigon and Superior, 1991. Can. Data Rep. Fish. Aquat. Sci. 966: v + 34 p.

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ABSTRACT

Salki, A.G. 1995. Lake variation and climate change study: crustacean plankton of a lake size series in the Red Lake District, Northwest Ontario, 1991 - 1993 and lakes Nipigon and Superior, 1991. Can. Data Rep. Fish. Aquat. Sci. 966: v + 34p.

Zooplankton species composition, abundance and biomass sampled at regular intervals during the open water seasons of 1991, 1992 and 1993 in a lake size series in Northwest Ontario, and during 1991 in lakes Nipigon and Superior are reported. Summaries of results, field and laboratory methods are given.

Key words: limnology; natural variability; climate; methodology; long-term monitoring; zooplankton abundance; biomass.

RÉSUMÉ

Salki, A.G. 1995. Lake variation and climate change study: crustacean plankton of a lake size series in the Red Lake District, Northwest Ontario, 1991 - 1993 and lakes Nipigon and Superior, 1991. Can. Data Rep. Fish. Aquat. Sci. 966: v + 34p.

La variété des espèces de zooplancton, leur abondance et leur biomasse ont été examinées dans une étude sur le zooplancton dans une séries de lacs de la région du Nord-Ouest de l'Ontario, lors d'échantillonnages réguliers qui ont eu lieu pendant la saison des eaux libres de 1991, de 1992 et de 1993 et pendant l'année 1991 pour les lacs Nipigon et Superior. Le rapport donne les résumés des résultats et des méthodes d'étude en laboratoire et sur le terrain.

Mots clés: limnologie; variabilité naturelle; climat; méthodologie; surveillance à long terme; abondance du zooplancton; biomasse.

INTRODUCTION

This report archives information on the species composition, abundance and biomass of the crustacean plankton communities found in six lakes (Green, Orange, Linge, Musclow, Sydney, Trout) in the Red Lake District of Northwest Ontario during the open water periods of 1991, 1992 and 1993 and for lakes Nipigon and Superior during 1991. It extends the initial database on zooplankton gathered from these lakes during the period 1987 to 1989 as reported by Salki (1992). Additional data for these lakes have been acquired by other investigators (Fee et al. 1989, Fee and Hecky 1992, Fee et al 1992, Patalas and Salki 1993, Fee et al. (in press) and Guildford et al. (in press)) to determine relationships between lake size and limnological variability. The Northwest Ontario Lake Size Series (NOLSS) project is closely linked to research at the Experimental Lakes Area (ELA) of northwestern Ontario where the influences of water renewal time on aquatic ecosystems is being examined. Information on the crustacean communities in these seven lakes is presented in Salki (1993) and Salki (in press), respectively.

METHODS

All methods and personnel involved in zooplankton sample collection and analysis were consistant with those of the first phase of study. Full details are provided in Salki (1992).

Zooplankton samples were collected with twin Wisconsin nets (mesh size 72 μm, total mouth opening = 904 cm^2, length 1m) towed vertically from 1 m above the bottom to the surface in the five lakes shallower than 50m or from 50m to the surface in the three deeper lakes.

Sampling sites on each lake are indicated in Figures 1 and 2. The six Red Lake district lakes were sampled at mid-lake main basins but equipment limitations restricted sample collection to off centre sites in Nipigon and Superior.

Sampling frequency was most intense during the spring and early summer heating phase when samples were collected approximately weekly. The sampling frequency wasand lengthened to tri-weekly during late summer and fall. Lakes Nipigon and Superior were always sampled tri-weekly and were only sampled in 1991.

Estimates of zooplankton abundance were obtained from one or more 1ml subsamples taken with a calibrated pipette and placed in a Sedgwick-Rafter chamber. From 200 to 800 specimens per sample were identified to species using taxonomic keys of Brooks (1957), Yeatman (1959) and Wilson (1959) except nauplii which were classified as either cyclopoid or calanoid. Larger, less abundant animals such as Leptodora, Senecella, Mysis, and Gammarus were enumerated in the whole sample.

Zooplankton biomass was estimated using measured specimen lengths and the formulae of Klekowski and Shushkina (1966), and Pechen (1965) as cited in Edmondson (1971).

DATA SUMMARY

Table 1 summarizes some limnological characteristics of the lakes. The seasonal mean crustacean species composition,

abundance and biomass (time weighted), and maximum number of species in the study, lakes during the open water periods of 1991, 1992 and 1993 are presented in Tables 2a, 2b and 2c. The 1989 seasonal means reported for the NOLSS lakes in Salki (1992) were not time weighted. They have been recalculated and included in the current report for direct comparison (Table 2d). The species composition, abundance and biomass found in the study lakes on each sampling occasion during 1991 - 1993 are presented in Tables 3 to 10.

The seasonal time-weighted mean total crustacean abundance and biomass per litre and per square centimetre of lake surface in each of the Red Lake District lakes during 1991, 1992 and 1993 are presented in Figures 3 and 4. The 1991 time-weighted seasonal means for lakes Nipigon and Superior are presented together with 1991 values for the NOLSS lakes in Figure 5. Indicated in all figures are contributions to community totals by cyclopoids, calanoids and cladocerans.

ACKNOWLEDGMENTS

Cory Anema, Everett Fee and Bob Hecky collected all zooplankton samples reported here.

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Table 1. Some morphometric and chemical characteristics of the study lakes. Data were compiled from Fee et al. (1989) and Fee and Hecky (1992). Lake Nipigon mean depth and water renewal time were not estimated because sounding charts were unavailable.

	1	2	3	4	5	6	7	8
	A_o	A_d	t	z_m	z	SLD	A_e/V_e	k_{25}
Units	ha	ha	yr	m	m			μS/cm
Green	89	234	8.6	19	7.7	2.02	0.081	28
Orange	167	1100	7.8	29	14.4	2.31	0.055	48
Linge	706	2980	6.7	23	8.4	2.84	0.104	30
Musclow	2220	32850	5.0	46	19.2	3.64	0.032	43
Sydney	5750	46400	9.1	73	20	7.4	0.053	41
Trout	34700	71800	17.5	49	13.6	10.48	0.059	62
Nipigon	484800	2450000		143			0.007	147
Superior	8223600	21000000	180.4	403	148.7		0.003	96

Column

1. A_o - Lake surface area (not including islands)
2. A_d - Area of the terrestrial drainage basin (not including the lake area).
3. t - Nominal water renewal time, calculated from lake volume, total watershed area, and mean annual runoff.
4. z_m - Maximum depth.
5. z - Mean depth.
6. SLD - Shoreline development (including islands) ; not given for Nipigon and Superior because the disparity in map scales is too great.
7. A_e/V_e -ratio of epilimnion sediment area to epilimnion volume in midsummer.
8. k_{25} - Specific conductance (@25 ° C)

Table 2a. Seasonal mean species composition, abundance and biomass of zooplankton in lakes in the Red Lake District from May to October, 1991. Abundance presented as the time weighted average number of individuals per litre, biomass as ug wet weight per litre. Totals also presented per square centimetre of lake surface area. Means in Red Lake District lakes are from 10 samples taken during open water at a central lake station. Means in Nipigon and Superior are from 5 samples collected during the open water season.

		ABUNDANCE										BIOMASS								
LAKE		GREEN	ORANGE	LINGE	MUSCLOW	SYDNEY	TROUT	NIPIGON	NIPIGON	SUPERIOR		GREEN	ORANGE	LINGE	MUSCLOW	SYDNEY	TROUT	NIPIGON	NIPIGON	SUPERIOR
STATION		CENTRE	CENTRE	CENTRE	CENTRE	CENTRE	CENTRE	8MILE	PIJIBAY	CENTRE		CENTRE	CENTRE	CENTRE	CENTRE	CENTRE	CENTRE	8MILE	PIJIBAY	CENTRE
MEAN DEPTH (m)		18.1	27.9	20.3	40.3	50.0	43.1	50.0	50.0	47.0		18.1	27.9	20.3	40.3	50.0	43.1	50.0	50.0	47.0
SPECIES																				
Orthocyclops modestus (HERRICK)																				
Eucyclops agilis (KOCH)		0.007										0.130								
Eucyclops speratus (LILLJEBORG)																				
Tropocyclops prasinus mexicanus KIEFER		0.013	0.012	0.011	0.170	0.166	0.016		0.007	0.013		0.190	0.840	0.840	1.090	2.040	1.220		0.540	0.550
Cyclops scutifer SARS				0.005	<.001	0.020	0.026							0.130	0.010	0.460	1.030			
Acanthocyclops vernalis FISCHER		0.218	0.251	0.034	0.240	0.177	0.165	0.057	0.031	0.014		1.290	1.500	0.190	1.530	1.130	0.940	0.321	0.190	0.090
Cyclops bicuspidatus thomasi FORBES		8.979	1.652	6.611	0.310	1.454	2.830	4.028	1.202	1.427		56.550	12.740	48.260	2.140	11.060	22.620	27.269	9.360	9.740
Cyclops varicans rubellus LILLJEBORG									0.007											
Mesocyclops edax (FORBES)		0.042	0.005	0.302	0.134	0.122	0.091	0.009				1.160	0.090	7.910	3.380	3.000	1.810	0.156		
Macrocyclops albidus (JURINE)																				
Senecella calanoides JUDAY				<.001		0.016	<.001	0.002	0.002	0.001				0.060		23.890	0.100	2.871	2.500	0.800
Epischura lacustris S.A.FORBES		0.030	0.264	0.072	0.130	0.015	0.069	0.057	0.038	<.001		2.020	22.550	8.210	19.190	2.980	11.710	9.844	3.820	0.080
Limnocalanus macrurus SARS		0.001	0.617	0.001	0.100	0.299	0.312	0.119	0.259	0.152		0.280	173.060	0.190	28.070	84.040	87.610	33.303	72.690	42.590
Diaptomus leptopus S.A.FORBES		0.007										1.330								
Diaptomus minutus LILLJEBORG		1.547	1.107	0.649	0.514	0.190	1.648	0.196	0.131	0.260		24.650	19.970	8.520	9.150	2.700	33.030	3.731	1.950	2.250
Diaptomus sicilis FORBES		3.256	0.005	3.698	0.886	1.449	0.011	0.836	0.551	0.426		62.890	0.390	90.160	22.070	34.600	0.260	22.533	14.760	21.220
Diaptomus ashlandi MARSH		0.016	0.004					1.583	0.612	0.001		1.070	0.220					33.583	13.290	0.040
Diaptomus oregonensis LILLJEBORG		0.003	0.005	0.362	0.012	0.132	0.592	0.085	0.106	0.001		0.100	0.260	12.980	0.740	5.240	16.500	3.495	2.770	0.040
CYCLOPOID NAUPLII		6.830	2.641	13.411	0.940	2.666	5.538	3.711	2.860	1.497		6.880	3.430	17.430	1.220	3.470	7.200	4.824	3.720	1.950
CALANOID NAUPLII		0.267	1.134	0.942	0.810	0.390	2.067	1.276	1.272	2.914		0.400	1.700	1.410	1.210	0.580	3.130	1.914	1.910	4.370
Leptodora kindtii (FOCKE)		0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	<.001		2.770	3.100	3.460	3.470	2.510	2.770	6.792	3.600	0.330
Polyphemus pediculus (LINNE)		0.001						<.001	0.003			0.150						0.083	0.580	
Holopedium gibberum ZADDACH		0.993	0.342	0.211	0.045	0.094	0.052	<.001	0.001	0.040		131.500	45.230	27.930	5.920	12.440	6.860	0.045	0.190	5.340
Sida crystallina (O.F.MULLER)		0.003			0.003							1.610			1.480					
Latona setifera (O.F.MULLER)																				
Diaphanosoma leuchtenbergianum FISCHER		0.367	0.336	0.329	0.081	0.175	0.026	0.007	0.007	0.011		20.260	18.590	16.210	4.460	9.700	1.540	0.412	0.400	0.590
Daphnia longiremis SARS		1.791	0.001			0.017	0.389	0.029	0.004			24.530	0.018			0.290	4.980	0.272	0.010	
Daphnia ambigua SCOURFIELD		0.001										0.009								
Daphnia dubia HERRICK					0.003										0.050					
Daphnia galeata mendotae BIRGE		0.360	0.627	0.562	0.270	0.049	0.132	0.501	0.428	0.093		11.130	23.420	20.240	9.090	2.160	5.520	17.204	13.090	3.310
Daphnia parvula FORDYCE		0.007	0.001				0.005					0.020	0.005				0.020			
Daphnia retrocurva FORBES		0.139		0.091	0.072	0.053	0.414	0.100	0.050	0.003		3.380		2.340	1.250	0.950	9.450	2.144	1.000	0.120
Daphnia schoedleri SARS																				
Daphnia catawba COKER			<.001		<.001								0.001		0.010					
Ceriodaphnia lacustris BIRGE						0.005										0.200				
Ceriodaphnia quadrangula (O.F.MULLER)																				
Bosmina longirostris (O.F.MULLER)		2.297	0.525	0.937	0.362	0.591	1.096	0.440	0.396	0.074		32.620	7.420	13.070	5.040	8.220	15.330	6.187	5.800	1.040
Chydorus sphaericus (O.F.MULLER)		0.487	0.016	0.962	0.640	0.161	0.862	0.007	0.014	0.090		2.710	0.090	5.690	3.710	1.050	5.110	0.041	0.080	0.520
Drepanothrix dentata (EUREN)																				
Mysis relicta LOVEN					0.006	<.001		0.001	0.002						156.250	2.220		14.825	50.700	
Chaoborus sp.		0.006		0.001		0.001						48.880		7.470		4.000				
Gammarus lacustris SARS		0.022		0.058	0.006	0.002	0.034			0.001		1041.110		2620.590	283.040	116.170	1582.710			66.870
TOTAL	Ind.L-1	27.671	9.546	29.286	5.738	8.267	16.420	13.047	7.984	7.019	ug.L-1	1313.55	334.625	2915.29	583.570	335.120	1821.45	191.829	202.770	181.840
	Ind.cm-2	50.08	26.63	59.27	23.12	41.34	70.77	65.23	39.92	32.99	ug.cm-2	2377.53	933.60	5903.46	2271.19	1675.94	7850.45	959.15	1013.85	759.71
CYCLOPOIDA TOTAL	Ind.L-1	15.79	4.39	18.72	1.69	3.91	8.25	8.02	3.81	2.82	ug.L-1	89.33	17.67	72.48	8.61	17.52	31.99	33.00	13.16	11.48
	Ind.cm-2	26.59	12.26	37.90	6.82	19.55	35.56	40.09	19.05	13.25	ug.cm-2	125.49	49.31	146.77	35.52	87.59	137.67	184.98	65.91	53.94
CALANOIDA TOTAL	Ind.L-1	4.85	3.17	5.82	2.41	2.30	4.46	4.93	2.78	4.23	ug.L-1	96.90	217.32	109.47	106.13	149.80	146.76	127.51	101.68	71.58
	Ind.cm-2	8.77	8.84	11.36	9.71	11.52	19.32	24.65	13.90	19.89	ug.cm-2	175.39	606.33	221.66	435.78	749.15	632.54	637.53	508.40	336.42
CLADOCERA TOTAL	Ind.L-1	5.23	1.41	2.49	1.12	0.62	2.51	1.06	0.75	0.24	ug.L-1	199.93	75.57	80.74	31.33	29.44	44.50	32.80	20.47	8.68
	Ind.cm-2	9.47	3.95	5.05	4.51	4.60	10.80	5.39	3.77	1.12	ug.cm-2	361.87	210.85	163.50	126.26	147.22	191.81	183.99	102.37	40.79
NUMBER PLANKTONIC CRUSTACEAN SPECIES		28	19	20	22	23	21	20	21	18										

Table 2b. Seasonal mean species composition, abundance and biomass of zooplankton in lakes in the Red Lake District from May to October, 1992. Abundance presented as the time weighted average number of individuals per litre, biomass as ug wet weight per litre. Totals also presented per square centimetre of lake surface area. Means are from 9 biweekly samples taken during open water at a central lake station.

		ABUNDANCE							BIOMASS					
LAKE		GREEN	ORANGE	LINGE	MUSCLOW	SYDNEY	TROUT		GREEN	ORANGE	LINGE	MUSCLOW	SYDNEY	TROUT
STATION		CENTRE	CENTRE	CENTRE	CENTRE	CENTRE	CENTRE		CENTRE	CENTRE	CENTRE	CENTRE	CENTRE	CENTRE
MEAN DEPTH (m)		17.6	28.0	18.7	40.0	50.0	41.8		17.6	28.0	18.7	40.0	50.0	41.8
SPECIES														
Orthocyclops modestus (HERRICK)														
Eucyclops agilis (KOCH)		<.001							0.001					
Eucyclops speratus (LILLJEBORG)														
Tropocyclops prasinus mexicanus KIEFER			0.005	0.038	0.054	0.038	0.007			0.380	2.820	0.200	1.030	0.010
Cyclops scutifer SARS														
Acanthocyclops vernalis FISCHER		0.239	0.780	0.049	0.514	0.243	0.087		1.550	0.680	0.270	4.090	1.700	0.038
Cyclops bicuspidatus thomasi FORBES		10.198	2.478	10.054	1.400	3.472	4.538		71.230	19.800	77.070	10.950	24.180	35.220
Cyclops varicans rubellus LILLJEBORG														
Mesocyclops edax (FORBES)		0.028		0.227	0.060	0.093	0.075		2.690		7.230	2.400	2.320	2.410
Macrocyclops albidus (JURINE)		<.001							0.002					
Senecella calanoides JUDAY						0.032							47.870	
Epischura lacustris S.A.FORBES		0.087	0.088	0.067	0.287	0.024	0.048		7.270	11.320	14.930	29.220	3.460	7.350
Limnocalanus macrurus SARS		0.001	0.439	<.001	0.085	0.577	0.327		0.300	123.130	0.070	23.970	182.030	91.710
Diaptomus leptopus S.A.FORBES														
Diaptomus minutus LILLJEBORG		1.408	0.416	1.234	1.139	0.301	0.871		22.270	7.800	15.840	18.070	3.640	16.650
Diaptomus sicilis FORBES		0.569	0.005	7.169	2.945	1.159			18.130	0.130	182.670	75.580	31.080	
Diaptomus ashlandi MARSH			0.017							0.880				
Diaptomus oregonensis LILLJEBORG		0.058	0.012	0.548	0.069	0.484	0.655		0.870	0.550	23.630	2.690	9.380	20.320
CYCLOPOID NAUPLII		8.093	8.979	13.811	2.001	4.122	5.536		10.520	9.070	17.950	2.600	5.360	7.200
CALANOID NAUPLII		0.410	0.420	1.414	0.490	0.681	1.802		0.810	0.630	2.120	0.730	1.020	2.700
Leptodora kindtii (FOCKE)		<.001	0.004		0.002	<.001	0.001		0.820	11.030		4.620	0.280	3.340
Polyphemus pediculus (LINNE)														
Holopedium gibberum ZADDACH		1.322	0.273	0.255	0.102	0.084	0.122		175.000	36.190	33.780	13.480	11.060	16.180
Sida crystallina (O.F.MULLER)		0.010							4.990					
Latona setifera (O.F.MULLER)														
Diaphanosoma leuchtenbergianum FISCHER		0.278	0.102	0.430	0.073	0.292	0.007		15.390	5.820	23.770	4.010	18.120	0.390
Daphnia longiremis SARS		2.261	0.003	<.001		0.008	0.344		26.520	0.010	0.014		0.020	3.750
Daphnia ambigua SCOURFIELD														
Daphnia dubia HERRICK		0.002				0.001			0.140				0.020	
Daphnia galeata mendotae BIRGE		0.389	0.307	1.131	0.604	0.091	0.139		10.780	8.660	45.320	25.590	3.810	4.490
Daphnia parvula FORDYCE							0.049							0.170
Daphnia retrocurva FORBES		0.096	<.001	0.080	0.105	0.041	0.157		1.380		2.800	1.340	0.350	3.370
Daphnia schoedleri SARS														
Daphnia catawba COKER					<.001							0.004		
Ceriodaphnia lacustris BIRGE						0.003							0.090	
Ceriodaphnia quadrangula (O.F.MULLER)				0.002							0.050			
Bosmina longirostris (O.F.MULLER)		2.524	0.451	1.664	0.250	0.217	0.833		35.510	6.280	23.090	3.500	2.990	11.870
Chydorus sphaericus (O.F.MULLER)		0.648	0.018	0.277	0.185	0.006	0.101		3.760		1.610	0.960	0.040	0.580
Drepanothrix dentata (EUREN)														
Mysis relicta LOVEN			<.001	<.001	0.009	0.006				1.280	2.500	230.800	169.030	
Chaoborus sp.		0.012	0.001	<.001		<.001	<.001		97.860	9.340	1.850		0.490	0.700
Gammarus lacustris SARS					<.001	<.001	0.007					16.300	1.510	335.780
		<.001												
TOTAL	ind.L-1	28.609	12.794	38.450	10.334	11.989	15.686	ug.L-1	505.594	252.760	479.384	471.104	498.840	564.008
	ind.cm-2	50.21	35.82	71.90	41.34	59.84	85.49	ug.cm-2	687.32	707.73	898.45	1884.42	2494.20	2354.73
CYCLOPOIDA TOTAL	ind.L-1	18.68	8.17	21.19	3.47	6.62	9.18	ug.L-1	84.94	27.03	94.81	18.69	28.53	41.90
	ind.cm-2	32.78	22.86	39.63	13.90	33.12	38.22	ug.cm-2	149.06	75.69	177.30	74.74	142.63	174.93
CALANOIDA TOTAL	ind.L-1	3.06	1.55	9.92	4.48	3.16	3.38	ug.L-1	42.62	158.08	210.05	133.82	244.56	118.39
	ind.cm-2	5.38	4.35	16.55	17.84	15.91	14.11	ug.cm-2	74.80	442.63	392.79	535.29	1222.79	494.28
CLADOCERA TOTAL	ind.L-1	6.31	0.91	3.02	1.01	0.55	1.28	ug.L-1	242.79	54.88	105.38	47.76	25.70	29.80
	ind.cm-2	11.07	2.55	5.65	4.05	2.75	5.34	ug.cm-2	428.10	153.87	197.06	191.02	126.49	124.40
NUMBER PLANKTONIC CRUSTACEAN SPECIES		21	19	19	19	23	19							

Table 2c. Seasonal mean species composition, abundance and biomass of zooplankton in lakes in the Red Lake District from May to October, 1993. Abundance presented as the time weighted average number of individuals per litre, biomass as ug wet weight per litre. Totals also presented per square centimetre of lake surface area. Means are from 9 biweekly samples taken during open water at a central lake station.

		ABUNDANCE							BIOMASS					
LAKE		GREEN	ORANGE	LINGE	MUSCLOW	SYDNEY	TROUT		GREEN	ORANGE	LINGE	MUSCLOW	SYDNEY	TROUT
STATION		CENTRE	CENTRE	CENTRE	CENTRE	CENTRE	CENTRE		CENTRE	CENTRE	CENTRE	CENTRE	CENTRE	CENTRE
MEAN DEPTH (m)		17.2	27.1	17.9	39.3	50.0	41.0		17.2	27.1	17.9	39.3	50.0	41.0
SPECIES														
Orthocyclops modestus (HERRICK)		0.015							0.300					
Eucyclops agilis (KOCH)														
Eucyclops speratus (LILLJEBORG)		<.001							0.001					
Tropocyclops prasinus mexicanus KIEFER				0.001	0.039	0.012					0.070	0.180	0.070	
Cyclops scutifer SARS						0.001							0.050	
Acanthocyclops vernalis FISCHER		0.126	0.126	0.104	0.251	0.192	0.111		0.700	0.970	0.630	1.590	1.110	0.650
Cyclops bicuspidatus thomasi FORBES		16.469	2.150	10.133	1.115	2.016	2.712		105.960	16.710	74.270	8.100	14.070	24.210
Cyclops varicans rubellus LILLJEBORG														
Mesocyclops edax (FORBES)		0.165	0.003	0.274	0.070	0.035	0.043		4.920	0.050	9.440	1.470	1.040	0.860
Macrocyclops albidus (JURINE)														
Senecella calanoides JUDAY				<.001		0.039	<.001				0.230		57.850	0.060
Epischura lacustris S.A.FORBES		0.032	0.240	0.085	0.132	0.003	0.030		2.400	21.610	7.490	13.480	0.890	4.250
Limnocalanus macrurus SARS		0.002	0.354	0.001	0.164	0.637	0.561		0.610	99.240	0.240	45.950	178.780	157.390
Diaptomus leptopus S.A.FORBES														
Diaptomus minutus LILLJEBORG		1.292	0.613	0.908	0.680	0.149	0.258		15.260	12.370	10.650	7.930	1.610	4.170
Diaptomus sicilis FORBES		1.778		5.653	1.505	1.365			44.900		138.770	38.450	33.890	
Diaptomus ashlandi MARSH				0.026	0.004						1.820	0.200		
Diaptomus oregonensis LILLJEBORG		0.008	0.042	0.691	0.030	0.087	0.506		0.350	0.760	14.780	1.090	2.040	14.830
CYCLOPOID NAUPLII		13.134	4.009	16.316	2.747	3.873	6.417		17.070	5.210	21.210	3.570	5.030	8.340
CALANOID NAUPLII		0.367	0.377	1.247	0.471	0.359	1.581		0.550	0.560	1.870	0.710	0.540	2.370
Leptodora kindtii (FOCKE)		0.001	<.001	0.001			<.001		2.450	0.570	1.660			1.010
Polyphemus pediculus (LINNE)														
Holopedium gibberum ZADDACH		0.904	0.242	0.182	0.004	0.004	0.008		119.720	31.990	24.090	0.540	0.470	0.880
Sida crystallina (O.F.MULLER)			<.001	<.001						0.040	0.040			
Latona setifera (O.F.MULLER)			<.001							0.004				
Diaphanosoma leuchtenbergianum FISCHER		0.170	0.190	0.808	0.005	0.237	0.020		6.473	10.490	33.620	0.300	13.120	1.130
Daphnia longiremis SARS		1.447				0.015	0.110		16.970				0.110	1.110
Daphnia ambigua SCOURFIELD		0.001							0.010					
Daphnia dubia HERRICK					0.001		0.010					0.060		0.160
Daphnia galeata mendotae BIRGE		0.146	0.490	0.657	0.429	0.039	0.020		8.480	16.110	29.600	21.020	1.500	0.810
Daphnia parvula FORDYCE		0.018		0.002			0.006		0.060		0.030			0.080
Daphnia retrocurva FORBES		0.231		0.097	0.004	0.026	0.281		5.240		1.630	0.030	0.540	4.630
Daphnia schoedleri SARS							0.001							0.120
Daphnia catawba COKER					<.001							0.002		
Ceriodaphnia lacustris BIRGE			0.010							0.270				
Ceriodaphnia quadrangula (O.F.MULLER)				0.023							0.830			
Bosmina longirostris (O.F.MULLER)		1.199	0.872	1.266	0.102	0.308	0.892		17.080	12.030	17.750	1.410	4.300	12.410
Chydorus sphaericus (O.F.MULLER)		0.482		0.062	0.006		0.145		2.680		0.360	0.030		0.840
Drepanothrix dentata (EUREN)														
Mysis relicta LOVEN			<.001	<.001	0.019	0.006				4.360	0.830	503.680	161.910	
Chaoborus sp.		0.008		<.001			<.001		65.550		3.680			0.410
Gammarus lacustris SARS					<.001	0.001						14.720	28.860	
TOTAL	ind.L-1	37.975	9.718	38.337	7.778	9.404	13.710	ug.L-1	435.734	233.344	395.390	864.512	507.780	240.700
	ind.cm-2	65.32	26.34	68.55	30.59	47.02	56.21	ug.cm-2	749.46	632.36	706.96	2613.53	2538.90	986.67
CYCLOPOIDA TOTAL	ind.L-1	27.12	4.98	21.42	3.69	4.50	8.50	ug.L-1	119.99	20.15	89.59	13.78	16.59	37.73
	ind.cm-2	46.65	13.50	38.30	14.53	22.49	34.84	ug.cm-2	206.38	54.62	160.19	54.18	82.96	154.70
CALANOIDA TOTAL	ind.L-1	3.31	1.51	7.90	3.29	2.69	3.10	ug.L-1	53.42	122.21	146.99	104.77	262.65	138.38
	ind.cm-2	5.69	4.09	14.13	12.93	13.45	12.73	ug.cm-2	91.89	331.20	262.82	412.04	1313.23	567.34
CLADOCERA TOTAL	ind.L-1	3.72	1.18	2.18	0.42	0.45	1.11	ug.L-1	147.65	51.13	80.98	18.42	15.53	16.74
	ind.cm-2	6.39	3.20	3.90	1.65	2.23	4.55	ug.cm-2	253.98	138.58	144.75	72.43	77.87	68.62
NUMBER PLANKTONIC CRUSTACEAN SPECIES		21	16	23	20	19	20							

Table 2d. Seasonal mean species composition, abundance and biomass of zooplankton in lakes in the Red Lake District from June to October, 1989. Abundances presented as the time-weigthed average number per litre, biomass as ug wet weight per litre. Totals are also presented per square centimetre of lake surface area. Means are from 5 or 6 samples takes during open water at a central lake station.

