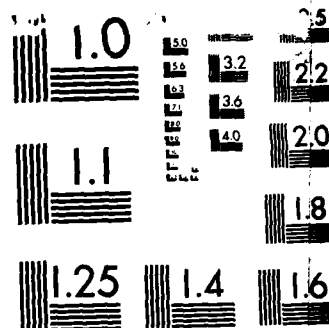


1981 HARTWELL LAKE WATER QUALITY STUDY APPENDIX(U) ARMY
ENGINEER DISTRICT SAVANNAH GA SEP 82 DACW21-81-C-0008

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APPENDIX

1981 HARTWELL LAKE WATER QUALITY STUDY

AD-A163 557

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PREPARED SEPTEMBER, 1982

BY

JAMES H. CARR AND ASSOC., INC.

COLUMBIA, S. C.

FOR

U. S. ARMY CORPS OF ENGINEERS

SAVANNAH DISTRICT

SAVANNAH, GEORGIA

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APPENDIX A

HYDROLOGICAL AND METEOROLOGICAL DATA

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APPENDIX LIST

<u>APPENDIX</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
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APPENDIX A-1

Daily 1981 Maximum and Minimum Temperatures*

Recorded at Anderson County Airport, Anderson, S.C.

Date

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVG.
Jan	MAX 58	53	59	51	38	45	49	46	48	44	42	34	46	53	58	51	44	62	61	55	52	56	58	58	66	67	62	60	66	49	43	52.7
	MIN 32	33	27	32	12	25	34	21	28	22	15	11	20	31	36	30	20	27	26	41	42	42	33	24	27	37	48	38	29	35	22	29.0
Feb	MAX 35	43	38	46	43	49	44	57	51	45	62	37	45	58	65	70	66	58	59	69	72	67	59	64	76	79	72	78			57.4	
	MIN 28	33	19	20	18	33	30	41	21	41	29	12	23	33	39	49	54	55	55	50	41	38	45	37	37	39	38	38			35.6	
Mar	MAX 73	71	60	60	68	60	58	56	58	61	66	65	68	66	67	61	69	58	50	56	57	50	52	62	68	71	78	71	71	78	84	64.3
	MIN 57	67	39	44	44	33	31	34	35	38	32	30	34	42	30	46	29	45	34	31	38	38	34	34	42	42	49	49	58	50	50	39.3
Apr	MAX 79	81	80	83	70	69	68	78	74	85	84	86	90	83	75	74	76	88	86	86	71	66	84	78	80	86	91	91	80	88		80.3
	MIN 61	63	42	62	59	47	41	48	59	52	59	59	57	56	57	43	56	62	58	66	56	55	63	55	46	49	57	56	60	64		54.9
May	MAX 83	76	78	81	87	92	84	68	74	79	73	70	79	84	72	72	72	87	82	73	80	84	87	88	90	81	80	83	87	92	93	81.0
	MIN 60	38	45	52	45	52	65	57	50	55	60	56	46	54	54	45	58	57	62	54	50	51	55	55	60	68	69	63	57	66	68	54.9
Jun	MAX 81	88	87	89	95	93	87	91	96	97	97	92	96	99	101	100	90	95	99	100	101	99	92	98	90	86	81	86	87	88		93.2
	MIN 70	72	70	71	70	74	74	72	76	77	72	75	73	71	70	72	78	74	73	69	70	76	73	73	70	72	69	64	68	66		71.5
Jul	MAX 77	78	81	88	88	86	89	95	97	98	99	97	96	97	95	95	95	87	90	93	96	93	95	93	91	93	97	96	93	78	72	90.9
	MIN 67	68	70	66	70	70	71	73	75	73	75	73	71	72	73	73	72	75	73	73	74	68	75	73	66	72	71	71	74	66	66	71.2
Aug	MAX 71	81	96	96	95	91	95	88	95	88	91	88	86	88	93	94	80	73	73	74	88	85	84	87	87	87	84	87	89		86.7	
	MIN 65	65	70	72	74	76	72	74	75	72	67	70	71	72	69	72	70	66	68	67	67										68.9	
Sep	MAX 87	89	88	83	84	85	82	86	82	82	86	87	88	88	86	86	80	74	73	77	81	85	82	80	82	83	86		82	85		83.5
	MIN 69	69	69	70	67	71	70	68	57	57	58	59	60	62	69	68	55	51	43	46	47	49	57	51	52	50	52	51	55	63		59.0
Oct	MAX 92	75	71	78	87	93	79	72	65	55	68	67	68	71	74	81	79	71	63	68	73	78	65	55	48	56	72	75	70	59	59	70.5
	MIN 57	60	37	42	47	56	58	49	46	52	54	52	46	43	46	48	56	60	44	33	36	48	55	39	40	47	56	43	52	48	52	48.5

* Data supplied by the National Climatic Center, Asheville, North Carolina

APPENDIX A-2

Daily Rainfall at Hartwell Dam* -1981

(inches)

<u>Date</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
1	0	0	0	0.27	0	0.23	0.36	0.12	0	0	0	1.01
2	0	0.46	0	0.02	0	0	0.50	0.12	0	0	0	0.92
3	0	0	0	0	0	0.22	0.24	0	0	0	0	0
4	0	0	0	0	0	0.16	0.02	0	0.26	0	0	0
5	0	0	0.71	0.10	0	0.03	0	0	0.32	0	0	0
6	0	0	0	0.03	0	0.10	0.60	0	0.25	0	0	0
7	0.24	0	0	0	0.10	0.16	0	0.02	1.51	0	0	0
8	0	0	0	0	0.05	0.28	0	0.02	2.13	0	0	0
9	0	0	0	0	0	0	0	0.05	0	0	0	0
10	0	0	0	0	0.10	0	0	0	0	0.40	0	0
11	0	2.72	0	0	1.50	0	0	0.10	0	0.04	0	0
12	0	0	0	0	0	0	0	0.84	0	0	0	0
13	0	0	0	0	0	0	0.01	0.01	0	0	0	0
14	0	0	0	0	0	0.02	0	0	0	0	0	0.70
15	0	0	0	0	0.05	0	0	0	0	0	0	2.15
16	0	0	0	0	0	0	0	0	0.27	0	0	0.34
17	0	0.02	0	0	0	0	0	0	0	0	0	0
18	0	0.22	0	0.02	0	0	0	0.75	0	0.06	0	0
19	0	1.15	0.47	0.04	0.29	0.07	0.24	0	0	0	0	0
20	0	0.14	0	0	0.11	0	0	0	0	0	0.02	0
21	0.20	0	0	0.43	0.06	0	0.03	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0.11
23	0	0.05	0.57	0	0	0	0	0	0	0	0	0.05
24	0	0	0	0.12	0	0	0	0	0	0.20	0	0
25	0	0	0	0	0	0	0	0	0	1.03	0.46	0
26	0	0	0	0	0	0	0.70	0	0	0.83	0	0
27	0	0	0	0	0.21	0	0.05	0	0	0.41	0	1.88
28	0	0	0	0	0.78	0	0	0	0	0	0	0.03
29	0	0	0	0	0	0	0	0	0	0	0.14	0.01
30	0	0	0.92	0.20	0	0	0	0	0	0	0	0.20
31	0.15	0	0	0	0	0	0.36	0	0	0	0.08	0
							0	0	0	0		1.80
Total	0.59	4.76	2.67	1.41	3.27	1.27	3.11	2.03	4.74	2.97	0.70	9.29

*Data supplied by U.S. Army Corps of Engineers, Savannah District, Savannah, Georgia

APPENDIX A-4

Hartwell Lake Total Daily Inflow*
(1981)
(day-second-feet)

<u>Date</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>
1	1015	1483	2018	4236	2562	6757
2	1014	3729	2065	2853	-253	8014
3	1513	3065	1816	3111	0	6157
4	4035	6162	7475	1286	37	6486
5	5854	1839	3107	4631	975	8212
6	1048	924	4506	4132	1937	1801
7	1448	1453	515	2079	1289	3919
8	911	1453	772	2336	579	2070
9	1077	1896	1537	5733	257	4774
10	1251	11255	2915	2615	1286	1365
11	989	12714	1626	1321	6699	1349
12	1190	6312	1370	1688	647	2861
13	762	4242	4009	3861	1413	1574
14	913	2719	2058	862	879	1049
15	1660	1483	1029	2386	1925	124
16	1178	1971	2040	1383	0	677
17	3373	2309	1345	1653	1286	1179
18	989	8191	3334	2078	2500	572
19	4875	10553	2769	1049	5522	1856
20	2702	4920	1267	1896	6982	772
21	1349	2774	1276	523	3820	257
22	615	3783	2573	1933	1123	2358
23	1905	2555	2502	1782	515	1709
24	1453	2692	1355	1431	257	587
25	1211	2223	1593	515	1736	828
26	3369	3076	1397	257	3771	572
27	2169	2808	1305	734	5810	0
28	3820	1261	515	1498	8690	0
29	3267		1029	2120	5145	6
30	3013		8517	1206	1801	782
31	2864		4902		772	
Total	62832	109,956	71,114	63,188	69,962	68,667
Average	2026.8	3927	2294	2106	2257	2289

* Data supplied by U.S. Army Corps of Engineers, Savannah District, Savannah, Georgia

APPENDIX A-4

(Continued)

<u>Date</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
1	1560	1004	-377	1339	313	6424
2	3621	252	630	1348	1889	3290
3	1555	1119	1997	541	1457	3375
4	257	795	2075	52	1807	2916
5	2315	2058	217	1839	3612	130
6	3115	116	744	2690	1920	915
7	5272	319	3879	3221	1352	2926
8	1018	82	5989	1817	813	1867
9	2025	242	2984	805	2580	1264
10	4231	446	2167	937	1996	1406
11	1286	1207	4032	215	992	440
12	772	1979	699	1033	2062	1083
13	4338	1082	646	2073	2101	650
14	391	14981	3483	2114	311	5991
15	1807	136	3752	555	537	4893
16	542	594	2695	550	4220	3196
17	511	748	2876	369	1916	1990
18	757	2979	1556	381	3547	2444
19	757	3543	291	559	1456	779
20	2903	4273	251	1921	1262	402
21	2209	3733	-652	2760	209	1753
22	1546	237	3984	814	209	1965
23	720	0	963	1722	1136	1374
24	2474	2566	325	224	2106	1901
25	1513	2415	928	3453	748	5254
26	504	2450	209	4809	192	2451
27	900	-353	473	2922	987	1820
28	2195	1004	2729	1983	1434	1935
29	1884	227	824	2856	963	2134
30	574	227	1772	1537	4186	831
31	0	1005		740		14708
Total	53,552	51,466	52,141	48,179	48,313	82,507
Average	1727	1660	1738	1554	1610	2662

APPENDIX A-5

Hartwell Lake Pool Elevations*

(1981)

(feet above mean sea level)

<u>Date</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>
1	653.47	652.46	654.34	655.00	654.95	655.01
2	653.42	652.40	654.37	655.06	654.90	655.20
3	653.48	652.22	654.39	655.13	654.90	655.32
4	653.64	652.17	654.63	655.18	654.78	655.41
5	653.50	652.09	654.70	655.36	654.70	655.50
6	653.13	652.00	654.80	655.47	654.60	655.57
7	653.03	652.06	654.82	655.50	654.60	655.72
8	652.99	652.12	654.85	655.54	654.50	655.75
9	652.95	652.05	654.82	655.71	654.51	655.80
10	652.99	652.40	654.52	655.75	654.53	655.72
11	653.03	652.82	654.77	655.80	654.77	655.71
12	652.68	652.79	654.67	655.85	654.70	655.77
13	652.52	652.80	654.72	655.68	654.66	655.83
14	652.48	652.91	654.80	655.56	654.57	655.87
15	652.47	652.97	654.84	655.60	654.55	655.74
16	652.37	652.97	654.83	655.60	654.55	655.63
17	652.46	653.00	654.75	655.56	654.60	655.51
18	652.50	653.30	654.76	655.64	654.44	655.38
19	652.59	653.63	654.61	655.68	654.50	655.30
20	652.45	653.75	654.38	655.70	654.70	655.33
21	652.38	653.86	654.43	655.54	654.65	655.34
22	652.28	654.01	654.53	655.56	654.52	655.23
23	652.28	654.01	654.53	655.53	654.54	655.13
24	652.34	654.04	654.52	655.43	654.55	655.00
25	652.39	654.08	654.52	655.45	654.52	654.88
26	652.36	654.15	654.48	655.46	654.56	654.84
27	652.33	654.21	654.48	655.35	654.56	654.84
28	652.37	654.26	654.50	655.24	654.63	654.84
29	652.40		654.54	655.21	654.72	654.78
30	652.41		654.82	655.00	654.79	654.75
31	652.40		654.90		654.82	

* Data supplied by U.S. Army Corps of Engineers, Savannah District,
Savannah, Georgia

APPENDIX A-5

(Continued)

<u>Date</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
1	654.75	653.43	649.27	647.70	645.88	643.65
2	654.83	653.44	649.00	647.56	645.81	643.60
3	654.83	653.38	648.92	647.56	645.72	643.52
4	654.84	653.20	648.84	647.56	645.65	643.42
5	654.93	652.97	648.85	647.43	645.58	643.42
6	654.88	652.60	648.83	647.35	645.51	643.46
7	654.82	652.26	649.03	647.31	645.56	643.40
8	654.68	652.25	649.09	647.20	645.59	643.38
9	654.51	652.26	649.03	647.04	645.53	643.10
10	654.59	651.97	648.93	647.07	645.44	642.96
11	654.64	651.80	648.91	647.08	645.30	642.77
12	654.67	651.53	648.93	646.92	645.21	642.81
13	654.52	651.28	648.95	646.81	645.12	642.83
14	654.35	650.95	648.95	646.71	645.13	642.95
15	654.14	650.72	648.95	646.54	645.15	643.01
16	654.10	650.63	648.91	646.37	645.15	642.99
17	654.05	650.35	648.87	646.38	645.05	642.91
18	654.06	650.35	648.77	646.39	645.02	642.85
19	654.11	650.42	648.77	646.23	644.88	642.87
20	654.02	650.32	648.77	646.13	644.65	642.89
21	653.92	650.36	648.57	646.07	644.66	642.73
22	653.86	650.37	648.57	645.97	644.67	642.58
23	653.70	650.37	648.44	645.81	644.35	642.42
24	653.61	650.15	648.28	645.81	644.08	642.45
25	653.67	649.92	648.15	645.97	643.74	642.66
26	653.69	649.86	648.15	646.04	643.59	642.76
27	653.55	649.75	648.16	646.02	643.52	642.85
28	653.47	649.70	648.10	645.95	643.59	642.82
29	653.43	649.71	647.96	645.93	643.63	642.80
30	653.39	649.72	647.83	645.84	643.63	642.71
31	653.39	649.55		645.87		642.25

APPENDIX B

WATER CHEMISTRY DATA

APPENDIX LIST

<u>APPENDIX</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
B-1 to B-24	Profiled Water Quality Parameters	14
B-25 to B-33	August Diel Water Quality Data	63
B-34 to B-59	Depth Composited Water Quality Samples	78

KEY

Appendices B-1 through B-59

L*	Light intensity relative to surface value; measured by submersible photometer
surface*	Light intensity measured at water surface
1*	Field duplicates, analyzed separately
2*	
()	Laboratory duplicates, analyzed separately
3*	Values suspect due to problems with dissolved oxygen meter
—	Underlined values are laboratory duplicates of value immediately above or below
- -	Blanks indicate no data collected at these depths
-*-	Bad weather prevented sample collection
*C	Contaminated sample
NG	Station located below dam and samples collected when power is not being generated
G	Station located below dam and samples collected when power is being generated
5*	Due to extreme shallowness of station, A* and B* represent surface and bottom values, respectively
A*	Values recorded above the thermocline
B*	Values recorded below the thermocline

APPENDIX B-1

Station # 1

Date: 2-12-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	L*	surface*	1*	2*	1*	2*
0.3	1500	2450	7.1	7.2	11.4	11.5
	950					
2	520		7.1	7.0	11.4	11.4
	280					
4	160		7.0	6.9	11.4	11.4
	81					
6	45		7.0	6.9	11.4	11.5
	27					
8	16.5		7.0	6.9	11.6	11.5
	9.5					
10			7.0	6.9	11.7	11.6
12			7.0	6.9	11.8	11.8
14			7.0	6.9	11.9	11.9
16			7.0	6.9	12.0	12.0
18			6.9	6.9	12.0	12.0
20	0.0		6.9	6.9	12.1	12.1
22			6.9	6.9	12.1	12.2
24			6.9	6.9	12.1	12.1
26			6.9	6.9	12.1	12.0
28			6.9	6.9	12.0	11.9
30			6.9	6.9	11.9	11.8
32			6.9	6.9	11.8	11.7
34			6.9	6.9	11.5	11.6
36			6.9	6.8	11.3	11.5
38			6.9	6.8	10.9	11.4
40	*See key page 13		6.9	6.9	10.5	11.2
42			6.9		9.9	
44			6.9	6.9	9.6	10.7
46			6.8		9.6	
			6.8		8.8	
48			6.8	6.9	8.8	10.7
----- LAKE BOTTOM -----						

APPENDIX B-1

Station # 1

Date: 2-12-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mHos/cm)	
	<u>1</u> *	<u>2</u> *	<u>1</u> *	<u>2</u> *	<u>1</u> *	<u>2</u> *
0.3	6.4	6.4	158	162	36.0	28.5
2	6.5	6.6	158	160	28.5	43.0
4	6.5	6.6	158	160	48.0	30.0
6	6.5	6.5	158	160	29.0	30.0
8	6.5	6.5	162	160	29.0	30.0
10	6.5	6.5	158	160	29.0	30.0
12						
14						
16						
18						
20	6.4	6.5	158	162	29.0	30.0
22						
24						
26						
28						
30	6.4	6.5	158	160	29.0	30.0
32						
34						
36						
38						
40	6.4	6.5	158	160	29.0	30.0
42						
44	*See key page 13					
46						
48	6.4	6.5	158	160	29.0	30.0

----- LAKE BOTTOM -----

APPENDIX B-2

Station # 2

Date: 2-8-81

<u>Depth (m)</u>	<u>Light (%)</u>		<u>Temp. (°C)</u>		<u>D.O. (mg/l)</u>	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	940	2150	7.2		13.1	
	470					
2	240		7.2		12.9	
	130					
4	81		7.2		12.8	
	49					
6	33		7.2		12.8	
	23					
8	17		7.2		12.8	
	12.5					
10	9.3		7.2		12.8	
12			7.2		12.8	
14			7.2		12.8	
16			7.2		12.8	
18			7.2		12.8	
20			7.2		12.8	
22			7.2		12.8	
24			7.1		12.8	
26			7.1		12.8	
28			7.1		12.8	
30			7.0		12.7	
32			7.0		12.7	
34			6.9		12.7	
36			6.9		12.7	
38			6.8		12.6	
			----- LAKF BOTTOM -----			

*See key page 13

APPENDIX B-2

Station # 2

Date: 2-8-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mHos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.8	6.7	165	170	50.2	30.0
2	6.8	6.7	165	170	30.0	29.5
4	6.8	6.7	167	170	30.0	29.0
6	6.8	6.7	170	170	30.0	29.5
8	6.7	6.7	170	170	30.0	29.5
10	6.7	6.8	170	170	30.0	42.0
12						
14						
16	6.8	6.8	168	170	39.0	29.0
18						
20						
22	6.8	6.7	170	175	30.0	29.0
24						
26						
28	6.7	6.7	172	170	29.5	29.0
30						
32						
34						
36	6.7	6.7	172	170	30.0	29.0
	----- LAKE BOTTOM -----					

*See key page 13

APPENDIX B-3

Station # 3

Date: 2-6-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	1150	2150	6.6	6.8	12.2	12.2
	510		6.6	6.8	12.4	12.0
2	200		6.8	6.8	12.6	11.6
	110		6.8	6.8	12.6	11.2
4	56		6.8	6.9	12.6	11.0
	29		6.8	6.9	12.4	11.0
6	16		6.8	6.9	12.4	11.0
	8.8		6.7	6.9	12.4	11.0
8			6.7	6.9	12.3	11.0
			6.8	6.9	12.0	10.6
10			6.7	6.9	11.6	9.9
			6.8	6.9	11.1	9.2
12			6.8	6.9	8.3	8.5
			6.6	7.0		8.0
14				6.9	M	7.5
			M	6.9	E	6.6
16			E	6.9	T	6.0
			T	6.9	E	5.5
18	0.0		E	6.9	R	5.1
			R	6.8		5.0
20				6.9	P	4.4
			P	6.8	R	3.5
22			R	6.8	O	3.1
			O	6.7	B	2.8
24			B	6.8	L	2.5
			L	6.6	E	2.4
26			E	6.5	M	2.3
			M	6.6	S	2.2
28			S	6.6		2.1
				6.6		2.1
30				6.6		2.1
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-3

Station # 3

Date: 2-6-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mHos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.6	6.8	162	160	31.0	42.0
2	6.7	6.7	158	160	30.0	31.0
4	6.8	6.7	152	160	29.5	30.0
6	6.7	6.7	151	160	30.0	30.0
8	6.7	6.7	150	160	30.0	30.5
10	6.7	6.7	150	159	30.0	30.9
12						
14						
16	6.7	6.7	152	160	30.5	30.0
18						
20	6.7	6.7	152	160	30.9	30.5
22						
24						
26	6.7	6.8	152	163	41.0	31.0
28						
30	6.7	6.8	152	160	55.0	49.0
	----- LAKE BOTTOM -----					

*See key page 13

APPENDIX B-4

Station # 4

Date: 2-7-81

<u>Depth (m)</u>	<u>Light (%)</u>		<u>Temp. (°C)</u>		<u>D.O. (mg/l)</u>	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	38	58	6.3	6.3	13.7	13.8
	19.4		6.3	6.3	13.7	13.8
2	10.5		6.3	6.3	13.7	13.8
	6.2					
4	3.85					
	2.65					
6	2.15		6.3	6.2	13.6	13.7
	1.3					
8	0.85					
	0.50					
10	0.38		6.2	6.2	13.4	13.5
12						
14						
	0.0					
16			6.1	6.0	13.4	13.4
			----- LAKE BOTTOM -----			

*See key page 13

APPENDIX B-4

Station # 4

Date: 2-7-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.8	6.3	172	185	48.0	35.7
2	6.8	6.7	170	185	34.0	32.0
4	6.8	6.7	170	180	34.0	32.5
6	6.7	6.7		180	34.5	33.0
8	6.7	6.6	170	180	33.0	33.5
10	6.7	6.6	172	180	34.0	32.0
12	6.6	6.6	170	182	33.5	33.5
14	6.6	6.6	170	180	33.0	32.8
16	6.6	5.5	175	180	32.5	32.8
17.5	6.6	6.6	172	178	34.0	50.5
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-5

Station # 5

Date: 2-7-81

<u>Depth (m)</u>	<u>Light (%)</u>		<u>Temp. (°C)</u>		<u>D.O. (mg/l)</u>	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	130	178	6.5	6.6	14.5	14.5
	57		6.5	6.5	14.4	14.5
2	27		6.5	6.4	14.2	14.3
	14		6.4	6.3	14.2	14.2
4	7.8		6.3	6.3	14.2	14.2
	4.5		6.2	6.2	14.2	14.2
6	2.65		6.2	6.2	14.2	14.1
	1.5		6.1	6.2	14.0	14.1
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-5

Station # 5

Date: 2-7-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mHos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.5	6.6	145	145	30.0	40.0
2	6.5	6.6	145	155	31.5	31.0
4	6.4	6.4	142	150	30.0	30.0
6	6.4	6.4	145	150	30.0	30.0
	6.4	6.4	142	148	139.4	30.0
8	----- LAKE BOTTOM -----					

*See key page 13

APPENDIX B-6

Station # 6

Date: 2-8-81

<u>Depth (m)</u>	<u>Light (%)</u>		<u>Temp. (°C)</u>		<u>D.O. (mg/l)</u>	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	2150	2700	7.2	7.2	12.9	12.9
	1150		7.1		12.9	
2	640		7.0	7.2	12.9	12.9
	345		7.0		12.9	
4	193		7.0	7.1	12.9	12.9
	110					
6	72		7.1	7.1	12.8	12.9
	42					
8	34		7.0	7.0	12.9	12.9
	24					
10			7.0	7.0	12.8	12.9
12			6.9	7.0	12.8	12.9
14			6.9	7.0	12.8	12.8
16			6.9	6.9	12.7	12.8
18			6.9	6.9	12.7	12.7
20			6.9	6.9	12.7	12.7
22			6.9	6.9	12.7	12.8
24			6.8	6.8	12.8	12.8
26			6.7	6.8	12.8	12.8
28			6.7	6.8	12.8	12.9
30			6.5	6.5	12.9	13.0
			6.4	6.3	13.0	13.0
32			6.3	6.3	12.9	12.9
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-6

Station # 6

Date: 2-8-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.8	6.8	170	162	58.0	60.5
2	6.8	6.8	170	168	30.0	31.0
4	6.8	6.8	172	170	28.5	28.0
6	6.8	6.8	170	170	28.5	28.0
8	6.8	6.8	172	170	28.5	28.5
10	6.8	6.8	172	170	28.5	28.5
12						
14	6.8	6.8	170	170	28.5	27.0
16						
18						
20	6.8	6.8	172	170	28.0	28.0
22						
24	6.8	6.8	170	170	28.0	28.0
26						
28						
30	6.8	6.8	170	170	28.0	27.5
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-7

Station # 7

Date: 2-5-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	67	100	5.5		10.8	
	30					
2	10		5.5		11.0	
	1					
4			5.5		11.6	
6			5.3		12.7	
8			5.2		11.8	
10			5.2		11.7	
11.5			5.2		11.4	
12						
			5.0		11.4	
14						
14.5			5.0		11.2	
15			5.0		10.9	
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-7

Station # 7

Date: 2-5-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ Mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.6	6.8	165	180	42.8	28.0
2	6.5	6.7	165	178	31.3	35.0
4	6.5	6.6	165	162	23.0	26.0
6	6.4	6.5	158	180	23.7	33.0
8	6.3	6.5	160	172	24.2	28.0
10	6.7	6.4	175	172	25.9	30.0
11.5	6.7	6.4	175	172	24.2	24.8
12	6.7	6.4	170	170	24.1	24.5
14						
14.5	6.7	6.4	168	172	24.2	24.5
15	6.7	6.4	165	163	24.0	172.0
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-8

Station # 8

Date: 2-5-81

<u>Depth (m)</u>	<u>Light (%)</u>		<u>Temp. (°C)</u>		<u>D.O. (mg/l)</u>	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	220	480	5.8	5.8	14.2	14.0
	67		5.8	5.8	14.4	14.0
2	22		5.8	5.8	14.3	14.0
	7.8		5.8	5.8	14.0	13.9
4	3		5.8	5.8	14.0	13.9
	2.2		5.8	5.8	14.0	13.8
6			5.8	5.8	13.9	13.9
			5.8	5.8	13.8	13.9
8			5.8	5.8	13.8	13.9
	0.0		5.8	5.8	13.8	13.9
10	----- LAKE BOTTOM -----					

*See key page 13

APPENDIX B-8

Station # 8

Date: 2-5-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mHos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.5	6.6	172	172	41.0	38.5
2	6.6	6.6	172	175	37.5	38.5
4	6.6	6.6	172	175	37.5	38.5
6	6.6	6.6	172	175	37.5	38.5
8	6.6	6.6	172	175	38.5	38.5
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-9

Station # 1

Date: 6-6-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	420	630	24.0	24.0	8.9	8.6
	285		24.0		8.9	
2	195		24.0		8.9	
	145		23.8		8.8	
4	113		23.5		8.4	
	84		21.7	21.9	8.8	9.0
6	59		21.0		8.5	
	43		20.5		8.2	
8	31		19.9		8.0	
	22.5		18.8		7.8	
10	15.5		18.0	17.8	7.7	
	11.0		17.5		7.3	
12	7.9		15.3		7.2	
	6.3		13.5		7.1	
14			12.3		7.0	
			11.2	11.0	6.9	8.3
16			10.7	10.6	6.9	8.3
			10.2	10.2	6.8	8.3
18			9.7	10.0	6.8	8.1
			9.3	9.5	6.8	8.2
20	1.3		9.0	9.2	6.8	8.4
22						
24			8.7	8.8	6.8	8.7
26						
28						
30			8.2	8.2	6.8	8.4
32						
34						
36						
38						
40			7.2	7.2	6.6	6.8
42	*See key page 13					
44						
			6.8	6.9	6.4	6.6
46						
48						

----- LAKE BOTTOM -----

APPENDIX B-9

Station # 1

Date: 6-6-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.5	6.6	215	205	45.5	28.0
2	6.6	6.6	201	209	53.0	29.0
4	6.5	6.7	200	207	48.0	29.0
6	6.6	6.6	200	219	46.6	29.0
8	6.6	6.6	201	215	51.5	29.0
10	6.4	6.5	201	215	57.0	29.0
12						
14						
16						
18						
20	6.0	6.1	201	219	45.0	30.0
22						
24						
26						
28						
30	5.9	6.0	202	220	46.0	30.5
32						
34						
36						
38						
40	5.8	5.9	211	219	47.0	30.5
42						
44	*See key page 13					
46						
48	5.8	5.9	213	215	49.5	31.5
	----- LAKE BOTTOM -----					

APPENDIX B-10

Station # 2

Date: 6-6-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	2000	2500	25.0	25.5	7.8	8.1
	1100		25.5	25.5	8.0	8.1
2	840		25.0	25.0	8.2	8.2
	670		24.8	24.8	8.2	8.3
4	480		24.5	24.8	8.2	8.3
	330		24.3	24.5	8.3	8.3
6	245		24.2	24.0	8.2	8.2
	145		22.9	22.9	8.1	8.0
8	115		21.3	21.8	8.1	8.1
	84		19.1	19.2	7.6	7.7
10	41		18.3	18.3	7.7	7.9
	36		17.5	17.2	7.2	7.0
12	25		16.3	16.4	7.6	7.6
			15.2	15.2	6.8	6.9
14			13.8	13.2	6.6	6.5
			12.0	11.9	5.4	5.3
16			11.0	11.0	5.4	5.4
			10.2	10.2	5.7	5.8
18			9.8	9.8	5.9	6.0
			9.3	9.3	6.2	6.2
20	4		9.1	9.0	6.2	6.3
22						
24			8.3	8.2	7.0	7.2
26						
28						
30			8.0	8.0	7.2	7.2
32						
34			7.8		7.2	
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-10

Station # 2

Date: 6-6-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.3	6.3	230	230	35.0	33.3
2	6.5	6.3	230	229	33.0	34.0
4	6.3	6.2	230	226	35.0	34.0
6	6.3	6.3	227	225	33.0	33.5
8	6.1	6.1	230	229	36.0	37.3
10	6.3	6.0	228	230	36.0	37.0
12						
14						
16	5.8	5.9	230	230	36.0	34.0
18						
20	5.8	5.9	229	229	36.0	34.5
22						
24						
26	5.9	6.4	222	225	35.5	36.0
28						
30	6.0	6.2	220	220	33.0	34.0
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-11

Station # 3

Date: 6-7-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	1400	1550	27.0	26.9	8.1	8.1
	1100		26.8		8.1	
2	560		26.7		8.1	
	380		26.1		8.1	
4	190		26.0		8.1	
	130		25.8	25.8	8.1	8.0
6	90		25.1	25.2	8.0	7.9
	57		25.0	24.9	7.9	7.8
8	39		24.2	24.2	7.5	7.4
	23.5		20.8	20.8	5.2	4.9
10	15.5		18.8	18.2	3.9	3.6
			17.0	17.0	2.0	2.1
12			15.3	15.2	1.4	1.1
			14.2	14.5	0.8	0.9
14			13.2	12.8	0.6	0.7
			11.9	11.8	0.9	1.1
16						
18			9.9		3.1	
	0.1					
20			9.3	9.2	3.8	4.0
22						
24						
			8.7	8.5	5.6	5.8
26						
28			8.2		6.0	
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-11

Station # 3

Date: 6-7-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (µmhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.3	6.2	229	230	39.0	36.0
2	6.2	6.2	228	227	35.0	36.5
4	6.4	6.2	225	222	35.0	36.0
6	6.2	6.4	225	220	38.0	39.0
8	6.1	6.2	225	229	37.0	38.0
10	6.2	6.0	225	229	40.0	37.5
12						
14						
16	6.1	6.2	221	225	43.0	45.0
18						
20	6.0	5.8	222	229	41.0	38.5
22						
24						
26	5.9	5.9	221	223	37.0	40.0
28	5.8	6.5	220	215	37.5	47.0
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-12

Station # 4

Date: 6-7-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	2050	(2550)	28.8	28.9	8.2	8.1
	1250		28.8	28.8	8.2	8.1
2	695		28.7		8.1	
	415		27.5		8.5	
4	245		26.9		8.6	
	145		26.0	26.0	8.2	7.9
6	88		24.8		6.5	
	51		22.8		4.7	
8	30		20.8		3.6	
	20.5		19.3		2.8	
10			18.2	18.1	2.1	2.0
			17.3	17.3	1.7	1.5
12			16.5	16.3	1.3	1.1
			15.2	14.9	.8	.6
14			14.0	13.8	.6	.4
			12.5	12.5	.6	.6
16			11.3	11.2	1.1	1.3
			10.8	10.8	1.8	2.0
18			10.1	10.0	2.4	2.6
	0.0		9.8	9.8	2.8	3.0
20			9.5	9.4	3.1	3.2
22			9.0	9.0	3.7	3.7
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-12

Station # 4

Date: 6-7-81

<u>Depth (m)</u>	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.5	6.5	215	240	36.0	37.0
2	6.3	6.5	211	235	35.0	40.0
4	6.4	6.5	210	241	36.0	34.0
6	6.0	6.0	215	243	38.0	36.0
8	5.8	5.9	220	248	37.5	39.0
10	5.9	5.8	215	248	39.0	41.0
12	5.7	5.9	220	247	42.0	41.0
14	5.9	5.8	218	245	41.0	41.0
16						
18	5.8	5.7	210	240	38.5	40.0
20	5.9	5.7	195	238	37.0	37.0
22	6.2	5.7	198	231	38.0	38.0
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-13

Station # 5

Date: 6-6-81

	Light (%)		Temp. (°C)		D.O. (mg/l)	
<u>Depth (m)</u>	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	480	620	30.0	30.0	8.1	7.8
	330		29.8	29.8	8.0	7.9
2	184		28.8	28.7	8.1	8.0
	107		28.2	28.0	8.0	7.8
4	62		26.8	26.7	7.6	7.2
	31		25.2	25.3	5.6	5.4
6	16.5		24.0	24.3	4.9	4.8
	8.8		23.2	23.2	3.7	3.5
8	1.25		22.0	21.9	1.4	1.4
			20.2	20.1	0.4	0.3
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-13

Station # 5

Date: 6-6-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (micro/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.4	6.4	228	220	36.0	35.0
2	6.4	6.4	225	218	34.0	34.0
4	6.0	6.0	227	220	33.0	33.0
6	5.9	5.9	227	220	35.0	36.0
8	5.8	5.7	228	221	41.0	41.0
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-14

Station # 6

Date: 6-6-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	2300	(2500)	27.2		8.5	8.7
	1650		26.5		8.7	8.5
2	1000		25.5		9.0	
	680		25.2		9.0	
4	480		24.8		9.1	
	335		24.1		9.3	12.0
6	225		23.3	23.3	11.0	12.0
	155		21.2		9.6	12.0
8	115		20.7		9.0	11.5
	83		20.0	20.0	9.2	11.0
10	61		19.5	19.1	8.7	8.7
	44		18.8		8.2	
12	34		17.2		7.4	
	25		15.5	15.8	6.3	6.5
14			14.1	14.0	5.6	5.7
			12.5	12.2	4.9	5.1
16			11.8		4.7	
			11.9		4.8	
18			10.9		5.0	
	1.9		10.5		6.0	
20			10.2	10.2	6.0	7.4
22						
24			9.5	9.6	7.2	7.1
26						
28						
30			9.1	9.1	7.4	7.3
32						
			9.0		7.3	
34			----- LAKE BOTTOM -----			

*See key page 13

APPENDIX B-14

Station # 6

Date: 6-6-81

Depth (in)	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	5.9	5.9	215	217	30.0	28.0
2	5.9	6.1	211	220	28.0	29.5
4	5.9	6.0	211	220	27.5	29.5
6	5.3	6.3	210	220	30.0	29.5
8	6.2	6.1	212	221	32.0	29.5
10	6.1	5.8	213	220	32.0	34.0
12						
14						
16	5.8	5.9	215	220	31.0	31.0
18						
20						
22	5.9	6.0	215	220	28.5	30.5
24						
26						
28	5.9	5.9	214	222	29.7	30.3
30						
32						
34	5.8	5.9	218	225	33.0	30.0
	----- LAKE BOTTOM -----					

*See key page 13

APPENDIX B-15

Station # 7

Date: 6-5-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	1250	(2150)	27.4	27.4	8.8	8.3
	740		27.0	27.0	8.8	8.5
2	390		25.9	25.7	9.0	9.8
	175		25.0	22.4	9.3	8.8
4	80		24.0	24.7	9.1	8.7
	40		22.8	23.4	8.3	8.3
6	21.5		22.6	23.5	7.4	8.6
			22.8	21.4	6.6	7.8
8			21.6	21.0	6.3	6.9
			21.0	20.5	5.7	6.6
10			19.9	20.5	4.8	6.0
			19.3	20.0	3.8	5.3
12			19.0	19.3	3.3	4.2
			18.1	18.4	2.9	2.9
14			16.8	17.2	1.6	1.8
			15.4	15.9	1.0	1.3
16						
18						
20	0.0					
			----- LAKE BOTTOM -----			

*See key page 13

APPENDIX B-15

Station # 7

Date: 6-5-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.6	6.6	204	202	38.5	33.0
2	6.3	6.5	202	199	31.0	30.3
4	6.1	6.0	202	198	29.0	26.0
6	5.9	5.8	201	195	28.3	26.0
8	5.7	5.8	201	190	34.0	23.0
10	5.8	5.5	200	185	35.0	32.5
12	5.7	5.6	190	188	38.5	54.0
14	5.7	5.6	201	200	42.0	34.0
16	5.7	5.7	202	200	43.0	38.0
18	----- LAKE BOTTOM -----					

*See key page 13

APPENDIX B-16

Station # 8

Date: 6-7-81

<u>Depth (m)</u>	<u>Light (%)</u>		<u>Temp. (°C)</u>		<u>D.O. (mg/l)</u>	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	980	(1300)	28.9	28.8	8.6	8.4
	400		28.1	28.5	8.5	8.4
2	165		27.5	27.8	8.3	8.3
	85		26.8	26.8	7.6	7.4
4	43		26.5	26.3	7.1	6.8
	19.4		26.2	26.1	6.6	6.4
6	13.0		25.8	25.8	5.9	5.8
			25.2	25.2	4.8	4.5
8			24.3	24.2	2.2	1.9
			22.2	21.9	0.2	0.1
10	0.0	----- LAKE BOTTOM -----				

*See key page 13

APPENDIX B-16

Station 28

Date: 6-7-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	5.9	6.1	181	226	35.0	50.0
2	6.0	6.6	178	220	34.0	52.0
4	6.4	6.1	175	227	45.0	40.0
6	6.0	6.1	175	227	37.0	39.0
8	6.8	6.2	170	225	47.0	48.0
	5.8	5.9	178	230	47.0	49.0
10	----- LAKE BOTTOM -----					

*See key page 13

APPENDIX B-17

Station # 1

Date: 11-2-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3			18.0	17.9	8.3	8.4
			17.2		8.3	
2			17.1		8.3	
			17.0		8.3	
4			16.9		8.2	
			16.9		8.2	
6			16.9		8.1	
			16.9		8.1	
8			16.9		8.1	
			16.8		8.0	
10			16.8	16.9	8.0	8.0
			16.8		8.0	
12			16.8		8.0	
			16.8		8.0	
14			16.8		8.0	
			16.8		8.0	
16			16.8		8.0	
			16.8		8.0	
18			16.8		8.0	
			16.8		8.0	
20			16.8	16.9	8.0	7.9
22						
24						
			16.7		7.7	
26				16.7		7.8
				16.5		7.4
28				16.2		6.7
				16.0		6.0
30			15.7	15.0	1.5	0.7
			15.0		0.6	
32						
34						
36			11.8		0.1	
38						
40			9.9	9.8	0.1	0.0
42						
44						
			9.1		0.0	
46						
48						

*See key page 13

8.8

0.0

----- LAKE BOTTOM -----

Station # 1

Date: 11-2-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (µmhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.0	6.2	186	196	27.6	26.5
2	6.0	6.2	167	186	26.5	26.2
4	6.1	6.1	167	176	27.0	26.5
6	6.2	6.2	167	186	26.7	26.5
8	6.1	6.2	176	167	26.3	26.4
10	6.1	6.2	176	186	27.1	26.5
12						
14						
16						
18						
20	5.9	6.1	167	176	26.3	26.7
22						
24						
26						
28						
30	6.4	5.9	176	186	29.3	27.7
32						
34						
36						
38						
40	5.5	5.8	176	176	31.9	32.3
42						
44	*See key page 13					
46						
48	5.6	6.0	186	176	37.1	34.1
	----- LAKE BOTTOM -----					

APPENDIX B-18

Station # 2

Date: 11-3-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3			17.2	17.3	8.1	8.0
			17.2		7.9	
2			17.2		7.9	
			17.1		7.9	
4			17.1		7.9	
			17.1		7.9	
6			17.1		7.9	
			17.1		7.9	
8			17.1		7.9	
			17.1		7.9	
10			17.1	17.1	7.7	7.8
			17.1		7.7	
12			17.0		7.7	
			17.0		7.6	
14			17.0		7.6	
			17.0		7.6	
16			17.0		7.6	
			17.0		7.7	
18			17.0		7.7	
			17.0		7.7	
20			17.0	17.0	7.7	7.7
22						
24						
			16.8		7.8	
26				16.8		7.4
				16.6		7.5
28				16.5		5.1
				16.1		1.4
30			15.4	15.2	0.2	0.1
32						
34						
			12.0		0.2	
36						
38						
40			10.8		0.1	
42						
	*See key page 13					
44			9.8		0.1	
	----- LAKE BOTTOM -----					

APPENDIX B-18

Station # 2

Date: 11-3-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.5	6.3	235	199	38.5	40.7
2	6.6	6.3	194	216	39.6	40.7
4	6.4	6.6	235	199	38.5	39.6
6	6.5	6.7	205	199	38.5	38.5
8	5.9	6.3	210	226	37.4	40.7
10	6.6	6.1	221	194	37.4	38.5
12						
14						
16						
18	5.8	6.6	201	196	38.5	39.6
20						
22						
24						
26	6.0	6.1	188	182	37.4	38.5
28						
30						
32						
34	6.1	6.0	217	221	52.4	51.4
36						
38						
40						
42	*See key page 13					
44	5.8	6.1	243	213	54.6	50.3
	----- LAKE BOTTOM -----					

APPENDIX B-19

Station # 3

Date: 11-4-81

<u>Depth (m)</u>	<u>Light (%)</u>		<u>Temp. (°C)</u>		<u>D.O. (mg/l)</u>	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3			17.8	17.7	6.9	7.7
			17.5		7.0	
2			17.2		7.1	
			17.2		7.0	
4			17.1		6.9	
			17.1		6.9	
6			17.1		6.8	
			17.1		6.9	
8			17.1		7.0	
			17.1		7.1	
10			17.1	17.1	7.0	7.1
			17.0		6.9	
12			17.0		6.9	
			17.0		7.0	
14			17.0		6.8	
			17.0		7.1	
16			17.0		7.0	
			17.0		7.2	
18			17.0		7.1	
			17.0		6.2	
20			17.0	16.9	5.7	5.6
			16.9		5.7	
22			16.9		5.8	
			16.8		5.5	
24			16.6		5.8	
			16.6		5.8	
26			16.4		5.5	
			16.2		4.9	
28			16.2		4.1	
			15.8		0.5	
30			15.5	15.3	0.2	0.2
32			14.0		0.2	
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-19

Station # 3

Date: 11-4-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	5.8	5.9	249	241	41.7	40.7
2	5.9	5.9	249	184	40.7	40.7
4	5.9	5.9	249	241	41.7	41.7
6	6.0	5.9	232	241	41.7	41.7
8	5.9	6.0	232	232	42.8	41.7
10	6.0	5.8	259	241	40.7	41.7
12	6.0		249		42.8	
14		5.9		152		41.7
16	6.1		223		41.7	
18		6.0		267		41.7
20	6.1		214		42.8	
22		5.7		267		41.7
24	5.9		275		42.8	
26		5.7		184		43.9
28						
30	----- LAKE BOTTOM -----					

*See key page 13

APPENDIX B-20

Station # 4

Date: 11-4-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3			18.1	17.8	7.7	7.8
			17.5		7.9	
2			17.2		6.8	
			17.0		6.2	
4			17.0		6.3	
			17.0		6.3	
6			17.0		6.3	
			17.0		6.4	
8			17.0		6.5	
			16.9		6.5	
10			16.8	16.8	6.5	6.5
			16.8		6.6	
12			16.7		6.7	
			16.5		6.7	
14			16.4		6.6	
			16.2		6.4	
16			16.2		6.1	
			16.2		6.0	
18			16.1		5.3	
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-20

Station # 4

Date: 11-4-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (µmhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.1	6.0	174	184	40.7	40.7
2	6.0	5.9	241	259	40.7	40.7
4	5.9	5.9	241	241	40.7	40.7
6	5.9	5.8	232	241	39.6	39.6
8	5.9	5.9	223	223	39.6	39.6
10	5.9	6.0	241	241	39.6	40.7
12	6.0	5.9	223	241	39.6	39.6
14	5.7	5.9	241	249	39.6	38.5
16	5.8	5.8	223	232	40.7	40.7
18	6.0	5.9	174	249	42.8	41.7

----- LAKE BOTTOM -----

*See key page 13

APPENDIX B-21

Station # 5

Date: 11-4-81

<u>Depth (m)</u>	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3			17.5	17.6	9.9	9.8
			16.8		9.9	
2			16.2		10.0	
			16.0		9.4	
4			15.9		8.6	
			15.8		8.2	
6			----- LAKE BOTTOM -----			

*See key page 13

APPENDIX 1-21

Station # 5

Date 11-1-61

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (micro mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.6	6.7	184	184	35.5	35.5
2	6.6	6.3	184	223	34.5	34.5
4	6.2	6.4	205	205	36.4	35.1
6	6.3	6.0	194	184	35.3	35.3

ANALYST: J. H. H. H.

