

Appendix 4D. Abundance metrics calculated for benthic macroinvertebrate samples collected at the study sites in Surry County, North Carolina, 2004-2007. [EPT\_CH, Ratio of EPT abundance to Chironomidae abundance; ORTHO\_CH, ratio of Orthocladiinae abundance to Chironomidae abundance; TANY\_CH, ratio of Tanytarsini abundance to Chironomidae abundance; NCHDIP, Abundance of non-midge Diptera; ODIPNI, abundance composed of non-midge Diptera and non-insects; SR, secondary road]

Transect	Total abundance	EPT (Ephemeroptera, Plecoptera, and Trichoptera)	EPT_CH	Ephemeroptera (mayflies)	Plecoptera (stoneflies)	Pteryonarcys (salmonflies)	Trichoptera (caddisflies)	Odonata	Coleoptera	Diptera	Chironomidae (midges)	Orthocladiinae midges	ORTHO_CH
Hogan Creek at SR 2038 near Siloam, North Carolina													
<u>Sample collection date 03/24/2004</u>													
A	204	43	0.31	32	2	0	9	0	4	155	140	101	0.72
B	278	178	2.51	83	16	0	79	1	20	79	71	21	0.30
C	279	164	1.78	94	32	0	38	0	9	106	92	29	0.32
D	274	178	2.54	121	18	0	39	0	20	74	70	21	0.30
E	293	178	2.14	95	23	0	60	0	12	100	83	36	0.43
<u>Sample collection date 02/16/2005</u>													
A	332	283	10.1	226	42	0	15	0	4	39	28	25	0.89
B	313	235	8.39	188	27	0	20	0	30	46	28	23	0.82
C	326	238	3.78	168	50	0	20	0	6	74	63	53	0.84
D	331	236	3.32	186	32	0	18	0	5	84	71	62	0.87
E	321	223	3.43	184	23	0	16	0	12	76	65	56	0.86
<u>Sample collection date 03/08/2006</u>													
A	359	218	1.97	162	31.9	0	23.9	0	16.0	116	111	82.1	0.74
B	669	501	5.11	292	23.4	0	185	0	31.9	109	98	74.5	0.76
C	564	244	0.87	183	26.7	0	33.8	0	8.9	294	281	224	0.80
D	454	178	0.70	142	17.4	0	18.8	0	4.3	262	254	173	0.68
E	817	616	4.72	465	22.9	0	128	0	32.1	144	131	64.1	0.49
<u>Sample collection date 03/20/2007</u>													
A	338	233	3.69	166	26.7	0	40.7	0	13.9	81.3	63.1	20.3	0.32
B	333	206	1.96	167	20.0	0	19	0	12	114	105	32	0.30
C	219	143	3.11	104	11.0	0	28	0	13	58	46	17	0.37
D	434	354	8.23	261	57.8	0	35.7	0	17.2	52.9	43.1	22.1	0.51
E	1085	934	13.3	563	51.2	0	320	0	38.4	102.4	70.4	38.4	0.55

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Transect	Tanytarsini midges	TANY_CH	NCHDIP	Non-insects	Mollusca and Crustacea	Gastropoda	Bivalvia	Corbicula	Amphipoda	Isopoda	Oligochaeta
Hogan Creek at SR 2038 near Siloam, North Carolina											
<u>Sample collection date 03/24/2004</u>											
A	7	0.05	15	2	0	0	0	0	0	0	2
B	9	0.13	8	0	0	0	0	0	0	0	0
C	9	0.10	14	0	0	0	0	0	0	0	0
D	9	0.13	4	2	1	0	0	0	0	0	0
E	10	0.12	17	3	0	0	0	0	0	0	3
<u>Sample collection date 02/16/2005</u>											
A	1	0.04	11	6	1	0	1	0	0	0	4
B	1	0.04	18	2	0	0	0	0	0	0	1
C	3	0.05	11	8	1	1	0	0	0	0	6
D	0	0	13	6	2	2	0	0	0	0	1
E	1	0.02	11	8	0	0	0	0	0	0	8
<u>Sample collection date 03/08/2006</u>											
A	3.42	0.03	5.70	9.12	2.28	2.28	0	0	0	0	0
B	8.52	0.09	10.6	27.7	0	0	0	0	0	0	0
C	3.56	0.01	12.5	14.2	0	0	0	0	0	0	1.78
D	8.70	0.03	8.70	8.70	0	0	0	0	0	0	0
E	18.3	0.14	13.7	25.2	0	0	0	0	0	0	16.0
<u>Sample collection date 03/20/2007</u>											
A	2.14	0.03	18.2	9.63	3.21	3.21	0	0	0	0	0
B	28	0.27	9	1	0	0	0	0	0	0	0
C	4	0.09	12	5	1	1	0	0	0	0	0
D	4.92	0.11	9.84	9.84	0	0	0	0	0	0	2.46
E	16	0.23	32	9.6	0	0	0	0	0	0	3.2

