

Appendix 4I. Tolerance metrics for benthic macroinvertebrate samples collected at study sites in Surry County, North Carolina, 2004-2007. [%, percent; SR, secondary road]

Transect	Richness								Abundance							
	Mean of taxa tolerances	Tolerant class	Moderately tolerant class	Tolerant class (%)	Intolerant class (%)	Moderately tolerant class (%)	Tolerant class (%)	Percentage of taxa that could be assigned to a tolerance class	Abundance weighted mean taxa tolerances	Intolerant class	Moderately tolerant class	Tolerant class	Intolerant class (%)	Moderately tolerant class (%)	Tolerant class (%)	Abundance assigned to a tolerance class (%)
Hogan Creek at SR 2038 near Siloam, North Carolina (control site)																
Sample collection date 3/24/2004																
A	5.10	6	15	7	21.4	53.6	25.0	100	4.82	40	149	15	19.6	73.0	7.35	100
B	3.86	13	12	4	44.8	41.4	13.8	96.7	4.06	119	129	24	43.8	47.4	8.82	97.8
C	3.87	9	13	2	37.5	54.2	8.3	96.0	3.52	128	135	9	47.1	49.6	3.31	97.5
D	3.70	17	13	4	50.0	38.2	11.8	91.9	3.30	153	98	13	58.0	37.1	4.92	96.4
E	3.98	12	16	5	36.4	48.5	15.2	97.1	4.04	122	135	28	42.8	47.4	9.82	97.3
Sample collection date 02/16/2005																
A	4.16	11	10	5	42.3	38.5	19.2	92.9	2.64	271	51	8	82.1	15.5	2.42	99.4
B	3.78	12	11	4	44.4	40.7	14.8	87.1	2.78	238	57	9	78.3	18.8	2.96	97.1
C	3.95	14	15	6	40.0	42.9	17.1	89.7	2.98	227	77	13	71.6	24.3	4.10	97.2
D	3.74	12	16	2	40.0	53.3	6.7	83.3	2.99	219	95	5	68.7	29.8	1.57	96.4
E	4.01	10	16	3	34.5	55.2	10.3	96.7	3.09	218	88	14	68.1	27.5	4.38	99.7
Sample collection date 03/08/2006																
A	4.13	7	10	2	36.8	52.6	10.5	82.6	3.30	226	93.5	22.8	66	27.3	6.67	95.2
B	4.29	11	16	3	36.7	53.3	10.0	90.9	3.74	324	256	10.6	54.9	43.3	1.81	88.2
C	4.04	9	11	3	39.1	47.8	13.0	88.5	3.82	279	210	57	51.1	38.4	10.4	96.8
D	3.70	10	12	2	41.7	50.0	8.33	85.7	4.23	184	177	72.5	42.5	40.8	16.7	95.5
E	4.06	11	14	4	37.9	48.3	13.8	93.5	3.34	518	215	43.5	66.7	27.7	5.60	95.0
Sample collection date 03/20/2007																
A	3.78	14	12	4	46.7	40.0	13.3	88.2	3.45	215	62.1	48.1	66.1	19.1	14.8	96.2
B	3.36	13	8	3	54.2	33.3	12.5	92.3	3.41	210	45.0	49.0	69.1	14.8	16.1	91.3
C	3.29	10	7	1	55.6	38.9	5.56	90.0	3.12	160	31.0	23.0	74.8	14.5	10.7	97.7
D	4.17	11	12	5	39.3	42.9	17.9	93.3	2.71	328	61.5	19.7	80.2	15.0	4.8	94.3
E	4.26	10	12	4	38.5	46.2	15.4	92.9	3.51	669	368	25.6	63.0	34.6	2.41	97.9