*See key p. 11

APPENDIX B-22

Station # 6

Date: 11-4-81

Depth (m)	Light (%)		Temp. (°C)		D.O. (mg/l)	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3			17.5	17.8	7.7	7.7
			17.2		7.6	
2			17.2		7.4	
			17.1		7.4	
4			17.1		7.2	
			17.1		7.2	
6			17.0		7.5	
			17.0		7.3	
8			17.0		7.3	
			17.0		7.2	
10			17.0	17.1	7.2	7.2
			17.0		7.2	
12			17.0		7.2	
			17.0		7.0	
14			17.0		6.9	
			17.0		6.9	
16			17.0		7.0	
			17.0		7.1	
18			17.0		7.2	
			16.9		7.3	
20			16.9	16.9	7.3	7.3
22						
24			16.8	16.8	7.3	7.3
			16.7		7.2	
26			16.6		6.5	
			16.5		7.0	
28			16.4		6.9	
			16.0		1.1	
30			15.0		0.2	
			14.8		0.2	
32						

----- LAKE BOTTOM -----

*See key page 13

APPENDIX B-22

Station # 6

Date: 11-4-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.7	6.3	196	252	38.5	39.6
2	6.5	6.7	190	190	39.6	38.5
4	6.6	6.5	206	218	38.5	39.6
6	6.5	6.6	207	224	38.5	38.5
8	6.4	6.6	190	199	39.6	39.6
10	6.4	6.6	217	199	39.6	39.6
12						
14	6.5	6.6	243	218	39.6	36.4
16						
18						
20	6.7	6.5	226	206	38.5	37.4
22						
24	6.6	6.3	235	207	38.5	38.5
26						
28						
30	5.9	6.3	199	229	64.2	61.0
32	----- LAKE BOTTOM -----					

*See key page 13

APPENDIX B-23

Station # 7

Date: 11-3-81

<u>Depth (m)</u>	<u>Light (%)</u>		<u>Temp. (°C)</u>		<u>D.O. (mg/l)</u>	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3			17.1		9.3	
			16.1		9.4	
2			15.9		9.5	
			15.6		8.3	
4			15.2		8.2	
			15.0		8.2	
6			15.0		8.1	
			14.8		7.9	
8			14.8		7.9	
			14.7		7.8	
10			14.7		7.6	
----- LAKE BOTTOM -----						

*See key page 13

APPENDIX B-23

Station # 7

Date: 11-3-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.8	6.7	258	235	38.5	35.2
2	6.8	6.6	196	229	37.4	36.4
4	6.7	6.7	218	190	35.3	36.4
6	6.5	6.6	190	196	35.3	35.5
8	6.4	6.2	201	194	35.3	35.5
10	6.4	6.6	243	206	35.3	36.4
----- LAKE BOTTOM -----						

See log page 13

APPENDIX B-24

Station # 8

Date: 11-4-81

<u>Depth (m)</u>	<u>Light (%)</u>		<u>Temp. (°C)</u>		<u>D.O. (mg/l)</u>	
	<u>L</u>	<u>surface</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3			16.5		8.9	
			16.5		8.9	
2			16.2		8.8	
			15.9		9.0	
4			15.3		8.8	
			14.8		8.3	
6			14.7		7.6	
			----- LAKE BOTTOM -----			

*See key page 13

APPENDIX B-24

Station # 8

Date: 11-4-81

Depth (m)	pH (std. units)		ORP (millivolts)		Conductivity (μ mhos/cm)	
	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
0.3	6.3	6.8	223	184	41.7	42.8
2	6.9	6.7	205	205	43.9	42.8
4	6.3	6.6	232	205	43.9	43.9
	6.5	6.4	205	223	43.9	43.9
6	----- LAKE BOTTOM -----					

*See page 13

APPENDIX B-25

August Diel Study
8-6/7-81

Station 1

	1015		1230		1510		1815		2100		0045		0345		0652	
DEPTH	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP
SS	7.65	26.9	7.60	26.9	7.78	26.9	7.88	26.9	7.88	26.9	7.75	26.5	7.55	26.8	7.40	26.1
1	7.67	26.9	7.65	26.9	7.75	26.9	7.85	26.9	7.85	26.9	7.69	26.1	7.59	26.7	7.40	26.1
2	7.70	26.9	7.55	26.9	7.75	26.9	7.82	26.9	7.82	26.9	7.75	26.1	7.60	26.5	7.40	26.1
3	7.70	26.9	7.58	26.9	7.74	26.9	7.82	26.9	7.82	26.9	7.60	26.1	7.62	26.2	7.40	26.1
4	7.69	26.8	7.33	26.9	7.72	26.8	7.82	26.8	7.82	26.8	7.65	26.1	7.62	26.2	7.45	26.1
5	7.69	26.7	7.58	26.8	7.70	26.6	7.85	26.5	7.85	26.5	7.60	26.1	7.59	26.3	7.45	26.0
6	7.62	26.4	7.51	26.5	7.67	26.4	7.80	26.3	7.80	26.3	7.65	26.1	7.60	26.2	7.35	26.0
7	7.56	25.5	7.48	26.3	7.60	26.1	7.70	26.2	7.70	26.2	7.22	25.0	7.59	26.2	7.40	25.8
8	7.31	25.3	7.51	25.5	7.61	26.0	7.42	25.5	7.42	25.5	7.22	25.0	7.59	25.8	7.35	25.8
9	6.97	24.8	6.95	25.3	7.24	25.1	7.35	25.2	7.15	25.2	6.95	24.9	7.20	25.2	6.95	25.0
10	6.72	24.6	6.65	24.8	6.92	24.8	7.01	25.0	7.01	25.0	6.62	24.7	6.40	24.8	6.45	24.8
11	6.65	22.9	6.00	23.8	6.38	24.3	6.51	24.4	6.51	24.4	5.60	23.1	5.35	22.9	5.25	22.9
12	5.72	20.9	5.15	22.1	5.40	22.9	5.30	22.0	5.30	22.0	4.68	19.8	4.82	20.3	4.85	21.0
13	5.30	19.3	4.52	19.6	4.79	20.3	5.01	20.4	5.00	20.4	4.75	19.0	4.50	19.5	4.75	19.3
14	4.45	18.2	4.98	18.6	5.05	18.8	4.73	18.9	4.70	18.9	4.39	17.9	4.40	18.1	4.45	18.3
15	5.20	17.5	4.65	17.6	5.14	17.8	4.35	17.8	4.36	17.8	5.00	17.0	4.80	17.1	4.30	17.5
16	4.97	16.3	4.86	16.9	5.10	17.0	5.10	17.0	4.40	17.0	-	-	-	-	4.60	16.5
17	4.75	15.5	4.80	15.8	4.86	16.1	3.95	16.1	4.10	16.1	-	-	-	-	3.75	15.2
18	3.91	14.0	4.67	14.8	4.70	15.3	4.15	15.2	3.30	15.2	-	-	-	-	4.25	14.1
19	4.14	13.4	4.43	14.3	2.63	14.4	3.65	14.7	3.65	14.7	-	-	-	-	4.15	13.5
20	3.44	13.1	3.25	13.3	4.10	13.3	4.45	13.5	3.85	13.0	3.50	13.0	3.50	13.1	3.95	12.8
21	4.30	12.0	-	-	-	-	-	-	3.80	12.8	-	-	-	-	-	-
22	4.40	11.5	-	-	-	-	-	-	3.60	12.1	-	-	-	-	-	-
23	4.45	11.0	-	-	-	-	-	-	3.55	11.5	-	-	-	-	-	-
24	4.66	10.5	-	-	-	-	-	-	4.30	10.3	-	-	-	-	-	-
25	4.65	10.2	4.63	10.3	4.49	10.1	4.56	10.5	4.32	10.3	4.70	10.2	4.25	11.1	4.35	10.1
30	5.41	9.1	5.85	9.3	5.23	9.2	5.30	8.9	5.20	8.8	5.15	9.1	5.08	9.7	5.15	9.0
35	5.60	8.4	5.60	8.6	5.61	8.7	5.32	8.7	5.45	8.7	5.49	8.4	5.32	8.8	5.40	8.5
40	5.30	8.1	5.40	8.1	5.65	8.5	5.25	8.3	5.45	8.3	4.81	7.9	5.50	8.5	4.15	8.0
45	4.35	7.9	4.75	7.9	4.61	7.9	4.55	7.9	4.95	8.0	4.00	7.8	4.50	7.8	4.20	7.8
49	4.15	7.8	3.95	7.8	-	-	3.85	7.8	3.60	3.6	3.60	7.8	3.80	7.7	3.80	7.6

DEPTH	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND
SS	6.20	36.2	6.30	35.2	6.69	36.0	6.78	36.0	6.80	35.0	6.85	31.0	6.72	31.0	6.63	31.1
2	6.60	32.8	6.39	33.1	6.60	32.7	6.40	33.2	6.70	32.0	6.52	30.8	6.50	30.6	6.69	30.8
4	6.35	33.0	6.45	31.1	6.60	32.7	6.50	31.8	6.52	32.2	6.42	30.7	6.70	30.8	6.69	30.7
6	6.40	32.4	6.80	33.1	6.80	32.5	6.59	31.5	6.65	31.3	6.50	30.0	6.65	30.8	6.70	31.0
8	6.35	32.9	6.95	33.0	6.70	32.5	6.29	32.0	6.65	31.3	6.49	30.0	-	-	6.61	30.5
10	6.30	33.0	6.60	33.0	5.75	32.0	6.30	32.0	6.52	31.9	6.30	31.0	5.62	31.7	-	-
20	5.90	34.0	5.60	34.4	5.32	33.0	5.80	33.4	-	* -	5.50	32.0	6.62	32.0	5.60	31.9
30	6.00	34.2	5.40	34.0	5.20	32.3	5.80	34.1	-	* -	5.55	31.7	5.62	32.3	5.61	32.0
40	5.85	35.0	5.50	35.0	5.50	32.9	5.80	34.1	-	* -	5.50	32.1	6.41	32.2	6.63	33.1
48	6.05	35.7	5.60	36.1	5.70	34.6	5.55	33.8	-	* -	5.48	33.1	6.70	33.2	5.80	33.8

*Bad Weather

*See key page 13

APPENDIX B-25

(Continued)

Station 1

	pH	COND
Surface	6.40	32.0
Above Thermo (11 meters)	5.90	32.0
Below Thermo (15 meters)	5.60	32.0
Bottom (44 meters)	5.50	34.0

	1015	1230	1510	1815	2100	0045	0345	0652	Surf	Above Therm	Below Therm	Bottom
Residue Non Filt.	1.0	<1.0	<1.0	<1.0	1.0	2.0	<1.0	<1.0	1.0	<1.0	3.0	4.5
Residue Filt.	22.5	22.0	14.5	23.0	28.5	20.5	17.5	32.5	36.0	30.5	16.0	34.5
Nitrate/Nitrite	0.10	0.09	0.08	0.07	<0.01	0.08	0.10	0.08	<0.01	<0.01	0.08	0.28
Ammonia	0.060	0.05	0.07	0.07	0.09	0.07	0.06	0.06	0.05	0.05	0.09	0.10
TKN	0.150	0.220	0.170	*	0.250	0.50	0.420	0.210	0.190	0.410	0.540	0.250
Phos	0.01	0.02	0.01	0.02	0.023	0.023	0.023	0.025	0.027	0.050	0.027	0.045
Alkalinity (all 4.5)	4.7	4.7	4.7	4.4	4.8	4.2	4.7	4.4	4.7	4.4	4.7	5.2
Free CO ₂	6.0	6.0	6.0	5.5	2.6	6.5	5.0	5.0	1.7	4.0	9.5	11.0
TOD	2.40	1.94	2.08	2.67	3.64	2.30	2.28	2.11	2.56	2.39	2.41	1.93
	2.38											1.94
BOD	-	-	-	-	-	-	-	-	-	-	-	<1
COD	-	-	-	-	-	-	-	-	-	-	-	6.4

*Contaminated

*See key page 13

APPENDIX B-26

August Diel Study
8-7/8-81

Station 2

	0935		1224		1514		1815		2200		0015		0330		0700	
DEPTH	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP
SS	8.05	26.0	8.09	26.6	8.12	26.8	7.99	26.7	8.25	26.5	8.15	26.5	8.15	26.5	8.10	26.3
1	8.03	26.0	8.09	26.6	8.11	26.7	7.98	26.7	8.25	26.5	8.15	26.5	8.15	26.5	8.10	26.3
2	8.05	26.0	8.10	26.4	8.19	26.4	7.95	26.7	8.22	26.4	8.15	26.5	8.20	26.3	8.15	26.2
3	8.04	26.0	8.12	26.2	8.19	26.2	7.95	26.7	8.22	26.4	8.15	26.5	8.20	26.2	8.15	26.1
4	8.05	26.0	8.15	26.1	8.20	26.2	7.95	26.7	8.22	26.4	8.15	26.5	8.20	26.2	8.12	26.2
5	8.02	25.9	8.12	26.0	8.21	26.2	7.95	26.1	8.44	26.2	8.10	26.3	8.15	26.1	8.10	26.1
6	7.98	25.8	8.05	25.9	8.19	26.1	7.99	25.9	8.20	26.1	8.10	26.2	8.15	26.1	8.09	26.0
7	7.97	25.6	7.75	25.3	8.05	25.7	7.90	25.8	8.10	25.9	8.00	25.8	7.90	25.8	7.88	25.8
8	7.64	25.4	7.38	25.0	7.75	25.6	7.55	25.5	7.45	25.2	7.10	25.0	7.80	25.8	7.74	25.7
9	7.13	24.9	7.11	24.9	7.64	25.4	7.00	25.0	6.90	24.8	6.92	24.9	7.35	25.2	7.20	25.0
10	6.91	24.8	6.51	24.6	7.19	25.0	6.41	24.6	6.58	24.8	6.40	24.8	6.42	24.8	6.32	24.4
11	5.78	24.1	6.05	24.3	5.72	24.1	5.00	23.7	5.85	24.2	5.65	24.1	5.41	23.9	5.48	23.8
12	3.16	21.9	4.32	23.0	4.36	23.2	3.19	22.1	4.15	22.8	4.05	22.8	2.75	21.8	3.20	21.8
13	2.75	20.2	2.54	20.4	2.65	20.5	2.51	19.3	2.25	19.8	2.75	20.1	2.30	20.2	2.20	19.6
14	2.55	19.1	2.32	18.5	2.56	19.1	2.33	18.4	2.20	19.7	2.12	19.1	2.15	19.2	2.10	18.5
15	2.09	17.4	2.07	17.6	2.30	17.5	1.96	17.1	1.99	17.7	1.95	17.8	1.96	17.7	2.15	17.7
16	1.91	16.4	1.94	10.4	1.85	16.2	1.73	16.1	1.75	16.7	1.65	16.2	1.92	16.8	1.80	16.5
17	1.67	15.6	1.66	15.6	1.77	15.4	1.71	14.9	1.70	16.1	1.50	15.8	1.77	16.2	1.78	15.8
18	1.63	14.7	1.71	14.4	1.63	14.8	1.47	14.3	1.50	15.2	1.48	15.0	1.65	15.3	1.65	14.9
19	1.67	13.7	1.64	13.4	1.59	13.8	1.39	13.5	1.38	14.2	1.60	14.4	1.48	14.2	1.48	14.0
20	1.65	13.0	1.58	12.8	1.77	12.6	1.69	12.6	1.70	13.8	1.21	13.7	1.48	13.2	1.50	12.9
21																
22																
23																
24																
25	3.46	9.9	3.40	10.1	3.40	10.1	3.88	9.90	2.80	10.2	2.39	10.2	2.15	10.5	2.48	10.2
30	4.24	8.7	4.21	8.8	4.31	8.9	4.30	8.70	3.99	8.8	2.82	8.9	4.20	9.0	4.30	8.9
35	3.73	8.2	3.67	8.2	3.90	8.3	3.83	8.10	3.80	8.2	3.60	8.1	4.00	8.3	4.05	8.2
40	3.74	7.8	3.89	7.9	3.85	7.9	3.85	7.80	3.70	7.8	3.70	7.8	3.75	8.1	3.72	8.1

DEPTH	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND
SS	6.59	31.1	6.79	31.0	6.80	31.0	6.83	30.7	6.40	32.0	6.78	30.7	6.82	30.9	6.60	30.9
2	6.63	30.7	6.65	30.1	6.80	31.0	6.88	30.1	6.60	31.9	6.77	30.1	6.50	31.0	6.80	31.0
4	6.72	31.0	6.72	30.1	6.79	31.0	6.82	31.1	6.62	31.8	6.63	31.1	6.82	31.0	6.70	31.0
6	6.52	31.4	6.70	30.0	6.70	31.0	6.50	31.5	6.50	32.2	6.40	32.0	6.60	31.7	6.70	31.6
8	6.50	32.2	6.40	33.0	6.50	32.5	6.60	32.2	6.30	33.0	6.32	33.0	6.20	33.0	6.45	32.0
10	6.15	32.9	5.90	32.0	6.32	33.0	6.22	33.3	6.12	34.1	5.90	35.0	6.20	34.2	6.12	33.9
18	5.50	35.5	5.60	35.1	5.60	35.9	5.68	35.9	5.50	35.4	5.60	33.9	5.53	35.0	5.50	35.4
26	5.60	34.0	5.60	32.6	5.62	34.4	5.52	34.7	5.50	34.3	5.50	33.6	5.42	33.9	5.49	33.8
34	5.50	34.4	5.60	34.5	5.60	34.0	5.55	34.2	5.50	34.0	5.50	32.2	5.52	34.0	5.52	32.5
42	5.50	33.5	5.62	34.4	5.62	34.3	-	-	5.52	33.1	5.50	34.1	5.60	33.0	5.59	32.1

*See key page 13

APPENDIX B-26

(Continued)

Station 2

	pH		COND									
Surface	6.4		32.5									
Above Thermo (11 meters)	5.9		35.0									
Below Thermo (15 meters)	5.6		35.0									
Bottom (43 meters)	5.5		32.0									
	0935	1224	1514	1815	2200	0015	0330	0700	Surf	Above Therm	Below Therm	Bottom
Residue Non Filt.	<1.0	<1.0	<1.0	2.0	<1.0	1.0	<1.0	1.0	1.0	2.5	1.0	10.5
Residue Filt.	31.0	25.0	15.0	31.0	17.5	29.5	14.0	25.5	20.5	30.0	28.0	23.0
Nitrate/Nitrite	0.120	0.120	0.190	0.110	0.110	0.120	0.120	0.120	0.030	0.040	0.160	0.240
Ammonia	0.140	0.150	0.060	0.070	0.050	0.050	0.070	0.070	0.080	0.070	0.070	0.070
TICN	0.320	0.210	0.240	0.350	0.150	0.200	0.380	0.860	0.170	0.200	0.280	0.440
Phosphate Total	0.028	0.092	0.014	0.014	0.022	0.028	0.022	0.015	0.014	0.021	0.330	0.028
Alkalinity (pH 4.5)	5.2	5.2	5.1	4.4	4.2	4.2	4.2	4.6	4.6	4.2	4.2	4.2
Free CO ₂	8.5	7.0	7.0	4.5	7.0	6.8	8.5	6.0	3.6	7.5	8.5	11.0
TDC	2.96	2.26	2.08	2.02	2.15	2.17	1.96	2.19	2.04	1.90	1.86	1.71
BOD	-	-	2.00	-	-	-	-	-	2.04	-	-	<1
COD	-	-	-	-	-	-	-	-	-	-	-	9.2

*See key page 13

APPENDIX B-27

August Diel Study 7-30/31-81

Station 3 7/30/81

	0900		1208		1508		1808		2120		0015		0400		0630	
DEPTH	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP
SS	8.30	28.3	8.40	28.3	8.55	28.1	8.55	27.8	7.80	27.9	7.92	27.2	7.50	27.5	7.60	27.5
1	8.30	28.2	8.30	28.3	8.55	28.2	8.53	28.0	7.85	27.9	7.82	27.5	7.50	27.7	7.60	27.2
2	8.30	28.2	8.30	28.3	8.51	28.2	8.52	28.0	7.82	27.9	7.80	27.5	7.50	27.7	7.55	27.2
3	8.35	28.2	8.30	28.2	8.50	28.2	8.50	28.0	7.84	27.9	7.80	27.6	7.50	27.7	7.55	27.2
4	8.30	28.2	8.30	28.2	8.50	28.2	8.51	28.0	7.81	28.0	7.80	27.6	7.50	27.7	7.55	27.2
5	8.30	28.2	8.30	28.2	8.45	28.2	8.50	28.0	7.81	28.0	7.80	27.5	7.60	27.5	7.60	27.1
6	8.30	28.2	8.20	28.2	8.49	28.2	8.45	28.0	7.81	28.0	7.72	27.5	7.65	27.7	7.60	27.1
7	7.80	28.0	6.90	26.9	7.10	26.8	7.10	26.8	5.90	26.2	5.70	26.2	4.70	25.2	7.50	27.0
8	4.85	25.3	4.80	24.9	5.20	25.3	4.95	25.3	4.40	25.1	3.70	24.8	3.15	24.2	3.25	24.5
9	3.35	24.6	3.95	24.1	3.80	24.3	2.75	24.2	2.40	24.0	1.60	23.0	1.20	23.1	2.50	23.2
10	3.20	23.5	1.65	23.0	2.53	23.3	2.42	23.2	1.21	22.8	0.20	21.1	0.30	21.1	0.50	21.8
11	1.05	22.8	0.65	21.9	0.28	22.0	0.30	21.5	0.20	20.7	0.20	19.8	0.30	19.9	1.20	19.5
12	0.15	20.9	0.10	20.1	0.39	20.6	0.22	19.6	0.45	19.1	1.10	18.3	0.20	18.2	0.40	18.2
13	0.10	18.9	0.10	18.7	0.13	19.0	0.10	18.5	0.21	17.7	0.30	17.0	0.20	16.9	2.30	17.1
14	0.08	17.9	0.10	17.9	0.12	18.1	0.33	17.2	0.40	16.8	0.30	16.2	0.60	16.5	2.10	16.5
15	0.06	16.9	0.09	16.9	0.10	16.9	0.10	16.3	0.20	16.1	0.40	15.2	0.25	15.2	1.70	15.4
16	0.06	15.9	0.10	15.9	0.10	16.0	0.10	15.6	0.15	15.2	0.20	14.5	0.20	14.1	1.55	14.4
17	0.05	14.8	0.08	14.9	0.10	14.6	0.10	14.6	0.15	14.0	0.20	13.6	0.20	13.5	1.40	13.2
18	0.05	14.0	0.09	14.6	0.10	13.8	0.10	13.7	0.15	13.0	0.10	12.8	0.10	12.8	0.30	13.0
19	0.05	12.5	0.09	13.2	0.10	12.8	0.10	12.5	0.15	12.2	0.20	12.0	0.20	12.0	0.20	12.2
20	0.05	12.0	0.09	12.2	0.09	11.9	0.08	11.8	0.20	11.9	0.40	11.5	0.30	11.2	0.40	11.7
21	0.42	11.2	0.35	11.3	0.61	11.3	0.60	11.1	0.61	11.1	0.80	11.0	-	-	1.20	10.9
22	1.15	10.8	0.85	10.9	1.05	10.9	1.25	10.7	1.10	10.8	1.40	11.7	-	-	1.88	10.3
23	1.65	10.3	1.30	10.7	1.45	10.3	2.03	10.1	1.61	10.4	2.30	11.0	-	-	2.60	10.0
24	2.05	10.1	1.85	10.2	2.50	10.0	2.80	9.9	2.30	10.1	2.70	9.9	-	-	-	-
25	2.95	9.8	2.80	9.9	3.24	9.8	3.20	9.7	2.90	9.9	3.30	9.8	3.00	9.8	3.40	9.6
26	3.50	9.7	3.60	9.6	3.74	9.5	3.93	9.3	3.80	9.5	3.60	9.5	-	-	3.95	9.2
27	4.00	9.3	3.80	9.4	4.13	9.3	4.34	9.2	4.10	9.2	4.25	9.2	-	-	4.30	9.1
28	4.40	9.2	4.21	9.2	4.45	9.2	4.50	9.1	4.20	9.1	4.42	9.0	-	-	-	-
29	4.35	9.0	4.49	9.1	4.49	9.1	4.24	9.0	4.15	9.0	4.42	8.9	-	-	4.50	8.9
30	4.05	8.8	3.96	8.9	4.10	9.0	4.29	8.9	3.65	8.9	4.00	8.8	4.02	8.8	4.30	8.8

DEPTH	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND
SS	6.10	31.0	5.60	31.5	5.30	32	5.30	30.0	7.30	31.0	6.79	32.5	6.30	31.5	6.68	31.0
2	6.60	32.0	5.90	29.7	5.50	31.5	5.60	29.9	7.30	26.0	6.80	30.2	6.33	32.0	6.30	32.0
4	6.35	32.0	5.85	31.5	5.70	31.9	5.70	30.0	7.35	27.0	6.70	31.9	6.33	32.0	6.25	32.0
6	6.10	32.0	6.00	32.0	5.75	31.8	5.80	30.5	7.30	24.0	6.10	33.0	6.35	32.0	6.23	32.0
8	5.80	33.0	5.70	29.7	5.80	33.0	5.80	32.0	6.45	26.5	5.92	33.0	5.72	35.0	5.60	35.0
10	5.90	36.0	5.90	35.0	5.20	25.8	5.20	32.0	6.30	29.0	6.30	34.9	5.78	36.0	5.40	38.0
15	5.60	44.0	5.05	39.0	5.10	42.5	5.10	38.5	6.20	33.0	6.20	36.0	5.70	38.0	5.40	36.0
20	5.50	40.0	5.70	37.0	5.10	41.5	5.10	38.8	6.30	34.0	5.90	40.0	5.65	42.5	5.45	42.0
25	5.60	33.0	5.70	30.0	5.20	35.0	5.20	32.5	5.95	29.0	5.80	34.2	5.62	35.0	5.45	35.0
30	5.45	32.0	5.50	32.0	5.10	34.5	5.10	32.0	6.00	27.5	5.88	31.9	5.65	33.0	5.50	33.0

*See key page 13

APPENDIX B-27

(Continued)

Station 3

	<u>pH</u>	<u>COND</u>
Surface	7.30	34.0
Above Thermo (7 meters)	6.45	40.0
Below Thermo (11 meters)	6.30	39.0
Bottom (31 meters)	6.00	35.0

	0900	1208	1508	1808	2120	0015	0400	0630	Surf	Above Therm	Below Therm	Bottom
Residue Non Filt.	3.0	<1.0	<1.0	1.5	3.0	<1.0	<1.0	<1.0	1.0	2.5	1.0	21.0
Residue Filt.	27.5	34.0	31.5	27.0	27.0	33.0	27.5	27.0	21.0	29.0	34.0	37.5
Nitrate/Nitrite	0.06	0.06	0.06	0.07	0.10	0.07	0.10	0.09	0.03	0.03	0.05	0.25
Ammonia	0.18	0.09	0.13	0.14	0.08	0.12	0.10	0.10	0.07	0.10	0.14	0.21
TKN	0.34	0.33	0.36	0.36	0.28	0.42	0.45	0.34	0.28	0.22	0.29	0.41
Phosphate Total	0.040	0.020	0.023	0.020	0.020	0.020	0.025	0.025	0.023	0.050	0.023	0.008
Alkalinity (pH 4.5)	6.20	6.20	5.40	5.70	5.70	5.20	5.20	5.20	4.70	5.70	6.70	4.10
Free CO ₂	13.5	13.0	11.0	12.0	2.4	7.0	10.5		0.6	3.7	7.0	9.5
TOC	2.50	3.56	2.19	2.08	2.55	2.05	2.97	2.59	5.22	2.47	2.35	1.89
BOD	-	-	-	-	-	-	-	-	-	-	-	1.5
COD	-	-	-	-	-	-	-	-	-	-	-	10.4

*See key page 13

APPENDIX B-28

August Diel Study 8-4/5-81

Station 4

	0915		1215		1500		1805		2045		0221		0342		0605	
DEPTH	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP
SS	7.60	26.3	7.79	27.0	7.93	26.0	8.05	27.2	8.20	27.3	8.09	27.2	8.02	27.0	7.90	26.9
1	7.60	26.2	7.79	26.8	7.93	26.9	8.09	27.1	8.15	27.2	8.02	27.1	8.00	27.0	7.90	26.9
2	7.57	26.1	7.81	26.3	7.91	26.9	8.07	27.0	8.15	27.1	8.02	27.1	7.99	27.0	7.75	26.5
3	7.60	26.0	7.87	26.2	7.91	26.3	8.01	26.4	8.18	26.3	7.92	26.7	7.82	26.7	7.20	26.1
4	7.42	25.9	7.49	25.8	7.80	25.7	8.04	26.1	8.00	26.0	6.77	25.8	7.50	26.2	6.20	25.8
5	6.78	25.6	6.80	25.7	7.20	25.6	7.31	25.7	7.15	25.8	6.22	25.4	7.00	25.9	6.15	25.8
6	6.33	25.4	6.35	25.3	6.57	25.5	6.40	25.5	6.30	25.6	6.20	25.4	6.40	25.7	6.20	25.8
7	6.58	25.3	6.80	25.1	6.40	25.3	6.91	25.2	6.28	25.2	6.25	25.5	6.21	25.2	5.69	25.0
8	6.71	25.0	6.74	24.9	6.81	24.9	6.90	25.0	6.55	25.1	6.39	25.2	5.90	25.0	5.30	24.8
9	5.81	24.7	6.11	24.7	6.40	24.7	5.91	24.9	6.10	24.8	4.02	24.3	4.89	24.9	2.80	24.1
10	3.18	24.0	4.05	24.0	5.07	24.2	3.62	24.5	4.49	24.2	2.62	23.9	2.45	24.0	0.95	23.1
11	0.67	23.0	1.22	22.9	1.50	23.2	1.34	23.3	1.10	23.1	0.35	21.0	1.00	23.0	0.18	21.5
12	0.50	20.9	0.14	21.3	0.41	21.2	0.19	21.9	0.18	21.2	0.10	20.7	0.30	21.2	0.10	19.8
13	0.62	19.2	0.64	19.9	0.42	19.8	0.16	20.1	0.10	20.0	0.10	19.8	0.19	19.9	0.10	19.0
14	0.14	18.3	0.48	18.8	0.21	18.8	0.05	19.0	0.10	19.1	0.10	18.5	0.10	18.8	0.10	17.9
15	0.02	17.8	0.07	17.9	0.04	18.0	0.05	18.1	0.10	18.2	0.05	17.5	0.10	17.7	0.10	16.8
16	0.02	16.5	0.04	16.9	0.04	17.0	0.02	17.0	0.10	17.2	0.05	16.2	0.10	16.5	0.10	16.0
17	0.01	15.5	0.04	15.7	0.04	15.9	0.03	15.9	0.10	15.2	0.08	15.9	0.10	15.8	0.10	15.0
18	0	14.9	0.03	15.0	0.03	15.2	0.02	15.1	0.10	15.1	0.08	15.2	0.10	15.0	0.10	14.8
19	0	13.7	0.03	14.3	0.04	14.3	0.04	14.9	0.10	15.0	0.05	14.3	0.10	14.3	0.10	14.2

DEPTH	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND
SS	6.50	38.0	5.81	37.0	5.90	36.0	6.15	36.1	6.23	36.0	6.52	35.0	6.30	35.9	6.60	34.2
2	6.12	35.5	5.70	35.5	5.90	35.0	6.50	34.5	6.50	33.0	6.60	33.7	6.35	33.0	6.70	33.4
4	6.12	34.5	5.35	34.6	5.71	34.2	6.00	34.0	6.20	33.2	6.40	33.0	6.40	33.0	6.50	36.0
6	6.00	35.2	5.85	35.4	5.55	35.0	5.70	34.2	6.10	33.2	6.33	33.3	6.20	33.3	6.40	33.1
8	6.20	36.0	5.82	35.4	5.73	35.9	5.75	35.0	6.05	33.4	6.30	34.0	6.20	34.0	6.30	34.0
10	5.81	37.1	5.70	37.9	5.45	37.0	5.62	36.2	6.00	34.3	6.00	36.0	6.00	36.5	6.49	34.5
12	5.70	39.9	5.30	39.8	5.25	39.0	5.40	38.0	5.80	38.0	5.92	38.2	5.95	39.5	6.55	41.5
14	5.72	41.0	6.15	40.2	5.70	41.0	5.30	41.5	5.81	40.8	5.83	41.0	5.90	41.9	6.20	44.3
16	6.00	47.5	5.70	47.4	5.71	48.5	5.42	46.5	5.90	46.0	5.95	46.0	5.85	48.1	5.99	48.0
18	6.00	52.8	5.42	52.3	5.71	52.2	5.55	54.5	5.90	49.0	5.81	49.0	5.80	49.5	5.80	50.2

	pH	COND
Surface	6.20	35.0
Above Thermo (9 meters)	5.75	34.0
Below Thermo (12 meters)	5.40	36.0
Bottom (20 meters)	5.90	45.5

*See key page 13

APPENDIX B-28

(Continued)

Station 4

	0915	1215	1500	1805	2045	0021	0342	0605	Surf	Above Therm	Below Therm	Bottom
Residue Non Filtr.	<1.0	1.0	2.0	1.0	<1.0	1.0	2.0	<1.0	3.5	1.5	1.0	27.0
Residue Filtr.	3.5	26.0	24.0	24.5	24.0	29.5	21.0	20.0	24.0	31.5	26.0	60.5
Nitrate/Nitrite	0.030	0.030	0.030	0.025	0.010	0.025	0.025	0.010	<0.010	0.020	0.70	0.030
Ammonia	0.130	0.130	0.130	0.100	0.100	0.130	0.150	0.130	0.110	0.100	0.040	0.040 0.270
TKN	0.520	0.300	0.250	0.490	0.430	0.560	0.490	0.770	0.200	0.320	0.390	0.690
Phosphate Total	0.013	0.006	0.027	0.015	0.014	0.012	0.006	0.006	0.002	0.012	0.006	0.065
Alkalinity (pH 4.5)	6.9	6.7	6.2	6.2	6.9	6.9	6.9	7.2	6.2	6.4	6.2	12.6 12.3
Free CO ₂		14.0	12.5	13.0	6.9	8.5	11.0	6.5	7.5	11.5		25.0
TDC	2.59	7.96	1.98	2.08	4.34	2.47	2.45	2.40	2.31	2.03	1.87	3.40
BOD	-	-	-	2.08	-	-	-	-	-	-	1.89	2
COD	-	-	-	-	-	-	-	-	-	-	-	15.6

*See key page 13

APPENDIX B-29

August Diel Study 8-2/3-81

Station 5

DEPTH	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP
SS	7.89	26.7	8.15	27.3	8.11	28.8	8.33	28.9	8.40	28.8	8.10	28.0	8.02	27.2	8.0	27.1
1	7.90	26.7	8.20	27.1	8.29	28.3	8.38	28.9	8.34	28.4	8.20	27.0	8.15	27.0	7.99	27.0
2	7.89	26.4	8.15	26.7	8.38	27.0	8.45	27.4	8.49	27.1	8.20	26.5	8.15	26.2	8.09	26.8
3	7.85	26.2	8.05	26.4	8.30	26.7	8.41	26.8	8.40	26.8	8.09	26.0	7.99	25.9	7.95	26.2
4	7.58	26.1	7.98	26.2	8.25	26.4	8.02	26.2	8.00	26.1	7.70	26.5	7.58	26.6	7.60	25.8
5	7.29	25.8	7.49	26.0	7.12	26.0	7.39	25.9	7.30	25.8	7.91	25.2	6.95	25.2	7.00	25.3
6	6.71	25.5	6.61	25.7	6.55	25.6	6.50	25.5	6.60	25.5	6.25	25.1	6.30	25.1	6.45	25.1
7	6.34	25.4	5.98	25.4	5.90	25.3	6.02	25.4	5.52	25.3	5.50	24.9	5.10	25.0	5.49	24.9
8	6.11	25.4	5.12	25.3	4.55	25.1	4.82	25.2	4.70	25.2	5.05	24.9	1.8	24.4	3.9	24.8