		ABUNDANCE							BIOMASS					
LAKE		GREEN	ORANGE	LINGE	MUSCLOW	SYDNEY	TROUT		GREEN	ORANGE	LINGE	MUSCLOW	SYDNEY	TROUT
STATION														
MEAN DEPTH (m)		16.5	25.3	21.6	35.8	45.8	40.0		16.5	25.3	21.8	35.8	45.8	40.0
SPECIES														
Orthocyclops modestus (HERRICK)														
Eucyclops agilis (KOCH)		0.001							0.026					
Eucyclops speratus (LILLJEBORG)		0.0		0.001					0.020		0.038			
Tropocyclops prasinus mexicanus KIEFER		0.062	0.010	0.003	0.006	0.094			0.328	0.043	0.012	0.012	0.417	
Cyclops scutifer SARS				0.005							0.400			
Acanthocyclops vernalis FISCHER		0.185	0.141	0.027	1.358	0.546	0.035		1.053	0.797	0.152	10.751	3.445	0.035
Cyclops bicuspidatus thomasi FORBES		5.675	2.176	8.121	0.304	1.637	4.412		39.133	18.001	63.240	2.710	13.806	28.414
Cyclops varicans rubellus LILLJEBORG					0.005							0.030		
Mesocyclops edax (FORBES)		0.058	0.014	0.201	0.155	0.051	0.071		1.438	0.309	10.220	3.470	2.248	1.941
Macrocyclops albidus (JURINE)														
Senecella calanoides JUDAY						0.013							18.840	
Epischura lacustris S.A. FORBES		0.033	0.230	0.073	0.228	0.029	0.051		5.432	22.976	12.402	21.941	3.458	7.056
Limnocalanus macrurus SARS		0.000	0.274		1.965	0.107	0.098		0.129	76.760		551.403	30.075	27.367
Diaptomus leptopus S.A. FORBES														
Diaptomus minutus LILLJEBORG		2.222	1.006	2.521	0.862	0.331	1.439		31.848	18.889	26.563	15.149	6.651	23.166
Diaptomus siciliis FORBES		1.211	0.002	10.196	1.156	1.742	0.006		29.475	0.071	244.740	28.314	43.617	0.135
Diaptomus eshlandi MARSH														
Diaptomus oregonensis LILLJEBORG		0.225	0.000	0.246		0.144	0.527		10.072	0.007	6.557		3.791	15.976
CYCLOPOID NAUPLII		17.606	4.922	23.947	3.189	3.932	9.142		23.373	6.460	31.434	4.166	5.161	11.999
CALANOID NAUPLII		0.140	0.564	2.300	0.411	0.373	2.461		0.204	0.825	3.363	0.601	0.545	3.598
Leptodora kindtii (FOCKE)		0.005	0.002	0.000	0.000	0.002	0.000		14.528	6.257	0.489	1.073	4.932	0.889
Polyphemus pediculus (LINNE)		0.000				0.000			0.074				0.063	
Holopedium gibberum ZADDACH		0.714	0.354	0.858	0.104	0.139	0.064		94.480	46.924	113.271	13.729	16.385	11.090
Sida crystallina (O.F.MULLER)		0.000							0.162					
Latona setifera (O.F.MULLER)														
Diaphanosoma leuchtenberglanum FISCHER		0.323	0.167	0.275	0.049	0.181	0.046		5.562	2.881	4.735	0.850	3.118	0.794
Daphnia longiremis SARS		2.210	0.104			0.001	1.297		19.930	0.937			0.028	17.161
Daphnia ambigua SCOURFIELD														
Daphnia dubia HERRICK														
Daphnia galeata mendotae BIRGE		0.294	0.536	0.517	0.407	0.224	0.117		8.464	18.154	15.955	15.877	5.643	3.609
Daphnia parvula FORDYCE		0.013					0.017		0.203					0.248
Daphnia retrocurva FORBES		0.474		0.013	0.033	0.136	0.367		6.790		0.098	0.402	1.672	4.654
Daphnia schoedleri SARS				0.006	0.000						0.553	0.035		
Daphnia catawba COKER														
Ceriodaphnia lacustris BIRGE														
Ceriodaphnia quadrangula (O.F. MULLER)														
Bosmina longirostris (O.F. MULLER)		1.228	1.191	1.793	0.780	0.455	1.460		16.999	16.616	24.837	10.875	8.320	20.247
Chydorus sphaericus (O.F. MULLER)		0.950	0.036	0.763	0.419	0.186	0.181		5.515	0.209	4.430	2.432	1.078	0.937
Drapanothrix dentata (EUREN)														
Eubosmina longispina LEYDIG					0.000							0.010		
Alona affinis (LEYDIG)				0.016							0.942			
Mysis relicta LOVEN					0.001							23.773		
Chaoborus sp		0.004		0.002		0.000	0.000		31.337		19.519		2.748	1.567
Gammarus lacustris SARS					0.000							3.093		
TOTAL	ind.L-1	33.83	11.73	51.88	11.43	10.33	21.80	ug.L-1	346.58	235.12	583.94	710.72	175.84	179.48
	ind.cm-2	55.61	29.89	112.11	40.41	48.25	87.18	ug.cm-2	567.95	599.30	1266.12	2521.21	783.42	717.92
CYCLOPOIDA TOTAL	ind.L-1	23.79	7.26	32.30	5.02	6.26	13.66	ug.L-1	85.37	23.61	105.49	21.20	25.08	42.55
	ind.cm-2	39.24	18.50	69.76	17.75	27.98	54.64	ug.cm-2	108.00	59.88	228.04	75.61	113.04	170.22
CALANOIDA TOTAL	ind.L-1	3.83	2.08	15.34	4.62	2.74	4.58	ug.L-1	77.16	119.53	293.62	817.41	106.78	77.30
	ind.cm-2	6.25	5.29	33.12	16.34	12.23	18.32	ug.cm-2	122.52	304.75	636.59	2192.28	477.64	309.19
CLADOCERA TOTAL	ind.L-1	6.21	2.39	4.24	1.79	1.32	3.55	ug.L-1	172.71	91.98	165.30	45.28	41.24	59.63
	ind.cm-2	10.12	6.11	9.22	6.30	6.01	14.20	ug.cm-2	285.44	234.66	358.55	159.42	178.99	238.52
NUMBER OF PLANKTONIC CRUSTACEAN SPECIES		22	16	19	18	19	17							

Table 3a. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages at Green Lake station 6 sampled between May 14 and October 15, 1991. Total abundance and biomass also expressed per square centimetre of lake surface area.

		ABUNDANCE										WEIGHTED		BIOMASS										WEIGHTED
	MONTH	MAY	MAY	MAY	JUNE	JULY	JULY	AUG	SEPT	SEPT	OCT	SEASON	WET	MAY	MAY	MAY	JUNE	JULY	JULY	AUG	SEPT	SEPT	OCT	SEASON
	DAY	14	21	27	10	2	21	12	3	24	15	MEAN	WEIGHT	14	21	27	10	2	21	12	3	24	15	MEAN
	DEPTH (m)	18.00	18.00	18.00	18.00	18.00	18.50	18.00	18.00	18.50	18.00	18.10	UG/IND-L	18.00	18.00	18.00	18.00	18.00	18.50	18.00	18.00	18.50	18.00	18.10
SPECIES																								
O. modestus	TOTAL												20.0											
E. agilis	TOTAL							0.049				0.007	18.2							0.89				0.13
E. sperrstus	TOTAL												18.2											
T. p. mexicanus	FEMALE												6.5											
	FEMALE WITH EGG	0.098										0.002	74.7	7.35										0.17
	MALE												4.5											
	COPEPODID 1-V				0.098							0.011	2.1				0.21							0.02
A. vernalis	FEMALE		0.001			0.005						0.001	40.2		0.02			0.20						0.03
	FEMALE WITH EGG												46.3											
	MALE							0.049				0.007	12.1							0.59				0.08
	COPEPODID 1-V		0.442	0.442	0.197	0.590		0.098	0.147	0.098	0.197	0.210	5.6		2.48	2.48	1.10	3.30		0.55	0.83	0.54	1.10	1.16
C. b. thomasi	FEMALE		0.049		0.197	0.295		0.246	0.246	0.363	0.393	0.213	22.3		1.10		4.39	6.58		5.48	6.48	8.53	8.77	4.74
	FEMALE WITH EGG			0.005	0.005					0.005		0.002	26.7			0.13	0.13					0.13		0.04
	MALE		0.049	0.049	0.295	0.295		0.246	0.147	0.363	0.197	0.200	14.8		0.73	0.73	4.37	4.37		3.64	2.18	5.68	2.91	2.98
	COPEPODID 1-V	6.391	14.948	14.697	22.818	18.421	4.975	2.557	1.229	6.071	1.475	8.564	5.7	36.43	85.19	84.91	128.91	93.60	28.38	14.57	7.01	28.90	8.41	48.81
M. edax	FEMALE		0.005	0.010				0.005		0.014	0.005	0.004	99.6		0.49	0.98				0.49		1.43	0.49	0.38
	FEMALE WITH EGG			0.001		0.002						0.000	119.5			0.07		0.29						0.04
	MALE							0.049				0.007	27.0							1.33				0.19
	COPEPODID 1-V		0.098				0.098	0.049	0.049			0.031	18.0		1.77				1.72	0.88	0.88			0.55
M. albidus	TOTAL												30.3											
E. lacustris	ADULT				0.002	0.001	0.005	0.006	0.001			0.002	262.9				0.46	0.18	1.26	1.82	0.32			0.52
	COPEPODID 1-V		0.049	0.015	0.098	0.098				0.005		0.028	53.0		2.61	0.78	5.21	5.21				0.25		1.50
L. mac. us	TOTAL		0.020						0.001			0.001	280.8		5.52						0.34			0.28
D. lepto us	TOTAL							0.049				0.007	190.0							9.34				1.33
D. minutus	FEMALE				0.098	0.590	0.363	0.197	0.098	0.478	0.442	0.278	30.5				3.00	17.99	11.87	6.00	3.00	14.59	13.50	6.48
	FEMALE WITH EGG				<.001	0.001	0.062	0.344	0.010	0.043	0.010	0.065	36.6					0.02	2.27	12.56	0.36	1.57	0.38	2.39
	MALE	0.098	0.049		0.098	0.295	0.478	0.442	0.049	0.191	0.246	0.232	27.2	2.87	1.34		2.87	8.02	13.01	12.04	1.34	5.20	8.69	6.30
	COPEPODID 1-V	2.506	5.506	2.507	2.456	0.590	0.191	0.787	0.098			0.972	7.7	20.06	42.40	19.31	18.93	4.54	1.47	6.06	0.78			7.48
D. siciliis	FEMALE							0.001			0.393	0.027	122.2							0.06			46.06	3.29
	FEMALE WITH EGG												148.7											
	MALE						0.098				0.344	0.036	99.4						9.51				34.21	3.60
	COPEPODID 1-V	0.005		0.049	1.967	7.276	4.784	3.982	2.114	3.253	0.688	3.193	23.8	0.12		1.17	46.60	173.18	113.85	94.76	50.31	77.42	16.38	76.00
D. ashlandi	FEMALE									0.096		0.013	68.9									6.59		0.90
	FEMALE WITH EGG												82.6											
	MALE										0.049	0.003	61.2										2.52	0.17
	COPEPODID 1-V												15.5											
D. oregonensis	FEMALE												68.9											
	FEMALE WITH EGG		0.005						0.005			0.001	82.8		0.41						0.41			0.07
	MALE												51.2											
	COPEPODID 1-V	0.098										0.002	15.6	1.52										0.03
CYCLOPOID NAUPLII	N1-NV1	6.098	4.968	1.619	3.638	11.996	9.950	18.962	2.999	0.005	2.557	6.830	1.3	7.93	6.46	2.36	4.73	15.59	12.93	22.05	3.90	0.01	3.32	8.88
CALANOID NAUPLII	N1-NV1	1.426	0.246	0.147	0.197	0.197	0.670	0.442	0.049		0.098	0.267	1.5	2.14	0.37	0.22	0.29	0.29	1.00	0.68	0.07		0.15	0.40
L. kindtii	TOTAL						0.001	0.001	0.005			0.001	2944.0						1.76	3.62	14.47			2.77
P. pediculus	TOTAL						0.005					0.001	228.0						1.09					0.15
H. gibberum	TOTAL	0.147	0.836	0.836	1.475	2.557	0.670	0.639	0.934	0.096	0.934	0.993	132.4	19.53	110.66	110.66	195.28	338.49	88.67	84.82	123.68	12.67	123.68	131.50
S. crystallina	TOTAL			0.049								0.003	503.0			24.73								1.61
D. leuchtenbergianum	TOTAL				0.098	1.377	0.765	0.442	0.049			0.367	55.3				5.44	76.13	42.32	24.47	2.72			20.28
D. longiremis	FEMALE				0.197	0.590		0.197	0.442	0.363		0.244	21.6				4.29	12.86		4.29	9.65	8.34		5.31
	FEMALE WITH EGG	0.029		0.098	0.059	1.377	0.383	0.787	0.541	1.052	0.049	0.583	27.3	0.81		2.66	1.81	37.56	10.45	21.47	14.76	28.73	1.34	15.91
	MALE								0.049		0.049	0.010	7.2								0.35		0.35	0.07
	JUVENILE	0.049	0.098	0.197	0.098	1.672	0.765	2.183	0.885	0.957	0.541	0.954	3.4	0.17	0.33	0.67	0.33	5.66	2.60	7.35	3.01	3.25	1.84	3.24
D. ambigus	TOTAL		0.015									0.001	7.0		0.10									0.00
D. dubia	FEMALE												61.5											
	FEMALE WITH EGG												76.8											
	MALE												27.1											
	JUVENILE												16.0											
D. g. mendotae	FEMALE				0.098			0.049	0.049		0.098	0.032	61.5				8.05			3.02	3.02		6.05	1.97
	FEMALE WITH EGG		0.005		0.015			0.049		0.267	0.098	0.055	76.6		0.36		1.13			3.77		21.99	7.53	4.20
	MALE								0.049	0.267	0.098	0.053	27.1								1.33	7.78	2.66	1.43
	JUVENILE		0.098	0.049	0.295	0.393	0.096	0.295	0.393	0.096	0.049	0.220	16.0		1.57	0.79	4.72	6.29	1.53	4.72	6.29	1.53	0.79	3.53
D. parvulus	FEMALE												16.0											
	FEMALE WITH EGG	0.005										0.000	20.0	0.10										0.00
	MALE												6.4											
	JUVENILE							0.049				0.007	3.5							0.17				0.02
D. retrocurva	FEMALE							0.147	0.049	0.383		0.080	33.8							4.99	1.68	12.93		2.71
	FEMALE WITH EGG		0.005						0.005		0.098	0.006	42.2		0.21						0.21		4.15	0.32
	MALE												11.1											
	JUVENILE		0.049					0.295	0.049			0.051	6.9		0.34					2.04	0.34			0.35
B. longirostris	AD + JUV	0.147	0.688	0.442	2.950	5.601	1.244	3.097	0.885	0.478	0.836	2.032	13.8	2.04	9.50	6.11	40.71	60.06	17.16	42.74	12.21	8.80	11.53	28.04
	FEMALE WITH EGG	0.005				0.393	0.191	0.885	0.098		0.688	0.265	17.3	0.09				6.60	3.31	15.31	1.70		11.91	4.58
C. sphaericus	TOTAL	0.098	0.197	0.098	0.295	0.787	0.574	0.934	0.393	0.267	0.098	0.487	5.8	0.57	1.14	0.57	1.71	4.56	3.33	5.42	2.28	1.66	0.57	2.71
Chaol. rus sp.	TOTAL					0.001	0.011	0.012	0.015	0.007		0.006	7650.0					4.82	84.49	91.66	120.61	51.63		48.88
G. lac stris	TOTAL		0.049					0.049		0.096		0.022	47014.0		2311.41					2311.41		4497.87		1041.11
TOTAL	Ind.L-1	17.30	28.47	21.71	37.54	53.60	28.39	36.65	12.14	14.43	10.73	27.87	ug.L-1	57.73	2494.73	170.05	343.39	798.30	423.70	2796.24	379.11	4760.82	297.59	1442.31
	Ind.cm-2	31.14	51.25	39.08	67.56	96.46	48.83	65.97	21.85	26.69	19.32	50.08	ug.cm-2	182.72	4655.71	466.83	868.48	1631.95	839.49	5084.42	711.69	8890.76	574.68	2738.77
CYCLOPOIDA TOTAL	Ind.L-1	12.59	20.56	17.22	27.05	29.60	15.02	20.31	4.82	5.96	4.82	16.09	ug.L-1	51.70	98.23	91.87	143.83	123.93	43.01	50.48	20.28	45.20	25.00	66.22
	Ind.cm-2	22.65	37.00	31.00	48.68	53.29	27.79	36.56	6.67	11.02	8.68	29.10	ug.cm-2	93.06	176.82	165.00	258.89	223.08	79.58	90.67	36.50	83.82	45.01	123.39
CALANOIDA TOTAL	Ind.L-1	4.23	6.88	2.72	4.92	9.05	6.87	6.25	2.43	4.07	2.27	5.13	ug.L-1	26.52	52.64	21.48	77.40	209.43	154.05	143.13	56.91	105.83	121.86	112.75
	Ind.cm-2	7.62	10.58	4.89	8.85	16.29	12.34	11.25	4.37	7.52	4.09	9.30	ug.cm-2	47.73	94.74	38.66	139.31	376.97	284.99	257.63	102.45	195.41	219.35	204.70
CLADOCERA TOTAL	Ind.L-1	0.48	1.99	1.77	5.58	14.95	4.89	10.03	4.88	4.31	3.64	6.43	ug.L-1	23.29	124.23	146.20	261.27	568.46	172.23	228.00	197.70	105.49	172.40	230.71
	Ind.cm-2	0.87	3.58	3.19	10.04	26.90	8.88	18.06	8.78	7.96	8.55	11.63	ug.cm-2	41.92	223.62	263.17	470.28	1023.22	316.62	410.40	355.85	195.15	310.33	417.15

Table 3b. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages at Green Lake station 6 sampled between May19 and October 14, 1992. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE									WEIGHTED		BIOMASS									WEIGHTED
	MONTH	MAY	MAY	JUNE	JUNE	JULY	AUG	SEPT	SEPT	OCT	SEASON	WET	MAY	MAY	JUNE	JUNE	JULY	AUG	SEPT	SEPT	OCT	SEASON
	DAY	19	25	6	29	20	10	1	21	14	MEAN	WEIGHT	19	25	6	29	20	10	1	21	14	MEAN
	DEPTH (m)	17.00	17.00	18.00	18.00	17.00	17.00	17.00	19.00	18.00	17.56	UG.IND-I	17.00	17.00	18.00	18.00	17.00	17.00	17.00	19.00	18.00	17.56
SPECIES																						
O. modestus	TOTAL											20.0										
E. agilis	TOTAL		0.001								0.000	18.2		0.01								0.00
E. sperratus	TOTAL											18.2										
T. p. mexicanus	FEMALE											8.5										
	FEMALE WITH EGG											74.7										
	MALE											4.5										
	COPEPODID 1-V											2.1										
A. vernalis	FEMALE				0.012		0.013	0.001			0.004	40.2				0.49		0.52	0.03			0.15
	FEMALE WITH EGG					0.013					0.002	48.3					0.63					0.09
	MALE											12.1										
	COPEPODID 1-V						0.130	0.781	0.582	0.248	0.233	5.8						0.73	4.37	3.26	1.38	1.31
C. b. thomasi	FEMALE		0.260	0.246	0.246	0.130	0.260		0.615	2.581	0.457	22.3		5.60	5.48	5.46	2.90	5.60		16.16	57.56	10.19
	FEMALE WITH EGG		0.013	0.049	0.049	0.026	0.013	0.001	0.116	0.147	0.048	26.7		0.35	1.31	1.31	0.69	0.35	0.03	3.11	3.94	1.28
	MALE			0.246	0.123		0.260	0.260	1.397	2.212	0.496	14.8			3.64	1.82		3.85	3.85	20.68	32.74	7.34
	COPEPODID 1-V	6.787	9.891	24.090	11.799	7.939	3.644	3.904	10.629	1.106	9.197	5.7	38.57	56.36	137.32	67.26	45.25	20.77	22.25	61.73	6.31	52.42
M. edax	FEMALE						0.117	0.006			0.016	99.6						11.67	0.58			1.78
	FEMALE WITH EGG					0.001	0.052				0.008	119.5					0.08	6.22				0.91
	MALE											27.0										
	COPEPODID 1-V											16.0										
M. albidus	TOTAL					0.001					0.000	30.3					0.02					0.00
E. lacustris	ADULT			0.012	0.012	0.026	0.026	0.013	0.001	0.001	0.013	262.9			3.23	3.23	6.84	6.84	3.42	0.15	0.16	3.33
	COPEPODID 1-V					0.260	0.130	0.130			0.074	53.0					13.79	6.90	6.90			3.94
L. macrurus	TOTAL	0.001	0.002	0.001	0.001	0.002	0.002			0.002	0.001	260.6	0.16	0.55	0.17	0.17	0.55	0.55			0.69	0.30
D. leptopus	TOTAL											190.0										
D. minutus	FEMALE				0.246	0.130	0.130	0.260	0.349	0.123	0.189	30.5				7.50	3.97	3.97	7.94	10.85	3.75	5.17
	FEMALE WITH EGG				0.012	0.039	0.143	0.130	0.233	0.012	0.081	36.5				0.45	1.43	5.23	4.75	8.50	0.45	2.97
	MALE				0.123	0.130	0.651	0.130	0.615		0.267	27.2				3.34	3.54	17.70	3.54	22.17		7.27
	COPEPODID 1-V	0.260	1.822	1.598	1.967	0.390	1.041	0.260	0.349		0.691	7.7	2.00	14.03	12.30	15.14	3.01	8.02	2.00	2.89		6.86
D. sicilis	FEMALE									0.246	0.019	122.2									30.04	2.33
	FEMALE WITH EGG	0.001									0.000	146.7	0.10									0.00
	MALE									0.123	0.010	99.4									12.22	0.95
	COPEPODID 1-V			0.246	0.615	0.911	1.041	0.851	0.349		0.540	23.8			5.85	14.63	21.68	24.78	15.49	8.31		12.65
D. ashlandi	FEMALE											68.9										
	FEMALE WITH EGG											82.8										
	MALE											51.2										
	COPEPODID 1-V											15.5										
D. oregonensis	FEMALE											88.9										
	FEMALE WITH EGG											82.6										
	MALE											51.2										
	COPEPODID 1-V	0.130	0.521			0.130					0.056	15.5	2.02	8.07			2.02					0.87
CYCLOPOID NAUPLII	N1-NV1	13.925	6.897	2.335	7.866	15.467	14.185	4.815	2.096	9.095	8.093	1.3	18.10	8.97	3.04	10.23	20.13	18.44	6.28	2.72	11.82	10.52
CALANOID NAUPLII	N1-NV1	7.808	1.952			0.390	0.260		0.116	0.123	0.410	1.5	11.71	2.93			0.59	0.39		0.17	0.18	0.61
L. kindtii	TOTAL					0.002					0.000	2944.0					5.75					0.82
P. pediculus	TOTAL											226.0										
H. gibberum	TOTAL	0.911	0.651	0.492	6.023	0.651	0.130	0.130	1.184	0.615	1.322	132.4	120.61	86.15	65.09	797.39	86.15	17.23	17.23	154.17	61.37	175.00
S. crystallina	TOTAL				0.001	0.001		0.001		0.123	0.010	503.0				0.31	0.33		0.65		61.82	4.99
D. leuchtenbergianum	TOTAL				0.123	0.260	1.171	0.260	0.116		0.276	55.3				6.80	14.39	64.77	14.39	6.44		15.39
D. longiremis	FEMALE			0.123	0.369	1.041	0.521	0.521	0.466	0.860	0.499	21.8			2.68	6.04	22.70	11.35	11.35	10.15	18.78	10.87
	FEMALE WITH EGG	0.039	0.104	0.012	0.098	0.781	1.171	0.521	0.116	0.123	0.405	27.3	1.07	2.64	0.34	2.68	21.32	31.98	14.21	3.18	3.36	11.04
	MALE											7.2										
	JUVENILE			0.246	0.860	2.343	1.822	2.473	1.514	0.492	1.357	3.4			0.84	2.93	7.96	6.19	8.41	5.15	1.67	4.61
D. ambigua	TOTAL											7.0										
D. dubia	FEMALE											61.5										
	FEMALE WITH EGG							0.013			0.002	76.6							1.00			0.14
	MALE											27.1										
	JUVENILE											16.0										
D. g. mendotae	FEMALE					0.013		0.013	0.233		0.038	61.5					0.80		0.80	14.32		2.31
	FEMALE WITH EGG					0.013	0.026	0.013	0.233		0.041	76.6					1.00	1.99	1.00	17.64		3.16
	MALE								0.349	0.123	0.060	27.1								9.47	3.33	1.63
	JUVENILE			0.123		0.130	0.521	0.260	0.582		0.230	16.0			1.97		2.08	6.33	4.16	9.32		3.68
D. parvula	FEMALE											16.0										
	FEMALE WITH EGG											20.0										
	MALE											6.4										
	JUVENILE											3.5										
D. retrocurva	FEMALE								0.116	0.123	0.026	33.6								3.94	4.15	0.69
	FEMALE WITH EGG											42.2										
	MALE											11.1										
	JUVENILE			0.123			0.130	0.260			0.070	6.9			0.65			0.90	1.80			0.49
B. longirostris	AD + JUV	0.390		0.369	0.983	0.651	2.473	4.555	5.939	2.335	2.333	13.6	5.39		5.09	13.57	6.98	34.12	62.66	81.95	32.23	32.20
	FEMALE WITH EGG		0.026	0.123	0.123	0.130	0.130	0.130	0.699		0.191	17.3		0.45	2.13	2.13	2.25	2.25	2.25	12.09		3.31
C. sphaericus	TOTAL			0.123		0.130	0.390	0.911	2.562	0.737	0.648	5.8			0.71		0.75	2.28	5.28	14.86	4.26	3.76
Chaoborus sp.	TOTAL					0.002	0.065	0.013	0.003	0.005	0.012	7850.0					15.32	510.80	102.18	27.42	38.59	97.86
G. lacustris	TOTAL											47014.0										
TOTAL	ind.L-1	30.23	22.14	30.58	31.65	32.15	30.65	21.42	32.14	21.55	28.61	ug.L-1	199.76	188.53	252.03	964.90	316.92	834.90	328.97	532.82	410.79	505.59
	ind.cm-2	51.40	37.64	55.00	56.97	54.66	52.11	36.41	61.07	38.60	50.55	ug.cm-2	339.59	317.10	453.65	1736.61	538.77	1419.33	559.26	1011.97	739.43	894.64
CYCLOPOIDA TOTAL	ind.L-1	20.69	17.06	26.97	20.10	23.60	16.66	9.77	15.84	15.39	18.56	ug.L-1	56.68	71.51	150.76	86.59	69.71	68.35	37.38	109.68	113.75	85.99
	ind.cm-2	35.18	29.01	48.54	36.17	40.11	31.75	16.61	30.09	27.70	32.73	ug.cm-2	96.35	121.56	271.41	155.86	116.50	116.20	63.55	206.38	204.74	153.27
CALANOIDA TOTAL	ind.L-1	6.20	4.30	1.88	2.98	2.41	3.42	1.57	2.21	0.63	2.53	ug.L-1	16.01	25.57	21.56	44.48	57.41	74.37	44.04	52.86	47.48	47.45
	ind.cm-2	13.94	7.30	3.34	5.36	4.10	5.82	2.68	4.20	1.13	4.44	ug.cm-2	27.22	43.48	38.80	80.03	97.60	126.42	74.87	100.05	85.48	83.45
CLADOCERA TOTAL	ind.L-1	1.34	0.78	1.73	8.58	8.15	8.49	10.06	14.09	5.53	7.51	ug.L-1	127.07	89.45	78.69	833.84	174.48	181.38	145.39	342.86	210.96	274.29
	ind.cm-2	2.28	1.33	3.12	15.44	10.45	14.42	17.10	26.77	9.96	13.38	ug.cm-2	216.02	152.06	143.44	1500.92	296.59	308.35	247.17	651.44	379.73	490.87

Table 3c. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages at Green Lake station 6 sampled between May10 and October 12, 1993. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE									WEIGHTED		BIOMASS									WEIGHTED
	MONTH	MAY	MAY	MAY	JUNE	JULY	AUG	AUG	SEPT	OCT	SEASON	WET	MAY	MAY	MAY	JUNE	JULY	AUG	AUG	SEPT	OCT	SEASON
	DAY	10	17	25	7	19	9	30	20	12	MEAN	WEIGHT	10	17	25	7	19	9	30	20	12	MEAN
	DEPTH (m)	17.0	17.0	18.0	18.0	17.0	17.0	17.0	17.0	17.0	17.2	UG.IND-I	17.0	17.0	18.0	18.0	17.0	17.0	17.0	17.0	17.0	
SPECIES																						
O.modestus	TOTAL					0.039		0.013	0.039		0.015	20.0					0.78		0.26	0.78		0.30
E. egilis	TOTAL											16.2										
E. speratus	TOTAL					0.001					0.000	16.2					0.01					0.00
T. p. mexicanus	FEMALE											6.5										
	FEMALE WITH EGG											74.7										
	MALE											4.5										
	COPEPODID 1-V											2.1										
A. vernalis	FEMALE											40.2										
	FEMALE WITH EGG											48.3										
	MALE											12.1										
	COPEPODID 1-V						0.130	0.260	0.390	0.260	0.128	5.6						0.73	1.46	2.19	1.46	0.70
C. b. thomasi	FEMALE	0.031	0.143	0.248	0.248	0.130	0.390	0.761	0.390	0.521	0.344	22.3	0.70	3.19	5.48	5.48	2.90	8.71	17.41	8.71	11.61	7.67
	FEMALE WITH EGG	0.003	0.001	0.001	0.123		0.013	0.130	0.130		0.059	28.7	0.09	0.02	0.02	3.28		0.35	3.47	3.47		1.59
	MALE	0.052	0.026	0.492	0.492	0.260		1.041	1.041	1.432	0.563	14.8	0.77	0.39	7.28	7.28	3.85		15.41	15.41	21.19	8.33
	COPEPODID 1-V	13.743	17.309	24.582	32.940	15.617	6.787	11.973	6.637	2.993	15.503	5.7	78.33	98.66	140.12	167.76	89.02	38.57	86.25	37.83	17.06	86.37
M. edax	FEMALE		0.002	0.001		0.001	0.013	0.052	0.026		0.013	99.6		0.19	0.06		0.06	1.30	5.16	2.59		1.26
	FEMALE WITH EGG					0.001	0.013				0.002	119.5					0.16	1.56				0.24
	MALE						0.260	0.130	0.130	0.130	0.080	27.0						7.03	3.51	3.51	3.51	2.16
	COPEPODID 1-V	0.010			0.025	0.013	0.130		0.260	0.130	0.070	16.0	0.19			0.44	0.23	2.34		4.69	2.34	1.26
M. albidus	TOTAL											30.3										
E. lacustris	ADULT				0.006	0.007	0.003	0.004	0.002	0.001	0.004	262.9				1.45	1.71	0.86	1.03	0.51	0.17	0.92
	COPEPODID 1-V		0.003	0.025	0.123	0.013	0.013				0.028	53.0		0.14	1.30	6.51	0.69	0.69				1.48
L. macrurus	TOTAL		0.001	0.004	0.002	0.005	0.001	0.001	0.001		0.002	260.6		0.16	1.21	0.69	1.46	0.16	0.16	0.37		0.61
D. leptopus	TOTAL											190.0										
D. minutus	FEMALE					0.390		0.130		0.130	0.108	30.5					11.91		3.97		3.97	3.24
	FEMALE WITH EGG					0.013	0.117			0.078	0.024	36.5					0.46	4.28			2.65	0.88
	MALE	0.052			0.123	0.260	0.260		0.013		0.113	27.2	1.42			3.34	7.08	7.08		0.35		3.07
	COPEPODID 1-V	1.145	2.212	3.196	3.196	0.390		0.390			1.049	7.7	6.62	17.04	24.61	24.61	3.01		3.01			6.07
D. sicilis	FEMALE									0.260	0.016	122.2									31.61	2.26
	FEMALE WITH EGG											146.7										
	MALE			0.012						0.130	0.010	99.4			1.22						12.94	1.00
	COPEPODID 1-V			0.123	0.123	3.514	1.432	3.514	1.952	0.911	1.750	23.8			2.93	2.93	83.83	34.07	83.83	46.46	21.66	41.64
D. ashlandi	FEMALE											66.9										
	FEMALE WITH EGG											82.8										
	MALE											51.2										
	COPEPODID 1-V											15.5										
D. oregonensis	FEMALE											68.9										
	FEMALE WITH EGG								0.026		0.004	62.6								2.15		0.30
	MALE											51.2										
	COPEPODID 1-V	0.156									0.004	15.5	2.42									0.05
CYCLOPOID NAUPLII	N1-NV1	8.465	6.767	7.743	6.235	27.720	14.315	9.370	7.156	11.192	13.134	1.3	11.03	8.60	10.07	10.71	36.04	18.81	12.16	9.31	14.55	17.07
CALANOID NAUPLII	N1-NV1	2.395	0.761	0.737	0.389	0.521	0.130	0.130		0.260	0.367	1.5	3.59	1.17	1.11	0.55	0.76	0.20	0.20		0.39	0.55
L. kindtii	TOTAL			0.012							0.001	2944.0			36.16							2.45
P. pediculus	TOTAL											226.0										
H. gibberum	TOTAL	0.729	0.013	0.492	2.950	0.633	0.076	0.469	0.182	0.672	0.904	132.4	96.49	1.72	65.09	390.56	110.26	10.34	62.03	24.12	115.45	119.72
S. crystallina	TOTAL											503.0										
D. leuchtenbergianum	TOTAL				0.012	0.390	0.651				0.170	55.3				0.68	21.59	35.98				9.38
D. longiremis	FEMALE		0.026	0.123	0.246	0.521	0.781	0.651	0.130		0.371	21.6		0.57	2.68	5.36	11.35	17.02	14.19	2.84		6.09
	FEMALE WITH EGG	0.021	0.013	0.012	0.147	0.651	0.260	0.130	0.039		0.219	27.3	0.57	0.36	0.34	4.03	17.76	7.11	3.55	1.07		5.97
	MALE											7.2										
	JUVENILE	0.005	0.013		0.492	2.082	1.041	0.911	0.521	0.130	0.657	3.4	0.02	0.04		1.67	7.08	3.54	3.10	1.77	0.44	2.91
D. ambigua	TOTAL			0.012							0.001	7.0			0.09							0.01
D. dubia	FEMALE											61.5										
	FEMALE WITH EGG											76.6										
	MALE											27.1										
	JUVENILE											16.0										
D. g. mendotae	FEMALE				0.012			0.260			0.037	61.5				0.76			16.01			2.30
	FEMALE WITH EGG						0.130		0.143	0.013	0.036	76.6						9.97		10.97	1.00	2.94
	MALE									0.130	0.009	27.1									3.53	0.25
	JUVENILE					0.130	0.130		0.130		0.082	16.0					2.06	2.06		2.06		0.99
D. parvula	FEMALE											16.0										
	FEMALE WITH EGG											20.0										
	MALE											6.4										
	JUVENILE						0.130				0.016	3.5						0.46				0.06
D. retrocurva	FEMALE				0.012		0.130	0.521			0.090	33.6				0.42		4.40	17.60			3.05
	FEMALE WITH EGG				0.025	0.130			0.026		0.034	42.2				1.04	5.49			1.10		1.45
	MALE											11.1										
	JUVENILE						0.130	0.130	0.521		0.107	6.9						0.90	0.90	3.59		0.74
B. longirostris	AD + JUV	0.052	0.130	1.352	0.369	1.041	1.171	2.212	0.390	2.212	1.046	13.6	0.72	1.80	18.68	5.09	14.37	16.16	30.53	5.39	30.53	14.43
	FEMALE WITH EGG	0.156		0.123	0.246	0.130	0.390			0.260	0.153	17.3	2.70		2.13	4.25	2.25	6.75			4.50	2.65
C. sphaericus	TOTAL	0.104		0.123	0.123	0.260	0.651	0.651	1.041	0.781	0.462	5.6	0.60		0.71	0.71	1.51	3.77	3.77	6.04	4.53	2.68
Chaoborus sp.	TOTAL					0.008	0.027	0.016	0.006		0.008	7850.0					66.40	209.43	127.70	45.97		65.55
G. lacustris	TOTAL											47014.0										
TOTAL	ind.L-1	27.14	9.96	14.09	50.63	39.01	29.69	33.67	21.33	22.63	32.15	ug.L-1	126.38	31.61	166.31	465.35	406.94	393.70	363.56	164.08	246.33	326.79
	ind.cm-2	46.14	46.65	70.94	91.14	93.62	50.47	57.58	36.25	36.61	65.72	ug.cm-2	354.37	226.24	578.28	1205.27	856.73	772.27	847.46	413.54	519.35	759.84
CYCLOPOIDA TOTAL	ind.L-1	22.32	24.25	33.06	42.06	43.78	22.03	23.75	16.20	16.86	29.91	ug.L-1	91.11	111.25	163.02	214.95	133.05	79.19	127.14	66.49	71.72	126.96
	ind.cm-2	37.95	41.22	59.52	75.71	74.43	37.46	40.38	27.54	28.32	51.82	ug.cm-2	154.86	189.12	293.44	388.90	226.19	134.62	216.14	150.42	121.92	224.18
CALANOIDA TOTAL	ind.L-1	3.75	3.00	4.10	3.94	5.11	1.96	4.17	1.99	1.77	3.48	ug.L-1	16.25	16.53	32.37	40.09	110.74	47.16	92.01	49.64	73.80	64.08
	ind.cm-2	6.37	5.09	7.37	7.09	8.89	3.32	7.09	3.39	3.01	6.01	ug.cm-2	27.62	31.50	58.27	72.16	188.26	80.20	156.41	84.73	125.47	109.87
CLADOCERA TOTAL	ind.L-1	1.07	0.20	2.25	4.63	6.17	5.67	5.93	3.12	4.40	4.56	ug.L-1	101.10	4.48	125.68	414.56	193.76	118.49	151.67	56.96	159.97	180.09
	ind.cm-2	1.81	0.33	4.05	6.34	10.49	9.65	10.09	6.31	7.46	7.88	ug.cm-2	171.87	7.62	226.68	746.21	329.39	201.42	257.84	100.23	271.96	314.36

