

Appendix 1: Land Use/Land Cover abundances and percentages for each target sub-watershed in Conesus, Heml

Lake:	Conesus	Conesus	Conesus	Conesus	Conesus	Conesus	Conesus
Site:	1	2	3	4	5	6	7
Total count	8657	6013	6837	7822	22407	83818	3966
Emergent Wetland	47	22	113	0	21	2120	0
Woody Wetland	251	117	84	139	218	3417	48
Herbacious	40	99	22	18	90	452	13
Shrub/scrub	246	184	346	638	2606	10080	145
Mixed forest	57	85	90	267	2354	5915	127
deciduous forest	1292	1171	918	1995	8596	30654	466
evergreen forest	0	0	9	19	589	591	21
hay/pasture	2715	2243	3442	2875	5235	20681	983
cultivated crop	2934	905	1198	1235	1073	5984	1947
developed, open	672	622	553	498	1474	3801	167
developed, low	353	354	50	70	96	120	44
developed, med	38	171	12	68	28	0	2
developed, high	12	40	0	0	11	0	0
barren land	0	0	0	0	16	3	3
%Emergent Wetland	0.54%	0.37%	1.65%	0.00%	0.09%	2.53%	0.00%
%Woody Wetland	2.90%	1.95%	1.23%	1.78%	0.97%	4.08%	1.21%
%Herbacious	0.46%	1.65%	0.32%	0.23%	0.40%	0.54%	0.33%
%Shrub/Scrub	2.84%	3.06%	5.06%	8.16%	11.63%	12.03%	3.66%
%Mixed Forest	0.66%	1.41%	1.32%	3.41%	10.51%	7.06%	3.20%
%Deciduous Forest	14.92%	19.47%	13.43%	25.50%	38.36%	36.57%	11.75%
%Evergreen Forest	0.00%	0.00%	0.13%	0.24%	2.63%	0.71%	0.53%
%Hay/Pasture	31.36%	37.30%	50.34%	36.76%	23.36%	24.67%	24.79%
%Cultivated Crop	33.89%	15.05%	17.52%	15.79%	4.79%	7.14%	49.09%
%Developed, Open	7.76%	10.34%	8.09%	6.37%	6.58%	4.53%	4.21%
%Developed, Low	4.08%	5.89%	0.73%	0.89%	0.43%	0.14%	1.11%
%Developed, Med	0.44%	2.84%	0.18%	0.87%	0.12%	0.00%	0.05%
%Developed, High	0.14%	0.67%	0.00%	0.00%	0.05%	0.00%	0.00%
%Barren Land	0.00%	0.00%	0.00%	0.00%	0.07%	0.00%	0.08%

Honeoye	Honeoye	Honeoye	Honeoye	Honeoye	Honeoye
3	4	5	6	7	8
5051	3120	14187	53086	1890	4503
12	0	0	294	7	0
13	14	483	3771	16	0
0	16	5	46	0	7
292	197	431	3164	169	385
856	261	600	1492	131	380
3022	1852	11197	35409	483	1230
688	484	889	1110	92	333
82	60	270	4381	874	1724
3	156	117	2066	22	149
81	80	195	1334	96	261
2	0	0	6	0	28
0	0	0	13	0	6
0	0	0	0	0	0
0	0	0	0	0	0
0.24%	0.00%	0.00%	0.55%	0.37%	0.00%
0.26%	0.45%	3.40%	7.10%	0.85%	0.00%
0.00%	0.51%	0.04%	0.09%	0.00%	0.16%
5.78%	6.31%	3.04%	5.96%	8.94%	8.55%
16.95%	8.37%	4.23%	2.81%	6.93%	8.44%
59.83%	59.36%	78.92%	66.70%	25.56%	27.32%
13.62%	15.51%	6.27%	2.09%	4.87%	7.40%
1.62%	1.92%	1.90%	8.25%	46.24%	38.29%
0.06%	5.00%	0.82%	3.89%	1.16%	3.31%
1.60%	2.56%	1.37%	2.51%	5.08%	5.80%
0.04%	0.00%	0.00%	0.01%	0.00%	0.62%
0.00%	0.00%	0.00%	0.02%	0.00%	0.13%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Appendix 2a: Benthic macroinvertebrate abundances in Conesus Lake, by replicate sample

