

APPENDIXES

1. Tests of Treatment Effects on Density for 1998 Core Samples
2. Density of Benthic Macroinvertebrates from Core Samples
3. Tests of Effects of Treatment and Sampling Date on Density of Benthic Macroinvertebrates
4. Biomass of Benthic Macroinvertebrates from Core Samples
5. Tests of Treatment Effects on Biomass for 1998 Core Samples
6. Tests of Effects of Treatment and Sampling Date on Biomass of Benthic Macroinvertebrates
7. Density of Benthic Macroinvertebrates on Artificial Substrates
8. ANOVA of Density of Invertebrates on Substrates Inside and Outside Main Plot - No Block
9. ANOVA of Density of Invertebrates on Substrates Inside and Outside Main Plot - with Blocks
10. Tests of Treatment Effects on Density of Invertebrates on Artificial Substrates - with Blocks
11. Tests of Treatment Effects on Density of Invertebrates on Artificial Substrates - no Blocks

Appendix Table 1. Tests of treatment effects on density (#/m²) of benthic invertebrates found in 1998 core samples. Treatment effects were evaluated using an ANOVA for each sampling date. Means are back-transformed least-square estimates with their 95% confidence intervals. There were 9 control, 9 BTI, and 7 Methoprene sites for all comparisons. Degrees of freedom for the F statistic are 1,14. P-values and minimum detectable differences are provided.

Date	Control		BTI		Methoprene		C v BTI		C v Meth		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	BTI	Meth
Total macroinvertebrates												
April 24-2	17431	(10713-28337)	14954	(9188-24316)	15728	(9171-26944)	0.4	0.555	0.1	0.714	40	40
May 19-20	21632	(13970-33480)	14110	(9105-21848)	13646	(8303-22403)	2.2	0.160	2.2	0.157	45	45
June 9-11	23900	(14783-38617)	24078	(14894-38905)	26211	(15317-44824)	0.0	0.978	0.1	0.756	40	45
July 1-3	14574	(7678-27618)	14805	(7800-28056)	18305	(9034-37032)	0.0	0.962	0.4	0.527	50	50
July 19-21	13515	(8534-21384)	12891	(8140-20398)	15881	(9443-26683)	0.0	0.872	0.3	0.610	45	45
Total Non-insects												
April 24-2	7142	(4125-12335)	7266	(4197-12549)	6238	(3442-11271)	0.0	0.943	0.3	0.612	35	40
May 19-20	7303	(5001-10652)	6212	(4251-9064)	7296	(4749-11193)	0.4	0.527	0.0	0.997	40	40
June 9-11	9157	(4997-16740)	10069	(5498-18403)	10841	(5491-21349)	0.1	0.792	0.2	0.665	50	55
July 1-3	5953	(3032-11636)	8393	(4286-16384)	9273	(4353-19686)	0.7	0.402	1.1	0.319	55	60
July 19-21	3793	(1604-8871)	3666	(1549-8577)	4655	(1767-12120)	0.0	0.949	0.1	0.719	65	70
Total Annelida												
April 24-2	2959	(1417-6117)	2937	(1406-6070)	2728	(1180-6214)	0.0	0.987	0.0	0.874	60	65
May 19-20	3296	(1771-6092)	2172	(1159-4031)	2479	(1223-4968)	1.3	0.282	0.5	0.489	55	55
June 9-11	2608	(1029-6485)	3500	(1392-8676)	3802	(1366-10409)	0.4	0.555	0.5	0.487	65	65
July 1-3	2281	(1108-4635)	2205	(1070-4483)	3909	(1756-8619)	0.0	0.936	1.5	0.246	55	60
July 19-21	1107	(452-2607)	1015	(412-2395)	1771	(669-4546)	0.0	0.858	0.8	0.375	60	65
Total Mollusca												
April 24-2	1088	(412-2740)	2411	(954-5973)	2973	(1065-8131)	2.6	0.132	3.5	0.083	65	65
May 19-20	1414	(605-3213)	2276	(992-5133)	3518	(1394-8754)	0.9	0.356	2.9	0.110	65	65
June 9-11	2030	(969-4191)	3235	(1560-6644)	2910	(1269-6585)	1.0	0.343	0.5	0.491	65	65
July 1-3	1038	(335-3006)	4461	(1559-12583)	3554	(1093-11288)	6.5	0.023*	3.9	0.067	70	70
July 19-21	1067	(279-3713)	1501	(408-5166)	1475	(332-5985)	0.2	0.689	0.1	0.722	80	85

Appendix Table 1. Continued

Date	Control		BTI		Methoprene		C v BTI		C v Meth		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	BTI	Meth
Bivalvia												
April 24-2	447	(94-1637)	1174	(310-4081)	2141	(500-8626)	1.3	0.267	3.2	0.097	80	80
May 19-20	519	(136-1671)	957	(281-2987)	1740	(464-6149)	0.7	0.405	2.6	0.132	75	75
June 9-11	393	(76-1469)	1052	(270-3704)	1079	(229-4461)	1.4	0.250	1.3	0.271	80	80
July 1-3	358	(61-1407)	2787	(749-9985)	1699	(375-7099)	7.9	0.014*	3.8	0.072	75	80
July 19-21	277	(28-1259)	484	(81-2076)	574	(77-2934)	0.3	0.602	0.4	0.521	85	85
Gastropoda												
April 24-2	415	(155-993)	629	(251-1469)	647	(236-1634)	0.9	0.351	0.9	0.359	55	60
May 19-20	889	(368-2050)	608	(242-1422)	639	(227-1650)	0.6	0.454	0.4	0.545	60	65
June 9-11	1240	(611-2463)	1454	(721-2880)	966	(425-2114)	0.1	0.731	0.3	0.619	60	65
July 1-3	423	(142-1105)	1206	(465-3002)	771	(247-2199)	2.8	0.119	0.8	0.397	70	75
July 19-21	660	(209-1876)	818	(268-2304)	644	(174-2076)	0.1	0.730	0.0	0.972	70	75
Total Insects												
April 24-2	8248	(4183-16212)	6740	(3413-13257)	8360	(3870-17985)	0.2	0.658	0.0	0.978	60	65
May 19-20	12951	(6699-24986)	6661	(3433-12877)	5791	(2726-12234)	2.3	0.148	3.0	0.105	60	60
June 9-11	13191	(7437-23365)	12261	(6911-21720)	13241	(6946-25198)	0.0	0.832	0.0	0.992	50	55
July 1-3	7447	(3322-16608)	6005	(2673-13406)	6527	(2659-15909)	0.3	0.621	0.1	0.780	60	60
July 19-21	8495	(4433-16234)	6844	(3566-13088)	8978	(4313-18624)	0.3	0.587	0.0	0.897	55	60
Remaining insects												
April 24-2	276	(114-589)	117	(33-281)	72	(4-216)	2.2	0.161	4.1	0.062	60	65
May 19-20	180	(64-410)	133	(40-318)	103	(18-287)	0.2	0.627	0.7	0.419	60	65
June 9-11	207	(70-497)	371	(148-840)	225	(65-594)	1.0	0.339	0.0	0.905	65	65
July 1-3	134	(24-395)	233	(66-630)	160	(26-515)	0.7	0.428	0.1	0.823	65	70
July 19-21	101	(14-295)	190	(54-492)	189	(43-553)	0.8	0.392	0.7	0.425	65	70
Total Coleoptera												
April 24-2	181	(21-673)	132	(5-524)	226	(23-951)	0.1	0.762	0.0	0.831	80	80
May 19-20	573	(237-1293)	416	(164-956)	375	(127-962)	0.4	0.533	0.6	0.451	60	65
June 9-11	1486	(710-3047)	1270	(603-2612)	2862	(1265-6390)	0.1	0.741	1.8	0.205	60	65
July 1-3	357	(134-841)	693	(289-1570)	441	(153-1127)	1.9	0.190	0.2	0.698	60	65
July 19-21	691	(204-2085)	788	(238-2365)	758	(191-2632)	0.0	0.862	0.0	0.909	75	80

Appendix Table 1. Continued

Date	Control		BTI		Methoprene		C v BTI		C v Meth		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	BTI	Meth
Hydrophilidae												
April 24-2	32	(0-93)	32	(0-93)	52	(4-137)	0.0	1.000	0.4	0.537	45	50
May 19-20	62	(13-147)	27	(0-87)	37	(0-116)	1.0	0.337	0.4	0.537	50	55
June 9-11	217	(96-434)	101	(32-226)	116	(33-278)	2.0	0.176	1.2	0.284	55	60
July 1-3	12	(0-79)	97	(20-249)	26	(0-124)	3.2	0.097	0.2	0.698	60	65
July 19-21	57	(0-184)	99	(17-273)	121	(20-358)	0.4	0.535	0.7	0.414	65	65
Dytiscidae												
April 24-2	73	(21-159)	8	(0-50)	22	(0-83)	4.7	0.049*	2.1	0.170	50	50
May 19-20	173	(61-390)	173	(61-390)	123	(28-324)	0.0	0.999	0.3	0.588	60	60
June 9-11	223	(97-453)	245	(109-494)	305	(126-659)	0.0	0.848	0.4	0.552	55	60
July 1-3	238	(93-524)	50	(0-153)	83	(8-246)	5.1	0.040*	2.4	0.143	60	65
July 19-21	184	(38-558)	78	(0-286)	126	(7-466)	1.2	0.297	0.2	0.643	70	70
Scirtidae												
April 24-2	52	(0-251)	63	(0-280)	148	(7-608)	0.0	0.895	0.7	0.403	75	80
May 19-20	93	(0-345)	134	(15-455)	189	(24-690)	0.2	0.694	0.6	0.458	70	75
June 9-11	349	(94-1040)	709	(227-2013)	2040	(623-6415)	0.9	0.349	5.5	0.034*	75	75
July 1-3	35	(0-149)	153	(37-414)	117	(15-367)	4.1	0.062	2.1	0.172	60	60
July 19-21	110	(2-421)	169	(22-593)	213	(25-836)	0.2	0.649	0.5	0.505	75	75
Other Coleoptera												
April 24-2	17	(0-74)	21	(0-82)	60	(4-169)	0.0	0.878	1.4	0.263	55	55
May 19-20	21	(0-56)	12	(0-42)	0	(0-25)	0.5	0.501	3.1	0.101	30	35
June 9-11	107	(10-343)	24	(0-141)	50	(0-237)	1.5	0.244	0.5	0.501	70	75
July 1-3	26	(0-96)	281	(126-567)	3	(0-62)	15.2	0.002**	0.7	0.417	55	55
July 19-21	170	(27-557)	368	(100-1095)	90	(0-391)	1.2	0.289	0.5	0.491	70	75
Total Diptera												
April 24-2	758	(3847-14796)	6197	(3149-12141)	7737	(3597-16569)	0.2	0.662	0.0	0.961	60	65
May 19-20	11820	(5980-23309)	5916	(2979-11694)	5002	(2292-10838)	2.4	0.146	3.2	0.095	60	65
June 9-11	10533	(5101-21689)	8944	(4327-18426)	9533	(4205-21522)	0.1	0.711	0.0	0.834	60	65
July 1-3	6718	(2371-19661)	4370	(1465-12828)	4123	(1202-13825)	0.5	0.505	0.5	0.484	75	75
July 19-21	6830	(3544-13114)	5311	(2750-10210)	7610	(3640-15843)	0.4	0.523	0.1	0.798	55	60

