

**Division of Surface Water**

# **Appendices to Biological and Water Quality Study of the Moxhala Creek Watershed**

**Perry, Morgan, Muskingum and Licking Counties**



OEPA Report DSW/EAS 2009-4-2

**April 24, 2009**

Ted Strickland, Governor, State of Ohio  
Chris Korleski, Director

# APPENDICES

## Biological and Water Quality Survey of the Moxahala Creek Watershed

### 2008

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prepared by

State of Ohio Environmental Protection Agency  
 Division of Surface Water  
 Lazarus Government Center  
 50 West Town Street, Suite 700  
 P.O. Box 1049  
 Columbus, Ohio 43216-1049

Southeast District Office  
 2195 Front Street  
 Logan, Ohio 43138

Ecological Assessment Section  
 4675 Homer Ohio Lane  
 Groveport, Ohio 43125

Ted Strickland, Governor  
 State of Ohio

Chris Korleski, Director  
 Environmental Protection Agency

**Appendix Table 1.** Jonathan Creek and Moxahala Creek watersheds chemical/physical and bacteriological water sampling results, 2008. NA = not analyzed. J = result is an estimate. RC = result is rejected due to poor correlation with its co-analyte. PT= result is estimated because sample was not analyzed within holding time.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	µmhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>JONATHON CREEK @ SR 204</b>				
River Mile: 27.10 Storet: 300465				
6/24/2008	7/8/2008	7/29/2008	8/14/2008	9/24/2008
8:28 AM	1:17 PM	2:37 PM	1:54 PM	1:03 PM
NA	NA	NA	NA	NA
324	282	336	306	354
<5	7	5	9	35
<2.0	<2.0	<2.0	<2.0	4.4
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	2.7
<2.0	<2.0	<2.0	<2.0	2.8
<2.0	2.2	<2.0	<2.0	3.5
<2.0	<2.0	<2.0	<2.0	<2.0
298	<200	<200	302	1050
54	54	58	51	73
71	62	76	62	78
268	233	289	241	298
641	316	226	537	2120
22	19	24	21	25
77	36	30	38	91
2	2	2	2	3
8	7	9	8	12
224	174	244	224	286
<10	<10	<10	<10	17
<0.20	<0.20	<0.20	<0.20	<0.20
<5.0	<5.0	<5.0	<5.0	<5.0
203	189	239	212	225
0.065	<0.050	<0.050	<0.050	<0.050
<10	11	<10	<10	<10
22.0	19.3	21.1	20.0	26.2
519	458	523	502	597
2.22	2.80	2.09	1.63	0.48
<0.020	<0.020	<0.020	<0.020	<0.020
29.7	23.9	32.4	32.1	31.5
0.21	0.20	0.64	<0.20	0.65
0.033	0.023	<0.010	0.032	0.045
16.13	20.74	20.59	19.1	17.76
558.9	489.9	543	507.2	596.2
87.8	98.8	105.4	88.5	85.6
8.63	8.84	9.46	8.18	8.13
7.18	7.93	8.21	8.12	8.01

Site Location: <b>JONATHON CREEK @ Hopewell Indian Road</b>				
River Mile: 22.32 Storet: 300464				
6/24/2008	7/8/2008	7/29/2008	8/14/2008	9/24/2008
9:00 AM	12:57 PM	2:19 PM	1:37 PM	12:51 PM
NA	NA	NA	NA	NA
328	280	334	326	356
<5	12	9	6	7
<2.0	<2.0	<2.0	<2.0	2.6
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	2.3	<2.0	<2.0	2.2
<2.0	<2.0	<2.0	<2.0	<2.0
<200	209	<200	<200	<200
69	62	75	69	80
71	60	76	67	76
268	224	289	262	293
415	548	353	246	313
22	18	24	23	25
70	72	74	71	117
2	2	2	2	3
11	10	12	13	16
213	168	230	241	264
<10	<10	<10	<10	16
<0.20	<0.20	<0.20	<0.20	<0.20
<5.0	<5.0	<5.0	<5.0	<5.0
216	179	238	220	220
0.087	<0.050	<0.050	0.072	<0.050
14	<10	<10	12	<10
25.6	21.0	23.8	25.5	30.5
517	463	537	545	608
1.59	1.89	1.46	1.11	0.40
0.070	0.032	0.044	0.064	<0.020
33.6	27.3	35.7	35.8	34.7
0.75	0.62	0.55	<0.20	0.46
0.038	0.039	0.012	0.045	0.035
16.71	21.05	22.41	20.73	20.14
571.1	483.1	550.9	553.8	608
86.5	94.7	136.7	106.5	116.8
8.4	8.43	11.85	9.53	10.57
7.61	7.72	8.19	8.12	8.2

