APPENDIX IX.10

NON-FISH AQUATIC ORGANISMS
BASELINE DATA

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Table IX.10-1 Snap Lake Phytoplankton Density (number/L) and Biomass (mg/m^3)

	Snap Lake																	
	WQ1						WQ3						WQ7					
	9-Jul-99		12-Aug-99		10-Sep-99		9-Jul-99		12-Aug-99		10-Sep-99		8-Jul-99		12-Aug-99		10-Sep-99	
	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass
CYANOBACTERIA																		
Aphanizomenon flos-aquae	4331	36.7	-	-	-	-	2021	6.9	-	-	-	-	-	-	-	-	-	-
Aphanocapsa delicatissima	-	-	-	-	1263	8.5	1010	13.6	2021	11.9	-	-	-	-	-	-	2526	3.4
Aphanocapsa elastichia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aphanocapsa sp	-	-	-	-	-	-	-	-	-	-	-	-	1263	16.54	-	-	1263	4.1
Anabaena lemmermanii	-	-	-	-	-	-	-	-	-	-	1263	4.3	-	-	-	-	-	-
Anabaena spp.	-	-	1010	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anabaenopsis elenkinii	-	-	-	-	-	-	-	-	-	-	1263	3.2	-	-	-	-	-	-
Chroococcus minutus	-	-	-	-	1263	1.1	-	-	-	-	-	-	-	-	-	-	-	-
Cylindrospermopsis cuspis	-	-	1010	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limnothrix redekei	-	-	-	-	5053	1.7	-	-	2021	0.8	2526	1.2	-	-	-	-	8843	4.8
Limnothrix sp.	-	-	-	-	-	-	-	-	5053	2.9	-	-	-	-	-	-	-	-
Leptolyngbya sp.	-	-	6064	3.7	83382	52.0	1010	0.6	3032	1.5	72012	41.3	-	3.81	10107	5.3	80856	38.6
Merismopedia tenuissima	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1263	0.7
Microcystis aeruginosa	-	-	-	-	1263	7.1	-	-	-	-	1263	3.6	-	-	-	-	-	-
Microcystis spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1263	1.8
Planktolyngbya limnetica	-	-	-	-	-	-	-	-	-	-	-	-	2526	2.86	-	-	-	-
Psedanabaena galeata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1010	1.7	-	-
Phormidium sp.	-	-	-	-	10107	36.8	-	-	-	-	3790	10.2	-	-	-	-	1263	1.3
Rhabdoderma lineare	-	-	-	-	11370	5.4	-	-	-	-	-	-	-	-	-	-	2526	0.6
Snowella lacustris	-	-	-	-	-	-	4042	13.7	2021	4.0	1263	2.9	-	-	-	-	-	-
CHLOROPHYCEAE																		
Chlamydomonas frigida	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1010	0.1	-	-
Chlamydomonas sp1	-	-	-	-	6316	3.3	-	-	-	-	-	-	-	-	1010	0.5	2526	1.3
Chlamydomonas sp2	7219	2.9	-	-	-	-	-	-	-	-	2526	1.0	-	-	-	-	-	-
Centritractus sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coenocystis spp.	-	-	1010	0.5	5053	9.7	1010	0.9	-	-	-	-	-	-	-	-	2526	2.9
Cosmarium bioculatum	-	-	-	-	1263	0.7	-	-	1010	0.5	-	-	3790	2.03	-	-	-	-
Cosmarium botrytis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cosmarium sp.	-	-	-	-	-	-	2021	0.8	-	-	-	-	-	-	-	-	-	-
Cosmarium subcrenatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1263	7.1
Crucegenia quadrata	-	-	-	-	1263	2.3	-	-	2021	1.8	-	-	1263	0.57	-	-	1263	2.3
Crucegenia rectangularis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crucegenia tetrapedia	-	-	-	-	-	-	-	-	-	-	1263	2.7	-	-	-	-	1263	2.7
Elaktothrix gelatinosa	-	-	4042	0.5	8843	0.8	1010	0.1	4042	0.4	17687	1.8	-	-	1010	0.1	16423	1.6
Elaktothrix genevensis	-	-	-	-	1263	0.1	-	-	6064	0.3	7580	0.4	-	0.06	3032	0.1	11370	0.5
Elaktothrix viridis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Euastrum ansatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eutetramorus planctonica	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Keratococcus braunii	-	-	-	-	-	-	-	-	1010	0.2	-	-	-	-	-	-	-	-
Korshikoviella sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monoraphidium griffithii	-	-	4042	1.1	3790	1.1	5053	1.4	5053	1.4	10107	2.8	2526	0.7	3032	0.8	31584	8.7
Monoraphidium irregulare	1443	0.3	-	-	1263	0.3	-	-	-	-	2526	0.5	-	-	1010	0.2	1263	0.3
Oocystis borgei	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1010	2.1	1263	5.3
Oocystis solitaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oocystis submarina	-	-	1010	0.1	2526	0.3	-	-	-	-	2526	0.3	-	-	2021	0.2	3790	0.3
Pediastrum tetras	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quadrigula lacustris	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2021	0.5	1263	0.4
Scenedesmus ecornis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1010	0.3	-	-
Scenedesmus quadricauda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sporotetras pyriformis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Staurodesmus incus	1443	3.7	5053	13.0	-	-	1010	2.6	-	-	-	-	3790	9.72	2021	5.2	-	-
Stichococcus bacillaris	1443	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table IX.10-1 Snap Lake Phytoplankton Density (number/L) and Biomass (mg/m^3) (continued)

	Snap Lake																	
	WQ1						WQ3						WQ7					
	9-Jul-99		12-Aug-99		10-Sep-99		9-Jul-99		12-Aug-99		10-Sep-99		8-Jul-99		12-Aug-99		10-Sep-99	
	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass
Tetraedron minimum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1010	0.9	-	-
CRYPTOPHYCEAE																		
Cryptomonas borealis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cryptomonas erosa	-	-	-	-	-	-	1010	5.0	-	-	1263	6.2	-	-	-	-	-	-
Cryptomonas gracilis	1443	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cryptomonas marsonii	2887	5.2	2021	3.7	-	-	1010	1.8	-	-	-	-	6316	11.43	-	-	1263	2.3
Cryptomonas phaseolus	4331	2.3	-	-	-	-	-	-	1010	0.1	-	-	2526	1.36	-	-	-	-
Cryptomonas reflexa	-	-	2021	4.1	1263	2.6	-	-	-	-	3790	7.7	-	-	2021	4.1	-	-
Katablepharis ovalis	1443	0.2	-	-	1263	0.2	1010	0.1	-	-	-	-	6316	0.83	-	-	1263	0.2
Rhodomonas minuta	12994	2.9	10107	2.3	20214	4.6	18192	4.1	1010	0.2	1263	0.3	51798	11.72	3032	0.7	13897	3.1
CHRYSOPHYCEAE																		
Chromulina pygmaea	4331	0.6	19203	2.5	49271	6.5	35374	4.6	6064	0.8	29057	3.8	30321	3.97	10107	1.3	50535	6.6
Chrysopharella longispina	4331	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinobryon attenatum	1443	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinobryon bavaricum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinobryon borgei	-	-	-	-	-	-	4042	0.9	-	-	-	-	5053	1.14	-	-	-	-
Dinobryon cylindricum	-	-	-	-	-	-	-	-	-	-	-	-	2526	0.86	-	-	-	-
Dinobryon divergens	-	-	-	-	-	-	-	-	-	-	-	-	1263	0.29	-	-	-	-
Dinobryon (monad)	-	-	2021	0.5	1263	0.3	6064	1.37	5053	1.1	5053	1.1	18950	4.29	1010	0.2	5053	1.1
Dinobryon setularia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinobryon sociale	11550	5.6	9096	3.7	2526	2	14149	8	7074	2.3	3790	1.4	-	-	9096	4.3	15160	8.6
D. sociale var stipitatum	5775	1.6	-	-	2526	2	-	-	-	-	-	-	15160	6.57	-	-	-	-
Mallomonas caudata	-	-	-	-	-	-	-	-	-	-	-	-	2526	13.21	-	-	-	-
Mallomonas pseudocoronata	-	-	-	-	1263	1.7	-	-	-	-	-	-	-	-	-	-	1263	1.7
Mallomonas spp.	-	-	1010	1.2	-	-	2021	2.3		-	-	-	-	-	1010	1.2	1263	1.5
Ochromonas sp2	-	-	-	-	2526	2.1	-	-		-	-	-	-	-	-	-	-	-
Ochromonas	2887	2.6	9096	8.2	21477	19.4	2021	1.8	11117	10.1	17687	16.0	1263	1.14	11117	10.1	13897	12.6
Synura spp.	-	-	3032	3.7	5053	6.1	14149	17.1	-	-	-	-	7580	9.15	-	-	3790	4.6
Synura uvella	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DINOPHYCEAE																		
Ceratium hirundinella	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gymnodinium aeruginosa	-	-	6064	65.5	1263	13.6			1010	10.9	-	-	-	-	1010	10.9	-	-
Gymnodinium fungiforme	-	-	-	-	-	-	-	-	2021	0.5	-	-	-	-	1010	0.2	-	-
Gymnodinium fuscum	-	-	2021	49.5	-	-	-	-	1010	24.8	-	-	-	-	1010	24.8	-	-
Gymnodinium ordinatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1263	1.3
Gymnodinium paradoxum	-	-	1010	80.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gymnodinium/Amphidinium	8663	5.9	-	-	22740	15.5	77823	53.0	2021	1.4	17687	12.0	54325	37.0	15160	10.3	16423	11.2
Gymnodinium spp.	-	-	4042	2.8	-	-	-	-	-	-	-	-	5053	29.2	-	-	-	-
Peridinium inconspicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2526	3.8
Peridinium spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BACILLARIOPHYCEAE																		
Achnanthes minutissima	-	-	2021	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asterionella formosa	-	-	-	-	1263	1.7	-	-	-	-	2526	6.9	-	-	-	-	-	-
Aulacoseira spp.	-	-	1010	3.7	-	-	-	-	-	-	-	-	-	-	1010	1.8	-	-
Cocconeis placentula	1443	6.9	-	-	-	-	1010	4.9	-	-	-	-	3790	18.2	1010	4.9	-	-
Cyclotella bodanica	-	-	2021	16.8	6316	52.5	-	-	9096	75.6	5053	42.0			3032	25.2	13897	115.5
Cyclotella atomus	2887	3.3	12128	13.7	16423	18.6	2021	2.3	17181	19.4	31584	35.7	3790	4.3	17181	19.4	32847	37.2
Cymbella silesiaca	-	-	1010	3.1	-	-	-	-	1010	3.1	-	-	-	-	-	-	-	-
Eunotia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fragilaria tenera	4331	6.8	5053	7.9	12633	19.8	5053	7.9	6064	9.5	13897	21.8	5053	7.9	21224	33.3	20214	31.7
Gomphonema parvulum	1443	0.7	-	-	-	-	-	-	-	-	-	-	1263	0.7	-	-	-	-
Navicula cryptotenella	5775	6.5	-	-	5053	5.7	-	-	-	-	1263	1.4	1263	1.4	1010	1.1	-	-
Navicula halophila	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table IX.10-1 Snap Lake Phytoplankton Density (number/L) and Biomass (mg/m^3) (continued)