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Transect	Total abundance	EPT (Ephemeroptera, Plecoptera, and Trichoptera)	EPT_CH	Ephemeroptera (mayflies)	Plecoptera (stoneflies)	Pteryonarcys (salmonflies)	Trichoptera (caddisflies)	Odonata	Coleoptera	Diptera	Chironomidae (midges)	Orthocladiinae midges	ORTHO_CH
Bull Creek at Ash Hill, North Carolina													
Sample collection date 03/24/2004													
A	274	125	0.97	55	9	0	61	0	1	142	129	91	0.71
B	283	43	0.20	29	4	0	10	1	1	236	219	185	0.84
C	260	52	0.29	24	1	0	27	0	2	203	180	104	0.58
D	282	114	0.84	33	4	0	77	0	3	165	136	110	0.81
E	257	100	0.71	49	3	0	48	0	1	155	140	70	0.50
Sample collection date 02/16/2005													
A	378	146	1.17	92	19	0	35	0	19	156	125	74	0.59
B	344	94	0.69	63	17	0	14	2	11	151	136	83	0.61
C	341	131	1.02	73	19	0	39	0	16	163	129	80	0.62
D	384	115	0.75	65	8	0	42	0	15	178	154	79	0.51
E	316	104	0.83	56	13	0	35	0	10	154	126	82	0.65
Sample collection date 03/08/2006													
A	840	406	1.72	314	21.6	0	69.6	0	62.4	302	235	185	0.79
B	847	240	0.73	139	12.0	0	88.8	4.8	79.2	427	329	259	0.79
C	342	143	1.55	78	6	0	59.0	0	37.0	111	92	79	0.86
D	665	213	0.8	149	17.0	0	46.9	0	66.0	326	256	241	0.94
E	1118	395	0.9	305	27.4	0	61.7	0	110	501	429	336	0.78
Sample collection date 03/21/2007													
A	762	330	1.06	164	20	0	146	0	30	386	310	198	0.64
B	752	202	0.59	98	6	0	98	0	28	472	340	246	0.72
C	1340	300	0.36	200	20	0	80	0	48	940	832	596	0.72
D	700	142	0.34	64	6	0	72	0	28	500	416	318	0.76
E	712	164	0.42	82	8	0	74	0	18	490	392	324	0.83

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Transect	Tanytarsini midges	TANY_CH	NCHDIP	Non-insects	Mollusca and Crustacea	Gastropoda	Bivalvia	Corbicula	Amphipoda	Isopoda	Oligochaeta
Bull Creek at Ash Hill, North Carolina											
Sample collection date 03/24/2004											
A	7	0.05	13	6	0	0	0	0	0	0	6
B	16	0.07	17	2	0	0	0	0	0	0	1
C	15	0.08	23	2	0	0	0	0	0	0	1
D	16	0.12	29	0	0	0	0	0	0	0	0
E	17	0.12	15	1	0	0	0	0	0	0	0
Sample collection date 03/24/2004											
A	42	0.34	31	57	2	2	0	0	0	0	40
B	32	0.24	15	84	0	0	0	0	0	0	76
C	39	0.30	34	30	0	0	0	0	0	0	20
D	44	0.29	24	72	0	0	0	0	0	0	51
E	32	0.25	28	46	0	0	0	0	0	0	31
Sample collection date 03/24/2004											
A	45.6	0.19	67.2	64.8	0	0	0	0	0	0	0
B	67.2	0.20	98.4	88.8	4.8	0	2.4	0	0	0	4.8
C	12.0	0.13	19	50	0	0	0	0	0	0	0
D	14.9	0.06	70.3	57.5	0	0	0	0	0	0	0
E	75.5	0.18	72.0	102.9	0	0	0	0	0	0	17.2
Sample collection date 03/24/2004											
A	86	0.28	76	14	0	0	0	0	0	0	2
B	86	0.25	132	48	2	0	2	0	0	0	4
C	164	0.20	108	32	0	0	0	0	0	0	0
D	82	0.20	84	26	4	0	4	0	0	0	0
E	44	0.11	98	38	2	0	2	0	0	0	2