Appendix Table 1. Continued

Date	Control		BTI		Methoprene		C v BTI		C v Meth		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	BTI	Meth
Non-chironomid Diptera												
April 24-2	893	(346-2184)	909	(353-2221)	1205	(420-3282)	0.0	0.978	0.2	0.646	70	70
May 19-20	663	(294-1423)	286	(110-647)	591	(230-1408)	2.4	0.140	0.0	0.837	65	65
June 9-11	675	(290-1490)	1461	(661-3152)	979	(387-2362)	2.3	0.149	0.5	0.509	65	65
July 1-3	871	(237-2872)	393	(86-1361)	435	(79-1724)	1.2	0.284	0.8	0.383	75	75
July 19-21	1141	(491-2562)	1403	(611-3136)	1834	(722-4535)	0.1	0.707	0.7	0.422	65	70
Ceratopogonidae												
April 24-2	385	(132-978)	511	(186-1272)	660	(217-1824)	0.2	0.662	0.7	0.434	70	70
May 19-20	120	(29-307)	83	(11-231)	141	(31-389)	0.3	0.593	0.1	0.809	60	65
June 9-11	160	(29-489)	333	(98-925)	389	(100-1214)	1.0	0.330	1.3	0.267	70	75
July 1-3	335	(78-1087)	278	(58-922)	96	(0-456)	0.0	0.829	1.6	0.232	75	80
July 19-21	678	(233-1805)	719	(249-1909)	1078	(342-3177)	0.0	0.923	0.5	0.477	70	70
Stratiomyidae												
April 24-2	151	(33-426)	127	(23-371)	149	(23-479)	0.0	0.830	0.0	0.989	70	70
May 19-20	116	(29-291)	24	(0-106)	97	(13-284)	2.7	0.123	0.1	0.821	60	65
June 9-11	55	(10-131)	74	(21-164)	0	(0-46)	0.2	0.638	3.6	0.079	50	50
July 1-3	50	(6-126)	12	(0-61)	16	(0-76)	1.6	0.232	1.1	0.322	55	55
July 19-21	72	(6-209)	87	(13-239)	32	(0-144)	0.1	0.810	0.6	0.442	60	65
Odontomyia												
April 24-2	101	(24-251)	27	(0-106)	116	(24-313)	2.1	0.170	0.0	0.847	60	65
May 19-20	51	(4-134)	8	(0-58)	54	(1-156)	1.8	0.202	0.0	0.936	55	60
June 9-11	12	(0-35)	8	(0-30)	0	(0-23)	0.1	0.770	0.8	0.382	30	35
July 1-3	32	(0-82)	0	(0-32)	16	(0-64)	2.2	0.160	0.4	0.540	45	50
July 19-21	0		0		0		0.0	1.000	0.0	1.000	>100	>100
Other Stratiomyidae												
April 24-2	37	(0-135)	88	(15-239)	48	(0-178)	0.8	0.374	0.0	0.837	65	65
May 19-20	58	(7-149)	14	(0-71)	22	(0-97)	1.6	0.227	0.8	0.377	55	60
June 9-11	36	(0-93)	67	(19-144)	2	(0-44)	1.1	0.308	2.4	0.144	45	45
July 1-3	12	(0-40)	12	(0-40)	0	(0-27)	0.0	1.000	0.6	0.451	35	40
July 19-21	72	(6-209)	87	(13-239)	32	(0-144)	0.1	0.810	0.6	0.442	60	65

Appendix Table 1. Continued

Date	Control		BTI		Methoprene		C v BTI		C v Meth		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	BTI	Meth
Tipulidae												
April 24-2	51	(0-150)	28	(0-107)	116	(26-307)	0.3	0.600	1.1	0.319	60	60
May 19-20	157	(50-375)	82	(12-222)	145	(35-390)	1.0	0.344	0.0	0.902	60	65
June 9-11	106	(10-341)	368	(117-983)	310	(76-955)	2.6	0.126	1.7	0.219	70	75
July 1-3	112	(7-393)	53	(0-237)	182	(25-643)	0.8	0.378	0.5	0.506	65	65
July 19-21	78	(0-281)	93	(3-320)	103	(0-398)	0.0	0.861	0.1	0.793	70	75
Culicidae												
April 24-2	51	(0-160)	69	(6-197)	48	(0-174)	0.1	0.705	0.0	0.954	60	60
May 19-20	21	(0-72)	46	(6-113)	0	(0-42)	0.7	0.404	0.9	0.361	50	50
June 9-11	17	(0-69)	112	(42-234)	53	(3-145)	6.7	0.022*	1.3	0.267	50	50
July 1-3	12	(0-31)	0	(0-16)	0	(0-18)	1.4	0.261	1.2	0.291	25	25
July 19-21	0	(0-44)	38	(0-111)	26	(0-103)	1.8	0.201	0.9	0.364	55	60
Other non-chironomid Diptera												
April 24-2	87	(21-210)	112	(34-256)	94	(18-247)	0.2	0.704	0.0	0.914	60	60
May 19-20	87	(25-197)	21	(0-81)	63	(7-172)	2.7	0.120	0.2	0.655	55	55
June 9-11	160	(37-446)	209	(58-560)	115	(10-388)	0.2	0.703	0.2	0.684	65	70
July 1-3	221	(60-604)	35	(0-162)	140	(18-467)	4.5	0.052	0.4	0.551	65	70
July 19-21	173	(38-503)	147	(27-439)	237	(51-744)	0.1	0.823	0.2	0.677	70	70
Chironomidae												
April 24-2	6154	(3001-12561)	5117	(2490-10454)	5813	(2572-13051)	0.2	0.695	0.0	0.910	60	65
May 19-20	9976	(4806-20643)	5483	(2628-11372)	4392	(1901-10056)	1.5	0.234	2.5	0.133	65	65
June 9-11	9317	(3726-23174)	6413	(2554-15977)	8340	(2957-23340)	0.5	0.513	0.0	0.856	70	70
July 1-3	5362	(1809-15686)	3860	(1292-11321)	3751	(1094-12550)	0.3	0.605	0.3	0.604	75	75
July 19-21	5372	(2250-12725)	2898	(1199-6899)	5780	(2171-15233)	1.5	0.246	0.0	0.896	65	70
Tanypodinae												
April 24-2	847	(210-3017)	1845	(503-6412)	533	(91-2305)	0.8	0.372	0.2	0.628	80	85
May 19-20	434	(117-1334)	1040	(331-3050)	202	(23-784)	1.4	0.261	0.8	0.396	75	80
June 9-11	1251	(506-2984)	2350	(979-5537)	677	(226-1851)	1.2	0.291	0.9	0.347	70	70
July 1-3	696	(147-2739)	1718	(421-6534)	961	(175-4422)	1.1	0.303	0.1	0.732	80	85
July 19-21	1584	(566-4267)	1152	(402-3129)	1316	(402-4054)	0.3	0.624	0.1	0.789	70	75

Appendix Table 1. Continued

Date	Control			BTI			Methoprene			C v BTI			C v Meth			% Diff	
	Mean	95% CI		Mean	95% CI		Mean	95% CI		F	p-value		F	p-value		BTI	Meth
Orthoclaadiinae																	
April 24-2	544	(203-1332)		1464	(601-3461)		2411	(912-6232)		4.1	0.063		8.0	0.013*		60	65
May 19-20	1269	(612-2572)		1671	(814-3369)		1670	(738-3696)		0.4	0.561		0.3	0.587		60	65
June 9-11	2663	(983-7061)		2352	(864-6246)		3373	(1104-10083)		0.0	0.835		0.1	0.713		70	75
July 1-3	1344	(439-3906)		522	(148-1579)		580	(143-1971)		2.4	0.141		1.6	0.220		70	75
July 19-21	1052	(332-3111)		815	(249-2434)		1664	(468-5587)		0.1	0.719		0.4	0.542		75	75
Chironomini																	
April 24-2	1986	(739-5190)		760	(262-2040)		1666	(535-4964)		2.2	0.162		0.1	0.801		75	75
May 19-20	4105	(1392-11902)		1296	(414-3828)		1207	(325-4124)		2.6	0.129		2.6	0.131		75	80
June 9-11	1711	(642-4417)		1136	(415-2962)		1042	(329-3073)		0.5	0.493		0.6	0.443		70	70
July 1-3	1335	(492-3471)		917	(328-2413)		1280	(415-3736)		0.5	0.512		0.0	0.945		65	70
July 19-21	942	(393-2161)		698	(284-1620)		891	(331-2261)		0.4	0.550		0.0	0.916		60	65
Paratendipes																	
April 24-2	93	(0-426)		133	(2-557)		190	(9-877)		0.1	0.762		0.4	0.554		80	80
May 19-20	38	(0-192)		140	(18-460)		29	(0-199)		1.4	0.253		0.0	0.883		75	75
June 9-11	75	(0-249)		56	(0-206)		52	(0-227)		0.1	0.789		0.1	0.759		70	70
July 1-3	26	(0-103)		38	(0-126)		26	(0-119)		0.1	0.767		0.0	0.996		60	65
July 19-21	43	(0-143)		26	(0-109)		140	(33-374)		0.2	0.650		2.3	0.148		60	60
Polypedilum																	
April 24-2	814	(265-2300)		319	(82-959)		626	(164-2053)		1.6	0.220		0.1	0.733		75	75
May 19-20	95	(11-286)		105	(15-308)		450	(144-1219)		0.0	0.911		4.4	0.055		70	70
June 9-11	220	(62-592)		233	(67-621)		282	(74-824)		0.0	0.928		0.1	0.705		65	65
July 1-3	222	(39-757)		232	(42-786)		579	(139-2012)		0.0	0.948		2.0	0.177		70	70
July 19-21	197	(38-630)		264	(62-810)		405	(94-1365)		0.1	0.710		0.8	0.381		75	75
All other Chironominae																	
April 24-2	123	(35-297)		8	(0-70)		77	(6-230)		6.8	0.020*		0.5	0.499		55	60
May 19-20	94	(17-251)		64	(2-190)		0	(0-70)		0.2	0.649		3.8	0.073		65	65
June 9-11	106	(22-283)		123	(30-317)		44	(0-175)		0.0	0.843		0.9	0.362		65	65
July 1-3	50	(0-154)		12	(0-78)		155	(41-403)		1.0	0.326		2.1	0.166		60	65
July 19-21	50	(2-139)		43	(0-126)		14	(0-83)		0.0	0.867		1.0	0.335		55	60

Appendix Table 1. Continued

Date	Control		BTI		Methoprene		C v BTI		C v Meth		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	BTI	Meth
Tanytarsini												
April 24-2	506	(152-1462)	64	(0-268)	152	(11-587)	5.6	0.034*	2.0	0.178	75	75
May 19-20	1784	(720-4307)	332	(108-864)	589	(186-1660)	7.5	0.016*	3.0	0.107	70	70
June 9-11	1196	(369-3631)	559	(153-1754)	1135	(294-3998)	1.0	0.335	0.0	0.949	75	80
July 1-3	559	(122-2071)	137	(0-613)	433	(65-1931)	2.3	0.148	0.1	0.784	80	80
July 19-21	382	(113-1078)	195	(41-594)	275	(56-917)	0.8	0.390	0.2	0.682	75	75
Nematocera												
April 24-2	7138	(3577-14191)	5876	(2940-11692)	7303	(3335-15914)	0.2	0.675	0.0	0.963	60	65
May 19-20	11033	(5481-22149)	5878	(2907-11826)	4827	(2166-10674)	1.9	0.194	2.8	0.116	60	65
June 9-11	10258	(4681-22398)	8258	(3763-18044)	9357	(3858-22583)	0.2	0.653	0.0	0.859	65	65
July 1-3	6564	(2189-19464)	4175	(1379-12421)	4093	(1174-13937)	0.5	0.490	0.5	0.505	75	75
July 19-21	6600	(3347-12966)	5008	(2533-9851)	7242	(3378-15454)	0.5	0.494	0.0	0.830	55	60
Brachycera												
April 24-2	168	(40-469)	156	(35-441)	199	(41-611)	0.0	0.922	0.0	0.836	70	70
May 19-20	138	(39-342)	48	(0-158)	129	(26-360)	1.9	0.185	0.0	0.920	60	65
June 9-11	149	(42-372)	203	(68-484)	100	(12-303)	0.2	0.638	0.3	0.606	65	65
July 1-3	81	(9-235)	50	(0-169)	49	(0-190)	0.3	0.612	0.3	0.623	65	65
July 19-21	121	(22-345)	139	(30-385)	103	(7-345)	0.0	0.854	0.0	0.846	65	70
Total insect predators												
April 24-2	1806	(624-5039)	2430	(852-6747)	832	(227-2724)	0.2	0.670	1.1	0.314	75	75
May 19-20	1328	(614-2804)	1653	(771-3475)	544	(208-1310)	0.2	0.666	2.7	0.124	65	65
June 9-11	2113	(1097-4023)	3446	(1806-6532)	1608	(757-3351)	1.3	0.269	0.4	0.562	60	60
July 1-3	2001	(808-4844)	2805	(1145-6758)	1933	(695-5211)	0.4	0.519	0.0	0.951	65	70
July 19-21	3085	(1335-7037)	2787	(1203-6364)	2097	(800-5355)	0.0	0.848	0.5	0.503	65	70
Total insect non-predators												
April 24-2	3648	(1869-7072)	3028	(1547-5877)	5039	(2370-10645)	0.2	0.675	0.5	0.498	60	60
May 19-20	9864	(4719-20554)	4273	(2028-8938)	4265	(1830-9845)	3.0	0.107	2.6	0.129	65	65
June 9-11	9645	(3910-23673)	5537	(2231-13623)	10046	(3634-27601)	1.1	0.316	0.0	0.945	65	70
July 1-3	3882	(1476-10071)	2559	(961-6668)	2483	(829-7228)	0.6	0.444	0.6	0.449	65	70
July 19-21	4209	(1779-9856)	2730	(1143-6419)	5007	(1898-13060)	0.7	0.419	0.1	0.760	65	70