	Snap Lake																	
	WQ1						WQ3						WQ7					
	9-Jul-99		12-Aug-99		10-Sep-99		9-Jul-99		12-Aug-99		10-Sep-99		8-Jul-99		12-Aug-99		10-Sep-99	
	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass
Navicula pupula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Navicula spp.	-	-	-	-	-	-	-	-	-	-	-	-	1263	20.7	-	-	-	-
Neidium affine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1010	3.1	-	-
Nediium hercynicum	-	-	-	-	-	-	-	-	-	-	-	-	1263	10.0	-	-	-	-
Nediium javanicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitzschia palea/paleacae	-	-	-	-	1263	1.2	1010	1.0	1010	1.0	-	-	-	-	5053	4.8	-	-
Nitzschia perminuta	1443	0.4	4042	1.0	-	-	1010	0.3	3032	0.8	-	-	2526	0.7	-	-	3790	1.0
Stauroneis sp	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1010	4.8	-	-
Tabellaria fenestrata	-	-	3032	64.3	2526	93.7	-	-	-	-	1263	6.7	-	-	-	-	3790	133.9
Tabellaria flocculosa	1443	146.0	1010	29.2	5053	209.8	-	-	2021	73.0	-	-	1263	27.4	5053	65.7	1263	9.1
EUGLENOPHYCEAE																		
Strombomonas sp.	1443	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trachelomonas volvocina	2887	12.1	-	-	-	-	2021	8.5	-	-	1263	5.3	-	-	-	-	-	-
Total	173752	265.69	198080	392.24	401285	610.6	279877	165.4	182920	260.04	336860	244.34	320306	259.62	215258	250.4	451823	475.49

Notes: number/L = number per litre; mg/m^3 = milligrams per cubic metre; WQ = water quality.
- = not detected.

Table IX.10-2 Phytoplankton Biomass Proportions (% biomass) from Snap Lake in 1999

	Snap Lake								
	WQ1			WQ3			WQ7		
	9-Jul-99	12-Aug-99	10-Sep-99	9-Jul-99	12-Aug-99	10-Sep-99	8-Jul-99	12-Aug-99	10-Sep-99
CYANOBACTERIA									
Aphanizomenon flos-aquae	13.8	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0
Aphanocapsa delicatissima	0.0	0.0	1.4	8.2	4.6	0.0	0.0	0.0	0.7
Aphanocapsa elastichia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aphanocapsa sp	0.0	0.0	0.0	0.0	0.0	0.0	6.4	0.0	0.9
Anabaena lemmermanii	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0
Anabaena spp.	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Anabaenopsis elenkinii	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0
Chroococcus minutus	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Cylindrospermopsis cuspis	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Limnothrix redekei	0.0	0.0	0.3	0.0	0.3	0.5	0.0	0.0	1.0
Limnothrix sp.	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
Leptolyngbya sp.	0.0	0.9	8.5	0.3	0.6	16.9	1.5	2.1	8.1
Merismopedia tenuissima	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Microcystis aeruginosa	0.0	0.0	1.2	0.0	0.0	1.5	0.0	0.0	0.0
Microcystis spp.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Planktolyngbya limnetica	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
Psedanabaena galeata	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
Phormidium sp.	0.0	0.0	6.0	0.0	0.0	4.2	0.0	0.0	0.3
Rhabdoderma lineare	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.1
Snowella lacustris	0.0	0.0	0.0	8.3	1.5	1.2	0.0	0.0	0.0
CHLOROPHYCEAE									
Chlamydomonas frigida	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chlamydomonas sp1	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.2	0.3
Chlamydomonas sp2	1.1	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Centritractus sp.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coenocystis spp.	0.0	0.1	1.6	0.6	0.0	0.0	0.0	0.0	0.6
Cosmarium bioculatum	0.0	0.0	0.1	0.0	0.2	0.0	0.8	0.0	0.0
Cosmarium botrytis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cosmarium sp.	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Cosmarium subcrenatum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Crucegenia quadrata	0.0	0.0	0.4	0.0	0.7	0.0	0.2	0.0	0.5
Crucegenia rectangularis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crucegenia tetrapedia	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.6
Elaktothrix gelatinosa	0.0	0.1	0.1	0.1	0.1	0.7	0.0	0.0	0.3
Elaktothrix genevensis	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1
Elaktothrix viridis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Euastrum ansatum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eutetramorus planctonica	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Keratococcus braunii	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Korshikoviella sp.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monoraphidium griffithii	0.0	0.3	0.2	0.8	0.5	1.1	0.3	0.3	1.8
Monoraphidium irregulare	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.1
Oocystis borgei	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.1
Oocystis solitaria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oocystis submarina	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
Pediastrum tetras	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Quadrigula lacustris	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1
Scenedesmus ecornis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Scenedesmus quadricauda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sporotetras pyriformis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Staurodesmus incus	1.4	3.3	0.0	1.6	0.0	0.0	3.7	2.1	0.0
Stichococcus bacillaris	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetraedron minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
CRYPTOPHYCEAE									
Cryptomonas borealis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cryptomonas erosa	0.0	0.0	0.0	3.0	0.0	2.5	0.0	0.0	0.0
Cryptomonas gracilis	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cryptomonas marsonii	2.0	0.9	0.0	1.1	0.0	0.0	4.4	0.0	0.5
Cryptomonas phaseolus	0.9	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Cryptomonas reflexa	0.0	1.0	0.4	0.0	0.0	3.2	0.0	1.6	0.0
Katablepharis ovalis	0.1	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Rhodomonas minuta	1.1	0.6	0.7	2.5	0.1	0.1	4.5	0.3	0.7

Table IX.10-2 Phytoplankton Biomass Proportions (% biomass) from Snap Lake in 1999 (continued

	Snap Lake								
	WQ1			WQ3			WQ7		
	9-Jul-99	12-Aug-99	10-Sep-99	9-Jul-99	12-Aug-99	10-Sep-99	8-Jul-99	12-Aug-99	10-Sep-99
CHRYSOPHYCEAE									
Chromulina pygmaea	0.2	0.6	1.1	2.8	0.3	1.6	1.5	0.5	1.4
Chrysopharella longispina	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dinobryon attenatum	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dinobryon bavaricum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dinobryon borgei	0.0	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0
Dinobryon cylindricum	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Dinobryon divergens	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Dinobryon (monad)	0.0	0.1	0.0	0.8	0.4	0.5	1.7	0.1	0.2
Dinobryon setularia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dinobryon sociale	2.1	0.9	0.3	4.8	0.9	0.6	0.0	1.7	1.8
D. sociale var stipitatum	0.6	0.0	0.3	0.0	0.0	0.0	2.5	0.0	0.0
Mallomonas caudata	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0
Mallomonas pseudocoronata	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.4
Mallomonas spp.	0.0	0.3	0.0	1.4	0.0	0.0	0.0	0.5	0.3
Ochromonas sp2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Ochromonas	1.0	2.1	3.2	1.1	3.9	6.5	0.4	4.0	2.6
Synura spp.	0.0	0.9	1.0	10.3	0.0	0.0	3.5	0.0	1.0
Synura uvella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DINOPHYCEAE									
Ceratium hirundinella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gymnodinium aeruginosa	0.0	16.7	2.2	0.0	4.2	0.0	0.0	4.4	0.0
Gymnodinium fungiforme	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0
Gymnodinium fuscum	0.0	12.6	0.0	0.0	9.5	0.0	0.0	9.9	0.0
Gymnodinium ordinatum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Gymnodinium paradoxum	0.0	20.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gymnodinium/Amphidinium	2.2	0.0	2.5	32.0	0.5	4.9	14.2	4.1	2.4
Gymnodinium spp.	0.0	0.7	0.0	0.0	0.0	0.0	11.2	0.0	0.0
Peridinium inconspicum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Peridinium spp.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BACILLARIOPHYCEAE									
Achnanthes minutissima	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Asterionella formosa	0.0	0.0	0.3	0.0	0.0	2.8	0.0	0.0	0.0
Aulacoseira spp.	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.7	0.0
Cocconeis placentula	2.6	0.0	0.0	2.9	0.0	0.0	7.0	1.9	0.0
Cyclotella bodanica	0.0	4.3	8.6	0.0	29.1	17.2	0.0	10.1	24.3
Cyclotella atomus	1.2	3.5	3.0	1.4	7.5	14.6	1.7	7.8	7.8
Cymbella silesiaca	0.0	0.8	0.0	0.0	1.2	0.0	0.0	0.0	0.0
Eunotia sp.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fragilaria tenera	2.6	2.0	3.2	4.8	3.7	8.9	3.1	13.3	6.7
Gomphonema parvulum	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Navicula cryptotenella	2.4	0.0	0.9	0.0	0.0	0.6	0.5	0.5	0.0
Navicula halophila	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Navicula pupula	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Navicula spp.	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0
Neidium affine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0
Nediium hercynicum	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0
Nediium javanicum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nitzschia palea/paleacae	0.0	0.0	0.2	0.6	0.4	0.0	0.0	1.9	0.0
Nitzschia perminuta	0.1	0.3	0.0	0.2	0.3	0.0	0.3	0.0	0.2
Stauroneis sp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0
Tabellaria fenestrata	0.0	16.4	15.4	0.0	0.0	2.7	0.0	0.0	28.2
Tabellaria flocculosa	54.9	7.4	34.4	0.0	28.1	0.0	10.5	26.2	1.9
EUGLENOPHYCEAE									
Strombomonas sp.	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trachelomonas volvocina	4.6	0.0	0.0	5.1	0.0	2.2	0.0	0.0	0.0

Notes: WQ = water quality; % = percent.