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	µmhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>JONATHON CR. @ Off SR 204,dst. Glass Rock Trib</b>					
River Mile: 17.40 Storet: 300463					
6/24/2008 9:42 AM	7/8/2008 1:58 PM	7/29/2008 1:08 PM	8/14/2008 2:58 PM	9/24/2008 12:26 PM	
NA	NA	NA	NA	NA	
280	244	310	298	404	
22	16	19	31	40	
<2.0	<2.0	<2.0	<2.0	2.4	
<0.20	0.30	<0.20	<0.20	<0.20	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	2.1	4.3	
<2.0	2.2	2.7	2.5	7.7	
<2.0	<2.0	<2.0	<2.0	<2.0	
313	300	229	498	315	
59	58	63	60	55	
61	51	65	56	72	
231	189	245	222	266	
692	759	590	1080	952	
19	15	20	20	21	
75	78	97	123	200	
2	2	2	3	4	
12	10	12	13	14	
173	141	188	186	235	
<10	<10	<10	<10	<10	
<0.20	<0.20	<0.20	<0.20	<0.20	
<5.0	<5.0	<5.0	<5.0	<5.0	
175	143	195	177	136	
<0.050	<0.050	<0.050	<0.050	0.055	
<10	<10	<10	14	<10	
26.4	20.7	24.0	26.2	29.3	
466	401	497	471	587	
1.20	1.41	0.91	0.49	0.29	
0.023	0.022	<0.020	<0.020	<0.020	
37.2	28.3	41.2	41.8	102	
<0.20	<0.20	0.86	<0.20	0.35	
0.021	0.029	<0.010	<0.010	0.011	
<b>Field Measurements</b>					
18.83	21.45	22.4	22.3	19.87	
503.6	416.7	501.4	495.1	578.3	
87.9	93.7	112.8	96.2	84.1	
8.17	8.27	9.77	8.35	7.65	
8.02	7.89	8.18	8.12	8	

Site Location: <b>JONATHON CREEK @ CR 34 - Coopermill Rd.</b>					
River Mile: 12.20 Storet: R15S01					
6/24/2008 11:30 AM	7/8/2008 10:58 AM	7/29/2008 11:05 AM	8/14/2008 12:18 PM	9/24/2008 10:31 AM	
NA	NA	NA	NA	NA	
282	238	282	304	350	
12	24	9	7	8	
<2.0	<2.0	<2.0	<2.0	<2.0	
<0.20	<0.20	<0.20	<0.20	<0.20	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
3.6	<2.0	<2.0	<2.0	<2.0	
2.8	5.3	2.3	<2.0	2.7	
<2.0	<2.0	<2.0	<2.0	<2.0	
275	401	<200	<200	<200	
57	56	58	56	68	
56	49	58	55	68	
214	184	219	216	256	
682	997	373	404	321	
18	15	18	19	21	
86	132	89	91	94	
2	2	2	3	4	
12	10	12	13	14	
166	139	170	179	214	
<10	<10	<10	<10	<10	
<0.20	<0.20	<0.20	<0.20	<0.20	
<5.0	<5.0	<5.0	<5.0	<5.0	
134	123	185	167	142	
<0.050	<0.050	<0.050	<0.050	<0.050	
27	<10	<10	<10	<10	
24.8	19.3	23.5	24.3	29.9	
451	392	495	466	555	
1.08	1.50	0.72	0.30	0.12	
<0.020	<0.020	<0.020	<0.020	<0.020	
45.1	38.1	43.0	46.6	79.6	
<0.20	0.20	0.50	0.96	0.21	
0.021	0.023	0.013	0.193	0.010	
<b>Field Measurements</b>					
20.31	21.89	22.33	22.35	16.99	
472.4	404.9	480.3	478.3	559.5	
98.2	89.6	100.5	91.5	75.1	
8.86	7.84	8.72	7.93	7.25	
8.11	7.72	8.16	8.11	7.69	