Table 4a. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages in Orange Lake (central basin near station 6) sampled between May 14 and October 15, 1991. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE										WEIGHTED		BIOMASS										WEIGHT
	MONTH	MAY	MAY	MAY	JUNE	JULY	JULY	AUG	SEPT	SEPT	OCT	SEASON	WET	MAY	MAY	MAY	JUNE	JULY	JULY	AUG	SEPT	SEPT	OCT	SEASON
	DAY	14	21	27	10	2	22	12	3	24	15	MEAN	WEIGHT	14	21	27	10	2	23	12	3	24	15	MEAN
	DEPTH (m)	27	28	28	28	29	27	27	28	28	29.0	27.9	UG.IND-I	27	28	28	28	29	27	27	28	28	29.0	27.9
SPECIES																								
T. p. mexicanus	FEMALE												8.5											
	FEMALE WITH EGG					0.061			0.021			0.011	74.7					4.56			1.67			0.84
	MALE												4.5											
	COPEPODID 1-V										0.015	0.001	2.1										0.03	0.00
A. vernalis	FEMALE												40.2											
	FEMALE WITH EGG					0.006	0.003					0.001	48.3					0.29	0.18					0.06
	MALE							0.033			0.015	0.006	12.1							0.40			0.18	0.07
	COPEPODID 1-V		0.158	0.126	0.221	0.122	0.328	0.098	0.337	0.537	0.137	0.244	5.6		0.88	0.71	1.24	0.68	1.84	0.55	1.89	3.01	0.77	1.37
C. b. thomasi	FEMALE	0.033		0.032	0.063		0.131	0.066	0.042	0.221	0.259	0.091	22.3	0.73		0.70	1.41		2.92	1.46	0.94	4.93	5.78	2.02
	FEMALE WITH EGG	0.013	0.044	0.006	0.032		0.007			0.032	0.046	0.015	26.7	0.35	1.18	0.17	0.84		0.18			0.84	1.22	0.39
	MALE	0.393	0.032	0.063	0.032		0.066	0.066	0.021	0.727	0.412	0.166	14.8	5.82	0.47	0.94	0.47		0.97	0.97	0.31	10.76	6.10	2.46
	COPEPODID 1-V	0.918	1.549	0.790	0.790	1.343	2.884	1.737	0.863	1.266	0.641	1.380	5.7	5.23	8.83	4.50	4.50	7.65	16.44	9.90	4.92	7.39	3.65	7.87
M. edax	FEMALE												99.6											
	FEMALE WITH EGG												119.5											
	MALE												27											
	COPEPODID 1-V						0.003	0.033				0.005	18						0.06	0.59				0.09
E. lacustris	ADULT			0.032	0.032	0.067	0.066	0.013		0.095	0.037	0.041	262.9			8.31	8.31	17.65	17.23	3.45		24.93	9.63	10.75
	COPEPODID 1-V		0.759	0.379	0.221	0.244	0.393	0.131	0.105	0.158		0.223	53		40.20	20.10	11.73	12.94	20.85	6.95	5.58	8.38		11.80
L. macrurus	TOTAL	0.780	0.721	0.790	0.521	1.343	0.918	0.413	0.319	0.259	0.198	0.617	280.6	218.89	202.20	221.71	148.33	378.78	257.52	115.88	89.57	72.72	55.68	173.06
D. minutus	FEMALE				0.284	0.122	0.328	0.131	0.063	0.411	0.046	0.180	30.5				8.88	3.72	10.00	4.00	1.93	12.53	1.40	5.48
	FEMALE WITH EGG				0.158	0.049	0.020	0.039	0.003	0.044	0.043	0.043	38.5				5.77	1.78	0.72	1.44	0.12	1.82	1.56	1.56
	MALE			0.158	0.980	0.427	0.328	0.229	0.126	0.253	0.048	0.314	27.2			4.30	26.65	11.62	8.92	6.24	3.44	8.88	1.25	8.54
	COPEPODID 1-V		1.201	1.201	0.128	1.465	1.114	0.459	0.105			0.570	7.7		9.25	9.25	0.97	11.28	8.58	3.53	0.81			4.39
D. sicilis	FEMALE												122.2											
	FEMALE WITH EGG												146.7											
	MALE				0.032							0.004	99.4				3.14							0.37
	COPEPODID 1-V										0.015	0.001	23.8										0.36	0.02
D. ashlandi	FEMALE												68.9											
	FEMALE WITH EGG												82.8											
	MALE									0.032		0.004	51.2									1.62		0.22
	COPEPODID 1-V												15.5											
D. oregonensis	FEMALE		0.032									0.001	68.9		2.18									0.09
	FEMALE WITH EGG									0.003		0.000	82.8									0.26		0.04
	MALE	0.066										0.001	51.2	3.36										0.08
	COPEPODID 1-V	0.131										0.003	15.5	2.03										0.05
CYCLOPOID NAUPLII	N1-NV1	1.901	2.718	2.623	4.425	4.272	3.343	2.262	0.969	1.138	2.360	2.641	1.3	2.47	3.53	3.41	5.75	5.55	4.35	2.94	1.28	1.48	3.09	3.43
CALANOID NAUPLII	N1-NV1	3.507	0.684	0.190	4.014	2.319	1.311	0.328	0.042		0.031	1.134	1.5	5.28	1.00	0.28	6.02	3.48	1.97	0.49	0.06		0.05	1.70
L. kindtii	TOTAL			0.003	0.006		<0.001		<0.001			0.001	2944			9.30	18.81		1.21		1.18			3.10
H. gibberum	TOTAL	0.131	0.006	0.095	0.078	0.073	0.983	0.856	0.590	0.063		0.342	132.4	17.36	0.84	12.55	10.04	9.70	130.19	86.79	78.06	8.37		45.23
S. crystallina	TOTAL												503											
L. setifera	TOTAL												360											
D. leuchtenbergianum	TOTAL	0.033			0.018	0.122	1.245	0.951	0.063	0.063	0.015	0.336	55.3	1.81			0.87	6.75	68.88	52.56	3.49	3.50	0.84	18.59
D. longiremis	FEMALE						0.003					0.000	21.8						0.07					0.01
	FEMALE WITH EGG												27.3											
	MALE												7.2											
	JUVENILE	0.033										0.001	3.4	0.11										0.00
D. g. mendotae	FEMALE				0.063	0.183	0.393	0.361	0.147	0.190	0.015	0.183	61.5				3.89	11.28	24.19	22.17	9.07	11.66	0.94	11.23
	FEMALE WITH EGG		0.003		0.038	0.040	0.118	0.282	0.051	0.051		0.078	76.8		0.24		2.91	3.04	9.04	20.09	3.87	3.87		5.84
	MALE				0.032				0.021	0.221	0.078	0.042	27.1				0.86				0.57	6.00	2.07	1.14
	JUVENILE	0.003			0.158	0.466	0.524	0.623	0.253	0.348	0.015	0.328	18	0.05			2.53	7.81	8.39	9.96	4.04	5.56	0.24	5.21
D. parvula	FEMALE												16											
	FEMALE WITH EGG												20											
	MALE												8.4											
	JUVENILE	0.033										0.001	3.5	0.11										0.00
D. catawba	TOTAL	<0.001										0.000	33.8	0.01										0.00
C. lacustris	TOTAL												27.2											
B. longirostris	AD + JUV			0.128	0.917	1.404	0.856	0.164	0.337	0.063		0.473	13.8			1.74	12.65	19.37	9.05	2.26	4.65	0.87		6.52
	FEMALE WITH EGG				0.095	0.244		0.033	0.021			0.052	17.3				1.64	4.22		0.57	0.36			0.90
C. sphaericus	TOTAL		0.032					0.066	0.042			0.018	5.8		0.16					0.38	0.24			0.09
M. relicta	TOTAL												26500											
Chaoborus sp.	TOTAL												7850											
TOTAL	Ind.L-1	7.97	7.92	6.62	13.33	14.39	15.17	9.15	4.54	8.20	4.44	9.548	ug.L-1	263.60	270.98	297.99	265.80	520.13	603.88	353.57	217.93	197.17	94.82	334.61
	Ind.cm-2	21.53	22.17	18.52	37.33	41.74	40.95	24.71	12.72	17.37	12.88	28.607	ug.cm-2	711.73	758.75	834.37	800.25	1508.37	1829.95	954.65	610.19	552.07	274.99	931.08
CYCLOPOIDA TOTAL	Ind.L-1	3.28	4.50	3.64	5.56	5.80	8.78	4.29	2.25	3.95	3.91	4.562	ug.L-1	14.80	14.90	10.43	14.22	18.74	26.91	16.81	10.89	28.41	20.84	18.60
	Ind.cm-2	8.80	12.60	10.19	15.56	16.83	18.27	11.59	8.31	11.06	11.33	12.721	ug.cm-2	39.43	41.71	29.21	39.81	54.36	72.65	45.39	30.49	79.55	60.42	51.85
CALANOIDA TOTAL	Ind.L-1	4.48	3.38	2.75	8.37	6.04	4.48	1.74	0.78	1.25	0.42	3.136	ug.L-1	229.54	254.83	263.95	217.59	439.23	325.77	141.98	101.50	128.93	69.89	218.15
	Ind.cm-2	12.11	9.45	7.70	17.83	17.50	12.09	4.71	2.14	3.61	1.20	8.772	ug.cm-2	619.75	713.51	739.07	609.27	1273.77	879.58	383.34	284.21	361.00	202.69	610.43
CLADOCERA TOTAL	Ind.L-1	0.23	0.04	0.22	1.40	2.65	3.92	3.11	1.52	1.00	0.12	1.848	ug.L-1	19.48	1.26	23.60	53.99	62.15	251.00	194.79	105.53	39.83	4.09	97.67
	Ind.cm-2	0.83	0.12	0.63	3.92	7.41	10.59	8.41	4.27	2.80	0.35	5.114	ug.cm-2	52.55	3.53	66.09	151.18	180.24	677.71	525.92	295.46	111.53	11.87	268.79

Table 4b. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages in Orange Lake station (central basin near station 6) sampled between May 19 and October 14, 1992. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE									WEIGHTED		BIOMASS									WEIGHTED
	MONTH	MAY	MAY	JUNE	JUNE	JULY	AUGUST	SEPT	SEPT	OCT	SEASON	WET	MAY	MAY	JUNE	JUNE	JULY	AUGUST	SEPT	SEPT	OCT	SEASON
	DAY	19	25	8	29	20	10	1	21	14	MEAN	WEIGHT	19	28	8	29	20	10	1	21	14	MEAN
	DEPTH (m)	30	28	27	25	27	27	28	28	28	27.6	UG.IND-I	30	28	27	25	27	27	28	28	28	27.6
SPECIES																						
T. p. mexicanus	FEMALE											6.5										
	FEMALE WITH EGG			0.041							0.005	74.7			3.06							0.36
	MALE											4.5										
	COPEPODID 1-V											2.1										
A. vernalis	FEMALE											40.2										
	FEMALE WITH EGG					0.008					0.001	48.3					0.40					0.06
	MALE			0.041	0.177						0.030	12.1			0.50	2.14						0.36
	COPEPODID 1-V						0.164	0.079	0.059	0.040	0.047	5.8						0.92	0.44	0.33	0.22	0.26
C. b. thomasi	FEMALE	0.037	0.356	0.041	0.442	0.737	0.246	0.079		0.079	0.250	22.3	0.82	7.93	0.91	9.87	16.45	5.48	1.76		1.76	5.58
	FEMALE WITH EGG	0.029	0.047	0.049	0.035	0.025	0.008				0.019	28.7	0.79	1.27	1.31	0.95	0.66	0.22				0.52
	MALE		0.435	0.041	0.088	0.164	0.164	0.079	0.059	0.119	0.123	14.8		6.43	0.61	1.31	2.43	2.43	1.17	0.88	1.75	1.82
	COPEPODID 1-V	2.471	1.225	1.516	2.743	3.851	2.540	2.015	1.185	0.119	2.084	5.7	14.08	6.96	8.64	15.64	21.95	14.48	11.48	6.76	0.68	11.88
M. edax	FEMALE											99.6										
	FEMALE WITH EGG											119.5										
	MALE											27										
	COPEPODID 1-V											18										
E. lacustris	ADULT			0.049	0.018	0.025	0.008	0.040	0.087	0.008	0.032	262.9			12.93	4.65	6.46	2.15	10.39	22.85	2.08	8.37
	COPEPODID 1-V			0.082		0.082	0.082	0.158			0.056	53			4.34		4.34	4.34	8.38			2.95
L. macrurus	TOTAL	0.827	0.514	0.246	0.531	0.328	0.248	0.514	0.253	1.225	0.439	280.6	175.89	144.11	68.98	148.99	91.97	68.98	144.11	70.95	343.66	123.13
D. minutus	FEMALE				0.265	0.246		0.079	0.119	0.079	0.107	30.5				8.10	7.50		2.41	3.61	2.41	3.27
	FEMALE WITH EGG				0.088	0.016		0.016	0.059		0.028	36.5				3.23	0.60		0.58	2.18		0.94
	MALE			0.041	0.088	0.246			0.119	0.040	0.073	27.2			1.11	2.41	6.69			3.22	1.07	1.97
	COPEPODID 1-V		0.356	0.778	0.088	0.328	0.164	0.079			0.210	7.7		2.74	5.99	0.68	2.52	1.26	0.61			1.62
D. sicilis	FEMALE											122.2										
	FEMALE WITH EGG											146.7										
	MALE									0.008	0.001	99.4									0.79	0.06
	COPEPODID 1-V									0.040	0.003	23.8									0.94	0.07
D. ashlandi	FEMALE											68.9										
	FEMALE WITH EGG											82.8										
	MALE								0.119		0.017	51.2								6.07		0.88
	COPEPODID 1-V											15.5										
D. oregonensis	FEMALE		0.008						0.008	0.040	0.005	68.9		0.54						0.54	2.72	0.33
	FEMALE WITH EGG				0.009						0.001	82.6				0.73						0.10
	MALE	0.037									0.001	51.2	1.89									0.04
	COPEPODID 1-V		0.079								0.005	15.5		1.22								0.08
CYCLOPOID NAUPLII	N1-NV1	1.291	1.896	3.155	8.673	20.567	11.144	4.069	0.358	0.711	8.979	1.3	1.68	2.47	4.10	11.27	28.74	14.49	5.29	0.46	0.92	9.07
CALANOID NAUPLII	N1-NV1	1.327	2.133	0.123	0.442	0.901	0.164	0.079	0.059		0.420	1.5	1.99	3.20	0.18	0.66	1.35	0.25	0.12	0.09		0.63
L. kindtii	TOTAL					0.001	0.025				0.004	2944					3.62	72.37				11.03
H. gibberum	TOTAL	0.111	0.040	0.041	1.239	0.328	0.248	0.040			0.273	132.4	14.65	5.23	5.42	164.04	43.40	32.55	5.23			36.19
S. crystallina	TOTAL											503										
L. sellifera	TOTAL											360										
D. leuchtenbergianum	TOTAL				0.088	0.246	0.082	0.237	0.059		0.102	55.3				4.89	13.59	4.53	13.11	3.28		5.62
D. longiremis	FEMALE											21.8										
	FEMALE WITH EGG											27.3										
	MALE											7.2										
	JUVENILE		0.040								0.003	3.4		0.13								0.01
D. g. mendotae	FEMALE			<0.001	0.035	0.246		0.024	0.063	0.055	0.057	61.5			0.03	2.18	15.12		1.46	3.89	3.40	3.49
	FEMALE WITH EGG				0.018	0.033	0.008	0.024	0.018	0.024	0.018	78.6				1.36	2.51	0.63	1.82	1.21	1.82	1.21
	MALE								0.119	0.024	0.019	27.1								3.21	0.64	0.52
	JUVENILE		0.040	<0.001	0.285	0.819	0.248	0.158			0.215	16		0.83	0.01	4.25	13.11	3.93	2.53			3.44
D. parvula	FEMALE											16										
	FEMALE WITH EGG											20										
	MALE											8.4										
	JUVENILE											3.5										
D. catawba	TOTAL																					
C. lacustris	TOTAL											27.2										
B. longirostris	AD + JUV			<0.001	0.885	1.639	0.082	0.198	0.237		0.433	13.8			0.01	12.21	22.62	1.13	2.73	3.27		5.97
	FEMALE WITH EGG		<0.001	0.001	0.044	0.082					0.018	17.3		0.01	0.02	0.77	1.42					0.31
C. sphaericus	TOTAL											5.8										
M. relicta	TOTAL			<0.001							0.000	28500			10.86							1.28
Chaoborus sp.	TOTAL						0.008				0.001	7850						64.32				9.34
TOTAL	ind.L-1	5.93	7.17	8.25	18.27	30.92	15.63	7.96	2.97	2.61	12.073	ug.L-1	211.79	182.90	129.01	400.32	305.43	294.45	213.80	132.79	384.86	252.77
	ind.cm-2	17.79	20.07	16.87	40.66	83.48	42.19	22.30	8.33	7.30	32.396	ug.cm-2	635.36	512.11	348.32	1000.79	824.65	795.03	598.09	371.80	1021.81	681.44
CYCLOPOIDA TOTAL	ind.L-1	3.83	3.96	4.88	12.16	25.35	14.27	8.32	1.66	1.07	9.538	ug.L-1	17.37	25.07	19.13	41.18	68.61	38.01	20.15	8.43	5.34	29.91
	ind.cm-2	11.48	11.08	13.19	30.40	68.45	38.52	17.70	4.65	2.99	25.581	ug.cm-2	52.11	70.20	51.65	102.94	185.25	102.83	56.42	23.60	14.84	80.30
CALANOIDA TOTAL	ind.L-1	1.99	3.09	1.32	1.53	2.17	0.66	0.96	0.82	1.44	1.395	ug.L-1	179.77	151.82	93.54	169.45	121.43	78.98	166.59	109.50	353.66	144.45
	ind.cm-2	5.97	8.65	3.56	3.83	5.86	1.79	2.70	2.30	4.03	3.792	ug.cm-2	539.31	425.10	252.55	423.64	327.87	207.85	466.45	306.60	990.28	394.02
CLADOCERA TOTAL	ind.L-1	0.11	0.12	0.04	2.58	3.39	0.69	0.68	0.49	0.10	1.138	ug.L-1	14.65	8.00	5.48	189.69	115.38	115.14	28.87	14.86	5.86	67.79
	ind.cm-2	0.33	0.33	0.12	6.44	9.16	1.86	1.90	1.38	0.29	3.020	ug.cm-2	43.94	18.81	14.80	474.22	311.53	310.88	75.23	41.60	16.41	178.42

Table 4c. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages in Orange Lake (central basin near station 6) sampled between May 10 and October 12, 1993. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE									WEIGHTED		BIOMASS									WEIGHTED
	MONTH	MAY	MAY	MAY	JUNE	JULY	AUG	AUG	SEPT	OCT	SEASON	WET	MAY	MAY	MAY	JUNE	JULY	AUG	AUG	SEPT	OCT	SEASON
	DAY	10	17	25	7	19	9	30	20	12	MEAN	WEIGHT	10	17	25	7	19	9	30	20	12	MEAN
	DEPTH (m)	27	27	27	27	27	27	28	27	27	27.1	UG.IND-I	27	27	27	27	27	27	28	27	27	27.1
SPECIES																						
T. p. mexicanus	FEMALE											6.5										
	FEMALE WITH EGG											74.7										
	MALE											4.5										
	COPEPODID 1-V											2.1										
A. vernalis	FEMALE					0.033	0.008				0.008	40.2					1.32	0.33				0.31
	FEMALE WITH EGG											48.3										
	MALE											12.1										
	COPEPODID 1-V	0.033	0.041	0.082	0.041	0.082	0.082	0.277	0.143	0.246	0.118	5.6	0.18	0.23	0.46	0.23	0.46	0.46	1.55	0.80	1.38	0.66
C. b. thomasi	FEMALE	0.098	0.082	0.164	0.041	0.164	0.164		0.020	0.327	0.106	22.3	2.19	1.83	3.65	0.91	3.65	3.65		0.46	7.30	2.37
	FEMALE WITH EGG		0.180	0.156						0.033	0.022	26.7		4.81	4.16						0.88	0.58
	MALE	0.082	0.205	0.082	0.123	0.492	0.164	0.040	0.164	0.791	0.245	14.8	1.21	3.03	1.21	1.82	7.28	2.43	0.58	2.43	11.71	3.63
	COPEPODID 1-V	0.328	0.656	0.615	1.065	2.950	2.212	2.331	1.577	1.037	1.777	5.7	1.87	3.74	3.50	6.07	16.81	12.61	13.29	8.99	5.91	10.13
M. edax	FEMALE											99.6										
	FEMALE WITH EGG											119.5										
	MALE											27										
	COPEPODID 1-V								0.020		0.003	18								0.37		0.05
E. lacustris	ADULT				0.041	0.049	0.033	0.055	0.082	0.025	0.042	262.9				10.77	12.93	8.62	14.54	21.54	6.46	11.12
	COPEPODID 1-V	0.016	0.082	0.369	0.328	0.164	0.328	0.158	0.082		0.198	53	0.87	4.34	19.54	17.37	8.69	17.37	8.38	4.34		10.49
L. macrurus	TOTAL	0.269	0.369	0.451	0.402	0.442	0.393	0.229	0.287	0.197	0.354	280.6	75.42	103.47	126.46	112.66	124.16	110.36	64.30	80.47	55.18	99.24
D. minutus	FEMALE				0.574	0.082		0.040	0.061	0.082	0.138	30.5				17.49	2.50		1.20	1.87	2.50	4.21
	FEMALE WITH EGG				0.090		0.016	0.016	0.033	0.074	0.030	36.5				3.29		0.60	0.58	1.20	2.69	1.10
	MALE			0.041	0.696	0.164	0.082	0.079	0.020	0.027	0.186	27.2			1.11	18.94	4.46	2.23	2.15	0.56	0.74	5.07
	COPEPODID 1-V	0.016	0.287	0.492	0.410	0.246	0.574	0.079			0.259	7.7	0.13	2.21	3.79	3.15	1.89	4.42	0.61			1.99
D. sicilis	FEMALE											122.2										
	FEMALE WITH EGG											146.7										
	MALE											99.4										
	COPEPODID 1-V											23.8										
D. ashlandi	FEMALE											68.9										
	FEMALE WITH EGG											62.6										
	MALE											51.2										
	COPEPODID 1-V											15.5										
D. oregonensis	FEMALE											68.9										
	FEMALE WITH EGG					0.008					0.002	82.6					0.68					0.14
	MALE											51.2										
	COPEPODID 1-V		0.082	0.041		0.164					0.040	15.5		1.27	0.64		2.54					0.62
CYCLOPOID NAUPLII	N1-NV1	0.688	1.188	2.049	6.637	6.146	4.834	3.437	1.147	1.282	4.009	1.3	0.69	1.54	2.66	8.63	7.99	6.28	4.47	1.49	1.67	5.21
CALANOID NAUPLII	N1-NV1	1.196	1.065	0.410	0.164	0.901	0.328	0.079	0.020		0.377	1.5	1.79	1.60	0.61	0.25	1.35	0.49	0.12	0.03		0.56
L. kindtii	TOTAL					<0.001	0.001				0.000	2944					1.21	2.41				0.57
H. gibberum	TOTAL			0.041	<0.001	0.279	1.147	0.198			0.242	132.4			5.42	0.05	36.89	151.88	26.15			31.99
S. crystallina	TOTAL					<0.001					0.000	503					0.21					0.04
L. setifera	TOTAL	<0.001									0.000	360	0.15									0.00
D. leuchtenbergianum	TOTAL				<0.001	0.656	0.246	0.158	0.008	0.008	0.190	55.3				0.02	36.25	13.59	8.74	0.45	0.45	10.49
D. longiremis	FEMALE											21.8										
	FEMALE WITH EGG											27.3										
	MALE											7.2										
	JUVENILE											3.4										
D. g. mendotae	FEMALE						0.328	0.395	0.082	0.025	0.111	61.5						20.16	24.30	5.04	1.51	6.83
	FEMALE WITH EGG				<0.001	0.082	0.098	0.055	0.082	0.016	0.050	76.6				0.03	6.28	7.53	4.24	6.28	1.26	3.84
	MALE								0.102		0.014	27.1								2.78		0.39
	JUVENILE	0.016			<0.001	0.737	0.574	0.435	0.205		0.315	16	0.26			0.01	11.60	9.18	6.95	3.28		5.05
D. parvula	FEMALE											16										
	FEMALE WITH EGG											20										
	MALE											6.4										
	JUVENILE											3.5										
D. catawba																						
C. lacustris	TOTAL			0.041	0.041						0.010	27.2			1.11	1.11						0.27
B. longirostris	AD + JUV		0.041		0.082	3.769	0.574	0.040	0.041		0.871	13.8		0.57		1.13	52.02	7.92	0.55	0.57		12.02
	FEMALE WITH EGG	0.016	0.008		<0.001						0.001	17.3	0.28	0.14		0.01						0.01
C. sphaericus	TOTAL											5.8										
M. relicta	TOTAL			<0.001		<0.001		<0.001			<0.001	26500			10.86		10.86		10.47			4.36
Chaoborus sp.	TOTAL											7850										
TOTAL	ind.L-1	2.76	4.29	5.03	10.74	17.61	12.19	8.10	4.18	4.17	9.718	ug.L-1	85.25	128.78	185.20	203.96	352.20	382.52	193.15	142.94	99.64	233.36
	ind.cm-2	7.45	11.57	13.59	28.99	47.55	32.90	22.68	11.28	11.26	26.348	ug.cm-2	230.17	347.69	500.03	550.70	950.93	1032.81	540.83	385.94	269.02	632.68
CYCLOPOIDA TOTAL	ind.L-1	1.23	2.35	3.15	7.91	9.87	7.46	6.08	3.07	3.72	6.288	ug.L-1	6.35	15.18	15.65	17.86	37.51	25.76	19.69	14.54	28.84	22.94
	ind.cm-2	3.32	6.35	8.50	21.35	26.64	20.15	17.04	8.30	10.03	17.060	ug.cm-2	17.15	40.99	42.25	47.69	101.28	69.56	55.69	39.25	77.87	62.22
CALANOIDA TOTAL	ind.L-1	1.50	1.68	1.80	2.70	2.22	1.75	0.73	0.59	0.40	1.625	ug.L-1	78.20	112.89	152.15	183.93	159.19	144.09	91.87	110.02	67.58	134.54
	ind.cm-2	4.04	5.09	4.87	7.30	6.00	4.73	2.06	1.58	1.09	4.398	ug.cm-2	211.15	304.79	410.81	496.62	429.81	389.04	257.24	297.05	182.45	364.52
CLADOCERA TOTAL	ind.L-1	0.03	0.05	0.08	0.12	5.52	2.97	1.28	0.52	0.05	1.804	ug.L-1	0.69	0.71	8.54	2.37	144.64	212.67	70.92	18.39	3.22	71.51
	ind.cm-2	0.09	0.13	0.22	0.34	14.91	8.01	3.58	1.40	0.13	4.889	ug.cm-2	1.87	1.91	17.65	6.39	390.53	574.22	198.59	49.65	8.69	194.04

Table 5a. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages at Linge Lake station 6 sampled between May 14 and October 15, 1991. Total abundance and biomass also expressed per square centimetre of lake surface area.