Table IX.10-3 Reference Lake Phytoplankton Density (number/L) and Biomass (mg/m^3)

	Reference Lake																	
	WQR1						WQR3						WQR7					
	16-Jul-99		11-Aug-99		11-Sep-99		16-Jul-99		11-Aug-99		11-Sep-99		14-Jul-99		11-Aug-99		11-Sep-99	
	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass
CYANOBACTERIA																		
Aphanizomenon flos-aquae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aphanocapsa delicatissima	-	-	-	-	-	-	-	-	1010	3.4	-	-	-	-	-	-	-	-
Aphanocapsa elastichia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1263	4.1
Aphanocapsa sp	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1010	3.4	-	-
Anabaena lemmermanii	-	-	2021	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anabaena spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anabaenopsis elenkinii	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chroococcus minutus	-	-	-	-	2526	1.4	1263	0.6	2021	0.9	2526	1.4	-	-	-	-	-	-
Cylindrospermopsis cuspis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limnothrix redekei	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limnothrix sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leptolyngbya sp.	-	-	-	-	-	-	-	-	-	-	-	-	1263	1.0	-	-	-	-
Merismopedia tenuissima	-	-	1010	0.3	-	-	1263	1.4	-		2526	0.5	1263	0.7	1010	0.1	-	-
Microcystis aeruginosa	-	-	-	-	-	-	-	-	1010	7.1	1263	3.6	-	-	-	-	3790	12.5
Microcystis spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Planktolyngbya limnetica	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Psedanabaena galeata	-	-	-	-	-	-	-	-	-	-	-	-	1263	0.9	-	-	-	-
Phormidium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhabdoderma lineare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Snowella lacustris	-	-	1010	4.6	-	-	-	-	1010	5.7	-	-	-	-	3032	12.6	-	-
CHLOROPHYCEAE																		
Chlamydomonas frigida	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlamydomonas sp1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlamydomonas sp2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1263	0.5
Centritractus sp.	-	-	-	-	-	-	1263	0.1	-	-	-	-	-	-	-	-	-	-
Coenocystis spp.	-	-	1010	0.5	-	-	-	-	-	-	-	-	1263	1.1	1010	0.9	-	-
Cosmarium bioculatum	-	-	-	-	-	-	-	-	-	-	-	-	1263	0.7	-	-	-	-
Cosmarium botrytis	-	-	-	-	-	-	-	-	2021	6.2	-	-	-	-	-	-	-	-
Cosmarium sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cosmarium subcrenatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crucegenia quadrata	-	-	-	-	-	-	-	-	1010	0.5	-	-	-	-	-	-	1263	0.6
Crucegenia rectangularis	-	-	1010	4.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crucegenia tetrapedia	-	-	4042	8.7	2526	5.4	-	-	4042	8.7	1263	2.7	-	-	3032	6.5	-	-
Elaktothrix gelatinosa	3790	0.47	1010	0.1	8843	0.8	17687	1.3	1010	0.1	2526	0.2	16423	1.5	3032	0.3	5053	0.5
Elaktothrix genevensis	-	-	-	-	10106	0.5	-	-	-	-	21477	1.0	3790	0.2	1010	0.1	5053	0.2
Elaktothrix viridis	-	-	-	-	-	-	-	-	-	-	-	-	6316	0.5	-	-	-	-
Euastrum ansatum	1263	16.54	-	-	-	-	-	-	-	-	-	-	-	-	1010	13.2	1263	16.5
Eutetramorus planctonica	-	-	-	-	-	-	1263	5.7	-	-	-	-	-	-	1010	0.5	-	-
Keratococcus braunii	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Korshikoviella sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3032	0.3	1263	0.1
Monoraphidium griffithii	-	-	1010	0.3	-	-	-	-	-	-	-	-	-	-	-	-	1263	0.4
Monoraphidium irregulare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table IX.10-3 Reference Lake Phytoplankton Density (number/L) and Biomass (mg/m^3) (continued)

	Reference Lake																	
	WQR1						WQR3						WQR7					
	16-Jul-99		11-Aug-99		11-Sep-99		16-Jul-99		11-Aug-99		11-Sep-99		14-Jul-99		11-Aug-99		11-Sep-99	
	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass
Oocystis borgei	-	-	-	-	1263	2.7	-	-	-	-	2526	6.6	-	-	-	-	1263	1.3
Oocystis solitaria	-	-	-	-	-	-	1263	1.3	-	-	1263	1.3	-	-	-	-	-	-
Oocystis submarina	-	-	2021	0.3	5053	0.8	3790	0.3	2021	0.3	5053	0.5	1263	0.1	5053	0.5	29057	3.1
Pediastrum tetras	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1010	2.2	-	-
Quadrigula lacustris	1263	0.38	-	-	-	-	-	-	-	-	1263	0.4	-	-	-	-	2526	0.6
Scenedesmus ecornis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scenedesmus quadricauda	-	-	-	-	1263	0.5	-	-	-	-	-	-	-	-	1010	0.2	-	-
Sporotetras pyriformis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1263	10.2
Staurodesmus incus	-	-	3032	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stichococcus bacillaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetraedron minimum	-	-	-	-	-	-	-	-	-	-	1263	1.1	-	-	-	-	-	-
CRYPTOPHYCEAE																		
Cryptomonas borealis	-	-	-	-	-	-	1263	22.1	-	-	-	-	-	-	-	-	-	-
Cryptomonas erosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cryptomonas gracilis	-	-	-	-	2526	1.4	2526	1.4	-	-	1263	0.7	1263	0.7	-	-	8843	4.7
Cryptomonas marsonii	3790	6.86	2021	3.7	-	-	3970	6.9	3032	5.5	5053	9.2	7580	13.7	-	-	2526	4.6
Cryptomonas phaseolus	-	-	-	-	-	-	1263	0.1	-	-	-	-	-	-	-	-	-	-
Cryptomonas reflexa	2526	5.14	4042	8.2	-	-	-	-	3032	6.2	1263	2.6	-	-	-	-	-	-
Katablepharis ovalis	-	-	-	-	8843	1.2	2526	0.3	1010	0.1	1263	0.2	-	-	1010	0.1	25267	3.3
Rhodomonas minuta	63168	14.29	12128	2.7	25267	5.7	61905	14.0	23246	5.3	25267	5.7	72012	16.3	24256	5.5	48008	10.9
CHRYSOPHYCEAE																		
Chromulina pygmaea	1086502	142.22	61652	8.1	106123	13.9	358798	47.0	79845	10.5	90963	11.9	394173	51.6	17181	2.3	27794	3.6
Chrysopharella longispina	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinobryon attenatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinobryon bavaricum	2526	1.14	-	-	-	-	1263	2.9	2021	2.9	1263	3.6	3790	4.3	1010	0.7	-	-
Dinobryon borgei	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinobryon cylindricum	2526	4.86	-	-	1263	1.3	-	-	1010	15.9	2526	26.5	-	-	-	-	1263	4.0
Dinobryon divergens	-	-	3032	41.5	-	-	-	-	-	-	-	-	1263	5.7	1010	10.9	-	-
Dinobryon (monad)	13897	3.43	23246	5.5	-	-	1263	0.3	35374	9.6	6316	2.0	24004	5.7	6064	1.4	7580	1.7
Dinobryon setularia	-	-	-	-	-	-	-	-	-	-	-	-	1263	1.4	-	-	-	-
Dinobryon sociale	10107	22.29	10107	10.5	-	-	3790	3.4	17181	22.0	1263	4.3	18950	37.2	2021	4.6	1263	1.4
D. sociale var stipitatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mallomonas caudata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mallomonas pseudocoronata	-	-	-	-	1263	1.7	-	-	-	-	-	-	-	-	-	-	3790	5.0
Mallomonas spp.	2526	2.91	-	-	7580	8.7	2526	2.9	-	-	3790	4.4	8843	10.2	1010	1.2	-	-
Ochromonas sp2	-	-	2021	1.7	-	-	-	-	4042	3.4	-	-	-	-	-	-	-	-
Ochromonas	45481	41.15	23246	21.0	58115	52.6	808560	731.6	20214	18.3	70749	64.0	405543	366.9	20214	18.3	30321	27.4
Synura spp.	-	-	-	-	1263	1.5	-	-	-	-	8843	10.7	-	-	-	-	3790	4.6
Synura uvella	-	-	2021	2.4	5053	7.6	-	-	-	-	-	-	-	-	-	-	8843	12.2
DINOPHYCEAE																		
Ceratium hirundinella	-	-	-	-	-	-	-	-	2021	285.8	-	-	-	-	-	-	1263	178.6
Gymnodinium aeruginosa	-	-	-	-	1263	13.6	-	-	1010	10.9	-	-	2526	27.3	6064	65.5	-	-

Table IX.10-3 Reference Lake Phytoplankton Density (number/L) and Biomass (mg/m^3) (continued)

	Reference Lake																	
	WQR1						WQR3						WQR7					
	16-Jul-99		11-Aug-99		11-Sep-99		16-Jul-99		11-Aug-99		11-Sep-99		14-Jul-99		11-Aug-99		11-Sep-99	
	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass
Gymnodinium fungiforme	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2021	0.5	-	-
Gymnodinium fuscum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gymnodinium ordinatum	-	-	3032	3.1	-	-	-	-	-	-	1263	1.3	-	-	-	-	11370	11.5
Gymnodinium paradoxum	5053	403.52	4042	322.8	-	-	2526	201.8	1010	80.7	5053	403.5	-	-	1010	80.7	1263	100.9
Gymnodinium/Amphidinium	6316	4.3	30321	20.6	34111	23.2	18950	12.9	23246	15.8	50535	34.4	53061	36.1	16171	11.0	60642	41.3
Gymnodinium spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peridinium inconspicum	-	-	1010	1.5	-	-	2526	3.8	-	-	-	-	1263	1.9	-	-	-	-
Peridinium spp.	-	-	-	-	-	-	-	-	-	-	1263	7.1	-	-	-	-	-	-
DIATOMS																		
Achnanthes minutissima	-	-	-	-	-	-	1263	0.3	-	-	1263	0.3	-	-	-	-	-	-
Asterionella formosa	5053	17.18	10107	26.1	89699	252.6	-	-	1010	5.5	149078	632.3	13897	41.2	3032	28.9	61905	177.0
Aulacoseira spp.	-	-	-	-	-	-	-	-	-	-	-	-	1263	4.6	1010	3.7	-	-
Cocconeis placentula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1010	4.9	-	-
Cyclotella bodanica	-	-	-	-	-	-	-	-	-	-	-	-	3790	31.5	1010	8.4	1263	10.5
Cyclotella atomus	21477	24.29	47502	53.7	17687	20.0	29057	32.9	92984	105.2	5053	5.7	51798	58.6	40428	45.7	2526	2.9
Cymbella silesiaca	-	-	-	-	-	-	-	-	1010	3.1	-	-	-	-	-	-	-	-
Eunotia sp.	-	-	-	-	-	-	-	-	-	-	1263	2.7	-	-	-	-	-	-
Fragilaria tenera	-	-	-	-	2526	4.0	-	-	4042	6.3	-	-	-	-	-	-	-	-
Gomphonema parvulum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Navicula cryptotenella	5053	5.66	-	-	-	-	-	-	-	-	-	-	-	-	1010	1.1	-	-
Navicula halophila	-	-	-	-	-	-	-	-	1010	2.8	-	-	-	-	-	-	-	-
Navicula pupula	-	-	-	-	1263	45.1	-	-	-	-	-	-	-	-	-	-	-	-
Navicula spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neidium affine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nediium hercynicum	-	-	-	-	-	-	-	-	-	-	-	-	1263	10.0	-	-	-	-
Nediium javanicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3032	58.8	-	-
Nitzschia palea/paleacae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitzschia perminuta	-	-	-	-	1263	0.3	-	-	1010	0.3	1263	0.3	-	-	-	-	1263	0.3
Stauroneis sp	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tabellaria fenestrata	-	-	1010	10.7	2526	80.4	1263	13.4	-	-	1263	13.4	-	-	-	-	1263	46.9
Tabellaria flocculosa	-	-	-	-	1263	18.2	1263	9.1	-	-	-	-	-	-	-	-	-	-
EUGLENOPHYCEAE																		
Strombomonas sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trachelomonas volvocina	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	1355031	717	330482	576	473305	565	1407007	1118	406281	649	552896	1266	1174362	731	247601	395	440457	704

Notes: number/L = number per litre; mg/m^3 = milligrams per cubic metre; WQ = water quality.