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	µmhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>JONATHON CREEK @ Workman Road</b>					
River Mile: 7.60 Storet: 300462					
6/24/2008 2:31 PM	7/8/2008 10:01 AM	7/29/2008 10:12 AM	8/14/2008 11:18 AM	9/24/2008 10:05 AM	
NA	NA	NA	NA	NA	
276	230	322	298	344	
11	18	8	5	5	
<2.0	<2.0	<2.0	<2.0	<2.0	
<0.20	<0.20	<0.20	<0.20	<0.20	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
2.7	3.6	2.5	2.0	2.7	
<2.0	<2.0	<2.0	<2.0	<2.0	
417	363	<200	<200	<200	
52	51	55	51	63	
51	44	58	53	64	
193	168	223	211	250	
871	872	327	263	255	
16	14	19	19	22	
86	133	71	60	70	
3	2	3	3	4	
12	9	12	14	16	
154	127	173	184	208	
<10	<10	<10	<10	<10	
<0.20	<0.20	<0.20	<0.20	<0.20	
<5.0	<5.0	<5.0	<5.0	<5.0	
133	120	176	166	153	
<0.050	<0.050	<0.050	<0.050	<0.050	
<10	<10	<10	<10	<10	
23.5	18.1	22.5	25.6	32.3	
412	373	472	454	548	
1.24	1.44	0.57	0.23	<0.10	
<0.020	<0.020	<0.020	<0.020	<0.020	
47.6	38.1	48.8	51.0	61.3	
0.28	0.21	1.11	0.45	0.33	
0.023	0.022	2.28	0.034	<0.010	
<b>Field Measurements</b>					
20.96	21.32	21.65	21.04	16.39	
449.3	384.6	474.1	484	539.1	
98.4	90.9	101.4	86.7	77.9	
8.77	8.05	8.92	7.71	7.62	
8.19	7.75	8.19	8.17	8.02	

Site Location: <b>JONATHON CREEK @ SR 93</b>					
River Mile: 1.10 Storet: R15P05					
6/24/2008 3:00 PM	7/8/2008 9:04 AM	7/29/2008 9:18 AM	8/14/2008 10:16 AM	9/24/2008 9:14 AM	
NA	NA	NA	NA	NA	
440	302	536	588	902	
<5	14	6	5	8	
<2.0	<2.0	<2.0	<2.0	2.3	
<0.20	<0.20	<0.20	<0.20	<0.20	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	2.4	
<2.0	<2.0	<2.0	<2.0	<2.0	
16.1	10.2	14.7	15.8	8.7	
<2.0	<2.0	2.1	<2.0	3.2	
249	400	<200	<200	<200	
50	55	76	55	136	
61	51	73	76	94	
251	201	306	330	404	
383	669	268	188	280	
24	18	30	34	41	
816	475	827	925	350	
4	4	5	8	14	
23	20	53	34	133	
231	207	405	324	760	
<10	26	<10	<10	<10	
<0.20	<0.20	<0.20	<0.20	<0.20	
<5.0	<5.0	<5.0	<5.0	5.0	
106	104	147	132	134	
<0.050	<0.050	<0.050	<0.050	<0.050	
<10	11	<10	<10	<10	
35.8	31.7	80.9	48.9	217	
615	475	842	755	1430	
0.97	7.64	0.56	0.21	<0.10	
<0.020	<0.020	<0.020	<0.020	<0.020	
146	79.6	178	213	236	
<0.20	0.44	0.40	<0.20	0.40	
0.015	0.016	0.193	0.019	<0.010	
<b>Field Measurements</b>					
22.36	21.8	23.13	22.29	18.79	
646.3	490	845	803.8	1446.8	
99.1	86.1	89.5	80.8	75.7	
8.59	7.55	7.64	7.01	7.02	
8	7.46	8.1	8.04	7.79	

Appendix Table 1. Continued.