DEPTH	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND
SS	6.00	32.2	6.31	30.3	6.10	30.5	6.41	32.0	6.35	34.2	6.22	34.0	6.40	34.5	6.40	32.9
2	6.10	30.0	6.25	29.1	6.05	29.5	6.40	29.5	6.35	30.0	6.20	30.0	6.50	30.4	6.90	31.0
4	6.20	29.5	6.00	29.5	6.10	29.8	6.10	29.0	6.00	30.5	6.00	29.4	6.10	30.0	6.30	31.0
6	6.00	30.0	5.90	29.2	5.60	30.0	5.60	29.1	5.90	29.9	6.00	29.5	6.00	29.8	6.10	30.4
8	5.30	29.3	6.00	29.9	8.50	30.0	5.70	29.0	5.75	28.9	5.05	24.9	5.75	31.3	5.90	31.2

	pH	Cond
Surface	6.40	31.5
Mid Depth (4 meters)	6.00	31.5
Bottom (8 meters)	5.80	30.5

	0918	1220	1508	1809	2100	0001	0300	0618	Surf	Mid	Bottom
Residue Non Filt.	2.0	5.5	6.0	4.0	12.0	1.0	8.5	2.0	3.0	1.0	*
Residue Filt.	23.0	23.5	24.0	30.0	34.5	26.5	22.0	28.0	23.5	20.5	24.0
Nitrate/Nitrite	0.025	0.025	0.020	0.010	0.025	0.025	0.025	0.030	0.027 0.030	0.050	0.050
Ammonia	0.110	0.120	0.100	0.110	0.100	0.110	0.110	0.120	0.060	0.110	0.120
TKN	0.330	0.300	0.310	0.310	0.550	0.540	0.520	0.500	0.060 0.320	0.350	0.280
Phosphate Total	0.025	0.025	0.035	0.038	0.035	0.010	0.035	0.038	0.026	0.060	0.550
Alkalinity (pH 4.5)	6.2	5.7	5.7	5.7	5.2 5.4	5.2	5.4	5.7	0.025 5.9	5.4	0.060 5.7
Free CO ₂	11.5	8.0	9.0	11.1	9.5	10.0	4.1	5.5	4.0	9.0	5.9
TOC	2.15	3.41	2.47	2.19	4.38	3.50	2.50	3.41	4.47	4.60	11.2
BOD	-	-	-	-	-	-	-	-	-	-	<1
COD	-	-	-	-	-	-	-	-	-	-	5.2

* Sample leaked

*See key page 13

APPENDIX B-30

August Diel Study 8-3/4-81

Station 6

	0918		1236		1529		1840		2058		0020		0305		0641	
DEPTH	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP
55	7.21	25.4	6.93	25.5	7.27	25.8	7.41	25.8	7.60	25.9	7.20	25.8	7.09	25.8	7.10	25.5
1	7.10	25.5	6.93	25.6	7.30	25.8	7.41	25.8	7.70	25.9	7.30	25.8	7.05	25.8	6.99	25.5
2	7.20	25.5	6.90	25.6	7.30	25.8	7.41	25.8	7.75	25.9	7.10	25.8	7.00	25.8	7.05	25.5
3	7.10	25.5	6.99	25.6	7.30	25.8	7.40	25.8	7.20	25.9	7.20	25.8	7.10	25.8	7.10	25.5
4	7.20	25.5	6.96	25.6	7.30	25.8	7.40	25.8	6.90	25.8	7.00	25.7	7.10	25.5	7.00	25.5
5	7.10	25.5	6.99	25.4	7.41	25.8	7.31	25.8	7.00	25.8	7.10	25.5	7.10	25.5	7.02	25.5
6	7.18	25.5	6.99	25.4	7.41	25.8	7.21	25.7	6.85	25.8	7.20	25.4	7.10	25.4	7.12	25.7
7	7.10	25.4	6.95	25.3	7.30	25.8	7.11	25.6	6.82	25.3	7.05	25.2	7.19	25.2	7.10	25.1
8	6.61	25.2	6.70	25.3	7.20	25.5	6.92	25.3	5.40	25.0	7.20	25.2	6.90	25.1	7.00	25.1
9	6.29	25.1	6.24	25.2	6.41	25.1	6.42	25.1	6.20	24.8	6.60	25.1	6.90	25.0	4.10	24.6
10	3.16	24.3	3.45	24.2	1.86	24.2	3.25	24.2	2.80	24.2	2.95	24.2	2.70	24.0	2.43	23.8
11	0.78	23.7	1.60	23.2	0.19	23.1	1.61	23.3	0.80	22.8	1.50	23.2	1.30	22.8	1.20	22.8
12	0.29	21.7	0	21.5	0	21.8	0	22.0	0	21.1	0.20	21.7	0	21.2	0	21.0
13	0	19.9	0	19.9	0	20.1	0	20.0	0	19.8	0	20.0	0	20.0	0	19.2
14	0	18.7	0	18.7	0	19.8	0	18.9	0	18.5	0	18.6	0	18.8	0	17.9
15	0	17.7	0	17.7	0	17.8	0	17.8	0	17.5	0	17.7	0	17.7	0	16.9
16	0	16.5	0	16.7	0	17.1	0	16.9	0	16.0	0	16.2	0	16.6	0	16.1
17	0	15.8	0	15.7	0	15.9	0	15.8	0	15.2	0	15.2	0	15.5	0	15.2
18	0	14.7	0	14.6	0	14.7	0	14.8	0	14.2	0	14.6	0	14.4	0	14.2
19	0	13.5	0	13.4	0	13.5	0	13.7	0	13.5	0	13.8	0	13.2	0	13.5
20	0	12.8	0	12.8	0	12.7	0	12.9	0	12.6	0	12.9	0	12.5	0	12.8
21	0	11.9	0	11.9	0	11.9	0	12.1	0	12.0	0	11.9	0	11.9	0	12.0
22	0	11.5	0	11.5	0	11.7	0	11.3	0	11.2	0	11.3	0	11.5	0	11.2
23	0	10.6	0	10.7	0	10.8	0	10.9	0	10.8	0	10.8	0	10.8	0	10.9
24	0	10.4	0	10.3	0	10.3	0	10.5	0	10.5	0	10.4	0	10.3	0	10.7
25	0	10.1	0	10.0	0	10.0	0	10.0	0	10.0	0	9.9	0	10.0	0	10.1
26	0.53	9.8	0.84	9.8	0	9.8	0	9.8	0	9.8	0	9.8	0	9.8	0	9.8
27	1.36	9.4	1.24	9.4	0	9.3	0	9.4	0	9.5	0.10	9.4	0	9.4	1.50	9.7
28	1.91	9.2	1.51	9.2	0	9.2	1.70	9.2	0	9.2	0.70	9.2	0	9.1	1.80	9.2
29	2.31	9.0	1.71	9.0	0	9.0	2.36	9.0	0.20	9.0	2.30	9.2	0	9.0	2.22	9.1
30	2.66	8.9	1.85	8.9	0	8.9	2.64	8.9	0.40	9.0	2.30	9.0	0	9.1	2.60	9.0
31	2.94	8.8	2.10	8.8	0	8.8	2.81	8.8	0.78	8.9	2.90	8.8	2.75	8.8	2.60	8.8
32	2.80	8.7	2.35	8.7	0	8.7	2.69	8.7	1.30	8.9	2.60	8.8	2.75	8.8	2.60	8.8
33	2.45	8.5	2.27	8.5	0	8.5	3.03	8.5	2.50	8.8	2.60	8.8	1.95	8.8	2.80	8.5
34	2.70	8.4	1.45	8.4	0	8.4	2.21	8.4	1.42	8.6	0.89	8.7	1.60	8.5	2.09	8.5

*See key page 13

APPENDIX B-30

(Continued)

Station 6

	0918		1236		1529		1840		2058		0020		0305		0641	
	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND
SS	6.10	30.0	5.92	29.0	6.35	30.5	6.45	30.5	6.20	31.0	6.79	32.9	6.41	31.0	6.50	32.0
2	6.23	28.0	6.00	27.5	6.55	30.5	6.35	30.0	6.33	31.5	6.75	30.5	6.35	31.0	6.45	31.0
4	6.35	28.0	6.03	27.5	6.50	30.0	6.32	30.0	6.23	31.5	6.75	30.0	6.53	31.5	6.30	30.5
6	6.40	28.0	6.05	27.5	6.50	30.5	6.60	30.5	6.00	29.0	6.81	30.5	6.45	31.5	6.15	31.2
8	6.20	27.5	5.95	28.5	6.40	30.5	6.59	30.5	6.10	31.0	6.55	30.0	6.25	31.0	6.48	30.2
10	5.65	26.0	5.95	26.8	6.50	30.0	6.35	27.0	6.00	28.5	6.60	29.0	6.35	29.0	6.35	28.8
16	5.79	31.5	5.70	31.0	6.00	33.0	6.10	33.0	6.10	33.5	6.21	33.0	6.42	30.0	6.25	30.8
22	5.77	35.0	5.35	35.5	6.00	37.5	6.00	36.0	6.25	33.0	6.00	32.5	6.30	36.0	6.15	36.0
28	5.60	30.0	5.20	30.2	6.00	32.0	5.83	30.5	5.85	28.5	6.56	31.5	6.20	29.0	6.20	30.2
34	5.83	30.0	5.32	29.0	6.02	31.5	5.83	31.5	5.60	31.8	6.20	31.0	5.90	28.5	6.30	30.2

	pH	COND
Surface	6.20	32.5
Above Thermo (9 meters)	6.60	31.5
Below Thermo (13 meters)	6.35	28.0
Bottom (34 meters)	5.60	31.5

	0918	1236	1529	1840	2058	0020	0305	0641	Surf	Above Therm	Below Therm	Bottom
Residue Non Filt.	3.0	1.5	2.5	2.0	6.0	3.5	1.0	4.0	2.5	1.5	1.5	3.5
Residue Filt.	32.0	21.0	19.0	7.5	19.5	29.0	29.0	28.0	30.0	20.5	12.5	42.0
Nitrate/Nitrite	0.060	0.070	0.070	0.060	0.050	0.050	0.050	0.050	0.010	0.010	0.010	0.210
Ammonia	0.110	0.090	0.110	0.100	0.140	0.130	0.120	0.070	0.070	0.070	0.050	0.210
TKN	0.760	0.760	0.350	0.320	1.430	0.300	0.220	0.360	0.220	0.130	0.300	0.130
Phosphate Total	0.025	0.020	0.020	0.020	0.025	0.020	0.025	0.025	0.020	0.020	0.025	0.020
Alkalinity (pH 4.5)	4.4	4.8	5.2	4.7	5.2	5.2	5.7	4.4	4.2	4.6	3.7	4.2
Free CO ₂	8.5	8.5	5.5	4.6	8.5	2.6	5.5	6.0	5.0	2.2	2.3	10.0
TOC	1.78	4.82	2.70	1.93	4.03	2.50	2.50	2.04	2.31	1.91	1.72	1.53
BOD	-	5.30	-	-	-	-	-	-	2.25	-	-	<1
COD	-	-	-	-	-	-	-	-	-	-	-	2.2

*See key page 13

APPENDIX B-31

August Diel Study 8-1/2-81

Station 7 8-1-81

DEPTH	1235	1506	1826	2050	*0105	0300	0600
DO	DO	DO	DO	DO	DO	DO	DO
TEMP	TEMP	TEMP	TEMP	TEMP	TEMP	TEMP	TEMP
38	7.27 26.3	7.27 26.3	7.31 26.3	7.31 26.1	7.00 26.0	6.80 26.0	6.50 25.8
1	7.20 26.6	7.22 26.4	7.22 26.3	7.30 26.1	7.00 26.0	6.62 26.0	6.25 25.9
2	7.09 26.7	7.15 26.4	7.22 26.3	7.25 26.1	6.80 26.0	6.50 26.0	6.10 25.9
3	7.10 26.7	7.18 26.5	7.20 26.3	7.20 26.1	7.00 26.0	6.50 26.0	6.30 25.9
4	7.10 26.7	7.09 26.5	7.20 26.3	7.22 26.3	7.18 26.2	6.95 26.0	6.58 25.9
5	7.10 26.7	7.15 26.5	7.18 26.3	7.21 26.3	7.18 26.2	6.70 26.0	6.50 26.0
6	7.08 26.7	6.91 26.5	7.15 26.3	7.20 26.3	7.10 26.2	6.80 26.0	6.60 26.0
7	7.10 26.7	6.70 26.5	7.10 26.3	6.89 26.3	7.00 26.2	6.71 26.0	6.50 26.0
8	7.01 26.8	1.94 25.3	2.37 25.8	2.28 25.7	2.20 25.6	6.20 26.0	2.80 25.5
9	1.73 25.0	1.06 24.9	1.33 24.9	1.15 24.8	1.55 25.1	0.80 24.9	0.88 24.8
10	0.12 24.3	0.13 24.2	0.15 24.1	0.25 24.0	0.20 24.0	0.00 24.0	0.00 24.8
11	0.14 23.4	0.12 23.5	0.13 23.4	0.20 23.1	0.20 23.2	0.00 23.2	0.00 23.2
12	0.13 22.7	0.13 22.4	--	0.13 22.2	0.20 22.3	0.00 22.2	0.00 22.5

Titrated DO 7.05

Meter Read 6.80

* Heavy Rain

DEPTH	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND
0	6.7	6.25	28.0	6.7	6.5	28.0	6.45	27.2	6.50	27.2	6.50	27.5
1	6.5	6.00	27.5	6.55	6.00	27.2	6.41	26.1	6.53	27.2	6.55	27.5
4	5.92	6.5	6.70	28.0	6.62	28.9	6.61	28.0	6.52	27.2	6.59	25.9
5	5.80	26.5	6.60	28.0	6.60	28.1	6.50	28.5	6.50	26.9	6.45	26.0
6	5.18	25.0	5.75	25.6	5.90	26.0	5.92	26.4	5.95	25.2	5.70	24.5
10	5.15	27.0	6.05	31.0	6.85	27.0	5.90	28.2	5.68	27.0	5.65	26.1
11	5.30	38.9	6.20	41.0	6.00	37.0	6.01	36.4	5.95	38.9	5.99	26.0

	pH	COND
So. face	6.50	30.5
Above Thermo (7 meters)	6.50	29.0
Below Thermo (9 meters)	5.92	26.0
Bottom (12 meters)	6.00	38.0

*See key page 13

APPENDIX B-31

(Continued)

Station 7

	0918	1236	1529	1840	2050	0020	0305	0641	Surf	Above Below Therm Therm Bottom		
Residue Non Filt.	7.0	3.0	3.5	1.0	10.0	1.5	3.0	6.5	1.0	2.0	6.5	60.5
Residue Filt.	26.5	20.0	22.5	28.5	21.0	29.5	29.5	22.0	25.0	30.0	22.0	39.0
Nitrate/Nitrite	0.070	0.030	0.020	0.005	0.030	0.030	0.080	0.070	0.020	0.040	0.040	0.060
Ammonia	0.100	0.070	0.070	0.050	0.100	0.080	0.070	0.120	0.060	0.060	0.070	0.070
TKN	0.500	0.440	0.370	0.400	0.840	0.500	0.370	0.810	0.870	0.500	0.220	0.820
Phosphate Total	0.050	0.040	0.020	0.025	0.032	0.025	0.032	0.065	0.020	0.020	0.020	0.180
Alkalinity (pH 4.5)	5.4	4.7	4.3	4.4	5.2	4.1	4.2	4.2	4.7	4.0	3.5	9.6
Free CO ₂	9.5	3.5	4.0	4.5	6.0	7.0	4.0	3.8	2.6	2.4	6.0	18.0
TOC	1.98	2.07	2.29	1.91	2.84	2.22	1.96	3.21	2.06	3.28	1.68	4.60
BOD	-	-	-	-	-	-	-	3.31	-	3.34	-	1
COD	-	-	-	-	-	-	-	-	-	-	-	13.2

*See key page 13

APPENDIX B-32

August Diel Study
8-5/6-81

Station 8

	0915		1210		1508		1820		2057		0017		0325		0631	
DEPTH	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP	DO	TEMP
SS	4.91	25.4	6.09	26.1	6.33	26.5	6.84	26.6	7.30	26.6	7.20	26.3	6.75	26.2	6.70	25.8
1	4.62	25.3	5.69	25.6	6.22	26.5	6.69	26.4	6.98	26.3	7.02	26.2	6.50	26.2	6.60	25.8
2	4.68	25.3	5.00	25.2	5.51	25.8	5.95	26.0	6.40	26.1	6.80	26.2	6.50	26.2	6.60	25.8
3	4.45	25.2	4.79	25.2	4.76	25.1	5.38	25.7	6.12	26.0	6.20	26.1	6.50	26.2	6.59	25.8
4	4.52	25.2	4.80	25.1	4.61	25.0	4.61	25.0	4.51	25.1	4.80	25.3	4.60	26.0	4.70	25.3
5	4.13	25.1	4.44	25.0	4.35	25.0	4.16	24.9	3.50	24.8	4.05	25.0	3.60	25.1	3.90	24.9
6	2.24	24.8	2.56	24.8	3.50	24.7	3.20	24.8	1.75	24.7	3.00	24.8	2.75	24.8	2.49	24.8
7	1.25	24.2	1.93	23.8	0.66	24.0	2.25	24.5	0.41	24.2	1.50	24.4	1.00	24.5	0.90	24.2
8	0	23.7	0.05	23.3	0.05	23.5	0.06	23.8	0.10	23.8	0.10	23.5	0	24.0	0	23.5
9	0	23.8	0.04	22.7	0.03	22.9	0.04	23.0	0.10	23.0	0.10	23.1	0	23.2	0	22.9

DEPTH	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND	pH	COND
SS	6.50	43.0	6.80	45.9	6.75	44.0	7.00	41.4	6.50	41.5	6.10	43.3	6.70	41.1	6.70	41.9
2	6.51	36.0	6.50	43.5	6.69	43.0	6.82	43.0	6.79	41.1	6.70	41.0	6.71	40.0	6.62	40.4
4	6.55	35.9	6.70	42.5	6.50	42.1	6.80	44.0	6.81	43.0	-	-	6.52	43.5	6.59	43.0
6	6.39	34.6	6.60	41.0	6.50	44.0	6.72	43.0	6.72	44.1	6.72	43.9	6.41	44.0	6.63	44.0
8	6.40	39.3	6.75	43.2	6.63	45.0	6.65	43.5	6.79	47.0	6.09	47.0	6.60	47.0	6.35	48.0

	pH	COND
Surface	6.50	40.0
Above Thermo (5 meters)	6.80	43.0
Below Thermo (7 meters)	7.20	47.0
Bottom (9 meters)	6.80	47.0

	0915	1210	1508	1820	2057	0017	0325	0631	Surf	Above Therm	Below Therm	Bottom
Residue Non Filt.	4.0	<1.0	<1.0	2.5	3.5	6.5	33.0	29.5	1.0	3.0	9.5	22.5
Residue Filt.	22.5	35.0	30.0	21.5	30.0	22.0	32.5	43.0	32.0	22.5	21.0	22.0
Nitrate/Nitrite	0.030	0.030	0.040	0.040	0.020	0.030	0.030	0.040	0.010	0.030	<0.010	0.030
Ammonia	0.100	0.100	0.130	0.080	0.180	0.130	0.200	0.130	0.090	0.110	0.140	0.290
TKN	0.330	0.780	0.810	0.560	0.580	0.610	0.620	1.050	0.410	0.430	0.420	0.790
Phosphate Total	0.015	0.011	0.028	0.008	0.011	0.015	0.070	0.050	<0.005	0.008	0.015	0.068
Alkalinity (pH 4.5)	8.6	7.4	8.6	7.4	9.1	9.1	8.6	4.4	6.4	7.4	6.4	10.6
Free CO ₂	5.0	3.4	3.8	2.3	2.7	3.6	5.0	2.1	3.4	2.2	0.8	1.1
TOC	2.27	2.50	3.50	2.16	4.21	2.39	5.27	4.25	3.58	2.11	2.46	3.05
BOD	-	-	-	-	-	-	5.30	-	3.47	-	-	1
COD	-	-	-	-	-	-	-	-	-	-	-	9.2

*See key page 13

APPENDIX B-33

8-8-81

August Sampling of River Stations

	9 MG	10 G	10 MG	11 G	11 MG	12 G	12 MG
Residue Non Filc	16.0	15.0	25.0	18.0	31.0	30.5	30.5
Residue Filc	2.0	1.0	2.5	2.0	1.5	2.0	<1.0
Nitrate/Nitrite	0.03 0.03	0.02	0.02	0.23	0.22	0.21	0.17
Ammonia	0.07	0.07	0.06	0.11	0.09	0.12	0.07
TKN	0.49	0.09 0.17	0.17	0.27	0.47	0.25	0.31
Phosphate Total	0.050	0.036	0.033	0.047	0.018	0.036	0.027 0.022 2.8
Alkalinity (pH 4.5)	3.2	2.2	2.2	4.3 3.7 9.5	3.7	4.0	-
Free CO ₂	5.0	3.6	3.5	1.93	8.0	-	1.93
TOC	3.54 3.58	1.81	2.04	1.93	1.85	1.94 1.94	1.93
BOD	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
COD	6.4	3.6	4.0	2.4	4.4	3.6	4.4
DO	8.40	7.49	7.25	8.60	7.45	8.40	9.72
pH	5.90	5.92	5.80	6.00	5.42	6.30	5.70
Cond	28.0	17.6	17.6	30.7	26.2	36.0	26.0
Temp	30.3	25.5	25.5	11.3	12.0	11.5	15.2

*See key page 13

APPENDIX B-34

Residue, Total Non-Filtrable (mg/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	2	3	3	< 1	5	3
2	1	1	< 1	4	4	4
3	6	6	3	3	5	8
4	8	1			5	4
5	2	1			5	3
6	3	2	5	3	5	106
7	9	13	8	21	7	25
8	6	13	13	8	3	4
9	< 1	1	2	1	2	3
10	1	1	2	7	1	1
11	1	1	4	2	< 1	1
12	3	1	2	1	1	1

Aug. 1981

Lake Stations			River Stations	
STATION #	<u>A*</u>	<u>B*</u>	STATION #	VALUE
1	< 1	3	9 NG*	16
2	3	1	10 G*	15
3	3	1	10 NG	25
4	2	1	11 G	18
5*	3	1	11 NG	31
6	2	2	12 G	31
7	2	7	12 NG	31
8	3	10		

*See key page 13

APPENDIX B-35

Residue, Total Filtrable (mg/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	64	79	58	54	34	20
2	34	39	38	36	22	22
3	23	36	53	47	27	33
4	24	39	22	26	19	38
5	41	40	21	22	20	38
6	41	37	69	36	23	13
7	66	90	39	36	21	14
8	84	79	47	42	38	28
9	39	44	28	18	25	23
10	15	34	38	25	25	23
11	21	23	25	23	21	18
12	27	31	27	30	37	40

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1	31	16	9 NG*	2
2	30	28	10 G*	1
3	29	34	10 NG	3
4	32	26	11 G	2
5*	24	21	11 NG	2
6	21	13	12 G	2
7	30	22	12 NG	< 1
8	23	21		

*See key page 13

APPENDIX B-36

Turbidity (JTU)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	< 5	< 5	< 5	< 5	5	10
2	< 5	< 5	< 5	< 5	10	5
3	< 5	< 5	< 5	< 5	5	10
4	< 5	< 5	< 5	< 5	10	10
5	< 5	< 5	< 5	< 5	5	5
6	< 5	< 5	< 5	< 5	20	20
7	< 5	< 5	< 5	< 5	10	20
8	5	5	< 5	< 5	5	5
9	< 5	< 5	< 5	< 5	< 5	< 5
10	< 5	< 5	< 5	< 5	< 5	5
11	5	5	< 5	< 5	< 5	< 5
12	5	5	< 5	< 5	< 5	< 5

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1			9	NG*
2			10	G*
3	NO		10	NG
4	SAMPLES		11	G
5*			11	NG
6	TAKEN		12	G
7			12	NG
8				

*See key page 13

APPENDIX B-37

Nitrite and Nitrate (mg N/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1 *</u>	<u>2 *</u>	<u>1 *</u>	<u>2 *</u>
1	.17	.17	.13	.14	.05	.05
2	.14	.17	.14	.01	.03	.03
3	.19	.17	.15	.14	.15	.10
4	.13	.15	.21	.21	.09	.09
5	.10	.13	(.05) .05	.07	(.08) .09	.23 (.21)
6	(.13) .13	.13	.13	.11	.07	.04
7	.03	.05	.02	.02	.05	.07 (.08)
8	.18	.18	.01	.05 (.05)	.05	.05 (.05)
9	.06	.08	.02	.02 (.02)	.08	.08
10	.05	.04	.02	.02 (.02)	.05	.04
11	.10	.09	(.10) .10	.10	.10	.10
12	(.46) .48	.44	.22	.22	.43	.42 (.42)

Aug. 1981

Lake Stations			River Stations	
STATION #	<u>A*</u>	<u>B*</u>	STATION #	<u>VALUE</u>
1	< .01	.08	9 NG*	.03 (.03)
2	.04	.16 (.17)	10 G*	.02
3	.03	.05	10 NG	.02
4	.02	.70	11 G	.23
5* (.03)	.03	.05	11 NG	.22
6	.01	.01	12 G	.21
7	.04	.04	12 NG	.17
8	.03	< .01		

*See key page 13

APPENDIX B-38

Ammonia (mg N/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	< .01	.10	.03	< .01	.24	.07
2	.01	< .01	.09	< .01	.10	< .01
3	.03	.04	< .01	.01	.04	.04 (.05)
4	< .01	.03	.09	.05	.08	.03
5	(.03) .03	.03	< .01	< .01	.02	< .01
6	.03	.06	< .01	< .01	< .01	.09
7	.03	.01	.05	.05 (.06)	< .01	< .01
8	< .01	.03	.09	.10	.01	< .01
9	.03	.01	< .01	< .01	< .01	.02
10	.01	.01	(.07) .05	.03	< .01	< .01
11	< .01	< .01	.05	.05	< .01	< .01
12	.03	.03	.04	.05	(.08) .07	.06

Aug. 1981

Lake Stations			River Stations	
STATION #	<u>A*</u>	<u>B*</u>	STATION #	VALUE
1	.05	.09	9 NG*	.07
2	.07	.07 (.17)	10 G*	.07 (.08)
3	.10	.14	10 NG	.06
4	.10	.04	11 G	.11
5* (.06)	.06	.11	11 NG	.09
6	.07	.05	12 G	.12
7 (.07)	.06	.07	12 NG	.07
8	.11	.14		

*See key page 13

APPENDIX B-39

TKN (mg N/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	0.03	0.38	0.29	0.65	0.41	0.24
2	0.08	0.50	(0.22) 0.25	0.25	0.31	0.33
3	*C	0.50	0.20		0.38	0.40 (0.38)
4	0.42	0.08	0.42	0.32	0.43	0.46
5	(0.42) 0.42	0.13	0.40	0.27	0.50	0.45
6	0.30	0.33	0.17	0.18	(0.37) 0.42	0.72
7	0.17	0.10		0.69	0.26	0.26
8	0.20	0.18	0.47	1.34 (1.24)	0.42	0.49
9	0.17	0.33	(0.07) 0.07	0.23 (0.25)	0.28	0.38
10	0.07	0.08	0.30	0.10	0.10	0.08
11	0.25	0.04	0.33	0.38	0.11	0.13
12	0.25	0.17	0.37		0.33	0.33

Aug. 1981

Lake Stations			River Stations	
STATION #	<u>A*</u>	<u>B*</u>	STATION #	<u>VALUE</u>
1	.41	.54	9 NG*	0.49
2	.20	.28 (.33)	10 G*	0.17
3	.22	.29	10 NG	0.17
4	.32	.39	11 G	0.27
5*	.32	.35	11 NG	0.47
6	.13	.30	12 G	0.25
7	.50	.22	12 NG	0.31
8	.43	.42		

*See key page 13

*C = contaminated

APPENDIX B-40

Phosphate Total (mg P/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	.01	.01	.02	.02	< .01	< .01 (< .01)
2	.01	.01	.02	.02	.03	< .01
3	(.01)	.01	.03	.02	.03	.03
4	.02	.02	.02	.03	.05	.03
5	.02	.02	.03	.03	.04	.04
6	(.02)	.02	(.02)	.02	< .01	.12
7	.01	< .01	.03	.03	.05	.05 (.04)
8	.03	.02	.03	.03	.05	.05 (.05)
9	.03	.02	.02	.02	.02	.02
10	.01	.01	.02	.02	.02	.02
11	.01	.01	(.04)	.04	.02	.02
12	.07	.07	.07	.08	.08	.08 (.08)

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1	.05	.03	9 NG*	.05
2	.02		10 G*	.04
3	.05	.02	10 NG	.03
4	.01	.01	11 G	.05
5* (.03)	.03	.06	11 NG	.02
6	.02	.03	12 G	.04
7	.02	.02 (.02)	12 NG	.03 (.02)
8	.01	.02		

*See key page 13

APPENDIX B-41

Orthophosphate (mg P/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	.01	.01	< .01	< .01	< .01	< .01 (.01)
2	.01	.01	.01	< .01	.03	< .01
3	(.01) .01	.01	< .01	< .01	< .01	< .01
4	.01	.01	< .01	< .01	< .01	< .01
5	.02	.01	< .01	< .01	< .01	.01
6	(.02) .02	.02	($< .01$) < .01	< .01	< .01	.01
7	< .01	< .01	.01	< .01	.03	.03
8	.02	.02	.01	.01	(.17) .17	.01 (.01)
9	(.02) .02	.02	< .01	< .01	< .01	< .01
10	.01	.01	.02	.01	< .01	< .01
11	.01	.01	.01	.01	< .01	< .01
12	(.07) .07	.07	.02	.02	.04	.04

Aug. 1981

Lake Stations			River Stations	
STATION #	<u>A*</u>	<u>B*</u>	STATION #	<u>VALUE</u>
1			9	NG*
2			10	G*
3	NO		10	NG
4			11	G
5*	SAMPLES		11	NG
6	TAKEN		12	G
7			12	NG
8				

*See key page 13

APPENDIX B-42

Alkalinity (pH 4.5) (mg/l as CaCO₃)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	6.4	6.4	6.2	5.7	9.2	8.7 (8.7)
2	8.0	7.7	3.7	3.7	10.4	10.2
3	9.3	9.0	4.4	4.9 (4.9)	9.5	9.7
4	9.0	9.3	3.7	3.7	8.7	9.2
5	(5.8) 5.8	9.0 (9.0)	4.9	4.9	7.3	6.8
6	8.3	8.6	3.7	4.0 (3.7)	9.5	28.9 (31.8)
7	8.3	7.7	4.9	4.4	7.8	7.3
8	10.9	11.2	6.9	6.9	11.4	10.7 (10.7)
9	7.7	7.7	3.7	3.5	6.8	6.6
10	7.0	7.0 (2.0)	2.0	2.2	6.1	5.1
11	7.7	7.7	4.4	4.2	10.0	9.7
12	9.0	9.0	5.2	5.4	10.4	10.0 (10.2)

Aug. 1981

Lake Stations			River Stations	
STATION #	<u>A*</u>	<u>B*</u>	STATION #	VALUE
1	4.4	4.7	9 NG*	3.2
2	4.2	4.2	10 G*	2.2
3	5.7	6.3	10 NG	2.2
4	6.4	6.2	11 G	4.3 (3.7)
5*	5.9	5.4	11 NG	3.7
6	4.6	3.7	12 G	4.0
7	4.0	3.5	12 NG	2.8
8	7.4	6.4		

*See key page 13

APPENDIX B-43

Free CO₂ (mg/l as CO₂)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	6.4	6.5	7.5	6.5	10.0	11.0
2	3.4	3.6	4.7	5.0	5.0	4.0
3	4.5	4.2	6.5	6.5	22.0	20.0
4	5.6	6.0	5.0	5.0	11.0	19.0
5	5.8	9.0	6.5	6.5	17.0	10.0
6	3.6	3.8		5.5	21.0	45.0
7	6.3	6.1	6.0	5.5	3.2	4.5
8	6.9	7.3	8.5	8.5	7.0	10.0
9	2.8	3.4	3.4	3.5	15.0	15.0
10	5.0	6.0	1.9	2.3	13.0	6.0
11	4.0	4.8	5.0	6.0	20.0	20.0
12	4.6	4.0	6.0	8.0	15.0	15.0

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1	4.9	9.5	9 NG*	5.0
2	7.5	8.5	10 G*	3.6
3	3.7	7.0	10 NG	3.5
4	11.5		11 G	9.5
5*	5.9	5.4	11 NG	8.0
6	2.2	2.3	12 G	
7	2.4	6.0	12 NG	
8	2.2	0.8		

*See key page 13

APPENDIX B-44

Color (Platinum - Cobalt units)

	Feb. 1981		Jun. 1981		Nov. 1981	
<u>STATION #</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	0	2	< 2	< 2	2	2
2	5	2	< 2	< 2	10	10
3	2	5	< 2	< 2	5	10
4	5	3	< 2	< 2	10	10
5	2	2	< 2	< 2	5	5
6	3	3	< 2	< 2	15	15
7	3	2	< 2	< 2	10	15
8	5	5	3	< 2	10	10
9	5	2	< 2	< 2	< 2	< 2
10	5	3	5	< 2	3	2
11	5	5	< 2	< 2	2	2
12	5	5	< 2	< 2	3	3

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1			9 NG*	
2			10 G*	
3			10 NG	
4	NO		11 G	NO
5*	SAMPLES		11 NG	SAMPLES
6			12 G	
7	TAKEN		12 NG	TAKEN
8				

*See key page 13

APPENDIX B-45

Total Organic Carbon (mg C/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	1.64	1.64	2.24	2.31 (2.43)*	1.59	1.54
2	1.70	1.75	2.14	1.65	3.02	2.40 (2.37)
3	1.83	1.80	2.27	2.04	2.24	2.20
4	1.71	1.72	2.01	1.93	3.05	2.34
5	1.84	1.87	2.73	2.24 (2.29)	2.32	3.15
6	1.60	1.56	1.70	1.71	1.94	1.90
7	1.55	1.53	1.93	2.04	2.11	1.86
8	2.00	2.00	2.66	3.41	2.08	2.09 (1.95)
9	1.37	1.80	1.38	1.61	0.92	1.72
10	1.36	1.27	1.89	2.25	1.99	1.67
11	1.50	1.48	1.82	1.66	1.35	2.72
12	1.85	1.85	1.91	1.80	2.29	2.39

Aug. 1981

Laxe Stations			River Stations	
STATION #	<u>A*</u>	<u>B*</u>	STATION #	<u>VALUE</u>
1	2.39	2.41	9 NG*	3.54 (3.58)
2	1.90	1.86	10 G*	1.81
3 (2.57)	2.47	2.35	10 NG	2.04
4	2.03	1.87 (1.89)	11 G	1.93
5*	4.47	4.60 (4.47)	11 NG	1.85
6	1.91	1.72	12 G	1.94 (1.94)
7 (3.34)	3.28	1.68	12 NG	1.93
8	2.11	2.46		

*See key page 13

APPENDIX B-46

Iron, Total ($\mu\text{g Fe/l}$)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	90	70	30	40	400	190
2	30	< 10	70	270 (310)	640	670
3	110	90	190	320 (310)	220	310
4	100	160	(180) 190	120	510	180
5	(310) 240	150	180	190	90	130
6	160	110	(70) 70	100	680	1,000
7	160	170	640	580	140	1,040 (1,170)
8	240	240	770	340	240	290 (310)
9	150	100	70	90	100	100
10	50	90 (90)	260	230	230	220
11	< 10	< 10	110	90	290	470
12	260	260	140	140 (130)	300	480

Aug. 1981

Lake Stations			River Stations	
STATION #	<u>A*</u>	<u>B*</u>	STATION #	<u>VALUE</u>
1			9 NG*	
2			10 G*	
3	NO		10 NG	NO
4			11 G	
5*	SAMPLES		11 NG	SAMPLES
6	TAKEN		12 G	TAKEN
7			12 NG	
8				

*See key page 13

APPENDIX B-47

Iron, II ($\mu\text{g Fe/l}$)

<u>STATION #</u>	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	< 10	< 10	< 10	< 10	< 10	< 10
2	< 10	< 10	< 10	< 10	600	600
3	< 10	< 10	< 10	< 10	20	20
4	< 10	< 10	< 10	< 10	20	20
5	< 10	< 10	< 10	< 10	20	20
6	< 10	< 10	< 10	< 10	300	700
7	< 10	< 10	< 10	< 10	50	50
8	< 10	< 10	< 10	< 10	50	40
9	< 10	< 10	< 10	< 10	20	20
10	< 10	< 10	< 10	< 10	100	100
11	< 10	< 10	< 10	< 10	100	50
12	< 10	< 10	< 10	< 10	150	150

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1			9 NG*	
2			10 G*	
3	NO		10 NG	NO
4			11 G	
5*	SAMPLES		11 NG	SAMPLES
6	TAKEN		12 G	TAKEN
7			12 NG	
8				

*See key page 13

APPENDIX B-48

Manganese, Total ($\mu\text{g Mn/l}$)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	10	10	10	10	240	170
2	10	10	10	30	280	270
3	10	10	30	40	60	70
4	20	10	60	60	40	40
5	20	20 (20)	70	70	20	30
6	10	10	20	10	270	280
7	40	50	300	270	30	100 (90)
8	30	20	240	170	30	20 (20)
9	20	20	30	30	60	70
10	20	20 (20)	20	20	20	20
11	10	10	20	30	350	350
12	30	40	10	10	70	80

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1			9 NG*	
2			10 G*	
3	NO		10 NG	NO
4			11 G	
5*	SAMPLES		11 NG	SAMPLES
6	TAKEN		12 G	TAKEN
7			12 NG	
8				

*See key page 13

APPENDIX B-49

Manganese, Dissolved ($\mu\text{g Mn/l}$)

<u>STATION #</u>	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	< 10	< 10			260	190
2	< 10	< 10			280	270
3	< 10	< 10			60	80
4	< 10	< 10			50	40
5	< 10	< 10			30	30
6	< 10	< 10			300	310
7	< 10	< 10			30	110
8	< 10	< 10			30	20
9	< 10	< 10			70	70
10	< 10	< 10			10	20
11	< 10	< 10			380	370
12	< 10	< 10			90	90

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1			9	NG*
2			10	G*
3	NO		10	NG
4			11	G
5*	SAMPLES		11	NG
6			12	G
7	TAKEN		12	NG
8				

*See key page 13

APPENDIX B-50

Sulfide, Dissolved (mg S/l)

STATION#	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	< .02	< .02			< .02	< .02
2	< .02	.08			< .02	< .02
3	.02	.02			< .02	< .02
4	< .02	.02			.08	.08
5	< .02	.02	NO		< .02	< .02
6	< .02	< .02	SAMPLES		< .02	< .02
7	< .02	.02	TAKEN		.14	.14
8	.02	< .02			< .02	< .02
9					.07	.07
10					< .02	< .02
11					< .02	.07
12					< .02	< .02

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1			9	NG*
2			10	G*
3	NO		10	NG
4			11	G
5*	SAMPLES		11	NG
6	TAKEN		12	G
7			12	NG
8				

*See key page 13

APPENDIX B-51

Sulfate, Total (mg SO₄/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	1.1	1.0			1.5	1.0 (0.8)
2	1.0	1.0			1.2	1.8
3	1.5	1.5			1.0	2.0
4	0.8	0.5			1.0	1.0
5	1.0	1.0	NO		1.5	1.8
6	1.8	1.6	SAMPLES		2.0	2.2
7	1.9	1.5			1.0	2.5 (2.2)
8	2.2	2.8	TAKEN		1.0	1.0 (1.2)
9	0.8	0.9			0.5	0.2
10	0.9	1.0			1.2	1.5
11	1.0	0.1			1.2	1.0
12	2.4	3.0			3.0	3.0

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1			9	NG*
2			10	G*
3			10	NG
4	NO		11	G
5*	SAMPLES		11	NG
6			12	G
7	TAKEN		12	NG
8				
				NO
				SAMPLES
				TAKEN

*See key page 13

APPENDIX B-52

Calcium, Total (mg Ca/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	1.61	1.26			1.25	1.14
2	2.41	4.68			1.49	1.31
3	1.41	1.58			1.23	1.14
4	1.68	1.33			2.04	1.23
5	(1.38) 1.41	1.33	NO SAMPLES TAKEN		1.03	1.07
6	1.43	1.36			1.05	1.09 (0.70)
7	0.88	1.01			2.01	1.02
8	1.66	1.53			2.53	2.84
9	1.73	1.21			1.06	1.08
10	0.78	0.71 (0.71)			0.83	0.84
11	0.81	1.53			1.37	1.32
12	1.18	1.11			1.43	1.48 (1.48)