Appendix Table 1. Continued

Date	Control			BTI			Methoprene			C v BTI			C v Meth			% Diff	
	Mean	95% CI		Mean	95% CI		Mean	95% CI		F	p-value		F	p-value		BTI	Meth
Total insect unclassified																	
April 24-2	1609	(641-3918)		803	(304-1996)		1332	(461-3667)		1.3	0.269		0.1	0.771		70	75
May 19-20	872	(358-2021)		299	(102-738)		574	(196-1514)		3.3	0.092		0.5	0.506		70	70
June 9-11	749	(334-1607)		1033	(471-2193)		609	(238-1449)		0.5	0.495		0.2	0.688		60	65
July 1-3	489	(130-1545)		427	(108-1361)		943	(246-3246)		0.0	0.833		1.0	0.346		70	75
July 19-21	525	(194-1291)		523	(194-1288)		592	(199-1587)		0.0	0.996		0.1	0.820		60	65
Dipteran predators																	
April 24-2	1533	(523-4306)		2267	(790-6320)		777	(209-2562)		0.3	0.578		0.8	0.380		75	75
May 19-20	596	(190-1674)		1227	(428-3349)		303	(63-1030)		1.1	0.310		0.8	0.401		75	75
June 9-11	1499	(700-3144)		2872	(1367-5970)		908	(369-2129)		1.8	0.205		0.9	0.363		65	65
July 1-3	1269	(330-4490)		2036	(554-7122)		1206	(256-5044)		0.3	0.569		0.0	0.955		80	80
July 19-21	2271	(949-5332)		2210	(923-5191)		1688	(619-4450)		0.0	0.960		0.3	0.614		65	70
Dipteran non-predators																	
April 24-2	3473	(1837-6522)		2763	(1456-5199)		4415	(2154-8991)		0.3	0.574		0.3	0.581		55	60
May 19-20	9321	(4456-19433)		3994	(1892-8360)		3808	(1630-8802)		3.0	0.104		3.0	0.108		65	65
June 9-11	7916	(3231-19276)		4600	(1864-11235)		7322	(2665-19944)		1.1	0.322		0.0	0.893		65	70
July 1-3	3772	(1380-10146)		1638	(580-4460)		2354	(743-7216)		2.0	0.184		0.5	0.475		70	75
July 19-21	3466	(1465-8098)		1987	(827-4675)		4111	(1562-10676)		1.2	0.295		0.1	0.760		65	70
Total non-dipteran predators																	
April 24-2	181	(56-447)		92	(14-258)		115	(18-344)		1.1	0.311		0.5	0.512		60	65
May 19-20	391	(200-723)		273	(132-518)		165	(61-359)		0.7	0.418		3.2	0.094		55	55
June 9-11	505	(259-941)		433	(219-813)		445	(205-906)		0.1	0.723		0.1	0.786		55	55
July 1-3	333	(135-739)		295	(116-661)		167	(43-445)		0.0	0.830		1.2	0.287		65	65
July 19-21	572	(238-1282)		410	(163-938)		395	(135-1008)		0.4	0.561		0.4	0.545		65	70
Total non-dipteran non-predators																	
April 24-2	153	(17-547)		119	(5-447)		258	(39-987)		0.1	0.799		0.3	0.594		75	80
May 19-20	221	(55-637)		135	(20-423)		289	(67-911)		0.5	0.497		0.1	0.706		65	70
June 9-11	965	(356-2475)		832	(302-2147)		2080	(708-5918)		0.1	0.812		1.4	0.252		70	75
July 1-3	62	(0-247)		488	(156-1339)		129	(10-465)		11.1	0.005**		0.8	0.384		60	65
July 19-21	350	(81-1151)		507	(133-1616)		555	(122-2045)		0.2	0.649		0.3	0.595		75	80

Appendix Table 1. Continued

Date	Control		BTI		Methoprene		C v BTI		C v Meth		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	BTI	Meth
Predatory Chironomidae												
April 24-2	847	(210-3017)	1845	(503-6412)	533	(91-2305)	0.8	0.372	0.2	0.628	80	85
May 19-20	434	(117-1334)	1040	(331-3050)	202	(23-784)	1.4	0.261	0.8	0.396	75	80
June 9-11	1251	(506-2984)	2350	(979-5537)	677	(226-1851)	1.2	0.291	0.9	0.347	70	70
July 1-3	696	(147-2739)	1718	(421-6534)	961	(175-4422)	1.1	0.303	0.1	0.732	80	85
July 19-21	1584	(566-4267)	1152	(402-3129)	1316	(402-4054)	0.3	0.624	0.1	0.789	70	75
Non-predatory Chironomidae												
April 24-2	2531	(1241-5104)	2158	(1054-4360)	3370	(1512-7429)	0.1	0.724	0.4	0.556	60	65
May 19-20	8055	(3751-17228)	3814	(1760-8189)	3405	(1412-8104)	2.2	0.160	2.6	0.133	65	70
June 9-11	7005	(2899-16817)	3896	(1598-9389)	6616	(2449-17714)	1.3	0.274	0.0	0.920	65	70
July 1-3	3251	(1231-8444)	1532	(562-4026)	2029	(661-6001)	1.6	0.227	0.5	0.472	70	75
July 19-21	2593	(1063-6214)	1448	(580-3505)	2944	(1082-7856)	1.2	0.285	0.1	0.824	65	70
Unclassified Chironomidae												
April 24-2	1333	(467-3632)	394	(113-1140)	913	(264-2879)	3.1	0.102	0.3	0.610	75	75
May 19-20	460	(157-1192)	177	(40-509)	450	(130-1322)	1.9	0.195	0.0	0.975	70	75
June 9-11	425	(147-1087)	411	(141-1053)	321	(86-944)	0.0	0.954	0.2	0.670	65	70
July 1-3	280	(56-958)	242	(43-843)	833	(206-2958)	0.0	0.835	2.5	0.138	70	75
July 19-21	353	(102-1003)	329	(93-943)	405	(101-1295)	0.0	0.920	0.0	0.849	70	75
Non-chironomid dipteran predators												
April 24-2	178	(46-479)	336	(115-840)	226	(54-664)	0.9	0.361	0.1	0.755	70	70
May 19-20	111	(27-278)	66	(5-187)	101	(16-285)	0.6	0.436	0.0	0.885	55	60
June 9-11	135	(45-303)	235	(98-492)	215	(77-495)	1.4	0.263	0.8	0.385	55	55
July 1-3	313	(95-849)	318	(97-861)	152	(19-518)	0.0	0.984	0.8	0.377	70	75
July 19-21	284	(71-856)	495	(150-1421)	348	(76-1178)	0.6	0.461	0.1	0.806	75	75
Non-chironomid dipteran non-predators												
April 24-2	452	(138-1275)	375	(108-1074)	493	(128-1583)	0.1	0.800	0.0	0.909	75	75
May 19-20	356	(135-832)	180	(53-451)	369	(122-958)	1.2	0.287	0.0	0.957	65	70
June 9-11	417	(125-1179)	826	(282-2246)	507	(134-1613)	1.0	0.341	0.1	0.802	75	75
July 1-3	271	(44-1016)	93	(0-434)	278	(33-1193)	1.6	0.234	0.0	0.975	75	75
July 19-21	436	(114-1374)	423	(109-1336)	754	(186-2656)	0.0	0.970	0.4	0.519	75	80

Appendix Table 1. Continued

Date	Control		BTI		Methoprene		C v BTI		C v Meth		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	BTI	Meth
Non-chironomid dipteran unclassified												
April 24-2	51 (0-179)		234 (76-578)		243 (67-671)		3.7	0.075	3.4	0.085	65	70
May 19-20	87 (20-211)		21 (0-89)		35 (0-130)		2.2	0.159	1.0	0.328	60	60
June 9-11	45 (0-141)		166 (57-378)		98 (16-274)		3.4	0.086	0.9	0.368	60	60
July 1-3	62 (0-193)		38 (0-142)		34 (0-154)		0.2	0.633	0.3	0.601	60	65
July 19-21	87 (10-251)		87 (10-251)		35 (0-162)		0.0	1.000	0.7	0.423	65	70

Appendix Table 2

Taxon	BTI											Control											Methoprene												
	4	6	7	11	20	22	23	24	30	Average	5	12	13	14	17	18	19	26	51	Average	3	8	10	21	25	27	29	Average							
	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted	1/8 of sample counted							
Ulaeninae Diptera	0	0	0	0	0	0	0	0	0	170	255	794	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Atractodes</i>	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Atractodes</i>	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Brachymeria</i>	1782	0	509	764	764	0	0	1528	0	594	255	794	255	255	1019	255	0	0	594	113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Chalcididae</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Phaenocarpa</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Mesochorus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Mesochorus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL CERATOPOGONIDAE	2037	0	509	764	1273	0	0	4074	0	982	1528	2292	255	255	1019	255	0	0	509	679	0	1019	0	255	0	509	255	0	0	0	0	0	0	0	
<i>Chalcididae</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Angitia</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Campoplex</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Mesochorus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Chalcididae (too small)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Ulaeninae</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DOLICHOPODIDAE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EPHYDRIDAE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Phaenocarpa</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Phaenocarpa</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PSYCHODIDAE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Phaenocarpa</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PITYCHOPTERIDAE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Phaenocarpa</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SCINIDAE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SCOMYZIDAE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Caloparyphus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Caloparyphus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Caloparyphus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Caloparyphus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL STATOMYIDAE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SYRPHIDAE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Chrysopa</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TABANIDAE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Phaenocarpa</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Phaenocarpa</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Phaenocarpa</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Phaenocarpa</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Phaenocarpa</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL TIPULIDAE	764	0	0	0	0	0	0	1528	0	235	1782	0	1782	0	255	0	255	0	1019	386	1273	255	1273	0	0	255	437	0	0	0	0	0	0	0	
TOTAL OTHER DIPTERA	2801	0	509	764	1528	0	255	6366	0	1358	1782	8403	255	509	764	1019	1528	0	2292	1839	1782	1782	2037	0	255	0	1019	962	0	0	0	0	0	0	
TOTAL DIPTERA	15533	6875	4584	6366	11204	509	764	47108	764	10412	8167	34631	7395	8148	4329	2037	4584	2292	15278	9761	21135	11459	17570	0	3310	5657	6111	9349	0	0	0	0	0	0	

Appendix Table 2

BENTHIC MACROINVERTEBRATE DENSITY (# / m²)

Core Samples-June 30-July 3, 1998

1/8 of sample counted

Treatment	Taxon	BTI										Control										Methoprene															
		4	6	7	11	20	22	23	24	30	Average	5	12	13	14	17	18	19	26	51	Average	3	9	10	21	25	27	29	Average								
DIPTERA	Site																																				
	BTI	255	0	0	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				
	Methoprene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA	Site																																				

Appendix Table 3. Tests of effects of treatment and sampling date (1997, 1998) or year (both) on density (#/m2) of benthic invertebrates in core samples. Effects were evaluated using a repeated measures ANOVA within years and then over both years. The degrees of freedom for the F statistic for treatment effects are 1,14. For 1997 the degrees of freedom for date are 4, 53 and for date X treatment 8,53. For 1998 the degrees of freedom for date are 4,56 and for date X treatment 8,56. For both years degrees of freedom for years are 4,36 and for year X treatment 8,36.