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	Mean of taxa tolerances	Tolerant class	Moderately tolerant class	Tolerant class (%)	Intolerant class (%)	Moderately tolerant class (%)	Tolerant class (%)	Percentage of taxa that could be assigned to a tolerance class	Abundance weighted mean taxa tolerances	Intolerant class	Moderately tolerant class	Tolerant class	Intolerant class (%)	Moderately tolerant class (%)	Tolerant class (%)	Abundance assigned to a tolerance class (%)	
Bull Creek at Ash Hill, North Carolina (BMP site)																	
Sample collection date 03/24/2004																	
A	4.73	10	15	8	30.3	45.5	24.2	97.1	5.29	39	177	30	15.9	72.0	12.2	89.8	
B	4.66	6	14	4	25.0	58.3	16.7	88.9	5.25	12	248	5	4.53	93.6	1.89	93.6	
C	4.80	6	15	5	23.1	57.7	19.2	92.9	4.80	23	212	17	9.13	84.1	6.75	96.9	
D	4.57	6	13	3	27.3	59.1	13.6	95.7	5.40	27	219	21	10.1	82.0	7.87	94.7	
E	4.65	5	14	3	22.7	63.6	13.6	91.7	4.82	30	184	18	12.9	79.3	7.76	90.3	
Sample collection date 02/16/2005																	
A	4.41	12	25	5	28.6	59.5	11.9	93.3	4.68	117	178	54	33.5	51.0	15.5	92.3	
B	4.80	7	21	6	20.6	61.8	17.6	91.9	5.35	77	165	84	23.6	50.6	25.8	94.8	
C	4.46	8	19	4	25.8	61.3	12.9	86.1	4.56	96	195	30	29.9	60.7	9.35	94.1	
D	4.65	8	22	4	23.5	64.7	11.8	85.0	5.02	80	223	59	22.1	61.6	16.3	94.3	
E	4.27	10	20	3	30.3	60.6	9.1	89.2	4.86	73	187	41	24.3	62.1	13.6	95.3	
Sample collection date 03/08/2006																	
A	4.12	10	16	3	34.5	55.2	10.3	93.5	3.56	398	312	26.4	54.1	42.3	3.58	87.7	
B	4.90	7	18	6	22.6	58.1	19.4	91.2	4.32	257	451	62.4	33.3	58.6	8.10	90.9	
C	4.09	8	12	3	34.8	52.2	13.0	88.5	4.01	131	153	16.0	43.7	51.0	5.33	87.7	
D	4.08	10	11	2	43.5	47.8	8.70	88.5	3.72	277	319	12.8	45.5	52.4	2.10	91.7	
E	4.62	8	17	4	27.6	58.6	13.8	93.5	3.90	467	508	48	45.6	49.7	4.70	91.4	
Sample collection date 03/21/2007																	
A	4.53	9	22	6	24.3	59.5	16.2	92.5	4.29	272	392	46	38.3	55.2	6.48	93.2	
B	4.73	10	18	6	29.4	52.9	17.6	91.9	4.44	214	426	50	31.0	61.7	7.25	91.8	
C	4.78	9	19	6	26.5	55.9	17.6	94.4	4.09	540	628	56	44.1	51.3	4.58	91.3	
D	4.94	6	20	7	18.2	60.6	21.2	91.7	4.59	180	412	50	28.0	64.2	7.79	91.7	
E	4.95	7	17	6	23.3	56.7	20.0	93.8	4.09	298	324	60	43.7	47.5	8.80	95.8	

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Transect	Richness									Abundance							
	Mean of taxa tolerances	Tolerant class	Moderately tolerant class	Tolerant class (%)	Intolerant class (%)	Moderately tolerant class (%)	Tolerant class (%)	Percentage of taxa that could be assigned to a tolerance class	Abundance weighted mean taxa tolerances	Intolerant class	Moderately tolerant class	Tolerant class	Intolerant class (%)	Moderately tolerant class (%)	Tolerant class (%)	Abundance assigned to a tolerance class (%)	
Pauls Creek above SR 1625 near Pine Ridge, North Carolina (In-stream restoration and BMP site)																	
Sample collection date 03/23/2004																	
A	3.97	14	12	5	45.2	38.7	16.1	91.2	3.77	104	150	17	38.4	55.4	6.27	98.5	
B	3.74	10	10	4	41.7	41.7	16.7	96.0	3.20	114	108	6	50.0	47.4	2.63	99.6	
C	3.52	15	15	3	45.5	45.5	9.09	100	3.43	130	142	8	46.4	50.7	2.86	100	
D	3.38	12	13	2	44.4	48.1	7.41	93.1	2.80	162	123	2	56.4	42.9	0.70	99.3	
E	3.41	15	11	4	50.0	36.7	13.3	96.8	2.81	172	103	7	61.0	36.5	2.48	99.6	
Sample collection date 02/17/2005																	
A	3.20	8	10	0	44.4	55.6	0.00	94.7	1.88	166	21	0	88.8	11.2	0.00	99.5	
B	3.05	17	10	2	58.6	34.5	6.90	93.5	1.92	295	28	2	90.8	8.62	0.62	99.4	
C	2.87	15	8	2	60.0	32.0	8.00	89.3	2.12	232	36	6	84.7	13.1	2.19	97.2	
D	3.30	14	10	3	51.9	37.0	11.1	96.4	2.26	301	46	10	84.3	12.9	2.80	99.7	
E	3.42	17	13	5	48.6	37.1	14.3	94.6	2.41	246	49	12	80.1	16.0	3.91	99.0	
Sample collection date 03/09/2006																	
A	3.68	11	16	3	36.7	53.3	10.0	90.9	2.47	506	154	14	75.1	22.8	2.08	99.1	
B	3.42	12	15	1	42.9	53.6	3.57	93.3	2.49	528	170	15.3	74.0	23.9	2.14	99.4	
C	3.48	12	12	2	46.2	46.2	7.69	92.9	2.48	494	150	6.0	76.0	23.1	0.92	98.8	
D	3.20	14	14	1	48.3	48.3	3.45	96.7	2.58	432	162	3.8	72.3	27.0	0.63	99.1	
E	3.63	10	15	1	38.5	57.7	3.85	92.9	2.77	1461	569	27.4	71.0	27.7	1.33	99.0	
Sample collection date 03/21/2007																	
A	2.19	13	2	1	81.3	12.5	6.25	94.1	2.83	70	4	15	78.7	4.49	16.85	89.9	
B	3.42	13	10	2	52.0	40.0	8.00	92.6	2.45	135	30	5	79.4	17.6	2.94	87.2	
C	3.23	12	11	2	48.0	44.0	8.00	96.2	2.21	120	33	2	77.4	21.3	1.29	92.8	
D	3.19	14	12	2	50.0	42.9	7.14	90.3	2.24	251	40	2	85.7	13.7	0.68	94.8	
E	3.72	8	8	3	42.1	42.1	15.8	86.4	2.37	112	15	5	84.8	11.4	3.79	91.7	