Aug. 1981

Lake Stations			River Stations	
STATION #	<u>A*</u>	<u>B*</u>	STATION #	<u>VALUE</u>
1			9 NG*	
2			10 G*	
3	NO		10 NG	NO
4			11 G	
5*	SAMPLES		11 NG	SAMPLES
6	TAKEN		12 G	TAKEN
7			12 NG	
8				

*See key page 13

APPENDIX B-53

Magnesium, Total (mg Mg/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	0.59	0.69			1.01	0.93
2	0.90	0.88			1.11	1.05
3	0.80	0.78			0.95	0.93
4	0.74	0.87			1.08	0.96
5	(0.62) 0.74	0.71	NO		0.71	0.77
6	0.75	0.68	SAMPLES		0.90	0.92
7	0.66	0.65			0.95	0.98
8	1.25	1.05	TAKEN		1.52	1.55 (1.30)
9	0.64	0.65			0.61	0.67
10	0.46	0.48 (0.54)			0.53	0.56
11	0.64	0.73			1.05	1.05
12	0.87	0.81			1.25	1.32 (1.35)

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1			9	NG*
2			10	G*
3			10	NG
4	NO		11	G
5*	SAMPLES		11	NG
6			12	G
7	TAKEN		12	NG
8				

*See key page 13

AD-A163 557

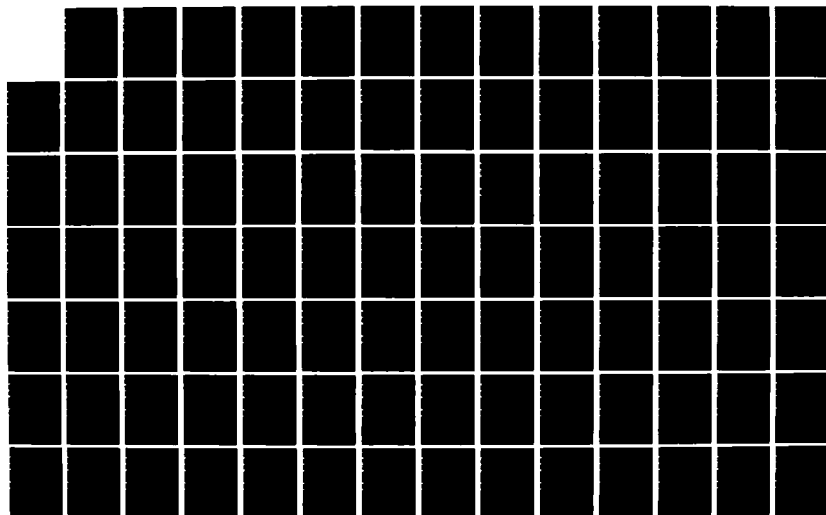
1981 HARTWELL LAKE WATER QUALITY STUDY APPENDIX(U) ARMY
ENGINEER DISTRICT SAVANNAH GA SEP 82 DACW21-81-C-0008

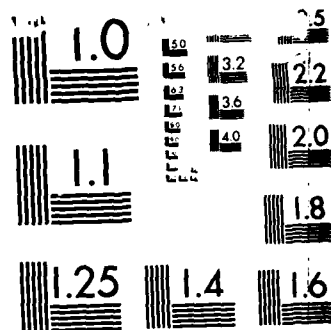
2/3

UNCLASSIFIED

F/G 8/8

NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

APPENDIX B-54

Hardness (calc.) (mg CaCO₃/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	6.5	6.0			7.3	6.7
2	9.5	15.3			8.3	7.5
3	6.8	7.0			7.0	6.7
4	7.2	6.9			9.5	7.0
5	6.2	6.2	NO SAMPLES TAKEN		5.5	5.8
6	6.7	6.2			6.3	6.5
7	4.9	5.2			8.9	6.6
8	9.2	8.1			12.6	13.5
9	6.9	5.7			5.1	5.5
10	3.9	3.8 (4.0)			4.3	4.4
11	4.7	6.4			7.7	7.6
12	6.5	6.1			8.7	9.1

Aug. 1981

Lake Stations			River Stations	
STATION #	<u>A*</u>	<u>B*</u>	STATION #	<u>VALUE</u>
1			9	NG*
2			10	G*
3			10	NG
4	NO		11	G
5*	SAMPLES		11	NG
6			12	G
7	TAKEN		12	NG
8				

*See key page 13

APPENDIX B-55

Sodium, Total (mg Na/l)

<u>STATION #</u>	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	2.19	2.20			4.97	4.71
2	4.54	4.00			5.08	6.09
3	4.97	4.74			5.89	5.61
4	4.19	4.74			5.59	5.46
5	(2.79) 4.24	3.77	NO SAMPLES TAKEN		4.44	4.67
6	3.49	3.17			4.43	4.65
7	2.39	2.37			4.61	4.44
8	3.79	3.37			5.14	5.51 (5.53)
9	2.18	2.12			2.71	2.88
10	1.32	1.42 (1.55)			2.26	2.37
11	2.07	2.14			4.99	4.60
12	4.89	3.94			10.09	11.18

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1			9 NG*	
2			10 G*	
3			10 NG	
4	NO		11 G	NO
5*	SAMPLES		11 NG	SAMPLES
6			12 G	
7	TAKEN		12 NG	TAKEN
8				

*See key page 13

APPENDIX B-56

Potassium, Total (mg K/l)

<u>STATION #</u>	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	1.04	1.00			1.98	1.74
2	1.35	1.30			1.89	1.73
3	1.29	1.24			2.08	1.78
4	1.19	1.16			1.70	1.76
5	(0.96) 1.10	1.12	NO		1.54	1.62
6	1.18	1.10	SAMPLES		1.52	1.55
7	0.85	0.79	TAKEN		1.36	1.44 (1.54)
8	1.34	1.27			1.94	1.92 (2.08)
9	0.82	0.81			1.21	1.25
10	0.63	0.62 (0.61)			1.21	1.22
11	0.98	1.09			1.61	1.48
12	1.37	1.34			2.56	2.60 (2.58)

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1			9 NG*	
2			10 G*	
3			10 NG	
4	NO		11 G	NO
5*	SAMPLES		11 NG	SAMPLES
6			12 G	
7	TAKEN		12 NG	TAKEN
8				

*See key page 13

APPENDIX B-57

Chloride (mg Cl/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	1.0	1.5			2.2	2.1
2	1.9	1.7			1.8	1.8
3	0.9	1.2			2.0	2.0
4	2.5	3.0			1.9	2.0
5	2.0	2.0	NO SAMPLES		1.9	4.1
6	(1.1) 1.0	2.0			1.4	1.5
7	0.5	0.7			1.9	1.8
8	1.3	1.4			3.4	2.2
9	0.4	0.6			1.5	0.9
10	0.1	< 0.1 (< 0.1)			0.7	0.8
11	0.6	0.9			1.9	2.5
12	2.2	2.2			8.0	8.0

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>A*</u>	<u>B*</u>	<u>STATION #</u>	<u>VALUE</u>
1			9	NG*
2			10	G*
3	NO		10	NG
4	SAMPLES		11	G
5*			11	NG
6	TAKEN		12	G
7			12	NG
8				

*See key page 13

APPENDIX B-58

BOD₅ (mg/l)
(measured at bottom)

	Feb. 1981		Jun. 1981		Nov. 1981	
<u>STATION #</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	2	2	1	1	2	3
2	< 1	< 1	2	2	2	2
3	2	3	1	1	3	4
4	1	1	1	2	< 1	< 1
5	1	1	3	2	2	2
6	2	2	1	1	3	2
7	< 1	< 1	< 1	1	< 1	2
8	2	1	2	2	2	2
9	< 1	< 1	1	1	< 1	< 1
10	< 1	< 1	1	1	1	< 1
11	< 1	< 1	1	1	< 1	1
12	1	1	2	2	1	< 1

Aug. 1981

Lake Stations			River Stations	
<u>STATION #</u>	<u>1</u>	<u>2</u>	<u>STATION #</u>	<u>VALUE</u>
1	< 1	< 1	9 NG*	< 1
2	< 1	< 1	10 G*	< 1
3	1	2	10 NG	< 1
4	2	2	11 G	< 1
5	< 1	< 1	11 NG	< 1
6	< 1	< 1	12 G	< 1
7	1	< 1	12 NG	< 1
8	1	< 1		

*See key page 13

APPENDIX B-59

COD (mg/l)

STATION #	Feb. 1981		Jun. 1981		Nov. 1981	
	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>	<u>1*</u>	<u>2*</u>
1	1.1	1.1	3.3	1.8	5.6	4.1
2	0.3	1.0	2.0	3.0	4.9	5.0
3	5.6	4.2	4.3	5.0	7.5	7.8
4	4.6	5.3	7.3	6.1	4.8	5.8
5	(6.7) 7.7	9.1	6.9	5.8	4.1	4.1
6	5.0	10.8	4.0	2.9	5.3	5.3
7	5.0	2.0	(10.4) 9.8	7.9	4.4	6.0
8	10.4	8.4	(8.6) 8.9	8.2	6.2	5.9
9	1.3	0.4	0.0	2.7	0.0	0.6
10	(0.3) 0.3	0.3	2.7	5.1	0.0	0.0
11	2.4	1.3	2.4	2.4	0.0	0.0
12	3.7	2.3	2.4	2.7	3.8	3.8

Aug. 1981

Lake Stations (Bottom)		River Stations	
<u>STATION #</u>	<u>1</u>	<u>STATION #</u>	<u>VALUE</u>
1	6.4	9 NG*	6.4
2	9.2	10 G*	4.0
3	10.4	10 NG	3.6
4	13.6	11 G	2.4
5	5.2	11 NG	4.4
6	2.2	12 G	3.6
7	13.2	12 NG	4.4
8	(9.2) 9.0		

*See key page 13

APPENDIX C

PHYTOPLANKTON AND PERIPHYTON

APPENDIX LIST

<u>APPENDIX</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
C-1	February Phytoplankton (cells/liter $\times 10^4$)	107
C-2	April Phytoplankton (cells/liter $\times 10^4$)	110
C-3	June Phytoplankton (cells/liter $\times 10^4$)	112
C-4	August Phytoplankton (cells/liter $\times 10^4$)	115
C-5	November Phytoplankton (cells/liter $\times 10^4$)	118
C-6	Percent Composition of Algal Divisions Occurring during February in Depth-Integrated Phytoplankton Samples from Eight Stations in Hartwell Lake	121
C-7	Percent Composition of Algal Divisions Occurring during April in Depth-Integrated Phytoplankton Samples from Eight Stations in Hartwell Lake	122
C-8	Percent Composition of Algal Divisions Occurring during June in Depth-Composited Phytoplankton Samples from Eight Stations in Hartwell Lake	123
C-9	Percent Compostion of Algal Divisions Occurring during July in Depth-Integrated Phytoplankton Samples from Eight Stations in Hartwell Lake	124

APPENDIX LIST (cont'd)

<u>APPENDIX</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
C-10	Percent Composition of Algal Divisions Occurring during November in Depth-Composited Phytoplankton Samples from Eight Stations in Hartwell Lake	125
C-11	February-March Periphyton (cells/mm ²)	126
C-12	June Periphyton (cells/mm ²)	128
C-13	October-November Periphyton (cells/mm ²)	130
C-14	Percent Composition of Algal Divisions Occurring during February-March in Periphyton Samples from Seven Stations in Hartwell Lake	132
C-15	Percent Composition of Algal Divisions Occurring during June in Periphyton Samples from Seven Stations in Hartwell Lake	134
C-16	Percent Composition of Algal Divisions Occurring during October-November in Periphyton Samples from Seven Stations in Hartwell Lake	135

February Phytoplankton (cells/liter $\times 10^4$)

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APPENDIX C-1

February Phytoplankton (cells/liter x10⁴)

Taxa	station/date															
	1	1A**	2	2A	3	3A	4	4A	5	5A	6	6A	7	7A	8	8A
	2/12		2/8		2/12		2/7		2/7		2/8		2/5			
CHRYSDOPHYTA																
<i>Chrysochromulina</i> sp.																
<i>Dinobryon acuminatum</i>																
<i>D. cylindricum</i>																
<i>D. pediforme</i>																
<i>D. seriularia</i>																
<i>Halimnionax caudata</i>																
<i>Ochromonas</i> sp.	7.36	1.40														
<i>Pseudotetradon neglectum</i>																
BACILLARIOPHYTA																
<i>Achnanthes microcephala</i>																
<i>A. sp.</i>																
<i>Asterionella gracillima</i>																
<i>Cyclotella stelligera</i>	1.75	1.05	2.11	1.75	5.26	0.88										
<i>Cymbella</i> sp.																
<i>Fragilaria construens</i>	0.35	1.4														
<i>F. construens</i> v. <i>pumila</i>	0.70															
<i>F. crotonensis</i>																
<i>F. sp.</i>																
<i>Frustulia viridula</i>																
<i>Gomphonema parvulum</i>	1.40		2.46	3.15	1.75											
<i>Melosira granulata</i>	2.10															
<i>M. granulata</i> v. <i>angustissima</i>	1.75	1.05	3.17	2.45	7.89	5.25										
<i>M. italica</i> v. <i>alpigena</i>	15.8	13.0	14.4	22.4	42.1	23.6										
<i>M. sp.</i>																
<i>Navicula exigua</i>																
<i>N. notha</i>																
<i>N. sp.</i>	0.35															
<i>Nitzschia acicularis</i>	8.76	9.46	12.3	11.2	16.6	14.9										
<i>N. pulca</i>	0.35	0.70														
<i>Pinnularia</i> sp.																
<i>Rhizosolenia longisetia</i>	1.40	1.40	1.76	0.70	1.75	2.62										
<i>Synedra delicatissima</i>																
<i>S. filiformis</i>																
<i>Tabellaria fenestrata</i>	9.46	9.11	9.14	4.21	18.4	7.87										

APPENDIX C-1

February Phytoplankton (cells/liter $\times 10^4$)

Taxa	station/date	1 2/12	1A 2/12	2 2/8	2A 2/8	3 2/12	3A 2/12	4 2/7	4A 2/7	5 2/7	5A 2/7	6 2/8	6A 2/8	7 2/5	7A 2/5	8 2/7
PTEROPHYTA																
Gymnodinium sp.		0.35			0.35	26.3	18.4	19.3	33.3	28.0	40.3	1.17	1.75	3.51	3.51	41.5
Peridinium aciculiferum		0.35														51.9
EUCLENOPHYTA																
Tracheinomonas superba						0.88		1.75		1.75						
PLACELLATES AND MONADS				27.1	22.1	38.6	39.4	114.0	52.5	275.0	284.0	57.2	58.4	77.1	77.1	2530
MISCELLANEOUS ZYGOTES						3.50	1.75	1.75								
TOTAL CELLS PER LITER																

* values reported are length segments of 10 um
 ** "A" designates a field duplicate

APPENDIX C-2

April Phytoplankton (cells/liter x10⁴)

Taxa	station/date		1		2		3		4		5		6		7		8	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	4/4	4/4	4/5	4/5	4/5	4/5	4/4	4/4	4/5	4/5	4/5	4/5	4/4	4/4	4/4	4/4	4/5	4/5
CYANOPHYTA																		
*Anabaena sp. 3																		
Anacystis montana																		
*Oscillatoria sp. 1																		
CHLOROPHYTA																		
Ankistrodesmus falcatus																		
A. falcatus v. acicularis																		
Chodatella quadriseta																		
Glosteriopsis longissima																		
Crucigenia quadriseta																		
Dictyoscellum chrenbergianum																		
Elakatothrix gelatinosa																		
Golenkinia radiata																		
Oocystis elliptica																		
Pediastrum tetras f. evoluta																		
*Planktonema lauebornii																		
Scenedesmus armatus																		
S. bijuga																		
S. quadricauda																		
S. sp. 1																		
S. sp. 2																		
Tetradon minimum																		
CRYPTOPHYTA																		
Cryptomonas ovata																		
C. sp. 1																		
CHRYSOPHYTA																		
Dinobryon bavaricum																		
D. cylindricum																		
D. seriularia																		
Ochromonas sp. 1																		

APPENDIX C-2

April Phytoplankton (cells/liter x10⁴)

Taxa	station/date	1	2	3	4	5	6	7	8	9
		1A	2A	3A	4A	5A	6A	7A	8A	9A
		4/4	4/4	4/5	4/5	4/5	4/4	4/4	4/5	4/5
BACILLARIOPHYTA										
<i>Achnanthes microcephala</i>		3.21		0.88					3.50	3.50
<i>Asterionella formosa</i>		1.07		4.39	1.75		3.54	1.75	8.76	3.50
<i>Cyclotella sp.</i>		2.14								
<i>Gomphonema parvulum</i>					8.76					
<i>Helosira granulata</i>		3.22			10.5				12.3	17.5
<i>M. aciculata</i>		20.9	14.9	35.0	42.0	43.1	56.1	42.0	22.8	35.0
<i>M. italica</i>										
<i>Navicula cryptocephala</i>										
<i>N. sp.</i>		3.21	0.88	14.1	15.8	34.4	1.75	14.0	105	140
<i>Nitzschia acicularis</i>			0.88							
<i>N. palea</i>		0.54	4.37	10.5	22.8					
<i>N. sp.</i>								3.50	1.75	
<i>Pinnularia biceps</i>					1.75					
<i>Rhizosolenia longicirca</i>		6.42	3.51	10.5	7.00		3.54	1.75	7.0	7.00
<i>Synedra delicatissima</i>					1.75			1.75		
<i>S. filiformis</i>		0.54	1.61	3.50	3.50			5.26	105	189
<i>S. sp.</i>										
<i>Tabellaria fenestrata</i>		4.81	9.62	17.5	28.0	5.75	3.54	75.4		
PYRROPHYTA										
<i>Cymodinium sp.</i>		1.07	9.64	12.3	29.8	10.2			7.01	3.50
<i>Peridinium aciculiferum</i>		12.3	5.26	45.6	50.8	94.9	64.8	17.5	161	91.0
<i>P. sp.</i>			87.6							
EUGLENOPHYTA										
<i>Euglena intermedia</i>			12.3		3.50	10.5				3.50
<i>Phacus brevicauda</i>				1.76						
<i>Trachelomonas sp.</i>						3.83				
FLAGELLATES AND MONADS										
		64.6	116	159	138	566	569	702	800	1181
		1.61	1.75	0.88	7.0					
CYSTS AND ZYGOTES										
		185	225	312	279	876	958	1080	1280	2320
							636	817	776	841
									2070	2660

* values reported are length segments of 10 um

** "A" designates a field duplicate

APPENDIX C-3

June Phytoplankton (cells/liter x10⁴)

Taxa	station/date	1 6/6	1A* 2 6/6	2A 6/6	3 6/7	3A 6/7	4 6/7	4A 6/7	5 6/6	5A 6/6	6 6/6	7 6/5	7A 6/5	8 6/7
CYANOPHYTA														
<i>Anabaena circinalis</i>												21.4	176	
<i>A. sp. 1</i>			30.9	18.0	20.6	10.3		22.3	8.50	16.9	3.40			
<i>A. sp. 2</i>				2.57		1.71				3.38				
<i>Anacystis incerta</i>		1.71	3.99	0.86	3.42	3.42				54.1				
<i>A. montana</i>											6.83			
<i>Aphanocapsa sp. 1</i>					1.71									
<i>Aphanotheca sp. 1</i>					54.8									
<i>Gloeocapsa sp. 1</i>					0.10				4.25			2.57	3.43	
<i>Oscillatoria geminata</i>														
<i>Dactylococcopsis musicola</i>														
CHLOROPHYTA														
<i>Ankistrodesmus convolutus</i>		1.71	0.57						8.50	3.38		6.85	5.14	26.1
<i>A. falcatus</i>			1.71				3.42	3.43	4.25	6.76	0.86			
<i>A. falcatus v. acicularis</i>							1.71		21.2					
<i>A. falcatus v. mirabilis</i>					1.71	73.6	161	216	582	382	2.67	0.86	17.1	431
<i>A. nanoscelone</i>					87.4									444
<i>Arthrodesmus convergens</i>								1.71						6.53
<i>A. incus</i>											0.85	0.86		15.2
<i>A. incus v. extensus</i>												2.57		
<i>Botryococcus sudeticus</i>			0.86	0.86			1.71	3.43		3.38				
<i>Chodatella quadriseta</i>					3.43	3.42	3.42	1.71	4.25	10.1		0.86	6.61	
<i>C. tetrapedia</i>						1.71								
<i>Glosteriopsis longissima</i>						1.71					0.86	0.85	3.43	
<i>Gommarium sp.</i>			1.71											
<i>Dictyosphaerium planktonicum</i>													3.43	
<i>Dysmorphococcus variabilis</i>													1.71	
<i>Fraxea ovalis</i>													13.7	6.53
<i>Gloeocystis botryoides</i>											0.85			
<i>Golenkinia radiata</i>														
<i>Gonium sociale</i>														
<i>Kirchneriella obesa</i>										3.38				6.63
<i>K. subcylindrica</i>														
<i>Merplicchia capitata</i>											0.86			
<i>Dicystis sp.</i>													1.71	
<i>Pandorina murum</i>														
<i>Pediastrum tetras f. evoluta</i>		0.57	0.57			3.42			4.25					

APPENDIX C-3

June Phytoplankton (cells/liter x10⁴)

Taxa	1	1A*	2	2A	3	3A	4	4A	5	5A	6	6A	7	7A	8	8A
			6/6	6/6	6/7	6/7	6/7	6/7	6/6	6/6	6/6	6/6	6/5	6/5	6/7	6/7
* <i>Planctonella lauterbornii</i>			5.14	3.42		1.71	3.42	17.1	4.25	6.76	0.85	0.86		25.7		6.53
<i>Scenedesmus bijuga</i>				0.86												
<i>S. dispar</i>	0.57				1.71		1.71	1.71	8.50	3.38				1.71		39.2
<i>S. quadricauda</i>					1.71											
<i>S. serratus</i>																
<i>Selenastrum minutum</i>																
<i>Staurastrum spinosum</i> v. <i>annulatum</i>							1.71						4.28	51.4		6.53
<i>S. chaetoceros</i>	0.57								4.25							
<i>S. paradoxum</i>																
<i>S. proterocum</i> v. <i>planctonicum</i>													0.86			
<i>Staurastrum</i> sp. 1	0.57															
<i>Tetraedron</i> sp. 1			0.86	4.28	8.57		3.42	6.85	25.5	10.1	1.71	0.86	3.43	13.3		
CRYPTOPHYTA																
<i>Cryptomonas marsonii</i>	2.28		4.29	1.71	5.14	10.3	12.0	6.85	17.0	6.76	3.43	3.42	8.57	1.71	99.5	65.3
<i>C. ovata</i>	4.57	9.13	16.3	10.3	15.4	12.0	8.56	8.56	6.76	12.0	10.3	2.57	3.43	126	91.4	
<i>C. sp. 2</i>																
CHRYSOPHYTA																
<i>Dinobryon sertularia</i>		0.57														
<i>D. sociale</i>	9.14	13.1	11.1	11.1	6.85	13.7	32.5	12.0	42.5	33.8	2.67	0.85	1.71		46.4	58.9
<i>Ochromonas</i> sp. 1	1.14	2.28	3.43	2.57		3.42	1.71	1.71							6.63	
<i>Rhizochrysis limnetica</i>																
BACILLARIOPHYTA																
<i>Achnanthes microcephala</i>				1.71	3.43	6.85	3.42	1.71	4.25							
<i>Asterionella formosa</i>											6.86		4.28			
<i>A. gracillima</i>																
<i>Attheya zachvatkini</i>	1.71		1.71		1.71	1.71	18.8	13.7	25.5	3.38	0.85	3.43	1.71	6.85	6.63	19.6
<i>Cyclotella stelligera</i>							1.71	8.56	34.0							
<i>Gomphonema</i> sp. 1																
* <i>Melosira granulata</i> v. <i>angustissima</i>	2.86	4.56	3.43	8.56	6.85	3.42					6.00	34.3	20.6	25.7	19.8	
<i>M. ilialica</i> v. <i>alpigana</i>																
<i>Micractinium pusillum</i> v. <i>elegans</i>	2.28	1.14		2.57	10.3	12.0	18.8	20.6	34.0	10.1			3.43		13.1	
<i>Mitracchia acicularis</i>							1.71	3.42	12.7	10.1	1.71	0.26	0.86			
<i>M. pulchra</i>	1.71	1.14	10.3	6.85	3.43	1.71	3.42	3.43								
<i>Rhizosolenia erlenbergii</i>																
<i>S. longiseta</i>																
<i>Synedra delicatissima</i>																
<i>S. filiformis</i>																
<i>S. rumpens</i> v. <i>scottii</i>		2.85	2.57	1.71	10.3	17.1	3.42	20.6	25.7	25.5	20.3		3.43		65.3	
<i>S. sp. 2</i>																
<i>Tabellaria fenestrata</i>	5.71			0.86	12.0	24.0	13.7	10.3	10.1	4.29	3.42	3.43				
<i>T. flocculosa</i>																

APPENDIX C-3

June Phytoplankton (cells/liter x10⁴)

Taxa	station/date																
	1	1A	2	2A	3	3A	4	4A	5	5A	6	6A	7	7A	8	8A	
	6/6		6/6		6/7		6/7		6/6		6/6		6/5		6/7		
PHYTOPLANKTON																	
<u>Ceratium hirundinella</u>																	
<u>Gymnodinium sp.</u>	4.57	5.70	5.14	5.14	5.14	6.85	1.71	1.71					0.86				
<u>Peridinium aciculiferum</u>	1.71		0.86				1.71	1.71				0.85	1.71	3.43	39.8	19.6	
<u>P. wisconsinense</u>													1.71			6.53	
<u>P. sp.</u>	1.71	0.57															
EUGLENOPHYTA																	
<u>Phacus brevicauda</u>									4.25	6.76							
<u>P. sp. 1</u>				2.57		51.3	10.3	5.14			1.71		0.86				
<u>P. sp. 2</u>			0.86	1.71													
<u>Trachelomonas sp.</u>																	
FLAGELLATES AND MONADS																	
	162	173	229	205	490	397	406	452	556	524	219	166	266	303	1180	1170	
CYSTS AND ZYGOTES																	
	1.71	1.71					5.13	1.43		3.38	1.71	1.71	3.43	1.71			
	0.57	0.57	1.71			1.71					5.34						
TOTAL CELLS PER LITER X 10 ⁶																	
	209	223	330	297	764	635	755.0	870	1440	1170	282	211	412	639	2010	2010	

* values reported are length segments of 10 um
 ** "A" designates a field duplicate

APPENDIX C-4

August Phytoplankton (cells/liter x10⁴)

Taxa	station/date															
	1	1A*	2	2A	3	3A	4	4A	5	5A	6	6A	7	7A	8	8A
	8/6		8/7		7/30		8/4		8/5		8/2		8/1		8/3	
CYANOPHYTA																
* <i>Anabaena confervoides</i>	18.0	12.8	24.0	1.1	22.3	37.0	27.3	51.8	41.2		10.2	15.4	147	81.9	13.7	
<i>Anacystis incerta</i>		3.42	37.6	25.7	24.0	47.9	14.7	95.0	217	102	18.8	9.43	116	99	229	137
<i>A. montana</i>	12.0	12.0	13.7	20.5	94.2	82.1	27.3	30.2	27.5	3.41	40.2	38.6	61.5	44.4	6.84	6.85
<i>Dactylococcopsis musicola</i>	5.99	5.13	22.2	24.0	8.57	13.7	3.41	4.32			5.12	11.1	10.3		3.42	
* <i>Lyngbya subtilis</i>	1.71	2.57		5.99			211	229	268	225	10.3	13.7	281	386	58.1	68.5
CHLOROPHYTA																
<i>Actinastrum hantzschii</i> v. <i>fluviatile</i>						1.71	13.6	69.1	34.4	20.5	0.86		54.8	37.5	23.9	44.5
<i>Ankistrodesmus falcatus</i>							20.5	30.2	20.5	23.9			10.3	20.5	54.7	37.7
<i>A. falcatus</i> v. <i>acicularis</i>					12.0	13.7							3.43		6.84	3.42
<i>A. falcatus</i> v. <i>mirabilis</i>																
<i>A. falcatus</i> v. <i>lunata</i>																
<i>A. nannocleone</i>	10.3	5.99	9.41				17.0				0.86				3.42	
<i>Asterococcus spinosus</i>									3.44						23.9	24.0
<i>Characium limneticum</i>									6.88				3.43			
<i>Chlorella</i> sp.	0.86															
<i>Closteriopsis longissima</i>	0.86				1.71	1.71			3.44	341				10.2		3.42
<i>Coelastrum sphaericum</i>																
<i>Cosmarium ischnium</i>																
<i>C. sp. 1</i>			2.57			3.42		4.32	13.7	10.2	0.86		3.43			13.7
<i>C. sp. 2</i>				0.86					3.44							
<i>Dictyosphaerium pulchellum</i>							3.41		6.88			0.86		3.41	6.84	
<i>Eudorina elegans</i>							6.82									
<i>Gloecystis planktonicum</i>																
<i>Golenkinia radiata</i>																
<i>Kirchneriella lunaris</i>						5.13		4.32	13.7	3.41	1.71	0.86		6.83	6.84	3.42
<i>Micractinium pusillum</i>					1.71		13.0					1.76		10.2		6.85
<i>Oocystis elliptica</i>	0.86		0.86				17.3		6.88	3.41			3.43			
<i>O. sp.</i>																
<i>Pandorina morum</i>							3.41		6.88							
<i>Pediastrum duplex</i> v. <i>gracillimum</i>							3.41									
<i>P. tetras</i> v. <i>tetradon</i>								4.32		3.41						6.85
* <i>Planktoniella lauterbornii</i>																
<i>Quadrigula chodatii</i>			2.57				17.0									3.42

APPENDIX C-4

August Phytoplankton (cells/liter x10⁴)

Taxa station/date

	1	1A**	2	2A	3	3A	4	4A	5	5A	6	6A	7	7A	8	8A
	8/6	8/7	8/7	7/30	8/4	8/5	8/2	8/1	8/3	8/5	8/2	8/1	8/3	8/5	8/2	8/1
<u>Quadrigula closteriodes</u>	0.86	17.1	19.7	13.7	8.56	20.5	8.64	6.88	3.41	3.43	6.83	3.42	3.42	3.42	3.42	3.42
<u>Scenedesmus bijuga</u>	2.57	2.57														
<u>S. longus</u>	0.86	0.86														
<u>S. quadricauda</u>	0.86	0.86														
<u>Schroederia setigerum</u>																
<u>Selenastrum westii</u>																
<u>Sphaerocystis Schroeteri</u>																
<u>Staurastrum chaetoceros</u>																
<u>S. clevei</u>																
<u>S. dejectum</u>																
<u>S. laticornis</u>																
<u>S. hirsutum</u>																
<u>S. mansfeldtii</u>																
<u>S. mansfeldtii v. fluminense</u>																
<u>S. sp.</u>																
<u>Tetradron arthrodesmiforme</u>																
<u>T. caudatum</u>																
<u>T. minutum</u>																
<u>T. tetragonium</u>																
<u>T. sp.</u>																
<u>Treubaria setigerum</u>																
<u>Cryptophyta</u>																
<u>C. sp. 1</u>	7.70	12.8	8.55	2.57	10.3	15.4	8.64	10.3	3.41	3.42	1.71	1.71	6.84	6.84	6.84	6.84
<u>C. sp. 2</u>	3.42	3.42			13.7			3.44	10.2	0.86	3.43	6.85	20.5	10.3	24.0	24.0
<u>Chrysophyta</u>																
<u>Dinobryon bavaricum</u>																
<u>Mallomonas caudata</u>																
<u>M. producta</u>																
<u>M. tonsurata</u>																
<u>M. sp.</u>																
<u>Ophiocytium parvulum</u>																
<u>Bacillariophyta</u>																
<u>Achnanthes microcephala</u>																
<u>Asterionella formosa v. gracillima</u>																
<u>Attheya zachvatkini</u>																
<u>Cyclotella stelligera</u>																
<u>Fragilaria construens</u>																

APPENDIX C-4

August Phytoplankton (cells/liter $\times 10^4$)

Taxa	station/date	1	1A**	2	2A	3	3A	4	4A	5	5A	6	6A	7	7A	8	8A
		8/6	8/6	8/7	8/7	7/30	7/30	8/8	8/8	8/5	8/5	8/2	8/2	8/1	8/1	8/3	8/3
* <i>Melosira ambigua</i>		57.3		11.1				106.0				2.57		10.3	13.7		
* <i>M. granulata</i> v. <i>angustissima</i>		19.7	4.28		15.4	36.2	17.1	10.2	4.32	10.3	13.6	30.8	13.7	3.43			
* <i>M. italica</i> v. <i>alpigena</i>		12.8	0.86														
<i>Navicula exigua</i>				1.71		10.3	5.13	20.5		17.2	10.2	1.71	0.86	27.4	23.9	13.7	34.2
<i>Nitzschia acicularis</i>				0.86			3.42							3.43		3.42	
* <i>N. palea</i>						171											
* <i>N. sp.</i>						5.14	6.84	17.0	17.3	17.2	6.82	0.86	2.57		6.83	3.42	6.85
<i>Rhizosolenia longissima</i>			0.86	4.28	3.42												
<i>Synedra delicatissima</i>						17.1	1.71	30.7	4.32	13.7	3.41	1.71	1.72	3.43	10.2	61.5	17.1
<i>S. filiformis</i>		2.57		0.86			6.84		47.5		6.82	0.86	1.73	3.43	10.2		
<i>S. rimpens</i> v. <i>scotia</i>			2.57	1.71		8.57			4.32				4.27				
<i>Tabellaria fenestrata</i>		3.42	2.57	4.28													
PYRROPHYTA																	
<i>Ceratium hirundinella</i>		0.86				15.4	8.56	3.41	4.32	3.44	10.2	3.42	0.86		6.83	6.84	6.85
<i>Gymnodinium</i> sp.						3.42				6.88	6.82		1.72			6.85	6.85
<i>Petridinium aciculiferum</i>					0.86	1.71					3.41		0.86			6.85	6.85
<i>P. wilsonianense</i>							3.42	3.41	8.64								
<i>P. sp.</i>																	
EUGLENOPHYTA																	
<i>Euglena acus</i>														3.43		3.42	
<i>E. elastica</i>														3.43			
<i>E. polymorpha</i>														3.43		10.3	6.85
<i>Trachelomonas</i> sp. 1		0.86						3.41									
<i>T. sp. 2</i>																	
FLAGELLATES AND MONADS		251	278	239.0	212.0	438.0	614.0	416.0	492.0	498.0	600.0	131.0	.132	359.0	485.0	448.0	380.0
CYSTS AND ZYGOTES						1.71			4.32	3.44	10.2				3.41		
TOTAL CELLS PER LITER $\times 10^4$		403	366	416	362	764	960	1060	1300	1350	1160	283	271	1150	1290	1080	938

* values reported are length segments of 10 μ m

** "A" designates a field duplicate

APPENDIX C-5

November Phytoplankton (cells/liter x10⁴)

Taxa station/date

	1	1A**	2	2A	3	3A	4	4A	5	5A	6	6A	7	7A	8	8A
	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	10/30	10/30
CYANOPHYTA																
<i>Agmenellum quadruplicatum</i>							1.71	10.3	54.8	44.5	0.86		17.1	24.0	6.84	13.7
* <i>Anabaena confervoides</i>																
* <i>A. variabilis</i>																
<i>Anacystis incerta</i>																
<i>A. montana</i>																
<i>Dactylococopsis musicola</i>																
* <i>Oscillatoria geminata</i>																
	26.2		6.86			9.42										
	3.43	6.84	9.71	6.85	6.84	4.28	13.7	8.56	89.1	48.0	12.8	7.71	72.0	99.4	85.5	92.3
	20.6	20.5	18.3	7.99	19.7	9.42	17.1	15.4	30.8	24.0	15.4	9.42	51.4	24.0	37.6	34.2
	0.57			1.14					41.1	37.7			3.43			
CHLOROPHYTA																
<i>Actinastrum hantzschii</i> v. <i>fluviale</i>																
<i>Ankistrodesmus falcatus</i>																
<i>A. falcatus</i> v. <i>acicularis</i>																
<i>A. falcatus</i> v. <i>lunatus</i>																
<i>Chodatella longiseta</i>																
<i>C. subsalsa</i>																
<i>Glosteriopsis longissima</i>																
<i>Crucigenia crucifera</i>																
<i>C. tetrapedia</i>																
* <i>Dictyosphaerium planktonicum</i>																
<i>Fraxea ovalis</i>																
<i>Golenkinia radiata</i>																
<i>G. radiata</i> v. <i>brevispina</i>																
<i>Kirchneriella elongata</i>																
<i>K. subcollaria</i>																
<i>Micractinium pusillum</i>																
<i>Pediastrum biradiatum</i>																
<i>P. tetras</i> f. <i>evoluta</i>																
<i>P. tetras</i> v. <i>tetradon</i>																
<i>Quadrigula closterionoides</i>																
<i>Scribneria acuminatus</i>																
<i>S. armatus</i> v. <i>bicaudatus</i>																
<i>S. bijuga</i>																
<i>S. denticularis</i>																
<i>S. intermedius</i>																
<i>S. quadrifida</i>																
<i>S. sp. 3</i>																

APPENDIX C-5

November Phytoplankton (cells/liter x10⁴)

Taxa	station/date	1 11/1	1A 11/1	2 11/1	2A 11/1	3 11/1	3A 11/1	4 11/1	4A 11/1	5 11/1	5A 11/1	6 11/1	6A 11/1	7 11/1	7A 11/1	8 10/30	8A 10/30
<i>Selenastrum</i> sp. 1																	
<i>Staurastrum dejectum</i>																	
<i>Tetradion trigonum</i>																	
<i>T. trigonum</i> v. <i>setigerum</i>																	
CRYPTOPHYTA																	
<i>Cryptomonas ovata</i>																	
C. sp. 1																	
C. sp. 2																	
CHRYSOPHYTA																	
<i>Dinobryon bavaricum</i>																	
<i>Mallomonas elliptica</i>																	
<i>M. majorensis</i>																	
BACILLARIOPHYTA																	
<i>Asterionella formosa</i>																	
<i>A. formosa</i> v. <i>gracillima</i>																	
<i>Actinocyclus zachvatkini</i>																	
<i>Cyclotella meneghiniana</i>																	
<i>C. stelligera</i>																	
<i>Fragilaria capucina</i>																	
<i>F. crotonensis</i>																	
<i>Melosira ambigua</i>																	
<i>M. granularis</i> v. <i>angustissima</i>																	
<i>M. italica</i> v. <i>alpigena</i>																	
<i>Nitzschia acicularis</i>																	
<i>N. palca</i>																	
<i>N. sp. 1</i>																	
<i>Pinnularia</i> sp. 2																	
<i>Rhizosolenia longisetata</i>																	
<i>Synedra delicatissima</i>																	
<i>S. filiformis</i>																	
<i>S. rumpens</i> v. <i>scottii</i>																	
<i>Tabellaria fenestrata</i>																	

APPENDIX C-5

November Phytoplankton (cells/liter x10⁴)

Taxa	station/date	1	1A**	2	2A	3	3A	4	4A	5	5A	6	6A	7	7A	8	8A
		11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	10/30	10/30
PHYTOPLANKTON																	
<i>Gymnodinium</i> sp.		2.29	1.14	0.57	3.42	1.71	5.14	17.1	6.84	30.8	30.8	0.86	0.86	6.86	3.43	3.42	13.7
<i>Peridinium aciculiferum</i>		1.14	1.14	1.14	1.14	0.86	1.71			30.8	20.6		0.86	10.3	6.86	30.8	20.5
<i>P. sp. 4</i>		0.57											0.86				
EUCLEOMPHYTA																	
<i>Euglena ehrenbergii</i>						0.86	0.86				3.43			3.43			3.42
<i>E. sp. 1</i>																	
<i>Trachelomonas horrida</i>										3.43							
<i>T. volvicina</i>					1.14												
<i>T. sp. 1</i>																	
FLAGELLATES AND MONADS		121	122	105	88.4	144	133	299	310	1030	774	146	128	699	915	1260	991
CYSTS AND ZYGOTES			0.57		1.14							0.86			3.43	3.42	
TOTAL CELLS PER LITER X 10⁴		200	237	184	166	259	286	580	604	2490	1950	242	298	1200	1440	1740	1470

* values reported are length segments of 10 um

** "A" designates a field duplicate

APPENDIX C-6 PERCENT COMPOSITION OF ALGAL DIVISIONS OCCURRING DURING FEBRUARY IN DEPTH-INTEGRATED
PHYTOPLANKTON SAMPLES FROM EIGHT STATIONS IN HARTWELL LAKE.