Site:	1	1	2	2
Depth:	Shallow	Deep	Shallow	Deep
% Site Sampled	0.5	0.9	0.5	0.725
Oligochaeta	21	54	39	41
Hirundea unknown	0	1	10	7
Bivalvia Dreissenidae Unknown	1	0	0	0
Bivalvia Dreissenidae <i>D. polymorpha</i>	0	0	0	4
Bivalvia Dreissenidae <i>D. bugensis</i>	0	0	0	6
Bivalvia Sphaeriidae <i>Pisidium</i>	0	2	20	5
Gastropoda Viviparidae <i>V. georgianus</i>	0	0	2	0
Gastropoda Viviparidae <i>C. chinensis malleata</i>	0	0	0	0
Gastropoda Valvatidae <i>Valvata</i>	1	0	10	0
Gastropoda Viviparidae <i>Campeloma</i>	0	0	1	0
Gastropoda Hydrobiidae <i>Gillia</i>	0	3	0	0
Gastropoda Hydrobiidae <i>Amnicola</i>	0	0	0	0
Gastropoda Planorbidae <i>Helisoma</i>	0	0	2	0
Gastropoda Planorbidae <i>Gyraulus</i>	0	0	0	0
Gastropoda Planorbidae <i>Promenetus</i>	0	0	0	0
Gastropoda Physidae <i>Physa</i>	1	0	1	0
Amphipoda Gammaridae <i>Gammarus</i>	33	4	7	6
Amphipoda Hyalellidae <i>Hyaella</i>	0	0	0	0
Isopoda Asellidae <i>Caecidota</i>	0	0	0	23
Decapoda Cambaridae <i>spp.</i>	0	0	0	0
Ephemeroptera Caenidae <i>Caenis</i>	5	0	0	0
Odonata Coenagrionidae <i>Enallagma</i>	1	0	0	0
Trichoptera Leptoceridae <i>Oecetis</i>	0	0	0	0
Coleoptera Elmidae <i>Dubiraphia</i>	0	0	0	0
Diptera Ceratopogonidae <i>Sphaeromias</i>	0	0	0	0
Diptera Ceratopogonidae <i>Bezzia</i>	0	0	1	0
Diptera Pelecorynchidae <i>Glutops</i>	0	0	0	0
Diptera Chironomidae	36	20	33	7
Total	99	84	126	99
density (#/m ²)	1200	565.65657	1527.2727	827.58621
Richness	8	6	11	8
PMA	64.09090909	51.904762	69.285714	64.141414
HBI	6.868686869	7.6190476	7.1666667	7.7070707
Diversity	1.399427	1.0314466	1.8154568	1.6990689
DOM3	90.90909091	92.857143	73.015873	71.717172
Scaled Mean	3.656565657	2.5147186	4.9808007	4.093345

	7	8	8
Deep	Shallow	Deep	
	0.4	0.8888889	1
	4	33	4
	0	0	0
	0	0	0
	0	0	2
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	5	3
	0	0	0
	0	0	0
	1	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	11	25	34
	0	4	6
	80	1	0
	1	0	0
	0	0	0
	0	0	0
	0	0	2
	0	0	0
	0	0	1
	0	0	0
	0	0	0
	1	34	15
	98	102	67
1484.8485	695.45455	406.06061	
	6	6	8
21.122449	59.901961	52.910448	
7.7142857	7.1764706	6.641791	
0.6820679	1.3960976	1.4751229	
96.938776	90.196078	82.089552	
1.3868275	3.1889483	3.6319313	

Appendix 2b: Benthic macroinvertebrate abundances in Hemlock Lake, by replicate sample