Test	Control		BTI		Methoprene		C vs BTI		C vs Meth		Date		Date x Treat		% Diff
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	F	p-value	F	p-value	
Total macroinvertebrates															
1997	14943	(12116-18426)	15763	(12781-19437)	14888	(11669-18991)	0.1	0.728	0.0	0.983	3.9	0.008**	0.7	0.676	25 25
1998	17778	(13091-24135)	15753	(11598-21388)	17399	(12442-24321)	0.6	0.462	0.0	0.903	3.6	0.011*	0.5	0.876	25 25
Both	16299	(12913-20569)	15758	(12483-19887)	16133	(12388-21004)	0.0	0.843	0.0	0.955	1.4	0.240	0.4	0.686	25 30
Total Non-insects															
1997	8512	(6833-10600)	9563	(7678-11907)	10406	(8065-13423)	0.6	0.453	1.5	0.242	8.9	0.000***	0.7	0.713	25 25
1998	6408	(4450-9218)	6751	(4689-9710)	7408	(4946-11082)	0.1	0.806	0.4	0.532	4.6	0.003**	0.2	0.991	30 35
Both	7386	(5653-9644)	8036	(6152-10491)	8659	(6397-11714)	0.2	0.666	0.6	0.450	5.3	0.027*	0.0	0.973	30 30
Total Annelida															
1997	5541	(4035-7601)	6504	(4739-8918)	7696	(5400-10959)	0.9	0.372	2.9	0.108	6.9	0.000***	0.6	0.769	25 30
1998	2304	(1406-3754)	2192	(1336-3573)	2886	(1691-4898)	0.0	0.841	0.7	0.410	4.4	0.004**	0.5	0.881	35 40
Both	3578	(2359-5413)	3784	(2496-5722)	4527	(2839-7197)	0.0	0.837	0.7	0.428	47.0	0.000***	0.2	0.818	40 45
Total Mollusca															
1997	1253	(681-2268)	1640	(899-2954)	1672	(838-3281)	0.5	0.506	0.5	0.513	2.2	0.076	0.9	0.503	55 60
1998	1283	(721-2252)	2604	(1487-4528)	2782	(1475-5205)	3.1	0.101	3.2	0.093	1.3	0.288	0.6	0.779	55 60
Both	1268	(709-2236)	2068	(1171-3620)	2138	(1122-4032)	1.5	0.243	1.5	0.243	3.7	0.061	0.8	0.438	55 60
Bivalvia															
1997	659	(265-1533)	1102	(465-2519)	1340	(506-3413)	0.8	0.386	1.3	0.269	3.5	0.013*	0.8	0.589	70 70
1998	391	(129-1027)	1106	(424-2757)	1303	(443-3646)	2.3	0.154	2.7	0.123	3.3	0.017*	0.9	0.529	75 75
Both	509	(185-1270)	1104	(439-2664)	1305	(462-3518)	1.5	0.246	1.9	0.189	0.8	0.388	0.7	0.490	70 75
Gastropoda															
1997	317	(187-516)	293	(172-479)	170	(82-316)	0.1	0.817	2.6	0.131	2.1	0.090	1.2	0.327	45 45
1998	667	(436-1006)	890	(588-1333)	733	(455-1164)	1.0	0.346	0.1	0.770	1.3	0.294	0.5	0.834	45 45
Both	464	(327-648)	519	(368-723)	368	(244-542)	0.2	0.639	0.8	0.383	27.9	0.000***	0.8	0.442	35 35
Total Insects															
1997	4589	(2903-7235)	4702	(2975-7413)	2858	(1678-4841)	0.0	0.942	1.8	0.202	10.0	0.000***	0.5	0.860	50 50
1998	9774	(6353-15022)	7430	(4825-11427)	8096	(4997-13094)	1.1	0.313	0.4	0.517	3.8	0.009**	0.7	0.726	40 45
Both	6701	(4299-10429)	5912	(3790-9205)	4801	(2896-7937)	0.2	0.695	1.0	0.337	35.5	0.000***	1.9	0.164	45 50

Appendix Table 3. Repeated measures tests on density - continued

Test	Control		BTI		Methoprene		C vs BTI		C vs Meth		Date		Date x Treat		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	F	p-value	F	p-value	B	M
Remaining insects																
1997	70	(29-131)	47	(13-97)	29	(0-79)	0.5	0.489	1.6	0.226	3.1	0.023*	1.7	0.130	45	45
1998	172	(101-276)	195	(116-309)	140	(72-243)	0.1	0.706	0.3	0.579	1.1	0.383	0.7	0.674	40	40
Both	113	(61-189)	105	(55-176)	75	(30-143)	0.0	0.844	0.8	0.381	35.1	0.000***	0.5	0.596	40	45
Total Coleoptera																
1997	373	(187-700)	572	(300-1052)	268	(112-567)	0.9	0.363	0.4	0.533	3.0	0.028*	0.7	0.671	55	60
1998	533	(291-945)	539	(294-956)	653	(335-1230)	0.0	0.976	0.3	0.612	11.8	0.000***	0.7	0.732	50	50
Both	447	(259-746)	555	(327-920)	429	(229-769)	0.3	0.564	0.0	0.923	2.2	0.147	1.0	0.393	50	50
Hydrophilidae																
1997	75	(43-118)	110	(70-164)	40	(13-78)	1.4	0.255	2.0	0.184	6.4	0.000***	0.8	0.597	30	35
1998	61	(30-103)	66	(34-110)	62	(28-110)	0.1	0.808	0.0	0.965	4.0	0.006**	1.1	0.352	30	30
Both	68	(49-90)	87	(65-112)	51	(34-73)	2.2	0.160	1.9	0.191	0.3	0.595	1.0	0.388	10	15
Dytiscidae																
1997	54	(29-86)	40	(18-69)	35	(11-68)	0.5	0.489	0.9	0.371	2.6	0.044*	0.6	0.757	30	30
1998	169	(109-252)	88	(50-141)	107	(58-176)	4.0	0.067	1.8	0.197	5.9	0.001***	0.7	0.716	35	40
Both	101	(77-130)	62	(44-83)	66	(45-92)	5.8	0.031*	3.8	0.071	20.8	0.000***	0.6	0.563	15	20
Scirtidae																
1997	93	(19-242)	212	(78-479)	117	(22-325)	1.4	0.258	0.1	0.789	0.5	0.764	1.6	0.135	65	70
1998	102	(34-223)	185	(80-370)	287	(124-597)	1.1	0.311	3.3	0.093	12.3	0.000***	0.6	0.771	55	60
Both	98	(28-225)	198	(83-409)	197	(72-446)	1.4	0.256	1.2	0.291	0.9	0.362	1.1	0.356	60	60
Other Coleoptera																
1997	58	(29-96)	51	(24-87)	41	(12-81)	0.1	0.772	0.5	0.490	2.6	0.046*	0.9	0.491	35	35
1998	55	(20-107)	87	(42-153)	38	(6-86)	1.5	0.242	0.6	0.460	5.8	0.001***	2.7	0.014*	35	35
Both	56	(29-92)	68	(38-107)	35	(11-69)	0.2	0.638	1.0	0.344	0.2	0.650	1.2	0.325	30	35
Total Diptera																
1997	3708	(2371-5781)	3750	(2398-5846)	2329	(1381-3903)	0.0	0.973	1.8	0.201	11.7	0.000***	0.4	0.885	50	50
1998	8455	(5235-13634)	5976	(3694-9647)	6360	(3715-10860)	1.4	0.253	0.8	0.382	2.3	0.072	0.6	0.779	45	45
Both	5604	(3527-8885)	4735	(2977-7513)	3798	(2239-6416)	0.3	0.619	1.2	0.291	28.4	0.000***	1.4	0.253	50	50
Non-chironomid Diptera																
1997	1343	(945-1900)	1527	(1076-2157)	1142	(757-1711)	0.3	0.616	0.4	0.561	18.8	0.000***	1.4	0.217	40	40
1998	833	(492-1384)	744	(438-1241)	885	(494-1553)	0.1	0.715	0.0	0.855	4.7	0.002**	1.2	0.331	45	45
Both	1059	(688-1615)	1069	(695-1630)	981	(600-1585)	0.0	0.975	0.1	0.820	9.6	0.004**	1.1	0.346	45	45

Appendix Table 3. Repeated measures tests on density - continued

Test	Control		BTI		Methoprene		C vs BTI		C vs Meth		Date		Date x Treat		Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	F	p-value	F	p-value		
Ceratopogonidae																
1997	233	(119-422)	309	(165-547)	228	(104-448)	0.6	0.467	0.0	0.959	16.0	0.000***	0.9	0.546	45	50
1998	288	(166-475)	324	(190-531)	345	(190-599)	0.1	0.724	0.3	0.616	6.7	0.000***	0.7	0.661	45	45
Both	259	(146-437)	316	(182-526)	277	(145-496)	0.3	0.589	0.0	0.868	2.1	0.158	0.5	0.596	45	50
Stratiomyidae																
1997	418	(242-701)	404	(232-677)	460	(245-827)	0.0	0.925	0.1	0.820	8.6	0.000***	1.0	0.475	50	55
1998	84	(40-149)	57	(21-110)	46	(10-102)	0.7	0.426	1.3	0.281	3.3	0.016*	1.3	0.255	40	45
Both	202	(124-314)	172	(103-271)	170	(94-284)	0.2	0.644	0.2	0.638	64.3	0.000***	0.3	0.726	40	45
Odontomyia																
1997	351	(202-587)	328	(187-551)	418	(224-747)	0.0	0.863	0.2	0.672	11.3	0.000***	1.1	0.383	50	50
1998	33	(10-63)	8	(0-29)	28	(4-61)	2.5	0.136	0.1	0.815	7.4	0.000***	1.2	0.328	35	35
Both	134	(88-196)	101	(62-151)	139	(86-212)	0.9	0.349	0.0	0.910	84.1	0.000***	0.2	0.813	30	35
Other Stratiomyidae																
1997	39	(16-68)	66	(36-104)	42	(15-80)	1.7	0.216	0.0	0.854	0.9	0.473	1.2	0.297	30	35
1998	41	(16-74)	48	(21-83)	19	(0-48)	0.1	0.715	1.6	0.224	2.7	0.041*	0.7	0.653	30	30
Both	40	(17-69)	56	(30-90)	30	(7-59)	0.7	0.409	0.3	0.591	1.8	0.192	0.7	0.506	30	30
Tipulidae																
1997	119	(59-210)	150	(80-258)	129	(58-244)	0.3	0.568	0.0	0.864	9.2	0.000***	0.6	0.784	45	45
1998	97	(42-180)	96	(42-179)	160	(76-295)	0.0	0.982	1.5	0.238	2.4	0.061	0.8	0.589	40	45
Both	107	(48-200)	121	(57-221)	137	(60-264)	0.1	0.805	0.2	0.633	0.4	0.537	1.5	0.241	50	50
Culicidae																
1997	48	(23-80)	46	(22-77)	52	(23-93)	0.0	0.906	0.0	0.845	8.6	0.000***	0.7	0.726	30	30
1998	18	(0-43)	46	(21-81)	22	(1-53)	2.9	0.111	0.1	0.797	4.2	0.005**	1.1	0.348	30	30
Both	32	(14-55)	46	(25-73)	35	(14-62)	0.8	0.384	0.0	0.842	4.2	0.049*	1.2	0.314	25	30
Other non-chironomid Diptera																
1997	78	(43-127)	75	(41-123)	88	(44-150)	0.0	0.917	0.1	0.790	13.4	0.000***	0.6	0.754	35	40
1998	139	(73-237)	89	(40-162)	128	(61-232)	1.8	0.199	0.1	0.815	2.3	0.069	0.9	0.494	35	40
Both	106	(65-160)	82	(47-128)	96	(54-155)	0.6	0.450	0.1	0.784	3.1	0.085	0.4	0.704	30	35
Chironomidae																
1997	1652	(835-3219)	1900	(964-3694)	913	(402-1993)	0.1	0.772	1.3	0.272	6.9	0.000***	0.6	0.736	60	65
1998	6974	(4086-11875)	4581	(2676-7814)	5303	(2908-9632)	1.6	0.221	0.6	0.453	1.5	0.207	0.4	0.896	50	50
Both	3409	(1830-6310)	2955	(1583-5476)	2165	(1059-4369)	0.1	0.747	0.9	0.347	51.6	0.000***	2.0	0.147	60	60