STATION	DIVISION	FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
1	CYANOPHYTA	34	34	0.44	0.44
	CHLOROPHYTA	2559	2593	33.36	33.80
	CRYPTOPHYTA	0	2593	0.00	33.80
	CHRYSOPHYTA	473	3066	6.17	39.96
	BACILLARIOPHYTA	4572	7638	54.59	94.56
	PYRRHOPHYTA	34	7672	0.44	100.00
	EUGLENOPHYTA	0	7672	0.00	100.00
	FLAGELLATES-MONA	0	7672	0.00	100.00
	ZYGOTES	0	7672	0.00	100.00
2	CYANOPHYTA	70	70	0.71	0.71
	CHLOROPHYTA	2103	2173	21.26	21.96
	CRYPTOPHYTA	0	2173	0.00	21.96
	CHRYSOPHYTA	0	2173	0.00	21.96
	BACILLARIOPHYTA	5244	7417	53.00	74.96
	PYRRHOPHYTA	17	7434	0.17	75.14
	EUGLENOPHYTA	0	7434	0.00	75.14
	FLAGELLATES-MONA	2460	9894	24.86	100.00
	ZYGOTES	0	9894	0.00	100.00
3	CYANOPHYTA	2890	2890	11.21	11.21
	CHLOROPHYTA	6302	9192	24.44	35.64
	CRYPTOPHYTA	263	9455	1.02	36.66
	CHRYSOPHYTA	44	9499	0.17	36.83
	BACILLARIOPHYTA	9848	19347	38.19	75.02
	PYRRHOPHYTA	2235	21582	8.67	83.69
	EUGLENOPHYTA	44	21626	0.17	83.86
	FLAGELLATES-MONA	3900	25526	15.12	98.98
	ZYGOTES	262	25788	1.02	100.00
4	CYANOPHYTA	0	0	0.00	0.00
	CHLOROPHYTA	10945	10945	15.56	15.56
	CRYPTOPHYTA	525	11470	1.23	16.78
	CHRYSOPHYTA	437	11907	1.02	17.81
	BACILLARIOPHYTA	19787	31694	46.21	64.01
	PYRRHOPHYTA	2630	34324	6.14	70.15
	EUGLENOPHYTA	87	34411	0.20	70.36
	FLAGELLATES-MONA	8325	42736	19.44	89.80
	ZYGOTES	87	42823	0.20	100.00
5	CYANOPHYTA	174	174	0.24	0.24
	CHLOROPHYTA	19532	19706	26.60	26.84
	CRYPTOPHYTA	1490	21196	2.03	28.87
	CHRYSOPHYTA	437	21633	0.60	29.47
	BACILLARIOPHYTA	20333	41966	27.69	57.16
	PYRRHOPHYTA	3415	45381	4.65	61.81
	EUGLENOPHYTA	87	45468	0.12	61.93
	FLAGELLATES-MONA	27950	73418	38.07	100.00
	ZYGOTES	0	73418	0.00	100.00
6	CYANOPHYTA	0	0	0.00	0.00
	CHLOROPHYTA	2248	2248	16.21	16.21
	CRYPTOPHYTA	29	2277	0.21	16.42
	CHRYSOPHYTA	0	2277	0.00	16.42
	BACILLARIOPHYTA	5661	7938	40.83	57.26
	PYRRHOPHYTA	146	8084	1.05	58.31
	EUGLENOPHYTA	0	8084	0.00	58.31
	FLAGELLATES-MONA	5780	13864	41.69	100.00
	ZYGOTES	0	13864	0.00	100.00
7	CYANOPHYTA	1400	1400	2.65	2.65
	CHLOROPHYTA	6480	7880	12.77	14.93
	CRYPTOPHYTA	175	8055	0.33	15.26
	CHRYSOPHYTA	350	8405	0.66	15.92
	BACILLARIOPHYTA	36336	44741	68.82	84.74
	PYRRHOPHYTA	350	45091	0.66	85.41
	EUGLENOPHYTA	0	45091	0.00	85.41
	FLAGELLATES-MONA	7705	52796	14.59	100.00
	ZYGOTES	0	52796	0.00	100.00
8	CYANOPHYTA	0	0	0.00	0.00
	CHLOROPHYTA	8571	8571	2.95	2.95
	CRYPTOPHYTA	1756	10327	0.60	3.56
	CHRYSOPHYTA	345	10672	0.12	3.68
	BACILLARIOPHYTA	15963	26635	5.50	9.17
	PYRRHOPHYTA	4670	31305	1.61	10.78
	EUGLENOPHYTA	0	31305	0.00	10.78
	FLAGELLATES-MONA	259000	290305	89.22	100.00
	ZYGOTES	0	290305	0.00	100.00

STATION	DIVISION	FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
1	CYANOPHYTA	989	989	4.83	4.83
	CHLOROPHYTA	1420	2409	6.93	11.76
	CRYPTOPHYTA	1982	4391	9.67	21.43
	CHRYSCOPHYTA	1850	6241	9.03	30.45
	BACILLARIOPHYTA	3991	10232	19.47	49.92
	PYRRHOPHYTA	1151	11383	5.62	55.55
	EUGLENCOPHYTA	0	11383	0.00	55.55
	FLAGELLATES-MONA	9030	20413	44.06	99.61
	ZYGOTES	80	20493	0.39	100.00
2	CYANOPHYTA	1488	1488	4.30	4.30
	CHLOROPHYTA	3152	4640	9.11	13.41
	CRYPTOPHYTA	787	5427	2.78	16.19
	CHRYSCOPHYTA	4204	9631	12.15	28.34
	BACILLARIOPHYTA	3150	12781	9.11	37.45
	PYRRHOPHYTA	6216	18997	17.57	54.92
	EUGLENCOPHYTA	615	19612	1.78	56.69
	FLAGELLATES-MONA	14850	34462	42.53	99.22
	ZYGOTES	131	34593	0.38	100.00
3	CYANOPHYTA	1321	1321	1.44	1.44
	CHLOROPHYTA	6231	7552	6.80	8.24
	CRYPTOPHYTA	3902	11454	4.26	12.50
	CHRYSCOPHYTA	8456	19910	9.23	21.72
	BACILLARIOPHYTA	8110	28020	8.85	30.57
	PYRRHOPHYTA	6535	34555	7.13	37.70
	EUGLENCOPHYTA	88	34643	0.10	37.80
	FLAGELLATES-MONA	56750	91393	61.92	99.71
	ZYGOTES	263	91656	0.29	100.00
4	CYANOPHYTA	1837	1837	1.54	1.54
	CHLOROPHYTA	10779	12616	9.01	10.55
	CRYPTOPHYTA	4112	16728	3.44	13.99
	CHRYSCOPHYTA	7700	24428	6.44	20.43
	BACILLARIOPHYTA	11553	35981	9.46	30.09
	PYRRHOPHYTA	7445	43426	6.23	36.32
	EUGLENCOPHYTA	700	44126	0.59	36.90
	FLAGELLATES-MONA	75100	119226	62.81	99.71
	ZYGOTES	350	119576	0.29	100.00
5	CYANOPHYTA	573	573	0.22	0.22
	CHLOROPHYTA	22232	22805	8.50	8.72
	CRYPTOPHYTA	9155	31960	3.50	12.22
	CHRYSCOPHYTA	7531	39491	2.88	15.10
	BACILLARIOPHYTA	5985	45476	2.29	17.39
	PYRRHOPHYTA	11255	56731	4.20	21.70
	EUGLENCOPHYTA	191	56922	0.07	21.77
	FLAGELLATES-MONA	204550	261472	78.23	100.00
	ZYGOTES	0	261472	0.00	100.00
6	CYANOPHYTA	1755	1755	2.31	2.31
	CHLOROPHYTA	6404	8159	8.44	10.76
	CRYPTOPHYTA	7365	15524	9.71	20.47
	CHRYSCOPHYTA	6399	21923	8.44	28.91
	BACILLARIOPHYTA	8770	30693	11.56	40.47
	PYRRHOPHYTA	5343	36036	7.05	47.52
	EUGLENCOPHYTA	0	36036	0.00	47.52
	FLAGELLATES-MONA	39800	75836	52.48	100.00
	ZYGOTES	0	75836	0.00	100.00
7	CYANOPHYTA	876	876	1.08	1.08
	CHLOROPHYTA	3677	4553	4.55	5.63
	CRYPTOPHYTA	3328	7681	4.12	9.75
	CHRYSCOPHYTA	6308	14189	7.80	17.55
	BACILLARIOPHYTA	8318	22507	10.29	27.84
	PYRRHOPHYTA	1840	24347	2.28	30.11
	EUGLENCOPHYTA	0	24347	0.00	30.11
	FLAGELLATES-MONA	56500	80847	69.69	100.00
	ZYGOTES	0	80847	0.00	100.00
8	CYANOPHYTA	0	0	0.00	0.00
	CHLOROPHYTA	12075	12075	5.11	5.11
	CRYPTOPHYTA	10150	22225	4.30	9.41
	CHRYSCOPHYTA	8755	30980	3.71	13.12
	BACILLARIOPHYTA	32025	63005	13.56	26.68
	PYRRHOPHYTA	13125	76130	5.56	32.24
	EUGLENCOPHYTA	175	76305	0.07	32.31
	FLAGELLATES-MONA	156500	232805	66.28	98.59
	ZYGOTES	3325	236130	1.41	100.00

10 20 30 40 50 60 70

PERCENTAGE

PHYTOPLANKTON SAMPLES FROM EIGHT STATIONS IN HAR WELL LAKE.

PERCENTAGE

APPENDIX C-9. PERCENT COMPOSITION OF ALGAL DIVISIONS OCCURRING DURING JULY IN
DEPTH-INTEGRATED SAMPLES FROM EIGHT STATIONS IN HARTWELL LAKE.

STATION	DIVISION		FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
1	CYANOPHYTA		3661	3661	9.59	9.59
	CHLOROPHYTA		1456	5117	3.80	13.39
	CRYPTOPHYTA		1196	6313	3.12	16.51
	CHRYSOPHYTA		43	6356	0.11	16.62
	BACILLARIOPHYTA		5474	11830	14.26	30.87
	PYRRHOPHYTA		43	11873	0.11	30.98
	EUGLENCOPHYTA		43	11916	0.11	31.09
	FLAGELLATES-NONH		26456	38372	68.90	100.00
	ZYGOTES		0	38372	0.00	100.00
2	CYANOPHYTA		9545	9545	24.53	24.53
	CHLOROPHYTA		3048	12593	7.81	32.34
	CRYPTOPHYTA		664	13257	1.76	34.10
	CHRYSOPHYTA		0	13257	0.00	34.10
	BACILLARIOPHYTA		3047	16304	7.81	41.91
	PYRRHOPHYTA		43	16347	0.11	42.02
	EUGLENCOPHYTA		0	16347	0.00	42.02
	FLAGELLATES-NONH		22550	38897	57.68	100.00
	ZYGOTES		0	38897	0.00	100.00
3	CYANOPHYTA		16446	16446	19.57	19.57
	CHLOROPHYTA		3721	20167	3.94	23.51
	CRYPTOPHYTA		2825	22992	2.99	26.50
	CHRYSOPHYTA		341	23333	0.36	26.86
	BACILLARIOPHYTA		6329	29662	6.70	33.56
	PYRRHOPHYTA		1625	31287	1.72	35.28
	EUGLENCOPHYTA		0	31287	0.00	35.28
	FLAGELLATES-NONH		52400	83687	55.67	90.95
	ZYGOTES		8550	92237	9.05	100.00
4	CYANOPHYTA		41314	41314	35.01	35.01
	CHLOROPHYTA		13655	54969	11.57	46.58
	CRYPTOPHYTA		422	55491	0.37	46.95
	CHRYSOPHYTA		1545	57036	1.31	48.26
	BACILLARIOPHYTA		14250	71286	12.11	60.37
	PYRRHOPHYTA		568	71854	0.84	61.21
	EUGLENCOPHYTA		170	72024	0.14	61.35
	FLAGELLATES-NONH		45400	117424	38.47	99.82
	ZYGOTES		214	117638	0.18	100.00
5	CYANOPHYTA		44205	44205	25.43	25.43
	CHLOROPHYTA		13174	57379	10.56	35.99
	CRYPTOPHYTA		1367	58746	1.10	37.09
	CHRYSOPHYTA		2402	61148	1.93	39.02
	BACILLARIOPHYTA		8504	69652	5.21	44.23
	PYRRHOPHYTA		1547	71199	1.23	45.46
	EUGLENCOPHYTA		0	71199	0.00	45.46
	FLAGELLATES-NONH		54900	126099	44.00	90.46
	ZYGOTES		882	126981	0.55	100.00
6	CYANOPHYTA		8642	8642	31.30	31.30
	CHLOROPHYTA		1968	10610	7.13	38.43
	CRYPTOPHYTA		366	10976	1.40	39.83
	CHRYSOPHYTA		171	11147	0.62	40.45
	BACILLARIOPHYTA		2952	14119	10.69	51.13
	PYRRHOPHYTA		343	14462	1.24	52.38
	EUGLENCOPHYTA		0	14462	0.00	52.38
	FLAGELLATES-NONH		13150	27612	67.62	100.00
	ZYGOTES		0	27612	0.00	100.00
7	CYANOPHYTA		61355	61355	50.29	50.29
	CHLOROPHYTA		9346	70701	7.70	57.99
	CRYPTOPHYTA		1367	72068	1.12	59.11
	CHRYSOPHYTA		342	72410	0.28	59.39
	BACILLARIOPHYTA		6322	78732	9.18	68.57
	PYRRHOPHYTA		341	79073	0.28	68.85
	EUGLENCOPHYTA		513	79586	0.42	69.27
	FLAGELLATES-NONH		42200	121786	34.55	93.82
	ZYGOTES		170	121956	0.14	100.00
8	CYANOPHYTA		26170	26170	26.02	26.02
	CHLOROPHYTA		18644	44814	18.54	44.56
	CRYPTOPHYTA		2057	46871	2.05	46.61
	CHRYSOPHYTA		2224	49095	2.21	48.82
	BACILLARIOPHYTA		7351	56446	7.31	56.12
	PYRRHOPHYTA		1710	58156	1.70	57.82
	EUGLENCOPHYTA		1028	59184	1.02	58.84
	FLAGELLATES-NONH		41400	100584	41.16	100.00
	ZYGOTES		0	100584	0.00	100.00

PERCENTAGE

APPENDIX C-10. PERCENT COMPOSITION OF ALGAL DIVISIONS OCCURRING DURING NOVEMBER IN
DEPTH-COMPOSITED PHYTOPLANKTON SAMPLES FROM EIGHT STATIONS IN HARTWELL LAKE.

STATION	DIVISION	FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
1	CYANOPHYTA	3906	3906	17.88	17.88
	CHLOROPHYTA	84	3990	0.38	18.27
	CRYPTOPHYTA	370	4360	1.65	19.92
	CHRYSOPTOPHYTA	171	4531	0.78	20.70
	BACILLARIOPHYTA	4877	9408	22.33	43.03
	PYRRHOPHYTA	256	9664	1.17	44.20
	EUGLENOPHYTA	0	9664	0.00	44.20
	FLAGELLATES-MONA	12150	21814	55.63	99.83
	ZYGOTES	28	21842	0.13	100.00
2	CYANOPHYTA	2542	2542	14.50	14.50
	CHLOROPHYTA	424	2966	2.42	16.92
	CRYPTOPHYTA	598	3564	3.41	20.33
	CHRYSOPTOPHYTA	28	3592	0.16	20.49
	BACILLARIOPHYTA	3903	7495	22.26	42.74
	PYRRHOPHYTA	256	7751	1.46	44.20
	EUGLENOPHYTA	57	7808	0.33	44.53
	FLAGELLATES-MONA	9670	17478	55.15	99.67
	ZYGOTES	57	17535	0.33	100.00
3	CYANOPHYTA	2483	2483	9.11	9.11
	CHLOROPHYTA	2723	5206	9.99	19.10
	CRYPTOPHYTA	1752	6958	6.43	25.52
	CHRYSOPTOPHYTA	2095	9053	7.68	33.20
	BACILLARIOPHYTA	3808	12861	13.97	47.17
	PYRRHOPHYTA	470	13331	1.72	48.89
	EUGLENOPHYTA	86	13417	0.32	49.21
	FLAGELLATES-MONA	13850	27267	50.75	100.00
	ZYGOTES	0	27267	0.00	100.00
4	CYANOPHYTA	3338	3338	5.68	5.68
	CHLOROPHYTA	3676	7014	6.26	11.94
	CRYPTOPHYTA	6848	13862	11.65	23.59
	CHRYSOPTOPHYTA	6675	20537	11.36	34.95
	BACILLARIOPHYTA	6583	27120	11.20	46.15
	PYRRHOPHYTA	1197	28317	2.04	48.19
	EUGLENOPHYTA	0	28317	0.00	48.19
	FLAGELLATES-MONA	30450	58767	51.81	100.00
	ZYGOTES	0	58767	0.00	100.00
5	CYANOPHYTA	19700	19700	8.80	8.80
	CHLOROPHYTA	47489	66989	21.12	29.92
	CRYPTOPHYTA	32395	99384	14.47	44.39
	CHRYSOPTOPHYTA	15950	115334	7.12	51.50
	BACILLARIOPHYTA	12419	127753	5.55	57.05
	PYRRHOPHYTA	5650	133403	2.52	59.57
	EUGLENOPHYTA	342	133745	0.15	59.72
	FLAGELLATES-MONA	90200	223945	40.28	100.00
	ZYGOTES	0	223945	0.00	100.00
6	CYANOPHYTA	2309	2309	8.70	8.70
	CHLOROPHYTA	1540	3849	5.80	14.50
	CRYPTOPHYTA	213	4062	0.80	15.30
	CHRYSOPTOPHYTA	0	4062	0.00	15.30
	BACILLARIOPHYTA	8600	12662	32.41	47.72
	PYRRHOPHYTA	129	12791	0.49	48.21
	EUGLENOPHYTA	0	12791	0.00	48.21
	FLAGELLATES-MONA	13700	26491	51.63	99.84
	ZYGOTES	43	26534	0.16	100.00
7	CYANOPHYTA	17996	17996	13.70	13.70
	CHLOROPHYTA	9063	27059	6.92	20.62
	CRYPTOPHYTA	2358	29417	1.83	22.44
	CHRYSOPTOPHYTA	3600	33017	2.74	25.19
	BACILLARIOPHYTA	15841	48858	12.06	37.25
	PYRRHOPHYTA	1372	50230	1.04	38.29
	EUGLENOPHYTA	171	50401	0.13	38.42
	FLAGELLATES-MONA	80700	131161	61.45	99.87
	ZYGOTES	171	131332	0.13	100.00
8	CYANOPHYTA	13507	13507	8.41	8.41
	CHLOROPHYTA	10431	23938	6.49	14.90
	CRYPTOPHYTA	1886	25824	1.17	16.08
	CHRYSOPTOPHYTA	4616	30440	2.87	18.95
	BACILLARIOPHYTA	13852	44292	8.62	27.58
	PYRRHOPHYTA	3421	47713	2.13	29.71
	EUGLENOPHYTA	171	47884	0.11	29.82
	FLAGELLATES-MONA	112550	160434	70.08	99.89
	ZYGOTES	171	160605	0.11	100.00

10 20 30 40 50 60 70

PERCENTAGE

APPENDIX C-11

February-March Periphyton (cells/mm²)

Taxa

	station											
	1	1A*	3	3A	5	5A	7	7A	9	9A	12	12A
CYANOPHYTA												
* <i>Anabaena</i> sp. 3			2.79		2.10	0.418			20.7	24.3	15.0	52.9
<i>Anacystis montana</i>	6.10	5.78	8.83	15.0	14.6	7.94	4.59	8.00			141.	
<i>Chroococcus limneticus</i>									97.8	43.0	1.88	132.
<i>Dactylococcopsis raphidolides</i>											113.	
* <i>Lyngbya maritima</i>												
* <i>Oscillatoria</i> sp. 1		6.04	26.9	9.81	1.05			0.893		69.4	3.75	3.31
<i>Spirulina major</i>												
CHLOROPHYTA												
<i>Ankistrodesmus falcatus</i>	0.066		1.36	2.80		0.105		.057				
<i>Chodatella quadriseta</i>				.915								
<i>Closteriopsis longissima</i>				.467					63.9	86.0	59.8	22.4
<i>Coleochaete</i> sp. 1						6.90						
* <i>Mougeotia</i> sp. 1												
* <i>Oedogonium</i> sp. 1												
* <i>Planktonema lauterbornii</i>					1.40				1.88		857.	466.
<i>Scenedesmus armatus</i>				0.110				0.053	132	213.		
<i>Stigeoclonium polymorphum</i>												
* <i>Ulothrix</i> sp. 1												
BACILLARIOPHYTA												
<i>Achnanthes microcephala</i>	8.73	34.9	11.7	13.6	0.233	0.105	0.211	0.105	733	819.	35.6	19.8
<i>A. sp. 1</i>											1.88	3.31
<i>Cyclotella stelligera</i>			0.462	1.87	0.234	0.158	0.158	0.105	5.64		1.88	3.31
<i>Gyrodinium aureolum</i>			0.462	3.27	1.05	0.525	0.105				1.88	3.31
<i>G. sp. 1</i>									1.88		1.88	
<i>Eunotia pectinialis</i> v. <i>minor</i>				1.40	4.27	0.314	0.053					
<i>G. setra</i>			0.462								11.3	6.61
<i>Fragilaria capucina</i>												
<i>F. crotonensis</i>		0.526							20.7		11.3	
<i>F. sp. 1</i>								0.210	13.2	13.1	1.88	3.75
<i>Gomphonema acuminatum</i>		0.657		0.935	0.116	0.105						
<i>G. augur</i>												

APPENDIX C-11

February-March Periphyton (cells/mm²)

Taxa	atation											
	1	1A	3	3A	5	5A	7	7A	9	9A	12	12A
<i>Comphonema constrictum</i> v. <i>cuneata</i>											1.88	
<i>C. gracile</i>											1.88	
<i>C. intricatum</i>									9.40	3.74		
<i>C. parvulum</i>									526	374	73.1	29.8
<i>C. subclavatum</i>											7.70	39.7
<i>C. truncatum</i>									22.6	5.61		
<i>C. sp. 1</i>				1.40							16.9	
<i>Melosira italica</i>												
<i>M. italica</i> v. <i>alpigena</i>									13.2			
* <i>M. granulata</i>							1.85					
* <i>M. granulata</i> v. <i>angustissima</i>												
<i>Navicula notha</i>											26.3	16.5
<i>N. sp. 1</i>											9.38	3.31
<i>Nitzschia acicularis</i>									1.88			
<i>N. sp. 1</i>									20.7	5.61	20.6	19.8
<i>N. palea</i>											5.63	
<i>Pinnularia</i> sp. 1												
<i>Stauroneis</i> sp. 1									3.76			6.61
<i>Synedra delicatissima</i>									45.2	20.6	11.3	6.61
<i>S. filiformis</i>												
<i>S. sp. 1</i>									22.6	20.6	35.6	13.2
<i>Tabellaria fenestrata</i>												
PYRROPHYTA												
<i>Ceratium carolinianum</i> cyst												
<i>Peridinium aciculiferum</i>												
EUGLENOPHYTA												
<i>Euglena</i> sp. 1									0.105		3.96	
<i>Trachelmonas</i> sp. 1									1.88			
CHRYSOPHYTA												
<i>Vaucheria</i> sp. 1											20.6	
FLAGELLATES AND MONADS												
	0.262	0.131	6.12	8.41	5.82	0.105	1.27	2.52	115	69.2	48.8	19.8
	16.6	51.5	136	200	38.8	20.9	10.6	9.14	1870	1800	1531	853
TOTAL CELLS PER MM ²												

* values reported are length segments of 10 um
 ** "A" designates a field duplicate

APPENDIX C-12

June Periphyton (cells/mm²)

Taxa

station

	1	1A	3	3A	5	5A	7	7A	9	9A	12	12A
CYANOPHYTA												
* <i>Anabaena</i> sp. 3												
<i>Anacystis incerta</i>			37.4				117	56.0				
<i>A. montana</i>	150	243		112	56.2	30.4	37.4	32.7			279	9.37
* <i>Oscillatoria geminata</i>	710				718		107	271				56.2
* <i>O. limosa</i>												
* <i>O. sp. 1</i>			430			140	56.1					
CHLOROPHYTA												
<i>Bulbochaete</i> sp. 1	131											
<i>Chaetospaeridium globosum</i>	28.0	37.4									6020	
<i>Charactium pringsheimii</i>											335	
<i>Cloniophora</i> sp. 1												
<i>Conatozygon aculeatum</i>												
<i>Gymnogongrus</i> sp. 1	18.7	18.7									652	515
* <i>Mougeotia</i> sp. 1			243				56.1				410.	42.1
* <i>Oedogonium</i> sp. 1											242.	
<i>O. sp. 2</i>												
<i>Pediastrum tetras</i>						2.34						
* <i>Planktonoma lauterbornii</i>	701		467	1030								
<i>Proterodermis viride</i>		18.7										
<i>S. armatus</i> v. <i>bicaudatus</i>		18.7	18.7	18.7		7.01						
<i>Scenedesmus bijuga</i>												
<i>S. quadricauda</i>			37.4		22.5	2.34	9.35					
<i>S. spinosus</i>					6.25						224.	108
* <i>Spirogyra</i> sp. 1												
* <i>Stigeoclonium</i> sp. 1					6.25							
<i>Tetradron</i> sp. 1												
CHRYSOPHYTA												
<i>Dinobryon californiae</i>					6.25		9.35	4.67				
<i>Scripococcus vasiliformis</i>	18.7				17.5	16.4	9.35	14.0			91.1	9.37

APPENDIX C-12

June Periphyton (cells/mm²)

Taxa

station

	1	1A	3	3A	5	5A	7	7A	9	9A	12	12A
BACILLARIOPHYTA												
<i>Achnanthes exigua</i> v. <i>heterovalvata</i>					6.25							
<i>A. microcephala</i>	4340	4080	7910	6020	219	299	771	1060			969	23.4
<i>Anomoeoneis vitrea</i>	411	915	318	243	12.5	14.0		23.3			261	9.37
<i>Cocconeis placentula</i> v. <i>euglypta</i>									SAMPLERS LOST		93.1	51.5
<i>Gyrodinium aureolum</i>												
<i>G. microcephala</i>		766.	18.7				37.4	9.33				
<i>G. minuta</i>		18.7	1.7	56.1	6.25	9.34	9.35	4.67				
<i>Fragilaria capucina</i>					12.5	14.0	37.4	18.7			37.3	
<i>F. crotonensis</i>								4.67			74.5	
<i>Gomphonema acuminatum</i>							28.1	32.7				
<i>G. affine</i>	9.35	74.8	74.8	168	12.5	2.34	88.8	159			168.	28.1
<i>G. carolinense</i>	140		37.4	74.7							37.3	
<i>G. truncatum</i> v. <i>capitatum</i>					12.5	2.34					298.	23.4
<i>G. truncatum</i> v. <i>turgidum</i>							37.4	4.67			74.5	
<i>Melosira granulata</i> v. <i>angustissima</i>											168.	
<i>M. italica</i> v. <i>alpige</i>											224.	4.68
<i>M. varians</i>												
<i>Navicula notha</i>	131	318	355	168	50.0	42.1	112	88.7				
<i>N. radiosa</i>						4.67						
<i>Nitzschia palea</i>						2.34						
<i>N. sp. 1</i>						46.7	4.68					
<i>N. sp. 2</i>					6.25	14.0					18.5	
<i>Plumularia abaujensis</i> v. <i>rostrata</i>						2.34						
<i>P. sp. 2</i>						14.0						
<i>Synedra delicatissima</i>							4.68	9.33				
<i>S. lilliformis</i>	9.35	18.7		37.4	50.0		70.1	98.0				
<i>S. rumpens</i> v. <i>scotia</i>		18.7					4.68					
<i>Tabellaria flocculosa</i>					6.25		9.35	18.7				
PYRRHOPHYTA												
<i>Gymnodinium</i> spp.											18.6	
<i>Peridinium wisconsinense</i> (zygote)						2.34						
EUGLENOPHYTA												
<i>Trachelomonas</i> sp. 2					6.25							
FLAGELLATES AND MONADS												
	131	187	1270	561	512	164	215	257			913	
TOTAL CELLS PER 100²	6040	7380	11500	8520	1730	834.	1800	2170			12700	1330

* values reported are length segments of 10 um

** "A" designates a field duplicate

APPENDIX C-13

October-November Periphyton (cells/mm²)

Taxa

station

	1	1A*	3	3A	5	5A	7	7A	9	9A	12	12A
CYANOPHYTA												
<i>Agmenellum quadruplicatum</i>												
* <i>Anabaena</i> sp. 1					1.17		9.37					
* <i>A. sp. 2</i>	14.0		18.7	51.5				7.02				
<i>Anacystis montana</i>		115.	37.3	65.5	15.2	29.2	35.1	60.8	206.	28.1	131.	224.
<i>Coclosporidium keulelingianum</i>				9.36		1.17						
* <i>Lyngbya</i> sp. 1	18.7											
* <i>Oscillatoria geminata</i>	110.	164.	1090.	823	81.8	90.0	501.	601.			224.	878.
* <i>O. sp. 2</i>							46.8	35.1				
* <i>Spirulina subsalsa</i>		11.7										
CHLOROPHYTA												
<i>Ankistrodesmus falcatus</i>								14.0				
<i>A. falcatus</i> v. <i>acicularis</i>				9.36	4.67	11.7	4.68	2.34	18.7			
* <i>A. falcatus</i> v. <i>tumidus</i>												
<i>Bulbochaete</i> sp.												
<i>Chaetophora</i> sp. 1			4.67						1200.	912		
<i>Chaetospheeridium globosum</i>									9.35		13500.	5790.
<i>Characium naegeli</i>											2280.	448.
<i>C. pringheimii</i>											93.3	18.7
<i>C. rostrum</i>												
<i>Closteropsis longissima</i>								2.34				
<i>Crucigenia tetrapedia</i>			4.67				2.34					
<i>Lauterborniella elegantissima</i>												
* <i>Mougeotia</i> sp. 2	16.4	140.	120.									
<i>Oocystis</i> sp.												
<i>Pedicularia tetras</i>			4.67			1.17	2.34					
<i>P. tetras</i> f. <i>evoluta</i>					1.17	1.17						
<i>P. tetras</i> v. <i>tetrandon</i>						1.17		2.34				
<i>Quadrifida closteroides</i>					1.17	1.17						
<i>Scenedesmus acuminatus</i>					1.17	1.17						
<i>S. armatus</i> v. <i>bicaudatus</i>					2.34	2.34		4.68				
<i>S. biluga</i>			9.33					16.4	9.35			
<i>S. quadricauda</i>		2.34	46.7	23.4	7.01	11.7	7.03	2.34				
<i>S. spinosus</i>												

APPENDIX C-13

October-November Periphyton (cells/mm²)

Taxa

Taxa	station											
	1	1A	3	3A	5	7A	9	9A	12	12A		
* Spirogyra sp. 2												
Tetradion caudatum					9.35							
T. trigonum					1.17							
CRYPTOPHYTA												
Cryptomonas ovata	4.67	4.67			2.34	1.17	2.34					
CHRYSOPHYTA												
Dinobryon calciforme					1.17	2.34						
Stipitococcus vasiformis				4.68	2.34							
BACILLARIOPHYTA												
Achnanthes exigua v. heterovalvata												
A. microcephala	112.	103.	28.0	9.36	1.17	1.17	7.02	1110.	803.	2170.		
Anomoeoneis vitrea	56.1	72.4	23.0	323.	3.50	5.85	140.	60.8	280.	37.4		
Asterionella formosa v. gracillima				60.8		1.17	2.34					
Cocconeis placentula v. euglypta					2.34	1.17						
Cymbella affinis	4.67									18.7	18.7	
C. lunata		2.34										
C. microcephala	7.01	37.4	4.67	28.1	2.34	1.17	7.02	9.35	18.7	18.7		
C. minuta				9.36	2.34		2.34	28.0	4.68			
Desmoulinium rabenhorstianum v. elongatum						2.34						
Diploneis puella			4.67									
Entomoneis ornata								70.2				
Eumotia curvata								178.	60.8			
E. flexuosa								9.35				
E. pectinatis V. minor								65.4	4.68	18.7		
Fragilaria capucina	16.4	21.0	9.33		3.50		4.68	37.4				
F. crotonensis	4.67							28.0	18.7			
Gomphonema acuminatum	16.0	11.7	9.33	14.0		2.34	2.34	18.7	37.4			
G. affine	7.01	14.0	4.67	14.0		9.37		18.7	112.	18.7		
G. truncatum v. capitatum		2.34										
* Melosira granulata v. angustissima					32.7	47.9	105.					
M. italica v. alpicana	7.01	7.01	9.33	4.68	1.17	1.17	2.34					
Navicula cuspidata		2.34			1.17							
N. elginensis v. rostrata					1.17				4.68			
Nitzschia acicularis												
N. lorenziana	2.34	7.01		4.68		1.17	16.0					
N. notha	74.4	119.	65.3	122.	8.18	3.51	16.4	28.0	37.4			
N. sp. 3												
Pinnularia biceps		2.34		9.36		1.17	7.03					
P. sp. 3							2.34					

APPENDIX C-13

October-November Periphyton (cells/mm²)

Taxa

	station											
	1	1A	3	3A	5	5A	7	7A	9	9A	12	12A
<i>Surirella ovalis</i>	2.34	2.34		4.68								
<i>S. sp. 1</i>					1.17	3.51	2.34	2.34	9.35			
<i>Synedra delicatissima</i>	7.01	2.34	46.7	103.	8.18	7.02	58.6	49.1	9.35	4.68		
<i>S. filiformis</i>												
PYRRENOPHYTA												
<i>Gymnodinium</i> sp.		4.67				2.34						
<i>Peridinium aciculiferum</i>												
<i>P. spp.</i>												
EUGLENOPHYTA												
<i>Lepocinclis longicauda</i>								2.34				
<i>Phacus</i> sp. 1						1.17						
<i>Trachelomonas</i> sp. 3						2.34						
FLAGELLATES AND MONADS	287.	278.	345.	267.	151.	185.	141.	267.	514.	93.5	579.	579.
CYSTS AND ZYGOTES	2.34				3.50	3.51						
TOTAL CELLS PER MM²	885.	1130.	1880.	1960.	361.	428.	1030	1390	9200.	2190.	18100.	10200.

* values reported are length segments of 10 um

** "A" designates a field duplicate

APPENDIX C-14. PERCENT COMPOSITION OF ALGAL DIVISIONS OCCURRING DURING FEBRUARY-MARCH IN PERIPHYTON SAMPLES FROM SEVEN STATIONS IN HARTWELL LAKE.

STATION	DIVISION	FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
1	CYANOPHYTA	896	896	26.38	26.38
	CHLOROPHYTA	0	899	0.00	26.47
	CHRYSEOPHYTA	0	899	0.00	26.47
	BACILLARIOPHYTA	2478	3377	72.97	99.44
	PYRRHOPHYTA	0	3377	0.00	99.44
	EUGLENOPHYTA	0	3377	0.00	99.44
	FLAGELLATES-MONA	19	3396	0.56	100.00
3	CYANOPHYTA	3165	3165	18.87	18.87
	CHLOROPHYTA	277	3442	1.65	20.52
	CHRYSEOPHYTA	0	3442	0.00	20.52
	BACILLARIOPHYTA	12299	15741	73.32	93.84
	PYRRHOPHYTA	306	16047	1.82	95.67
	EUGLENOPHYTA	0	16047	0.00	95.67
	FLAGELLATES-MONA	727	16774	4.33	100.00
5	CYANOPHYTA	1304	1304	44.47	44.47
	CHLOROPHYTA	425	1729	14.50	58.97
	CHRYSEOPHYTA	0	1729	0.00	58.97
	BACILLARIOPHYTA	869	2598	29.64	88.61
	PYRRHOPHYTA	38	2636	1.30	89.90
	EUGLENOPHYTA	0	2636	0.00	89.90
	FLAGELLATES-MONA	296	2932	10.10	100.00
7	CYANOPHYTA	673	673	55.30	55.30
	CHLOROPHYTA	4	677	0.33	55.63
	CHRYSEOPHYTA	0	677	0.00	55.63
	BACILLARIOPHYTA	344	1021	28.27	83.89
	PYRRHOPHYTA	2	1023	0.16	84.06
	EUGLENOPHYTA	5	1028	0.41	84.47
	FLAGELLATES-MONA	189	1217	15.53	100.00
9	CYANOPHYTA	9290	9290	5.05	5.05
	CHLOROPHYTA	28949	38239	15.75	20.80
	CHRYSEOPHYTA	1030	39269	0.56	21.36
	BACILLARIOPHYTA	135100	174369	73.48	94.84
	PYRRHOPHYTA	0	174369	0.00	94.84
	EUGLENOPHYTA	282	174651	0.15	94.99
	FLAGELLATES-MONA	9210	183861	5.01	100.00
12	CYANOPHYTA	26612	26612	22.33	22.33
	CHLOROPHYTA	66150	92762	55.50	77.83
	CHRYSEOPHYTA	0	92762	0.00	77.83
	BACILLARIOPHYTA	22991	115753	19.29	97.12
	PYRRHOPHYTA	0	115753	0.00	97.12
	EUGLENOPHYTA	0	115753	0.00	97.12
	FLAGELLATES-MONA	3430	119183	2.88	100.00

10 20 30 40 50 60 70
PERCENTAGE

APPENDIX C-15. PERCENT COMPOSITION OF ALGAL DIVISIONS OCCURRING DURING JUNE
IN PERIPHYTON SAMPLES FROM SEVEN STATIONS IN HARTWELL LAKE.

STATION	DIVISION	FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
1	CYANOPHYTA	43000	43000	6.52	6.52
	CHLOROPHYTA	35991	78991	5.46	11.98
	CHRYSCOPHYTA	935	79926	0.14	12.12
	BACILLARIOPHYTA	563529	643455	85.47	97.59
	PYRRHOPHYTA	0	643455	0.00	97.59
	EUGLENOPHYTA	0	643455	0.00	97.59
	FLAGELLATES-MONA	15900	659355	2.41	100.00
3	CYANOPHYTA	41120	41120	4.11	4.11
	CHLOROPHYTA	93545	134665	9.34	13.45
	CHRYSCOPHYTA	0	134665	0.00	13.45
	BACILLARIOPHYTA	774990	909655	77.41	90.86
	PYRRHOPHYTA	0	909655	0.00	90.86
	EUGLENOPHYTA	0	909655	0.00	90.86
	FLAGELLATES-MONA	91550	1001205	9.14	100.00
5	CYANOPHYTA	47230	47230	36.83	36.83
	CHLOROPHYTA	1833	49063	1.43	38.26
	CHRYSCOPHYTA	1757	50820	1.37	39.63
	BACILLARIOPHYTA	43173	93993	33.67	73.30
	PYRRHOPHYTA	117	94110	0.09	73.40
	EUGLENOPHYTA	312	94422	0.24	73.64
	FLAGELLATES-MONA	33800	128222	26.36	100.00
7	CYANOPHYTA	33860	33860	16.90	16.90
	CHLOROPHYTA	3272	37132	1.63	18.53
	CHRYSCOPHYTA	1868	39000	0.93	19.46
	BACILLARIOPHYTA	137800	176800	68.76	88.22
	PYRRHOPHYTA	0	176800	0.00	88.22
	EUGLENOPHYTA	0	176800	0.00	88.22
	FLAGELLATES-MONA	23600	200400	11.78	100.00
9	CYANOPHYTA	0	0	0.00	0.00
	CHLOROPHYTA	0	0	0.00	0.00
	CHRYSCOPHYTA	0	0	0.00	0.00
	BACILLARIOPHYTA	0	0	0.00	0.00
	PYRRHOPHYTA	0	0	0.00	0.00
	EUGLENOPHYTA	0	0	0.00	0.00
	FLAGELLATES-MONA	0	0	0.00	0.00
12	CYANOPHYTA	17228	17228	2.83	2.83
	CHLOROPHYTA	404230	421458	66.39	69.22
	CHRYSCOPHYTA	5123	426581	0.84	70.06
	BACILLARIOPHYTA	128167	554748	21.05	91.12
	PYRRHOPHYTA	930	555678	0.15	91.27
	EUGLENOPHYTA	0	555678	0.00	91.27
	FLAGELLATES-MONA	53150	608828	8.73	100.00

PERCENTAGE

APPENDIX C-16. PERCENT COMPOSITION OF ALGAL DIVISIONS OCCURRING DURING OCTOBER-NOVEMBER IN PERIPHYTON SAMPLES FROM SEVEN STATIONS IN HARTWELL LAKE.