		ABUNDANCE										WEIGHTED		BIOMASS										WEIGHT
	MONTH	MAY	MAY	MAY	JUNE	JULY	JULY	AUG	SEPT	SEPT	OCT	SEASON	WET	MAY	MAY	MAY	JUNE	JULY	JULY	AUG	SEPT	SEPT	OCT	SEASON
	DAY	14	21	27	10	2	22	12	3	24	15	MEAN	WEIGHT	14	21	27	10	2	22	12	3	24	15	MEAN
	DEPTH (m)	20.0	25.0	21.0	19.0	21.0	19.5	18.0	19.0	20.0	20.0	20.3	UG.IND-1	20.0	25.0	21.0	19.0	21.0	19.5	18.0	19.0	20.0	20.0	20.3
SPECIES																								
T. p. mexicanus	FEMALE												6.5											
	FEMALE WITH EGG					0.084						0.011	74.7					6.30						0.84
	MALE												4.5											
	COPEPODID 1-V												2.1											
C. scutifer	TOTAL			0.084								0.005	23.2			1.96								0.13
A. vernalis	FEMALE												40.2											
	FEMALE WITH EGG												48.3											
	MALE												12.1											
	COPEPODID 1-V	0.044	0.035							0.088	0.265	0.034	5.8	0.25	0.20							0.50	1.49	0.19
C. b. thomasi	FEMALE	0.221	0.566	0.506	0.186	0.421	0.182	0.098	0.279	0.177	0.885	0.305	22.3	4.93	12.63	11.28	4.15	9.40	4.05	2.19	6.23	3.95	19.73	6.80
	FEMALE WITH EGG	0.004	0.028	0.042		0.337	0.005			0.088		0.062	28.7	0.12	0.76	1.13		9.00	0.12			2.36		1.65
	MALE	0.487	1.310	0.421	0.140	0.759	0.272	0.098	0.373	0.442	1.239	0.464	14.8	7.20	19.36	6.24	2.07	11.23	4.03	1.46	5.51	6.55	18.34	6.86
	COPEPODID 1-V	2.301	5.451	7.501	1.616	13.822	6.263	3.441	4.565	4.867	4.425	5.780	5.7	13.12	31.07	42.76	10.35	78.79	35.70	19.62	26.02	27.74	25.22	32.95
M. edax	FEMALE		0.001	0.253	0.028		0.014	0.020				0.024	99.6		0.09	25.18	2.78		1.36	1.96				2.42
	FEMALE WITH EGG			0.008	0.003	0.008	0.009	0.001	0.005			0.004	119.5			1.01	0.35	1.01	1.08	0.07	0.56			0.47
	MALE		0.035	0.004							0.088	0.008	27		0.96	0.11							2.39	0.22
	COPEPODID 1-V		0.106	0.004			1.180	0.295	0.093	0.354		0.266	18		1.91	0.08			21.24	5.31	1.66	6.37		4.60
S. calanoides	TOTAL										0.001	0.000	1469										0.62	0.06
E. lacustris	ADULT		<0.001	0.021	0.065	0.059	0.009	0.004	0.005	0.009	0.007	0.021	262.9		0.12	5.54	17.14	15.51	2.39	0.97	1.22	2.33	1.74	5.51
	COPEPODID 1-V		0.002	0.253		0.189	0.091					0.051	53		0.12	13.40		8.93	4.81					2.70
L. macrurus	TOTAL		0.004			0.001	0.001	0.001	0.001		0.001	0.001	280.6		0.99			0.15	0.32	0.34	0.16		0.16	0.19
D. minutus	FEMALE			0.004	0.009			0.098		0.088	0.177	0.040	30.5			0.13	0.28			3.00		2.70	5.40	1.23
	FEMALE WITH EGG				0.009	0.013	0.018	0.005	0.023	0.004	0.009	0.010	36.6				0.34	0.46	0.66	0.18	0.85	0.16	0.32	0.38
	MALE		0.177		0.093	0.084		0.098		0.442	0.177	0.118	27.2		4.81		2.53	2.29		2.67		12.04	4.81	3.21
	COPEPODID 1-V	1.372	2.513	1.601	0.093	0.421	0.726	0.098		0.442		0.461	7.7	10.56	19.35	12.33	0.72	3.24	5.59	0.76		3.41		3.70
D. sicilis	FEMALE												122.2											
	FEMALE WITH EGG	0.003	0.003	0.004								0.000	148.7	0.41	0.39	0.62								0.07
	MALE	0.049	0.035	0.084	0.005						0.285	0.028	99.4	4.84	3.52	8.38	0.46						26.39	2.74
	COPEPODID 1-V		0.177	1.011	0.279	5.394	6.083	3.046	3.633	5.664	6.106	3.670	23.8		4.21	24.07	8.65	128.38	120.97	72.55	86.46	134.80	145.33	87.35
D. ashlandi	FEMALE												68.9											
	FEMALE WITH EGG												62.6											
	MALE												51.2											
	COPEPODID 1-V												15.5											
D. oregonensis	FEMALE	0.004			0.014					0.088	0.531	0.052	68.9	0.30			0.96					8.10	36.58	3.58
	FEMALE WITH EGG					0.008	0.014	0.025	0.023	0.013	0.049	0.015	82.8					0.70	1.12	2.03	1.92	1.10	4.02	1.24
	MALE				0.005	0.084	0.091	0.098		0.177	0.531	0.101	51.2				0.24	4.32	4.65	5.03		9.06	27.19	5.15
	COPEPODID 1-V		0.035	0.169			0.182		0.373	0.819	0.265	0.194	15.5		0.55	2.81			2.81		5.76	9.60	4.12	3.01
CYCLOPOID NAUPLII	N1-NV1	4.823	10.903	12.389	8.241	43.574	18.062	10.619	6.614	2.476	4.425	13.411	1.3	6.27	14.17	18.11	8.11	56.65	23.48	13.81	8.60	3.22	5.75	17.43
CALANOID NAUPLII	N1-NV1	5.354	1.381	0.169	0.233	1.349	1.180	2.282	0.279	0.088	0.177	0.942	1.5	8.03	2.07	0.25	0.35	2.02	1.77	3.39	0.42	0.13	0.27	1.41
L. kindtii	TOTAL			0.001	0.002	0.004	0.003					0.001	2944			1.55	5.14	12.41	8.35					3.46
H. gibberum	TOTAL	0.487	0.177	0.531	0.345	0.590	0.091	0.098	0.093			0.211	132.4	64.44	23.43	70.30	45.63	78.11	12.02	13.02	12.33			27.93
S. crystallina	TOTAL												503											
D. leuchtenbergianum	TOTAL			0.004	0.014	0.590	0.363	0.236	0.838	0.265	0.177	0.329	55.3			0.23	0.77	32.63	20.08	13.05	46.36	14.68	9.79	18.21
D. longiremis	FEMALE												21.8											
	FEMALE WITH EGG												27.3											
	MALE												7.2											
	JUVENILE												3.4											
D. g. meno· .ae	FEMALE		0.004	0.004		0.084		0.020	0.652	0.088	0.265	0.137	61.5		0.22	0.28		5.18		1.21	40.10	5.44	18.33	8.41
	FEMALE WITH EGG		0.002		0.014	0.055	0.059	0.039	0.279	0.053	0.035	0.071	76.6		0.17		1.07	4.20	4.52	3.01	21.41	4.07	2.71	5.47
	MALE								0.093	0.354		0.062	27.1								2.52	9.59		1.69
	JUVENILE	0.002	0.014	0.008	0.047	0.337	0.182	0.069	1.211	0.265		0.292	16	0.04	0.23	0.13	0.75	5.39	2.90	1.10	19.38	4.25		4.67
D. parvula	FEMALE												16											
	FEMALE WITH EGG												20											
	MALE												6.4											
	JUVENILE												3.5											
D. retrocurva	FEMALE					0.004	0.005	0.044	0.373			0.060	33.6					0.14	0.15	1.50	12.59			2.01
	FEMALE WITH EGG						0.005	0.010				0.002	42.2						0.19	0.41				0.08
	MALE								0.093			0.013	11.1								1.03			0.14
	JUVENILE						0.091	0.029				0.018	6.9						0.83	0.20				0.11
C. quadrangula	TOTAL												27.2											
B. longirostris	AD + JUV	0.044	0.106	0.590	0.093	1.180	3.721	0.590	0.466	0.177	0.177	0.894	13.8	0.61	1.47	8.14	1.29	16.28	51.35	8.14	6.43	2.44	2.44	12.33
	FEMALE WITH EGG				0.047		0.091		0.093	0.088		0.043	17.3				0.81		1.57		1.61	1.53		0.74
C. sphaericus	TOTAL						0.545	1.475	1.584	2.832	1.150	0.962	5.8						3.18	8.55	9.18	16.42	6.67	5.69
M. relicta	TOTAL												26500											
Chaoborus sp.	TOTAL					0.004	0.001		0.001	0.001		0.001	7850					33.08	8.91		9.14	4.34		7.47
G. lacustris	TOTAL									0.354	0.088	0.056	47014									16642.12	4160.53	2620.59
TOTAL	Ind.L-1	15.20	23.07	25.67	9.78	89.44	38.53	22.92	22.04	20.81	21.52	29.268	ug.L-1	121.12	142.62	253.79	112.96	525.79	349.98	185.54	327.52	18937.00	4528.54	2915.32
	Ind.cm-2	30.39	57.67	63.90	18.58	145.82	75.14	41.28	41.68	41.22	43.03	58.780	ug.cm-2	242.24	357.04	532.95	214.62	1104.15	682.47	333.98	622.28	33874.00	9057.08	5828.78
CYCLOPOIDA TOTAL	Ind.L-1	7.68	18.44	21.21	8.41	59.01	25.99	14.57	11.93	8.50	11.33	20.374	ug.L-1	31.89	81.17	105.84	27.82	172.36	91.06	44.41	48.60	50.69	72.92	74.75
	Ind.cm-2	15.76	46.09	44.55	15.99	123.91	50.67	28.23	22.66	18.99	22.65	41.207	ug.cm-2	63.78	202.92	222.26	52.88	361.96	177.56	79.94	92.33	101.38	145.84	151.33
CALANOIDA TOTAL	Ind.L-1	8.76	4.33	3.32	0.81	7.58	7.39	5.74	4.34	7.84	8.30	5.724	ug.L-1	24.14	36.13	67.33	29.68	168.00	145.10	90.93	96.82	181.42	257.15	121.53
	Ind.cm-2	13.56	10.62	6.96	1.53	15.92	14.42	10.33	8.24	15.27	16.59	11.376	ug.cm-2	48.28	90.33	141.40	58.40	348.61	262.94	163.87	183.96	362.83	514.29	241.21
CLADOCERA TOTAL	Ind.L-1	0.53	0.30	1.14	0.56	2.84	5.15	2.61	5.78	4.12	1.81	3.113	ug.L-1	65.09	25.51	80.82	55.46	154.34	104.92	50.20	172.96	58.43	37.94	90.97
	Ind.cm-2	1.07	0.78	2.39	1.07	5.97	10.05	4.70	10.97	8.25	3.81	6.082	ug.cm-2	130.18	63.78	169.30	105.37	324.12	204.60	90.36	328.62	118.86	75.88	179.86

Table 5b. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages at Linge Lake station 6 sampled between May19 and October 14, 199 Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE									WEIGHTED		BIOMASS									WEIGHTED
	MONTH	MAY	MAY	JUNE	JUNE	JULY	AUG	SEPT	SEPT	OCT	SEASON	WET	MAY	MAY	JUNE	JUNE	JULY	AUG	SEPT	SEPT	OCT	SEASON
	DAY	19	25	8	29	20	10	1	21	14	MEAN	WEIGHT	19	25	8	29	20	10	1	21	14	MEAN
	DEPTH (m)	20.0	20.0	20.0	17.0	17.0	17.0	20.0	19.5	16.0	16.7	UG.IND-1	20.0	20.0	20.0	17.0	17.0	17.0	20.0	19.5	16.0	16.7
SPECIES																						
T. p. mexicanus	FEMALE											6.5										
	FEMALE WITH EGG						0.260				0.038	74.7						19.44				2.82
	MALE											4.5										
	COPEPODID 1-V											2.1										
C. scutifer	TOTAL											23.2										
A. vernalis	FEMALE											40.2										
	FEMALE WITH EGG											48.3										
	MALE											12.1										
	COPEPODID 1-V			0.332						0.123	0.049	5.6			1.88						0.69	0.27
C. b. thomasi	FEMALE	0.774	0.111	0.885	0.280	0.521	1.041		0.681	0.737	0.548	22.3	17.27	2.47	19.73	5.80	11.61	23.22		15.18	16.45	12.18
	FEMALE WITH EGG	0.133	0.133	0.332	0.039	0.052	0.013	0.011	0.340	0.737	0.174	26.7	3.54	3.54	8.86	1.04	1.39	0.35	0.30	9.09	19.69	4.65
	MALE	0.111	0.111	1.438	0.781	1.301	1.301	0.221	0.340	0.369	0.774	14.6	1.64	1.64	21.28	11.56	19.26	19.28	3.27	5.04	5.46	11.45
	COPEPODID 1-V	2.876	3.540	9.292	11.713	11.452	8.329	8.850	7.146	4.794	8.560	5.7	18.39	20.18	52.96	66.76	65.28	47.48	50.44	40.74	27.32	48.79
M. edax	FEMALE	0.011		0.111			0.013		0.023		0.018	99.8	1.10		11.02			1.30		2.26		1.84
	FEMALE WITH EGG				0.065	0.026	0.002				0.013	119.5				7.78	3.11	0.23				1.58
	MALE							0.221			0.031	27							5.97			0.85
	COPEPODID 1-V	0.111	0.111				0.521	0.442	0.113		0.185	18	1.99	1.99				9.37	7.96	2.04		2.96
S. calanoides	TOTAL											1489										
E. lacustris	ADULT			0.033	0.286	0.013	0.002	0.011	0.034	0.012	0.054	262.9			8.72	75.27	3.42	0.51	2.91	8.95	3.23	14.24
	COPEPODID 1-V			0.111							0.013	53			5.66							0.69
L. macrurus	TOTAL								0.002		<0.001	280.6								0.46		0.07
D. minutus	FEMALE				0.521			0.221			0.105	30.5				15.88			6.75			3.21
	FEMALE WITH EGG				0.065	0.039		0.011	0.011	0.012	0.019	36.5				2.38	1.43		0.40	0.41	0.45	0.69
	MALE		0.111		0.260	0.260	0.260		0.113	0.492	0.174	27.2		3.01		7.08	7.08	7.08		3.09	13.37	4.73
	COPEPODID 1-V	0.442	4.314	0.664		1.041	2.603	0.221			0.936	7.7	3.41	33.22	5.11		8.02	20.04	1.70			7.21
D. sicilis	FEMALE				0.260		0.013				0.039	122.2				31.81		1.59				4.74
	FEMALE WITH EGG	0.144	0.077	0.011	0.260						0.046	146.7	21.10	11.36	1.62	38.18						6.80
	MALE	0.553	0.332								0.034	99.4	54.98	32.99								3.34
	COPEPODID 1-V			3.208	9.891	9.891	8.069	14.823	3.063	1.844	7.050	23.8			76.35	235.40	235.40	192.04	352.79	72.91	43.88	167.79
D. ashlandi	FEMALE											68.9										
	FEMALE WITH EGG											62.6										
	MALE											51.2										
	COPEPODID 1-V											15.5										
D. oregonensis	FEMALE				0.039	0.013	0.001	0.221	0.340	0.860	0.155	68.9				2.69	0.90	0.04	15.24	23.45	59.28	10.69
	FEMALE WITH EGG				0.013	0.039	0.001	0.001	0.034	0.098	0.020	82.6				1.07	3.22	0.05	0.09	2.81	8.12	1.67
	MALE					0.013		0.221	0.567	0.492	0.154	51.2					0.67		11.33	29.04	25.17	7.88
	COPEPODID 1-V		0.111			0.260	0.280	0.664	0.227	0.123	0.219	15.5		1.71			4.03	4.03	10.29	3.52	1.91	3.39
CYCLOPOID NAUPLII	N1-NV1	4.314	7.522	12.389	22.905	35.136	10.411	8.407	4.652	1.721	13.811	1.3	5.61	9.78	18.11	29.76	45.88	13.53	10.93	6.05	2.24	17.95
CALANOID NAUPLII	N1-NV1	8.960	4.425	0.553	3.384	1.562	0.521	0.221	0.340	0.123	1.414	1.5	13.44	6.64	0.83	5.08	2.34	0.78	0.33	0.51	0.18	2.12
L. kindtii	TOTAL											2944										
H. gibberum	TOTAL	0.221		0.332	0.521	0.260	0.260	0.442			0.255	132.4	29.29		43.94	68.92	34.46	34.46	56.58			33.78
S. crystallina	TOTAL											503										
D. leuchtenbergianum	TOTAL				0.013		1.562	0.665	0.454	0.123	0.430	55.3				0.72		86.36	48.94	25.10	6.80	23.77
D. longiremis	FEMALE		0.001								<0.001	21.8		0.01								0.00
	FEMALE WITH EGG	0.011									<0.001	27.3	0.30									0.01
	MALE											7.2										
	JUVENILE											3.4										
D. g. mendotae	FEMALE				0.260	0.521	0.260	2.434	0.113		0.510	61.5				16.01	32.01	16.01	149.67	6.98		31.39
	FEMALE WITH EGG				0.026	0.143	0.052	0.166	0.045	0.012	0.063	78.6				1.99	10.97	3.99	12.71	3.46	0.94	4.80
	MALE								0.113		0.016	27.1								3.07		0.45
	JUVENILE				0.280	1.041	1.041	1.106	0.340		0.542	18				4.16	16.66	16.66	17.70	5.45		6.88
D. parvula	FEMALE											18										
	FEMALE WITH EGG											20										
	MALE											6.4										
	JUVENILE											3.5										
D. retrocurva	FEMALE			0.001		0.013	0.260	0.221			0.071	33.8			0.02		0.44	8.80	7.48			2.40
	FEMALE WITH EGG					0.026	0.039				0.009	42.2					1.10	1.65				0.40
	MALE											11.1										
	JUVENILE											6.9										
C. quadrangula	TOTAL				0.013						0.002	27.2				0.35						0.05
B. longirostris	AD + JUV			0.111	1.301	0.781	7.548	1.327	0.227		1.628	13.8			1.53	17.96	10.78	104.16	16.32	3.13		22.44
	FEMALE WITH EGG						0.260				0.038	17.3						4.50				0.65
C. sphaericus	TOTAL	0.111		0.111	0.521		0.521	0.442	0.340		0.277	5.8	0.64		0.64	3.02		3.02	2.57	1.97		1.61
M. relicta	TOTAL						0.001				<0.001	26500						17.24				2.50
Chaoborus sp.	TOTAL							0.002			<0.001	7850							13.03			1.85
G. lacustris	TOTAL											47014										
TOTAL	Ind.L-1	18.77	20.90	29.91	53.66	64.41	45.42	41.79	19.66	12.67	38.45	ug.L-1	170.70	128.53	276.45	650.69	519.25	657.20	809.70	274.74	235.17	479.38
	Ind.cm-2	37.54	41.79	59.82	91.22	109.49	77.22	83.59	38.34	22.81	69.56	ug.cm-2	341.40	257.07	552.90	1106.17	882.72	1117.24	1619.40	535.75	423.31	874.68
CYCLOPOIDA TOTAL	Ind.L-1	8.33	11.53	24.78	35.76	48.49	21.69	18.15	13.30	6.46	24.18	ug.L-1	47.54	39.60	131.83	122.72	148.33	134.18	78.86	80.40	71.84	105.35
	Ind.cm-2	16.66	23.05	49.56	60.60	82.43	37.22	36.31	25.93	15.27	43.59	ug.cm-2	95.09	79.19	263.65	208.62	246.76	228.10	157.78	156.77	129.31	191.69
CALANOI)A TOTAL	Ind.L-1	10.10	9.37	4.58	14.96	13.13	11.73	16.62	4.73	4.06	10.43	ug.L-1	92.92	68.93	98.50	414.83	268.51	226.17	401.83	145.17	155.59	239.27
	Ind.cm-2	20.20	16.74	9.16	25.46	22.32	19.94	33.23	9.23	7.30	19.06	ug.cm-2	185.64	177.65	197.00	705.21	453.06	384.50	603.87	283.08	280.07	436.20
CLADOCERA TOTAL	Ind.L-1	0.34	0.00	0.55	2.92	2.79	11.80	7.02	1.63	0.14	3.64	ug.L-1	30.24	0.01	46.12	113.14	106.41	279.81	315.96	49.18	7.74	130.42
	Ind.cm-2	0.69	0.00	1.11	4.96	4.73	20.07	14.05	3.19	0.24	6.91	ug.cm-2	60.47	0.02	92.25	192.34	180.90	475.33	631.92	95.89	13.93	238.82

Table 5c. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages at Linge Lake station 6 sampled between May10 and October 12, 199 Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE									WEIGHTED		BIOMASS									WEIGHTED
	MONTH	MAY	MAY	MAY	JUNE	JULY	AUG	AUG	SEPT	OCT	SEASON	WET	MAY	MAY	MAY	JUNE	JULY	AUG	AUG	SEPT	OCT	SEASON
	DAY	10	17	25	7	19	9	30	20	12	MEAN	WEIGHT	10	17	25	7	19	9	30	20	12	MEAN
	DEPTH (m)	20.0	17.0	17.0	17.0	17.0	19.0	17.0	20.0	17.0	17.9	UG.IND-1	20.0	17.0	17.0	17.0	17.0	19.0	17.0	20.0	17.0	17.9
SPECIES																						
T. p. mexicanus	FEMALE											6.5										
	FEMALE WITH EGG	0.044									0.001	74.7	3.31									0.07
	MALE											4.5										
	COPEPODID 1-V											2.1										
C. scutifer	TOTAL											23.2										
A. vernalis	FEMALE											40.2										
	FEMALE WITH EGG											48.3										
	MALE		0.130								0.006	12.1		1.57								0.08
	COPEPODID 1-V			0.130		0.130		0.260	0.166	0.065	0.098	5.6			0.73		0.73		1.46	0.93	0.36	0.55
C. b. thomasi	FEMALE	0.354	0.521	2.733	1.301	0.130	0.116	0.260	0.221	0.325	0.580	22.3	7.89	11.61	60.94	29.02	2.90	2.60	5.80	4.93	7.26	12.94
	FEMALE WITH EGG	0.133	0.130	0.001	0.078			0.013			0.025	26.7	3.54	3.47	0.02	2.08			0.35			0.67
	MALE	0.354	0.651	2.343	1.041	0.911	0.233	0.260	0.387	0.130	0.698	14.8	5.24	9.63	34.67	15.41	13.48	3.45	3.85	5.73	1.93	10.33
	COPEPODID 1-V	2.080	4.425	8.329	24.206	12.233	4.425	3.844	0.608	0.651	8.830	5.7	11.85	25.22	47.48	137.97	89.73	25.22	20.77	3.47	3.71	50.33
M. edax	FEMALE	0.001	0.001	0.013	0.026	0.130		0.130			0.050	99.6	0.06	0.06	1.30	2.59	12.96		12.96			4.94
	FEMALE WITH EGG		0.001			0.013	0.012	0.001			0.004	119.5		0.08			1.56	1.39	0.18			0.53
	MALE											27										
	COPEPODID 1-V	0.088	0.130		0.013	0.130	0.815	0.390	0.111	0.065	0.220	18	1.59	2.34		0.23	2.34	14.67	7.03	1.99	1.17	3.97
S. calanoides	TOTAL								0.001		0.000	1489								1.65		0.23
E. lacustris	ADULT				0.026	0.003	0.009	0.039	0.012	0.012	0.014	282.9				6.84	0.86	2.45	10.28	3.05	3.08	3.75
	COPEPODID 1-V		0.390	0.521	0.091	0.001					0.071	53		20.89	27.59	4.83	0.07					3.74
L. macrurus	TOTAL			0.001			0.001		0.003	0.004	0.001	280.6			0.18			0.33		0.78	1.10	0.24
D. minutus	FEMALE				0.039			0.521			0.077	30.5				1.19			15.88			2.36
	FEMALE WITH EGG				0.013	0.065	0.012	0.013	0.011	0.013	0.021	36.5				0.48	2.38	0.43	0.48	0.40	0.48	0.78
	MALE				0.028			0.390	0.055		0.065	27.2				0.71			10.62	1.50		1.77
	COPEPODID 1-V	0.619	3.774	4.164	0.390	0.651	0.349	0.130			0.745	7.7	4.77	29.06	32.07	3.01	5.01	2.69	1.00			5.74
D. sicilis	FEMALE	0.022	0.028	0.028						0.130	0.013	122.2	2.70	3.18	3.18						15.90	1.56
	FEMALE WITH EGG	0.049	0.013	0.052	0.039						0.012	148.7	7.14	1.91	7.64	5.73						1.79
	MALE	0.314	0.065	0.065	0.028						0.019	99.4	31.23	6.47	6.47	2.59						1.92
	COPEPODID 1-V		0.130	0.521	4.555	8.199	9.199	2.733	9.347	2.538	5.609	23.8		3.10	12.39	108.41	195.13	218.93	65.04	222.47	60.40	133.50
D. ashlandi	FEMALE					0.130					0.026	68.9					6.97					1.82
	FEMALE WITH EGG											82.8										
	MALE											51.2										
	COPEPODID 1-V											15.5										
D. oregonensis	FEMALE				0.026				0.055	0.195	0.028	68.9				1.79				3.81	13.45	1.80
	FEMALE WITH EGG					0.013	0.058	0.005	0.001	0.052	0.015	82.6					1.07	4.81	0.38	0.05	4.30	1.23
	MALE							0.130	0.111	0.195	0.047	51.2							6.66	5.66	9.99	2.40
	COPEPODID 1-V	0.044	0.130		0.130	1.301	0.466	1.301	0.332	0.325	0.603	15.5	0.69	2.02		2.02	20.17	7.22	20.17	5.14	5.04	9.35
CYCLOPOID NAUPLII	N1-NV1	3.319	11.322	18.350	39.433	24.727	8.034	8.637	1.549	3.188	16.318	1.3	4.31	14.72	23.65	51.26	32.14	10.44	8.63	2.01	4.14	21.21
CALANOID NAUPLII	N1-NV1	5.088	3.844	2.343	0.781	1.952	1.281	0.651			1.247	1.5	7.63	5.47	3.51	1.17	2.93	1.92	0.98			1.67
L. kindtii	TOTAL			0.001		0.001	0.001	0.001			0.001	2944			1.92		3.83	1.71	3.83			1.66
H. gibberum	TOTAL		0.130	0.065	0.521	0.182	0.140	0.169			0.182	132.4		17.23	8.62	68.92	24.12	18.50	22.40			24.09
S. crystallina	TOTAL							0.001			<0.001	503							0.33			0.04
D. leuchtenbergianum	TOTAL				0.013	0.911	2.212	0.851	0.221	0.026	0.608	55.3				0.72	50.38	122.35	35.98	12.23	1.44	33.82
D. longiremis	FEMALE											21.8										
	FEMALE WITH EGG											27.3										
	MALE											7.2										
	JUVENILE											3.4										
D. g. mendotae	FEMALE			0.013	0.026	0.221	0.349	0.260	0.387	0.013	0.188	81.5			0.80	1.60	13.61	21.48	16.01	23.81	0.80	11.54
	FEMALE WITH EGG		0.001		0.026	0.364	0.349	0.143	0.199	0.013	0.174	76.6		0.05		1.99	27.91	28.78	10.97	15.25	1.00	13.33
	MALE								0.011		0.002	27.1								0.30		0.04
	JUVENILE		0.001	0.013		0.260	1.164	0.260	0.332		0.293	16		0.01	0.21		4.16	18.63	4.16	5.31		4.69
D. pervula	FEMALE		0.002	0.001	0.001			0.013			0.002	16		0.03	0.01	0.01			0.21			0.03
	FEMALE WITH EGG											20										
	MALE											6.4										
	JUVENILE											3.5										
D. retrocurva	FEMALE					0.078	0.116	0.013			0.033	33.8					2.64	3.94	0.44			1.13
	FEMALE WITH EGG				0.001		0.012				0.002	42.2				0.03		0.49				0.07
	MALE											11.1										
	JUVENILE			0.130	0.001	0.260					0.062	8.9			0.90	0.00	1.80					0.43
C. quadrangula	TOTAL				0.130						0.023	27.2				3.54						0.63
B. longirostris	AD + JUV	0.088	0.260	0.390	1.952	0.911	2.795	1.562	0.111	0.130	1.187	13.8	1.22	3.59	5.39	26.94	12.57	38.57	21.55	1.53	1.80	18.38
	FEMALE WITH EGG		0.130		0.260	0.130					0.079	17.3		2.25		4.50	2.25					1.37
C. sphaericus	TOTAL				0.013			0.260	0.111	0.130	0.062	5.8				0.08			1.51	0.64	0.75	0.36
M. relicta	TOTAL		0.001								<0.001	26500		17.24								0.83
Chaoborus sp.	TOTAL						0.002		0.001		<0.001	7850						18.28		8.68		3.68
G. lacustris	TOTAL											47014										
TOTAL	Ind.L-1	12.60	26.01	40.20	75.18	54.04	32.15	20.84	14.34	8.20	38.34	ug.L-1	93.18	181.01	279.85	485.87	515.70	567.25	309.86	331.34	138.10	395.39
	Ind.cm-2	25.20	44.21	88.35	127.61	91.87	81.09	35.43	28.68	13.94	66.73	ug.cm-2	186.36	307.72	475.74	825.64	876.70	1077.78	528.77	662.68	234.77	701.95
CYCLOPOIDA TOTAL	Ind.L-1	6.37	17.31	31.90	66.10	38.40	13.64	11.60	3.04	4.42	28.63	ug.L-1	37.60	68.71	188.99	238.58	135.85	57.77	61.01	19.07	18.57	105.82
	Ind.cm-2	12.74	29.43	54.23	112.37	65.29	25.91	19.71	8.08	7.52	46.15	ug.cm-2	75.60	116.81	287.28	405.58	230.94	109.77	103.71	38.13	31.57	182.18
CALANOIDA TOTAL	Ind.L-1	6.14	8.17	7.69	6.14	12.32	11.38	5.91	9.93	3.48	8.61	ug.L-1	54.16	71.89	93.03	136.75	236.58	236.77	131.47	244.52	113.74	175.85
	Ind.cm-2	12.27	13.89	13.08	10.44	20.94	21.81	10.05	19.88	5.89	15.41	ug.cm-2	108.32	122.21	158.15	235.88	402.19	453.67	223.50	469.03	193.36	315.96
CLADOCERA TOTAL	Ind.L-1	0.09	0.52	0.81	2.94	3.32	7.14	3.33	1.37	0.31	2.90	ug.L-1	1.22	23.17	17.84	108.34	143.27	252.42	117.39	59.06	5.79	109.40
	Ind.cm-2	0.18	0.89	1.04	5.00	5.64	13.56	5.87	2.74	0.53	5.18	ug.cm-2	2.44	39.38	30.32	184.17	243.56	479.61	199.56	118.15	9.84	195.29

Table 6a. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages at Musclow Lake station 6 sampled between May 14 and October 15, 1991. Total abundance and biomass also expressed per square centimetre of lake surface area.