Appendix Table 3. Repeated measures tests on density - continued

Test	Control		BTI		Methoprene		C vs BTI		C vs Meth		Date		Date x Treat		‡ Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	F	p-value	F	p-value		
Tanypodinae																
1997	239	(77-598)	491	(191-1158)	171	(37-496)	2.0	0.182	0.3	0.598	4.9	0.002**	0.8	0.573	60	65
1998	879	(376-1968)	1552	(687-3424)	603	(221-1510)	1.3	0.281	0.4	0.514	4.5	0.003**	0.8	0.572	65	65
Both	469	(182-1101)	882	(370-2011)	337	(106-900)	1.3	0.270	0.3	0.604	43.0	0.000***	0.1	0.936	65	70
Orthocladinae																
1997	173	(84-321)	197	(98-360)	220	(99-435)	0.1	0.776	0.3	0.622	11.2	0.000***	0.7	0.711	50	55
1998	1218	(671-2176)	1204	(663-2152)	1726	(897-3275)	0.0	0.976	0.9	0.372	5.1	0.001**	1.2	0.325	50	55
Both	485	(277-821)	509	(292-860)	617	(334-1105)	0.0	0.893	0.4	0.533	92.0	0.000***	0.2	0.804	50	50
Chironomini																
1997	646	(330-1222)	619	(315-1172)	299	(121-653)	0.0	0.928	2.2	0.163	4.7	0.002**	1.3	0.255	60	65
1998	1780	(989-3169)	937	(509-1689)	1177	(596-2276)	2.6	0.126	1.0	0.344	1.3	0.275	0.6	0.798	55	55
Both	1079	(577-1981)	763	(400-1413)	605	(285-1227)	0.6	0.448	1.5	0.248	17.5	0.000***	1.6	0.225	60	60
Paratendipes																
1997	139	(51-298)	261	(118-521)	104	(24-265)	1.3	0.275	0.2	0.681	3.5	0.013*	1.4	0.204	60	65
1998	52	(0-153)	70	(9-187)	75	(6-219)	0.1	0.748	0.1	0.713	2.7	0.039*	1.6	0.158	65	65
Both	89	(24-206)	144	(55-305)	85	(16-220)	0.6	0.463	0.0	0.952	6.6	0.015*	1.0	0.363	60	60
Polyptidium																
1997	168	(79-315)	111	(45-221)	116	(41-251)	0.8	0.392	0.5	0.480	4.5	0.003**	1.0	0.429	50	55
1998	247	(99-537)	220	(85-484)	450	(183-1015)	0.1	0.822	1.3	0.265	4.6	0.003**	1.4	0.235	60	60
Both	205	(96-391)	159	(69-312)	243	(106-494)	0.3	0.615	0.1	0.743	8.4	0.006**	1.1	0.355	55	55
All other Chironominae																
1997	142	(73-247)	65	(23-129)	35	(0-94)	2.6	0.130	5.5	0.035*	1.4	0.239	1.0	0.459	45	50
1998	81	(45-132)	42	(16-78)	43	(14-85)	3.0	0.105	2.4	0.142	0.8	0.510	1.9	0.074	30	35
Both	109	(59-181)	53	(20-101)	40	(7-88)	2.8	0.118	4.2	0.060	1.3	0.262	1.0	0.381	40	40
Tanytarsini																
1997	219	(105-415)	57	(10-138)	59	(6-158)	5.5	0.035*	4.5	0.052	0.7	0.571	0.1	0.998	55	60
1998	754	(412-1345)	212	(99-408)	429	(204-847)	7.9	0.014*	1.5	0.243	4.8	0.002**	0.4	0.923	55	60
Both	416	(221-749)	118	(46-241)	185	(76-385)	6.8	0.021*	2.7	0.122	32.7	0.000***	0.6	0.548	55	60
Nematocera																
1997	2621	(1459-4676)	2787	(1552-4968)	1466	(735-2872)	0.0	0.880	1.8	0.204	12.7	0.000***	0.5	0.881	55	60
1998	8107	(4946-13266)	5691	(3466-9323)	6144	(3530-10666)	1.4	0.259	0.7	0.409	2.0	0.104	0.5	0.855	45	50
Both	4619	(2656-8003)	3986	(2289-6912)	2939	(1560-5493)	0.1	0.705	1.2	0.289	48.1	0.000***	2.0	0.154	55	55

Appendix Table 3. Repeated measures tests on density - continued

Test	Control		BTI		Methoprene		C vs BTI		C vs Meth		Date		Date x Treat		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	F	p-value	F	p-value		B
Brachycera																
1997	481	(288-783)	459	(280-764)	612	(344-1060)	0.0	0.944	0.4	0.536	10.6	0.000***	1.4	0.225	50	50
1998	129	(66-224)	108	(52-192)	109	(48-207)	0.2	0.657	0.2	0.695	2.1	0.095	0.5	0.863	40	45
Both	259	(160-404)	237	(145-372)	265	(153-437)	0.1	0.794	0.0	0.950	50.6	0.000***	0.2	0.818	40	45
Total insect predators																
1997	767	(415-1381)	973	(533-1741)	426	(202-843)	0.5	0.479	2.5	0.137	7.6	0.000***	0.5	0.876	45	50
1998	1993	(1102-3569)	2554	(1419-4560)	1214	(615-2349)	0.5	0.499	1.6	0.226	3.8	0.009**	0.4	0.914	50	55
Both	1242	(666-2277)	1583	(856-2889)	735	(353-1474)	0.4	0.547	1.5	0.244	91.0	0.000***	0.0	0.986	55	60
Total insect non-predators																
1997	3069	(1937-4845)	2974	(1876-4696)	2014	(1175-3425)	0.0	0.925	1.4	0.257	9.2	0.000***	0.5	0.815	50	50
1998	5639	(3509-9041)	3469	(2150-5574)	4837	(2853-8174)	3.2	0.097	0.3	0.613	4.0	0.006**	0.6	0.764	40	45
Both	4163	(2662-6492)	3212	(2049-5017)	3064	(1839-5081)	0.7	0.432	0.8	0.386	11.5	0.002**	1.8	0.187	50	50
Total insect unclassified																
1997	297	(157-528)	245	(126-442)	202	(89-405)	0.2	0.665	0.6	0.435	11.4	0.000***	1.9	0.074	55	55
1998	774	(439-1337)	566	(314-987)	754	(396-1396)	0.7	0.404	0.0	0.948	2.8	0.036*	1.0	0.474	50	55
Both	485	(279-819)	377	(212-643)	412	(215-751)	0.4	0.526	0.2	0.698	24.1	0.000***	0.5	0.627	50	55
Dipteran predators																
1997	513	(246-1015)	768	(382-1497)	321	(129-711)	1.1	0.314	1.1	0.310	9.7	0.000***	0.5	0.823	50	55
1998	1322	(658-2605)	2050	(1034-4010)	829	(367-1797)	1.0	0.326	1.0	0.342	5.7	0.001***	0.3	0.953	60	60
Both	829	(391-1699)	1262	(609-2555)	517	(209-1183)	0.8	0.391	0.8	0.384	46.6	0.000***	0.0	0.969	60	65
Dipteran non-predators																
1997	2466	(1600-3784)	2170	(1406-3333)	1568	(941-2590)	0.2	0.685	1.8	0.199	12.0	0.000***	0.7	0.712	45	50
1998	5075	(3167-8112)	2782	(1727-4461)	4105	(2429-6913)	5.0	0.043*	0.5	0.481	3.6	0.012*	0.5	0.825	40	45
Both	3541	(2331-5365)	2457	(1612-3732)	2463	(1526-3954)	1.5	0.243	1.3	0.276	15.3	0.000***	1.8	0.187	45	50
Total non-dipteran predators																
1997	101	(59-157)	84	(47-134)	59	(24-110)	0.3	0.613	1.6	0.227	1.5	0.224	1.4	0.202	35	40
1998	373	(255-535)	274	(183-398)	230	(144-354)	1.8	0.206	3.5	0.081	5.5	0.001***	0.2	0.982	30	35
Both	203	(151-269)	159	(115-213)	126	(85-180)	1.4	0.264	4.1	0.061	64.7	0.000***	0.2	0.850	25	25
Total non-dipteran non-predators																
1997	323	(158-615)	495	(255-918)	265	(110-564)	0.8	0.377	0.1	0.709	1.2	0.339	0.9	0.543	60	60
1998	253	(124-476)	334	(171-615)	435	(212-843)	0.5	0.483	1.7	0.208	10.2	0.000***	1.2	0.330	50	50
Both	287	(152-508)	408	(226-708)	351	(176-660)	0.8	0.386	0.2	0.642	0.1	0.738	0.8	0.467	50	55

Appendix Table 3. Repeated measures tests on density - continued

Test	Control		BTI		Methoprene		C vs BTI		C vs Meth		Date		Date x Treat		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	F	p-value	F	p-value		B
Predatory Chironomidae																
1997	239	(77-597)	496	(193-1166)	171	(38-495)	2.0	0.175	0.3	0.596	4.7	0.003**	0.8	0.568	60	65
1998	879	(376-1968)	1552	(687-3424)	603	(221-1510)	1.3	0.281	0.4	0.514	4.5	0.003**	0.8	0.572	65	65
Both	469	(182-1101)	886	(371-2020)	337	(106-901)	1.3	0.268	0.3	0.606	43.0	0.000***	0.1	0.935	65	70
Non-predatory Chironomidae																
1997	942	(470-1838)	833	(413-1630)	475	(198-1058)	0.1	0.803	1.6	0.224	6.4	0.000***	0.7	0.731	60	65
1998	4138	(2598-6572)	2352	(1468-3749)	3365	(1996-5647)	4.1	0.063	0.5	0.506	4.1	0.006**	0.5	0.840	45	45
Both	1990	(1141-3443)	1407	(799-2445)	1244	(652-2329)	0.8	0.376	1.3	0.269	50.2	0.000***	1.7	0.198	55	55
Unclassified Chironomidae																
1997	185	(88-348)	116	(47-232)	116	(39-254)	1.0	0.334	0.9	0.370	4.1	0.006**	0.9	0.541	50	55
1998	487	(241-938)	299	(138-593)	526	(239-1092)	1.2	0.290	0.0	0.873	2.2	0.080	1.0	0.441	55	60
Both	306	(157-561)	191	(89-365)	268	(121-537)	1.0	0.332	0.1	0.789	24.0	0.000***	0.7	0.518	55	55
Non-chironomid dipteran predators																
1997	142	(91-211)	150	(97-222)	123	(70-198)	0.1	0.823	0.2	0.625	6.9	0.000***	0.2	0.995	30	30
1998	192	(112-309)	254	(154-401)	194	(106-330)	0.9	0.351	0.0	0.968	3.1	0.023*	0.4	0.901	35	40
Both	166	(95-269)	197	(116-315)	154	(80-267)	0.3	0.623	0.0	0.847	10.6	0.002**	0.3	0.731	40	45
Non-chironomid dipteran non-predators																
1997	979	(667-1427)	1053	(718-1533)	844	(537-1308)	0.1	0.794	0.3	0.622	16.0	0.000***	1.4	0.236	40	45
1998	381	(196-702)	308	(154-575)	458	(220-901)	0.3	0.624	0.2	0.684	3.2	0.019*	0.7	0.678	55	55
Both	617	(378-987)	580	(354-930)	600	(343-1022)	0.0	0.859	0.0	0.940	18.8	0.000***	0.8	0.442	50	50
Non-chironomid dipteran unclassified																
1997	68	(32-118)	97	(53-158)	71	(29-132)	0.7	0.402	0.0	0.934	7.3	0.000***	0.9	0.543	40	40
1998	65	(27-121)	90	(44-158)	69	(26-137)	0.6	0.458	0.0	0.897	3.2	0.018*	1.9	0.076	40	40
Both	66	(33-114)	93	(52-151)	72	(33-129)	0.7	0.408	0.0	0.858	0.0	0.888	0.0	0.991	35	40

Appendix Table 5. Tests of treatment effects on biomass (mg/m2) of benthic invertebrates found in 1998 core samples. Treatment effects were evaluated using an ANOVA for each sampling date. Means are back-transformed least-square estimates with their 95% confidence intervals. There were 9 control, 9 BTI, and 7 Methoprene sites for all comparisons. Degrees of freedom for the F statistic are 1,14. P-values and minimum detectable differences are provided.