STATION	DIVISION	FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
1	CYANOPHYTA	27520	27520	27.32	27.32
	CHLOROPHYTA	7937	35457	7.88	35.20
	CRYPTOPHYTA	467	35924	0.46	35.66
	CHRYSCOPHYTA	0	35924	0.00	35.66
	BACILLARIOPHYTA	5205	72129	35.94	71.61
	PYRRHOPHYTA	233	72362	0.23	71.84
	EUGLENCOPHYTA	0	72362	0.00	71.84
	FLAGELLATES-MONA	28250	100612	28.05	99.88
	ZYGOTES	117	100729	0.12	100.00
3	CYANOPHYTA	104768	104768	54.47	54.47
	CHLOROPHYTA	11138	115906	5.79	60.26
	CRYPTOPHYTA	0	115906	0.00	60.26
	CHRYSCOPHYTA	234	116140	0.12	60.38
	BACILLARIOPHYTA	45598	161738	23.71	84.09
	PYRRHOPHYTA	0	161738	0.00	84.09
	EUGLENCOPHYTA	0	161738	0.00	84.09
	FLAGELLATES-MONA	30600	192338	15.91	100.00
	ZYGOTES	0	192338	0.00	100.00
5	CYANOPHYTA	10926	10926	27.69	27.69
	CHLOROPHYTA	3037	13963	7.70	35.38
	CRYPTOPHYTA	175	14138	0.44	35.83
	CHRYSCOPHYTA	292	14430	0.74	36.56
	BACILLARIOPHYTA	7591	22021	19.24	55.80
	PYRRHOPHYTA	117	22138	0.30	56.10
	EUGLENCOPHYTA	175	22313	0.44	56.54
	FLAGELLATES-MONA	16800	39113	42.57	99.11
	ZYGOTES	351	39464	0.89	100.00
7	CYANOPHYTA	64809	64809	53.41	53.41
	CHLOROPHYTA	3158	67967	2.60	56.01
	CRYPTOPHYTA	117	68084	0.10	56.11
	CHRYSCOPHYTA	117	68201	0.10	56.20
	BACILLARIOPHYTA	32626	100827	26.89	83.09
	PYRRHOPHYTA	0	100827	0.00	83.09
	EUGLENCOPHYTA	117	100944	0.10	83.19
	FLAGELLATES-MONA	20400	121344	16.81	100.00
	ZYGOTES	0	121344	0.00	100.00
9	CYANOPHYTA	11705	11705	2.02	2.02
	CHLOROPHYTA	107469	119174	18.54	20.56
	CRYPTOPHYTA	0	119174	0.00	20.56
	CHRYSCOPHYTA	0	119174	0.00	20.56
	BACILLARIOPHYTA	430006	549180	74.20	94.76
	PYRRHOPHYTA	0	549180	0.00	94.76
	EUGLENCOPHYTA	0	549180	0.00	94.76
	FLAGELLATES-MONA	30375	579555	5.24	100.00
	ZYGOTES	0	579555	0.00	100.00
12	CYANOPHYTA	72850	72850	5.14	5.14
	CHLOROPHYTA	1106500	1179350	78.10	83.25
	CRYPTOPHYTA	0	1179350	0.00	83.25
	CHRYSCOPHYTA	0	1179350	0.00	83.25
	BACILLARIOPHYTA	179470	1358820	12.67	95.91
	PYRRHOPHYTA	0	1358820	0.00	95.91
	EUGLENCOPHYTA	0	1358820	0.00	95.91
	FLAGELLATE - MONA	57900	1416720	4.04	100.00
	ZYGOTES	0	1416720	0.00	100.00

APPENDIX D

ZOOPLANKTON

APPENDIX LIST

<u>APPENDIX</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
D-1	February Zooplankton Densities (#/m ³)	138
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February Zooplankton Densities (#/m³)

TAXON	1			2			3			4			5			6			7			8		
	A	B	X	A	B	X	A	B	X	A	B	X	A	B	X	A	B	X	A	B	X			
Isotifera																								
Ag. mactra sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Ag. totia hostianensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Leptotia coahuilensis	.31	.22	.27	.12	.087	.10	.35	.53	.44	.45	.48	.47	.12	.54	.87	.23	.23	.15	.92	1.2	-	.13		
Polysphincta sp.	.13	.13	.13	.11	.05	.08	.21	.15	.18	.42	.25	.34	.20	.75	.14	.15	.16	.13	.12	.13	1.4	.79		
unidentified rolfers	.061	-	.030	.37	.35	.36	-	-	-	-	-	-	.50	-	-	.50	.10	.21	.59	.50	-	-		
Cicadocera																								
Aloma costalis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Boronia longirostris	.20	.25	.23	.27	.22	.25	.50	.40	.25	.59	.46	.53	1.1	.49	.80	.74	.11	.91	4.0	4.4	1.0	2.1		
Ceriodaphnia quadrangula	<.001	-	<.001	-	-	-	-	-	-	-	-	-	-	-	-	<.001	<.001	<.001	4.0	4.4	-	-		
Chydorus sphaericus	.0059	.0074	.0066	.076	.048	.062	.026	.0058	.016	.030	.022	.026	.0097	.0049	.0049	.078	.18	.13	.060	.071	.076	.025		
Daphnia parva	.022	.026	.024	.0039	.0039	.0039	-	<.001	<.001	-	-	-	.019	<.001	<.001	.012	.017	.015	.060	.11	.065	.0057		
Diaphanosoma brachyura	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bolepidium amazonicum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Copepoda																								
Calanoida																								
Diaptomus misakiensis	.22	.15	.19	.10	.095	.090	.15	.23	.19	.070	.11	.090	.024	.039	.032	.12	.25	.19	.15	.63	.39	.18		
Cyclopoida																								
Cyclops bicuspidatus thomasi adults	.017	.015	.016	.049	.008	.028	2.0	2.7	2.4	4.7	3.6	4.2	.63	.45	.54	-	.049	.025	.20	.14	.17	.0076		
Neocyclops adae adults	-	-	-	-	-	-	-	-	-	-	-	-	.0093	.0047	-	-	-	-	.031	.043	.033	.0076		
Paracyclops fimbriatus poppei adults	.28	.29	.29	.18	.12	.15	-	.60	.50	.20	1.0	.60	-	.31	.16	.31	.41	.36	.057	.12	.049	.0076		
Thropocyclops prasinus adults	1.5	1.3	1.4	1.6	.65	1.1	1.3	35	24	20	25	23	4.3	4.9	4.6	4.9	5.7	5.3	1.5	1.9	1.7			
cyclopoid copepods	3.1	.18	2.5	3.5	3.6	3.6	21	26	24	71	57	64	46	17	32	10	6.9	8.5	5.4	6.7	6.1			
copepod nauplii	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TOTAL DENSITY	20			18			115			182			68			40			27			46		

APPENDIX D-2

April Zooplankton Densities (#/m³)

TAXON	1			2			3			4			5			6			7			8		
	A	B	Z	A	B	Z	A	B	Z	A	B	Z	A	B	Z	A	B	Z	A	B	Z	A	B	Z
Rotifers																								
<i>Asplanchna</i> sp.	-	-	-	.0070	.037	.022	.21	.26	.24	11	1.8	6.4	26	2.5	16	.075	.049	.062	3.3	2.1	2.7	15	1.7	8.2
<i>Conochilus unicornis</i>	-	.0075	.0038	.011	-	.0053	.45	.39	.42	4.4	1.8	3.1	4.4	2.5	3.5	.15	-	.075	.096	-	.048	9.7	1.2	5.5
<i>Leptocotia boscianalis</i>	-	-	-	-	.42	.23	-	.56	.28	-	.57	.29	-	-	-	-	-	-	-	-	-	-	-	-
<i>Monostyla oochloris</i>	-	-	-	1.4	3.1	2.3	29	17	23	100	74	88	6.1	3.9	5.0	.74	1.5	1.1	.96	.48	.72	14	8.4	11
<i>Monostyla</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Polyarthra</i> sp.	5.1	5.0	5.1	16	20	18	25	8.2	17	41	19	30	17	5.7	11	18	26	22	11	10	11	21	15	16
<i>Trichocerca</i> sp.	-	-	-	1.6	2.9	2.3	4.4	3.7	4.0	-	.57	.29	.55	2.5	2.9	.29	.21	.25	.67	.38	.55	-	2.2	1.1
unidentified rotifers	.033	-	.017	.80	1.3	1.1	-	2.0	1.0	6.6	2.9	4.7	3.3	2.5	2.9	-	-	-	-	-	-	-	-	-
Copepoda																								
<i>Alona oostata</i>	.0083	-	.0042	-	7.6	8.8	8.2	.0077	.0099	.0084	-	30	45	13	29	32	39	-	.012	.045	.029	-	-	-
<i>Bosmina longirostris</i>	2.3	5.1	5.7	.0035	.0032	.0036	-	.0050	.0025	.029	.036	.030	.078	.016	.047	-	-	56	25	16	21	11	15	13
<i>Daphnia hyalina</i>	.0055	.0019	.0037	.021	.0074	.014	.077	.065	.071	.049	.036	.40	.15	.056	.10	.21	.35	.28	.016	.043	.027	.014	-	.007
<i>Daphnia pulex</i>	-	.0019	.0010	.0035	.0037	.0036	-	.0099	.0050	.0097	-	.0049	.029	.013	.021	-	-	-	.015	.010	.013	.014	.001	.023
<i>Diacyclops thomasi</i>	.011	.024	.018	.011	.0037	.0074	.031	.015	.023	.039	.01	.025	.049	.0094	.029	.036	.042	.039	.039	.033	.036	.014	-	.007
<i>Leptodora kindtii</i>	-	.0019	.0010	-	.0037	.0019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copepoda																								
<i>Calanula</i>	.0028	.0019	.0024	.0078	-	.0035	.015	.045	.030	-	-	-	.020	.0031	.012	.054	.030	.032	.020	.0041	.013	-	.001	.023
<i>Diaptomus microleptus</i>	.064	.045	.055	.081	.070	.076	.25	.12	.19	.24	.17	.21	.42	.18	.30	.068	.13	.094	.20	.16	.18	-	-	-
<i>Copepodids</i>																								
<i>Cyclopoida</i>																								
<i>Cyclops bicuspidatus thomasi</i>	.053	.049	.051	.070	.23	.15	.22	1.0	.61	-	-	-	-	-	-	.49	.81	.66	.089	.12	.10	.051	.001	.026
<i>Tropocyclops prasinus</i>	.044	.041	.043	.14	.45	.30	.22	.15	.19	1.4	.62	1.0	-	-	-	-	.001	.12	.06	-	-	.61	.32	.47
<i>Polyarthra funebris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cyclopoid copepodids</i>	.36	.33	.35	1.6	2.2	1.9	12	15	13	24	18	21	25	73	16	5.7	5.3	5.5	4.7	2.9	3.8	5.8	5.0	5.4
<i>Copepod nauplii</i>	.46	.85	.66	2.8	5.5	4.1	67	32	50	120	83	102	72	25	49	7.8	4.7	6.3	3.7	4.7	4.2	21	23	22
Ostracoda																								
<i>Ostracoda</i>	.0028	-	.0014	-	.0074	.0037	-	-	-	-	.010	.005	-	-	-	-	-	-	.0051	.0041	.0046	-	-	-
TOTAL	10			39			143			292			133			73			45					85

APPENDIX D-3

June Zooplankton Densities (#/m³)

TAXON	1			2			3			4			5			6			7			8		
	A	B	X	A	B	X	A	B	X	A	B	X	A	B	X	A	B	X	A	B	X	A	B	X
Calanidia																								
<i>Hydra</i>																								
Rotifers																								
<i>Asplanorbis</i> sp.	3.2	10	6.6	2.2	1.1	1.7	8.0	5.0	6.0	11	8.7	9.9	7.5	5.9	6.7	.33	.35	.34	-	-	-	50	143	97
<i>Conochilus unilocensis</i>				.028	.0052	.017	.45	1.5	1.0	2.8	1.2	2.0	2.2	1.7	2.0	.49	.22	.36	-	-	-	-	-	-
<i>Senecella ocellata</i>	6.5	28	17	13	13	13	13	19	16	29	13	21	18	8.7	13	44	21	33	7.1	11	9.1	68	207	138
<i>Polysphora</i> sp.	4.5	17	11	4.7	5.9	5.3	2.2	4.2	3.2	6.3	3.9	5.1	8.6	11	9.8	8.5	5.3	6.9	4.3	6.3	5.3	6.9	32	19
<i>Trichocerca</i> sp.	.060	-	.030	2.2	.53	1.4	8.8	9.5	9.2	18	16	17	24	24	26	-	.67	.34	-	-	-	3.8	28	16
Unidentified Rotifers	.42	.49	.46	-	-	-	.29	-	.15	-	-	-	-	-	-	5.0	.67	2.8	17	26	21	36	97	67
Copepoda																								
<i>Alona costata</i>	3.5	20	12	5.5	4.6	5.0	.0034	.0044	.0039	-	.0051	.0076	.0047	-	.0024	-	-	-	-	-	-	-	-	-
<i>Boeckella longirostris</i>	.060	.24	.15	1.1	.042	.076	.065	.076	.071	95	.44	.70	105	.56	.81	2.1	1.1	1.6	.36	.36	.36	10	22	16
<i>Chydorus quadricornis</i>	.0070	.012	.010	.0040	-	.0020	-	-	-	.26	.12	.19	.078	.0068	.028	.23	.10	.17	-	-	-	-	-	-
<i>Daphnia pulex</i>	.46	1.3	.88	.28	.35	.32	.23	.32	.28	.50	.32	.41	.25	.010	.018	.30	.41	.36	.85	.64	.77	-	-	-
<i>Diaphanosoma brachyurum</i>	.37	1.2	.79	.41	.27	.34	.16	.15	.16	.54	.27	.31	.50	.88	.73	6.1	2.3	4.2	9.5	11	10	.082	.095	.089
<i>Notolipidion anomalous</i>	.90	4.9	2.9	.45	.42	.44	.22	.18	.20	.17	.13	.15	.014	.010	.012	5.1	2.4	3.8	.82	.77	.80	.045	.047	.046
<i>Leptodora kindtii</i>	.0035	.12	.062	.032	.042	.037	.0034	.022	.013	.058	.026	.042	-	-	-	.065	.036	.051	.024	.10	.062	-	-	-
Copepoda																								
<i>Calanoida</i>																								
<i>Diaptomus microps</i>	.074	.20	.14	.077	.052	.065	.055	.085	.070	1.1	.77	.94	.13	.071	.10	.14	.11	.13	.072	.13	.10	-	-	-
<i>Copepodids</i>	.30	1.27	.79	.21	.20	.20	.89	.73	.81	.22	.056	.14	1.2	.68	1.0	.58	.12	.25	.36	.36	.36	.052	.071	.062
Cyclopoida																								
<i>Cyclops bicuspidatus thomasi</i>	-	-	-	-	-	-	.0029	.0044	.0037	-	.0043	.0022	-	-	-	-	.0033	.0017	-	-	-	-	-	-
<i>Diacyclops thomasi</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.0040	.0030	.0030	-	-	-	-	-	-
<i>Diacyclops thomasi</i>	.49	.25	.15	.57	.62	.60	-	-	-	.039	.014	.027	.039	.014	.027	.0072	.0065	.0067	.90	.64	.77	-	-	-
<i>Diacyclops edax</i>	4.1	25	15	2.9	2.5	2.7	1.2	1.5	1.4	11	6.5	8.8	16	9.2	13	1.7	1.1	1.4	.48	.44	.46	1.3	2.0	1.7
<i>Diacyclops prasinus</i>	6.7	35	21	7.3	6.3	6.8	2.9	1.9	2.4	31	17	24	31	17	24	4.8	2.9	3.9	4.7	3.8	4.3	10	40	25
<i>Copepodids</i>	1.2	61	37	1.3	1.4	1.4	16	14	15	79	38	59	76	51	64	14	7.4	11	11	16	14	23	76	50
<i>Nauplii</i>	-	.012	.0060	-	-	-	-	-	-	.0083	-	.0042	-	.010	.0050	-	-	-	-	-	-	-	-	-
Ostracoda																								
<i>Chaoborus</i> sp.	-	.023	.012	-	.0052	.0026	-	-	-	.041	.015	.028	.061	.058	.060	.015	.0033	.0092	.084	.095	.089	-	-	-
Insecta																								
TOTAL																								
	126			52			75			219			241			71			67					430

APPENDIX D-4

July Zooplankton Densities (#/m³)

TAXON	1			2			3			4			5			6			7			8		
	A	B	I	A	B	I	A	B	I	A	B	I	A	B	I	A	B	I	A	B	I	A	B	I
Rotifera																								
<i>Asplanchna</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	.032	.0092	.020	.0031	.016	.0097	2.4	2.5	2.4	-	.03	2.4
<i>Brachionus</i> <i>hanseni</i>	-	-	-	-	-	-	.59	.69	.54	-	-	-	.47	.028	.25	.019	.057	.039	-	.10	.006	.090	1.2	1.6
<i>Conochilus</i> <i>unioformis</i>	.18	.055	.12	.65	.18	.48	.29	.29	.15	-	-	-	-	-	-	.27	.17	.22	-	-	-	-	1.2	1.6
<i>Helicostia</i> <i>bostoniensis</i>	3.4	3.5	3.5	3.4	8.4	5.9	37	84	61	24	62	45	2.8	.86	1.8	2.7	2.9	2.8	16	13	14	4.7	7.9	6.3
<i>Marsetella</i> sp.	.52	.44	.48	.24	-	-	12	27	19	11	30	21	67	9.3	38	-	.37	.18	18	14	16	25	43	34
<i>Platyolus</i> <i>patulus</i>	-	-	-	-	-	-	-	-	-	.075	-	-	.0079	.0037	.0058	-	-	-	.0051	.0044	.0048	-	.023	.011
<i>Ploesoma</i> sp.	.20	.28	.29	.47	.16	1.1	15	34	2.9	3.8	7.1	5.5	1.5	.23	18	.74	1.2	.95	10	9.8	9.9	2.0	4.4	3.4
<i>Polysartha</i> sp.	.121	.86	.103	.63	.135	.99	14	55	.35	5.3	12	8.6	5.9	1.8	3.8	.53	1.4	.96	3.5	6.8	5.2	5.0	9.7	7.3
<i>Polyura</i> sp.	.12	.11	.12	.16	-	.079	3.8	6.8	5.3	1.5	2.4	1.9	2.5	.006	1.3	.63	.70	.71	26	25	26	1.7	2.4	2.0
<i>Trichocerca</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	.54	.53	.54	.27	.87	.57	7.5	8.7	8.1	5.8	4.9	3.4
Copepoda																								
<i>Alona</i> <i>costata</i>	1.1	.59	.83	.48	1.8	1.1	13	31	.22	5.0	10	7.6	5.2	.65	2.9	.60	.55	.54	.35	.26	.32	2.4	4.8	3.6
<i>Boecklinia</i> <i>longirostris</i>	.12	.18	.11	.005	.46	.27	1.2	2.7	1.9	.91	5.2	3.0	.016	-	.0080	.0062	.012	.0092	.020	.037	.029	.18	.23	.20
<i>Boecklinia</i> <i>diatoma</i>	-	-	-	.0031	-	-	-	.017	.0066	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cyclopoida</i> <i>quadrimaculata</i>	-	-	-	.0031	-	-	.016	.017	.014	-	-	-	-	-	-	.019	.025	.020	-	-	-	-	-	-
<i>Diaptomus</i> <i>spumellus</i>	1.1	.82	.94	2.1	6.6	4.4	14	33	23	4.1	13	8.7	.13	.0055	.070	2.4	2.3	2.4	.64	.81	.73	.22	.56	.34
<i>Diaptomus</i> <i>brachyurus</i>	.048	.074	.057	.008	.36	.26	.19	.36	.27	.27	1.0	.64	.032	.0037	.018	.075	.001	.078	.15	.11	.13	-	.064	.034
<i>Leptodora</i> <i>kindtii</i>	.061	.011	.036	.048	.18	.11	.021	.006	.053	-	-	-	-	-	-	.025	.0081	.017	.0051	-	-	.0026	.41	.64
<i>Neutera</i> <i>minuta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copepoda																								
<i>Calanoida</i>																								
<i>Diaptomus</i> <i>minicriptus</i>	.53	.72	.63	1.4	7.5	4.5	1.5	3.4	2.4	.075	.17	.12	-	-	-	.79	.78	.79	.076	.042	.057	.012	.048	.040
<i>Copepodids</i>	4.2	3.4	3.8	6.3	22	14	5.6	13	9.3	.37	1.3	.85	.016	.0018	.0088	4.6	5.1	4.8	.22	.29	.26	.093	.20	.15
Cyclopoida																								
<i>Tropocyclops</i> <i>prasinus</i>	.061	.033	.047	.015	.36	.19	11	30	.21	4.4	8.0	6.2	1.1	.13	.64	.26	.20	.23	.53	.37	.45	.33	.48	.40
<i>Neocyclops</i> <i>edax</i>	.036	.072	.057	.005	.20	.14	.29	-	.15	-	-	-	-	-	-	.18	.21	.19	-	-	-	.012	.48	.0054
<i>Cyclopoid</i> <i>copepodids</i>	.57	.42	.50	.18	.56	.37	24	51	.37	3.1	8.8	6.0	1.1	.18	.66	.39	.54	.46	.81	.48	.64	.68	1.7	1.2
<i>Neuphil</i>	14	16	15	13	31	22	40	83	.61	5.4	11	8.3	5.3	.63	5.0	10	14	12	1.5	1.6	1.6	31	60	45
Insecta																								
<i>Chaoborus</i> sp.	-	-	-	-	-	-	.010	-	.0050	.015	.033	.024	-	.0018	.001	.0031	-	.0016	-	-	-	-	-	-
TOTAL	129			154			326			139			71			98			86					117

APPENDIX D-5

October Zooplankton Densities (#/m³)

TAXON	1			2			3			4			5			6			7			8		
	A	B	I	A	B	I	A	B	I	A	B	I	A	B	I	A	B	I	A	B	I	A	B	I
Rotifera																								
<i>Asplanchna</i> sp.	.012	.019	.016	.75	.43	.59				.40	.044	.22	.71	.56	.63	.054	.057	.055	.57	.54	.55	1.7	6.0	3.9
<i>Conochilus wilsoniae</i>	-	-	-	.0083	-	.0042				1.8	.13	.98	.35	.56	.45	.049	.068	.058	.011	.13	.072	.45	1.9	1.2
<i>Kellicottia bostoniensis</i>	-	-	-	.30	.91	.60				15	4.2	9.7	.41	-	.21	3.3	2.0	2.7	1.2	.53	.84	-	-	-
<i>Keratella cochlearia</i>	23	27	25	21	21	21				320	115	367	53	149	101	11	12	213	280	247	136	387	262	
<i>Keratella</i> sp.	-	-	-	-	-	-				.95	-	.48	2.9	1.2	7.5	.17	-	.087	7.3	12	9.7	4.2	11	7.5
<i>Leanea</i> sp.	.15	-	.075	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Monostyla</i> sp.	-	-	-	.30	-	.15				-	-	-	-	-	-	.17	-	.087	-	-	-	-	-	-
<i>Platyias patulae</i>	7.3	4.2	5.8	4.7	8.0	6.4				1.9	1.1	1.1	55	158	107	6.3	5.5	5.9	34	43	38	63	149	106
<i>Ploesoma</i> sp.	5.1	5.0	5.0	7.7	7.1	7.4				773	23	98	20	61	41	9.0	7.0	8.0	34	37	36	23	80	52
<i>Polyarthra</i> sp.	.15	.39	.27	.30	.46	.38				1.9	-	.96	2.1	1.8	1.9	.52	.80	.46	-	-	-	1.9	1.1	1.5
<i>Trichocerca</i> sp.	5.7	7.6	6.7	3.9	8.2	6.0				50	9.1	29	3.3	17	10	3.0	4.1	3.6	5.4	8.4	6.9	4.2	17	11
Glabrera																								
<i>Alona costata</i>	-	-	-	.95	.40	.48				.027	.0063	.017	-	-	-	-	-	-	-	-	-	-	-	-
<i>Alona longirostris</i>	3.1	3.3	3.2	-	-	-				4.3	.73	.25	.99	2.7	1.8	6.3	8.4	7.3	10	17	14	.89	3.1	2.0
<i>Ceriodaphnia quadrangula</i>	.0083	.0027	.0055	.48	.28	.38				2.6	.71	1.7	-	.25	.0128	.64	.90	.79	-	-	-	.16	.61	.38
<i>Chydorus sphaericus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Daphnia pulex</i>	.0041	-	.0021	.025	.019	.022				1.8	.21	1.0	-	-	-	.083	.040	.072	.022	-	.011	.040	.27	.157
<i>Diaplanesoma brachyurum</i>	.51	.59	.60	1.4	.71	1.1				.32	.11	.22	.070	.025	.048	.41	.28	.35	-	-	-	.77	.73	.50
<i>Diaplanesoma oregonicum</i>	.083	.060	.071	-	.032	.016				.054	.013	.033	-	-	-	.0098	.011	.011	.043	.15	.096	.013	.061	.037
<i>Leptodora kindtii</i>	-	.0083	.0041	.033	.0064	.020				.027	-	.014	-	.025	.013	.0098	.001	.011	-	.030	.015	.027	.031	.029
Copepoda																								
<i>Calanoida</i>																								
<i>Diaptomus microps</i> adults	-	.0082	.0041	.0083	-	.0042				.354	.019	.036	.11	.051	.078	.17	.14	.15	-	-	-	.040	.18	.11
<i>Diaptomus</i>	.012	.011	.012	.70	.51	.61				2.0	.40	1.7	-	-	-	.86	.87	.87	.098	.030	.064	.46	1.5	.96
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diaptomus</i>	-	-	-	-	-	-				-	-	-												

APPENDIX E

MACROBENTHIC INVERTEBRATES

APPENDIX LIST

<u>APPENDIX</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
E-1	Ponar Densities	145
E-2	Ponar Biomass	152
E-3	Hester-Dendy Densities	159
E-4	Hester-Dendy Biomass	180

April Ponar Densities

 $(\#/m^2)$ [illegible]

* Indicates the presence of statocysts and/or soft tissue from this colonial organism

April Ponar Densities

 $(\#/m^2)$ [illegible]

APPENDIX E-1

June Ponar Densities

(3/m²)

TAXON	1			3			5			7			9			12		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Cnidaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hydra americana</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbellaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ectoprocta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pectinella magnifica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bivalvia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Corbicula manilensis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juvenile Corbiculacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Musculium</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oligochaeta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naididae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Noia variabilis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pristina brevipes</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>P. oeborni</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Stylaria lacustris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>S. foederalis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tubificidae spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Tubifex tubifex</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lumbriculidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ostracoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lymnaea</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hyalella astera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copepoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopoids	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arachnoidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrocarina	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Megaloptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Indicates the presence of statocysts and/or soft tissue from this colonial organism

NS = Not sampled

June Ponar Densities

(#/m²)

[illegible]

NS = Not sampled

APPENDIX E-1

June Ponar Densities

(#/m²)

TAXON	1			3			5			7			9			12		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
<i>Folypedium fallax</i>	-	-	-	-	-	-	110	-	-	-	-	-	-	-	-	190	-	-
<i>P. illinoense</i>	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-
<i>Cryptochironomus fulvus</i>	-	-	-	20	70	-	20	670	200	20	-	-	-	-	-	-	-	63
<i>C. sp.</i>	-	-	-	40	20	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cryptotendipes</i> sp.	-	-	-	-	-	-	-	220	240	-	-	-	-	-	-	-	-	-
<i>Paratubermiella</i> sp.	-	-	-	-	-	-	370	-	-	-	-	-	-	-	-	-	-	-
<i>Microspectra</i> sp.	-	-	-	-	-	-	20	60	-	-	-	-	-	-	-	-	-	-
<i>Rhaotanytarsus</i> sp. A	-	-	-	20	20	-	-	1260	-	-	-	-	-	-	-	-	-	-
<i>R. sp. B</i>	-	-	-	-	-	-	-	1130	-	-	-	-	-	-	-	-	-	-
<i>Chironomus</i> sp.	-	-	-	-	-	-	10	2960	130	-	-	-	-	-	-	-	-	-
Total Numbers of Organisms	410	300	1440	1065	2360	1071	9690	12820	3820	8424	890	1220	770	971	330	470	380	2098
Total Numbers of Species	8	6	5	15	10	18	14	25	12	36	6	8	1	11	1	2	2	18
H' ... Shannon Diversity Index	-	-	-	0.64	-	0.99	-	-	-	2.18	-	-	-	1.18	-	0.13	-	1.60

NS = Not sampled

APPENDIX E-1

November Ponar Densities

(#/m²)

TAXON	1			3			5			7			9			12		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Onidaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydra americana	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	NS
Turbellaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-
Ectopoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pectinella marginifera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bivalvia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Corbicula montana	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juvénile Corbicula	470	50	20	180	4770	10	3593	20	7	320	20	113	-	-	-	-	-	-
Mytilus sp.	40	30	-	23	20	-	7	-	-	-	30	10	-	-	-	50	-	25
Anadonta sp.	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-
Gastropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ferrissia triangularis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	5
Physa sp.	-	-	-	-	30	-	10	20	-	-	-	-	-	-	-	-	30	15
Aligochaeta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naididae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vale Vorticellidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tubificidae	20	50	2780	950	-	180	1790	1080	460	30	390	170	10	900	360	-	10	8050
Limnocolidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60
Arthropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gammaridae	10	10	-	7	40	-	13	40	-	-	13	10	-	-	3	-	-	-
Limnocoetidae sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hyalella latipes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decapoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stomatopoda paludosus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arachnida	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydracarina	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Indicates the presence of statocysts and/or soft tissue from this colony

NS = Not sampled

APPENDIX E-1

November Ponar Densities

(#/m²)

TAXON	1			3			5			7			9			12		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
<i>Gomphus</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	NS	-	10	NS
<i>Ephemeroptera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Herpoclelea</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	5
<i>Stemmatopoda</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	5
<i>Stemmatopoda rubrum</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	10
<i>Megaloptera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Stellia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Trichoptera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Neuroclipeis</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diptera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ceratopogonidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ceratopogoninae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Tipulidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Antocha</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Culicidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chaoborus</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chironomidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ablabesmyia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Procladius</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Psectrocladius tricolor</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Tanytarsus</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chironomus</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cryptochironomus fuscus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Drepanocentropus nervosus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>D. nemodactylus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>D. lobus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Oricotopus</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Psectrocladius</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Numbers of Organisms	570	210	3120	1340	4950	3450	1790	3389	1270	1610	610	941	550	330	4090	1642	180	9220
Total Numbers of Species	5	7	5	10	8	9	1	16	8	7	6	15	7	9	7	14	3	16
H' - Shannon Diversity Index				1.00			1.20					1.64				1.26		0.68

NS = Not sampled

APPENDIX E-2

April Ponar Biomass

(g/m²)

TAXON	1			3			5			7			9			12		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Nematoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ectoprocta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pectinella magnifica	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bivalvia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Corbicula montanensis	33.55	0.80	11.27	32.50	-	-	10.83	1.125	-	-	-	-	-	-	-	-	-	-
Juvenile Corbiculaceae	0.43	0.21	0.34	0.33	0.22	0.20	0.14	2.07	0.41	0.03	0.83	0.10	0.15	-	2.42	0.04	0.04	0.06
Oligochaeta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naididae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chaetogaster diastrophus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alloniscus peatinata	.006	-	-	.002	-	-	-	.006	-	.002	-	.006	.006	.004	-	.042	-	-
Pristina oaborni	-	-	-	-	-	-	-	.006	.002	-	-	-	-	-	-	-	-	-
P. leidy	-	.03	.01	-	-	-	-	.006	.002	-	.006	.006	.002	-	-	-	-	-
P. sp.	.024	.018	.040	.044	.024	.008	.010	.032	.006	.013	.054	.030	.024	.036	-	.012	-	.004
Paranais sp.	-	-	-	-	-	-	-	-	-	-	.012	.006	.006	-	-	-	-	-
Tubificidae	.246	.533	-	.260	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Branchiura sowerbyi	.364	-	.164	.176	1.476	.041	.506	.943	.328	.041	.437	-	-	-	-	-	-	-
Limodrilus hoffmeisteri	.102	.390	.948	.480	.036	.072	.030	.810	.468	.006	.428	.054	.030	.018	.034	42.1	4.7	9.2
Tubificidae spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.084	.084	.065
Lumbriculidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enchytraeidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hyalella asteca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.180	.020	1.4
Copepoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Odonata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plathemis lydia	.224	-	-	.075	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zygodactylus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ephemera immaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	459	.25	.918

* Biomass estimated at less than 1 % of station total

a Wet weight - Shell not included

b Wet weight - Shell included

APPENDIX E-2

April Ponar Biomass

(g/m²)

	1			3			5			7			9			12		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
<i>Stenonema rubrum</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.102	.034
<i>Pseudocloeon</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.153	.051
Trichoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydroptilidae sp.	-	-	-	.071	-	-	-	-	-	.142	-	-	-	-	-	-	-	-
Neuroclitidae sp.	-	-	-	-	-	-	-	-	-	-	-	.047	-	-	-	-	-	-
<i>Chamaetopsephus</i> sp.	-	-	-	-	-	-	-	-	-	-	.071	-	-	-	-	-	-	-
Megaloptera	-	-	-	-	-	-	-	-	-	-	-	.024	-	-	-	-	-	-
<i>Sialis</i> sp.	.392	-	.131	.392	.392	-	.261	.392	-	.131	-	-	-	-	-	-	-	-
Tipulidae sp. (pupae)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calicidae	.014	-	-	.005	-	-	-	-	-	-	-	-	.008	-	.003	.016	.008	.016
<i>Chironomus</i> sp.	-	-	-	-	.154	.994	.383	-	.070	1.25	.440	-	.014	.005	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Procladius</i> sp.	-	.048	.016	.008	.096	-	.033	.016	.040	.064	.040	-	-	-	-	-	-	-
<i>Chironomus</i> spp.	-	.296	.099	-	.056	.024	.027	.048	.272	.456	.259	-	-	-	-	-	.552	1.95
<i>Dixaetendipes</i> sp.	-	-	-	-	-	-	-	.048	.104	-	.051	.056	.016	.045	.016	.008	.016	.013
<i>Cryptochironomus fuscus</i>	-	.064	.021	.024	.048	-	.024	.048	.040	-	.029	-	-	-	-	-	.472	.182
<i>Trihelos</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.552	1.95
<i>Orthocladus</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.408	1.02
<i>Cardiocladius</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.408	1.02
<i>Psectrocladius</i> sp. 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.232	.104
<i>P. sp. 2</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.136	.760
<i>Eukiefferella</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.160	.408
<i>Cricotopus</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.128	.504
<i>Brillia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.152	.051
Chironomidae (pupae)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.208	.069
Total Biomass	35.0	1.54	2.78	12.92	34.8	1.07	1.06	12.26	5.54	1.73	1.86	3.05	0.41	0.41	1.07	0.63	2.48	0.89
																	44.5	8.54
																	23.6	25.88

APPENDIX E-2

June Ponar Biomass

(g/m²)

TAXON	1			3			5			7			9			12		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Caudoidea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Rhyda americana</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbellaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ectoprocta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pectinella magnifica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bivalvia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Corbicula monilemista</i> ^a	18.57	-	-	6.19	40.53	-	-	-	-	-	-	-	-	-	-	-	-	-
Juvenile Corbiculacea	-	.020	.005	.008	.020	.215	-	-	-	-	-	-	-	-	-	-	-	-
<i>Musculium</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oligochaeta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naididae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Nais varicollis</i>	-	.006	.002	.002	.006	-	.003	.006	.236	.018	.087	-	-	-	-	.071	.065	-
<i>Pristina brevifolia</i>	.006	-	-	.002	-	-	-	.110	-	.037	.006	-	-	-	-	-	-	-
<i>P. osborni</i>	.012	-	-	.004	-	-	-	-	-	.018	-	-	-	-	-	.012	-	.004
<i>Stylaria lanasteris</i>	-	-	-	-	-	-	-	-	-	.006	.002	-	-	-	-	-	-	-
<i>S. foeniculata</i>	-	.006	.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tubificidae sp.	.420	.280	1.96	10.13	1.05	2.44	1.75	11.33	1.15	.798	4.43	.294	-	-	-	5.15	.098	.01
<i>Tubifex tubifex</i>	-	-	-	-	-	-	-	.663	-	-	-	-	-	-	-	3.89	1.80	-
Lumbricidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ostracoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lymanoethere</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Rhyacella aspera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.120	.140	-
Copepoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopoida	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arachnoida	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrocermia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NS = Not sampled

^a Biomass estimated at less than 1 % of station total

^a Wet weight - Shell not included

^b Wet weight - Shell included

APPENDIX E-2

June Ponar Biomass

(g/m²)

TAXON	1			3			5			7			9			12		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Insecta																		
Megaloptera																		
<i>Sialis</i> sp.																		
Trichoptera																		
<i>Neuroclipsis</i> sp.																		
<i>Hydropsyche</i> sp.																		
<i>Hydropsyche</i> sp.																		
<i>Gehretzichia</i> sp.																		
Diptera																		
<i>Sciomyzidae</i>																		
<i>Diachya</i> sp.																		
<i>Ceratopogonidae</i>																		
<i>Culicidae</i>																		
<i>Chaoborus</i> sp.																		
<i>Tipulidae</i>																		
<i>Tipula</i> sp.																		
<i>Antocha</i> sp.																		
Chironomidae																		
<i>Alabesmyia mallochii</i>																		
<i>A. sp.</i>																		
<i>Procladius</i> sp.																		
<i>Conchapelopia</i> sp.																		
<i>Coelotanytus</i> sp.																		
<i>Eukiefferiella</i> sp.																		
<i>Brillia</i> sp.																		
<i>Psectrocladius</i> sp.																		
<i>Cricotopus</i> sp.																		
<i>Chironomus</i> sp.																		
<i>Dricotendipes vernalis</i>																		
<i>D. neomodestus</i>																		
<i>D. lobus</i>																		

NS = Not sampled

APPENDIX E-2

June Ponar Biomass

(g/m²)

TAXON	1			3			5			7			9			12		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
<i>Glyptotendipes</i>	-	-	-	.008	-	-	.004	-	-	-	-	-	-	-	-	-	-	-
<i>Goeletichironomus</i>	.008	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-
<i>Polypedilum fallax</i>	-	-	-	-	-	-	-	.088	-	-	-	-	-	-	-	-	-	-
<i>P. illinoense</i>	-	-	-	-	-	-	-	-	.029	-	-	-	-	-	-	.152	-	.051
<i>Cryptochironomus fluminalis</i>	.008	.008	.053	.016	.065	.027	.024	.016	.536	.160	.712	.053	-	-	-	-	-	-
<i>C. sp.</i>	-	-	-	.032	.016	-	-	-	.176	.192	.123	-	-	-	-	-	-	-
<i>Glyptotendipes</i> sp.	-	-	-	-	-	-	-	-	.296	-	.099	-	-	-	-	-	-	-
<i>Paratendipes</i>	.008	-	-	-	-	-	-	.016	.048	-	.021	-	-	-	-	-	-	-
<i>Micropectra</i> sp.	-	-	-	.016	.016	.016	-	-	1.008	-	.336	-	-	-	-	-	-	-
<i>Rhyacotendipes</i> sp. A	-	-	-	-	-	-	-	-	.904	-	.301	-	-	-	-	-	-	-
<i>R. sp. B</i>	-	-	-	-	-	-	-	-	.008	.2368	.104	.804	-	-	-	-	-	-
<i>Chironomidini</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Biomass	19.2	0.32	1.99	16.43	42.2	2.80	25.5	28.7	11.47	2.55	9.35	5.47	1.79	0.41	2.60	0.71	1.64	.90
																20.3	2.9	0.02
																		6.78

NS = Not sampled

APPENDIX E-2

November Ponar Biomass

(g/m²)

TAXON	1			3			5			7			9			12		
	A	R	C	A	R	C	A	R	C	A	R	C	A	R	C	A	R	C
<i>Caprellia</i>	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	.02	-	NS
<i>Hydra americana</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.01
<i>Turbellaria</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.01
<i>Ectoprocta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Polysiphonia magnifica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Nollusca</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Nivalia</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Corbicula manilensis</i> *	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Juvenile Corbiculacea</i>	.270	.029	.011	.103	5.63	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hydrobia</i> sp. a	1.94	1.44	-	1.13	0.96	-	-	-	-	-	-	-	-	-	-	-	-	1.20
<i>Anodonta</i> sp. b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Gastropoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ferussia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.030
<i>Physa</i> sp.	-	-	-	-	.897	-	.299	.598	-	.199	-	-	-	-	-	-	.897	.449
<i>Nilssonius</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Naididae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Maia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.030
<i>Tubificidae</i>	.026	.056	3.61	1.23	-	.234	2.32	.854	1.40	.598	.039	.680	.221	.013	1.17	.468	-	5.233
<i>Lumbricidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Arthropoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Crustacea</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ostracoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Limnocothea</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Amphipoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hyalella aspera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.056
<i>Decapoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Palaeomonetes pulex</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Arachnoidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hydracarina</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Insecta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Odonata</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Comptidae</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.128

NS = Not sampled

* Biomass estimated at less than 1 % of station total

a Wet weight - Shell not included

b Wet weight - Shell included

November Ponar Biomass

 (g/m^2)