Site:	1	1	2	2
Depth:	Shallow	Deep	Shallow	Deep
% Site Sampled	0.16	1	1	1
Oligochaeta	11	14	19	35
Hirundea unknown	0	0	1	0
Bivalvia Dreissenidae <i>D. polymorpha</i>	102	0	0	0
Bivalvia Dreissenidae <i>D. bugensis</i>	15	0	0	0
Bivalvia Sphaeriidae <i>Pisidium</i>	0	1	14	1
Bivalvia Sphaeriidae <i>Sphaerium</i>	1	0	0	0
Gastropoda Ancyliidae <i>Ferrissia</i>	0	0	0	0
Gastropoda Valvatidae <i>Valvata</i>	0	0	0	0
Gastropoda Viviparidae <i>Campeloma</i>	0	0	0	0
Gastropoda Hydrobiidae <i>Gillia</i>	0	0	0	0
Gastropoda Hydrobiidae <i>Amnicola</i>	0	0	0	0
Gastropoda Planorbidae <i>Helisoma</i>	1	0	0	1
Gastropoda Planorbidae <i>Gyraulus</i>	0	0	1	0
Gastropoda Physidae <i>Physa</i>	0	0	0	0
Amphipoda Gammaridae <i>Gammarus</i>	L&R	17	1	0
Amphipoda Hyalellidae <i>Hyalella</i>	0	0	0	1
Isopoda Asellidae <i>Caecidota</i>	2	4	0	1
Decapoda Cambaridae <i>spp.</i>	L&R	0	0	0
Ephemeroptera Caenidae <i>Caenis</i>	0	0	0	0
Ephemeroptera Caenidae <i>Brachycerus</i>	0	1	0	0
Ephemeroptera Ephemeridae <i>Ephemera</i>	0	0	0	0
Ephemeroptera Ephemeridae <i>Hexagenia</i>	0	0	0	0
Odonata Gomphidae <i>Dromogomphus</i>	0	0	0	0
Megaloptera Sialidae <i>Sialis</i>	L&R	0	0	1
Trichoptera Leptoceridae <i>Oecetis</i>	0	0	0	0
Trichoptera Dipseudopsidae <i>Phylocentropus</i>	L&R	2	0	0
Coleoptera Elmidae <i>Dubiraphia</i>	0	0	2	0
Diptera Ceratopogonidae <i>Sphaeromias</i>	0	0	0	0
Diptera Pelecorhynchidae <i>Glutops</i>	0	0	0	0
Diptera Chironomidae	7	5	35	5
Total	139	44	73	45
density (#/m ²)	5265.15152	266.666667	442.42424	272.73
Richness	11	7	7	7
PMA	29.3884892	55.4545455	60.479452	42.222
HBI	7.92086331	6.81818182	7.0547945	7.7111
Diversity	0.950643	1.5094148	1.2943688	0.8626
DOM3	92.0863309	81.8181818	93.150685	91.111
Scaled Mean	1.61706998	3.57305116	3.2160648	2.2596

	3	3	4	4	5	5	6	6	7	7
	Shallow	Deep	Shallow	Deep	Shallow	Deep	Shallow	Deep	Shallow	Deep
0.2666667		0.6	0.92	1	0.28	0.25	0.72	0.47	0.35	1
14		5	13	8	52	36	65	2	32	4
0		0	0	0	0	0	0	0	0	1
0		50	17	11	0	5	5	55	0	25
41		18	0	0	33	2	1	28	0	3
0		0	3	1	0	2	0	0	0	1
0		0	0	0	0	0	0	0	0	0
0		0	0	0	0	0	0	0	0	0
1		0	1	1	0	0	0	0	0	0
0		0	0	0	0	0	2	0	0	0
0		0	0	0	0	0	0	0	0	0
0		0	0	0	0	0	0	0	0	1
2		0	0	0	0	1	0	0	0	0
0		0	1	0	0	0	0	0	0	0
1		0	0	0	0	0	0	0	0	0
10		3	18	2	2	7	1	4	10	4
8		0	4	18	0	0	0	0	0	0
4		3	25	1	2	3	0	6	5	6
0		0	0	0	0	0	0	1	0	0
0		0	0	0	0	0	2	0	0	0
0		0	0	0	0	0	0	0	0	0
0		0	2	0	0	0	0	1	0	0
0		1	0	0	0	0	0	0	0	1
1		0	0	0	0	0	0	0	0	0
2		1	0	2	0 L&R		1	3	1	3
0		0	0	0	0	2	0	0	0	0
0		3	2	0	0	0	0	0	0	1
0		0	0	0	0	0	0	0	0	0
0		0	0	0	0	0	0	1	0	0
0		0	0	0	0	0	0	0	0	1
11		17	14	11	11	42	18	1	46	8
95		101	100	55	100	100	95	102	94	59
2159.0909		1020.2	658.7615	333.3333	2164.502	2424.24242	799.6633	1315.3	1627.706	357.5758
11		9	11	9	5	8	8	10	5	13
59.473684		47.6733	61	68.18182	50	61.2121212	51.57895	33.627	56.06383	62.20339
7.5052632		7.62376	7.26	7.545455	7.85	7.34	7.663158	7.6961	7.255319	7.237288
1.7795689		1.50891	1.979491	1.74936	1.105182	1.4540493	1.036175	1.3438	1.159315	1.949741
69.473684		84.1584	60	72.72727	96	85	92.63158	87.255	93.61702	66.10169
4.5012063		2.96232	5.200602	4.4433	2.075	3.51787879	2.672727	2.3431	2.734043	5.249176

Shallow	8	8
	Deep	
	1	0.6333333
11		19
0		0
55		3
0		0
2		1
0		0
1		0
0		0
0		0
0		1
0		0
0		0
0		0
0		0
0		5
1		0
0		14
0		0
0		0
0		0
2		0
0		0
0		0
0		1
0		0
1		3
0		0
0		0
0		0
13		52
86		99
521.21212	947.36842	
8		9
47.55814	63.282828	
7.6046512	7.2222222	
1.1648461	1.4335574	
91.860465	85.858586	
2.579704	3.7218855	