Date	Control			BTI			Methoprene			C v BTI			C v Meth			‡ Diff
	Mean	95% CI	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	F	p-value	BTI	
Total macroinvertebrates																
April 24-2	62838	(23428-168542)	139722	(52092-374762)	150390	(49659-455449)	2.0	0.184	2.0	0.179	2.0	0.179	2.0	0.179	70	75
May 19-20	84908	(36200-199156)	154977	(66073-363503)	226910	(86719-593733)	1.4	0.262	3.1	0.098	3.1	0.098	3.1	0.098	65	70
June 9-11	122792	(58572-257423)	171399	(81758-359325)	182170	(78775-421304)	0.5	0.489	0.6	0.447	0.6	0.447	0.6	0.447	65	65
July 1-3	38919	(9596-157852)	279355	(68876-1133030)	310650	(64276-1501432)	5.7	0.031*	5.4	0.035*	5.4	0.035*	5.4	0.035*	80	85
July 19-21	42881	(7077-259811)	70432	(11625-426741)	67609	(8767-521383)	0.2	0.682	0.1	0.725	0.1	0.725	0.1	0.725	90	90
Total Non-insects																
April 24-2	60692	(22335-164860)	138906	(51135-377265)	149530	(48633-459667)	2.0	0.177	2.1	0.174	2.1	0.174	2.1	0.174	70	75
May 19-20	74440	(28403-195037)	153831	(58710-403005)	228030	(76810-676938)	1.5	0.239	3.1	0.100	3.1	0.100	3.1	0.100	70	75
June 9-11	120498	(57088-254312)	170522	(80793-359879)	181330	(77799-422601)	0.5	0.478	0.6	0.437	0.6	0.437	0.6	0.437	65	65
July 1-3	27139	(5173-141982)	279058	(53358-1459058)	305990	(47160-1984756)	5.2	0.038*	4.9	0.045*	4.9	0.045*	4.9	0.045*	85	90
July 19-21	22664	(1784-284883)	53725	(4258-674974)	44975	(2532-792888)	0.3	0.611	0.1	0.705	0.1	0.705	0.1	0.705	95	95
Total Annelida																
April 24-2	219.8	(116.9-408.2)	298.0	(159.6-551.4)	234.5	(115.3-469.7)	0.7	0.418	0.0	0.872	0.0	0.872	0.0	0.872	50	55
May 19-20	97.6	(39.4-229.0)	231.8	(98.9-531.7)	140.0	(51.4-362.7)	2.4	0.146	0.4	0.563	0.4	0.563	0.4	0.563	70	70
June 9-11	162.6	(72.1-356.7)	172.8	(76.9-378.7)	236.0	(95.4-569.8)	0.0	0.905	0.5	0.502	0.5	0.502	0.5	0.502	65	65
July 1-3	89.9	(49.7-158.7)	178.7	(101.6-310.5)	207.2	(111.0-381.7)	5.2	0.039*	6.6	0.023*	6.6	0.023*	6.6	0.023*	45	45
July 19-21	34.3	(5.4-130.9)	21.9	(1.6-89.6)	52.9	(8.3-227.3)	0.2	0.643	0.2	0.652	0.2	0.652	0.2	0.652	80	80
Total Mollusca																
April 24-2	64321	(22862-169771)	143693	(54068-371647)	152560	(50839-442964)	2.0	0.178	2.0	0.180	2.0	0.180	2.0	0.180	70	70
May 19-20	89949	(39099-200795)	154216	(68581-340890)	225620	(91417-548618)	1.3	0.282	3.2	0.097	3.2	0.097	3.2	0.097	65	65
June 9-11	123449	(58150-257356)	172356	(81999-357647)	182040	(78468-415727)	0.5	0.490	0.6	0.454	0.6	0.454	0.6	0.454	60	65
July 1-3	67011	(22422-186848)	282440	(102578-765834)	304980	(97972-932246)	6.1	0.027*	5.8	0.031*	5.8	0.031*	5.8	0.031*	70	70
July 19-21	69685	(18586-236394)	95268	(26427-319858)	92046	(21129-363102)	0.1	0.708	0.1	0.755	0.1	0.755	0.1	0.755	80	80
Bivalvia																
April 24-2	22250	(4510-89857)	66181	(16038-257282)	121360	(25218-559651)	1.4	0.256	3.0	0.103	3.0	0.103	3.0	0.103	85	85
May 19-20	30147	(7385-109316)	57635	(15288-204923)	102910	(23819-426240)	0.7	0.429	2.1	0.170	2.1	0.170	2.1	0.170	80	80
June 9-11	20339	(4033-82232)	53693	(12820-208830)	63559	(12765-291480)	1.4	0.262	1.6	0.224	1.6	0.224	1.6	0.224	80	80
July 1-3	16909	(3498-64271)	172836	(47652-614920)	211140	(49731-878141)	9.1	0.009**	9.3	0.009**	9.3	0.009**	9.3	0.009**	80	80
July 19-21	13947	(1398-75752)	24182	(3476-126156)	30343	(3472-194169)	0.2	0.641	0.4	0.536	0.4	0.536	0.4	0.536	90	90

Appendix Table 5 continued. Tests of treatment effects on biomass (mg/m²)

Date	Control		BTI		Methoprene		C v BTI		C v Meth		‡ Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	BTI	Meth
Gastropoda												
April 24-2	22989	(7692-62936)	31528	(10962-85235)	28071	(8491-84902)	0.3	0.569	0.1	0.740	65	70
May 19-20	51423	(21322-120712)	45486	(18743-107045)	42577	(15498-112047)	0.1	0.821	0.1	0.747	65	70
June 9-11	70715	(33980-145164)	87679	(42351-179547)	58550	(25292-132635)	0.2	0.656	0.1	0.716	60	65
July 1-3	22247	(6981-64057)	75624	(26471-210235)	50597	(14918-162418)	3.1	0.100	1.2	0.291	75	75
July 19-21	35675	(10066-116552)	48833	(14232-158110)	34735	(8232-131254)	0.2	0.660	0.0	0.973	75	80
Total Insects												
April 24-2	624.9	(300.1-1300.2)	443.1	(212.6-922.3)	552.7	(240.7-1267.5)	0.5	0.474	0.1	0.810	65	65
May 19-20	1224.9	(522.2-2871.3)	637.3	(271.4-1494.5)	530.7	(201.5-1395.3)	1.4	0.264	1.9	0.186	70	70
June 9-11	770.3	(249.5-2373.8)	402.9	(130.2-1242.6)	677.7	(188.6-2427.9)	0.8	0.392	0.0	0.873	80	80
July 1-3	496.6	(148.9-1650.6)	268.2	(80.1-892.4)	270.3	(68.6-1056.2)	0.6	0.450	0.5	0.485	80	80
July 19-21	305.7	(116.3-801.1)	152.5	(57.7-400.5)	346.4	(115.9-1031.7)	1.3	0.281	0.0	0.853	75	75
Total Diptera												
April 24-2	624.9	(300.1-1300.2)	443.1	(212.6-922.3)	552.7	(240.7-1267.5)	0.5	0.474	0.1	0.810	65	65
May 19-20	1224.9	(522.2-2871.3)	637.3	(271.4-1494.5)	530.7	(201.5-1395.3)	1.4	0.264	1.9	0.186	70	70
June 9-11	770.3	(249.5-2373.8)	402.9	(130.2-1242.6)	677.7	(188.6-2427.9)	0.8	0.392	0.0	0.873	80	80
July 1-3	496.6	(148.9-1650.6)	268.2	(80.1-892.4)	270.3	(68.6-1056.2)	0.6	0.450	0.5	0.485	80	80
July 19-21	305.7	(116.3-801.1)	152.5	(57.7-400.5)	346.4	(115.9-1031.7)	1.3	0.281	0.0	0.853	75	75
Chironomidae												
April 24-2	624.6	(299.8-1300.7)	442.7	(212.4-922.0)	552.0	(240.3-1267.1)	0.5	0.473	0.1	0.809	65	65
May 19-20	1224.5	(521.1-2876.3)	635.8	(270.4-1493.9)	530.7	(201.2-1398.0)	1.4	0.264	1.9	0.187	70	70
June 9-11	770.2	(228.9-2588.5)	373.2	(110.8-1255.1)	677.0	(171.0-2676.3)	0.8	0.376	0.0	0.881	80	80
July 1-3	496.3	(138.0-1782.3)	267.5	(74.2-961.1)	245.0	(57.2-1045.0)	0.5	0.476	0.6	0.447	80	85
July 19-21	305.6	(106.9-872.1)	141.3	(49.3-403.8)	346.1	(105.2-1135.4)	1.3	0.273	0.0	0.866	75	80
Tanypodinae												
April 24-2	52.2	(7.7-337.2)	157.4	(24.1-1011.5)	22.0	(2.2-184.2)	0.8	0.385	0.4	0.526	90	90
May 19-20	11.6	(1.5-72.7)	65.7	(10.5-399.8)	8.0	(0.6-64.5)	2.4	0.146	0.1	0.772	90	90
June 9-11	94.2	(27.2-323.5)	89.3	(25.8-306.8)	28.9	(6.8-118.3)	0.0	0.949	1.8	0.199	80	85
July 1-3	20.6	(3.4-113.7)	88.4	(15.9-480.7)	54.0	(7.6-368.3)	1.8	0.198	0.7	0.420	90	90
July 19-21	37.1	(6.6-198.1)	29.0	(5.1-155.3)	63.4	(9.2-421.7)	0.0	0.828	0.2	0.658	90	90

Appendix Table 5 continued. Tests of treatment effects on biomass (mg/m²)