TAXON	1			3			5			7			9			12				
	A	B	C	X̄	A	B	C	X̄	A	B	C	X̄	A	B	C	X̄	A	B	C	X̄
Gomphus sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ephemeroptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heterocid sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heterocidom sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stenocranus rubrum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Megaloptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jalife sp.	-	-	-	-	-	-	-	-	-	-	-	-	.392	-	-	-	-	-	-	-
Trichoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pseudoclitia sp.	-	-	-	-	.038	-	-	.013	.038	-	.038	.026	.076	.076	.114	.089	-	-	-	-
Diptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ceratopogonidae	.021	-	-	.007	-	.007	-	.002	.007	-	.002	-	-	-	-	-	-	-	-	-
Leratoponinae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tipulidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anisba sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.160	-	-	.080
Culicidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guanhorus sp.	-	.005	.058	.021	-	1.24	-	.413	-	.148	.270	.122	.005	.011	1.59	.535	-	-	-	-
Chironomidae	-	-	-	-	.032	-	-	.010	-	.008	-	.002	-	-	-	-	-	-	-	-
Labesmia sp.	-	-	-	-	.010	-	-	.002	.032	-	.032	.022	-	.016	.024	.014	-	-	-	-
Imbulidia sp.	-	-	-	-	.144	-	-	.048	-	-	-	-	-	-	-	-	-	-	-	-
Glossanypus tricolor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tanytus sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxymorus sp.	-	-	-	-	.512	-	-	.170	-	.304	.008	.152	-	.016	.064	.026	-	-	-	-
Cryptochironomus fultoni	-	-	-	-	.040	-	-	.014	.016	-	.006	-	-	.080	.016	.032	-	-	-	-
Impatiopsis varians	.016	-	.006	-	.024	-	-	.008	-	.112	-	.018	-	.072	-	.024	-	-	-	-
D. neorodatus	-	-	-	-	-	-	-	-	-	.008	.002	-	-	-	-	-	-	-	-	-
D. lobus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glyptotendipes sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.008	.208	.104	.016
Electrocladius sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.032	-	-
Total Biomass	1.96	1.58	3.99	2.63	7.56	2.21	2.33	4.02	2.10	2.13	0.40	1.93	0.70	1.72	2.98	1.81	0	0	0	12.70

NS = Not sampled

APPENDIX E-3

April Hester-Dendy Densities

(#/m²)

TAXON	1										3									
	Shallow			Mid			Deep			Σ	Shallow			Mid			Deep			Σ
	A	B	C	A	B	C	A	B	C		A	B	C	A	B	C	A	B	C	
Cnidaria	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	NS	NS	NS	-
Hydra americana	-	-	-	-	20	-	-	NS	NS	5	-	20	-	-	-	-	-	-	-	7
Nemertoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ectoprocta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pectinella magnifica	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lymnaea columella	-	20	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-
Oligochaeta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pristina brevipes	-	-	-	39	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-
P. acutata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Watis variabilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladocera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sida crystallina	1172	98	430	508	820	371	-	-	-	567	1582	1719	1465	684	1035	1420	-	-	-	1318
Chydorus phaeoionus	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	39	-	-	-	10
Alona guttata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A. quadrangularis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A. affinis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A. onetata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lepadigia acanthoceroides	39	-	-	-	-	-	-	-	-	7	-	-	-	-	20	-	-	-	-	3
Ilyocryptus spinifer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I. sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copepoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopoida	98	39	39	0	130	20	-	-	-	56	39	117	-	20	117	59	-	-	-	59
Herpeticoidea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hyalella asteca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichoptera	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-
Cheumatopsyche sp.	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NS = Not sampled

APPENDIX E-3

April Hester-Dendy Densities (#/m²)

TAXON	1										3									
	Shallow			Mid			Deep			Y	Shallow			Mid			Deep			Y
	A	B	C	A	B	C	A	B	C		A	B	C	A	B	C	A	B	C	
Diptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomus sp.	-	-	20	-	-	-	NS	NS	NS	3	-	-	-	-	-	-	NS	NS	NS	-
Cyrtophya sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentaneurini sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Number of Organisms	1309	1466	509	573	957	411				654	1621	1876	1465	724	1172	1524				1397
Total Number of Species	3	3	4	3	2	3				9	2	4	1	3	3	3				5
H'- Shannon Diversity Index										0.57										0.26

NS = Not sampled

APPENDIX E-3

April Hester-Dendy Densities

(#/m²)

TAXON	5										7									
	Shallow			Mid			Deep			Σ	Shallow			Mid			Deep			Σ
	A	B	C	A	B	C	A	B	C		A	B	C	A	B	C	A	B	C	
Cnidaria	-	20	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
<i>Hydra americana</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nematoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ectoprocta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pectinella magnifica</i>	-	-	-	39	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-
Mollusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lucina magnifica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oligochaeta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Frutilla brevis</i>	176	234	59	98	137	312	273	195	117	178	137	117	117	20	39	-	117	39	59	72
<i>P. acutata</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Yare variabilis</i>	-	-	-	39	39	98	-	-	-	59	-	-	-	-	-	-	-	-	-	-
Arthropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladocera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Sida crypallina</i>	195	371	566	39	117	117	-	-	-	156	117	195	176	117	39	-	-	-	-	72
<i>Chydorus sphaericus</i>	20	-	59	-	-	20	-	-	-	9	-	-	-	-	-	-	-	-	-	-
<i>Alona guttata</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>A. quadrimaculata</i>	-	-	15	82	44	111	141	119	30	60	39	-	-	-	-	-	-	-	-	4
<i>A. affinis</i>	-	-	17	93	50	126	160	134	34	68	-	-	-	20	-	-	-	-	-	2
<i>A. costata</i>	-	-	8	45	23	59	74	62	16	32	-	-	-	-	-	-	-	-	-	-
<i>Leptodora acanthocercoides</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ilyocypris spinifer</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>I. sp.</i>	-	-	-	-	-	-	20	20	20	7	-	-	-	-	-	-	-	-	-	-
Copepoda	-	-	-	-	-	-	-	-	20	4	-	-	-	-	-	-	-	-	-	-
Cyclopoida	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harpacticoida	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hyalella astrea</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chaetopteryx sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX E-3

April Hester-Dendy Densities

(#/m²)

TAXON	5												7											
	Shallow			Mid			Deep			$\bar{x}$	Shallow			Mid			Deep			Y				
	A	B	C	A	B	C	A	B	C		A	B	C	A	B	C	A	B	C					
Diptera																								
Chironomidae																								
Chironomus sp.	-	-	-	20	-	70	-	-	-	4	-	-	-	-	-	20	-	-	-	-	-	-	-	2
Chironotopus sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentaneurini sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Number of Organisms	191	625	724	455	410	883	668	550	217	583			293	371	352	177	137	0	137	98	59			180
Total Number of Species	3	3	6	8	6	9	5	7	5	12			3	4	3	4	3	0	2	2	1			7
H'- Shannon Diversity Index										1.83														1.25

APPENDIX E-3

April Hester-Dendy Densities

(#/m²)

TAXON	9									12						
	Shallow			Mid			Deep			Y	A			X		
	A	B	C	A	B	C	A	B	C		A	B	C	X		
Cnidaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hydra americana</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nematoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ectopoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pectinella magnifica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Luminea magnifica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oligochaeta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pristina breviseta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
<i>P. denigata</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
<i>Nais variabilis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Arthropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladocera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Sida crystallina</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chydorus sphaericus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Alona guttata</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>A. quadrangularis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>A. affinis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>A. costata</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Leydigia acanthocercoides</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ilyocryptus spinifer</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>I. sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copepoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopoids	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harpacticoids	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hyalella asseca</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cheumatopsyche sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6

April Hester-Dendy Densities

 $(\#/m^2)$ [illegible]

APPENDIX E-3

June Hester-Dendy Densities

(#/m²)

TAXON	1						3						5					
	Shallow A	Shallow B	Mid A	Mid B	Deep A	Deep B	Shallow A	Shallow B	Mid A	Mid B	Deep A	Deep B	Shallow A	Shallow B	Mid A	Mid B	Deep A	Deep B
Onidaria	-	-	-	-	-	-	39	78	2656	1758	NS	NS	1133	-	-	-	-	-
<i>Rydra americana</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbellaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ectoprocta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pectinella magnifica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alveolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juvenile Corbiculacea	-	-	-	-	-	-	78	20	-	-	-	-	24.5	-	-	-	-	-
Gastropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Perissotis pinnularis</i>	-	39	508	332	20	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lymnaea columella</i>	-	586	1055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oligochaeta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naididae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Aris maritima</i>	449	605	332	488	98	20	1992	2305	1016	2363	-	-	1919	4082	3524	-	59	20
<i>Pristina brevifolia</i>	78	-	78	59	-	-	-	-	117	-	-	-	-	-	-	-	-	117
<i>P. longistia</i>	-	-	-	-	-	-	781	195	-	-	-	-	-	20	59	-	-	-
<i>Stylaria lacustris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chaetogaster setosa</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lambricidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enchytraeidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladocera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Sida crystallina</i>	-	-	-	-	20	-	-	-	-	-	-	-	-	20	59	-	-	13
<i>Ilyocypris spinifer</i>	-	-	-	-	-	-	20	20	20	-	-	-	15	-	-	-	-	-
Ostracoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lymnocythere</i> sp.	-	-	-	-	-	-	78	59	39	117	-	-	73	-	-	-	-	-
Copepoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harpacticoida	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopoida	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hyalella astrea</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decapoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Procambarus speculifer</i>	-	-	-	-	-	-	20	-	-	-	-	-	5	-	-	-	-	-

* Indicates the presence of statocysts and/or soft tissue from this colonial organism

NS = Not sampled

APPENDIX E-3

June Hester-Dendy Densities (#/m²)

TAXON	1						3						5					
	Shallow		Mid		Deep		Shallow		Mid		Deep		Shallow		Mid		Deep	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Arachnoidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydracarina	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Epibemariptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Epheuraella imbricata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stenacron interparvatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polycentropus sp.	78	20	-	-	-	-	508	352	430	527	-	-	605	508	20	-	391	254
Neuroclipeus sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chenutapayche sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coleoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elmidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dubiraphia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tipulidae (pupae)	-	-	39	-	-	-	20	20	-	-	-	-	-	-	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Procladius sp.	-	-	-	-	39	59	-	-	-	-	-	-	-	-	-	-	-	-
Abrahamia sp.	-	-	-	-	-	-	20	-	-	59	-	-	-	-	-	-	-	-
Oricotopus sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomus sp.	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-
Dricotendipes nervosus	20	20	78	39	20	-	584	957	1641	1777	-	-	-	-	-	-	-	-
E. nemodentus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bifeldia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glyptotendipes sp.	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paetotendipes sp.	-	-	-	-	39	20	195	39	-	-	-	-	-	-	-	-	-	-
Rheotendipes sp. A	39	20	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R. sp. B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R. sp. C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tribelos fusiformis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthocladus sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eukiefferiella sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NS = Not sampled

APPENDIX E-3

June Hester-Dendy Densities

(#/m²)

TAXON	1						3						5					
	Shallow A	Shallow B	Mid A	Mid B	Deep A	Deep B	Shallow A	Shallow B	Mid A	Mid B	Deep A	Deep B	Shallow A	Shallow B	Mid A	Mid B	Deep A	Deep B
<i>Thiennamialia</i> sp.	-	-	-	-	-	-	-	-	-	-	NS	NS	-	-	-	-	-	-
<i>Pottbatia longimanus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Polypodium comitatum</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Numbers of Organisms	1270	1759	1055	938	276	119	4394	4045	5978	6542	902	4993	7435	6162	59	59	59	586
Total Numbers of Species	7	6	6	5	8	4	13	10	8	5	15	12	7	7	2	1	2	3
H' - Shannon Diversity Index						1.69						1.61						0.95

NS = Not sampled

June Hester-Dendy Densities

 $(\#/\text{m}^2)$ [illegible]

* Indicates the presence of statocysts and/or soft tissue from this colonial organism

NS = Not sampled

APPENDIX E-3

June Hester-Dendy Densities

(#/m²)

TAXON	7						9						12					
	Shallow		Mid		Deep		Shallow		Mid		Deep		A		B		Y	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	Y	Y
Arachnidae	-	-	-	-	-	-	NS	NS	NS	NS	NS	NS	20	20	20	20	-	-
Hydracaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ephemeroptera	-	-	-	-	-	-	-	-	-	-	-	-	39	-	-	-	20	20
<i>E. sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	10
<i>Stenonema interpunctatum</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	20
Trichoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Polycentropus sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Neuroclitipes sp.</i>	176	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cheumatopsyche sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	176	88
Coleoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elmidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Dubiraphia sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	59	39	49	-	-	-
Diptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tipulidae (pupae)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Procladius sp.</i>	-	-	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Abrahamia sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cricotopus sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chironomus sp.</i>	-	-	195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Dricotendipes nervosus</i>	1367	899	234	117	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>D. nemodestus</i>	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>D. sp.</i>	-	-	-	195	-	20	-	-	-	-	-	-	-	-	-	-	-	-
<i>Einfeldia sp.</i>	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Glyptotendipes sp.</i>	-	-	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Psectrocladius sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Rhectanytarsus sp. A</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>R. sp. B</i>	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>R. sp. C</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Tribelos fusicornis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Orthocladus sp.</i>	-	-	20	195	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Eukiefferiella sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	1309	1367	1338	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	39	-	-	-	20	20

NS = Not sampled

June Hester-Dendy Densities

 $(\#/m^2)$

TAXON	7							9							12																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Shallow		Mid		Deep		Y	Shallow		Mid		Deep		Y	Shallow		Mid		Deep		Y																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	A	B	A	B	A	B		A	B	A	B	A	B		A	B	A	B	A	B		A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A

NS = Not sampled

APPENDIX E-3

November Hester-Dendy Densities (#/m²)

TAXON	1												3											
	Shallow				Mid				Deep				Shallow				Mid				Deep			
	A	B	C	Y	A	B	C	Y	A	B	C	Y	A	B	C	Y	A	B	C	Y	A	B	C	Y
<i>Caideris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hydra americana</i>	20	-	39	-	-	-	-	2.2	20	-	-	-	59	-	-	-	-	-	-	-	176	-	-	26.1
<i>Turbellaria</i>	-	-	-	-	-	-	-	6.6	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	2.2
<i>Ectoprocta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pectinella magnifica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Nollusca</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Bivalvia</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juvenile Corbiculacea	-	-	-	-	-	-	-	4.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Musculium</i> sp.	-	-	20	-	-	-	-	4.4	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Gastropoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lymnaea columella</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Oligochaeta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Naidia</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Neis parvibille</i>	78	98	78	176	273	98	137	117	488	171.4	-	-	59	-	117	78	-	78	215	78	859	-	-	164.9
<i>Stylaria lacustris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pristina brevipes</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	20	-	-	-	-	-	4.4
<i>Tubificidae</i>	-	-	-	-	-	-	39	-	-	4.4	-	-	20	-	-	-	-	-	-	-	-	-	-	2.2
<i>Lumbricidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Arthropoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Crustacea</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cladocera</i>	59	78	254	1914	1400	2095	195	39	234	763.8	-	-	98	-	586	1719	1933	1953	2480	2812	1133	-	-	1412.7
<i>Sida crystallina</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	20	-	-	-	-	-	-	4.4
<i>Ilyocryptus spinifer</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ostracoda</i>	20	20	78	39	39	59	-	-	39	32.7	-	-	20	39	542	195	352	117	20	59	20	-	-	152.1
<i>Lymnaea</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Amphipoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hyalella astrea</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Arachnoidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hydracaria</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Insecta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Odonata</i>	20	-	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Nealicia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cordulegaster</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Indicates the presence of statocysts and/or soft tissue from this colonial organism

November Hester-Dendy Densities

 $(\#/m^2)$

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APPENDIX E-3

November Hester-Dendy Densities

(#/m²)

TAXON	1										3									
	Shallow			Mid			Deep			$\bar{X}$	Shallow			Mid			Deep			$\bar{X}$
	A	B	C	A	B	C	A	B	C		A	B	C	A	B	C	A	B	C	
<i>Cricotopus</i> sp.	-	-	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	-	-	2.2
<i>Rheotanytarsus</i> sp.	59	-	20	98	20	137	-	-	20	39.3	-	20	-	-	-	-	-	-	-	11.0
<i>Psectrocladius</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.0
<i>Thienemannella</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Eukiefferiella</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Trichocladus</i> sp.	-	-	-	-	20	-	-	-	-	2.2	-	-	-	-	-	-	-	-	-	-
Chironomidae pupae	-	-	20	39	-	20	-	-	-	8.8	-	-	-	-	-	-	-	-	-	-
Total Numbers of Organisms	357	295	588	2581	2006	2547	606	215	978	1204	1467	1565	2458	2732	4415	3996	5489	5099	3114	3499
Total Numbers of Species	8	7	8	12	8	9	6	4	6	23	9	11	10	9	9	11	13	9	12	23
H' - Shannon Diversity Index										1.24										1.88

APPENDIX E-3

November Hester-Dendy Densities

(#/m²)

TAXON	5												7											
	Shallow				Mid				Deep				Shallow				Mid				Deep			
	A	B	C	Y	A	B	C	Y	A	B	C	Y	A	B	C	Y	A	B	C	Y	A	B	C	Y
<i>Caedaria</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hydra americana</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Turbellaria</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ectoprocta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pectinella magnifica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Mollusca</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Bivalvia</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Juvenile Corbiculaceae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Macculium</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Gastropoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lymnaea columella</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Oligochaeta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Naididae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Nais variabilis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Stylaria lacustris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pristina brevicauda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Tubificidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lumbriculidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Arthropoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Crustacea</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cladocera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Sida crystallina</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Illyocryptus spinifer</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Detritode</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lymnocythere</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Amphipoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hyalella asteca</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Arachnoides</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hydracarina</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Insecta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Odonata</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Rehellenia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Corbulegaster</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Indicates the presence of statocysts and/or soft tissue from this colonial organism

NS = Not sampled

APPENDIX E-3

November Hester-Dendy Densities (#/m²)

TAXON	5										7									
	Shallow			Mid			Deep			Y	Shallow			Mid			Deep			Y
	A	B	C	A	B	C	A	B	C		A	B	C	A	B	C	A	B	C	
Ephemeroptera	-	-	-	-	-	-	-	-	-	-	-	-	NS	-	-	-	-	-	-	-
<i>Stenocranus interpunctatum</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichoptera	772	430	352	195	332	293	98	215	195	314.7	39	117	-	20	-	-	-	-	-	24.5
<i>Neuroclipea</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chaumatopsyche</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Helicopsyche borealis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plecoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pteronarcys</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stratiomyidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Odontomyia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tipulidae sp. (pupae)	-	-	-	-	-	-	20	-	20	4.4	-	-	-	-	-	-	-	-	-	-
Ceratopogonidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ceratopogoninae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Procladius</i> sp.	-	-	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	-	-	-
<i>Ablabesmyia</i> sp.	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-
<i>Pentaneurini</i> app.	20	-	-	39	20	78	-	-	20	19.7	-	-	-	-	20	-	-	-	-	2.5
<i>Chironomus</i> app.	117	20	-	78	117	117	98	78	59	76	20	-	-	20	20	-	20	-	-	12.5
<i>Cryptochironomus fulvus</i>	20	-	-	-	-	-	-	-	-	6.6	-	-	-	-	-	-	-	-	-	2.5
<i>C. sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Einfeldia</i> sp.	-	-	-	-	-	-	-	-	-	19.6	-	-	-	-	-	-	-	-	-	-
<i>Glyptotendipes semilis</i>	-	-	-	-	-	-	-	-	-	58.7	-	-	-	-	-	-	-	-	-	-
<i>G. sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Dricotendipes nemosus</i>	215	254	254	723	781	195	723	371	312	425.3	195	215	-	527	234	312	254	332	156	276
<i>D. nemosus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>D. lobus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>D. sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Tribolus fuscicornis</i>	996	1333	1094	1269	1797	937	1973	1894	1621	1434.9	898	1523	-	449	273	156	39	98	59	436.9
<i>Geldichironomus holopneustus</i>	-	-	-	-	-	-	-	-	-	2.2	39	78	-	117	117	117	20	78	-	85.4
<i>Microtendipes</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NS = Not sampled

APPENDIX E-3

November Hester-Dendy Densities

(#/m²)

TAXON	5												7											
	Shallow			Mid			Deep			Shallow			Mid			Deep			Shallow			Mid		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
<i>Cyrtotopus</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Rhyotomys</i> sp.	20	59	117	20	39	-	-	-	-	98	39	-	-	39	-	-	-	-	-	-	-	-	-	-
<i>Pectrocladius</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Phenacanthella</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Eukiefferiella</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Trichocladus</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae pupae	-	-	-	20	39	59	-	-	-	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Numbers of Organisms	2941	4303	5764	4141	4767	2970	3675	11093	2286	1895	2924	4975	1796	2051	12423	11915	11445	6197	1895	2924	4975	1796	2051	12423
Total Numbers of Species	12	10	12	11	14	13	10	9	9	12	10	9	10	10	10	7	5	5	16	12	10	9	9	7
H' - Shannon Diversity Index																								

NS = Not sampled

APPENDIX E-3

November Hester-Dendy Densities

(#/m²)

TAXON	9										12									
	Shallow					Mid					Deep									
	A	B	C	A	B	C	A	B	C	X̄	A	B	C	D	E	F	G	H	I	X̄
<i>Caldasia</i>	-	-	NS	NS	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5
<i>Hydra americana</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Turbellaria</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ectoporella</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pectinella magnifica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Molluscs</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Bivalvia</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Juvenile Corbiculacea</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Marculium</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Gastropoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lymnaea columella</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	39	20	-	20	-	20	12.4
<i>Oligochaeta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Naididae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Nais variabilis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Stylaria lacustris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pristina brevipes</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Tubificidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lumbriculidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Arthropoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Crustacea</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cladocera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Sida crystallina</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ilyocypris spinifer</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ostracoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lymnocythere</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Amphipoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hyalella asteca</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Arachnoidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hydracarina</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Insecta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Odonata</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Rehellenia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cordulegaster</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NS = Not sampled

November Hester-Dendy Densities
(#/m²)

Not sampled

APPENDIX E-3

November Hester-Dendy Densities

(#/m²)

TAXON	9									12											
	Shallow			Mid			Deep			Y											X
	A	B	C	A	B	C	A	B	C		A	B	C	D	E	F	G	H	I	J	
<i>Cricotopus</i> sp.	-	-	NS	NS	NS	NS	20	-	-	4.0	1680	2808	3418	566	527	1601	2500	-	2695	-	1974.4
<i>Photocorynus</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	2.5
<i>Psectrocladius</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Thienemannella</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Eukiefferiella</i> sp.	-	-	-	-	-	-	20	-	-	4.0	39	-	20	-	-	-	-	-	20	-	9.9
<i>Trichocladus</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae pupae	-	-	-	-	-	-	-	-	20	4.0	98	117	352	39	117	234	137	59	234	-	154
Total Numbers of Organisms	20	0					531	353	569	287	2659	3609	4728	1543	1230	2572	3733	489	3087		2873
Total Numbers of Species	1	0					11	3	7	14	11	5	7	6	5	5	9	4	6		18
H' - Shannon Diversity Index										1.48											1.02

NS = Not sampled

APPENDIX E-4

April Hester-Dendy Biomass

(g/m²)

TAXON	1												3											
	Shallow				Mid				Deep				Shallow				Mid				Deep			
	A	B	C	Y	A	B	C	Y	A	B	C	Y	A	B	C	Y	A	B	C	Y	A	B	C	Y
Cnidaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydra americana	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nematoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ectoprocta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pectinella magnifica	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lymnaea acuminata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oligochaeta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Priestia brevica	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P. asquata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maia variabilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladocera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sida crystallina	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chydorus sphaericus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alona guttata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A. quadrangularis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A. affinis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A. costata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leydigia acanthocercoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ilyocryptus spinifer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I. sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copepoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopoida	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harpacticoida	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hyalella asteca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cheumatopsyche sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Indicates the presence of statocysts and/or soft tissue from this colonial organism

NS = Not sampled

APPENDIX E-4

April Hester-Dendy Biomass

(g/m²)

TAXON	1										3									
	Shallow			Mid			Deep			Y	Shallow			Mid			Deep			Y
	A	B	C	A	B	C	A	B	C		A	B	C	A	B	C	A	B	C	
Diptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomus sp.	-	-	.02	-	-	-	NS	NS	NS	.002	-	-	-	-	-	-	NS	NS	NS	-
Cyrtotopius sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentaneurini sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.41	.13	.31	.20	.29	.17				.26	.55	.60	.51	.24	.36	.50				.46

NS = Not sampled

April Hester-Dendy Biomass

 (g/m^2)

TAXON	S										7										
	Shallow			Mid			Deep			Σ	Shallow			Mid			Deep			Σ	
	A	B	C	A	B	C	A	B	C		A	B	C	A	B	C	A	B	C		
Cnidaria	-	.004	-	-	-	-	-	-	-	-	.0004	-	-	-	-	-	-	-	-	-	-
<i>Hydra americana</i>	-																				
Nematoda	-																				
Ectoprocta	-																				
<i>Pectinella magnifica</i>	-																				
Mollusca	-																				
<i>Luxilus magnifica</i>	-																				
Oligochaeta	-																				
<i>Emmetina brevitata</i>	.14	.19	.05	.08	.11	.25	.22	.16	.09	.14	.11	.09	.09	.02	.03	-	.09	.03	.05	.06	
<i>P. tenuiseta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Ensis varabilis</i>	-	-	-	.03	.03	.08	-	-	-	.05	-	-	-	-	-	-	-	-	-	-	
Arthropoda	-																				
Crustacea	-																				
Cladocera	-																				
<i>Sida crystallina</i>	.07	.13	.20	.02	.04	.04	-	-	-	.05	.04	.07	.06	.04	.02	-	-	-	-	.03	
<i>Chydorus sphaericus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Alona guttata</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>A. quadrangulata</i>	-	-	<.001	.003	.002	.005	.006	.005	.001	.007	.002	-	-	-	-	-	-	-	-	-	
<i>A. affinis</i>	-	-	<.001	.003	.002	.006	.007	.006	.002	.003	-	-	-	-	-	-	-	-	-	.001	
<i>A. costata</i>	-	-	<.001	.002	.001	.003	.003	.003	<.001	.001	-	-	-	-	-	-	-	-	-	-	
<i>Leydia acanthocercoides</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Ilurocryptus spinifer</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>I. sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Copepoda	-																				
Cyclopoida	-																				
Heterotricoida	-																				
Amphipoda	-																				
<i>Hylella aspera</i>	-																				
Insecta	-																				
Trichoptera	-																				
<i>Chironomus</i> sp.	-																				

APPENDIX E-4

April Hester-Dendy Biomass

(g/m²)

TAXON	5												7											
	Shallow				Mid				Deep				Shallow				Mid				Deep			
	A	B	C	̄	A	B	C	̄	A	B	C	̄	A	B	C	̄	A	B	C	̄	A	B	C	̄
Diptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomus sp.	-	-	-	-	.02	-	.02	-	-	-	-	-	-	-	-	-	.02	-	-	-	-	-	-	-
Cricotopus sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentaneurini sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.21	.32	.25	.25	.16	.19	.40	.24	.17	.09	.25	.15	.16	.15	.06	.05	.09	.03	.05	.09	.03	.05	.09	.09

APPENDIX E-4

April Hester-Dendy Biomass

(g/m²)

TAXON	9									12				
	Shallow			Mid			Deep			Y				Y
	A	B	C	A	B	C	A	B	C		A	B	C	
Cnidaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydra americana	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nematoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ectoprocta	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pectinella magnifica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lumnaea magnifica	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oligochaeta	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Swistina brevifolia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P. sequia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hyale varicosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladocera	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sida crystallina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chydorus sphaericus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alona guttata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A. quadrangularis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A. affinis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A. costata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leydigia acanthocerosoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ilyocryptus spinifer	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I. sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copepoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopoida	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harpacticoida	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hyalella asteca	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cheumatopsyche sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX E-4

April Hester-Dendy Biomass

(g/m²)

TAXON	9									12				
	Shallow			Mid			Deep			$\bar{X}$				
	A	B	C	A	B	C	A	B	C		A	B	C	$\bar{X}$
Diptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomus sp.	-	-	-	-	-	-	-	-	-	-	.28	.36	.39	.34
Chironomus sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentaneurini sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	0	0	0	0	0	0	0	0	.32	.52	.39	.41

APPENDIX E-4

June Hester-Dendy Biomass

(g/m²)

TAXON	1						3						5					
	Shallow	Mid	Deep	X̄			Shallow	Mid	Deep	X̄			Shallow	Mid	Deep	X̄		
<i>Onidaria</i>	-	-	-	-	-	-	.08	.16	5.31	3.52	NS	NS	.16	.23	-	-	-	.07
<i>Hydra americana</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Turbellaria</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ectopocoe</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pectinella magnifica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Mollusca</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Bivalvia</i>	-	-	-	-	-	-	.04	.01	-	-	-	.03	-	-	-	-	-	-
<i>Juvenile Corbiculacea</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Gastropoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ferussacia rivularis</i>	.23	3.00	1.96	.12	.89	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lumnaea columella</i>	3.05	5.49	-	-	1.42	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Oligochaeta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Naididae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Nate variabilis</i>	.26	.06	.29	.06	.20	-	1.18	1.36	.60	1.39	-	1.13	2.41	2.11	.03	.01	.07	.77
<i>Prionina brevitata</i>	.05	-	-	-	.01	-	-	-	.07	-	-	.02	-	-	-	-	-	-
<i>P. longiseta</i>	-	-	-	-	-	-	.05	.12	-	-	-	.04	.01	.04	-	-	-	.01
<i>Stylaria lacustris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chaetogaster setosa</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lumbriculidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Enchytraeidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Arthropoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Crustacea</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cladocera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Sida crystallina</i>	-	-	.01	-	.001	-	-	-	-	-	-	-	.01	.02	-	-	-	.01
<i>Ilyocryptus arnifer</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ostracoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lumbriculus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Copepoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Harpacticoida</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cyclopoida</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Amphipoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hyalella astera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Decapoda</i>	-	-	-	-	-	-	.17	-	-	-	-	.04	-	-	-	-	-	-
<i>Procambarus aciculifer</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NS = Not sampled

* Biomass estimated at less than 1 % of station total

APPENDIX E-4

June Hester-Dendy Biomass

(g/m²)

TAXON	1			3			5		
	Shallow A B	Mid A B	Deep A B	Shallow A B	Mid A B	Deep A B	Shallow A B	Mid A B	Deep A B
Arachnoidae	-	-	-	-	-	-	-	-	-
Hydracarina	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-
Ephemeroptera	-	-	-	-	-	-	-	-	-
<i>Ephemerella invaria</i>	-	-	-	-	-	-	-	-	-
<i>E. sp.</i>	-	-	-	-	-	-	-	-	-
<i>Stenonema interseptatum</i>	-	-	-	-	-	-	-	-	-
Trichoptera	-	-	-	-	-	-	-	-	-
<i>Polysentropus sp.</i>	.03	.08	-	-	-	-	-	-	-
<i>Neuroclitopsis sp.</i>	-	-	-	-	-	-	-	-	-
<i>Cheumatopsyche sp.</i>	-	-	-	-	-	-	-	-	-
Coleoptera	-	-	-	-	-	-	-	-	-
Elmidae	-	-	-	-	-	-	-	-	-
<i>Dubiraphia sp.</i>	-	-	-	-	-	-	-	-	-
Diptera	-	-	-	-	-	-	-	-	-
Tipulidae (pupae)	-	.03	-	-	-	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-
<i>Procladius sp.</i>	-	-	.03	.02	.02	-	-	-	-
<i>Abilabemyia sp.</i>	-	-	-	.02	.05	-	-	-	-
<i>Cricotopus sp.</i>	-	-	-	-	-	-	-	-	-
<i>Chironomus sp.</i>	-	.02	.02	.55	.77	1.31	2.05	1.50	.03
<i>Dricotendipes maroccanus</i>	.02	.06	.03	-	-	-	-	-	.61
<i>D. neomedeus</i>	-	-	-	-	-	-	-	-	-
<i>D. sp.</i>	-	-	-	-	-	-	-	-	-
Einfeldia sp.	-	-	-	-	-	-	-	-	-
<i>Glyptotendipes sp.</i>	.02	-	-	.16	.03	-	-	-	-
<i>Psectrocladius sp.</i>	-	-	.03	.02	.01	-	-	-	-
<i>Phanotanytarsus sp. A</i>	.03	.02	-	.05	.02	.01	.06	.02	.01
<i>R. sp. B</i>	-	-	.02	-	-	-	-	-	-
<i>R. sp. C</i>	-	-	-	-	-	-	-	-	-
<i>Triebelos fusiformis</i>	-	-	-	-	-	-	-	-	-
<i>Orthocladus sp.</i>	-	-	-	-	-	-	-	-	-
<i>Eukiefferiella sp.</i>	-	-	-	-	-	-	-	-	-

NS = Not sampled

APPENDIX E=4

June Hester-Dendy Biomass (g/m²)

TAXON	1						3						5					
	Shallow A	B	Mid A	B	Deep A	B	Shallow A	B	Mid A	B	Deep A	B	Shallow A	B	Mid A	B	Deep A	B
<i>Therapsacanthia</i> sp.	-	-	-	-	-	-	-	-	-	-	NS	NS	-	-	-	-	-	-
<i>Potamococcus longimanus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Polysiphonia cornuta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Biomass	3.46	6.20	3.31	2.30	0.29	0.09	4.20	3.80	8.97	8.33	-	6.36	7.00	5.85	0.11	0.03	0.04	1.62
						2.65												2.45

NS = Not sampled

APPENDIX E-4

June Hester-Dendy Biomass

(g/m²)

TAXON	7						9						12					
	Shallow		Mid		Deep		Shallow		Mid		Deep		A		B		X	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	X	
Cnidaria	-	.08	-	-	-	-	NS	NS	NS	NS	NS	NS	-	-	-	-	-	.03
Hydra americana	-	.10	-	-	-	-							.05	-	-	-		
Turbellaria	-		-	-	-	-												
Ectoprocta	-		-	-	-	-												
Pectinella magnifica	-		-	-	-	-												
Mollusca	-		-	-	-	-												
Bivalvia	-		-	-	-	-												
Juvenile Corbiculacea	-		-	-	-	-												
Gastropoda	-		-	-	-	-												
Ferrissia rivalaris	-		-	-	-	-												
Lymnaea columella	-		-	-	-	-							.20	-	-	-		.10
Oligochaeta	-		-	-	-	-												
Naididae	-		-	-	-	-												
Nais variabilis	2.78	2.93	1.72	4.28	.10	.01							8.09	3.64	5.87			
Pristina brevifata	-		-	-	-	-												
P. longiseta	.84	.97	.08	-	-	-							.05	.19	.12			
Stylaria lacustris	-		-	-	-	-							.16	-	.08			
Chaetogaster setosa	-		-	-	-	-							.03	-	.01			
Lambriculidae	-		-	-	-	-									.84	.42		
Enchytraeidae	-		-	-	-	-												
Arthropoda	-		-	-	-	-												
Crustacea	-		-	-	-	-												
Cleodocera	-		-	-	-	-												
Sida crystallina	.03	.01	.01	-	.01	-												
Lipocryptus spinifer	-		-	-	-	-												
Gastropoda	-		-	-	-	-												
Lymnocythere sp.	-		-	-	-	-												
Copepoda	-		-	-	-	-												
Harpacticoida	-		-	-	-	-												
Cyclopoida	-		-	-	-	-												
Amphipoda	-		-	-	-	-												
Hyalella astrea	-		-	-	-	-							.03	.01	.02			
Decapoda	-		-	-	-	-												
Procambarus speciosus	-		-	-	-	-												

NS = Not sampled

* Biomass estimated at less than 1% of station total

June Hester-Dendy Biomass

 (g/m^2) [illegible]

NS = Not sampled

* Biomass estimated at less than 1 % of station total

APPENDIX E-4

June Hester-Dendy Biomass

(g/m²)

TAXON	7						9						12					
	Shallow		Mid		Deep		A	B	NS	NS	NS	NS	A	B	NS	NS	A	B
	A	B	A	B	A	B												
<i>Thienemannella</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pothotia longimanus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Polypodium comvictum</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Biomass	7.17	4.90	2.37	4.57	0.13	.03	3.10	-	-	-	-	-	11.15	8.02	9.52	-	-	-

NS = Not sampled

APPENDIX E-4

November Hester-Dendy Biomass

(g/m²)

TAXON	1										3									
	Shallow					Mid					Deep					Shallow				
	A	B	C	A	B	A	B	C	A	B	A	B	C	A	B	A	B	C	A	B
<i>Oxidaria</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.118	-	-	-	-
<i>Hydra americana</i>	.052	-	.1014	-	-	-	-	-	.04	-	-	-	-	-	-	.052	-	-	-	.052
<i>Turbellaria</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.006
<i>Ectoprocta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Juvenile Corbiculacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Bivalvia</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Sphaerium partumium</i>	-	-	-	-	-	-	-	-	.022	-	-	-	-	-	-	-	-	-	-	-
<i>Macculium</i> sp.	-	-	.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Gastropoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lymnaea columella</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Oligochaeta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Naididae</i>	.460	.578	.460	1.038	1.611	.578	.808	.690	2.879	1.011	.348	-	.690	.460	-	.460	1.269	.460	5.068	.973
<i>Nais varlabilis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Stylaria lacustris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pristina breviseta</i>	-	-	-	-	-	-	-	-	-	-	-	-	.012	-	-	-	-	-	-	.003
<i>Tubificidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lumbriculidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Arthropoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cladocera</i>	.021	.027	.089	.670	.492	.943	.068	.014	.082	.267	.034	-	.205	.602	.677	.684	.868	.984	.397	.494
<i>Sida crystallina</i>	-	-	-	-	-	-	-	-	-	-	-	-	.205	-	.002	-	-	-	-	.0004
<i>Ilyocypris spinifer</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ostracoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lymnaea</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Amphipoda</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hyalella astera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Arachnoides</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hydracarina</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Insecta</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Odonata</i>	.82	-	-	-	-	.440	-	-	-	.090	-	-	-	-	-	-	-	-	-	-
<i>Neutlenia</i> sp.	-	-	-	-	-	-	-	-	-	.048	-	-	-	-	-	-	-	-	-	-
<i>Condulegaster</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Biomass estimated at less than 1 % of station total

APPENDIX E-4

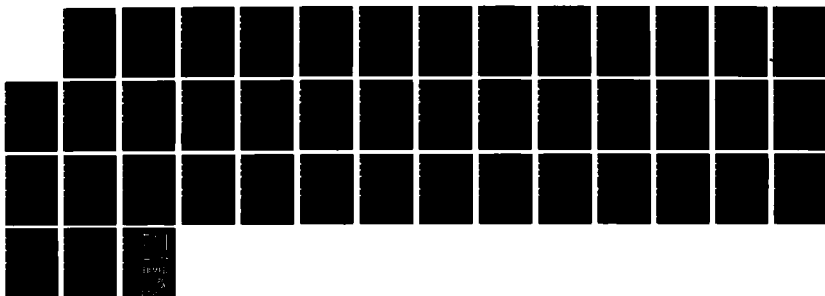
November Hester-Dendy Biomass

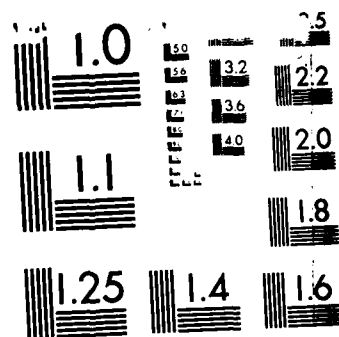
(g/m²)

TAXON	1									3								
	Shallow			Mid			Deep			Shallow			Mid			Deep		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
<i>Ephemeroptera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Stenonem interperitatum</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Trichoptera</i>	.296	.076	.148	.669	.741	.148	-	-	-	1.558	2.079	1.486	1.338	1.782	1.558	.593	.148	.817
<i>Neurociptis</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chaumatopaycha</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>inilopayche borealis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Plecoptera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Pteronarcys</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Diptera</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Stratiomyidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Odontomyia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Tipulidae</i> sp. (pupae)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ceratopogonidae</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ceratopogoninae</i>	-	-	.018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chironomidae</i>	-	.016	-	-	-	-	-	-	-	-	-	-	.016	.016	-	.016	-	.005
<i>Procladius</i> sp.	-	.016	-	-	-	-	-	-	-	-	.031	-	-	.031	-	-	-	.005
<i>Ablabesmyia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.004
<i>Pentaneurini</i> spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.010
<i>Chironomus</i> sp.	-	.016	.016	.016	.047	.156	.016	.110	.042	.016	-	-	-	.031	.047	-	-	-
<i>Cryptochironomus fulvus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>C. sp.</i>	-	-	-	-	-	-	-	.016	.002	-	-	-	-	-	-	-	-	-
<i>Einfeldia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.047	-	.005
<i>Glyptotendipes semilis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.009
<i>G. sp.</i>	.047	-	-	.016	.031	.016	.016	-	.014	.266	.344	.230	.547	.234	.313	.875	.641	.500
<i>Dricotendipes nervosus</i>	-	-	-	-	-	-	-	-	-	-	.031	-	-	-	-	.016	-	.005
<i>D. nemodestus</i>	-	.031	-	-	-	-	-	.031	.007	.047	.234	.031	.375	-	-	.094	.047	.016
<i>D. lobus</i>	-	-	-	.031	.016	-	-	-	.005	.359	.047	.375	.078	.859	.703	.051	.948	.067
<i>D. sp.</i>	-	-	-	-	-	-	-	-	-	-	.016	-	-	.172	.016	.390	.016	.070
<i>Tribeloe fusiformis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Gouldichironomus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>holomacrinus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Microtendipes</i> sp.	-	-	-	-	-	-	-	-	-	-	-	.016	.094	-	-	-	-	.012

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NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

APPENDIX E-4

November Hester-Dendy Biomass

(g/m²)