		ABUNDANCE										WEIGHTED		BIOMASS										WEIGHT
	MONTH	MAY	MAY	MAY	JUNE	JULY	JULY	AUG	SEPT	SEPT	OCT	SEASON	WET	MAY	MAY	MAY	JUNE	JULY	JULY	AUG	SEPT	SEPT	OCT	SEASON
	DAY	14	21	27	10	2	22	12	3	24	15	MEAN	WEIGHT	14	21	27	10	2	22	12	24	24	15	MEAN
	DEPTH (m)	41	41	40	41	40	40	40	40	40	40	40.3	UG.IND-I	41	41	40	41	40	40	40	40	40	40	40.3
SPECIES																								
T. p. mexicanus	FEMALE							0.022	0.133	0.177	0.885	0.106	8.5							0.14	0.88	1.15	5.75	0.69
	FEMALE WITH EGG		0.043	0.011						0.002		0.003	74.7		3.22	0.83						0.17		0.21
	MALE									0.133	0.133	0.027	4.5									0.60	0.60	0.12
	COPEPODID 1-V							0.022	0.177		0.088	0.034	2.1							0.05	0.37		0.19	0.07
C. scutifer	TOTAL		0.002	0.002								0.000	23.2		0.05	0.05								0.01
A. vernalis	FEMALE	0.011									0.022	0.002	40.2	0.43									0.89	0.07
	FEMALE WITH EGG												48.3											
	MALE	0.011		0.011			0.022	0.044		0.022	0.088	0.019	12.1	0.13		0.13			0.27	0.54		0.27	1.07	0.23
	COPEPODID 1-V	0.043	0.065	0.011	0.086	0.066		0.044	0.265	0.420	1.394	0.219	5.6	0.24	0.36	0.06	0.48	0.37		0.25	1.49	2.35	7.81	1.23
C. b. thomasi	FEMALE	0.002		0.011					0.088	0.022		0.018	22.3	0.05		0.25					1.97	0.49		0.36
	FEMALE WITH EGG					0.002						0.000	26.7					0.06						0.01
	MALE				0.043					0.022	0.044	0.011	14.8				0.64					0.33	0.65	0.16
	COPEPODID 1-V	0.086	0.345	0.365	0.518	0.310	0.199	0.310	0.177	0.155	0.354	0.283	5.7	0.49	1.97	2.08	2.95	1.77	1.13	1.77	1.01	0.88	2.02	1.61
M. edax	FEMALE				0.006			0.022				0.004	99.8				0.64			2.20				0.39
	FEMALE WITH EGG				0.013	0.002		0.015	0.004			0.005	119.5				1.55	0.26		1.85	0.53			0.55
	MALE			0.033	0.043			0.022	0.088			0.023	27			0.90	1.17			0.60	2.39			0.61
	COPEPODID 1-V					0.088	0.221	0.243	0.088	0.088	0.022	0.102	18					1.59	3.98	4.38	1.59	1.59	0.40	1.83
E. lacustris	ADULT			0.004	0.216	0.049	0.020	0.009	0.029	0.106	0.053	0.058	262.9			1.16	56.75	12.80	5.23	2.33	7.56	27.92	13.96	15.26
	COPEPODID 1-V		0.194	0.199	0.043	0.199	0.044		0.044	0.044	0.022	0.072	63		10.30	10.55	2.29	10.55	2.35		2.35	2.35	1.17	3.83
L. macrurus	TOTAL	0.302	1.840	0.232	0.006	0.007	0.011	0.009	0.024	0.004	0.007	0.100	260.6	84.79	460.30	65.18	1.82	1.86	3.10	2.48	6.83	1.24	1.86	28.07
D. minutus	FEMALE			0.011	0.173	0.088	0.155	0.133		0.002	0.066	0.077	30.5			0.34	5.27	2.70	4.72	4.05		0.07	2.02	2.35
	FEMALE WITH EGG				0.259		0.044	0.007	0.044	0.002	0.004	0.044	36.5				9.45		1.62	0.24	1.62	0.08	0.16	1.60
	MALE				0.345	0.155	0.155	0.155	0.044		0.022	0.111	27.2				9.39	4.21	4.21	4.21	1.20		0.60	3.03
	COPEPODID 1-V	0.065	1.295	0.465	0.130	0.973	0.243	0.022	0.088	0.022		0.282	7.7	0.60	9.97	3.58	1.00	7.50	1.87	0.17	0.68	0.17		2.17
D. sicilis	FEMALE				0.043			0.002			0.044	0.008	122.2				5.28			0.27			5.41	1.02
	FEMALE WITH EGG	0.002	0.002	0.002								0.000	148.7	0.32	0.32	0.32								0.04
	MALE	0.011									0.022	0.002	99.4	1.07									2.20	0.17
	COPEPODID 1-V		0.086	0.155	0.863	0.774	1.482	1.128	0.664	1.173	0.886	0.876	23.8		2.05	3.69	20.55	18.43	35.28	26.85	15.60	27.91	16.32	20.84
D. ashlandi	FEMALE												68.9											
	FEMALE WITH EGG												82.6											
	MALE												51.2											
	COPEPODID 1-V												15.5											
D. oregonensis	FEMALE							0.044		0.022	0.002	0.009	68.9							3.05		1.52	0.15	0.65
	FEMALE WITH EGG							0.002			0.002	0.000	82.6							0.18			0.18	0.04
	MALE												51.2											
	COPEPODID 1-V	0.022	0.065									0.003	15.5	0.33	1.00									0.05
CYCLOPOID NAUPLII	N1-NV1	0.387	0.755	0.509	1.554	1.150	1.084	0.708	1.018	0.863	0.398	0.940	1.3	0.48	0.98	0.66	2.02	1.50	1.41	0.92	1.32	1.12	0.52	1.22
CALANOID NAUPLII	N1-NV1	1.187	0.799	0.044	3.885	1.350	0.376	0.221	0.177	0.022	0.044	0.610	1.5	1.78	1.20	0.07	5.83	2.02	0.56	0.33	0.27	0.03	0.07	1.21
L. kindtii	TOTAL		0.022		0.001	0.001	<0.001					0.001	2944		63.54		3.97	1.63	0.81					3.47
H. gibberum	TOTAL	0.011	0.022	<0.001	0.345			0.022				0.045	132.4	1.43	2.86	0.04	45.72			2.93				5.92
S. crystallina	TOTAL					0.022						0.003	503					11.13						1.48
D. lauchtenberglanum	TOTAL				<0.001	0.022	0.088	0.243	0.177	0.044	0.004	0.081	55.3				0.01	1.22	4.89	13.46	9.79	2.45	0.24	4.46
D. dubia	FEMALE												61.5											
	FEMALE WITH EGG												76.6											
	MALE												27.1											
	JUVENILE							0.022				0.003	18							0.35				0.05
D. g. mendotae	FEMALE		0.002			0.066	0.133		0.044	0.022	0.044	0.039	81.5		0.13			4.08	8.18		2.72	1.36	2.72	2.39
	FEMALE WITH EGG		0.002		0.026	0.049	0.066	0.042	0.082	0.066	0.029	0.047	76.6		0.17		2.15	3.73	5.06	3.22	6.27	5.08	2.20	3.61
	MALE								0.044	0.044		0.012	27.1								1.20	1.20		0.33
	JUVENILE	0.011		0.011	0.216	0.177	0.265	0.310	0.285	0.044		0.172	18	0.17		0.18	3.45	2.83	4.25	4.96	4.25	0.71		2.76
D. retrocurva	FEMALE						0.022	0.133				0.022	33.8						0.75	4.49				0.74
	FEMALE WITH EGG				0.002			0.022	0.002			0.004	42.2				0.09			0.93	0.09			0.16
	MALE							0.044				0.006	11.1							0.49				0.07
	JUVENILE					0.022	0.044	0.221				0.040	6.9					0.15	0.31	1.53				0.28
D. calawba	TOTAL			<0.001	0.002							0.000	33.8			0.01	0.07							0.01
B. longirostris	AD + JUV		0.022	0.077	1.597	0.066	0.442	0.177	0.442	0.044		0.353	13.8		0.30	1.07	22.04	0.92	6.11	2.44	6.11	0.61		4.88
	FEMALE WITH EGG							0.022	0.044			0.009	17.3							0.38	0.77			0.16
C. sphaericus	TOTAL				0.173	0.066	0.111	1.062	2.965	0.199	0.044	0.640	5.8				1.00	0.38	0.64	8.18	17.19	1.15	0.26	3.71
M. relicta	TOTAL	0.004	0.026	0.007	0.002	0.007	0.007	0.007	0.002	0.004	0.004	0.006	26500	107.25	686.38	183.21	57.20	175.88	175.88	197.67	58.63	117.26	102.60	156.25
G. lacustris	TOTAL						0.022	<0.001		0.022	<0.001	0.006	47014						1040.13	13.00		1040.13	13.00	283.04
TOTAL	Ind.L-1	2.13	5.39	2.16	10.60	5.71	5.26	5.51	7.22	3.79	4.53	5.738	ug.L-1	199.47	1245.10	274.36	262.79	267.56	1312.77	309.07	154.85	1240.19	185.03	563.49
	Ind.cm-2	6.75	22.09	8.85	43.44	22.85	21.04	22.06	26.89	15.18	18.12	23.103	ug.cm-2	817.81	5104.93	1097.42	1077.42	1070.33	5251.07	1236.30	619.40	4960.78	740.12	2262.75
CYCLOPOIDA TOTAL	Ind.L-1	0.52	1.21	0.95	2.26	1.62	1.53	1.45	2.04	1.90	3.43	1.794	ug.L-1	1.82	6.59	4.96	9.45	5.55	6.79	12.69	11.54	6.95	19.69	9.39
	Ind.cm-2	2.13	4.96	3.81	9.26	6.46	6.11	5.81	8.18	7.62	13.72	7.210	ug.cm-2	7.48	27.01	19.83	36.78	22.20	27.16	50.77	46.15	35.81	79.56	37.70
CALANOIDA TOTAL	Ind.L-1	1.59	4.06	1.11	5.96	3.60	2.53	1.73	1.12	1.40	0.98	2.454	ug.L-1	88.79	485.14	84.89	117.61	60.07	58.95	44.17	36.30	61.29	44.11	80.34
	Ind.cm-2	6.51	16.73	4.45	24.45	14.36	10.12	6.93	4.46	5.59	3.90	9.905	ug.cm-2	364.06	1989.07	339.57	482.21	240.29	235.81	176.86	145.19	245.15	176.45	324.99
CLADOCERA TOTAL	Ind.L-1	0.02	0.07	0.09	2.37	0.49	1.17	2.32	4.07	0.46	0.12	1.478	ug.L-1	1.60	67.00	1.29	76.52	28.08	31.00	41.34	48.39	12.56	5.43	34.47
	Ind.cm-2	0.09	0.26	0.36	9.70	1.97	4.69	9.26	18.27	1.86	0.49	5.940	ug.cm-2	6.57	274.69	5.17	321.94	104.30	124.02	165.36	193.54	50.26	21.70	139.08

Table 6b. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages at Musclow Lake station 6 sampled between May 19 and October 14, 1992. Total abundance and biomass also expressed per square centimetre of lake surface area.

		ABUNDANCE								WEIGHTED		BIOMASS								WEIGHTED
	MONTH	MAY	MAY	JUNE	JUNE	JULY	AUGUST	SEPT	OCT	SEASON	WET	MAY	MAY	JUNE	JUNE	JULY	AUGUST	SEPT	OCT	SEASON
	DAY	19	25	8	29	20	10	1	14	MEAN	WEIGHT	19	25	8	29	20	10	1	14	MEAN
	DEPTH (m)	40	40	40	40	40	40	40	40	40	UG.IND-I	40	40	40	40	40	40	40	40	40
SPECIES																				
T. p. mexicanus	FEMALE		0.028						0.083	0.014	6.5		0.18						0.54	0.09
	FEMALE WITH EGG										74.7									
	MALE								0.055	0.008	4.5								0.25	0.04
	COPEPODID 1-V					0.055		0.055	0.083	0.032	2.1					0.12		0.12	0.17	0.07
C. scutifer	TOTAL										23.2									
A. vernalis	FEMALE				0.017	0.055	0.055		0.055	0.026	40.2				0.67	2.22	2.22		2.22	1.06
	FEMALE WITH EGG					0.022				0.003	48.3					1.07				0.15
	MALE	0.055				0.111			0.055	0.025	12.1	0.67				1.34			0.67	0.30
	COPEPODID 1-V		0.008	0.083	0.055	0.332	0.221	0.940	1.079	0.460	5.6		0.03	0.46	0.31	1.86	1.24	5.27	8.04	2.58
C. b. thomasi	FEMALE	0.028	0.011	0.055	0.055	0.055	0.055	0.221	0.028	0.084	22.3	0.62	0.25	1.23	1.23	1.23	1.23	4.93	0.62	1.88
	FEMALE WITH EGG	0.003	0.002	0.006	0.166	0.033			0.028	0.033	26.7	0.07	0.06	0.15	4.43	0.69			0.74	0.88
	MALE	0.055	0.083	0.083	0.221	0.055	0.111		0.166	0.096	14.8	0.82	1.23	1.23	3.27	0.82	1.64		2.46	1.42
	COPEPODID 1-V	0.055	0.277	0.885	0.830	1.715	1.383	1.659	0.940	1.187	5.7	0.32	1.58	5.04	4.73	9.77	7.88	9.46	5.36	6.77
M. edax	FEMALE						0.055	0.008		0.009	99.8						5.51	0.55		0.92
	FEMALE WITH EGG				0.008		0.033			0.008	119.5				0.66		3.97			0.67
	MALE										27									
	COPEPODID 1-V	0.111		0.026	0.111	0.055		0.055	0.028	0.045	18	1.99		0.50	1.99	1.00		1.00	0.50	0.81
E. lacustris	ADULT				0.050	0.055	0.066	0.171	0.066	0.072	262.9				13.09	14.54	17.45	45.08	17.45	18.89
	COPEPODID 1-V		0.028	0.138		0.277	0.055	0.553	0.055	0.195	53		1.47	7.33		14.66	2.93	29.31	2.93	10.33
L. macrurus	TOTAL	0.077	0.077	0.083	0.044	0.100	0.127	0.111	0.039	0.085	280.6	21.73	21.73	23.28	12.42	27.94	35.70	31.04	10.86	23.97
D. minutus	FEMALE				0.055		0.277	0.332	0.055	0.129	30.5				1.69		8.43	10.12	1.69	3.93
	FEMALE WITH EGG				0.008	0.011	0.332	0.111		0.075	36.5				0.20	0.40	12.11	4.04		2.73
	MALE				0.017	0.111	0.166	0.774	0.028	0.216	27.2				0.45	3.01	4.51	21.06	0.75	5.88
	COPEPODID 1-V	0.166	0.194	0.581	0.166	3.816	0.221	0.166		0.719	7.7	1.28	1.49	4.47	1.28	29.39	1.70	1.28		5.53
D. sicilis	FEMALE		0.006	0.008			0.111	0.011	0.166	0.044	122.2		0.68	0.68			13.52	1.35	20.28	5.33
	FEMALE WITH EGG	0.011	0.028	0.011						0.003	146.7	1.62	4.06	1.62						0.50
	MALE	0.022	0.017	0.006					0.055	0.010	99.4	2.20	1.65	0.55					5.50	1.02
	COPEPODID 1-V			0.332	3.485	4.480	4.314	4.259	1.079	2.688	23.8			7.90	82.93	106.83	102.68	101.36	25.67	68.73
D. ashlandi	FEMALE										68.9									
	FEMALE WITH EGG										82.6									
	MALE										51.2									
	COPEPODID 1-V										15.5									
D. oregonensis	FEMALE		0.006		0.017		0.055	0.017	0.028	0.018	68.9		0.38		1.14		3.81	1.14	1.91	1.27
	FEMALE WITH EGG				0.011		0.011	0.011		0.006	82.8				0.91		0.91	0.91		0.46
	MALE				0.017		0.011	0.017		0.008	51.2				0.85		0.57	0.85		0.39
	COPEPODID 1-V			0.111		0.111	0.055			0.037	15.5			1.71		1.71	0.86			0.57
CYCLOPOID NAUPLII	N1-NV1	1.715	0.685	0.885	1.272	3.153	2.765	2.821	1.051	2.001	1.3	2.23	1.15	1.15	1.65	4.10	3.60	3.67	1.37	2.60
CALANOID NAUPLII	N1-NV1	3.672	0.774	0.194	0.885	0.885	0.111	0.277	0.055	0.490	1.5	5.81	1.16	0.29	1.33	1.33	0.17	0.41	0.08	0.73
L. kindtii	TOTAL					0.011				0.002	2944					32.57				4.62
H. gibberum	TOTAL		0.028	0.006	0.553	0.055	0.006	0.055		0.102	132.4		3.66	0.73	73.23	7.32	0.73	7.32		13.48
S. crystallina	TOTAL										503									
D. leuchtenberglanum	TOTAL						0.277	0.111	0.055	0.073	55.3						15.29	8.12	3.06	4.01
D. dubia	FEMALE										81.5									
	FEMALE WITH EGG										76.8									
	MALE										27.1									
	JUVENILE										16									
D. g. mendotae	FEMALE				0.006	0.111	0.774	0.608	0.028	0.267	81.5				0.34	6.80	47.62	37.42	1.70	16.40
	FEMALE WITH EGG					0.011	0.105	0.168	0.050	0.061	76.6					0.85	8.05	12.71	3.81	4.63
	MALE							0.055	0.011	0.014	27.1							1.50	0.30	0.37
	JUVENILE				0.006	0.166	0.940	0.442	0.028	0.262	16				0.09	2.65	15.04	7.08	0.44	4.19
D. retrocurva	FEMALE						0.055	0.055		0.020	33.8						1.87	1.67		0.68
	FEMALE WITH EGG						0.008			0.001	42.2						0.23			0.03
	MALE							0.055		0.012	11.1							0.61		0.13
	JUVENILE				0.055	0.055	0.387			0.072	6.9				0.38	0.36	2.67			0.50
D. catawba	TOTAL		<0.001							<0.001	33.8		0.01							0.00
B. longirostris	AD + JUV	0.055	0.055		0.498	0.719	0.221	0.111		0.234	13.8	0.78	0.76		8.87	9.92	3.05	1.53		3.23
	FEMALE WITH EGG				0.055		0.055			0.018	17.3				0.96		0.96			0.27
C. sphaericus	TOTAL					0.055	0.664	0.277		0.165	5.6					0.32	3.85	1.60		0.96
M. relicta	TOTAL		0.002	0.008	0.011	0.015	0.007	0.010	0.008	0.009	26500		65.96	161.23	300.47	403.07	183.21	271.18	148.57	230.80
G. lacustris	TOTAL	<0.001		<0.001				0.001		<0.001	47014	13.00		39.00				52.01		16.30
TOTAL	Ind.L-1	6.23	2.50	3.50	8.67	16.69	14.09	14.51	5.45	10.332	ug.L-1	53.11	107.47	258.56	517.57	687.90	515.22	673.87	263.93	471.12
	Ind.cm-2	24.90	10.02	13.99	34.87	66.74	58.36	58.05	21.81	41.329	ug.cm-2	212.45	429.88	1034.25	2070.29	2751.60	2060.89	2695.49	1055.72	1884.50
CYCLOPOIDA TOTAL	Ind.L-1	2.02	1.29	2.02	2.73	5.64	4.68	5.76	3.65	4.030	ug.L-1	6.71	4.47	9.77	18.95	24.41	27.26	24.99	20.93	20.24
	Ind.cm-2	8.09	5.16	8.10	10.93	22.57	18.72	23.03	14.60	16.121	ug.cm-2	26.86	17.88	39.06	75.80	97.64	109.14	99.95	83.72	80.85
CALANOIDA TOTAL	Ind.L-1	4.15	1.13	1.46	4.75	9.85	5.91	6.81	1.63	4.994	ug.L-1	32.63	32.61	47.83	116.29	199.60	205.35	247.96	87.12	150.28
	Ind.cm-2	16.59	4.51	5.84	19.00	39.38	23.85	27.23	8.50	19.977	ug.cm-2	130.54	130.44	191.33	485.14	798.40	821.40	991.85	348.46	601.12
CLADOCERA TOTAL	Ind.L-1	0.06	0.08	0.01	1.17	1.18	3.49	1.94	0.17	1.299	ug.L-1	0.76	4.43	0.73	81.87	60.82	99.38	77.76	9.31	53.51
	Ind.cm-2	0.22	0.33	0.02	4.69	4.73	13.96	7.74	0.89	5.195	ug.cm-2	3.05	17.74	2.93	327.47	243.28	397.50	311.04	37.26	214.05

Table 6r.. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages at Musclow Lake station 6 sampled between May 10 and October 12, 19 Total abundance and biomass also expressed per square centimetre of lake surface area.

		ABUNDANCE									WEIGHTED		BIOMASS									WEIGHTED
	MONTH	MAY	MAY	MAY	JUNE	JULY	AUG	AUG	SEPT	OCT	SEASON	WET	MAY	MAY	MAY	JUNE	JULY	AUG	AUG	OCT	OCT	SEASON
	DAY	10	17	25	7	19	9	30	20	12	MEAN	WEIGHT	10	17	25	7	19	9	30	12	12	MEAN
	DEPTH (m)	38	40	39	39	40	39	40	39	40	39.3	UG.IND-L	38	40	39	39	40	39	40	39	40	39.3
SPECIES																						
T. p. mexicanus	FEMALE	0.023		0.057						0.083	0.010	8.6	0.15		0.37						0.54	0.07
	FEMALE WITH EGG	0.023									0.001	74.7	1.74									0.04
	MALE									0.055	0.004	4.5									0.25	0.02
	COPEPODID 1-V							0.166		0.028	0.024	2.1							0.35		0.06	0.05
C. scutifer	TOTAL											23.2										
A. vernalis	FEMALE							0.006			0.001	40.2							0.22			0.03
	FEMALE WITH EGG					0.006	0.006				0.002	48.3					0.27	0.27				0.09
	MALE					0.055					0.011	12.1					0.67					0.14
	COPEPODID 1-V	0.023	0.028	0.113		0.221		0.277	0.652	0.774	0.237	5.6	0.13	0.15	0.64		1.24		1.55	3.65	4.34	1.33
C. b. thomasi	FEMALE	0.023	0.006	0.284		0.055		0.111		0.028	0.048	22.3	0.52	0.12	6.33		1.23		2.47		0.62	1.07
	FEMALE WITH EGG			0.017				0.006			0.002	26.7			0.45				0.15			0.05
	MALE	0.093		0.284	0.113		0.227	0.111	0.028	0.138	0.101	14.8	1.38		4.20	1.68		3.36	1.84	0.42	2.05	1.49
	COPEPODID 1-V	0.396	0.194	0.964	1.503	0.830	2.289	0.608	0.113	0.553	0.964	5.7	2.28	1.10	5.50	8.57	4.73	12.93	3.47	0.65	3.15	5.49
M. edax	FEMALE											99.6										
	FEMALE WITH EGG											119.5										
	MALE							0.166			0.022	27							4.48			0.61
	COPEPODID 1-V	0.023				0.111	0.057	0.055	0.028	0.083	0.048	18	0.42				1.99	1.02	1.00	0.51	1.49	0.86
E. lacustris	ADULT						0.091	0.094	0.028	0.028	0.031	262.9						23.86	24.72	7.48	7.27	8.13
	COPEPODID 1-V			0.057	0.057	0.166	0.057	0.221	0.113		0.101	53			3.01	3.01	8.79	3.01	11.73	6.01		5.35
L. macrurus	TOTAL	0.186	0.166	0.584	0.102	0.160	0.340	0.006	0.102	0.003	0.164	280.8	52.28	46.56	163.95	28.65	45.01	95.51	1.55	28.65	0.85	45.95
D. minutus	FEMALE					0.111			0.028	0.249	0.044	30.5					3.37			0.87	7.59	1.34
	FEMALE WITH EGG						0.006	0.055	0.011	0.055	0.014	36.5						0.21	2.02	0.41	2.02	0.50
	MALE	0.047	0.028					0.332	0.113	0.055	0.067	27.2	1.27	0.75					9.03	3.09	1.50	1.82
	COPEPODID 1-V	0.349	0.885	3.063	1.333	0.111	0.057	0.221			0.555	7.7	2.69	6.81	23.59	10.26	0.85	0.44	1.70			4.27
D. sicilis	FEMALE	0.023		0.017			0.057		0.011		0.011	122.2	2.85		2.08			8.93		1.39		1.34
	FEMALE WITH EGG	0.014	0.006	0.006	0.002						0.001	148.7	2.05	0.81	0.83	0.29						0.19
	MALE	0.023	0.022	0.023			0.057	0.055			0.018	99.4	2.31	2.20	2.26			5.64	5.50			1.82
	COPEPODID 1-V	0.023		0.284	1.078	1.715	3.404	1.715	1.106	0.968	1.475	23.8	0.55		6.75	25.65	40.81	81.01	40.81	26.33	23.04	35.10
D. eshlandi	FEMALE											68.9										
	FEMALE WITH EGG											82.6										
	MALE								0.028		0.004	51.2								1.45		0.20
	COPEPODID 1-V											15.5										
D. oregonensis	FEMALE									0.028	0.002	68.9									1.91	0.14
	FEMALE WITH EGG						0.011				0.002	82.6						0.94				0.13
	MALE					0.055					0.011	51.2					2.83					0.58
	COPEPODID 1-V						0.057	0.055			0.015	15.5						0.88	0.86			0.24
CYCLOPOID NAUPLII	N1-NV1	1.001	0.913	3.744	1.645	4.093	5.618	3.042	0.737	0.387	2.747	1.3	1.30	1.19	4.87	2.14	5.32	7.30	3.95	0.96	0.50	3.57
CALANOID NAUPLII	N1-NV1	4.332	1.991	1.702	0.142	0.277	0.511	0.055		0.055	0.471	1.5	6.50	2.99	2.55	0.21	0.41	0.77	0.08		0.08	0.71
L. kindtii	TOTAL											2944										
H. gibberum	TOTAL		0.083	0.001	<0.001						0.004	132.4		10.98	0.08	0.04						0.54
S. crystallina	TOTAL											503										
D. leuchtenbergianum	TOTAL						0.006	0.006	0.028		0.005	55.3						0.31	0.31	1.57		0.30
D. dubia	FEMALE											81.5										
	FEMALE WITH EGG						0.006				0.001	76.6						0.43				0.06
	MALE											27.1										
	JUVENILE											16										
D. g. mendotae	FEMALE					0.332	0.511	0.498	0.057		0.212	81.5					20.41	31.40	30.61	3.49		13.03
	FEMALE WITH EGG				<0.001	0.077	0.187	0.160	0.057	0.055	0.075	76.6				0.02	5.93	14.34	12.29	4.35	4.24	5.72
	MALE											27.1										
	JUVENILE			0.006		0.111	0.567	0.166	0.142		0.142	16			0.09		1.77	9.08	2.65	2.27		2.27
D. retrocurva	FEMALE											33.8										
	FEMALE WITH EGG											42.2										
	MALE											11.1										
	JUVENILE								0.028		0.004	6.9								0.20		0.03
D. calawba	TOTAL		<0.001	<0.001							<0.001	33.8		0.01	0.01							0.00
B. longirostris	AD + JUV	0.023			<0.001	0.332	0.057	0.111	0.085		0.102	13.8	0.32			0.00	4.58	0.78	1.53	1.17		1.41
	FEMALE WITH EGG											17.3										
C. sphaericus	TOTAL									0.083	0.006	5.8									0.48	0.03
M. relicta	TOTAL	0.001	0.001	0.012	0.017	0.029	0.024	0.030	0.012	0.001	0.019	28500	15.43	21.99	308.17	458.50	776.83	638.90	806.14	315.69	36.64	503.68
G. lacustris	TOTAL			0.000	0.000	0.001		0.001			<0.001	47014			13.34	13.34	39.00		26.00			14.72
TOTAL	ind.L-1	6.63	4.32	11.22	5.99	8.85	14.18	8.33	3.51	3.71	7.779	ug.L-1	94.14	95.67	549.05	552.37	968.05	939.31	996.79	410.58	98.62	664.54
	ind.cm-2	25.19	17.28	43.74	23.38	35.39	55.29	33.31	13.70	14.84	30.664	ug.cm-2	357.75	382.68	2141.29	2154.24	3864.21	3663.32	3987.17	1601.24	394.48	2625.78
CYCLOPOIDA TOTAL	ind.L-1	1.61	1.14	5.46	3.26	5.37	8.17	4.55	1.56	2.13	4.223	ug.L-1	7.90	2.57	22.35	12.39	15.45	24.89	19.27	6.19	13.00	14.92
	ind.cm-2	6.11	4.56	21.31	12.72	21.46	31.88	18.19	8.08	8.52	18.656	ug.cm-2	30.01	10.27	87.15	48.31	61.80	97.06	77.08	24.14	51.98	58.84
CALANOIDA TOTAL	ind.L-1	5.00	3.10	5.74	2.71	2.59	4.65	2.81	1.54	1.44	2.986	ug.L-1	70.50	60.12	205.02	68.08	102.08	219.18	97.99	75.65	44.26	107.82
	ind.cm-2	18.99	12.39	22.37	10.58	10.38	18.12	11.24	6.02	5.76	11.751	ug.cm-2	287.89	240.49	799.57	265.51	408.33	854.80	391.97	295.05	177.05	424.35
CLADOCERA TOTAL	ind.L-1	0.02	0.08	0.01	0.00	0.85	1.33	0.94	0.40	0.14	0.551	ug.L-1	0.32	10.99	0.18	0.06	32.69	58.35	47.39	13.04	4.72	23.40
	ind.cm-2	0.09	0.33	0.03	0.00	3.41	5.20	3.78	1.55	0.55	2.181	ug.cm-2	1.22	43.98	0.68	0.25	130.76	219.75	189.55	50.86	18.87	92.67

Table 7a. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages in Sydney Lake (central basin near station 3) sampled between May 14 and October 15, 1991. Total abundance and biomass also expressed per square centimetre of lake surface area.