- = not detected.

Table IX.10-4 Phytoplankton Biomass Proportions (% biomass) from the Reference Lake in 1999

	Reference Lake								
	WQR1			WQR3			WQR7		
	16-Jul-99	11-Aug-99	11-Sep-99	16-Jul-99	11-Aug-99	11-Sep-99	14-Jul-99	11-Aug-99	11-Sep-99
CYANOBACTERIA									
Aphanizomenon flos-aquae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aphanocapsa delicatissima	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.00
Aphanocapsa elastichia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59
Aphanocapsa sp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.00
Anabaena lemmermanii	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Anabaena spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Anabaenopsis elenkinii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chroococcus minutus	0.00	0.00	0.25	0.05	0.14	0.11	0.00	0.00	0.00
Cylindrospermopsis cuspis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Limnothrix redekei	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Limnothrix sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Leptolyngbya sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00
Merismopedia tenuissima	0.00	0.05	0.00	0.12	0.00	0.04	0.09	0.04	0.00
Microcystis aeruginosa	0.00	0.00	0.00	0.00	1.10	0.28	0.00	0.00	1.78
Microcystis spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Planktolyngbya limnetica	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psedanabaena galeata	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00
Phormidium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rhabdoderma lineare	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Snowella lacustris	0.00	0.79	0.00	0.00	0.88	0.00	0.00	3.18	0.00
CHLOROPHYCEAE									
Chlamydomonas frigida	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chlamydomonas sp1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chlamydomonas sp2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Centritractus sp.	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Coenocystis spp.	0.00	0.08	0.00	0.00	0.00	0.00	0.16	0.23	0.00
Cosmarium bioculatum	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00
Cosmarium botrytis	0.00	0.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00
Cosmarium sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cosmarium subcrenatum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crucegenia quadrata	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.08
Crucegenia rectangularis	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crucegenia tetrapedia	0.00	1.51	0.96	0.00	1.34	0.21	0.00	1.65	0.00
Elaktothrix gelatinosa	0.07	0.02	0.14	0.12	0.01	0.02	0.20	0.07	0.07
Elaktothrix genevensis	0.00	0.00	0.08	0.00	0.00	0.08	0.02	0.01	0.03
Elaktothrix viridis	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00
Euastrum ansatum	2.31	0.00	0.00	0.00	0.00	0.00	0.00	3.35	2.35
Eutetramorus planctonica	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.12	0.00
Keratococcus braunii	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Korshikoviella sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.02
Monoraphidium griffithii	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Monoraphidium irregulare	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oocystis borgei	0.00	0.00	0.47	0.00	0.00	0.52	0.00	0.00	0.19
Oocystis solitaria	0.00	0.00	0.00	0.11	0.00	0.10	0.00	0.00	0.00
Oocystis submarina	0.00	0.05	0.13	0.02	0.05	0.04	0.01	0.14	0.44
Pediastrum tetras	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00
Quadrigula lacustris	0.05	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.08
Scenedesmus ecornis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scenedesmus quadricauda	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.05	0.00
Sporotetras pyriformis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.44
Staurodesmus incus	0.00	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stichococcus bacillaris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tetraedron minimum	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00
CRYPTOPHYCEAE									
Cryptomonas borealis	0.00	0.00	0.00	1.98	0.00	0.00	0.00	0.00	0.00
Cryptomonas erosa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cryptomonas gracilis	0.00	0.00	0.24	0.12	0.00	0.05	0.09	0.00	0.67
Cryptomonas marsonii	0.96	0.64	0.00	0.61	0.85	0.72	1.88	0.00	0.65
Cryptomonas phaseolus	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Cryptomonas reflexa	0.72	1.43	0.00	0.00	0.95	0.20	0.00	0.00	0.00

Table IX.10-4 Phytoplankton Biomass Proportions (% biomass) from the Reference Lake in 1999 (continued)

	Reference Lake								
	WQR1			WQR3			WQR7		
	16-Jul-99	11-Aug-99	11-Sep-99	16-Jul-99	11-Aug-99	11-Sep-99	14-Jul-99	11-Aug-99	11-Sep-99
Katablepharis ovalis	0.00	0.00	0.21	0.03	0.02	0.01	0.00	0.03	0.47
Rhodomonas minuta	1.99	0.48	1.01	1.25	0.81	0.45	2.23	1.39	1.54
CHRYSOPHYCEAE									
Chromulina pygmaea	19.84	1.40	2.46	4.20	1.61	0.94	7.06	0.57	0.52
Chrysopharella longispina	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dinobryon attenatum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dinobryon bavaricum	0.16	0.00	0.00	0.26	0.45	0.29	0.59	0.18	0.00
Dinobryon borgei	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dinobryon cylindricum	0.68	0.00	0.23	0.00	2.45	2.09	0.00	0.00	0.56
Dinobryon divergens	0.00	7.20	0.00	0.00	0.00	0.00	0.78	2.76	0.00
Dinobryon (monad)	0.48	0.95	0.00	0.03	1.48	0.16	0.78	0.35	0.24
Dinobryon setularia	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00
Dinobryon sociale	3.11	1.83	0.00	0.31	3.38	0.34	5.08	1.16	0.20
D. sociale var stipitatum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mallomonas caudata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mallomonas pseudocoronata	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.72
Mallomonas spp.	0.41	0.00	1.55	0.26	0.00	0.35	1.39	0.29	0.00
Ochromonas sp2	0.00	0.29	0.00	0.00	0.52	0.00	0.00	0.00	0.00
Ochromonas	5.74	3.65	9.31	65.44	2.82	5.06	50.20	4.63	3.90
Synura spp.	0.00	0.00	0.27	0.00	0.00	0.84	0.00	0.00	0.65
Synura uvella	0.00	0.42	1.35	0.00	0.00	0.00	0.00	0.00	1.73
DINOPHYCEAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ceratium hirundinella	0.00	0.00	0.00	0.00	44.03	0.00	0.00	0.00	25.37
Gymnodinium aeruginosa	0.00	0.00	2.41	0.00	1.68	0.00	3.73	16.58	0.00
Gymnodinium fungiforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00
Gymnodinium fuscum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gymnodinium ordinatum	0.00	0.53	0.00	0.00	0.00	0.10	0.00	0.00	1.64
Gymnodinium paradoxum	56.28	56.04	0.00	18.05	12.43	31.87	0.00	20.43	14.33
Gymnodinium/Amphidinium	0.60	3.58	4.11	1.15	2.44	2.72	4.94	2.79	5.86
Gymnodinium spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Peridinium inconspicum	0.00	0.26	0.00	0.34	0.00	0.00	0.26	0.00	0.00
Peridinium spp.	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.00
DIATOMS									
Achnanthes minutissima	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.00
Asterionella formosa	2.40	4.53	44.70	0.00	0.85	49.94	5.64	7.31	25.14
Aulacoseira spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.93	0.00
Cocconeis placentula	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	0.00
Cyclotella bodanica	0.00	0.00	0.00	0.00	0.00	0.00	4.31	2.13	1.49
Cyclotella atomus	3.39	9.33	3.54	2.94	16.20	0.45	8.01	11.57	0.41
Cymbella silesiaca	0.00	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.00
Eunotia sp.	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00
Fragilaria tenera	0.00	0.00	0.70	0.00	0.98	0.00	0.00	0.00	0.00
Gomphonema parvulum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Navicula cryptotenella	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00
Navicula halophila	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00
Navicula pupula	0.00	0.00	7.99	0.00	0.00	0.00	0.00	0.00	0.00
Navicula spp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Neidium affine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nediium hercynicum	0.00	0.00	0.00	0.00	0.00	0.00	1.37	0.00	0.00
Nediium javanicum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	0.00
Nitzschia palea/paleacae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nitzschia perminuta	0.00	0.00	0.06	0.00	0.04	0.03	0.00	0.00	0.05
Stauroneis sp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tabellaria fenestrata	0.00	1.86	14.22	1.20	0.00	1.06	0.00	0.00	6.66
Tabellaria flocculosa	0.00	0.00	3.23	0.82	0.00	0.00	0.00	0.00	0.00
EUGLENOPHYCEAE									
Strombomonas sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trachelomonas volvocina	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: WQ = water quality; WQR = water quality reference lake.

Table IX.10-5 Zooplankton Density (individuals/m^3) and Biomass (mg/m^3) for Snap Lake

	Snap Lake											
	SH1		SH2		SH3		WQ-1					
	7-Jul-99		7-Jul-99		7-Jul-99		9-Jul-99		12-Aug-99		11-Sep-99	
	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass
ROTIFERA												
Asplanchna sp.	-	-	-	-	-	-	-	-	-	-	-	-
Ascomorpha sp.	-	-	-	-	-	-	-	-	-	-	-	-
Brachionus rubens	-	-	-	-	-	-	-	-	-	-	-	-
Conochilus unicornis	8870.5	1114.3	40632.5	5104.1	62918.0	7903.5	18009.8	2262.3	419.3	52.7	1999.9	251.2
Keratella cochlearis	564.5	28.4	384.2	19.4	251.2	12.7	1296.7	65.4	559.1	28.2	2199.9	110.9
Keratella quadrata	161.3	18.8	-	-	-	-	-	-	-	-	-	-
Kellicottia longispina	6451.3	459.6	10854.5	773.3	15070.2	1073.6	7564.1	538.9	6080.3	433.2	4599.7	327.7
Lecane luna	80.6	4.2	-	-	-	-	-	-	-	-	-	-
Lepadella patella	-	-	-	-	-	-	-	-	-	-	-	-
Monostyla bulla	80.6	5.6	-	-	-	-	-	-	-	-	-	-
Monos lunaris	-	-	96.1	5.7	-	-	-	-	69.9	4.2	-	-
Notholca acuminata	-	-	-	-	-	-	-	-	-	-	-	-
Polyathra vulgaris	8144.7	469.1	4899.0	282.1	3516.4	202.5	1801.0	103.7	69.9	4.0	200.0	11.5
Synchaeta sp.	-	-	-	-	-	-	-	-	-	-	-	-
Trichortia tetractus	-	-	-	-	-	-	-	-	-	-	100.0	5.8
CALANOIDA												
Epishura lacustris	-	-	-	-	-	-	-	-	-	-	-	-
Heterocope septentrionalis	519.9	65515.5	184.0	23181.4	521.2	65680.6	247.6	31205.7	55.0	6934.6	23.6	2972.0
Leptodiaptomus sicilis	-	-	-	-	-	-	-	-	3384.4	50459.6	2205.2	32877.9
Leptodiaptomus minutus	-	-	14165.1	98034.6	6050.3	41873.4	12657.2	87598.9	5049.1	34944.3	1179.2	8161.4
Calanoid copepodid	674.3	2656.2	4353.8	17151.1	2023.6	7971.7	4237.4	16692.8	550.3	2167.9	106.1	418.1
Calanod nauplii	2741.8	304.3	5475.3	607.8	5400.2	599.4	72.0	8.0	419.3	46.5	-	-
CYCLOPOIDA												
Diacyclops bicuspidatus	446.8	4249.7	4200.5	39952.0	2616.4	24885.0	3549.5	33760.7	1375.8	13085.5	1474.1	14020.2
Cyclopoid copepodid	300.6	1020.3	245.3	832.6	275.9	936.7	1155.7	3922.8	27.5	93.4	70.8	240.2
Cyclopid nauplii	725.8	108.4	2593.6	387.2	3642.0	543.8	7275.9	1086.4	6150.2	918.3	3399.8	507.6
CLADOCERA												
Daphnia longiremis	81.2	414.0	-	-	92.0	468.7	-	-	13.8	70.1	-	-
Holopedium gibberum	-	-	30.7	130.9	20.4	87.3	27.5	117.5	-	-	-	-
Bosmina longirostris	-	-	-	-	61.3	61.0	-	-	27.5	27.4	23.6	23.4
Total	29843.8	76368.4	88114.4	186462.3	102459.1	152299.7	57894.5	177363.0	24251.6	109269.9	17581.9	59927.9