Date	Control		BTI		Methoprene		C v BTI		C v Meth		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	BTI	Meth
Orthocladinae												
April 24-2	26.2	(8.3-80.7)	88.7	(28.8-270.7)	173.9	(48.9-614.3)	2.8	0.114	6.0	0.028*	80	80
May 19-20	71.1	(28.9-174.1)	193.1	(78.9-471.6)	132.7	(48.0-365.6)	2.9	0.113	1.0	0.340	70	75
June 9-11	119.2	(32.9-428.7)	99.6	(27.4-358.5)	143.6	(33.5-610.2)	0.1	0.826	0.0	0.832	80	85
July 1-3	58.4	(13.1-254.9)	19.6	(4.1-86.7)	21.9	(3.8-116.2)	1.6	0.231	1.1	0.315	85	85
July 19-21	29.8	(6.7-127.3)	34.1	(7.7-145.1)	61.6	(11.8-313.1)	0.0	0.880	0.6	0.449	85	85
Chironomini												
April 24-2	233.5	(63.0-860.8)	43.1	(11.3-159.9)	155.9	(35.2-685.0)	3.8	0.071	0.2	0.668	85	85
May 19-20	741.2	(167.9-3267.2)	88.8	(19.8-393.0)	185.8	(34.2-1000.5)	4.7	0.047*	1.8	0.206	85	85
June 9-11	201.4	(45.7-882.2)	146.5	(33.1-642.2)	144.6	(26.8-771.0)	0.1	0.741	0.1	0.748	85	85
July 1-3	151.2	(33.9-667.6)	61.8	(13.6-273.8)	101.8	(18.5-549.1)	0.8	0.378	0.1	0.712	85	85
July 19-21	69.4	(19.3-246.9)	50.9	(14.0-181.2)	38.4	(8.9-160.7)	0.2	0.687	0.5	0.480	80	80
Paratendipes												
April 24-2	2.9	(0.0-22.4)	3.4	(0.1-25.5)	4.3	(0.1-41.4)	0.0	0.920	0.1	0.798	90	90
May 19-20	1.0	(0.0-8.4)	4.8	(0.4-31.5)	0.7	(0.0-8.3)	1.2	0.284	0.0	0.843	90	90
June 9-11	2.4	(0.0-17.1)	1.7	(0.0-12.4)	1.8	(0.0-16.7)	0.1	0.797	0.0	0.840	90	90
July 1-3	0.6	(0.0-3.3)	0.7	(0.0-3.7)	0.4	(0.0-3.3)	0.0	0.908	0.0	0.831	80	85
July 19-21	0.7	(0.0-2.8)	0.3	(0.0-1.6)	2.6	(0.5-9.1)	0.6	0.452	2.5	0.137	70	70
Polypedilum												
April 24-2	35.8	(6.5-187.5)	10.9	(1.7-58.6)	30.7	(4.3-200.9)	1.1	0.304	0.0	0.898	90	90
May 19-20	5.6	(0.6-34.1)	6.2	(0.7-37.0)	100.8	(13.8-719.2)	0.0	0.946	5.3	0.037*	90	90
June 9-11	11.0	(1.9-55.2)	11.5	(2.0-57.6)	18.4	(2.7-112.2)	0.0	0.967	0.2	0.650	85	90
July 1-3	8.3	(1.0-51.0)	6.7	(0.7-41.8)	39.0	(5.3-271.1)	0.1	0.817	2.7	0.121	80	85
July 19-21	6.0	(0.7-33.6)	9.8	(1.5-53.3)	16.5	(2.1-110.6)	0.2	0.677	0.7	0.416	90	90
All other Chironominae												
April 24-2	2.7	(0.5-10.3)	0.7	(0.0-3.7)	1.7	(0.0-8.0)	1.4	0.251	0.2	0.639	80	85
May 19-20	1.5	(0.1-5.5)	1.3	(0.1-5.0)	0.0	(0.0-1.3)	0.0	0.922	3.0	0.103	80	80
June 9-11	1.9	(0.4-6.2)	1.3	(0.1-4.5)	0.2	(0.0-1.6)	0.3	0.580	5.0	0.042*	65	70
July 1-3	0.5	(0.0-1.5)	0.1	(0.0-0.8)	1.4	(0.3-3.9)	0.8	0.386	1.7	0.218	65	65
July 19-21	0.5	(0.1-1.3)	0.3	(0.0-0.9)	0.1	(0.0-0.6)	0.5	0.500	1.7	0.210	55	55

Appendix Table 5 continued. Tests of treatment effects on biomass (mg/m²)

Date	Control		BTI		Methoprene		C v BTI		C v Meth		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	BTI	Meth
	95% CI		95% CI		95% CI							
Tanytarsini												
April 24-2	16.7	(2.0-133.7)	0.3	(0.0-2.5)	1.6	(0.1-17.7)	8.3	0.012*	2.5	0.139	90	95
May 19-20	181.7	(36.7-899.2)	16.3	(3.2-80.8)	59.3	(9.6-363.5)	5.5	0.034*	1.0	0.326	85	90
June 9-11	41.0	(4.5-368.6)	18.1	(2.0-163.1)	45.0	(3.7-542.9)	0.3	0.574	0.0	0.952	95	95
July 1-3	17.7	(1.3-240.0)	1.0	(0.0-14.0)	4.9	(0.2-94.6)	3.1	0.098	0.5	0.473	95	95
July 19-21	5.1	(0.5-45.9)	1.8	(0.2-16.4)	3.7	(0.3-44.6)	0.5	0.486	0.0	0.838	95	95
Total insect predators												
April 24-2	52.2	(7.7-337.2)	157.4	(24.1-1011.5)	22.0	(2.2-184.2)	0.8	0.385	0.4	0.526	90	90
May 19-20	11.6	(1.5-72.7)	65.7	(10.5-399.8)	8.0	(0.6-64.5)	2.4	0.146	0.1	0.772	90	90
June 9-11	94.2	(27.2-323.5)	89.3	(25.8-306.8)	28.9	(6.8-118.3)	0.0	0.949	1.8	0.199	80	85
July 1-3	20.6	(3.4-113.7)	88.4	(15.9-480.7)	54.0	(7.6-368.3)	1.8	0.198	0.7	0.420	90	90
July 19-21	37.1	(6.6-198.1)	29.0	(5.1-155.3)	63.4	(9.2-421.7)	0.0	0.828	0.2	0.658	90	90
Total insect non-predators												
April 24-2	249.5	(127.0-489.6)	156.0	(79.3-306.4)	312.7	(145.5-671.4)	1.1	0.309	0.2	0.642	60	65
May 19-20	1035.5	(427.2-2509.3)	475.5	(196.0-1152.6)	336.3	(123.0-918.1)	1.8	0.204	3.2	0.093	70	75
June 9-11	564.3	(170.1-1869.5)	274.2	(82.5-908.9)	516.0	(132.7-2001.2)	0.9	0.352	0.0	0.913	80	80
July 1-3	350.3	(101.3-1209.0)	103.6	(29.7-358.4)	124.9	(30.3-509.8)	2.2	0.159	1.4	0.258	80	85
July 19-21	140.6	(43.8-448.8)	86.0	(26.6-274.8)	111.4	(30.3-406.4)	0.6	0.450	0.1	0.740	75	75
Total insect unclassified												
April 24-2	65.9	(13.8-308.2)	20.6	(4.0-97.6)	55.3	(9.3-318.0)	1.3	0.277	0.0	0.874	85	90
May 19-20	32.8	(7.3-141.7)	9.9	(1.9-43.8)	100.8	(19.0-525.0)	1.5	0.243	1.2	0.295	85	85
June 9-11	23.5	(5.2-100.1)	20.1	(4.4-85.8)	17.4	(3.0-89.7)	0.0	0.863	0.1	0.759	85	85
July 1-3	8.8	(1.1-53.7)	6.8	(0.8-42.0)	45.1	(6.1-312.9)	0.1	0.779	2.9	0.109	80	85
July 19-21	9.8	(1.7-48.8)	10.1	(1.7-50.2)	16.4	(2.4-99.2)	0.0	0.977	0.2	0.647	85	90
Dipteran predators												
April 24-2	52.2	(7.7-337.2)	157.4	(24.1-1011.5)	22.0	(2.2-184.2)	0.8	0.385	0.4	0.526	90	90
May 19-20	11.6	(1.5-72.7)	65.7	(10.5-399.8)	8.0	(0.6-64.5)	2.4	0.146	0.1	0.772	90	90
June 9-11	94.2	(27.2-323.5)	89.3	(25.8-306.8)	28.9	(6.8-118.3)	0.0	0.949	1.8	0.199	80	85
July 1-3	20.6	(3.4-113.7)	88.4	(15.9-480.7)	54.0	(7.6-368.3)	1.8	0.198	0.7	0.420	90	90
July 19-21	37.1	(6.6-198.1)	29.0	(5.1-155.3)	63.4	(9.2-421.7)	0.0	0.828	0.2	0.658	90	90

Appendix Table 5 continued. Tests of treatment effects on biomass (mg/m²)

Date	Control		BTI		Methoprene		C v BTI		C v Meth		‡ Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	BTI	Meth
Dipteran non-predators												
April 24-2	249.5	(127.0-489.6)	156.0	(79.3-306.4)	312.7	(145.5-671.4)	1.1	0.309	0.2	0.642	60	65
May 19-20	1035.5	(427.2-2509.3)	475.5	(196.0-1152.6)	336.3	(123.0-918.1)	1.8	0.204	3.2	0.093	70	75
June 9-11	564.3	(170.1-1869.5)	274.2	(82.5-908.9)	516.0	(132.7-2001.2)	0.9	0.352	0.0	0.913	80	80
July 1-3	350.3	(101.3-1209.0)	103.6	(29.7-358.4)	124.9	(30.3-509.8)	2.2	0.159	1.4	0.258	80	85
July 19-21	140.6	(43.8-448.8)	86.0	(26.6-274.8)	111.4	(30.3-406.4)	0.6	0.450	0.1	0.740	75	75
Predatory Chironomidae												
April 24-2	52.2	(7.7-337.2)	157.4	(24.1-1011.5)	22.0	(2.2-184.2)	0.8	0.385	0.4	0.526	90	90
May 19-20	11.6	(1.5-72.7)	65.7	(10.5-399.8)	8.0	(0.6-64.5)	2.4	0.146	0.1	0.772	90	90
June 9-11	94.2	(27.2-323.5)	89.3	(25.8-306.8)	28.9	(6.8-118.3)	0.0	0.949	1.8	0.199	80	85
July 1-3	20.6	(3.4-113.7)	88.4	(15.9-480.7)	54.0	(7.6-368.3)	1.8	0.198	0.7	0.420	90	90
July 19-21	37.1	(6.6-198.1)	29.0	(5.1-155.3)	63.4	(9.2-421.7)	0.0	0.828	0.2	0.658	90	90
Non-predatory Chironomidae												
April 24-2	249.5	(127.0-489.6)	156.0	(79.3-306.4)	312.7	(145.5-671.4)	1.1	0.309	0.2	0.642	60	65
May 19-20	1035.5	(427.2-2509.3)	475.5	(196.0-1152.6)	336.3	(123.0-918.1)	1.8	0.204	3.2	0.093	70	75
June 9-11	564.3	(170.1-1869.5)	274.2	(82.5-908.9)	516.0	(132.7-2001.2)	0.9	0.352	0.0	0.913	80	80
July 1-3	350.3	(101.3-1209.0)	103.6	(29.7-358.4)	124.9	(30.3-509.8)	2.2	0.159	1.4	0.258	80	85
July 19-21	140.6	(43.8-448.8)	86.0	(26.6-274.8)	111.4	(30.3-406.4)	0.6	0.450	0.1	0.740	75	75
Unclassified Chironomidae												
April 24-2	65.9	(13.8-308.2)	20.6	(4.0-97.6)	55.3	(9.3-318.0)	1.3	0.277	0.0	0.874	85	90
May 19-20	32.8	(7.3-141.7)	9.9	(1.9-43.8)	100.8	(19.0-525.0)	1.5	0.243	1.2	0.295	85	85
June 9-11	23.5	(5.2-100.1)	20.1	(4.4-85.8)	17.4	(3.0-89.7)	0.0	0.863	0.1	0.759	85	85
July 1-3	8.8	(1.1-53.7)	6.8	(0.8-42.0)	45.1	(6.1-312.9)	0.1	0.779	2.9	0.109	80	85
July 19-21	9.8	(1.7-48.8)	10.1	(1.7-50.2)	16.4	(2.4-99.2)	0.0	0.977	0.2	0.647	85	90

Appendix Table 6. Tests of effects of treatment and sampling date (1997, 1998) or year (both) on biomass (mg/m²) of benthic invertebrates in core samples. Effects were evaluated using a repeated measures ANOVA within years and then over both years. The degrees of freedom for the F statistic for treatment effects are 1,14. For 1997 the degrees of freedom for date are 4, 53 and for date X treatment 8,53. For 1998 the degrees of freedom for date are 4,56 and for date X treatment 8,56. For both years degrees of freedom for years are 4,36 and for year X treatment 8,36.