		ABUNDANCE										WEIGHTED		BIOMASS										WEIGHTED
	MONTH	MAY	MAY	MAY	JUNE	JULY	JULY	AUG	SEPT	SEPT	OCT	SEASON	WET	MAY	MAY	MAY	JUNE	JULY	JULY	AUG	SEPT	SEPT	OCT	SEASON
	DAY	14	21	27	10	2	22	12	3	24	15	MEAN	WEIGHT	14	21	27	10	2	21	12	3	24	15	MEAN
	DEPTH (m)	40	40	40	40	40	40	40	40	40	50	50.1	UG.IND-I	40	40	40	40	40	40	40	40	40	50	50.1
SPECIES																								
T. p. mexicanus	FEMALE	0.022	0.010			0.018	0.035	0.159	0.053	0.124	0.142	0.064	6.5	0.14	0.06			0.12	0.23	1.04	0.35	0.81	0.92	0.42
	FEMALE WITH EGG	0.044						0.124				0.018	74.7	3.31						9.25				1.37
	MALE						0.018	0.142	0.053	0.018		0.032	4.5						0.08	0.84	0.24	0.08		0.14
	COPEPODID 1-V					0.053		0.319	0.018			0.054	2.1					0.11		0.87	0.04			0.11
C. scutifer	TOTAL	0.155	0.187	0.106			0.018					0.020	23.2	3.59	3.88	2.46			0.41					0.46
A. vernalis	FEMALE				0.002			0.002			0.018	0.002	40.2				0.07			0.07			0.71	0.07
	FEMALE WITH EGG					0.002						<0.001	48.3					0.09						0.01
	MALE					0.018		0.018		0.035	0.018	0.011	12.1					0.21		0.21		0.43	0.21	0.13
	COPEPODID 1-V	0.044	0.010	0.018	0.017	0.018	0.071	0.873	0.212	0.106	0.142	0.184	5.8	0.25	0.06	0.10	0.10	0.10	0.40	3.77	1.19	0.59	0.79	0.92
C. b. thomasi	FEMALE			0.018	0.035	0.106	0.053	0.071	0.071	0.035	0.159	0.062	22.3			0.39	0.77	2.37	1.18	1.58	1.58	0.79	3.55	1.39
	FEMALE WITH EGG	0.001	0.001	0.001		0.088	0.018	0.053			0.018	0.023	26.7	0.01	0.04	0.04		2.36	0.47	1.42			0.47	0.62
	MALE	0.022	0.029	0.035	0.121	0.053	0.142	0.230	0.265	0.053	0.230	0.138	14.8	0.33	0.44	0.52	1.80	0.79	2.10	3.41	3.93	0.79	3.41	2.02
	COPEPODID 1-V	0.310	0.206	0.372	0.954	0.496	2.212	3.027	0.655	0.478	2.053	1.233	5.7	1.77	1.18	2.12	5.44	2.82	12.81	17.25	3.73	2.72	11.70	7.03
M. edax	FEMALE			<0.001			0.018	0.035				0.007	99.8			0.02			1.78	3.53				0.73
	FEMALE WITH EGG				0.002	0.002		0.005				0.001	119.5				0.21	0.21		0.83				0.14
	MALE						0.018		0.035	0.018		0.010	27						0.48		0.96	0.48		0.28
	COPEPODID 1-V			<0.001		0.159	0.071	0.195	0.248	0.053	0.053	0.104	18			0.00		2.87	1.27	3.50	4.48	0.96	0.96	1.87
S. calanoides	TOTAL			0.001	0.009	0.019	0.011	0.025	0.025	0.019	0.019	0.018	1489			1.32	12.92	28.99	15.81	36.90	36.90	28.99	28.99	23.89
E. lacustris	ADULT			<0.001	0.024	0.019	0.009	0.007	0.018		0.002	0.010	262.9			0.06	8.39	5.12	2.33	1.88	4.65		0.47	2.70
	COPEPODID 1-V		0.010					0.035				0.005	53		0.52					1.88				0.28
L. macrurus	TOTAL	0.332	0.432	0.761	0.489	0.142	0.283	0.301	0.159	0.283	0.142	0.299	280.8	93.12	121.32	213.55	131.46	39.73	79.46	84.43	44.70	79.46	39.73	84.04
D. minutus	FEMALE						0.142			0.018		0.021	30.5						4.32			0.54		0.65
	FEMALE WITH EGG				0.002	0.011	0.035	0.002	0.002			0.007	36.5				0.06	0.39	1.29	0.06	0.06			0.25
	MALE					0.053	0.106	0.053				0.029	27.2					1.44	2.89	1.44				0.78
	COPEPODID 1-V	0.730	0.177	0.088	0.017	0.460	0.212	0.035	0.018	0.018		0.133	7.7	5.82	1.36	0.88	0.13	3.54	1.64	0.27	0.14	0.14		1.02
D. sicilis	FEMALE	0.002										<0.001	122.2	0.27										0.01
	FEMALE WITH EGG												146.7											
	MALE		0.010								0.018	0.002	99.4		0.98								1.78	0.16
	COPEPODID 1-V		0.098	0.389	1.301	0.832	1.841	2.442	1.363	1.912	1.861	1.447	23.8		2.34	9.27	30.97	19.80	43.81	58.13	32.44	45.49	40.02	34.43
D. oregonensis	FEMALE						0.053	0.035	0.035		0.018	0.018	68.9						3.66	2.44	2.44		1.22	1.25
	FEMALE WITH EGG				0.002	0.004	0.035	0.011	0.011	0.002	<0.001	0.009	82.8				0.14	0.29	2.92	0.88	0.88	0.15	0.02	0.71
	MALE						0.106	0.124	0.035	0.071		0.048	51.2						5.44	6.34	1.81	3.62		2.36
	COPEPODID 1-V		0.010			0.053	0.053	0.159	0.159			0.059	15.5		0.15			0.82	0.82	2.47	2.47			0.92
CYCLOPOID NAUPLII	N1-NV1	0.951	0.560	0.372	2.325	0.865	5.310	5.504	2.496	1.239	3.097	2.666	1.3	1.24	0.73	0.48	3.02	1.15	6.90	7.16	3.24	1.61	4.03	3.47
CALANOID NAUPLII	N1-NV1	1.593	0.334	0.071	0.087	0.283	0.442	1.221	0.354	0.053		0.390	1.5	2.39	0.50	0.11	0.13	0.42	0.66	1.83	0.53	0.08		0.58
L. kindtii	TOTAL				<0.001	0.002		0.004		<0.001		0.001	2944				0.64	8.51		10.42		0.65		2.51
H. gibberum	TOTAL	0.001	<0.001	0.002	0.364	0.301	0.053	0.004	0.002	0.018		0.094	132.4	0.07	0.02	0.23	48.25	39.84	7.03	0.47	0.23	2.34		12.44
D. leuchtenbergianum	TOTAL			0.018		0.018	0.159	0.442	0.372	0.265	0.011	0.175	55.3			0.98		0.98	8.81	24.47	20.55	14.88	0.59	9.70
D. longiremis	FEMALE				0.009	0.035	0.018					0.008	21.8				0.19	0.77	0.39					0.18
	FEMALE WITH EGG				0.007		0.018					0.003	27.3				0.19		0.48					0.09
	MALE												7.2											
	JUVENILE						0.035				0.018	0.006	3.4						0.12				0.06	0.02
D. dubia	FEMALE												61.5											
	FEMALE WITH EGG												78.6											
	MALE												27.1											
	JUVENILE												18											
D. g. mendotae	FEMALE				0.017		0.053	0.018	0.018		0.002	0.014	61.5				1.07		3.27	1.09	1.09		0.11	0.87
	FEMALE WITH EGG				0.007	0.016	0.053	0.002		0.016	0.002	0.013	78.6				0.53	1.22	4.07	0.14		1.22	0.14	0.96
	MALE												27.1											
	JUVENILE					0.142				0.018		0.022	16					2.27				0.28		0.35
D. retrocurva	FEMALE				0.003	0.035	0.071	0.018	0.018		0.002	0.020	33.8				0.12	1.20	2.39	0.60	0.60		0.06	0.67
	FEMALE WITH EGG			<0.001	0.007	0.002			0.002			0.001	42.2			0.01	0.29	0.07			0.07			0.06
	MALE												11.1											
	JUVENILE				0.002	0.159	0.035		0.035			0.032	8.9				0.01	1.10	0.24		0.24			0.22
C. lacustris	TOTAL								0.035	0.018		0.007	27.2								0.96	0.48		0.20
B. longirostris	AD + JUV			0.018	0.642	0.549	0.814	1.489	0.761			0.571	13.8			0.24	8.88	7.57	11.24	20.27	10.50			7.88
	FEMALE WITH EGG					0.018	0.018	0.071	0.035		0.002	0.020	17.3					0.31	0.31	1.22	0.61		0.03	0.34
C. sphaericus	TOTAL		0.010	0.018			0.053	0.159	0.301	0.781	0.071	0.181	5.6		0.06	0.10			0.31	0.92	1.75	4.41	0.41	1.05
M. relicta	TOTAL		0.001							<0.001		<0.001	26500		14.66							11.73		2.22
Chaoborus sp.	TOTAL							0.002	0.002		<0.001	0.001	7850							13.89	13.69		1.74	4.00
G. lacustris	TOTAL								0.018			0.002	47014								832.11			116.17
TOTAL	Ind.L-1	4.21	2.07	2.29	6.43	5.05	12.69	17.19	7.88	5.63	7.92	8.27	ug.L-1	112.11	148.29	232.70	253.78	175.58	231.60	326.55	1029.34	203.52	142.08	342.73
	Ind.cm-2	16.83	8.26	9.15	25.70	20.20	50.77	68.78	31.53	22.52	39.58	41.43	ug.cm-2	448.43	593.16	930.79	1015.06	702.33	926.38	1306.21	4117.36	814.10	710.42	1672.17
CYCLOPOIDA TOTAL	Ind.L-1	1.55	0.98	0.92	3.46	1.90	7.98	10.56	4.11	2.16	5.93	4.61	ug.L-1	10.83	6.37	6.14	11.41	13.20	27.90	54.12	19.71	9.25	26.75	21.87
	Ind.cm-2	6.20	3.94	3.69	13.83	7.59	31.93	42.22	16.42	8.64	29.65	23.08	ug.cm-2	42.54	25.50	24.58	45.63	52.78	111.59	216.49	78.85	37.01	133.77	107.25
CALANOIDA TOTAL	Ind.L-1	2.66	1.07	1.31	1.91	1.88	3.33	4.45	2.18	2.36	1.86	2.49	ug.L-1	101.40	127.18	224.98	182.21	100.55	185.05	198.93	127.01	158.47	112.20	160.94
	Ind.cm-2	10.63	4.26	5.24	7.64	7.50	13.32	17.81	6.72	9.50	9.40	12.48	ug.cm-2	405.60	508.70	899.94	728.85	402.21	660.20	795.74	508.04	633.89	561.00	768.11
CLADOCERA TOTAL	Ind.L-1	0.00	0.01	0.06	1.06	1.28	1.38	2.19	1.58	1.10	0.11	1.17	ug.L-1	0.07	0.08	1.57	60.14	81.83	38.85	59.60	36.82	24.08	1.39	37.53
	Ind.cm-2	0.00	0.04	0.22	4.23	5.11	5.52	8.74	6.32	4.38	0.53	5.85	ug.cm-2	0.29	0.33	8.28	240.58	247.34	154.59	238.41	148.47	96.30	8.96	188.32

Table 7b. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages in Sydney Lake (central basin near station 3) sampled between May 19 and October 14, 1992. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE								WEIGHTED		BIOMASS								WEIGHTED
	MONTH	MAY	MAY	JUNE	JUNE	JULY	AUGUST	SEPT	OCTOBE	SEASON	WET	MAY	MAY	JUNE	JUNE	JULY	AUGUST	SEPT	OCTOBE	SEASON
	DAY	19	25	8	29	20	10	1	14	MEAN	WEIGHT	19	25	8	29	20	10	1	14	MEAN
	DEPTH (m)	50	50	50	50	50	50	50	50	50	UG.IND-I	50	50	50	50	50	50	50	50	50.00
SPECIES																				
T. p. mexicanus	FEMALE	0.044	0.044							0.004	8.5	0.29	0.29							0.03
	FEMALE WITH EGG					0.088				0.013	74.7					6.81				0.94
	MALE						0.044			0.006	4.5						0.20			0.03
	COPEPODID 1-V	0.022				0.088				0.013	2.1	0.05				0.19				0.03
C. scutifer	TOTAL										23.2									
A. vernalis	FEMALE				0.004				0.044	0.007	40.2				0.18				1.78	0.28
	FEMALE WITH EGG				0.004	0.004				0.001	48.3				0.21	0.21				0.06
	MALE					0.044				0.006	12.1					0.54				0.08
	COPEPODID 1-V		0.044					0.442	0.885	0.229	5.6		0.25					2.48	4.96	1.28
C. b. thomasi	FEMALE	<0.001	0.088	0.030	0.088	0.354	0.044	0.133	0.177	0.134	22.3	0.01	1.97	0.66	1.97	7.89	0.99	2.96	3.95	2.98
	FEMALE WITH EGG	0.003	<0.001	0.009	0.013	0.031		0.004	0.044	0.015	26.7	0.08	0.01	0.24	0.35	0.83		0.12	1.18	0.40
	MALE	0.004	0.221	0.030	0.221	0.442	0.133	0.177	0.221	0.203	14.8	0.07	3.27	0.44	3.27	6.55	1.96	2.62	3.27	3.00
	COPEPODID 1-V	0.354	0.619	0.354	1.283	5.000	6.770	4.027	1.858	3.120	5.7	2.02	3.53	2.02	7.31	28.50	38.59	22.95	10.59	17.78
M. edax	FEMALE										99.6									
	FEMALE WITH EGG				0.002			0.022		0.005	119.5				0.19			2.64		0.61
	MALE				0.044			0.044		0.016	27				1.19			1.19		0.43
	COPEPODID 1-V	0.022				0.044		0.088	0.310	0.071	18	0.40				0.80		1.59	5.58	1.28
S. calanoides	TOTAL	0.009		0.015	0.049	0.058	0.031	0.031	0.027	0.032	1489	13.18		21.97	72.47	65.85	46.12	46.12	39.53	47.87
E. lacustris	ADULT	0.004	0.044		0.040	0.013				0.011	262.9	1.16	11.63		10.47	3.49				2.79
	COPEPODID 1-V					0.088				0.013	53					4.69				0.67
L. macrurus	TOTAL	0.199	1.106	0.460	0.965	0.487	0.566	0.473	0.358	0.577	280.6	55.87	310.40	129.13	270.67	136.58	158.92	132.85	100.57	162.03
D. minutus	FEMALE					0.088		0.044	0.044	0.029	30.5					2.70		1.35	1.35	0.88
	FEMALE WITH EGG					0.004				0.001	36.5					0.16				0.02
	MALE			0.015	0.044	0.044		0.088		0.034	27.2			0.40	1.20	1.20		2.41		0.92
	COPEPODID 1-V	0.752	1.082	0.074	0.044	0.221	0.310	0.265		0.237	7.7	5.79	8.18	0.57	0.34	1.70	2.38	2.04		1.82
D. sicilis	FEMALE	0.009	0.044						0.133	0.022	122.2	1.08	5.41						16.22	2.74
	FEMALE WITH EGG	0.001	0.004	<0.001	0.013					0.002	146.7	0.19	0.65	0.06	1.95					0.33
	MALE	0.022	0.088						0.044	0.013	99.4	2.20	8.80						4.40	1.28
	COPEPODID 1-V		0.044	0.280	1.239	1.327	1.991	1.150	1.239	1.122	23.6		1.05	6.67	29.49	31.59	47.39	27.38	29.49	26.71
D. oregonensis	FEMALE						0.088	0.044		0.023	68.9						6.10	3.05		1.56
	FEMALE WITH EGG						0.009			0.001	82.6						0.73			0.11
	MALE						0.044	0.044		0.016	51.2						2.27	2.27		0.83
	COPEPODID 1-V	0.088		0.015		0.044	0.133	1.858	0.044	0.444	15.5	1.37		0.23		0.69	2.06	28.81	0.69	6.88
CYCLOPOID NAUPLII	N1-NV1	0.420	1.195	0.192	7.434	6.018	7.301	3.628	1.681	4.122	1.3	0.55	1.55	0.25	9.66	7.82	9.49	4.72	2.19	5.36
CALANOID NAUPLII	N1-NV1	1.969	2.345	0.015	0.133	0.487	1.549	0.708	0.088	0.681	1.5	2.95	3.52	0.02	0.20	0.73	2.32	1.06	0.13	1.02
L. kin.	TOTAL					0.001				<0.001	2944					1.95				0.28
H. gibt grum	TOTAL			<0.001	0.102	0.487				0.084	132.4			0.03	13.47	64.44				11.06
D. leuchtenbergianum	TOTAL				0.004	0.044	0.221	1.062	0.133	0.292	55.3				0.24	2.45	12.23	58.73	7.34	16.12
D. longiremis	FEMALE										21.8									
	FEMALE WITH EGG										27.3									
	MALE										7.2									
	JUVENILE						0.044			0.006	3.4						0.15			0.02
D. dubia	FEMALE										61.5									
	FEMALE WITH EGG										76.6									
	MALE										27.1									
	JUVENILE							0.004		0.001	16							0.07		0.02
D. g. mendolae	FEMALE	<0.001			0.004	0.088	0.004	0.133		0.043	61.5	0.03			0.27	5.44	0.27	8.16		2.64
	FEMALE WITH EGG			<0.001			0.044			0.006	76.6			0.02			3.39			0.49
	MALE										27.1									
	JUVENILE				0.004	0.088		0.133		0.042	16				0.07	1.42		2.12		0.68
D. retrocurva	FEMALE				0.009		0.004			0.002	33.8				0.30		0.15			0.06
	FEMALE WITH EGG				0.004					0.001	42.2				0.19					0.03
	MALE										11.1									
	JUVENILE				0.004	0.265				0.038	6.9				0.03	1.83				0.26
C. lacustris	TOTAL						0.022			0.003	27.2						0.60			0.09
B. longirostris	AD + JUV	0.022	0.133		0.044	0.885	0.044	0.310		0.216	13.8	0.31	1.83		0.61	12.21	0.61	4.27		2.98
	FEMALE WITH EGG				0.004					0.001	17.3				0.08					0.01
C. sphaericus	TOTAL				0.044					0.006	5.8				0.26					0.04
M. relicta	TOTAL	<0.001	<0.001	0.003	0.010	0.013	0.008	0.003	0.006	0.006	26500	5.86	5.86	87.94	275.55	351.77	205.20	70.35	164.16	169.03
Chaoborus sp.	TOTAL				<0.001					<0.001	7850				3.47					0.49
G. lacustris	TOTAL								<0.001	<0.001	47014								10.40	1.51
TOTAL	ind.L-1	3.95	7.08	1.49	11.88	16.85	19.41	14.92	7.34	11.97	ug.L-1	93.45	368.21	250.64	705.69	770.63	542.13	432.32	407.77	498.81
	ind.cm-2	19.74	35.42	7.46	59.29	84.25	97.03	74.59	38.69	59.85	ug.cm-2	467.27	1841.03	1253.22	3528.44	3853.16	2710.65	2161.60	2038.83	2494.07
CYCLOPOIDA TOTAL	ind.L-1	0.87	2.21	0.61	9.09	12.12	14.29	8.57	5.22	7.97	ug.L-1	3.45	10.88	3.60	24.35	59.93	51.23	41.28	33.49	34.56
	ind.cm-2	4.35	11.06	3.07	45.47	60.58	71.46	42.83	26.11	39.83	ug.cm-2	17.27	54.40	18.00	121.78	299.67	256.15	206.38	167.46	172.81
CALANOIDA TOTAL	ind.L-1	3.05	4.74	0.87	2.53	2.86	4.72	4.71	1.98	3.26	ug.L-1	83.80	349.63	159.06	386.79	269.18	268.29	247.33	192.37	256.44
	ind.cm-2	15.27	23.69	4.37	12.63	14.31	23.61	23.54	9.89	16.29	ug.cm-2	419.02	1748.16	795.28	1933.94	1345.91	1341.48	1236.66	961.67	1292.20
CLADOCERA TOTAL	ind.L-1	0.02	0.13	0.00	0.23	1.86	0.38	1.64	0.13	0.74	ug.L-1	0.33	1.83	0.05	15.52	89.75	17.41	73.36	7.34	34.78
	ind.cm-2	0.11	0.66	0.00	1.13	9.30	1.92	6.21	0.66	3.70	ug.cm-2	1.66	9.16	0.23	77.61	448.73	87.04	368.79	36.70	173.89

Table 7c. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages in Sydney Lake (central basin near station 3) sampled between May 10 and October 12, 1993. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE									WEIGHTED		BIOMASS									WEIGHTED
	MONTH	MAY	MAY	MAY	JUNE	JULY	AUG	AUG	SEPT	OCT	SEASON	WET	MAY	MAY	MAY	JUNE	JULY	AUG	AUG	SEPT	OCT	SEASON
	DAY	10	17	25	07	19	9	30	20	12	MEAN	WEIGHT	10	17	25	07	19	9	30	20	12	MEAN
	DEPTH (m)	50	50	50	50	50	50	50	50	50	50	UG.IND-1	50	50	50	50	50	50	50	50	50	50
SPECIES																						
T. p. mexicanus	FEMALE											6.5										
	FEMALE WITH EGG	0.016									<0.001	74.7	1.32									0.03
	MALE						0.044				0.006	4.5						0.20				0.03
	COPEPODID 1-V							0.044			0.006	2.1							0.09			0.01
C. scutifer	TOTAL	0.053									0.001	40.2	2.13									0.05
A. vernalis	FEMALE											40.2										
	FEMALE WITH EGG											46.3										
	MALE							0.044			0.006	12.1							0.54			0.07
	COPEPODID 1-V			0.022	0.022		0.221	0.885	0.155	0.133	0.186	5.6			0.12	0.12		1.24	4.96	0.67	0.74	1.04
C. b. thomasi	FEMALE	0.018	0.018	0.097	0.066	0.044	0.044	0.177	0.111	0.022	0.076	22.3	0.39	0.39	2.17	1.48	0.99	0.99	3.95	2.47	0.49	1.68
	FEMALE WITH EGG	0.002		0.009	0.004		0.004	0.013			0.004	26.7	0.05		0.24	0.12		0.12	0.35			0.10
	MALE	0.018		0.195	0.133	0.133	0.310	0.177	0.044	0.022	0.138	14.8	0.26		2.88	1.96	1.96	4.58	2.62	0.65	0.33	2.04
	COPEPODID 1-V	0.265	0.044	0.133	0.885	2.876	3.982	2.832	0.398	0.863	1.798	5.7	1.51	0.25	0.76	5.04	16.39	22.70	16.14	2.27	4.92	10.25
M. edax	FEMALE		<0.001		0.004				0.022		0.004	99.6		0.02		0.44				2.20		0.38
	FEMALE WITH EGG						0.004				0.001	119.5						0.53				0.07
	MALE							0.044			0.006	27							1.19			0.16
	COPEPODID 1-V						0.088	0.088			0.024	16						1.59	1.59			0.43
S. calanoides	TOTAL	0.018	0.004		0.004	0.062	0.044	0.053	0.058	0.053	0.039	1489	26.35	5.60		6.28	92.24	65.88	79.06	85.65	79.06	57.85
E. lacustris	ADULT				0.009			0.013			0.003	262.9				2.33			3.49			0.89
	COPEPODID 1-V											53										
L. macrurus	TOTAL	0.389	0.730	0.743	0.796	0.434	0.434	0.553	0.903	0.765	0.637	280.6	109.26	204.86	206.59	223.49	121.68	121.68	155.20	253.28	214.80	178.78
D. minutus	FEMALE						0.004	0.044	0.022		0.010	30.5						0.13	1.35	0.67		0.29
	FEMALE WITH EGG						0.004	0.031			0.005	36.5						0.16	1.13			0.18
	MALE						0.044				0.006	27.2						1.20				0.16
	COPEPODID 1-V	0.690	0.531	0.199	0.310		0.088	0.044			0.128	7.7	5.32	4.09	1.53	2.38		0.68	0.34			0.96
D. sicilis	FEMALE	0.018	0.111	0.009						0.044	0.009	122.2	2.16	13.52	1.08						5.41	1.16
	FEMALE WITH EGG	0.018	0.022	0.009	0.004						0.003	146.7	2.60	3.25	1.30	0.65						0.42
	MALE	0.035		0.009							0.001	99.4	3.52		0.88							0.14
	COPEPODID 1-V	0.035		0.199	1.283	1.372	1.637	2.080	1.704	1.283	1.352	23.8	0.64		4.74	30.54	32.65	38.96	49.50	40.54	30.54	32.17
D. oregonensis	FEMALE								0.022		0.003	68.9								1.52		0.21
	FEMALE WITH EGG							0.018	0.004		0.003	82.6							1.46	0.37		0.25
	MALE							0.044	0.022		0.009	51.2							2.27	1.13		0.46
	COPEPODID 1-V						0.088	0.398	0.044		0.072	15.5						1.37	6.17	0.69		1.12
CYCLOPOID NAUPLII	N1-NV1	0.566	0.376	0.442	1.150	10.000	6.239	3.496	1.239	1.195	3.873	1.3	0.74	0.49	0.58	1.50	13.00	8.11	4.54	1.81	1.55	5.03
CALANOID NAUPLII	N1-NV1	2.602	1.106	0.354	0.088	0.133	0.752	0.531	0.044		0.359	1.5	3.90	1.66	0.53	0.13	0.20	1.13	0.80	0.07		0.54
L. kindtii	TOTAL											2944										
H. gibberum	TOTAL				0.013			0.009			0.004	132.4				1.76			1.17			0.47
D. leuchtenbergianum	TOTAL						0.088	1.504	0.155		0.237	55.3						4.89	83.19	8.56		13.12
D. longiremis	FEMALE					0.004					0.001	21.8					0.10					0.02
	FEMALE WITH EGG	0.018				0.004	0.004				0.002	27.3	0.48				0.12	0.12				0.05
	MALE											7.2										
	JUVENILE						0.088				0.012	3.4						0.30				0.04
D. dubia	FEMALE											61.5										
	FEMALE WITH EGG											76.6										
	MALE											27.1										
	JUVENILE											16										
D. g. mendotae	FEMALE					0.004		0.088			0.013	61.5					0.27		5.44			0.79
	FEMALE WITH EGG					0.009	0.018	0.004			0.005	76.6					0.68	1.36	0.34			0.37
	MALE											27.1										
	JUVENILE					0.044	0.044	0.044			0.021	16					0.71	0.71	0.71			0.34
D. retrocurva	FEMALE						0.004	0.088			0.013	33.8						0.15	2.99			0.43
	FEMALE WITH EGG						0.004				0.001	42.2						0.19				0.03
	MALE											11.1										
	JUVENILE						0.044	0.044			0.012	8.9						0.31	0.31			0.08
C. lacustris	TOTAL											27.2										
B. longirostris	AD + JUV				0.111	1.150	0.221	0.088			0.295	13.8				1.53	15.88	3.05	1.22			4.08
	FEMALE WITH EGG				0.018	0.044	0.004				0.013	17.3				0.31	0.77	0.08				0.22
C. sphaericus	TOTAL											5.8										
M. relicta	TOTAL	0.001	0.002	0.005	0.011	0.006	0.002	0.001	0.011	0.010	0.006	26500	29.31	64.49	140.71	281.42	158.30	41.04	23.45	281.42	263.83	161.91
Chaoborus sp.	TOTAL											7650										
G. lacustris	TOTAL								0.004		0.001	47014								208.03		28.86
TOTAL	ind.L-1	4.76	2.94	2.43	4.91	16.32	14.56	13.48	4.96	4.39	9.40	ug.L-1	190.16	298.62	366.10	561.45	455.92	323.46	455.57	892.01	601.67	507.79
	ind.cm-2	23.82	14.72	12.13	24.57	81.60	72.80	67.42	24.81	21.95	47.01	ug.cm-2	950.80	1493.12	1830.51	2807.26	2279.59	1617.28	2277.83	4460.04	3008.34	2538.93
CYCLOPOIDA TOTAL	ind.L-1	0.94	0.44	0.90	2.27	13.05	10.94	7.80	1.97	2.23	6.13	ug.L-1	6.41	1.16	6.74	10.87	32.35	40.06	35.98	10.07	8.04	21.39
	ind.cm-2	4.70	2.19	4.49	11.33	65.27	54.69	39.00	9.85	11.17	30.64	ug.cm-2	32.05	5.79	33.72	53.34	161.73	200.29	179.89	50.37	40.18	106.96
CALANOIDA TOTAL	ind.L-1	3.81	2.50	1.52	2.50	2.00	3.10	3.81	2.82	2.15	2.64	ug.L-1	153.95	232.97	218.65	265.78	246.76	231.21	300.76	383.93	329.80	275.60
	ind.cm-2	19.03	12.52	7.61	12.48	10.00	15.49	19.05	14.12	10.73	13.20	ug.cm-2	769.76	1164.87	1093.25	1328.89	1233.80	1156.04	1503.82	1919.65	1649.02	1377.99
CLADOCERA TOTAL	ind.L-1	0.02			0.14	1.26	0.52	1.87	0.15		0.63	ug.L-1	0.48			3.59	18.52	11.15	95.37	8.56		20.03
	ind.cm-2	0.09			0.71	8.31	2.61	9.36	0.77		3.14	ug.cm-2	2.42			17.95	92.58	55.75	476.87	42.82		100.16

Table 8a. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages in Trout Lake station 2 sampled between May 14 and October 15, 1991. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE										WEIGHTED		BIOMASS										WEIGHT
	MONTH	MAY	MAY	MAY	JUNE	JULY	JULY	AUG	SEPT	SEPT	OCT	SEASON	WET	MAY	MAY	MAY	JUNE	JULY	JULY	AUG	SEPT	SEPT	OCT	SEASON
	DAY	14	21	27	10	2	22	12	3	24	15	MEAN	WEIGHT	14	21	27	10	2	22	12	03	24	15	MEAN
	DEPTH (m)	40	45	40	41	45	45	50	40	45	40		UG.IND-I	40	45	40	41	45	45	50	40	45	40	43.1
SPECIES																								
T. p. mexicanus	FEMALE												6.5											
	FEMALE WITH EGG						0.039	0.035	0.044			0.018	74.7						2.94	2.64	3.31			1.22
	MALE												4.5											
	COPEPODID 1-V												2.1											
C.scutifer	TOTAL				0.173	0.039						0.028	40.2				6.94	1.58						1.03
A. vernalis	FEMALE	0.022										0.001	40.2	0.89										0.02
	FEMALE WITH EGG												48.3											
	MALE												12.1											
	COPEPODID 1-V			0.022		0.079	0.079	0.248		0.472	0.619	0.164	5.6			0.12		0.44	0.44	1.39		2.64	3.47	0.92
C. b. thomasi	FEMALE	0.155	0.118	0.354	0.130	0.118	0.157	0.212	0.221	0.393	0.265	0.218	22.3	3.45	2.63	7.89	2.89	2.63	3.51	4.74	4.93	8.77	5.92	4.82
	FEMALE WITH EGG	0.015	0.083	0.046	0.009	0.118				0.039	0.177	0.041	26.7	0.41	2.21	1.24	0.23	3.15				1.05	4.73	1.10
	MALE	0.243	0.315	0.332	0.086	0.079	0.157	0.354	0.354	0.275	0.086	0.225	14.8	3.60	4.66	4.91	1.28	1.18	2.33	5.24	5.24	4.07	1.31	3.32
	COPEPODID 1-V	0.996	1.652	2.412	0.734	2.065	4.405	3.858	1.681	1.691	2.035	2.348	5.7	5.67	9.42	13.75	4.18	11.88	25.11	21.99	9.58	9.64	11.80	13.38
M. edax	FEMALE								0.007			0.001	99.6								0.68			0.09
	FEMALE WITH EGG					0.004						0.001	119.5					0.47						0.06
	MALE						0.002	0.035				0.005	27						0.05	0.96				0.14
	COPEPODID 1-V			0.066	0.389				0.133	0.118		0.084	18			1.19	8.99				2.39	2.12		1.52
S. calanoides	TOTAL					<0.001	<0.001					<0.001	1489					0.37	0.37					0.10
E. lacustris	ADULT				0.024	0.069	0.035	0.106	0.013	0.028	0.018	0.036	262.9				8.24	18.10	9.31	27.92	3.49	6.72	4.65	10.05
	COPEPODID 1-V				0.043		0.039	0.106	0.007	0.039		0.031	53				2.29		2.08	5.83	0.35	2.08		1.66
L. macrurus	TOTAL	0.398	0.222	0.819	0.043	0.130	0.590	0.814	0.024	0.128	0.075	0.312	280.6	111.74	82.36	229.69	12.11	36.42	165.55	228.45	6.83	35.32	21.11	87.61
D. minutus	FEMALE				0.088	0.354	0.236	0.248	0.310	0.551	0.177	0.255	30.5				2.63	10.80	7.20	7.56	9.45	18.79	5.40	7.77
	FEMALE WITH EGG					0.354	0.039	0.142	0.088	0.354	0.088	0.140	36.5					12.92	1.44	5.17	3.23	12.92	3.23	5.11
	MALE				0.043	0.433	0.197	0.283	0.398	1.573	2.035	0.539	27.2				1.17	11.77	5.35	7.70	10.83	42.79	55.36	14.65
	COPEPODID 1-V			0.177	0.259	0.116	2.203	1.487	0.865	0.236		0.714	7.7			1.36	1.99	0.91	18.96	11.45	8.81	1.82		5.50
D. sicilis	FEMALE												122.2											
	FEMALE WITH EGG												146.7											
	MALE												99.4											
	COPEPODID 1-V							0.035			0.088	0.011	23.8							0.84			2.11	0.26
D. oregonensis	FEMALE	0.033	0.010	0.044	0.086		0.157	0.035			0.442	0.070	68.9	2.29	0.68	3.05	5.95		10.84	2.44			30.49	4.84
	FEMALE WITH EGG	0.020	0.006	0.035	0.019	0.039	0.006	0.012	0.002			0.013	82.8	1.64	0.49	2.92	1.60	3.25	0.49	1.02	0.18			1.11
	MALE	0.018	0.004	0.199	0.043	0.039		0.319			0.088	0.074	51.2	0.91	0.20	10.19	2.21	2.01		16.31			4.53	3.81
	COPEPODID 1-V			0.022	0.130	0.197	0.315	0.354	0.664	1.298	0.442	0.435	15.5			0.34	2.01	3.05	4.88	5.49	10.29	20.12	6.88	6.74
CYCLOPOID NAUPLII	N1-NV1	2.611	3.382	8.097	10.188	7.394	7.158	5.097	2.478	1.573	5.664	5.538	1.3	3.39	4.40	10.53	13.24	9.61	9.31	8.63	3.22	2.05	7.36	7.20
CALANOID NAUPLII	N1-NV1	2.412	2.596	6.106	1.425	4.012	2.557	2.819	0.531	0.236		2.087	1.5	3.62	3.89	9.18	2.14	8.02	3.83	3.93	0.80	0.35		3.13
L. kindtii	TOTAL					0.003	0.001	0.002	0.001			0.001	2944					8.68	2.89	4.58	4.07			2.77
H. gibberum	TOTAL		0.004	0.088	0.302		0.039			0.039		0.052	132.4		0.52	11.72	40.01		5.21			5.21		6.86
D. leuchtenbergianum	TOTAL							0.035	0.044	0.079	0.088	0.028	55.3							1.96	2.45	4.35	4.89	1.54
D. longiremis	FEMALE	0.004	0.004	0.066		0.354	0.393	0.106	0.088	0.039		0.138	21.8	0.10	0.09	1.45		7.72	8.57	2.32	1.93	0.88		3.00
	FEMALE WITH EGG	0.002	0.002	0.004	0.013	0.033	0.157	0.142				0.047	27.3	0.06	0.05	0.12	0.35	0.91	4.29	3.87				1.29
	MALE	0.002										0.000	7.2	0.02										0.00
	JUVENILE	0.009	0.002	0.133	0.302	0.275	0.433	0.248	0.044	0.039	0.265	0.204	3.4	0.03	0.01	0.45	1.03	0.94	1.47	0.84	0.15	0.13	0.90	0.89
D. dubia	FEMALE												81.5											
	FEMALE WITH EGG												78.8											
	MALE												27.1											
	JUVENILE												18											
D. g. mendotae	FEMALE					0.002			0.044	0.197		0.033	61.5					0.12			2.72	12.09		2.05
	FEMALE WITH EGG				0.002			0.002	0.009	0.039	0.265	0.025	78.8				0.17			0.14	0.66	3.01	20.34	1.93
	MALE									0.197	0.088	0.033	27.1									5.33	2.40	0.89
	JUVENILE		0.039			0.039			0.044	0.157	0.088	0.041	16		0.63			0.83			0.71	2.62	1.42	0.85
D. parvula	FEMALE												18											
	FEMALE WITH EGG												20											
	MALE												6.4											
	JUVENILE					0.039						0.005	3.5					0.14						0.02
D. retrocurva	FEMALE	0.007			0.086	0.157	0.118	0.319	0.265	0.393	0.088	0.189	33.8	0.22			2.92	5.32	3.99	10.77	8.97	13.29	2.99	6.38
	FEMALE WITH EGG			0.007		0.002			0.044	0.118	0.285	0.041	42.2			0.28		0.08			1.87	4.98	11.20	1.73
	MALE	0.002		0.022			0.079			0.039		0.017	11.1	0.02		0.25			0.87			0.44		0.19
	JUVENILE				0.218	0.002	0.197	0.142	0.177	0.472	0.088	0.167	6.9				1.49	0.01	1.36	0.98	1.22	3.26	0.61	1.15
D. schoedleri	TOTAL												120.9											
B. longirostris	AD + JUV	0.022	0.006	0.285	0.820	1.809	1.023	0.743	0.929	1.534	1.593	1.048	13.6	0.31	0.08	3.66	11.32	24.97	14.11	10.26	12.82	21.17	21.98	14.46
	FEMALE WITH EGG			0.004		0.079	0.079			0.079	0.265	0.050	17.3			0.08		1.36	1.36			1.36	4.59	0.87
C. sphaericus	TOTAL		0.039	0.044	0.086	0.118		0.177	1.504	3.854	1.327	0.862	5.8		0.23	0.28	0.50	0.68		1.03	8.73	22.36	7.70	5.11
Chaoborus sp.	TOTAL												7850											
G. lacustris	TOTAL								0.044	0.157	0.088	0.034	47014								2080.27	7396.50	4160.53	1582.71
TOTAL	Ind.L-1	8.97	8.48	19.37	15.74	18.57	20.89	18.32	11.08	18.43	18.82	18.42	ug.L-1	138.38	92.53	314.62	133.89	186.10	316.10	404.20	2208.17	7666.12	4407.68	1821.48
	Ind.cm-2	27.88	38.16	77.47	64.52	83.58	94.01	91.56	44.32	73.96	67.27	72.37	ug.cm-2	553.53	416.36	1258.49	548.96	846.45	1422.45	2020.98	8832.70	34497.55	17630.72	7902.41
CYCLOPOIDA TOTAL	Ind.L-1	4.04	5.55	11.33	11.71	9.92	12.00	9.84	4.92	4.56	8.65	8.67	ug.L-1	17.43	23.31	39.64	35.78	30.93	43.68	43.58	29.33	30.35	34.39	34.83
	Ind.cm-2	18.17	24.97	45.32	48.00	44.62	53.99	49.20	19.67	20.53	35.40	36.08	ug.cm-2	89.71	104.88	156.55	148.81	139.19	196.58	217.91	117.33	136.57	137.56	153.40
CALANOIDA TOTAL	Ind.L-1	2.88	2.64	7.40	2.20	5.74	8.37	8.56	2.92	4.44	3.46	4.72	ug.L-1	120.20	67.62	256.73	40.35	105.60	228.28	323.91	52.26	138.92	133.73	152.34
	Ind.cm-2	11.52	12.77	29.61	9.03	25.85	28.68	32.81	11.69	19.97	13.82	21.00	ug.cm-2	480.79	304.27	1026.91	165.45	475.21	1027.28	1819.54	209.04	625.13	534.93	688.35
CLADOCERA TOTAL	Ind.L-1	0.05	0.10	0.63	1.83	2.91	2.52	1.91	3.20	7.28	4.42	3.00	ug.L-1	0.78	1.81	18.28	57.78	51.56	44.13	38.71	46.32	100.35	79.03	51.59
	Ind.cm-2	0.19	0.43	2.54	7.50	13.11	11.33	9.57	12.78	32.74	17.70	13.15	ug.cm-2	3.03	7.23	73.03	236.91	232.04	198.60	183.53	185.28	451.59	318.11	225.51