Table IX.10-5 Zooplankton Density (individuals/m^3) and Biomass (mg/m^3) for Snap Lake (continued)

	Snap Lake											
	WQ-3						WQ-7					
	9-Jul-99		12-Aug-99		11-Sep-99		8-Jul-99		12-Aug-99		11-Sep-99	
	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass
ROTIFERA												
Asplanchna sp.	-	-	-	-	-	-	-	-	-	-	-	-
Ascomorpha sp.	-	-	-	-	-	-	-	-	-	-	-	-
Brachionus rubens	-	-	-	-	-	-	-	-	-	-	-	-
Conochilus unicornis	8354.4	1049.4	725.8	91.2	1312.2	164.8	28976.9	3640.0	720.4	90.5	1258.0	158.0
Keratella cochlearis	1204.2	60.7	483.8	24.4	3353.4	169.0	1731.1	87.2	1080.6	54.5	3522.4	177.5
Keratella quadrata	-	-	-	-	-	-	-	-	-	-	-	-
Kellicottia longispina	10085.5	718.5	5322.3	379.2	5394.5	384.3	11891.8	847.2	8572.6	610.7	5912.6	421.2
Lecane luna	-	-	-	-	-	-	-	-	-	-	-	-
Lepadella patella	-	-	-	-	-	-	-	-	-	-	-	-
Monostyla bulla	-	-	-	-	-	-	-	-	-	-	-	-
Monos lunaris	-	-	-	-	-	-	150.5	9.0	144.1	8.6	-	-
Notholca acuminata	-	-	-	-	-	-	-	-	-	-	-	-
Polyathra vulgaris	903.2	52.0	-	-	291.6	16.8	2257.9	130.0	72.0	4.1	251.6	14.5
Synchaeta sp.	-	-	-	-	-	-	-	-	-	-	-	-
Trichortia tetractus	-	-	-	-	-	-	-	-	-	-	-	-
CALANOIDA												
Epishura lacustris	-	-	165.1	2551.4	18.9	146.6	-	-	261.4	4039.8	-	-
Heterocope septentrionalis	82.5	10401.9	55.0	6934.6	18.9	2377.6	165.1	20803.8	13.8	1733.7	20.4	2575.7
Leptodiaptomus sicilis	-	-	7814.5	116508.4	1500.0	22364.0	1403.3	20922.3	4787.7	71381.9	2933.2	43731.7
Leptodiaptomus minutus	7250.4	50178.9	1568.4	10854.6	1481.1	10250.7	8997.6	62271.4	522.8	3618.2	2084.9	14429.3
Calanoid copepodid	2421.4	9538.7	343.9	1354.9	56.6	223.0	2393.9	9430.3	123.8	487.8	122.6	483.1
Calanod nauplii	-	-	80.6	9.0	-	-	75.3	8.4	-	-	125.8	14.0
CYCLOPOIDA												
Diacyclops bicuspidatus	963.1	9159.9	522.8	4972.5	1141.5	10857.3	3109.3	29573.3	1678.5	15964.4	1492.1	14192.2
Cyclopoid copepodid	288.9	980.7	82.5	280.2	18.9	64.0	908.0	3082.2	123.8	420.3	92.0	312.2
Cyclopid nauplii	3838.5	573.1	4838.4	722.4	2624.4	391.8	3688.0	550.7	2593.4	387.2	2893.4	432.0
CLADOCERA												
Daphnia longiremis	-	-	-	-	-	-	110.1	560.8	-	-	-	-
Holopedium gibberum	82.5	352.5	41.3	176.2	-	-	302.7	1292.3	-	-	-	-
Bosmina longirostris	-	-	41.3	41.0	9.4	9.4	110.1	109.4	178.9	177.8	81.8	81.3
Total	35474.6	83066.4	22085.8	144900.1	17221.3	47419.4	66271.5	153318.4	20873.8	98979.4	20790.8	77022.8

Notes: individuals/m^3 = individuals per cubic metre; µg/m^3 = micrograms per cubic metre; SH = shallow habitat; WQ = water quality.
- = not detected.

Table IX.10-6 Zooplankton Biomass (mg/m^3) and Biomass Proportions (% biomass) for Snap Lake

	SH1	SH2	SH3		WQ-1		WQ-3			WQ-7		
	7-Jul	7-Jul	7-Jul	9-Jul	12-Aug	11-Sep	9-Jul	12-Aug	11-Sep	8-Jul	12-Aug	11-Sep
	(mg/m^3)	(mg/m^3)	(mg/m^3)	(mg/m^3)	(mg/m^3)	(mg/m^3)	(mg/m^3)	(mg/m^3)	(mg/m^3)	(mg/m^3)	(mg/m^3)	(mg/m^3)
ROTIFERA												
Asplanchna sp.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ascomorpha sp.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brachionus rubens	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Conochilus unicornis	1114.3	5104.1	7903.5	2262.3	52.7	251.2	1049.4	91.2	164.8	3640.0	90.5	158.0
Keratella cochlearis	28.4	19.4	12.7	65.4	28.2	110.9	60.7	24.4	169.0	87.2	54.5	177.5
Keratella quadrata	18.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kellicottia longispina	459.6	773.3	1073.6	538.9	433.2	327.7	718.5	379.2	384.3	847.2	610.7	421.2
Lecane luna	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lepadella patella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monostyla bulla	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monos lunaris	0.0	5.7	0.0	0.0	4.2	0.0	0.0	0.0	0.0	9.0	8.6	0.0
Notholca acuminata	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Polyathra vulgaris	469.1	282.1	202.5	103.7	4.0	11.5	52.0	0.0	16.8	130.0	4.1	14.5
Synchaeta sp.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trichortia tetractus	0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0
CALANOIDA												
Epishura lacustris	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2551.4	146.6	0.0	4039.8	0.0
Heterocope septentrionalis	65515.5	23181.4	65680.6	31205.7	6934.6	2972.0	10401.9	6934.6	2377.6	20803.8	1733.7	2575.7
Leptodiaptomus sicilis	0.0	0.0	0.0	0.0	50459.6	32877.9	0.0	116508.4	22364.0	20922.3	71381.9	43731.7
Leptodiaptomus minutus	0.0	98034.6	41873.4	87598.9	34944.3	8161.4	50178.9	10854.6	10250.7	62271.4	3618.2	14429.3
Calanoid copepodid	2656.2	17151.1	7971.7	16692.8	2167.9	418.1	9538.7	1354.9	223.0	9430.3	487.8	483.1
Calanod nauplii	304.3	607.8	599.4	8.0	46.5	0.0	0.0	9.0	0.0	8.4	0.0	14.0
CYCLOPOIDA												
Diacyclops bicuspidatus	4249.7	39952.0	24885.0	33760.7	13085.5	14020.2	9159.9	4972.5	10857.3	29573.3	15964.4	14192.2
Cyclopoid copepodid	1020.3	832.6	936.7	3922.8	93.4	240.2	980.7	280.2	64.0	3082.2	420.3	312.2
Cyclopid nauplii	108.4	387.2	543.8	1086.4	918.3	507.6	573.1	722.4	391.8	550.7	387.2	432.0
CLADOCERA												
Daphnia longiremis	414.0	0.0	468.7	0.0	70.1	0.0	0.0	0.0	0.0	560.8	0.0	0.0
Holopedium gibberum	0.0	130.9	87.3	117.5	0.0	0.0	352.5	176.2	0.0	1292.3	0.0	0.0
Bosmina longirostris	0.0	0.0	61.0	0.0	27.4	23.4	0.0	41.0	9.4	109.4	177.8	81.3
Total	76368.4	186462.3	152299.7	177363.0	109269.9	59927.9	83066.4	144900.1	47419.4	153318.4	98979.4	77022.8

Table IX.10-6 Zooplankton Biomass (mg/m3) and Biomass Proportions (% biomass) for Snap Lake (continued)

	Snap Lake											
	SH1	SH2	SH3	WQ-1			WQ-3			WQ-7		
	7-Jul-99	7-Jul-99	7-Jul-99	9-Jul-99	12-Aug-99	11-Sep-99	9-Jul-99	12-Aug-99	11-Sep-99	8-Jul-99	12-Aug-99	11-Sep-99
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
ROTIFERA												
Asplanchna sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ascomorpha sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brachionus rubens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conochilus unicornis	1.46	2.74	5.19	1.28	0.05	0.42	1.26	0.06	0.35	2.37	0.09	0.21
Keratella cochlearis	0.04	0.01	0.01	0.04	0.03	0.19	0.07	0.02	0.36	0.06	0.06	0.23
Keratella quadrata	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kellicottia longispina	0.60	0.41	0.70	0.30	0.40	0.55	0.86	0.26	0.81	0.55	0.62	0.55
Lecane luna	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lepadella patella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monostyla bulla	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monos lunaris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Notholca acuminata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Polyathra vulgaris	0.61	0.15	0.13	0.06	0.00	0.02	0.06	0.00	0.04	0.08	0.00	0.02
Synchaeta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trichortia tetractus	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
CALANOIDA												
Epishura lacustris	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76	0.31	0.00	4.08	0.00
Heterocope septentrionalis	85.79	12.43	43.13	17.59	6.35	4.96	12.52	4.79	5.01	13.57	1.75	3.34
Leptodiaptomus sicilis	0.00	0.00	0.00	0.00	46.18	54.86	0.00	80.41	47.16	13.65	72.12	56.78
Leptodiaptomus minutus	0.00	52.58	27.49	49.39	31.98	13.62	60.41	7.49	21.62	40.62	3.66	18.73
Calanoid copepodid	3.48	9.20	5.23	9.41	1.98	0.70	11.48	0.94	0.47	6.15	0.49	0.63
Calanod nauplii	0.40	0.33	0.39	0.00	0.04	0.00	0.00	0.01	0.00	0.01	0.00	0.02
CYCLOPOIDA												
Diacyclops bicuspidatus	5.56	21.43	16.34	19.03	11.98	23.40	11.03	3.43	22.90	19.29	16.13	18.43
Cyclopoid copepodid	1.34	0.45	0.62	2.21	0.09	0.40	1.18	0.19	0.14	2.01	0.42	0.41
Cyclopid nauplii	0.14	0.21	0.36	0.61	0.84	0.85	0.69	0.50	0.83	0.36	0.39	0.56
CLADOCERA												
Daphnia longiremis	0.54	0.00	0.31	0.00	0.06	0.00	0.00	0.00	0.00	0.37	0.00	0.00
Holopedium gibberum	0.00	0.07	0.06	0.07	0.00	0.00	0.42	0.12	0.00	0.84	0.00	0.00
Bosmina longirostris	0.00	0.00	0.04	0.00	0.03	0.04	0.00	0.03	0.02	0.07	0.18	0.11

Notes: µg/m^3 = micrograms per cubic metre; SH = shallow habitat; WQ = water quality; % = percent.