Appendix 2c: Benthic macroinvertebrate abundances in Canadice Lake, by replicate sample

Site:	1	1	2	2
Depth:	Shallow	Deep	Shallow	Deep
% Site Sampled	1	0.3333333	1	1
Oligochaeta	2	8	4	0
Hirundea unknown	1	0	1	0
Bivalvia Dreissenidae <i>D. polymorpha</i>	2	48	1	0
Bivalvia Dreissenidae <i>D. bugensis</i>	0	28	3	0
Bivalvia Sphaeriidae <i>Pisidium</i>	21	0	18	11
Gastropoda Valvatidae <i>Valvata</i>	16	0	5	1
Gastropoda Hydrobiidae <i>Gillia</i>	0	0	0	0
Gastropoda Planorbidae <i>Helisoma</i>	3	1	0	0
Gastropoda Physidae <i>Physa</i>	1	0	1	0
Amphipoda Gammaridae <i>Gammarus</i>	1 L&R		0	0
Amphipoda Hyalellidae <i>Hyalella</i>	0	0	1	0
Isopoda Asellidae <i>Caecidota</i>	1	1	7	0
Decapoda Cambaridae <i>spp.</i>	0	1	0	0
Ephemeroptera Caenidae <i>Caenis</i>	0	0	1	0
Odonata Gomphidae <i>Dromogomphus</i>	0	0	0	0
Odonata Corduliidae <i>Epithecina</i>	2	0	0	0
Odonata Corduliidae juv	0	0	0	0
Odonata Macromiidae <i>Macromia</i>	0	0	0	0
Megaloptera Sialidae <i>Sialis</i>	0	2	0	0
Trichoptera Leptoceridae <i>Oecetis</i>	0	1	0	1
Trichoptera Leptoceridae <i>Nectopsyche</i>	0	0	0	0
Trichoptera Hydroptilidae <i>Orthotricha</i>	0	0	0	0
Trichoptera Hydroptilidae <i>Oxyethira</i>	0	0	0	0
Trichoptera Dipseudopsidae <i>Phyloctenopus</i>	0	0	0	0
Trichoptera Polycentropodidae <i>Polycentropus</i>	0	0	0	0
Diptera Ceratopogonidae <i>Bezzia</i>	0	0	0	0
Diptera Chironomidae	1	9	5	4
Total	51	99	47	17
density (#/m ²)	309.09091	1800	284.84848	103.0303
Richness	11	11	11	4
PMA	30.686275	37.222222	53.404255	40.882353
HBI	6.7647059	7.7575758	7.0851064	6.2941176
Diversity	1.662196	1.3939459	1.92284	0.9554471
DOM3	78.431373	85.858586	63.829787	94.117647
Scaled Mean	3.3040261	2.4117845	4.7999086	2.5823529

3		4		5		6		7	
Shallow	Deep	Shallow	Deep	Shallow	Deep	Shallow	Deep	Shallow	Deep
0.825	1	0.4166667	0.175	0.56	1	0.5	0.925	0.35	
44	44	60	7	26	23	28	19	25	
33	2	1	1	0	0	1	0	0	
0	0	0	0	0	0	10	31	2	
0	0	0	0	0	0	0	10 L&R		
13	2	0	0	0	2	12	20	39	
0	1	0	0	1	0	8	12	5	
0	0	0	0	0	0	0	0	1	
0	0	0	0	0	0	2	0	0	
0	0	0	0	0	0	7	5	1	
1	0	0	4	7	1	0	0	0	
0	0	0	11	0	0	0	0	0	
0	2	6	67	35	21	3	0	1	
0	0	0 L&R		0	0	0	0	0	
0	0	0	0	0	0	0	1	1	
0	0	0	0	0	0 L&R		1	2	
0	0	0	0	0	0	1	0	0	
0	0	0	0	0	0	0	1	0	
0	0	0	0	0	0	0	1	0	
0	5	2 L&R		0	0 L&R		0	0	
0	0	0	0	1	0	0	0	0	
0	0	0	0	0	0	1	0	0	
0	0	0	0	0	0	1	0	0	
1	0	0	0	0	0	0	0	0	
0	0	2	2	0	2 L&R		0	2	
0	0	0	0	0	0	0	0	1	
0	1	0	0	0	0	0	0	0	
8	10	32	7	34	39	24	1	19	
100	67	103	99	104	88	98	102	99	
734.61892	406.06061	1498.1818	3428.5714	1125.5411	533.33333	1187.8788	668.30467	1714.2857	
6	8	6	9	6	6	12	11	13	
53	54.328358	50.679612	32.171717	56.923077	59.545455	62.142857	38.529412	61.262626	
7.59	7.3731343	7.5533981	7.7878788	7.5096154	7.4204545	7.3367347	7.4215686	6.8383838	
1.2864805	1.1937036	1.0416477	1.1378929	1.349532	1.2761683	1.9588574	1.848458	1.6506632	
90	88.059701	95.145631	85.858586	91.346154	94.318182	65.306122	68.627451	83.838384	
2.7159091	3.1239711	2.384113	2.0127946	2.8457168	2.8465909	4.76297	3.8023796	4.4095858	