Table 8b. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages in Trout Lake station 2 sampled between May 19 and October 14, 1992. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE									WEIGHTED		BIOMASS									WEIGHTED
	MONTH	MAY	MAY	JUNE	JUNE	JULY	AUG	SEPT	SEPT	OCT	SEASON	WET	MAY	MAY	JUNE	JUNE	JULY	AUG	SEPT	SEPT	OCT	SEASON
	DAY	19	25	6	29	20	10	1	21	14	MEAN	WEIGHT	19	25	8	29	20	10	1	21	14	MEAN
	DEPTH (m)	40	40	45	45	45	44	35	45	40		UG.IND-I	40	40	45	45	45	44	35	45	40	41.75
SPECIES					NS											NS						
T. p. mexicanus	FEMALE											6.5										
	FEMALE WITH EGG											74.7										
	MALE											4.6										
	COPEPODID 1-V								0.049		0.007	2.1								0.10		0.01
C. scutifer	TOTAL											40.2										
A. vernalis	FEMALE	0.006									<0.001	40.2	0.22									0.00
	FEMALE WITH EGG	0.001									<0.001	48.3	0.04									0.00
	MALE											12.1										
	COPEPODID 1-V		0.055	0.049					0.344	0.055	0.067	5.6		0.31	0.28					1.93	0.31	0.38
C. b. thomasi	FEMALE		0.553	0.147		0.197	0.101	0.379	0.246	0.387	0.241	22.3		12.33	3.29		4.39	2.24	8.46	5.48	8.63	5.38
	FEMALE WITH EGG	0.011	0.221	0.138		0.049	0.101	0.013	0.010	0.022	0.071	26.7	0.30	5.91	3.68		1.31	2.89	0.34	0.26	0.59	1.90
	MALE	0.166	0.553	0.344		0.147	0.605	0.759	0.246	0.332	0.423	14.8	2.46	8.19	5.09		2.18	11.91	11.23	3.64	4.91	8.26
	COPEPODID 1-V	0.277	1.436	0.685		4.031	5.430	6.446	3.638	5.697	3.803	5.7	1.58	8.20	5.04		22.98	30.95	38.75	20.74	32.47	21.68
M. edax	FEMALE											99.8										
	FEMALE WITH EGG					0.049		0.001			0.011	119.5					5.88		0.08			1.28
	MALE											27										
	COPEPODID 1-V		0.055	0.197				0.128	0.005	0.055	0.064	16		1.00	3.54				2.28	0.09	1.00	1.15
S. calanoides	TOTAL											1489										
E. lacustris	ADULT					0.049	0.035	0.025	0.020	0.011	0.023	262.9					12.93	9.25	6.65	5.17	2.91	6.02
	COPEPODID 1-V							0.128	0.049		0.025	53							6.70	2.61		1.33
L. macrurus	TOTAL	0.001	0.111	0.098		0.487	0.664	0.076	0.624	0.044	0.327	280.6	0.16	31.04	27.59		131.06	186.24	21.26	175.20	12.42	91.71
D. minutus	FEMALE					0.246	0.201	0.128	0.197	0.277	0.150	30.5					7.50	6.13	3.86	8.00	8.43	4.56
	FEMALE WITH EGG						0.005		0.049	0.050	0.012	36.5						0.18		1.79	1.82	0.43
	MALE					0.737	0.201	0.506	0.295	0.221	0.316	27.2					20.06	5.47	13.75	8.02	6.02	8.85
	COPEPODID 1-V					0.147	0.402	1.770	0.344		0.391	7.7					1.14	3.10	13.63	2.65		3.01
D. sicilis	FEMALE											122.2										
	FEMALE WITH EGG											146.7										
	MALE											99.4										
	COPEPODID 1-V											23.8										
D. oregonensis	FEMALE	0.100	0.221	0.098			0.201	0.128	0.098	0.221	0.114	66.9	6.86	15.24	6.77			13.86	8.71	6.77	15.24	7.87
	FEMALE WITH EGG	0.017	0.138	0.059			0.005	0.051			0.029	82.6	1.37	11.42	4.87			0.42	4.18			2.37
	MALE	0.088	0.277	0.049						0.387	0.060	51.2	4.53	14.18	2.52						19.82	3.07
	COPEPODID 1-V	0.111		0.098		0.295	0.201	1.517	0.737	0.221	0.452	15.5	1.71		1.52		4.57	3.12	23.51	11.43	3.43	7.01
CYCLOPOID NAUPLII	N1-NV1	1.825	2.710	5.064		6.751	5.229	7.459	1.524	5.863	5.538	1.3	2.37	3.52	8.58		11.38	8.80	9.70	1.98	7.62	7.20
CALANOID NAUPLII	N1-NV1	1.659	2.876	3.738		1.672	1.710	1.391	0.393	0.111	1.602	1.5	2.49	4.31	5.60		2.51	2.56	2.09	0.59	0.17	2.70
L. kindtii	TOTAL					0.005		0.001			0.001	2944					14.47		1.86			3.34
H. gibberum	TOTAL			0.147		0.442					0.122	132.4			19.53		58.58					16.18
D. leuchtenbergianum	TOTAL								0.049		0.007	55.3								2.72		0.39
D. longiremis	FEMALE	0.006	0.055	0.010		0.541	0.101				0.135	21.6	0.12	1.21	0.21		11.79	2.19				2.95
	FEMALE WITH EGG	0.001	0.017	0.010			0.005				0.004	27.3	0.02	0.45	0.27			0.14				0.10
	MALE											7.2										
	JUVENILE		0.111	0.020		0.737	0.101	0.126		0.055	0.205	3.4		0.38	0.07		2.51	0.34	0.43		0.19	0.70
D. dubia	FEMALE											61.5										
	FEMALE WITH EGG											76.6										
	MALE											27.1										
	JUVENILE											16										
D. g. mendotae	FEMALE					0.147			0.049		0.039	61.5					9.07			3.02		2.37
	FEMALE WITH EGG							0.001	0.049		0.007	76.6							0.05	3.77		0.55
	MALE								0.049		0.007	27.1								1.33		0.19
	JUVENILE			0.010		0.246		0.126	0.098		0.086	16			0.16		3.93		2.02	1.57		1.38
D. parvula	FEMALE											18										
	FEMALE WITH EGG											20										
	MALE											6.4										
	JUVENILE					0.147		0.128			0.049	3.5					0.52		0.44			0.17
D. retrocurva	FEMALE			0.010		0.098	0.101	0.253			0.073	33.6			0.33		3.32	3.40	8.55			2.48
	FEMALE WITH EGG							0.001	0.049		0.007	42.2							0.03	2.07		0.31
	MALE									0.166	0.013	11.1									1.84	0.14
	JUVENILE					0.147	0.101	0.126			0.064	6.9					1.02	0.69	0.67			0.44
D. schoedleri	TOTAL											120.9										
B. longirostris	AD + JUV	0.055	0.166	0.049		2.183	0.402	1.284	0.344	0.166	0.783	13.8	0.76	2.29	0.88		29.85	5.55	17.45	4.75	2.29	10.80
	FEMALE WITH EGG					0.197				0.111	0.050	17.3					3.40				1.91	0.67
C. sphaericus	TOTAL					0.147		0.128	0.295	0.111	0.101	5.8					0.88		0.73	1.71	0.64	0.58
Chaoborus sp.	TOTAL							0.001			<0.001	7850							4.96			0.70
G. lacustris	TOTAL								0.049		0.007	47014								2311.41		335.78
TOTAL	Ind.L-1	4.32	9.56	11.22		21.86	16.10	23.05	9.90	14.56	15.69	ug.L-1	24.99	119.96	97.63		367.19	297.23	210.57	2586.82	132.67	564.39
	Ind.cm-2	17.29	38.23	50.49		98.36	70.84	80.67	44.56	58.25	66.18	ug.cm-2	99.96	479.82	439.34		1852.37	1307.83	737.00	11640.67	530.66	2496.09
CYCLOPOIDA TOTAL	Ind.L-1	2.29	5.59	6.82		13.23	11.67	15.18	6.06	12.41	10.22	ug.L-1	6.96	39.45	27.50		46.11	54.59	66.82	34.22	55.54	45.23
	Ind.cm-2	9.14	22.35	30.71		59.51	51.33	53.14	27.28	49.85	42.99	ug.cm-2	27.85	157.61	123.75		216.50	240.18	240.87	153.99	222.14	189.42
CALANOIDA TOTAL	Ind.L-1	1.98	3.82	4.14		3.61	3.63	5.71	2.81	1.54	3.70	ug.L-1	17.12	76.18	48.86		179.75	230.33	104.36	220.24	70.25	138.72
	Ind.cm-2	7.90	14.49	16.63		16.26	15.95	20.00	12.63	6.17	15.59	ug.cm-2	68.48	304.71	219.98		808.89	1013.48	365.26	991.08	281.02	600.62
CLADOCERA TOTAL	Ind.L-1	0.06	0.35	0.28		5.02	0.81	2.15	0.98	0.61	1.75	ug.L-1	0.91	4.32	21.25		139.33	12.32	32.43	20.95	6.88	43.95
	Ind.cm-2	0.25	1.39	1.15		22.59	3.56	7.53	4.42	2.43	7.54	ug.cm-2	3.63	17.30	95.61		628.97	54.19	113.50	94.27	27.50	192.58

Table 8c. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages in Trout Lake station 2 sampled between May 10 and October 12, 1993. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE									WEIGHTED		BIOMASS									WEIGHTED
	MONTH	MAY	MAY	MAY	JUNE	JULY	AUG	AUG	SEPT	OCT	SEASON	WET	MAY	MAY	MAY	JUNE	JULY	AUG	AUG	SEPT	OCT	SEASON
	DAY	10	17	25	7	19	9	30	20	12	MEAN	WEIGHT	10	17	25	7	19	9	30	20	12	MEAN
	DEPTH (m)	27	40	45	44	44	44	44	44	40	41.33333	UG.IND-I	27	40	45	44	44	44	44	44	40	41
SPECIES								NS											NS			
T. p. mex .anus	FEMALE											6.5										
	FEMALE WITH EGG											74.7										
	MALE											4.5										
	COPEPODID 1-V											2.1										
C. scutifer	TOTAL											40.2										
A. vernalis	FEMALE	0.003	<0.001								<0.001	40.2	0.13	0.01								0.00
	FEMALE WITH EGG	0.001	<0.001								<0.001	48.3	0.04	0.01								0.00
	MALE									0.055	0.004	12.1									0.67	0.05
	COPEPODID 1-V		0.055		0.101	0.005			0.302	0.332	0.107	5.6		0.31		0.56	0.03			1.69	1.86	0.60
C. b. thomasi	FEMALE	0.328	1.604	0.344	0.704	0.050	0.151		0.050	0.332	0.308	22.3	7.31	35.77	7.67	15.70	1.12	3.36		1.12	7.40	6.87
	FEMALE WITH EGG	0.007	0.039	0.248	0.050	0.050			0.020	0.061	0.046	26.7	0.16	1.03	6.56	1.34	1.34			0.54	1.62	1.24
	MALE	0.787	0.996	0.688	0.302		0.201		0.302	0.332	0.293	14.6	11.64	14.73	10.19	4.47		2.98		4.47	4.91	4.33
	COPEPODID 1-V	0.951	1.770	0.685	1.106	3.771	1.609		1.659	4.038	2.065	5.7	5.42	10.09	5.04	6.31	21.50	9.17		8.88	23.01	11.77
M. edax	FEMALE						0.001		0.005		0.001	89.6						0.05		0.50		0.11
	FEMALE WITH EGG											119.5										
	MALE											27										
	COPEPODID 1-V			0.049	0.101		0.050		0.050		0.042	18			0.88	1.81		0.91		0.91		0.75
S. calanoides	TOTAL									0.001	<0.001	1489									0.82	0.06
E. lacustris	ADULT				<0.001	0.010	0.040		0.010	0.005	0.013	262.9				0.07	2.64	10.58		2.64	1.31	3.34
	COPEPODID 1-V	0.033			0.005	0.050	0.020			0.017	0.017	53	1.74			0.27	2.66	1.07			0.88	0.91
L. macrurus	TOTAL	0.001	0.442	0.098	0.246	1.358	0.161		0.865	0.028	0.561	280.6	0.34	124.16	27.59	89.13	380.94	45.15		242.67	7.76	157.39
D. minutus	FEMALE					0.005	0.050		0.050		0.022	30.5					0.15	1.53		1.53		0.66
	FEMALE WITH EGG					0.015	0.020		0.015	0.061	0.015	38.5					0.55	0.73		0.55	2.22	0.53
	MALE					0.005	0.101		0.101	0.332	0.066	27.2					0.14	2.74		2.74	9.03	1.79
	COPEPODID 1-V				0.251	0.050	0.402		0.050	0.111	0.155	7.7				1.94	0.39	3.10		0.39	0.85	1.19
D. sicilis	FEMALE											122.2										
	FEMALE WITH EGG											146.7										
	MALE											99.4										
	COPEPODID 1-V											23.8										
D. oregonensis	FEMALE	0.066	0.221	0.049	0.050		0.111			0.055	0.051	68.9	4.52	15.24	3.39	3.46		7.62			3.81	3.50
	FEMALE WITH EGG	0.033	0.094	0.039	0.060	0.020	0.030			<0.001	0.029	82.6	2.71	7.77	3.26	4.98	1.66	2.49			0.02	2.39
	MALE	0.033	0.111	0.147	0.101		0.040			0.332	0.066	51.2	1.88	5.66	7.55	5.15		2.06			18.99	3.36
	COPEPODID 1-V			0.049		0.453	0.402		0.754	0.387	0,360	15.5			0.76		7.01	8.23		11.69	6.00	5.58
CYCLOPOID NAUPLII	N1-NV1	1.573	3.097	3.196	15.487	8.598	3.268		1.961	8.381	6.417	1.3	2.05	4.03	4.15	20.13	11.18	4.25		2.55	8.27	8.34
CALANOID NAUPLII	N1-NV1	1.803	6.084	2.753	1.810	2.011	1.307		0.251	0.166	1.581	1.5	2.70	9.13	4.13	2.72	3.02	1.96		0.38	0.25	2.37
L. kindtii	TOTAL				0.001	0.001					<0.001	2944				1.48	3.70					1.01
H. gibberum	TOTAL			0.001	0.035	<0.001	0.001		0.000		0.006	132.4			0.10	4.66	0.03	0.07		0.03		0.86
D. leuchtenbergianum	TOTAL						0.101				0.020	55.3						5.58				1.13
D. longiremis	FEMALE	0.001	0.001		0.101	0.050					0.026	21.8	0.02	0.03		2.19	1.10					0.61
	FEMALE WITH EGG	0.001	0.002	0.005	0.030	0.015	0.001				0.009	27.3	0.03	0.07	0.13	0.82	0.41	0.03				0.25
	MALE											7.2										
	JUVENILE	0.033	0.111	0.015		0.151	0.050		0.101	0.055	0.073	3.4	0.11	0.38	0.05		0.51	0.17		0.34	0.19	0.25
D. dub. :	FEMALE											61.5										
	FEMALE WITH EGG											76.8										
	MALE											27.1										
	JUVENILE					0.050					0.010	16					0.80					0.18
D. g. mendotae	FEMALE				<0.001		0.050				0.010	61.5				0.02		3.09				0.63
	FEMALE WITH EGG						0.002				<0.001	76.8						0.12				0.02
	MALE											27.1										
	JUVENILE					0.050					0.010	16					0.80					0.16
D. parvula	FEMALE				0.005						0.001	16				0.08						0.01
	FEMALE WITH EGG				0.020						0.004	20				0.40						0.07
	MALE											6.4										
	JUVENILE				0.005						0.001	3.5				0.02						0.00
D. retrocurva	FEMALE					0.201	0.101		0.050	0.111	0.080	33.8					6.80	3.40		1.70	3.74	2.89
	FEMALE WITH EGG					0.050	0.010			0.028	0.014	42.2					2.12	0.42			1.17	0.60
	MALE		0.055						0.050		0.013	11.1		0.61						0.56		0.14
	JUVENILE					0.803	0.101		0.151		0.174	6.9					4.16	0.69		1.04		1.20
D. schoedleri	TOTAL					0.005					0.001	120.9					0.61					0.12
B. longirostris	AD + JUV		0.111	0.005	0.035	1.358	0.654		1.760	1.106	0.862	13.6		1.53	0.07	0.49	18.73	9.02		24.29	15.27	11.90
	FEMALE WITH EGG			<0.001	0.005				0.101	0.111	0.030	17.3			0.00	0.09				1.74	1.91	0.51
C. sphaericus	TOTAL				0.010	0.050			0.453	0.553	0.145	5.8				0.06	0.29			2.62	3.21	0.84
Chaoborus sp.	TOTAL								<0.001		<0.001	7850								1.97		0.41
G. lacustris	TOTAL											47014										
TOTAL	Ind.L-1	5.65	14.79	8.57	20.82	19.04	9.03		9.01	14.97	13.71	ug.L-1	40.61	230.56	81.53	148.33	474.42	128.55		317.54	123.17	240.75
	Ind.cm-2	15.26	59.16	38.57	90.73	83.77	39.75		39.65	69.67	59.45	ug.cm-2	109.65	922.24	366.90	652.67	2087.44	565.81		1397.19	492.70	1050.34
CYCLOPOIDA TOTAL	Ind.L-1	3.85	7.56	5.41	17.85	12.47	5.28		4.25	11.51	9.28	ug.L-1	26.76	65.99	34.51	50.32	35.16	20.72		20.65	47.75	34.07
	Ind.cm-2	9.85	30.25	24.34	76.54	54.69	23.23		18.69	46.04	40.27	ug.cm-2	72.25	263.95	155.29	221.39	154.73	91.15		90.87	190.99	146.46
CALANOIDA TOTAL	Ind.L-1	1.97	6.95	3.14	2.52	3.98	2.69		2.10	1.49	2.93	ug.L-1	13.69	161.96	46.67	87.71	399.17	85.26		262.59	49.95	183.08
	Ind.cm-2	5.31	27.61	14.12	11.11	17.50	11.81		9.23	5.97	12.66	ug.cm-2	38.96	647.84	210.02	385.95	1756.38	375.14		1155.41	199.78	800.77
CLADOCERA TOTAL	Ind.L-1	0.03	0.28	0.03	0.25	2.59	1.07		2.67	1.96	1.49	ug.L-1	0.16	2.61	0.35	10.30	40.08	22.57		32.32	25.48	23.20
	Ind.cm-2	0.09	1.12	0.12	1.09	11.38	4.70		11.73	7.85	6.50	ug.cm-2	0.44	10.46	1.59	45.33	176.38	99.32		142.23	101.92	101.28

Table 9a. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages in Lake Nipigon (near 8 Mile Island) sampled between June 19 and October 2, 1991. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE					WEIGHTED			BIOMASS					WEIGHTED
	MONTH	JUNE	JULY	JULY	SEPT	OCT	SEASON	WET	JUNE	JULY	JULY	SEPT	OCT	SEASON
	DAY	19	8	31	11	2	MEAN	WEIGHT	19	8	31	11	2	MEAN
	DEPTH (m)	50	50	50	50	50	50	UG.IND-1	50	50	50	50	50	50
SPECIES														
A. vernalis	FEMALE							40.2						
	FEMALE WITH EGG							48.3						
	MALE							12.1						
	COPEPODID 1-V		0.002		0.212	0.071	0.057	5.8		0.01		1.19	0.40	0.32
C. b. thomasi	FEMALE	0.053	0.124	0.071	0.177	0.177	0.116	22.3	1.16	2.76	1.58	3.95	3.95	2.58
	FEMALE WITH EGG	0.005	0.050	0.035			0.018	26.7	0.14	1.32	0.95			0.47
	MALE	0.106	0.159	0.708	0.106	0.071	0.222	14.8	1.57	2.36	10.48	1.57	1.05	3.29
	COPEPODID 1-V	0.442	0.212	5.770	2.761	9.062	3.672	5.7	2.52	1.21	32.89	15.74	51.85	20.93
M. edax	FEMALE							99.6						
	FEMALE WITH EGG							119.5						
	MALE							27						
	COPEPODID 1-V	0.018			0.035		0.009	18	0.32			0.84		0.16
S. calanoides	TOTAL	0.001	0.004	0.002	0.003	<0.001	0.002	1489	0.99	6.59	2.64	4.28	0.33	2.87
E. lacustris	ADULT		0.009	0.023	0.027	0.101	0.032	262.9		2.33	6.05	6.98	26.52	8.53
	COPEPODID 1-V	0.035	0.035	0.071			0.025	53	1.88	1.88	3.75			1.31
L. macrurus	TOTAL	0.166	0.097	0.030	0.200	0.177	0.119	280.6	52.15	27.32	8.44	56.12	49.68	33.30
D. minutus	FEMALE		0.018			0.071	0.018	30.5		0.54			2.16	0.55
	FEMALE WITH EGG		0.007	0.004	0.002		0.002	36.5		0.26	0.13	0.06		0.09
	MALE		0.053		0.319	0.071	0.089	27.2		1.44		6.67	1.93	2.42
	COPEPODID 1-V	0.177	0.177	0.106	0.035	0.035	0.087	7.7	1.36	1.36	0.82	0.27	0.27	0.67
D. sicilis	FEMALE					0.035	0.007	122.2					4.33	0.89
	FEMALE WITH EGG	0.012	0.009				0.003	146.7	1.82	1.30				0.42
	MALE	0.071	0.035			0.035	0.021	99.4	7.04	3.52			3.52	2.06
	COPEPODID 1-V	0.088	0.637	0.354	0.920	2.018	0.805	23.6	2.11	15.16	8.42	21.90	48.02	19.16
D. ashlandi	FEMALE	0.336	0.018	0.071	0.106		0.070	68.9	23.17	1.22	4.88	7.32		4.80
	FEMALE WITH EGG	0.265	0.004	0.027	0.007		0.032	82.6	21.93	0.29	2.19	0.58		2.81
	MALE	0.319	0.053	0.177	0.035	0.035	0.090	51.2	18.31	2.72	9.08	1.81	1.81	4.61
	COPEPODID 1-V	1.522	0.177	0.460	1.451	4.071	1.391	15.5	23.59	2.74	7.13	22.50	63.10	21.56
D. oregonensis	FEMALE		0.004		0.035	0.009	0.010	68.9		0.24		2.44	0.61	0.66
	FEMALE WITH EGG				0.005	0.019	0.005	82.6				0.44	1.61	0.42
	MALE		0.005		0.035	0.142	0.037	51.2		0.27		1.81	7.25	1.90
	COPEPODID 1-V	0.053		0.035	0.106		0.033	15.5	0.82		0.55	1.65		0.52
CYCLOPOID NAUPLII	N1-NV1	2.584	3.062	11.504	1.239	1.274	3.711	1.3	3.36	3.98	14.96	1.61	1.66	4.82
CALANOID NAUPLII	N1-NV1	4.460	1.522	1.699	0.920	0.177	1.276	1.5	6.69	2.28	2.55	1.38	0.27	1.91
L. kindtii	TOTAL		<0.001	0.009	<0.001	0.002	0.002	2944		1.30	26.05	0.85	5.21	6.79
P. pediculus	TOTAL			0.002			<0.001	228			0.40			0.08
H. gibberum	TOTAL	0.002	0.001				<0.001	132.4	0.23	0.12				0.04
D. leuchtenbergianum	TOTAL				0.035	0.002	0.007	55.3				1.96	0.10	0.41
D. longiremis	FEMALE							21.8						
	FEMALE WITH EGG			0.035			0.007	27.3			0.97			0.20
	MALE							7.2						
	JUVENILE			0.071		0.035	0.022	3.4			0.24		0.12	0.07
D. g. mendotae	FEMALE	0.002			0.212	0.283	0.101	81.5	0.11			13.06	17.42	8.19
	FEMALE WITH EGG			0.004	0.071	0.142	0.044	76.6			0.27	5.42	10.85	3.36
	MALE				0.885		0.177	27.1				23.98		4.80
	JUVENILE	0.004	0.035	0.142	0.566	0.142	0.179	16	0.06	0.57	2.27	9.06	2.27	2.86
D. retrocurva	FEMALE			0.142	0.071		0.043	33.6			4.79	2.39		1.46
	FEMALE WITH EGG			0.035			0.007	42.2			1.49			0.31
	MALE				0.035		0.007	11.1				0.39		0.08
	JUVENILE			0.212			0.043	6.9			1.47			0.30
B. longirostris	AD + JUV		0.265	0.283	0.956	0.531	0.411	13.6		3.68	3.91	13.19	7.33	5.67
	FEMALE WITH EGG	0.002	0.035		0.071	0.035	0.029	17.3	0.03	0.61		1.22	0.61	0.50
C. sphaericus	TOTAL				0.035		0.007	5.8				0.21		0.04
M. relicta	TOTAL	0.002			0.002	<0.001	0.001	26500	46.90			46.90	5.86	14.82
TOTAL	Ind.L-1	10.75	6.81	22.08	11.66	18.82	13.05	ug.L-1	216.28	69.37	159.31	261.38	319.84	191.83
	Ind.cm-2	53.73	34.08	110.41	58.40	94.12	65.23	ug.cm-2	1081.41	446.86	796.57	1406.78	1599.21	959.13
CYCLOPOIDA TOTAL	Ind.L-1	3.21	3.61	18.09	4.53	10.65	7.80	ug.L-1	9.10	11.64	60.85	24.69	58.70	32.57
	Ind.cm-2	18.04	18.04	90.44	22.65	53.27	39.02	ug.cm-2	45.49	58.22	304.23	123.47	293.50	162.85
CALANOIDA TOTAL	Ind.L-1	7.53	2.68	3.06	4.21	7.00	4.15	ug.L-1	159.85	71.47	56.81	138.22	211.38	111.27
	Ind.cm-2	37.63	14.32	15.29	21.04	34.98	20.77	ug.cm-2	799.26	357.33	283.07	691.08	1058.91	556.37
CLADOCERA TOTAL	Ind.L-1	0.01	0.34	0.93	2.94	1.17	1.09	ug.L-1	0.43	6.26	41.85	71.54	43.90	33.16
	Ind.cm-2	0.04	1.69	4.67	14.69	5.86	5.44	ug.cm-2	2.15	31.31	209.27	357.72	219.48	185.79