		Site Location: <b>JONATHON CREEK @ Crock Rd. in Whites Cottage</b>									
		River Mile: 3.35 Storet: 300362									
Parameter	Units	Dupl A/B	Dupl A/B			Dupl A/B	Dupl A/B		Dupl A/B	Dupl A	Dupl B
		2/11/2008 8:27 AM	3/27/2008 9:33 AM	4/17/2008 9:15 AM	5/28/2008 10:25 AM	6/24/2008 3:19 PM	7/8/2008 8:44 AM	7/29/2008 8:59 AM	8/14/2008 9:54 AM	9/24/2008 8:48 AM	9/24/2008 8:48 AM
BOD5	mg/L	<2.0/ <2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	232/ 234	352/ 356	326	348	496/ 494	330/ 324	512	540/ 548	618	628
Total Suspended Solids	mg/L	12/ 12.0	17/ 17	8	7	9/ 9.0	14/ 13	9	5/ 6.0	<5	<5
Arsenic	ug/L	<2.0/ <2.0	<2.0/ <2.0	<2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	<2.0	<2.0/ <2.0	<2.0	<2.0
Cadmium	ug/L	<0.20/ <0.20	<0.20/ <0.20	<0.20	<0.20	<0.20/ <0.20	<0.20/ <0.20	<0.20	<0.20/ <0.20	0.22	<0.20
Lead	ug/L	<2.0/ <2.0	<2.0/ <2.0	<2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	<2.0	<2.0/ <2.0	<2.0	<2.0
Selenium	ug/L	<2.0/ <2.0	<2.0/ <2.0	<2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	2.0	<2.0/ <2.0	<2.0	<2.0
Aluminum	ug/L	423/ 405	1230/ 1170	789	496	481/ 496	483/ 492	238	<200/ <200	<200	<200
Barium	ug/L	43/ 43	39/ 39	37	44	48/ 48	49/ 49	61	49/ 49	69	67
Calcium	mg/L	43/ 43	49/ 47	50	57	66/ 66	51/ 50	78	73/ 72	85	82
Chromium	ug/L	<30/ <30	<30/ <30	<2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	<2.0	<2.0/ <2.0	<2.0	<2.0
Copper	ug/L	<10/ <10	<10/ <10	<2.0	2.3	<2.0/ <2.0	<2.0/ <2.0	<2.0	<2.0/ <2.0	<2.0	<2.0
Hardness, Total	mg/L	165/ 165	205/ 200	211	237	280/ 280	206/ 199	331	322/ 324	360	349
Iron	ug/L	909/ 891	1010/ 941	461	335	392/ 397	650/ 664	356	164/ 194	112	109
Magnesium	mg/L	14/ 14	20/ 20	21	23	28/ 28	19/ 18	33	34/ 35	36	35
Manganese	ug/L	306/ 302	923/ 899	1060	1050	1550/ 1560	638/ 632	1470	1400/ 1410	744	719
Nickel	ug/L	<40/ <40	<40/ <40	25.7	24.8	29.1/ 29.0	13.8/ 12.7	27.9	26.0/ 25.4	14.6	14.9
Potassium	mg/L	3/ 3.0	3/ 3.0	3	3	4/ 4.0	3/ 3.0	6	9/ 10.0	17	17
Sodium	mg/L	14/ 14	15/ 15	15	17	19/ 19	15/ 15	33	30/ 31	49	47
Strontium	ug/L	142/ 141	194/ 189	179	204	232/ 233	186/ 183	340	308/ 316	405	387
Zinc	ug/L	<10/ 10	43/ 40	34	23	29/ 28	26/ 18	39	26/ 24	15	14
Mercury	ug/L	<0.20/ <0.20	<0.20/ <0.20	<0.20	<0.20	<0.20/ <0.20	<0.20/ <0.20	<0.20	<0.20/ <0.20	<0.20	<0.20
Acidity	mg/L	<5.0/ <5.0	NA	<5.0	<5.0	<5.0/ <5.0	<5.0/ <5.0	<5.0	<5.0/ <5.0	<5.0	<5.0
Alkalinity	mg/L	91.3/ 89.5	NA	90.7	117	106/ 103	113/ 110	141	133/ 134	120	124
Ammonia	mg/L	<0.050/ <0.05	<0.050/ <0.05	<0.050	0.057	<0.050/ <0.05	<0.050/ <0.05	0.061	<0.050/ <0.05	<0.050	<0.050
COD	mg/L	10/ 10.0	<10/ <10	<10	11	11/ 11.0	17/ 14	<10	<10/ 16	<10	<10
Chloride	mg/L	28.6/ 27.5	23.1/ 23.0	24.4	24.2	29.8/ 29.4	23.4/ 23.2	42.0	39.9/ 39.9	68.8	69.8
Conductivity	umhos/cm	386/ 389	487/ 485	479	488	607/ 604	472/ 469	724	676/ 693	926	923
Nitrate+nitrite	mg/L	1.89/ 1.87	1.42/ 1.44	0.56	0.74	0.85/ 0.91	1.31/ 1.30	0.55	0.48/ 0.25	0.11	0.11
Nitrite	mg/L	<0.020/ <0.02	<0.020/ <0.02	<0.020	<0.020	<0.020/ <0.02	<0.020/ <0.02	<0.020	<0.020/ <0.02	<0.020	<0.020
Sulfate	mg/L	60.6/ 59.3	NA	117	126	167/ 169	80.2/ 82.6	194	215/ 218	211	223
TKN	mg/L	<0.20/ <0.20	<0.20/ <0.20	<0.20	<0.20	<0.20/ <0.20	0.34/ 0.27	0.76	<0.20/ <0.20	0.36	0.40
Total Phosphorus	mg/L	0.013/ 0.018	<0.01/ <0.010	0.012	0.017	0.011/ 0.010	0.018/ 0.016	0.010	0.014/ 0.010	<0.010	<0.010
<b>Field Measurements</b>											
Temperature	°C	0.41	6.31	11.05	16.3	21.14	21.57	22.11	21.69	17.28	17.28
Conductivity	umhos/cm	368.6	458.2	493	577.6	647.6	485.9	741.1	781.9	938.4	938.4
D.O. Saturation	%	108.5	104.4	92.3	87.8	105	93	95.7	87.2	88.3	88.3
Dissolved Oxygen	mg/L	15.66	12.88	10.15	8.6	9.32	8.19	8.33	7.65	8.46	8.46
pH	S.U.	8.06	8.23	7.77	NA	8.15	6.77	8.11	7.86	7.63	7.63