- = not detected.

Table IX.10-7 Zooplankton Biomass (g/m^2) in Snap Lake

Site	Snap Lake					
	Jul-99		Aug-99		Sep-99	
	Dry Weight (g/m^2)	Ash free dry weight (g/m^2)	Dry Weight (g/m^2)	Ash free dry weight (g/m^2)	Dry Weight (g/m^2)	Ash free dry weight (g/m^2)
Shallow Water						
SH1	15.5	12.6	-	-	-	-
SH2	17	12.7	-	-	-	-
SH3	4.6	3	-	-	-	-
Open Water						
WQ1	3.7	1.4	3.7	0.5	28.3	27.5
WQ3	2.3	0.5	4.8	1.7	7.2	5.6
WQ7	2.9	0.5	4.1	1.5	6.8	5.1

Notes: g/m^2 = grams per square metre; SH = shallow habitat; WQ = water quality.
- = no data collected.

Table IX.10-8 Reference Lake Zooplankton Density (individuals/m^3) and Biomass (mg/m^3)

	Reference Lake (1999)											
	SHR1		SHR2		SHR3		WQR1					
	13-Jul		14-Jul		14-Jul		16-Jul		11-Aug		11-Sep	
	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass
ROTIFERA												
Asplanchna sp.	80.6	27.9	75.3	26.1	-	-	-	-	75.3	26.1	903.2	312.9
Ascomorpha sp.	-	-	-	-	-	-	-	-	-	-	129.0	85.0
Brachionus rubens	-	-	-	-	-	-	-	-	-	-	-	-
Conochilus unicornis	4193.3	526.7	37481.8	4708.3	8177.0	1027.2	15730.3	1976.0	4741.7	595.6	9031.8	1134.5
Keratella cochlearis	3225.6	162.6	1655.8	83.4	209.7	10.6	2107.4	106.2	5945.9	299.7	30449.9	1534.6
Keratella quadrata	-	-	-	-	-	-	-	-	-	-	-	-
Kellicottia longispina	34756.2	2476.1	18816.2	1340.5	5521.2	393.3	9633.9	686.3	14601.3	1040.2	15225.0	1084.6
Lecane luna	-	-	-	-	-	-	-	-	-	-	-	-
Lepadella patella	-	-	-	-	-	-	-	-	-	-	-	-
Monostyla bulla	-	-	75.3	5.2	-	-	-	-	-	-	-	-
Monos lunaris	80.6	4.8	-	-	-	-	-	-	-	-	-	-
Notholca acuminata	-	-	-	-	-	-	-	-	-	-	-	-
Polyathra vulgaris	1774.1	102.2	2333.2	134.4	1258.0	72.4	1580.6	91.0	2709.5	156.0	1032.2	59.4
Synchaeta sp.	-	-	-	-	-	-	-	-	-	-	-	-
Trichortia tetractus	-	-	-	-	-	-	-	-	-	-	-	-
CALANOIDA												
Epishura lacustris	-	-	-	-	-	-	-	-	96.3	1488.3	268.9	2089.7
Heterocope septentrionalis	-	-	-	-	-	-	27.5	3467.3	13.8	1733.7	14.2	1783.2
Leptodiaptomus sicilis	389.2	5802.0	283.0	4219.6	1366.7	5415.2	261.4	3897.3	220.1	3281.9	297.2	4430.6
Leptodiaptomus minutus	700.5	4847.9	141.5	979.4	992.5	3008.8	619.1	4284.7	137.6	952.2	-	-
Calanoid copepodid	726.4	2861.6	294.8	1161.4	784.7	2319.6	963.1	3793.8	55.0	216.8	14.2	55.7
Calanod nauplii	-	-	75.3	8.4	-	-	-	-	903.2	100.3	2967.6	329.4
CYCLOPOIDA												
Diacyclops bicuspidatus	1556.6	14805.4	185.7	1766.5	1133.2	2826.5	632.9	6019.4	866.7	8243.9	1471.7	13997.8
Cyclopoid copepodid	77.8	264.2	35.4	120.1	737.5	168.1	96.3	326.9	-	-	28.3	96.1
Cyclopid nauplii	403.2	60.2	376.3	56.2	698.9	104.4	376.3	56.2	1279.5	191.0	9031.8	1348.5
CLADOCERA												
Daphnia longiremis	4306.6	21944.9	235.8	1201.8	1010.0	224.3	660.4	3365.0	-	-	28.3	144.2
Holopedium gibberum	3346.7	14289.6	424.5	1812.6	949.1	728.4	1279.5	5463.1	2105.0	8987.6	764.2	3262.7
Bosmina longirostris	21948.1	21816.9	427.5	424.9	568.1	158.6	68.8	68.4	-	-	2066.0	2053.7
Total	77565.6	89992.8	62917.4	18048.8	23406.5	16457.5	34037.4	33601.6	33750.9	27313.3	73723.2	33802.7

Table IX.10-8 Reference Lake Zooplankton Density (individuals/m^3) and Biomass (mg/m^3) (continued)

	Reference Lake (1999)											
	WQR3						WQR7					
	16-Jul		11-Aug		11-Sep		14-Jul		11-Aug		11-Sep	
	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass	Density	Biomass
ROTIFERA												
Asplanchna sp.	241.9	83.8	-	-	129.0	44.7	91.4	31.7	-	-	535.5	185.5
Ascomorpha sp.	-	-	-	-	258.1	169.9	-	-	-	-	-	-
Brachionus rubens	-	-	-	-	-	-	91.4	22.4	-	-	-	-
Conochilus unicornis	6854.5	861.0	7051.4	885.8	4515.9	567.3	5940.5	746.2	1828.9	229.7	6068.5	762.3
Keratella cochlearis	1612.8	81.3	12114.0	610.5	8386.6	422.7	1919.2	96.7	2167.6	109.2	10619.8	535.2
Keratella quadrata	-	-	-	-	-	-	-	-	-	-	-	-
Kellicottia longispina	15966.9	1137.5	15549.3	1107.7	3354.7	239.0	12612.2	898.5	8602.8	612.9	6247.0	445.0
Lecane luna	-	-	-	-	-	-	91.4	4.8	67.7	3.5	178.5	9.3
Lepadella patella	-	-	-	-	-	-	-	-	-	-	178.5	6.6
Monostyla bulla	-	-	-	-	-	-	-	-	-	-	-	-
Monos lunaris	80.6	4.8	90.4	5.4	-	-	-	-	-	-	-	-
Notholca acuminata	-	-	-	-	-	-	-	-	-	-	-	-
Polyathra vulgaris	3709.5	213.6	1808.1	104.1	1419.3	81.7	1736.5	100.0	474.2	27.3	3391.2	195.3
Synchaeta sp.	-	-	-	-	-	-	-	-	-	-	-	-
Trichortia tetractus	-	-	-	-	-	-	-	-	-	-	-	-
CALANOIDA												
Epishura lacustris	-	-	401.8	6209.5	82.5	641.6	-	-	58.2	899.1	-	-
Heterocope septentrionalis	-	-	-	-	-	-	-	-	-	-	-	-
Leptodiaptomus sicilis	40.6	605.6	-	-	146.8	2188.0	676.1	10080.2	1192.6	17781.0	265.7	3961.8
Leptodiaptomus minutus	113.7	787.1	1275.3	8825.9	-	-	1250.8	8656.5	-	-	71.5	495.1
Calanoid copepodid	211.2	832.1	34.9	137.6	-	-	3481.9	13716.6	14.5	57.3	51.1	201.3
Calanod nauplii	80.6	9.0	90.4	10.0	516.1	57.3	91.4	10.1	135.5	15.0	-	-
CYCLOPOIDA												
Diacyclops bicuspidatus	641.8	6104.1	4192.6	39877.5	825.5	7851.3	6017.3	57232.4	2588.8	24623.3	1144.7	10887.2
Cyclopoid copepodid	73.1	248.2	-	-	27.5	93.4	811.3	2754.0	14.5	49.4	20.4	69.4
Cyclopid nauplii	483.8	72.2	1988.9	297.0	645.1	96.3	182.8	27.3	880.6	131.5	2766.5	413.1
CLADOCERA												
Daphnia longiremis	235.6	1200.5	-	-	91.7	467.4	3921.4	19981.9	29.1	148.2	92.0	468.7
Holopedium gibberum	966.7	4127.7	1240.3	5295.9	3274.4	13980.8	5780.7	24682.0	1978.0	8445.5	102.2	436.4
Bosmina longirostris	601.2	597.6	628.9	625.1	3586.2	3564.8	4901.7	4872.4	1352.6	1344.5	2207.5	2194.3
Total	31914.6	16966.0	46466.3	63992.1	27259.3	30466.0	49598.0	143913.8	21385.7	54477.5	33940.6	21266.5

Notes: individuals/m^3 = individuals per cubic metre; µg/m^3 = micrograms per cubic metre; SHR = shallow habitat reference; WQR = water quality reference.

- = no data collected.