Table 9b. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages in Lake Nipigon (Piji Bay) sampled between June 19 and October 2, 1991. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE						WEIGHTED								WEIGHTED
	MONTH	JUNE	JULY	JULY	AUG	SEPT	OCT	SEASON	WET	JUNE	JULY	JULY	AUG	SEPT	OCT	SEASON
	DAY	19	8	31	20	11	2	MEAN	WEIGHT	19	8	31	20	11	2	MEAN
	DEPTH (m)	50	50	50	50	50	50	50	UG.IND-I	50	50	50	50	50	50	50
SPECIES																
T. p. mexicanus	FEMALE								8.5							
	FEMALE WITH EGG			0.035				0.007	74.7			2.64				0.54
	MALE								4.5							
	COPEPODID 1-V								2.1							
A. vernalis	FEMALE								40.2							
	FEMALE WITH EGG					0.002		<0.001	48.3					0.09		0.02
	MALE								12.1							
	COPEPODID 1-V		0.018			0.108	0.053	0.031	5.8		0.10			0.59	0.30	0.17
C. b. thomasi	FEMALE	0.018	0.142	0.071	0.106	0.035	0.018	0.075	22.3	0.39	3.18	1.58	2.37	0.79	0.39	1.67
	FEMALE WITH EGG	0.001	0.011	0.009				0.004	28.7	0.02	0.28	0.24				0.11
	MALE	0.002	0.354	0.142	0.035	0.106		0.129	14.8	0.03	5.24	2.10	0.52	1.57		1.91
	COPEPODID 1-V	0.354	0.372	0.002	2.088	0.956	2.743	0.994	5.7	2.02	2.12	0.01	11.90	5.45	15.64	5.67
C. v. rubellus	TOTAL					0.035		0.007								
S. calanoides	TOTAL	<0.001	0.003	0.004		0.002		0.002	1489	0.33	4.81	5.27		2.31		2.50
E. lacustris	ADULT				0.007	0.032	0.005	0.008	262.9				1.88	8.38	1.40	2.23
	COPEPODID 1-V	0.053	0.018			0.106		0.030	53	2.81	0.94			5.63		1.59
L. macrurus	TOTAL	0.094	0.407	0.706	0.088	0.023	0.021	0.259	280.6	26.32	114.23	198.18	24.83	6.46	5.96	72.69
D. minutus	FEMALE					0.035	0.018	0.009	30.5					1.08	0.54	0.28
	FEMALE WITH EGG			0.002	0.002			0.001	36.5			0.06	0.06			0.03
	MALE			0.035		0.142		0.036	27.2			0.96		3.85		0.99
	COPEPODID 1-V	0.283	0.035	0.142	0.035	0.071	0.018	0.085	7.7	2.18	0.27	1.09	0.27	0.55	0.14	0.85
D. sicilis	FEMALE					0.035		0.007	122.2					4.33		0.89
	FEMALE WITH EGG	0.004		<0.001				<0.001	146.7	0.52		0.03				0.05
	MALE	0.053	0.035					0.012	99.4	5.28	3.52					1.18
	COPEPODID 1-V	0.108	0.920	0.568	0.283	0.602	0.425	0.532	23.8	2.53	21.90	13.48	8.74	14.32	10.11	12.66
D. ashlandi	FEMALE	0.053	0.053			0.035	0.018	0.024	68.9	3.88	3.86			2.44	1.22	1.68
	FEMALE WITH EGG	0.071	0.011	0.002		0.002		0.009	82.6	5.85	0.88	0.15		0.15		0.78
	MALE	0.177				0.177		0.052	51.2	9.06				9.06		2.68
	COPEPODID 1-V	0.106	0.372	0.106	0.602	1.168	0.619	0.527	15.5	1.65	5.78	1.65	9.33	18.11	9.80	8.17
D. oregonensis	FEMALE					0.035	0.009	0.008	68.9					2.44	0.61	0.58
	FEMALE WITH EGG					0.012		0.003	82.6					1.02		0.21
	MALE				0.002	0.071		0.015	51.2				0.09	3.62		0.76
	COPEPODID 1-V					0.389		0.080	15.5					8.04		1.24
CYCLOPOID NAUPLII	N1-NV1	0.958	1.611	8.850	1.876	0.850	0.903	2.880	1.3	1.24	2.09	11.50	2.44	1.10	1.17	3.72
CALANOID NAUPLII	N1-NV1	1.504	1.487	1.451	2.018	0.637	0.071	1.272	1.5	2.28	2.23	2.18	3.03	0.96	0.11	1.91
L. kindtii	TOTAL			0.006	<0.001			0.001	2944			18.93	0.85			3.60
P. pediculus	TOTAL			0.012				0.003	228			2.82				0.58
H. gibberum	TOTAL	<0.001		0.005		0.002		0.001	132.4	0.03		0.70		0.23		0.19
D. leuchtenbergianum	TOTAL					0.035		0.007	55.3					1.96		0.40
D. longiremis	FEMALE								21.6							
	FEMALE WITH EGG								27.3							
	MALE								7.2							
	JUVENILE		0.018					0.004	3.4		0.06					0.01
D. g. mendotae	FEMALE					0.460	0.053	0.100	81.5					28.30	3.27	8.12
	FEMALE WITH EGG					0.035		0.007	78.8					2.71		0.56
	MALE					0.566		0.116	27.1					15.35		3.14
	JUVENILE			0.035	0.035	0.920	0.018	0.205	18			0.57	0.57	14.73	0.28	3.27
D. retrocurva	FEMALE			0.071				0.014	33.8			2.39				0.49
	FEMALE WITH EGG			0.035				0.007	42.2			1.49				0.31
	MALE								11.1							
	JUVENILE				0.035	0.108		0.029	6.9				0.24	0.73		0.20
B. longirostris	AD + JUV	0.018	0.035	0.602	0.071	0.991	0.071	0.356	13.8	0.24	0.49	6.30	0.98	13.68	0.98	4.91
	FEMALE WITH EGG	0.004	0.035	0.106		0.035	0.035	0.040	17.3	0.06	0.81	1.84		0.61	0.81	0.89
C. sphaericus	TOTAL	<0.001			0.071			0.014	5.8	0.00			0.41			0.08
M. relicta	TOTAL	<0.001	0.005	0.002	0.001	0.002	<0.001	0.002	26500	11.73	134.85	41.04	23.45	41.04	11.73	50.70
TOTAL	Ind.L-1	3.86	5.94	13.00	7.36	8.82	5.10	7.985	ug.L-1	78.20	307.00	317.19	89.75	219.66	64.04	202.78
	Ind.cm-2	19.28	29.70	64.98	36.76	44.10	25.49	39.927	ug.cm-2	391.01	1534.98	1585.97	448.75	1098.26	320.22	1013.78
CYCLOPOIDA TOTAL	Ind.L-1	1.33	2.51	9.11	4.11	2.09	3.72	4.107	ug.L-1	3.70	12.99	18.07	17.24	9.59	17.50	13.79
	Ind.cm-2	6.65	12.53	45.54	20.53	10.45	18.58	20.537	ug.cm-2	18.49	64.98	90.35	86.18	47.97	87.51	68.97
CALANOIDA TOTAL	Ind.L-1	2.50	3.34	3.01	3.04	3.58	1.20	2.972	ug.L-1	62.44	158.00	223.03	46.21	90.72	29.68	113.70
	Ind.cm-2	12.52	16.71	15.07	15.19	17.88	6.02	14.859	ug.cm-2	312.21	789.99	1115.14	231.07	453.61	148.39	568.52
CLADOCERA TOTAL	Ind.L-1	0.02	0.09	0.87	0.21	3.15	0.18	0.904	ug.L-1	0.34	1.16	35.06	2.85	78.30	5.14	24.56
	Ind.cm-2	0.11	0.44	4.37	1.06	15.76	0.88	4.520	ug.cm-2	1.88	5.81	175.28	14.25	391.51	25.89	122.79

Table 10. Abundance (individuals per litre) and biomass (ug wet weight per litre) of zooplankton species life stages in Lake Superior sampled between June 18 and October 1, 1991. Total abundance and biomass also presented per square centimetre of lake surface area.

		ABUNDANCE					WEIGHTED			BIOMASS				WEIGHTED
	MONTH	JUNE	JULY	JULY	AUG	OCT	SEASON	WET	JUNE	JULY	JULY	AUG	OCT	SEASON
	DAY	18	8	30	20	1	MEAN	WEIGHT	18	8	30	20	1	MEAN
	DEPTH (m)	50	50	50	50	35	47	UG.IND-1	50	50	50	50	35	47
SPECIES														
T. p. mexicanus	FEMALE							6.5						
	FEMALE WITH EGG			0.035			0.007	74.7			2.84			0.54
	MALE	0.009					0.001	4.5	0.04					0.00
	COPEPODID 1-V				0.018		0.005	2.1				0.04		0.01
A. vernalis	FEMALE							40.2						
	FEMALE WITH EGG							48.3						
	MALE							12.1						
	COPEPODID 1-V			0.018	0.018	0.025	0.014	5.6			0.10	0.10	0.14	0.08
C. b. thomasi	FEMALE	0.035	0.027	0.018	0.124	0.051	0.060	22.3	0.79	0.59	0.39	2.76	1.13	1.33
	FEMALE WITH EGG	0.018			0.005		0.003	26.7	0.47			0.14		0.09
	MALE	0.071	0.027	0.053	0.108	0.025	0.060	14.8	1.05	0.39	0.79	1.57	0.37	0.89
	COPEPODID 1-V	0.009	0.018	3.150	0.885	1.947	1.304	5.7	0.05	0.10	17.96	5.04	11.10	7.43
S. calanoides	TOTAL		0.001	0.001	<0.001		0.001	1489		0.99	1.98	0.66		0.80
E. lacustris	ADULT				<0.001	0.001	<0.001	262.9				0.08	0.33	0.08
	COPEPODID 1-V							53						
L. macrurus	TOTAL	0.221	0.150	0.053	0.265	0.051	0.152	280.8	82.08	42.21	14.90	74.50	14.19	42.59
D. minutus	FEMALE							30.5						
	FEMALE WITH EGG				0.004		0.001	36.5				0.13		0.04
	MALE			0.053			0.011	27.2			1.44			0.30
	COPEPODID 1-V	0.071	0.035	0.743	0.108	0.253	0.248	7.7	0.55	0.27	5.72	0.82	1.95	1.91
D. sicilis	FEMALE	0.027	0.018		0.018	0.025	0.016	122.2	3.24	2.16		2.16	3.09	2.01
	FEMALE WITH EGG	0.094	0.035	0.067	0.018	0.001	0.035	146.7	13.76	5.19	9.87	2.60	0.14	5.16
	MALE	0.062	0.133	0.071	0.018	0.076	0.087	99.4	6.16	13.19	7.04	1.76	7.54	6.70
	COPEPODID 1-V	0.062	0.018	0.336	0.513	0.379	0.308	23.8	1.47	0.42	8.00	12.22	9.03	7.33
D. ashlandi	FEMALE							68.9						
	FEMALE WITH EGG				0.002		0.001	82.6				0.15		0.04
	MALE							51.2						
	COPEPODID 1-V							15.5						
D. oregonensis	FEMALE					<0.001	<0.001	68.9					0.02	0.00
	FEMALE WITH EGG				0.002		0.001	82.6				0.15		0.04
	MALE							51.2						
	COPEPODID 1-V							15.5						
CYCLOPOID NAUPLII	N1-NV1	0.982	1.770	1.664	1.115	1.871	1.497	1.3	1.26	2.30	2.16	1.45	2.43	1.95
CALANOID NAUPLII	N1-NV1	6.133	5.894	3.947	1.027	0.177	2.914	1.5	9.20	8.84	5.92	1.54	0.27	4.37
L. kindtii	TOTAL			<0.001	<0.001		<0.001	2944			0.65	0.65		0.33
H. gibberum	TOTAL	<0.001		0.016	0.088	0.051	0.040	132.4	0.03		2.34	11.72	6.70	5.34
D. leuchtenbergianum	TOTAL				0.035		0.011	55.3				1.96		0.59
D. g. mendotae	FEMALE			0.005	0.071		0.022	81.5			0.33	4.35		1.37
	FEMALE WITH EGG			0.005	0.023	0.018	0.012	76.6			0.41	1.76	1.36	0.88
	MALE					0.051	0.010	27.1					1.37	0.27
	JUVENILE	<0.001		0.035	0.124	0.025	0.049	16	0.00		0.57	1.98	0.40	0.79
D. retrocurva	FEMALE			0.011			0.002	33.6			0.38			0.07
	FEMALE WITH EGG			0.005			0.001	42.2			0.22			0.05
	MALE			0.002			<0.001	11.1			0.02			0.00
	JUVENILE							6.9						
B. longirostris	AD + JUV	0.001		0.159	0.106		0.065	13.8	0.01		2.20	1.47		0.89
	FEMALE WITH EGG	<0.001		0.016		0.025	0.009	17.3	0.01		0.31		0.44	0.15
C. sphaericus	TOTAL	<0.001			0.283	0.025	0.090	5.8	0.00			1.64	0.15	0.52
G. lacustris	TOTAL	<0.001			<0.001	0.006	0.001	47014	10.40			20.80	297.18	66.67
TOTAL	ind.L-1	7.80	8.12	10.47	4.97	5.08	7.02	ug.L-1	110.59	76.67	86.32	154.17	359.32	161.66
	ind.cm-2	38.98	40.62	52.34	24.67	17.79	32.99	ug.cm-2	552.96	383.37	431.59	770.84	1257.80	759.78
CYCLOPOIDA TOTAL	ind.L-1	1.12	1.84	4.94	2.27	3.92	2.95	ug.L-1	3.68	3.39	24.04	11.11	15.17	12.32
	ind.cm-2	5.62	9.20	24.69	11.35	13.72	13.58	ug.cm-2	18.38	16.93	120.22	55.53	53.11	57.04
CALANOIDA TOTAL	ind.L-1	6.67	6.28	5.27	1.97	0.96	3.76	ug.L-1	96.46	73.29	54.87	96.73	36.55	71.41
	ind.cm-2	33.35	31.42	26.38	9.86	3.37	18.49	ug.cm-2	482.31	366.44	274.36	483.63	127.93	346.07
CLADOCERA TOTAL	ind.L-1	0.00		0.28	0.73	0.19	0.31	ug.L-1	0.05		7.40	25.53	10.41	11.26
	ind.cm-2	0.01		1.29	3.66	0.88	1.50	ug.cm-2	0.26		37.01	127.68	36.44	53.19

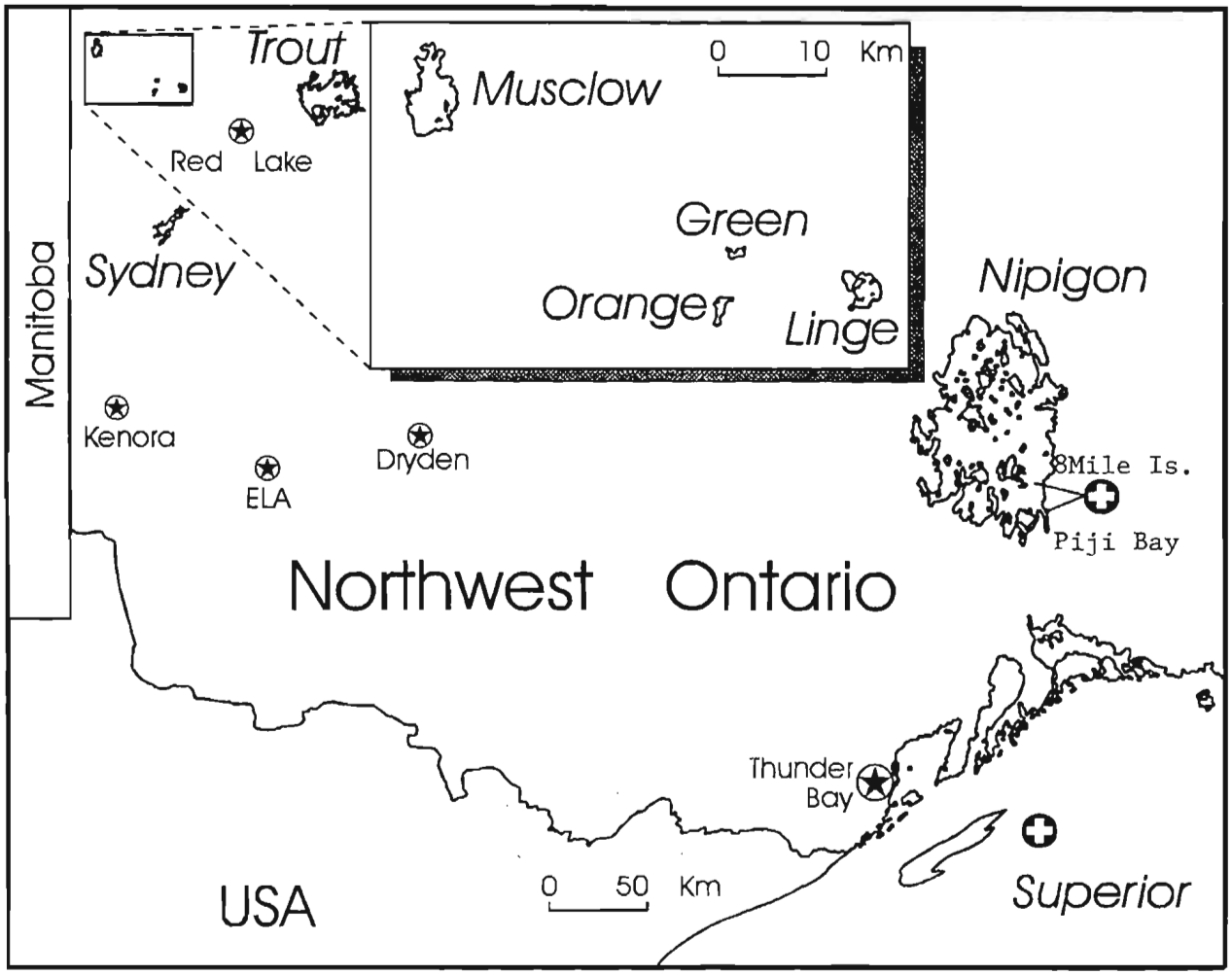

Figure 1. Map of Northwest Ontario showing locations of the NOLSS study lakes. The two sampling sites on Lake Nipigon, Piji Bay and 8 Mile Island are also indicated.

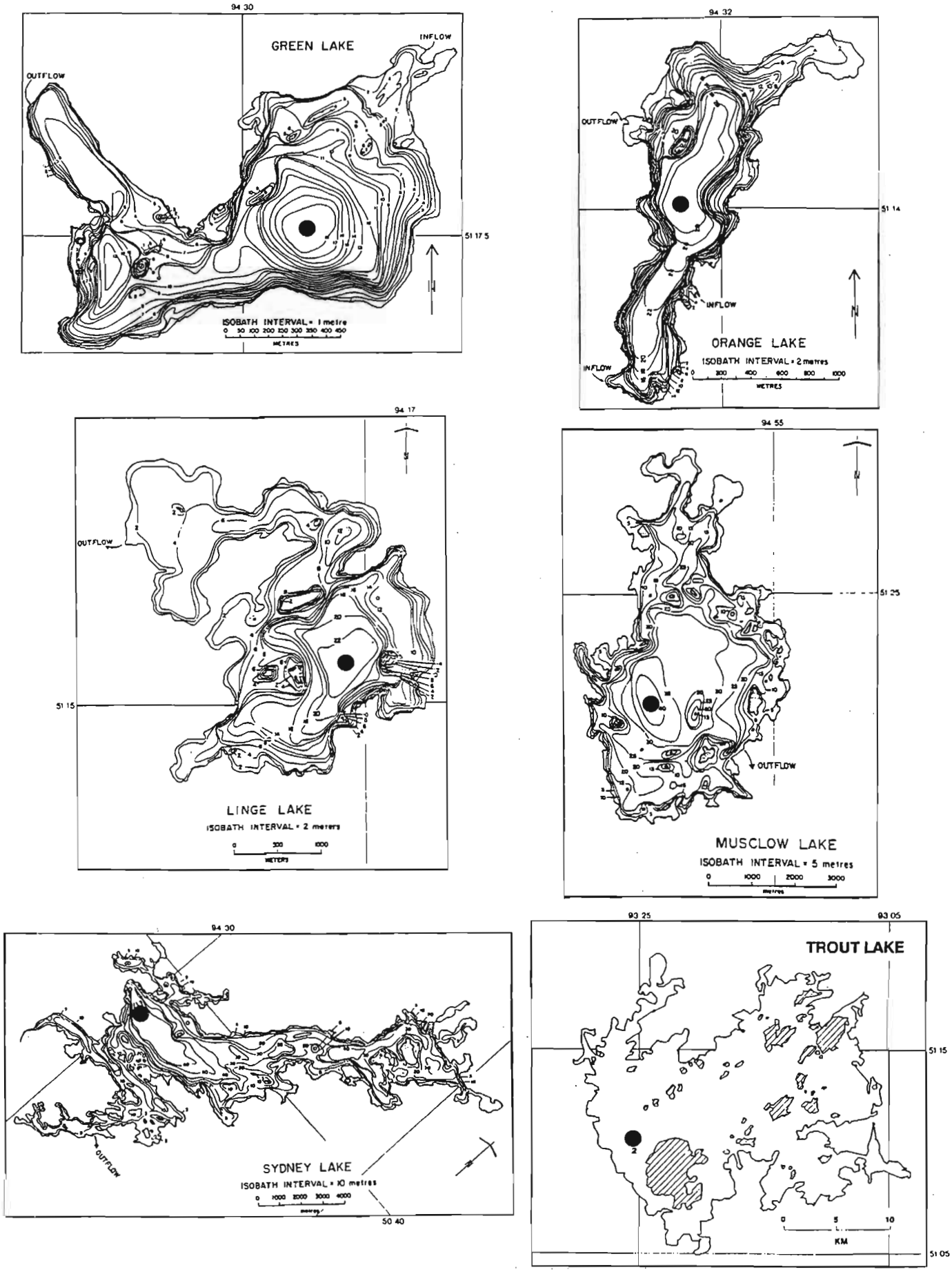

Figure 2. Zooplankton sampling sites on the six NOLSS study lakes during 1991, 1992 and 1993.

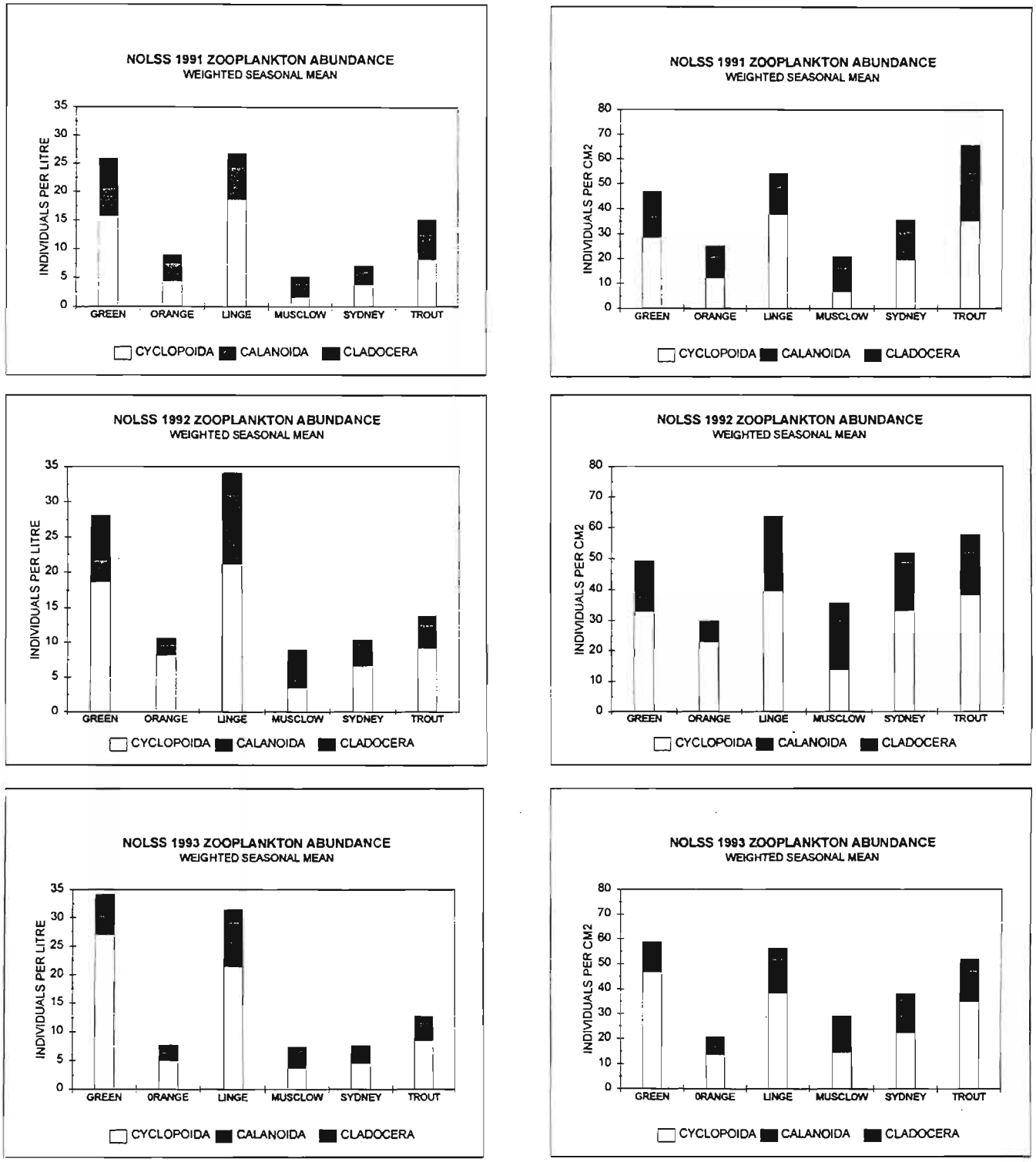

Figure 3. Seasonal time weighted mean total zooplankton abundance per litre (left panels) and per square centimetre of lake surface area (right panels) during 1991, 1992 and 1993 in the six NOLSS lakes.

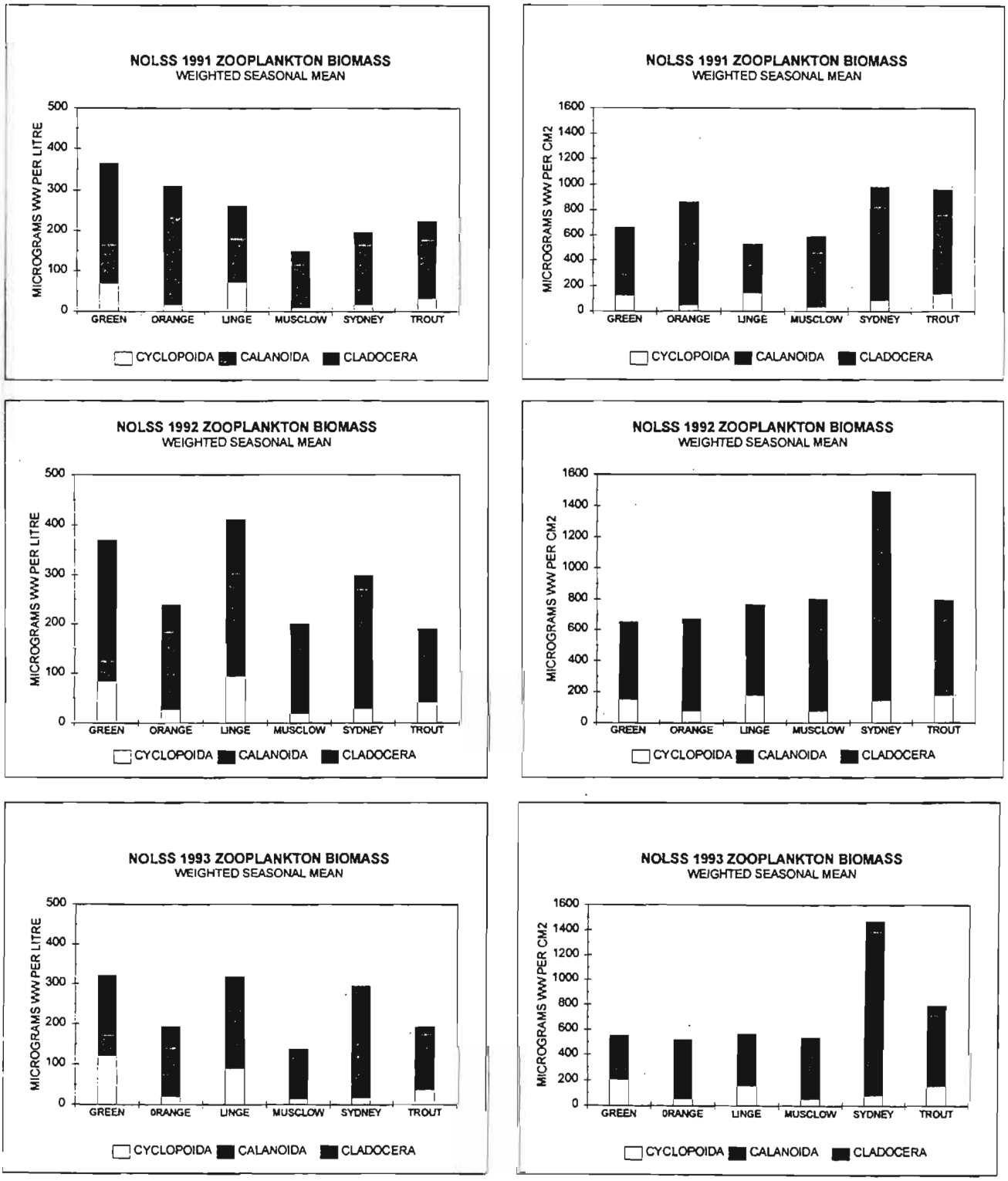

Figure 4. Seasonal time weighted mean total zooplankton biomass per litre (left panels) and per square centimetre of lake surface area (right panels) during 1991, 1992 and 1993 in the six NOLSS lakes.

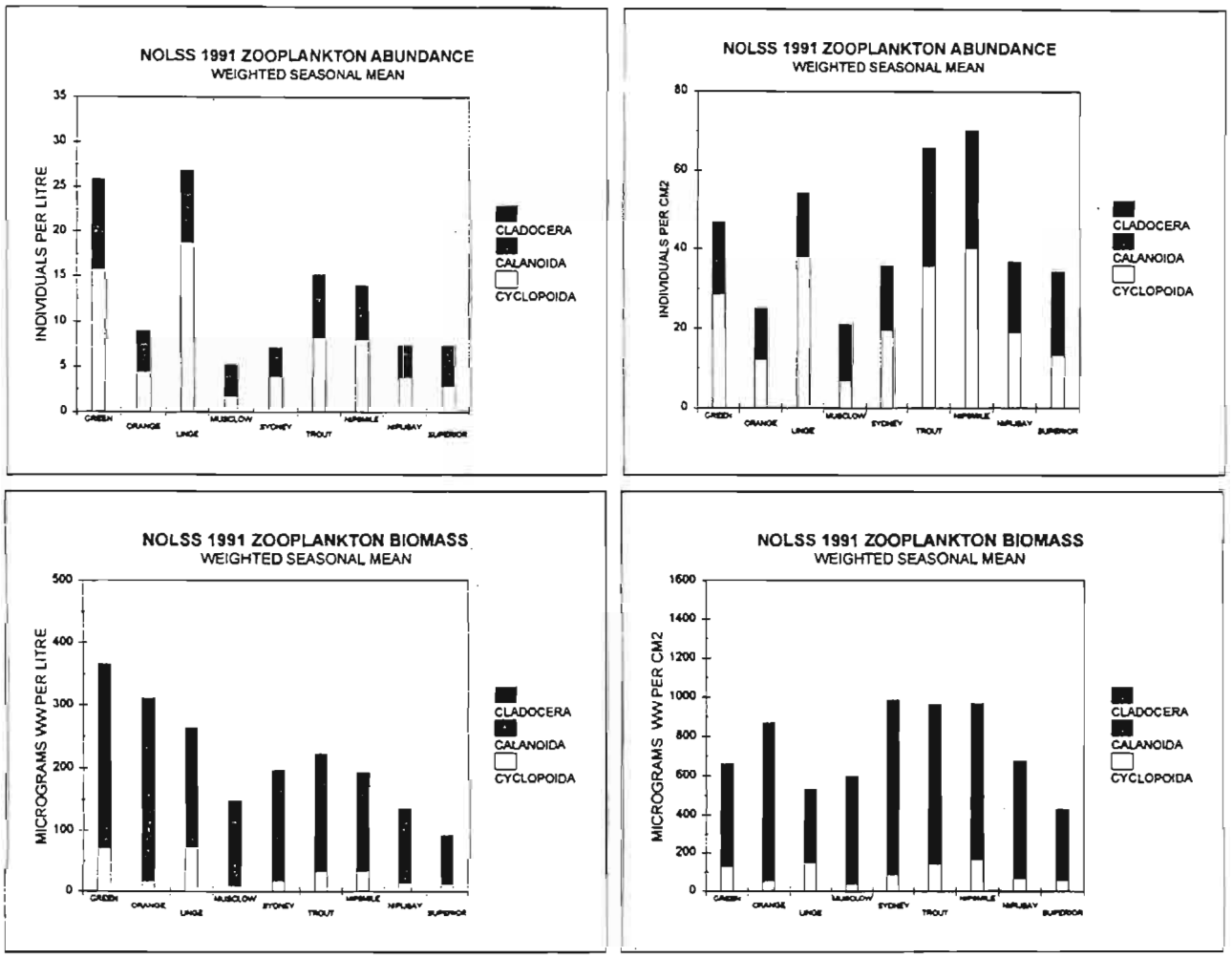

Figure 5. Time weighted 1991 open season mean total zooplankton abundance (upper panels) and biomass (lower panels) per litre (left panels) and per square centimetre of lake surface area (right panels) in the six NOLSS lakes and lakes Nipigon and Superior.