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Pauls Creek above SR 1625 near Pine Ridge, North Carolina													
<u>Sample collection date 03/23/2004</u>													
A	275	124	1.24	101	12	0	11	0	4	144	100	81	0.81
B	229	127	3.02	117	5	0	5	0	5	95	42	40	0.95
C	280	157	1.67	135	11	0	11	0	6	115	94	83	0.88
D	289	180	6.92	144	30	0	6	0	0	108	26	9	0.35
E	283	185	3.19	162	17	0	6	0	1	95	58	46	0.79
<u>Sample collection date 02/17/2005</u>													
A	188	168	14	148	14	0	6	0	3	16	12	10	0.83
B	327	298	14.2	268	23	0	7	0	4	24	21	18	0.86
C	282	244	9.0	206	30	0	8	0	2	35	27	22	0.81
D	358	306	7.5	272	26	0	8	0	4	46	41	30	0.73
E	310	249	6.4	221	21	0	7	0	6	50	39	32	0.82
<u>Sample collection date 03/09/2006</u>													
A	680	542	4.8	440	62	0	40	0	6	128	112	100	0.89
B	717	552	3.8	425	111	0	15.3	0	2.2	161	144	129	0.89
C	658	514	4.0	426	72	0	16	0	4	134	130	116	0.89
D	603	464	4.0	380	54.5	0	30.1	0	3.8	128	117	103	0.89
E	2078	1605	4.3	1317	151	0	137	0	27.4	432	370	322	0.87
<u>Sample collection date 03/21/2007</u>													
A	99	84	84	57	9	0	18	0	4	1	1	0	0
B	195	146	11.2	118	10	0	18	0	5	20	13	9	0.69
C	167	126	15.8	107	6	0	13	0	9	19	8	6	0.75
D	309	276	25.1	230	15	0	31	0	8	17	11	6	0.55
E	144	125	62.5	105	13	0	7	0	0	9	2	2	1

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Pauls Creek above SR 1625 near Pine Ridge, North Carolina											
<u>Sample collection date 03/23/2004</u>											
A	6	0.06	44	3	1	0	0	0	0	0	1
B	0	0	53	2	0	0	0	0	0	0	1
C	5	0.1	21	2	0	0	0	0	0	0	2
D	0	0	82	1	0	0	0	0	0	0	1
E	1	0.02	37	2	0	0	0	0	0	0	2
<u>Sample collection date 02/17/2005</u>											
A	0	0	4	1	0	0	0	0	0	0	0
B	1	0.05	3	1	0	0	0	0	0	0	1
C	0	0	8	1	0	0	0	0	0	0	0
D	0	0	5	2	0	0	0	0	0	0	1
E	3	0.08	11	5	0	0	0	0	0	0	5
<u>Sample collection date 03/09/2006</u>											
A	10	0.1	16	4	0	0	0	0	0	0	2
B	6.5	0.0	17.4	2.2	0	0	0	0	0	0	0
C	10	0.1	4	6	0	0	0	0	0	0	0
D	7.5	0.1	11.3	5.6	0	0	0	0	0	0	0
E	13.7	0.0	61.7	13.7	0	0	0	0	0	0	0
<u>Sample collection date 03/21/2007</u>											
A	1	1	0	10	0	0	0	0	0	0	0
B	1	0.1	7	24	0	0	0	0	0	0	0
C	0	0	11	13	0	0	0	0	0	0	1
D	1	0.1	6	8	0	0	0	0	0	0	0
E	0	0	7	9	1	0	0	0	0	0	4