Table IX.10-9 Zooplankton Biomass Proportions (% biomass) for the Reference Lake

	Reference Lake											
	SHR1	SHR2	SHR3	WQR1			WQR3			WQR7		
	13-Jul-99	14-Jul-99	14-Jul-99	16-Jul-99	11-Aug-99	11-Sep-99	16-Jul-99	11-Aug-99	11-Sep-99	14-Jul-99	11-Aug-99	11-Sep-99
ROTIFERA												
Asplanchna sp.	0.03	0.14	0.00	0.00	0.10	0.93	0.49	0.00	0.15	0.02	0.00	0.87
Ascomorpha sp.	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.56	0.00	0.00	0.00
Brachionus rubens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Conochilus unicornis	0.59	26.09	6.24	5.88	2.18	3.36	5.08	1.38	1.86	0.52	0.42	3.58
Keratella cochlearis	0.18	0.46	0.06	0.32	1.10	4.54	0.48	0.95	1.39	0.07	0.20	2.52
Keratella quadrata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kellicottia longispina	2.75	7.43	2.39	2.04	3.81	3.21	6.70	1.73	0.78	0.62	1.12	2.09
Lecane luna	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04
Lepadella patella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Monostyla bulla	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monos lunaris	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00
Notholca acuminata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Polyathra vulgaris	0.11	0.74	0.44	0.27	0.57	0.18	1.26	0.16	0.27	0.07	0.05	0.92
Synchaeta sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trichortia tetractus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALANOIDA												
Epishura lacustris	0.00	0.00	0.00	0.00	5.45	6.18	0.00	9.70	2.11	0.00	1.65	0.00
Heterocope septentrionalis	0.00	0.00	0.00	10.32	6.35	5.28	0.00	0.00	0.00	0.00	0.00	0.00
Leptodiaptomus sicilis	6.45	23.38	32.90	11.60	12.02	13.11	3.57	0.00	7.18	7.00	32.64	18.63
Leptodiaptomus minutus	5.39	5.43	18.28	12.75	3.49	0.00	4.64	13.79	0.00	6.02	0.00	2.33
Calanoid copepodid	3.18	6.43	14.09	11.29	0.79	0.16	4.90	0.22	0.00	9.53	0.11	0.95
Calanod nauplii	0.00	0.05	0.00	0.00	0.37	0.97	0.05	0.02	0.19	0.01	0.03	0.00
CYCLOPOIDA												
Diacyclops bicuspidatus	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	51.19
Cyclopoid copepodid	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.33
Cyclopid nauplii	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.94
CLADOCERA												
Daphnia longiremis	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.20
Holopedium gibberum	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.05
Bosmina longirostris	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	10.32

Notes: % biomass = percent biomass; SHR = shallow habitat reference; WQR = water quality reference.

- = no data collected.

Table IX.10-10 Reference Lake Zooplankton Biomass (g/m^2)

Site	Snap Lake					
	Jul-99		Aug-99		Sep-99	
	Dry Weight (g/m^2)	Ash free dry weight (g/m^2)	Dry Weight (g/m^2)	Ash free dry weight (g/m^2)	Dry Weight (g/m^2)	Ash free dry weight (g/m^2)
Open Water						
WQR1	2.4	0.6	4.4	1.4	13.1	10.9
WQR3	4.8	2.3	4.7	2	5.3	4
WQR7	6.2	3.8	3.9	2.2	8	7

Notes: g/m^2 = grams per square metre; WQR = water quality reference.

Table IX.10-11 Benthic Invertebrate Abundance in Snap Lake and the Reference Lake (numbers/sample; Ekman grab samples of 0.023 m^2 bottom area)

			Snap Lake																
Major Taxon	**Family/Subfamily/Tribe**	**Genus/Species**	**SH1-1**	**SH1-2**	**SH1-3**	**SH1-4**	**SH1-5**	**SH1-6**	**SH2-1**	**SH2-2**	**SH2-3**	**SH2-4**	**SH2-5**	**SH2-6**	**SH3-1**	**SH3-2**	**SH3-3**	**SH3-4**	**SH3-5**
Nematoda	-	-	123	44	36	18	41	79	9	17	8	19	26	12	5		28	18	16
Pelecypoda	-	i/d								1		1							
	Sphaeriidae	i/d	10	4	3			5	1	1	1	3	5	1	2	4		2	
		Pisidium	4	1	1			2		2		1	1			1		5	
Gastropoda	-	i/d															1		
	Planorbidae	*Gyraulus*																	
	Valvatidae	i/d	4		1		1	1											
		Valvata (damaged)																	
		Valvata sincera	2	3			2	5	1				2		3	3	2	1	
Oligochaeta	-	i/d																	
	Echytraeidae	-	3	2	2			6							1				
	Lumbriculidae	i/d																	
	Naididae	*Nais*	2				1	1											
		Pristenella	1	1	1			1	1			1						2	
	Tubificidae	i/d																	
Hirudinea	Erpobdellidae	*Erpobdella punctata*																	
Amphipoda	-	i/d																	
	Talitridae	*Hyalella azteca*																	
Ostracoda	-	-						1											
Harpacticoida	-	-	52	4	13	11	5	44								1	1	2	
Hydracarina	-	-					1	2		1		2	3					1	1
Collembola	-	-																	
Ephemeroptera	-	i/d																	
	Ephemerellidae	i/d																	
Hemiptera	Corixidae	i/d																	
Trichoptera	Leptoceridae	*Mystacides*	1																
		Oecetis																	
	Phryganeidae	*Agrypnia*																	
Diptera	Chironomidae	i/d	30	4	1		5	11	6	17	6	7	12	5	12	16	9	16	5
	Tanypodinae	i/d		1			1	3											
		Ablabesmyia			1	1	3	3		3			9					3	
		Procladius	4	1			3	3	4	9		4	6	4	7	19	4	8	4
	Orthocladiinae	i/d	18	1	3	2	6	17	1	3		2	3	2		6	2		
		Heterotanytarsus		1			1			3						19		11	
		Psectrocladius	4	1			4	3		3						3	2	3	
		Zalutschia					1												
	Chironominae	i/d																	
	Chironomini	i/d	4	1			4	3		6		1	6	1		3		3	1
		Chironomus		4			2			3		1							
		Cladopelma	7	6	2		2	8		14	2	2	3			3	2	3	2
		Cryptochironomus		1		1	2							1		3	2		2
		Dicrotendipes																	
		Mircotendipes	4	5		3	7	8	1	9					1	13	4	5	
		Pagastiella	15	4	1	1	2	3	5	9	3	6	3		12	10	15	8	16
		Parachironomus		1			1												
		Phaenopsectra		7	1	1	4	3	1	3	1	2	3	3		3	2	3	6
		Polypedilum							2		1		6		1				
		Stictochironomus							3	14	3	1	3	2	2	3	4		5
	Pseudochironomi	*Pseudochironomus*																3	
	Tanytarsini	i/d	52	4	2	1	3	35	1		4	1			1	3	4	5	
		Cladotanytarsus		1					1	3		5	3			10		3	2
		Corynocera	93	15	7	3	18	41	33	69	28	31	87	15	16	41	53	63	20
		Paratanytarsus																	
		Tanytarsus	45	5	5	1	2	25	2		4	1	3	1	2	19	4	14	
		Tanytarsus/Micropsectra							10	20	1	5	15	3	1	6		5	

Table IX.10-11 Benthic Invertebrate Abundance in Snap Lake and the Reference Lake (numbers/sample; Ekman grab samples of 0.023 m^2 bottom area) (continued)

			Snap Lake							Reference Lake								
Major Taxon	**Family/Subfamily/Tribe**	**Genus/Species**	**SH3-6**	**WQ3-1**	**WQ3-2**	**WQ3-3**	**WQ3-4**	**WQ3-5**	**WQ3-6**	**WQR1-1**	**WQR1-2**	**WQR1-3**	**WQR1-4**	**WQR1-5**	**WQR1-6**	**WQR3-1**	**WQR3-2**	**WQR3-3**
Nematoda	-	-	20	18	22	25	19	15	27	125	145	73	95	144	50	60	212	117
Pelecypoda	-	i/d																
	Sphaeriidae	i/d	2	8		4	1	6	2	4	2		4	2		1	5	5
		Pisidium	1	1				2					1					3
Gastropoda	-	i/d																
	Planorbidae	*Gyraulus*																
	Valvatidae	i/d															3	
		Valvata (damaged)																
		Valvata sincera						1				1					2	1
Oligochaeta	-	i/d																
	Echytraeidae	-	1															
	Lumbriculidae	i/d		1					1						1			
	Naididae	*Nais*				1		1						1				1
		Pristenella				1		1										
	Tubificidae	i/d				1		2	1									
Hirudinea	Erpobdellidae	*Erpobdella punctata*								1								
Amphipoda	-	i/d																
	Talitridae	*Hyalella azteca*																
Ostracoda	-	-																
Harpacticoida	-	-		2		4			1	7	2		1	24	1		5	
Hydracarina	-	-							1	1								
Collembola	-	-																
Ephemeroptera	-	i/d												1				
	Ephemerellidae	i/d																
Hemiptera	Corixidae	i/d																
Trichoptera	Leptoceridae	*Mystacides*																
		Oecetis									1						2	
	Phryganeidae	*Agrypnia*				1												
Diptera	Chironomidae	i/d	9	0	1	6	0	14	13	3	16	8	11		3	4		33
	Tanypodinae	i/d										2		6	1			
		Ablabesmyia		5				4	3	6		3	1	6	1			3
		Procladius	5	5	1	10		11	10	18	8	4	1	9	2	3	20	9
	Orthocladiinae	i/d	1	5					16	3		1	3	3	5	2		
		Heterotanytarsus	2	3					7	6	8	3	4	22	4		33	3
		Psectrocladius		3		3			3	6	3	2	2	3	2			6
		Zalutschia																
	Chironominae	i/d														7		
	Chironomini	i/d		5		3		7		6	3	1		15	3			
		Chironomus																
		Cladopelma	1					4	7	3								
		Cryptochironomus	1										1					
		Dicrotendipes								3								
		Mircotendipes		10	1	19	1	29	20	9	16	4	4	9	1	15	72	21
		Pagastiella	18			3			7	26	16	9	4	22	4	2	52	9
		Parachironomus																3
		Phaenopsectra		3	1	3		4	3			1	1	12		1	7	
		Polypedilum	2	8										3		1		
		Stictochironomus	4	10	1	13		4	3		5		3					
	Pseudochironomi	*Pseudochironomus*																
	Tanytarsini	i/d				13		7	10	6	13	4	5	19	6			3
		Cladotanytarsus	2			3			3	6						1	7	3
		Corynocera	29	77	1	100	9	122	141	44	65	12	13	34	5	26	551	110
		Paratanytarsus																
		Tanytarsus	2							15						1		
		Tanytarsus/Micropsectra	3	10		3		7	7		3	3	3	3	4		7	

Table IX.10-11 Benthic Invertebrate Abundance in Snap Lake and the Reference Lake (numbers/sample; Ekman grab samples of 0.023 m^2 bottom area) (continued)