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>JONATHON CREEK @ Powell Road</b> River Mile: 0.90 Storet: 300461				
6/24/2008 2:53 PM	7/8/2008 8:57 AM	7/29/2008 9:11 AM	8/14/2008 10:07 AM	9/24/2008 9:06 AM
NA	NA	NA	NA	NA
450	330	598	564	956
7	16	9	<5	7
<2.0	<2.0	<2.0	<2.0	2.4
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	5.2	<2.0	2.2
<2.0	<2.0	<2.0	<2.0	<2.0
15.7	9.8	14.4	17.2	7.7
<2.0	<2.0	2.3	<2.0	3.9
339	401	<200	<200	<200
53	51	81	54	131
63	47	81	74	93
260	187	338	329	401
476	684	360	228	249
25	17	33	35	41
833	446	894	992	336
5	3	6	8	13
24	19	55	37	133
238	190	434	345	750
13	10	<10	14	<10
<0.20	<0.20	<0.20	<0.20	<0.20
<5.0	<5.0	<5.0	<5.0	<5.0
116	107	146	131	132
<0.050	<0.050	<0.050	<0.050	<0.050
106	11	<10	13	<10
35.9	31.8	75.1	51.6	218
584	479	832	743	1450
1.08	1.12	0.54	0.24	<0.10
<0.020	<0.020	<0.020	<0.020	<0.020
140	77.3	176	234	238
0.25	0.24	1.19	<0.20	0.59
0.979	0.018	0.044	0.019	<0.010
20.74	21.95	23.3	22.09	18.28
638.8	492.8	838	821.8	1434.9
93.1	96.1	116.2	89.1	74.1
8.33	8.4	9.89	7.76	6.95
8.11	7.22	8.21	8.02	7.71

Site Location: <b>BOWLING GREEN RUN @ Boundaries Road</b> River Mile: 0.10 Storet: 300466				
6/24/2008 8:51 AM	7/8/2008 1:06 PM	7/29/2008 2:25 PM	8/14/2008 1:34 PM	9/24/2008 1:13 PM
NA	NA	NA	NA	NA
324	226	300	284	320
11	7	<5	7	5
<2.0	<2.0	<2.0	<2.0	2.3
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<200	<200	<200	<200	<200
57	46	61	60	74
58	44	61	56	63
223	172	235	218	244
441	420	346	415	337
19	15	20	19	21
75	61	69	92	145
2	2	2	3	3
12	10	13	14	16
154	116	169	167	191
<10	<10	<10	<10	<10
<0.20	<0.20	0.37	<0.20	<0.20
<5.0	<5.0	<5.0	<5.0	5.0
173	137	191	185	186
<0.050	<0.050	<0.050	<0.050	<0.050
11	11	<10	<10	<10
26.9	20.7	23.7	24.7	31.9
461	342	467	453	543
0.96	1.38	0.91	0.52	0.24
<0.020	<0.020	<0.020	<0.020	<0.020
32.9	25.4	34.6	31.9	27.3
<0.20	<0.20	0.87	0.61	0.42
0.015	0.017	0.030	0.057	0.011
16.32	21.21	23.07	21.36	19.34
499.4	397.6	476.8	470.9	540.4
90.5	99.2	124.9	95.3	79.9
8.86	8.8	10.68	8.42	7.35
7.6	7.84	8.2	8.07	8.04