TAXON	1												3																							
	Shallow						Mid						Deep						Shallow						Mid						Deep					
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	Σ								
<i>Cricotopus</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.002								
<i>Rhectonyctus</i> sp.	.047	-	.016	.078	.016	.110	-	-	-	.016	-	-	-	-	.031	-	-	-	.016	-	-	.016	-	-	.031	-	-	.009								
<i>Psectrocladius</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.010								
<i>Thienemannella</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
<i>Eukiefferiella</i> sp.	-	-	-	.016	-	-	-	-	-	-	-	-	-	-	.002	-	-	-	-	-	-	-	-	-	-	-	-	-								
<i>Trichocladus</i> sp.	-	-	.016	.031	-	.016	-	-	-	-	-	-	-	-	.007	-	-	-	-	-	-	-	-	-	-	-	-	-								
Chironomidae pupae	-	-	.016	.031	-	.016	-	-	-	-	-	-	-	-	.007	-	-	-	-	-	-	-	-	-	-	-	-	-								
TOTAL	1.74	.74	.43	2.03	2.92	1.9	1.1	.74	3.1	1.90	2.6	3.0	3.3	.11	3.8	4.0	4.6	3.3	7.0	3.90																

APPENDIX E-4

November Hester-Dendy Biomass

(g/m²)

TAXON	5										7																			
	Shallow			Mid			Deep			$\bar{X}$	Shallow			Mid			Deep			$\bar{X}$										
	A	B	C	A	B	C	A	B	C		A	B	C	A	B	C	A	B	C											
Gnatharia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Hydra americana</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Turbellaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ectopoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Pectuncula magnifica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mollusca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bivalvia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Juvenile Corbiculacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Musculium</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gastropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Lymnaea columella</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Oligochaeta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Naididae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Nais variabilis</i>	.690	1.151	.690	.348	.230	.118	.118	.460	-	.358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Stylaria lacustris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Pristina brevipes</i>	.204	-	.012	-	-	-	-	-	-	.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tubificidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lumbriculidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Arthropoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Crustacea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cladocera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Sida crystallina</i>	.137	.663	1.183	.560	.465	.308	.137	2.878	3.028	.978	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ilyocypris spinifer</i>	.016	-	.020	-	.003	.002	.012	.012	.003	.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ostracoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lymnaeosthere</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hyalella asteca</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arachnoides	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydracaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Insecta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Odonata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Neohallenia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Cordulegaster</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NS = Not sampled

* Biomass estimated at less than 1 % of station total

APPENDIX E-4

November Hester-Dendy Biomass

(g/m²)

TAXON	5												7											
	Shallow			Mid			Deep			Shallow			Mid			Deep			Shallow			Mid		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
<i>Cricotopus</i> sp.	.016	.047	.094	.016	.031	-	-	-	-	.078	.031	NS	-	.031	-	.016	-	-	.017	-	-	-	-	-
<i>Pectrocladius</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Thienemannella</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Eukiefferella</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Trichocladius</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Chironomidae</i> pupae	-	-	-	.016	.031	.047	-	.047	-	.013	-	-	.016	-	-	.016	-	.016	.010	-	-	-	-	-
TOTAL	4.90	4.86	4.466	3.49	4.40	2.90	3.04	6.11	5.43	2.78	2.63		21.89	5.65	5.21	34.46	27.72	21.86						

NS = Not sampled

APPENDIX E-4

November Hester-Dendy Biomass

(g/m²)

TAXON	9										12									
	Shallow			Mid			Deep				A			B			C			Σ
	A	B	C	A	B	C	A	B	C	Y	A	B	C	A	B	C	A	B	C	
Ephemeroptera	-	-	NS	MS	MS	MS	-	-	-	-	-	-	-	-	-	-	-	-	-	.255
Stenocranus interpunctatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tricoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.019
Neurocampa sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.174
Chamaetopseps sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.003
Helicopsyche borealis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.463
Plecoptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.002
Pteronarcys sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diptera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stratiomyidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Odontomyia sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.002
Tipulidae sp. (pupae)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ceratopogonidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ceratopogoninae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Procladius sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Abietomyia sp.	-	-	-	-	-	-	-	-	-	.003	-	-	-	-	-	-	-	-	-	-
Pentaneurinae spp.	-	-	-	-	-	-	-	-	-	.006	-	-	-	-	-	-	-	-	-	-
Chironomus spp.	-	-	-	-	-	-	.016	-	-	-	-	-	-	-	-	-	-	-	-	-
Cryptochironomus fuscus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C. sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Simuliidae sp.	-	-	-	-	-	-	.016	-	-	.003	-	-	-	-	-	-	-	-	-	-
Glyptotendipes sentilis	-	-	-	-	-	-	.016	-	-	.003	-	-	-	-	-	-	-	-	-	-
G. sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dricotendipes nervosus	-	-	-	-	-	-	-	-	-	.003	-	-	-	-	-	-	-	-	-	-
D. nemodestus	-	-	-	-	-	-	.031	-	-	.006	-	-	-	-	-	-	-	-	-	-
D. lobus	-	-	-	-	-	-	.016	.016	-	-	-	-	-	-	-	-	-	-	-	-
D. sp.	-	-	-	-	-	-	.047	-	.062	.022	-	-	-	-	-	-	-	-	-	-
Trichoptera fusiformis	-	-	-	-	-	-	.016	-	-	.003	-	-	-	-	-	-	-	-	-	-
Goslingia chironomus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
holopneustus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Microtendipes sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NS = Not sampled

APPENDIX F

SEDIMENTS

APPENDIX LIST

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APPENDIX F-1

Physical and Chemical Data

Sediment Grain Size Analysis

(% Total)

Grain Size (mm)	Station					
	<u>1-1</u>		<u>1-2</u>		<u>1-3</u>	
	Mar	Sep	Mar	Sep	Mar	Sep
> 12.7						
12.7 - 3.36				0.3		
3.36 - 2.00	1.7	8.5	3.8	1.0	5.7	4.2
2.00 - 0.50	12.8	19.1	15.1	11.4	9.7	13.3
0.50 - 0.25	16.9	19.3	19.9	25.7	12.7	22.7
0.25 - .125	44.6	39.2	38.1	42.1	31.7	39.8
.125 - .045	22.8	18.7	20.9	19.8	19.3	17.2
< .045	1.1	0.7	2.2	0.3	5.9	2.9
	<u>2-1</u>		<u>2-2</u>		<u>2-3</u>	
> 12.7						
12.7 - 3.36						
3.36 - 2.00	0.8	0.2	1.1	0.4	0.2	0.2
2.00 - 0.50	15.2	9.2	21.0	14.5	10.0	12.9
0.50 - 0.25	17.6	16.4	11.8	17.3	23.0	16.8
0.25 - .125	38.8	42.9	49.1	40.3	51.1	38.6
.125 - .045	25.6	30.2	17.3	26.4	15.0	31.2
< .045	1.9	1.0	0.1	1.2	0.6	0.3
	<u>3-1</u>		<u>3-2</u>		<u>3-3</u>	
> 12.7						
12.7 - 3.36						1.1
3.36 - 2.00	1.1	4.3	8.4	7.2	1.0	2.9
2.00 - 0.50	2.7	8.8	12.3	10.1	14.0	11.8
0.50 - 0.25	20.9	19.2	9.8	15.7	14.2	13.2
0.25 - .125	36.7	40.3	28.8	30.0	30.6	39.9
.125 - .045	33.7	24.7	38.0	33.9	36.1	28.7
< .045	4.8	2.1	2.8	3.8	4.4	3.3

Physical and Chemical Data

Sediment Grain Size Analysis

(% Total)

Grain Size (mm)	Station					
	<u>4-1</u>		<u>4-2</u>		<u>4-3</u>	
	<u>Mar</u>	<u>Sep</u>	<u>Mar</u>	<u>Sep</u>	<u>Mar</u>	<u>Sep</u>
> 12.7			0.5			
12.7 - 3.36			3.7	2.2	1.1	6.4
3.36 - 2.00			7.8	7.6	13.1	10.8
2.00 - 0.50			15.6	18.3	12.4	22.5
0.50 - 0.25	Insufficient Sample		35.7	29.9	35.2	26.8
0.25 - .125			23.5	30.1	35.6	24.8
.125 - .045			13.2	11.4	2.5	7.9
< .045				1.6	0.4	0.8

	<u>5-1</u>		<u>5-2</u>		<u>5-3</u>	
> 12.7		0.7			0.4	0.2
12.7 - 3.36	4.7	6.2	3.8	1.0	6.9	6.1
3.36 - 2.00	9.0	8.5	4.9	9.9	10.0	6.1
2.00 - 0.50	5.2	17.2	11.0	11.8	16.1	21.2
0.50 - 0.25	19.9	36.2	19.1	31.2	21.2	20.8
0.25 - .125	25.0	20.4	20.0	15.3	35.7	29.5
.125 - .045	32.5	10.0	26.2	21.9	9.0	11.7
< .045	3.7	0.9	15.1	8.8	0.7	4.5

	<u>6-1</u>		<u>6-2</u>		<u>6-3</u>	
> 12.7						
12.7 - 3.36	0.1		2.2	0.3	1.2	
3.36 - 2.00	3.3	4.1	7.2	5.5	3.9	9.8
2.00 - 0.50	16.1	21.5	17.4	17.9	12.6	23.1
0.50 - 0.25	22.2	20.4	27.5	29.1	19.8	28.2
0.25 - .125	26.6	31.1	21.7	26.3	29.5	24.7
.125 - .045	31.2	22.7	23.2	20.7	32.8	13.1
< .045	0.4	0.2	0.5	0.1	0.1	

APPENDIX F-1

Physical and Chemical Data

Sediment Grain Size Analysis

Grain Size (mm)	Station					
	7-1		7-2		7-3	
	Mar	Sep	Mar	Sep	Mar	Sep
> 12.7						
12.7 - 3.36	0.2			1.7	1.9	0.7
3.36 - 2.00	5.6	4.8	8.6	10.2	3.4	7.4
2.00 - 0.50	14.1	22.3	17.0	14.8	13.3	18.8
0.50 - 0.25	21.1	27.5	18.3	27.3	25.5	31.2
0.25 - .125	26.6	24.1	30.9	30.8	36.0	30.0
.125 - .045	32.0	21.3	25.2	11.9	19.6	10.3
< .045	0.4			3.3	0.4	1.7
	8-1		8-2		8-3	
> 12.7	14.6					
12.7 - 3.36	3.5	7.2	2.3	5.1		6.3
3.36 - 2.00	13.6	21.7	11.8	16.4	21.3	10.0
2.00 - 0.50	14.2	17.3	20.1	14.9	18.8	20.4
0.50 - 0.25	21.8	17.4	21.3	19.9	17.2	13.6
0.25 - .125	15.7	16.8	17.7	20.3	13.6	13.5
.125 - .045	14.4	17.5	23.8	23.0	18.2	35.2
< .045	2.2	2.1	3.1	0.9	2.0	0.8
	9-1		9-2		9-3	
> 12.7						
12.7 - 3.36	0.8	2.1		0.7		
3.36 - 2.00	1.1	1.2	2.9	4.3	0.2	0.2
2.00 - 0.50	2.8	15.3	9.4	11.2	13.4	16.8
0.50 - 0.25	19.7	68.8	43.4	53.8	68.8	62.4
0.25 - .125	56.2	12.5	42.9	29.1	17.0	18.4
.125 - .045	19.3		1.3	0.9	0.8	2.1
< .045						

APPENDIX F-1

Physical and Chemical Data Sediment Grain Size Analysis

Grain Size (mm)	Station (% Total)					
	<u>10-1</u>		<u>10-2</u>		<u>10-3</u>	
	Mar	Sep	Mar	Sep	Mar	Sep
> 12.7	3.6		6.2	4.1		8.9
12.7 - 3.36	0.5	1.2	7.4	9.8	6.5	3.2
3.36 - 2.00	3.5	11.7	4.7	4.1	15.2	8.8
2.00 - 0.50	23.4	27.3	12.8	16.4	20.6	23.3
0.50 - 0.25	35.8	28.9	36.4	30.5	28.4	32.1
0.25 - .125	20.4	16.8	21.7	13.8	19.8	16.2
.125 - .045	2.6	12.8	8.8	19.3	9.4	6.8
< .045		0.9	1.9	2.1		
	<u>11-1</u>		<u>11-2</u>		<u>11-3</u>	
> 12.7	11.5	23.5	31.7	18.7		
12.7 - 3.36	15.4	7.5	4.3	12.2		
3.36 - 2.00	3.6	6.5	2.1	8.7		
2.00 - 0.50	23.2	36.4	19.5	27.9	Insufficient	
0.50 - 0.25	26.8	23.3	35.4	26.5	sample	
0.25 - .125	10.4	1.8	7.1	4.8		
.125 - .045	9.1	1.1		1.3		
< .045						
	<u>12-1</u>		<u>12-2</u>		<u>12-3</u>	
> 12.7	21.8	34.2	27.8	40.1	14.9	20.4
12.7 - 3.36	4.8	8.4	7.4	8.4	10.3	9.9
3.36 - 2.00	9.0	2.1	4.7	4.2	7.6	11.2
2.00 - 0.50	24.6	20.4	29.4	19.7	26.5	25.0
0.50 - 0.25	34.8	30.8	16.0	18.3	28.2	29.3
0.25 - .125	11.9	4.2	14.9	9.0	5.0	4.8
.125 - .045	0.9			0.3		

APPENDIX F-1

Hartwell Lake Sediments

Physical and Chemical Data

<u>Station</u>	<u>% Total Solids</u>		<u>% Volatile Solids</u>		<u>TKN mg/kg</u>	
	<u>Mar.</u>	<u>Sept.</u>	<u>Mar.</u>	<u>Sept</u>	<u>Mar.</u>	<u>Sept.</u>
1	44.11	37.8	4.68	4.49	779	3383
2	44.55	47.5	5.55	4.07	1330	1298
3	57.15	43.6	5.37	3.18	522	938
						(912)
4	51.65	45.1	4.35	4.97	674	933
5	49.48	57.4	3.83	3.37	709	762
6	70.19	60.7	2.60	4.43	140	420
7	43.19	54.5	4.58	5.47	807	1029
8	72.70	50.9	2.89	3.65	405	790
9	77.35	69.1	0.39	0.49	28.3	5
10	66.46	79.2	2.38	1.11	267	105
11	90.43	-	0.72	-	53.7	-
12	79.75	84.1	6.58	0.79	75.9	137

APPENDIX F-1

Hartwell Lake Sediments

Physical and Chemical Data

Station	Total Phosphorus mg/kg		Oil and Grease mg/kg		TOC mg/g (Dry Wt.)	
	Mar.	Sept.	Mar.	Sept.	Mar.	Sept.
1	2200	2800	253	800	13.3	15.1
2	2000	1560	650	264	15.3	16.2
3	1580	2000	< 50	756	10.8 (10.4)	9.6
4	1440	3200	< 50	278	7.06	8.12 (8.18)
5	1220	2200	441	< 50	7.74	7.99
6	1420	2400	< 50	314	3.43	4.01
7	2000	2400	< 50	306	10.6	11.3
8	1340	3000	< 50	364	3.93	4.17
9	620	1020	< 50	< 50	0.33	0.57 (0.55)
10	740	1740	< 50	315	3.10	3.41
11	620	NS	281	-	0.30 (0.31)	-
12	1260	1820	183	< 50	0.53	0.59

APPENDIX F-2

Hartwell Lake Sediments

Metals

Total mg/kg dry weight
(except as noted)

<u>Station</u>	<u>Copper</u>		<u>Iron (g/kg)</u>		<u>Lead</u>	
	<u>Mar.</u>	<u>Sept.</u>	<u>Mar.</u>	<u>Sept</u>	<u>Mar.</u>	<u>Sept.</u>
1	41.4	14.9	730	24	9.9	11.6
2	33.4	11.9	53	17	44.9	13.8
3	28.9	10.8	44	21	76.5	6.2
4	15.1	8.0	27	16	66.9	4.8
5	16.7	4.8	24	8	74.7	3.6
6	14.1	6.0	21	9	41.3	1.7
6 Dup.	12.8	-	22	-	41.7	-
7	33.9	8.8	42	11	82.2	6.6
8	13.4	14.1	20	20	12.6	12.1
9	2.59	1.4	5	3	11.1	0.9
10	12.0	2.9	18	5	17.2	1.3
11	5.15	-	12	-	< 0.6	-
12	3.84	3.1	11	8	20.9	< 0.5
12 Dup.	-	3.3	-	8	-	< 0.5

APPENDIX F-2

Hartwell Lake Sediments

Metals

Total mg/kg dry weight
(except as noted)

Station	Manganese		Mercury		Cadmium	
	Mar.	Sept.	Mar.	Sept.	Mar.	Sept.
1	771	335	0.94	0.69	< 1.0	< 0.1
2	654	338	< 0.01	0.73	5.6	< 0.1
3	529	331	1.02	0.59	< 1.7	< 0.1
4	498	220	0.32	0.46	< 1.1	< 0.1
5	311	139	1.55	0.60	70.3	< 0.1
6	202	155	0.44	0.39	3.0	< 0.1
6 Dup.	168	-	*	-	4.2	< 0.1
7	428	203	0.66	0.62	6.6	< 0.1
8	656	218	0.62	0.66	3.3	< 0.1
9	76	56	0.05	0.14	0.4	< 0.1
10	228	83	1.20 1.13	0.42 0.45	< 0.8	< 0.1
11	483	-	0.45	-	< 0.6	-
12	1280	1038	0.58	0.41	45.8	< 0.1
12 Dup.	-	1019	-	-	-	< 0.1

APPENDIX F-2

Hartwell Lake Sediments

Metals

Total mg/kg dry weight
(except as noted)

<u>Station</u>	<u>Nickel</u>		<u>Zinc</u>		<u>Chromium</u>	
	<u>Mar.</u>	<u>Sept.</u>	<u>Mar.</u>	<u>Sept.</u>	<u>Mar.</u>	<u>Sept.</u>
1	51.2	10.0	121.0	40.3	34.1	39.7
2	66.8	9.3	135.0	28.8	49.9	44.1
3	34.0	5.3	134.0	50.1	27.3	38.0
4	21.5	6.7	76.6	49.9	44.3	36.2
5	18.3	1.7	138.0	38.6	36.5	19.2
6	17.1	2.6	78.8	16.3	16.4	8.0
6 Dup.	16.0	-	48.6	-	14.7	-
7	33.0	7.4	112.0	23.6	15.6	17.0
8	23.7	14.0	40.4	40.3	26.1	27.5
9	3.31	1.1	9.31	5.4	1.91	3.6
10	18.8	2.6	45.0	11.7	12.0	6.3
11	10.4	-	27.0	-	11.4	-
12	6.11	4.7	18.3	11.3	6.61	34.7
12 Dup.	-	4.4	-	11.6	-	35.7

APPENDIX F-2

Hartwell Lake Sediments

Metals

Total mg/kg dry weight
(except as noted)

<u>Station</u>	<u>Arsenic</u>	
	<u>Mar.</u>	<u>Sept.</u>
1	12.9	10.6
2	15.5	7.6
3	3.6	9.6
4	1.9	7.1
5	3.1	7.0
6	1.5	9.2
6 Dup.	1.1	-
7	1.7	7.0
8	1.6	8.3
9	0.8	7.0
10	1.2	4.0
11	9.1	7.8
12	0.4	7.4
12 Dup.	-	7.3

APPENDIX F-3

Hartwell Lake Sediments

Organics

Total ug/kg wet weight

<u>Station</u>	<u>Lindane</u>		<u>Heptachlor</u>		<u>Aldrin</u>	
	<u>Mar.</u>	<u>Sept.</u>	<u>Mar.</u>	<u>Sept.</u>	<u>Mar.</u>	<u>Sept.</u>
1	<1	<1	5	2.1	11	33
2	<1	17.9	24	35.4	38	51
3	<1	<1	<1	<1	47	12
3	-	<1	-	<1	-	18
4	<1	<1	112	9	141	128
5	<1	4.2	37	1.7	61	29
6	7	<1	56	6.4	39	42
7	<1	3.1	<1	<1	46	1
8	3	<1	32	1.6	23	22
9	<1	<1	5	<1	7	<1
9	<1	-	8	-	9	-
10	<1	6.2	<1	1.2	11	2
11	1	-	1	-	4	-
12	<1	3.7	<1	<1	5	12

APPENDIX F-3

Hartwell Lake Sediments

Organics

Total ug/kg wet weight

<u>Station</u>	<u>Endrin</u>		<u>Mirex</u>		<u>Chlordane</u>	
	<u>Mar.</u>	<u>Sept.</u>	<u>Mar.</u>	<u>Sept</u>	<u>Mar.</u>	<u>Sept.</u>
1	≤0.2	0.3	≤1	13.0	79	306
2	≤0.2	3.2	≤1	14.3	232	381
3	≤0.2	2.1	≤1	15.8	101	118
3	-	1.8	-	5.5	-	79
4	≤0.2	12.0	≤1	23.3	2780	663
5	≤0.2	5.1	≤1	≤1	689	6.0
6	≤0.2	1.0	≤1	10.0	1960	216
7	≤0.2	4.4	26	4.4	2610	≤1
8	≤0.2	0.8	≤1	13.6	2030	56
9	≤0.2	≤0.2	≤1	≤1	500	8.0
9	≤0.2	-	≤1	-	843	-
10	≤0.2	≤0.2	≤1	22.2	203	20
11	≤0.2	-	≤1	-	42	-
12	≤0.2	0.2	≤1	13.8	80	53

APPENDIX F-3

Hartwell Lake Sediments

Organics

Total ug/kg wet weight

<u>Station</u>	DDD		DDE		DDT	
	<u>Mar.</u>	<u>Sept.</u>	<u>Mar.</u>	<u>Sept.</u>	<u>Mar.</u>	<u>Sept.</u>
1	7	2	5	27	178	13
2	59	32	38	33	1210	14
3	21	< 1	26	5	121	16
3	-	< 1	-	9	-	6
4	169	22	182	80	811	23
5	107	1	91	19	357	1
6	109	14	76	16	332	10
7	136	< 1	105	2	387	4
8	119	15	77	31	274	14
9	43	-	26	-	158	-
10	9	6	1	3	63	22
11	31	-	13	-	64	-
12	7	< 1	1	9	24	14

APPENDIX F-3

Hartwell Lake Sediments

Organics

Total ug/kg wet weight

<u>Station</u>	<u>Toxaphene</u>		<u>Dieldrin</u>		<u>PCB</u>	
	<u>Mar.</u>	<u>Sept.</u>	<u>Mar.</u>	<u>Sept.</u>	<u>Mar.</u>	<u>Sept.</u>
1	<1	<1	7	7	38	306
2	23	<1	31	21	202	336
3	<1	<1	21	7	620	107
3	-	<1	-	9	-	119
4	136	<1	150	8	1120	1016
5	<1	<1	57	22	1420	522
6	<1	<1	44	7	1540	623
7	<1	<1	49	<1	1320	<1
8	7	<1	48	<1	1420	<1
9	259	<1	10	4	238	<1
9	274	-	26	-	420	-
10	28	<1	1	3	3	<1
11	3	-	5	-	16	-
12	<1	<1	2	8	8	40

APPENDIX G

TISSUES

APPENDIX LIST

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APPENDIX G-1

Hartwell Lake Tissue Analysis

Metals in Fish Tissues*

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>Cadmium</u>		<u>Chromium</u>	
		<u>Spring</u>	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>
2	Bass	<0.1	<0.1	0.23	0.25
2	Catfish	<0.1	<0.1	0.34	0.33
4	Bass	<0.1	<0.1	0.17	0.15
4	Catfish	<0.1	<0.1	0.70	0.29
7	Bass	<0.1	<0.1	0.17	<0.1
7	Catfish	<0.1	<0.1	0.38	0.34
8	Bass	<0.1	<0.1	0.52	0.6
8	Catfish	<0.1	<0.1	0.13	0.1
9	Bass	<0.1	-	0.79	-
9	Catfish	<0.1	-	0.55	-
12	Bluegill	<0.1	<0.1	0.20	<0.1
12	Catfish	<0.1	<0.1	0.84	<0.1

*All metals analyzed in duplicate; values are averages.

APPENDIX G-1

Hartwell Lake Tissue Analysis

Metals in Fish Tissues

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>Zinc</u>		<u>Lead</u>	
		<u>Spring</u>	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>
2	Bass	3.22	4.78	0.50	0.30
2	Catfish	3.89	5.69	0.48	0.47
4	Bass	1.62	5.27	0.28	0.37
4	Catfish	3.48	5.57	0.45	0.65
7	Bass	3.62	4.32	0.44	0.14
7	Catfish	2.14	5.86	0.37	0.37
8	Bass	4.81	2.45	0.48	0.33
8	Catfish	2.76	2.75	0.26	0.24
9	Bass	3.49	-	0.70	-
9	Catfish	4.83	-	0.76	-
12	Bluegill	9.16	7.31	0.17	0.44
12	Catfish	8.40	5.75	0.31	0.46

All metals analyzed in duplicate; values are averages.

APPENDIX G-1

Hartwell Lake Tissue Analysis

Metals in Fish Tissues

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>Arsenic</u>		<u>Selenium</u>	
		<u>Spring</u>	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>
2	Bass	<0.01	<0.01	<0.01	<0.01
2	Catfish	<0.01	<0.01	<0.01	<0.01
4	Bass	<0.01	<0.01	<0.01	<0.01
4	Catfish	<0.01	<0.01	<0.01	<0.01
7	Bass	<0.01	<0.01	<0.01	0.12
7	Catfish	<0.01	<0.01	<0.01	<0.01
8	Bass	<0.01	<0.01	<0.01	<0.01
8	Catfish	<0.01	<0.01	<0.01	<0.01
9	Bass	<0.01	-	<0.01	-
9	Catfish	<0.01	-	<0.01	-
12	Bluegill	<0.01	<0.01	<0.01	<0.01
12	Catfish	<0.01	<0.01	<0.01	<0.01

All metals analyzed in duplicate; values are averages.

APPENDIX G-1

Hartwell Lake Tissue Analysis

Metals in Fish Tissues

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>Mercury</u>	
		<u>Spring</u>	<u>Fall</u>
2	Bass	0.39	0.22
2	Catfish	0.34	0.29
4	Bass	0.28	0.38
4	Catfish	0.29	0.20
7	Bass	0.63	0.27
7	Catfish	0.29	0.28
8	Bass	0.29	0.23
8	Catfish	0.25	0.29
9	Bass	0.26	-
9	Catfish	0.08	-
12	Bluegill	0.12	0.30
12	Catfish	0.47	0.66

All metals analyzed in duplicate; values are averages.

Recoveries for three EPA Hg Certified Standards.

112% Analyzed with Spring run; July 13, 1981
120% Analyzed with Fall run; December 2, 1981
112% Analyzed with Fall run; December 2, 1981

APPENDIX G-2

Hartwell Lake Tissue Analysis

Metals in Mollusk Tissues*

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>Cadmium</u>		<u>Chromium</u>	
		<u>Spring</u>	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>
2	L Clam ¹	-	0.5	-	2.57
4	L Clam	0.21	0.08	1.86	2.59
4	S Clam ²	0.20	0.51	1.43	1.80
7	L Clam	0.32	0.07	2.69	2.11
7	S Clam	A	0.45	A	1.93
8	L Clam	0.10	0.06	0.87	2.19
8	S Clam	0.06	0.18	0.96	1.58
9	L Clam	0.16	0.24	1.59	1.38
12	Crayfish	0.3	0.15	0.70	1.32

*All metals run in duplicate; values are averages.

A - Insufficient Sample

L Clam¹ -Tissue samples removed from clams of the genus Anodonta
 S Clam² -Tissue samples removed from clams of the genus Corbicula

APPENDIX G-2

Hartwell Lake Tissue Analysis

Metals in Mollusk Tissues*

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>Zinc</u>		<u>Lead</u>	
		<u>Spring</u>	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>
2	L Clam	-	28.12	-	0.53
4	L Clam	24.04	28.47	2.10	0.51
4	S Clam	23.45	37.82	1.10	0.49
7	L Clam	25.82	19.78	2.15	0.38
7	S Clam	A	31.87	A	0.56
8	L Clam	11.76	24.58	1.14	0.15
8	S Clam	15.41	19.55	2.98	0.23
9	L Clam	16.70	29.33	64.62	0.25
12	Crayfish	10.81	25.00	0.22	0.79

All metals run in duplicate; values are averages.

A - Insufficient Sample

APPENDIX G-2

Hartwell Lake Tissue Analysis

Metals in Mollusk Tissues*

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>Arsenic</u>		<u>Selenium</u>	
		<u>Spring</u>	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>
2	L Clam	-	0.08	-	<0.01
4	L Clam	<0.01	0.03	0.16	0.01
4	S Clam	0.06	0.01	<0.01	0.01
7	L Clam	0.01	-	<0.01	0.01
7	S Clam	A	0.03	A	0.01
8	L Clam	0.02	0.06	<0.01	0.01
8	S Clam	0.03	0.07	0.05	0.09
9	L Clam	0.02	0.08	<0.01	0.07
12	Crayfish	<0.01	A	<0.01	A

All metals run in duplicate; values are averages.

A - Insufficient Sample

APPENDIX G-2

Hartwell Lake Tissue Analysis

Metals in Mollusk Tissues*

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>Mercury</u>	
		<u>Spring</u>	<u>Fall</u>
2	L Clam	SL	0.17
4	L Clam	0.36	0.16
4	S Clam	0.36	0.25
7	L Clam	0.43	0.25
7	S Clam	A	0.27
8	L Clam	0.31	0.27
8	S Clam	0.26	0.17
9	L Clam	0.10	0.31
12	Crayfish	0.21	0.10

All metals run in duplicate; values are averages.

A - Insufficient Sample

SL - Sample Lost

APPENDIX G-3

Hartwell Lake Tissue Analysis

Organics in Fish Tissues

Total ug/kg wet weight

Station	Organism	Aldrin		Chlordane	
		Spring	Fall	Spring	Fall
2	Bass	5.5	4.8	37.7	129.4
2	Catfish	¹ (18.6)17.7	9.6	(68.6)56.6	264.0
4	Bass	18.1	9.7	37.6	123.6
4	Catfish	51.6	14.0	96.0	357.3
7	Bass	1.7	4.1	8.5	26.3
7	Catfish	4.6	4.1	7.4	5.9
8	Bass	2.7	2.5	8.2	12.7
8	Catfish	4.2	48.4 (50.3)	20.3	224.4 (228.6)
9	Bass	7.3	-	18.8	-
9	Catfish	28.7	-	87.4	-
12	Bluegill	31.7	1.0	49.2	22.0
12	Catfish	13.8	4.3	11.6	10.6
Station 9 Spiked Bass					
	% Recovery *	105		43	
Station 8 Spiked Catfish					
	% Recovery*		99		82

¹ - Parentheses indicate laboratory duplicates

* - Corrected for natural body burdens

APPENDIX G-3

Hartwell Lake Tissue Analysis

Organics in Fish Tissues

Total ug/kg wet weight

Station	Organism	PCB		DDD	
		Spring	Fall	Spring	Fall
2	Bass	79.7	136.3	<1	<1
2	Catfish	(308.9)294.3	220.7	(<1) 1.7	<1
4	Bass	121.2	313.2	<1	<1
4	Catfish	59.0	408.3	<1	<1
7	Bass	<1	185.2	2.0	<1
7	Catfish	15.9	<1	<1	<1
8	Bass	27.2	64.9	5.3	<1
8	Catfish	202.8	<1 (3.4)	<1	118.4 (115.7)
9	Bass	340.9	-	46.4	-
9	Catfish	679.0	-	<1	-
12	Bluegill	4.2	23.5	10.5	<1
12	Catfish	3.9	150.9	19.8	<1
Station 9 Spiked Bass					
% Recovery					
		102			
Station 8 Spiked Catfish					
% Recovery					
		100			

APPENDIX G-3

Hartwell Lake Tissue Analysis

Organics in Fish Tissues

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>DDE</u>		<u>DDT</u>	
		<u>Spring</u>	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>
2	Bass	<1	65.7	7.5	44.2
2	Catfish	(<1)	1.2 160.3	(38.0)33.5	196.5
4	Bass	34.6	175.7	22.1	179.8
4	Catfish	44.2	3.5	100.5	24.3
7	Bass	5.7	41.4	1.1	10.4
7	Catfish	5.4	8.1	2.7	<1
8	Bass	2.9	28.9	19.1	2.5
8	Catfish	<1	393.7 (438.0)	18.3	291.8 (298.3)
9	Bass	65.5	-	178.7	-
9	Catfish	<1	-	181.1	-
12	Bluegill	18.2	9.4	17.0	5.1
12	Catfish	56.8	32.7	37.5	6.7
Station 9 Spiked Bass					
	% Recovery	98		100	
Station 8 Spiked Catfish					
	% Recovery	102		100	

APPENDIX G-3

Hartwell Lake Tissue Analysis

Organics in Fish Tissues

Total ug/kg wet weight

Station	Organism	Lindane		Heptachlor	
		Spring	Fall	Spring	Fall
2	Bass	<1	1.6		
2	Catfish	(<1) <1	9.5	2.4 2.2	
				(3.2) 3.4	<1
4	Bass	4.3	7.8		
4	Catfish	8.7	11.6	4.3 3.9	
				8.7 5.5	
7	Bass	<1	1.3		
7	Catfish	<1	<1	<1 <1	
				<1 <1	
8	Bass	<1	1.6		
8	Catfish	3.0	3.0 (4.0)	14.8 <1	
				<1 7.5 (7.0)	
9	Bass	9.5	-		
9	Catfish	<1	-	9.6 -	
				14.0 -	
12	Bluegill	<1	1.3		
12	Catfish	<1	2.5	4.2 <1	
				10.7 <1	
Station 9 Spiked Bass					
% Recovery		84		94	
Station 8 Spiked Catfish					
% Recovery			97		120

APPENDIX G-3

Hartwell Lake Tissue Analysis

Organics in Fish Tissues

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>Endrin</u>		<u>Mirex</u>	
		<u>Spring</u>	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>
2	Bass	3.6	27.3	<1	<1
2	Catfish	(6.0) 6.5	<1	(<1) <1	<1
4	Bass	12.3	28.3	7.0	<1
4	Catfish	<1	3.7	21.5	121.0
7	Bass	3.0	<1	27.4	<1
7	Catfish	3.5	<1	54.2	<1
8	Bass	14.9	<1	4.1	<1
8	Catfish	4.5	39.6 (42.3)	<1	<1 (<1)
9	Bass	21.1	1.0	86.4	-
9	Catfish	23.7	<1	<1	-
12	Bluegill	11.9		33.2	<1
12	Catfish	3.6		31.0	<1

Station 9 Spiked Bass

% Recovery

97

Station 8 Spiked Catfish

% Recovery

158

APPENDIX G-3

Hartwell Lake Tissue Analysis

Organics in Fish Tissues

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>Toxaphene</u>		<u>Dieldrin</u>	
		<u>Spring</u>	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>
2	Bass	24.8	<1	7.9	41.8
2	Catfish	(<1) <1	<1	(42.3) 40.2	42.7
4	Bass	<1	<1	12.4	<1
4	Catfish	<1	<1	29.5	<1
7	Bass	<1	<1	1.1	<1
7	Catfish	19.8	<1	2.7	<1
8	Bass	<1	<1	6.2	<1
8	Catfish	<1	383.0 (332.7)	44.8	<1 (<1)
9	Bass	218.8	-	58.6	-
9	Catfish	<1	-	16.9	-
12	Bluegill	62.1	<1	1.6	<1
12	Catfish	<1	<1	12.2	<1
Station 9 Spiked Bass					
	% Recovery	75		132	
Station 8 Spiked Catfish					
	% Recovery	100		84	

APPENDIX G-4

Hartwell Lake Tissue Analysis

Organics in Mollusk Tissues

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>Dieldrin</u>		<u>Toxaphene</u>	
		<u>Spring</u>	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>
2	L Clams	-	<1	-	30.8
2	S Clams	-	<1	-	66.6
4	L Clams	<1	<1	<1	<1
4	L Clams	<1	-	<1	-
4	S Clams	-	<1 (<1)	-	<1 (<1)
7	L Clams	(13.0)1.91	<1	(19.9)20.3	<1
7	S Clams	-	<1	-	18.4
8	L Clams	<1	<1	43.5	<1
8	S Clams	<1	<1	186.0	<1
9	S Clams	14.3	<1	<1	11.7
12	Crawfish	<1	<1	<1	<1
Station 7 Spiked Clam					
	% Recovery	124		70.6	
Station 4 Spiked Clam					
	% Recovery	105		75.0	

APPENDIX G-4

Hartwell Lake Tissue Analysis

Organics in Mollusk Tissues

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>DDE</u>		<u>DDT</u>	
		<u>Spring</u>	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>
2	L Clams	-	2.72	-	<1
2	S Clams	-	22.8	-	38.3
4	L Clams	30.5	1.88	5.5	5.1
4	L Clams	16.8	-	4.3	-
4	S Clams	-	11.3 (9.2)	-	4.7 (11.6)
7	L Clams	(3.1) 2.8	<1	(5.7) 5.0	1.7
7	S Clams	-	3.16	-	2.7
8	L Clams	21.5	3.1	32.7	1.5
8	S Clams	57.9	8.7	23.8	14.9
9	S Clams	21.1	2.19	1.1	5.1
12	Crawfish	28.9	13.3	3.2	<1
Station 7 Spiked Clam					
	% Recovery	92.1		43.0	
Station 4 Spiked Clam					
	% Recovery		104.2		154

APPENDIX G-4

Hartwell Lake Tissue Analysis

Organics in Mollusk Tissues

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>PCB</u>		<u>DDD</u>	
		<u>Spring</u> <u>Fall</u>		<u>Spring</u> <u>Fall</u>	
2	L Clams	-	<1	-	<1
2	S Clams	-	10.3	-	4.67
4	L Clams	141.0	451.0	<1	<1
4	L Clams	256.0	-	<1	-
4	S Clams	-	42.0 (36.3)	-	<1 (<1)
7	L Clams	(<1) <1	<1	(<1) <1	<1
7	S Clams	-	<1	-	1.27
8	L Clams	57.1	15.1	<1	<1
8	S Clams	828.0	86.3	1.31	<1
9	S Clams	183.0	22.9	<1	<1
12	Crawfish	133.0	64.3	<1	<1
Station 7 Spiked Clam					
% Recovery					
Station 4 Spiked Clam					
% Recovery					

APPENDIX G-4

Hartwell Lake Tissue Analysis

Organics in Mollusk Tissues

Total ug/kg wet weight

Station	Organism	Chlordane		Mirex	
		Spring	Fall	Spring	Fall
2	L Clams	-	4.4	-	<1
2	S Clams	-	41.0	-	<1
4	L Clams	20.1	<1	<1	<1
4	L Clams	17.2	-	<1	-
4	S Clams	-	<1 (<1)	-	<1 (<1)
7	L Clams	(9.6) 5.8	3.5	(<1) <1	<1
7	S Clams	-	3.3	-	<1
8	L Clams	7.7	4.8	<1	<1
8	S Clams	84.8	20.3	<1	<1
9	S Clams	15.9	11.8	<1	<1
12	Crawfish	30.9	5.0	<1	<1
Station 7 Spiked Clam					
	% Recovery	82.5		36.3	
Station 4 Spiked Clam					
	% Recovery		66.7		93.8

APPENDIX G-4

Hartwell Lake Tissue Analysis

Organics in Mollusk Tissues

Total ug/kg wet weight

<u>Station</u>	<u>Organism</u>	<u>ndane</u>		<u>Heptachlor</u>	
		<u>Spring</u>	<u>Fall</u>	<u>Spring</u>	<u>Fall</u>
2	L Clams	-	<1	-	<1
2	S Clams	-	<1	-	3.17
4	L Clams	<1	<1	<1	<1
4	L Clams	<1	-	1.37	-
4	S Clams	-	<1 (<1)	-	<1 (<1)
7	L Clams	(<1) <1	<1	(<1) <1	<1
7	S Clams	-	<1	-	<1
8	L Clams	<1	<1	1.56	<1
8	S Clams	<1	<1	5.75	<1
9	S Clams	<1	<1	1.52	<1
12	Crawfish	<1	<1	3.39	1.25
Station 7 Spiked Clam					
	% Recovery	125		44.5	
Station 4 Spiked Clam					
	% Recovery				

APPENDIX G-5

Tissues % Recovery for Metals

<u>Station</u>	<u>Organism</u>	<u>Cd</u>	<u>Cr</u>	<u>Zn</u>	<u>Pb</u>	<u>As</u>	<u>Se</u>
2	April Catfish	96	141	157	106	155	< 2
2	April Bass	53	59	77	39	114	< 2
2	Sept. Clam	100	79	105	65	49	< 2
4	April Catfish					107	< 13
4	April Clam					71	70
7	April Catfish					104	40
7	April Bass	81	77	88	26		
7	Sept. Catfish	76	103	95	40	105	40
8	April Bass	84	78	110	70		
8	Sept. Clam	100	92	99	25	69	< 3
9	April Clam	91	83	118	53		
9	April Bass					102	< 3
12	April Catfish	84	63	70	65	110	< 3
12	April Bluegill	86	88	98	68	93	< 3
	Average	86	90	102	56	109	*
Method Recovery Spike**		100	86	110	50	107	95

*Explained in text

** Average of 7 Recovery Checks

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