Major Taxon	Family/Subfamily/Tribe	Genus/Species	Reference Lake														
			WQR3-4	WQR3-5	WQR3-6	WQR7-1	WQR7-2	WQR7-3	WQR7-4	WQR7-5	WQR7-6	SHR2-1	SHR2-2	SHR2-3	SHR2-4	SHR2-5	SHR2-6
Nematoda	-	-	120	156	159	14	19	19	5	11	16	196	208	88	80	104	68
Pelecypoda	-	i/d				1											
	Sphaeriidae	i/d	4	7	1		6	3	2	1	4			4			
		Pisidium	2	2							1		4	4			
Gastropoda	-	i/d															
	Planorbidae	*Gyraulus*											4				
	Valvatidae	i/d															
		Valvata (damaged)												8	8	8	
		Valvata sincera	6	3	1							8	4	4		4	
Oligochaeta	-	i/d													4		
	Echytraeidae	-															
	Lumbriculidae	i/d															
	Naididae	*Nais*					1				1						
		Pristenella							1								
	Tubificidae	i/d	1														
Hirudinea	Erpobdellidae	*Erpobdella punctata*															
Amphipoda	-	i/d												4			
	Talitridae	*Hyalella azteca*				1		5	1	1	1						
Ostracoda	-	-															
Harpacticoida	-	-		2	1	1						16	4	8		4	
Hydracarina	-	-			2	1				1							
Collembola	-	-												4			
Ephemeroptera	-	i/d							1								
	Ephemerellidae	i/d							1								
Hemiptera	Corixidae	i/d							1								
Trichoptera	Leptoceridae	*Mystacides*															
		Oecetis															
	Phryganeidae	*Agrypnia*															
Diptera	Chironomidae	i/d	23	59	32	3	6	4	5		7	140	252	100	48	44	20
	Tanypodinae	i/d										4	4			8	
		Ablabesmyia										8		4		4	
		Procladius	14	6		6	1	6	1		7	4	20	8	8	4	
	Orthocladiinae	i/d	9	6		1		2			4		8	4			
		Heterotanytarsus	19	12	8	3	3	3	1		4	4	12	16	4	8	
		Psectrocladius					1							4			
		Zalutschia															
	Chironominae	i/d															
	Chironomini	i/d	5			1	2			1	1		8	4			
		Chironomus							1								
		Cladopelma						1	1		2		4				
		Cryptochironomus	5							1					4		
		Dicrotendipes															
		Mircotendipes	9	53	28		1					28	48	60	24	36	
		Pagastiella	38	24	16	5	3	6	3	1	6	8	24	24	8		8
		Parachironomus															
		Phaenopsectra											8	4		8	
		Polypedilum															
		Stictochironomus				0	0	3	3	10	1						
	Pseudochironomini	*Pseudochironomus*															
	Tanytarsini	i/d	5	6		2					2	8		12		12	4
		Cladotanytarsus					3				1		24	4			
		Corynocera	361	545	170						1	380	976	552	252	644	48
		Paratanytarsus												4			
		Tanytarsus				3	3	2	1	1	7	4		4			
		Tanytarsus/Micropsectra			4	1		3				8		12	4	12	

Notes: m^2 = square metre; SH = shallow habitat; SHR = shallow habitat reference; WQ = water quality; WQR = water quality reference; i/d = immature or damaged specimen; l = larva; a = adult.
blank cells indicate not detected.

Table IX.10-12 Benthic Invertebrate Presence/Absence Data for Qualitative Samples Collected in Snap Lake and the Reference Lake.

Major Taxon	Family/Subfamily/Tribe	Genus/Species	Snap Lake				Reference Lake	
			SH1-Q	SH2-Q	SH3-Q	WQ3-Q	WQR1-Q	WQR3-Q
Pelecypoda	Sphaeriidae	*Pisidium*	x	x				
Gastropoda	Lymnaeidae	*Fossaria/Stagnicola?*		x				
		Stagnicola (s.str.) catascopium	x					
	Physidae	*Physa*			x	x		x
	Planorbidae	*Gyraulus*		x				
	Valvatidae	*Valvata sincera*	x	x				
Oligochaeta	Echytraeidae	i/d			x			
	Tubificidae	i/d		x	x	x		
Collembola	-	i/d	x					
Odonata	Aeshnidae	*Aeshna*				x		
	Corduliidae	*Somatochlora cf. albicincta*	x					
Hemiptera	Corixidae	i/d	x				x	
		Callicorixa		x				
Trichoptera	-	i/d			x			
	Limnephilidae	*Chyranda?*		x				
		Philarctus/Limnephilus	x		x			
	Molannidae	*Molannodes tinctus*	x					
	Phryganeidae	i/d				x		
		Ptilostomis			x			x
Coleoptera	Dytiscidae	*Agabus (l)*				x		
		Agabus (a)			x	x		x
		Colymbetes (a)						x
Diptera	Ceratopogonidae	*Bezza/Palpomyia*	x	x		x	x	
		Dasyhelea	x	x	x	x	x	
	Chironomidae	i/d						
	Tanypodinae	i/d				x		
		Ablabesmyia		x				
		Procladius	x					x
	Orthocladiinae	i/d		x				
		Heterotanytarsus					x	
		Psectrocladius	x	x		x	x	x
		Zalutschia	x					
	Chironominae	i/d				x		
	Chironomini	*Chironomus*					x	
		Cladopelma				x		
		Endochironomus			x			x
		Mircotendipes		x				
		Phaenopsectra						x
	Tanytarsini	i/d	x				x	
		Cladotanytarsus	x				x	x
		Paratanytarsus	x	x	x			
		Tanytarsus			x	x		
	Tipulidae	*Limnophila(?)*					x	
		Limonia (Geranomyia)	x					

Notes: m^2 = square metre; SH = shallow habitat; WQ = water quality; WQR = water quality reference; i/d = immature or damaged specimen; l = larva; a = adult.
blank cells indicate not detected.

Table IX.10-13 Sediment Total Organic Carbon and Particle Size Data for the Benthic Invertebrate Sampling Sites in Snap Lake and the Reference Lake

Variable	Units	Snap Lake				Reference Lake			
		SH1	SH2	SH3	WQ3	WQR1	WQR3	WQR7	SHR2
Sample date (1999)	-	8-Sep	9-Sep	8-Sep	9-Sep	13-Sep	13-Sep	13-Sep	13-Sep
Water depth	m	6.1	6.0	6.0	7.0	5.9	6.9	5.9	6.1
Bottom Sediment									
Clay	%	1	1	2	1	1	1	1	1
Silt	%	22	21	22	19	22	21	26	23
Sand	%	77	78	76	80	77	78	`	76
Total inorganic carbon	%	0.2	0.2	0.2	0.4	0.2	0.2	0.4	0.2
Total organic carbon	%	11	13	20	12	14	18	9	18

Notes: m = metre; % = percent; SH = shallow habitat; WQ = water quality; WQR = water quality reference.

Table IX.10-14 Summary of Benthic Invertebrate Community Data for Snap Lake and the Reference Lake

Variable/Group	Snap Lake				Reference Lake			
	SH1	SH2	SH3	WQ3	WQR1	WQR3	WQR7	SHR2
Abundance and Taxonomic Richness (site mean ± 1 standard error)								
Total abundance (number/m^2)	7367 ± 2607	5010 ± 1230	5447 ± 919	6937 ± 1913	9231 ± 1741	23994 ± 5760	1935 ± 271	34601 ± 8711
Mean richness/site	15.7 ± 1.6	14.5 ± 1.5	14.2 ± 1.3	11.8 ± 2.2	12.5 ± 0.8	11.2 ± 0.8	10.7 ± 1.0	10.7 ± 2.1
Total richness/site	30	27	28	27	31	27	28	28
Qualitative sample richness	16	13	10	12	8	9	-[a]	-[a]
Community Composition (site mean)								
Nematoda	40.1	14.8	12.8	30.0	51.2	30.1	31.1	20.4
Mollusca	4.4	2.9	3.5	2.5	1.1	1.4	6.4	1.2
Chironomidae (total)	53.1	81.3	82.7	66.7	47.2	68.3	55.2	78.1
unidentified[b]	3.4	8.1	9.5	2.8	3.8	5.2	9.1	12.2
Tanypodinae	2.8	5.0	6.6	4.1	5.0	1.8	6.8	1.4
Orthocladiinae	6.0	2.2	4.7	2.8	6.7	2.7	7.0	1.0
Chironomini	14.4	16.3	24.0	14.7	12.9	11.7	22.4	6.4
Tanytarsini	26.6	49.6	37.9	42.2	18.9	46.9	9.9	57.1
Other groups[c]	2.4	1.1	0.9	0.9	0.5	0.2	7.3	0.3

Notes: [a]Qualitative sample not collected.

[b]Immature or damaged specimens that could not be identified below the family level.

[c]Includes Oligochaeta, Hirudinea, Amphipoda, Hydracarina, Collembola, Ephemeroptera, Hemiptera and Trichoptera.

number/m^2 = number per square metre; SH = shallow habitat; WQ = water quality; WQR = water quality reference.

- = no data collected.

Table IX.10-15 Benthic Invertebrate Species Named in Report or Seen in Study Lakes

Species or Group	
Scientific Name	**Common Name**
Nematoda	nematode worm
Pelecypoda	clam
Sphaeriidae	fingernail clam
Pisidium	fingernail clam
Gastropoda	snail
Fossaria	snail
Stagnicola	snail
Stagnicola (s.str.) catascopium	snail
Physa	snail
Gyraulus	snail
Valvatidae	snail
Valvata sincera	snail
Oligochaeta	aquatic earthworm
Echytraeidae	aquatic earthworm
Tubificidae	aquatic earthworm
Lumbriculidae	aquatic earthworm
Nais	aquatic earthworm
Pristenella	aquatic earthworm
Erpobdella punctata	leech
Amphipoda	scud
Hyalella azteca	scud
Ostracoda	seed shrimp
Harpacticoida	copepod
Hydracarina	water mite
Collembola	springtail
Ephemeroptera	mayfly
Ephemerellidae	mayfly
Aeshna	dragonfly
Somatochlora cf. albicincta	dragonfly
Corixidae	water boatman
Callicorixa	water boatman
Trichoptera	caddisfly
Mystacides	caddisfly
Oecetis	caddisfly
Chyranda	caddisfly
Philarctus/Limnephilus	caddisfly
Molannodes tinctus	caddisfly
Phryganeidae	caddisfly
Agrypnia	caddisfly
Ptilostomis	caddisfly
Agabus	predaceous diving beetle
Colymbetes	predaceous diving beetle
Bezza/Palpomyia	biting midge
Dasyhelea	biting midge
Chironomidae	midge
Tanypodinae	midge
Ablabesmyia	midge
Procladius	midge
Orthocladiinae	midge
Heterotanytarsus	midge
Psectrocladius	midge
Zalutschia	midge
Chironominae	midge
Chironomini	midge
Chironomus	midge
Cladopelma	midge
Cryptochironomus	midge
Dicrotendipes	midge
Endochironomus	midge
Mircotendipes	midge
Pagastiella	midge
Phaenopsectra	midge
Polypedilum	midge
Stictochironomus	midge
Pseudochironomus	midge
Tanytarsini	midge
Cladotanytarsus	midge
Corynocera	midge
Paratanytarsus	midge
Tanytarsus	midge
Micropsectra	midge
Limnophila	crane fly
Limonia (Geranomyia)	crane fly