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>TRIB TO JONATHON CR. @ RM 13.74 (Snook Rd.)</b>					
River Mile: 0.32 Storet: 300467					
6/24/2008 11:46 AM	7/8/2008 11:09 AM	7/29/2008 11:21 AM	8/14/2008 12:32 PM	9/24/2008 10:44 AM	
NA	NA	NA	NA	NA	
366	188	356	370	406	
9	8	27	18	8	
<2.0	<2.0	<2.0	<2.0	<2.0	
<0.20	<0.20	<0.20	<0.20	<0.20	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
2.4	2.6	3.1	2.7	3.5	
<2.0	<2.0	<2.0	<2.0	<2.0	
<200	<200	444	386	<200	
44	40	67	66	76	
58	35	68	67	77	
231	137	265	262	299	
408	623	955	827	632	
21	12	23	23	26	
103	136	294	323	793	
3	3	4	4	5	
13	6	13	13	14	
244	131	264	258	269	
<10	10	<10	<10	<10	
<0.20	0.23	<0.20	<0.20	<0.20	
<5.0	<5.0	<5.0	<5.0	<5.0	
106	84.7	125	121	140	
<0.050	<0.050	0.056	<0.050	0.068	
11	11	<10	14	<10	
13.2	6.6	11.3	12.2	17.9	
473	295	529	560	638	
0.16	0.18	23.8	<0.10	<0.10	
<0.020	<0.020	<0.020	<0.020	<0.020	
127	50.0	141	163	136	
0.28	0.36	0.67	<0.20	0.45	
0.011	0.022	0.034	0.034	0.026	
19.13	22.19	21.8	21.82	14.74	
532.1	309.5	533.9	569.3	626.7	
95.9	84.8	93.5	83.8	48.4	
8.86	7.38	8.19	7.34	4.9	
7.92	7.64	7.86	7.8	7.62	

Site Location: <b>TRIB TO JONATHON CR. @ RM 17.55 (TR 92A)</b>					
River Mile: 0.10 Storet: 300468					
6/24/2008 9:30 AM	7/8/2008 1:47 PM	7/29/2008 1:22 PM	8/14/2008 2:47 PM	9/24/2008 12:38 PM	
NA	NA	NA	NA	NA	
290	240	334	362	418	
77	136	447	829	348	
<2.0	2.1	2.3	2.4	7.3	
<0.20	<0.20	<0.20	<0.20	<0.20	
<2.0	<2.0	<2.0	<2.0	2.8	
2.9	5.2	5.2	4.7	5.4	
2.1	4.0	7.3	6.1	17.7	
7.7	10.2	11.3	11.1	18.6	
<2.0	<2.0	<2.0	<2.0	<2.0	
423	739	538	774	808	
32	37	32	34	36	
57	49	60	69	83	
208	180	216	238	290	
1520	2830	1850	1920	5130	
16	14	16	16	20	
221	268	330	354	352	
3	3	4	4	4	
9	7	8	8	12	
185	158	202	227	279	
18	41	34	24	50	
<0.20	<0.20	<0.20	<0.20	<0.20	
<5.0	<5.0	<5.0	<5.0	<5.0	
85.7	86.0	60.6	58.2	59.0	
0.057	<0.050	0.053	0.089	0.117	
14	<10	<10	23	<10	
20.8	14.0	14.3	16.4	26.7	
439	369	434	516	628	
0.83	0.57	0.76	0.63	0.59	
<0.020	<0.020	<0.020	<0.020	0.028	
104	84.7	139	179	193	
<0.20	0.41	0.59	<0.20	0.70	
0.013	0.034	0.010	0.028	<0.010	
19.68	23.26	24.94	23.78	21.77	
475.5	388.8	442.9	515.7	619.2	
89.4	93.6	94.8	80.9	88.2	
8.17	7.98	7.83	6.83	7.73	
7.79	7.98	7.83	7.77	7.86	



Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>TRIB TO JONATHON CR. @ RM 19.47 (TR 19)</b> River Mile: 0.75 Storet: 300469				
6/24/2008 9:59 AM	7/8/2008 1:36 PM	7/29/2008 1:33 PM	8/14/2008 2:13 PM	9/24/2008 11:47 AM
NA	NA	NA	NA	NA
296	234	280	268	304
9	10	20	100	14
<2.0	<2.0	<2.0	2.1	<2.0
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	2.8	<2.0
5.1	<2.0	<2.0	3.0	<2.0
<2.0	<2.0	<2.0	3.2	<2.0
<2.0	2.0	<2.0	4.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
260	<200	<200	1750	<200
54	52	56	67	67
63	55	65	54	74
223	195	232	192	259
658	387	214	3710	301
16	14	17	14	18
83	50	41	172	84
2	2	2	4	3
9	8	9	10	10
142	124	156	128	162
<10	<10	<10	15	<10
<0.20	<0.20	<0.20	<0.20	<0.20
<5.0	<5.0	<5.0	<5.0	<5.0
172	145	205	149	187
<0.050	<0.050	<0.050	0.091	<0.050
<10	14	<10	19	<10
16.4	13.6	14.1	16.1	18.1
442	395	451	408	513
0.65	0.87	0.59	0.52	0.10
<0.020	<0.020	<0.020	<0.020	<0.020
42.8	36.0	42.4	43.5	41.2
<0.20	<0.20	0.54	0.22	0.30
0.019	0.010	<0.010	0.092	0.035
<b>Field Measurements</b>				
17.27	21.84	23.42	21.52	18.09
481.6	412.1	461.7	420.4	511.2
101	106	127.5	91.2	101.1
9.69	9.29	10.84	8.04	9.54
7.99	8.05	8.23	8.06	8.1

Site Location: <b>THOMPSON CREEK @ Coppermill Road</b> River Mile: 4.73 Storet: 300473				
6/24/2008 1:42 PM	7/8/2008 9:23 AM	7/29/2008 9:38 AM	8/14/2008 10:37 AM	9/24/2008 9:32 AM
NA	NA	NA	NA	NA
306	224	412	440	548
25	<5	6	<5	7
<2.0	<2.0	<2.0	<2.0	<2.0
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
3.1	2.2	2.4	2.0	2.8
<2.0	<2.0	<2.0	<2.0	<2.0
838	<200	<200	<200	<200
56	47	76	81	102
48	39	64	70	86
173	143	230	245	301
1680	232	184	90	266
13	11	17	17	21
119	45	149	174	297
4	3	5	5	6
15	12	35	48	69
158	131	251	265	316
11	<10	<10	<10	10
<0.20	<0.20	<0.20	<0.20	<0.20
<5.0	<5.0	<5.0	<5.0	<5.0
73.8	67.5	105	103	114
<0.050	<0.050	<0.050	<0.050	<0.050
11	<10	<10	11	<10
26.6	21.5	55.5	83.5	121
400	345	600	726	911
0.50	0.52	0.39	0.22	<0.10
0.020	<0.020	<0.020	<0.020	<0.020
88.3	63.2	113	121	134
0.30	0.32	<0.20	0.73	0.56
0.027	0.027	0.012	0.034	<0.010
<b>Field Measurements</b>				
19.8	19.77	20.45	19.13	15.11
433.8	356.7	612.5	744.2	910.3
105	98.6	88	82.3	53.2
9.57	9	7.92	7.6	5.34
7.9	7.53	7.62	7.56	7.55

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>THOMPSON CREEK @ US 22</b>					
River Mile: 0.39 Storet: 300471					
6/24/2008 3:09 PM	7/8/2008 9:11 AM	7/29/2008 9:25 AM	8/14/2008 10:23 AM	9/24/2008 9:21 AM	
NA	NA	NA	NA	NA	
324	238	392	408	402	
51	9	9	6	16	
<2.0	<2.0	<2.0	<2.0	<2.0	
<0.20	<0.20	<0.20	<0.20	<0.20	
<2.0	<2.0	<2.0	<2.0	<2.0	
5.3	<2.0	<2.0	<2.0	<2.0	
2.2	<2.0	<2.0	<2.0	<2.0	
4.2	2.8	2.5	2.3	3.1	
<2.0	<2.0	<2.0	<2.0	<2.0	
1690	<200	<200	<200	244	
65	51	81	82	98	
50	41	63	66	72	
187	156	236	243	258	
2960	524	447	405	660	
15	13	19	19	19	
162	121	377	440	931	
4	3	5	5	5	
16	16	36	35	34	
166	141	238	231	218	
12	<10	<10	<10	<10	
<0.20	<0.20	<0.20	<0.20	<0.20	
<5.0	<5.0	<5.0	<5.0	<5.0	
78.1	71.1	122	131	147	
0.078	<0.050	0.086	<0.050	<0.050	
11	<10	<10	14	<10	
30.2	26.8	59.7	62.3	67.7	
349	367	611	643	673	
0.68	0.54	0.46	0.19	<0.10	
<0.020	<0.020	<0.020	<0.020	<0.020	
90.7	66.1	96.7	85.9	65.2	
0.31	0.22	0.82	0.30	0.51	
0.041	0.011	0.017	0.019	<0.010	
<b>Field Measurements</b>					
20.99	21	20.87	20.19	17.36	
465.9	389.4	619.5	656.9	671.7	
94.6	89.2	75.1	70.9	36	
8.42	7.95	6.71	6.41	3.45	
7.83	7.51	7.56	7.64	7.49	