	7	8	8
Deep	Shallow	Deep	
	0.575	1	0.8
	4	4	15
	0	0	1
	1	0	0
	0	0	0
	17	1	0
	0	2	0
	0	0	0
	0	0	0
	0	0	0
	0	10	9
	0	0	0
	58	11	64
	0	0	0
	0	0	0
	0	1	1
	0	0	0
	0	0	0
	0	0	0
	4	0	0
	0	0	0
	0	0	2
	0	0	0
	0	0	0
	1	0	0
	0	0	0
	0	0	0
	19	6	7
	104	35	99
1096.1792	212.12121		750
	7	7	7
56.923077		55	41.262626
7.3076923	7.0857143		7.6060606
1.2722273	1.6386416		1.1448981
90.384615	77.142857		88.888889
3.0856643	3.7061741		2.36633

Appendix 2d: Benthic macroinvertebrate abundances in Honeoye Lake, by replicate sample

Site:	1	1	2	2
Depth:	Shallow	Deep	Shallow	Deep
% Site Sampled	1	1	0.125	1
Oligochaeta	8	1	14	6
Hirundea unknown	6	0	2	1
Bivalvia Dreissenidae <i>D. polymorpha</i>	0	6	20	19
Bivalvia Dreissenidae <i>D. bugensis</i>	0	0	20	27
Bivalvia Sphaeriidae <i>Pisidium</i>	0	11	11	30
Bivalvia Sphaeriidae <i>Sphaerium</i>	0	0	0	0
Gastropoda Viviparidae <i>V. georgianus</i>	0	0	0	1
Gastropoda Viviparidae <i>C. chinensis malleata</i>	0	0	1	0
Gastropoda Bithyniidae <i>B. tentacula</i>	0	0	0	0
Gastropoda Valvatidae <i>Valvata</i>	2	7	31	3
Gastropoda Viviparidae <i>Campeloma</i>	0	0	0	0
Gastropoda Hydrobiidae <i>Gillia</i>	0	2	0	0
Gastropoda Planorbidae <i>Helisoma</i>	0	2	0	1
Gastropoda Physidae <i>Physa</i>	0	0	0	0
Amphipoda Gammaridae <i>Gammarus</i>	2	0	0	0
Amphipoda Hyalellidae <i>Hyalella</i>	0	0	0	0
Isopoda Asellidae <i>Caecidota</i>	1	1	8	2
Megaloptera Sialidae <i>Sialis</i>	0	0	3	1
Trichoptera Leptoceridae <i>Oecetis</i>	0	0	0	0
Lepidoptera Crambidae <i>Acentria</i>	0	0	0	0
Diptera Chironomidae	1	0	1	1
Total	20	30	111	92
density (#/m ²)	121.21212	181.81818	5381.8182	557.57576
Richness	7	7	12	10
PMA	60	21.666667	40.225225	26.956522
HBI	7.75	7.13333333	7.6666667	7.25
Diversity	1.4877984	1.6171519	1.9084112	1.6696087
DOM3	80	80	63.963964	82.608696
Scaled Mean	3.3401515	2.5656367	4.074177	2.745531

	7	8	8
Deep	Shallow	Deep	
	1	1	0.15
	17	0	2
	1	0	1
	9	2	2
	0	0	0
	0	3	56
	4	0	0
	0	0	4
	0	0	0
	0	0	0
	0	0	2
	2	0	1
	0	0	0
	0	0	0
	0	0	0
	0	22	0
	0	13	0
	4	0	23
	0	0	0
	1	0	0
	0	0	0
	11	2	9
	49	42	100
	296.9697	254.54545	4040.404
	8	5	9
	67.244898	31.666667	51
	7.4693878	6.7619048	6.69
	1.7123684	1.1801529	1.3350188
	75.510204	90.47619	88
	4.2231909	2.1619048	3.425303