Test	Control		BTI		Methoprene		C vs BTI		C vs Meth		Date		Date x Treat		‡ Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	F	p-value	F	p-value		
Total macroinvertebrates																
1997	74268	(37370-147598)	96843	(48729-192461)	105933	(47881-234370)	0.3	0.591	0.5	0.508	1.4	0.246	1.2	0.323	65	65
1998	64232	(33350-123714)	148831	(77273-286654)	167491	(79655-352184)	3.2	0.095	3.6	0.077	1.6	0.189	0.7	0.706	65	65
Both	69068	(36792-129660)	120055	(63952-225376)	132624	(64934-270878)	1.5	0.241	1.8	0.198	1.2	0.282	0.8	0.466	60	65
Total Non-insects																
1997	59505	(25970-136309)	79215	(34576-181449)	104692	(39975-274124)	0.2	0.632	0.8	0.388	1.4	0.250	1.3	0.261	70	75
1998	50700	(22186-115823)	140441	(61479-320783)	153370	(60109-391275)	3.0	0.107	3.1	0.102	2.0	0.112	0.6	0.794	70	75
Both	54927	(26314-114623)	105477	(50543-220091)	125982	(54707-290080)	1.5	0.236	2.2	0.163	0.7	0.408	0.5	0.604	65	70
Total Annelida																
1998	103.0	(63.7-164.1)	140.7	(88.0-222.7)	162.3	(97.8-266.5)	1.9	0.193	3.4	0.088	11.4	0.000***	0.7	0.728	35	35
Total Mollusca																
1997	84482	(46129-152177)	106552	(58633-191132)	108264	(54444-211647)	0.3	0.567	0.3	0.574	1.8	0.136	1.2	0.309	55	60
1998	80391	(44903-141634)	159595	(90799-278315)	178827	(94480-335418)	2.9	0.113	3.4	0.086	1.7	0.162	0.7	0.663	55	60
Both	82412	(46005-145328)	130483	(73822-228398)	138810	(72808-261528)	1.3	0.274	1.5	0.247	2.9	0.096	1.1	0.359	55	60
Bivalvia																
1997	36733	(13549-94937)	63936	(24384-163231)	84179	(28280-243952)	0.7	0.421	1.3	0.267	2.8	0.036*	1.2	0.306	75	75
1998	20077	(6193-58079)	61513	(21332-171489)	86281	(26323-274072)	2.2	0.163	3.3	0.093	5.8	0.001***	1.4	0.222	80	80
Both	27234	(9352-73793)	62713	(22979-166164)	85099	(27563-255372)	1.4	0.264	2.2	0.157	0.9	0.351	0.9	0.422	75	80
Gastropoda																
1997	16581	(9097-29205)	16200	(8872-28562)	9722	(4472-19369)	0.0	0.950	1.6	0.222	1.9	0.124	1.3	0.279	50	55
1998	36847	(23354-57579)	54242	(34675-84306)	41573	(24852-68785)	1.5	0.247	0.1	0.731	1.5	0.206	0.4	0.924	45	50
Both	24853	(16800-36393)	29961	(20365-43713)	20242	(12866-31326)	0.5	0.490	0.5	0.487	29.8	0.000***	0.8	0.445	40	40
Total Diptera																
1997	949.4	(567.7-1587.3)	802.4	(479.7-1341.6)	450.2	(245.9-823.5)	0.2	0.655	3.4	0.085	4.8	0.002**	0.6	0.755	55	55
1998	617.3	(349.9-1088.3)	341.8	(193.5-603.0)	441.2	(232.8-835.6)	2.6	0.127	0.7	0.408	2.5	0.053	0.4	0.921	55	55
Both	765.5	(488.5-1199.2)	523.8	(334.1-820.7)	452.7	(271.9-753.4)	1.4	0.258	2.3	0.149	3.4	0.073	1.1	0.342	50	50
Chironomidae																
1997	113.3	(48.5-263.6)	152.7	(65.5-354.9)	42.5	(15.7-113.4)	0.2	0.630	2.2	0.158	5.6	0.001***	1.4	0.204	70	75
1998	617.0	(340.9-1116.2)	331.0	(182.8-599.1)	433.4	(222.2-845.0)	2.7	0.125	0.7	0.406	2.3	0.068	0.4	0.902	55	60
Both	264.6	(131.4-532.2)	224.8	(111.6-452.3)	138.8	(62.6-306.8)	0.1	0.750	1.4	0.249	47.8	0.000***	3.7	0.034*	65	70

Appendix Table 6 continued. Repeated measures tests for core biomass.

Test	Control		BTI		Methoprene		C vs BTI		C vs Meth		Date		Date x Treat		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	F	p-value	F	p-value		
Tanypodinae																
1997	6.3	(1.5-22.5)	23.7	(6.7-80.9)	5.0	(0.9-21.1)	3.4	0.088	0.1	0.785	5.6	0.001***	0.8	0.609	75	80
1998	33.9	(11.1-101.0)	75.1	(25.1-222.6)	28.0	(7.9-96.4)	1.2	0.291	0.1	0.813	2.6	0.049*	1.2	0.302	80	80
Both	14.8	(4.6-45.2)	42.3	(13.8-127.0)	12.4	(3.3-43.8)	2.1	0.170	0.0	0.829	21.2	0.000***	0.2	0.792	75	80
Orthoclaadiinae																
1997	4.5	(1.8-10.4)	6.5	(2.7-14.9)	7.4	(2.7-19.0)	0.4	0.538	0.6	0.457	11.2	0.000***	0.9	0.560	70	70
1998	52.3	(24.0-113.1)	65.0	(29.9-140.5)	87.2	(36.6-207.0)	0.2	0.661	1.0	0.346	4.1	0.006**	1.2	0.305	65	65
Both	15.7	(7.9-31.0)	21.0	(10.6-41.2)	26.4	(12.2-56.4)	0.4	0.528	1.2	0.296	65.1	0.000***	0.0	0.980	60	65
Chironomini																
1997	46.6	(18.4-116.9)	44.0	(17.3-110.4)	12.0	(3.8-35.5)	0.0	0.932	3.5	0.083	3.1	0.024*	2.4	0.029*	75	75
1998	205.6	(101.1-417.4)	70.7	(34.6-143.9)	107.5	(48.1-239.4)	5.2	0.039*	1.7	0.219	2.0	0.104	0.5	0.840	65	65
Both	98.0	(44.8-213.6)	55.8	(25.4-121.9)	37.9	(15.4-92.2)	1.0	0.332	2.5	0.136	18.5	0.000***	2.3	0.117	70	70
Paratendipes																
1997	4.0	(1.1-12.3)	11.0	(3.6-32.0)	2.5	(0.4-9.5)	1.6	0.232	0.3	0.617	2.5	0.053	1.5	0.197	80	80
1998	1.3	(0.1-4.9)	1.6	(0.2-5.8)	1.6	(0.1-6.7)	0.0	0.849	0.0	0.866	2.2	0.082	1.4	0.238	80	80
Both	2.4	(0.6-7.2)	4.4	(1.3-12.7)	2.0	(0.3-7.2)	0.6	0.456	0.0	0.859	6.5	0.015*	1.0	0.379	75	80
Polypedilum																
1997	8.6	(3.1-22.7)	4.3	(1.4-11.7)	3.8	(0.9-12.1)	0.9	0.356	1.1	0.317	5.7	0.001***	1.3	0.281	75	80
1998	10.3	(3.3-29.9)	8.8	(2.8-25.5)	32.5	(9.9-104.0)	0.1	0.806	2.7	0.120	0.5	0.762	1.2	0.312	75	75
Both	9.4	(3.5-24.0)	6.1	(2.2-15.9)	11.5	(3.8-32.8)	0.4	0.531	0.1	0.781	6.2	0.017*	1.9	0.158	75	75
All other Chironominae																
1997	6.2	(2.5-14.5)	2.0	(0.6-5.1)	0.7	(0.0-2.5)	3.0	0.106	8.0	0.013*	1.2	0.334	2.0	0.071	70	75
1998	1.2	(0.5-2.4)	0.6	(0.2-1.4)	0.4	(0.0-1.1)	1.7	0.209	3.6	0.080	2.2	0.084	1.5	0.163	45	50
Both	2.9	(1.3-5.9)	1.2	(0.4-2.7)	0.5	(0.0-1.6)	2.7	0.124	6.8	0.021*	11.6	0.002**	2.1	0.140	60	60
Tanytarsini																
1997	2.1	(0.6-6.7)	0.3	(0.1-1.2)	0.4	(0.1-1.6)	4.4	0.056	3.2	0.096	0.4	0.777	0.1	0.998	80	85
1998	25.8	(8.6-77.5)	2.8	(0.9-8.5)	9.8	(2.8-34.1)	7.9	0.014*	1.3	0.270	6.7	0.000***	0.5	0.815	80	80
Both	7.4	(2.5-21.2)	1.0	(0.3-2.9)	2.0	(0.6-6.6)	6.8	0.020*	2.6	0.128	38.1	0.000***	0.6	0.543	80	80
Total insect unclassified																
1997	45.7	(20.5-101.1)	65.6	(29.6-145.0)	30.9	(12.0-78.3)	0.5	0.479	0.5	0.494	10.7	0.000***	0.4	0.912	65	70
1998	21.5	(8.4-53.6)	12.3	(4.7-31.1)	35.8	(12.7-99.8)	0.9	0.370	0.6	0.434	1.3	0.273	0.9	0.545	70	75
Both	31.3	(14.6-66.8)	28.6	(13.3-61.1)	34.0	(14.3-80.1)	0.0	0.866	0.0	0.885	5.5	0.025*	2.5	0.098	65	70

Appendix Table 6 continued. Repeated measures tests for core biomass.

Test	Control		BTI		Methoprene		C vs BTI		C vs Meth		Date		Date x Treat		% Diff	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	F	p-value	F	p-value	F	p-value	F	p-value	B	M
Dipteran predators																
1997	7.4	(2.9-18.0)	5.9	(2.2-14.6)	4.0	(1.1-11.9)	0.1	0.744	0.7	0.415	0.4	0.829	1.0	0.460	70	75
1998	33.9	(11.1-101.0)	75.1	(25.1-222.6)	28.0	(7.9-96.4)	1.2	0.291	0.1	0.813	2.6	0.049*	1.2	0.302	80	80
Both	15.9	(6.7-37.3)	21.5	(9.1-50.1)	10.9	(3.9-28.8)	0.2	0.632	0.3	0.576	36.3	0.000***	0.9	0.430	70	75
Dipteran non-predators																
1997	6.3	(1.5-22.4)	24.0	(6.8-81.6)	5.0	(0.9-21.0)	3.5	0.084	0.1	0.783	5.4	0.001***	0.8	0.612	75	80
1998	372.7	(217.1-639.5)	178.6	(103.9-306.6)	229.1	(125.3-418.4)	5.2	0.038*	1.9	0.185	5.2	0.001**	0.5	0.867	50	50
Both	50.0	(23.5-105.4)	65.7	(31.0-138.5)	37.6	(16.1-87.4)	0.3	0.586	0.3	0.603	79.7	0.000***	3.2	0.054	65	65
Predatory Chironomidae																
1997	12.2	(3.9-36.0)	41.4	(14.1-120.1)	12.2	(3.4-41.4)	3.5	0.081	0.0	0.997	12.9	0.000***	1.1	0.352	75	75
1998	33.9	(11.1-101.0)	75.1	(25.1-222.6)	28.0	(7.9-96.4)	1.2	0.291	0.1	0.813	2.6	0.049*	1.2	0.302	80	80
Both	20.4	(7.0-57.5)	55.8	(19.8-155.9)	18.9	(5.6-61.0)	2.1	0.168	0.0	0.921	7.0	0.012*	0.2	0.832	75	80
Non-predatory Chironomidae																
1997	43.9	(17.0-112.4)	52.5	(20.4-134.2)	18.0	(5.8-53.9)	0.1	0.795	1.5	0.245	5.3	0.001**	1.0	0.417	75	80
1998	372.7	(217.1-639.5)	178.6	(103.9-306.6)	229.1	(125.3-418.4)	5.2	0.038*	1.9	0.185	5.2	0.001**	0.5	0.867	50	50
Both	128.3	(67.0-245.2)	97.0	(50.6-185.5)	65.6	(31.3-137.0)	0.4	0.542	1.9	0.185	47.3	0.000***	1.9	0.170	60	65
Unclassified Chironomidae																
1997	9.7	(3.5-25.8)	4.4	(1.4-12.2)	3.8	(0.9-12.3)	1.2	0.296	1.4	0.251	5.0	0.002**	1.2	0.313	75	80
1998	21.5	(8.4-53.6)	12.3	(4.7-31.1)	35.8	(12.7-99.8)	0.9	0.370	0.6	0.434	1.3	0.273	0.9	0.545	70	75
Both	14.5	(5.7-35.6)	7.5	(2.8-18.7)	12.2	(4.2-34.0)	1.1	0.314	0.1	0.805	16.7	0.000***	1.7	0.191	70	75