Site Location: <b>KENT RUN @ Asbury Chapel Road</b>					
River Mile: 8.85 Storet: 300475					
6/24/2008 1:23 PM	7/8/2008 11:27 AM	7/29/2008 11:36 AM	8/14/2008 3:32 PM	9/24/2008 11:00 AM	
NA	NA	NA	NA	NA	
334	252	422	598	838	
5	9	5	5	<5	
<2.0	<2.0	<2.0	<2.0	<2.0	
<0.20	<0.20	<0.20	<0.20	<0.20	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
3.5	2.8	3.1	3.3	4.8	
<2.0	<2.0	<2.0	<2.0	<2.0	
275	249	<200	<200	<200	
61	56	79	85	133	
62	43	84	108	165	
212	149	288	369	548	
906	748	345	313	484	
14	10	19	24	33	
153	113	116	134	335	
3	3	4	5	8	
24	14	26	30	46	
209	141	300	365	510	
<10	<10	<10	<10	<10	
<0.20	<0.20	<0.20	<0.20	<0.20	
<5.0	<5.0	<5.0	<5.0	<5.0	
81.2	75.5	103	88.8	94.6	
<0.050	<0.050	<0.050	0.064	<0.050	
14	20	<10	<10	<10	
45.0	25.3	44.0	54.8	78.7	
512	366	659	816	1190	
0.51	0.76	0.30	0.13	0.19	
<0.020	<0.020	<0.020	<0.020	<0.020	
101	63.5	183	283	366	
0.38	<0.20	0.55	1.10	0.75	
0.023	<0.010	0.014	0.064	0.016	
<b>Field Measurements</b>					
20.79	21.87	21.06	22.46	15.2	
556.6	381.8	670.5	861.7	1171	
99.9	94.6	109.4	103.5	54.1	
8.93	8.29	9.73	8.95	5.42	
7.91	7.79	7.88	7.94	7.51	

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>KENT RUN @ Stack Road</b> River Mile: 3.68 Storet: 300474				
6/24/2008 1:55 PM	7/8/2008 9:36 AM	7/29/2008 9:38 AM	8/14/2008 10:52 AM	9/24/2008 9:44 AM
NA	NA	NA	NA	NA
270	206	312	348	418
13	5	<5	<5	<5
<2.0	<2.0	<2.0	<2.0	<2.0
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
2.2	2.2	<2.0	<2.0	2.3
<2.0	<2.0	<2.0	<2.0	<2.0
375	<200	<200	<200	<200
60	49	66	72	85
51	35	58	68	78
181	124	202	236	265
883	448	93	108	170
13	9	14	16	17
32	24	26	32	64
4	3	4	4	5
16	11	18	20	22
167	114	204	227	240
<10	<10	<10	<10	<10
<0.20	<0.20	<0.20	<0.20	<0.20
<5.0	<5.0	<5.0	<5.0	<5.0
77.3	72.5	105	91.8	109
<0.050	<0.050	<0.050	<0.050	<0.050
14	11	<10	<10	<10
29.8	18.8	32.5	34.6	43.1
413	310	484	552	652
0.77	0.80	0.29	0.16	<0.10
<0.020	<0.020	<0.020	<0.020	<0.020
78.8	45.6	88.7	113	132
0.29	0.21	0.46	<0.20	0.35
0.021	0.016	0.011	0.012	<0.010
<b>Field Measurements</b>				
19.68	20.58	19.57	18.58	14.5
446.4	320.2	490.8	560.3	650.2
102.6	95.3	106.9	85.3	69.1
9.38	8.56	9.79	7.96	7.03
8.33	7.61	7.98	7.9	7.69

Site Location: <b>KENT RUN @ Low. Kroft Rd, Maysville WTP Intake</b> River Mile: 1.35 Storet: 300422				
6/24/2008 2:16 PM	7/8/2008 9:41 AM	7/29/2008 9:58 AM	8/14/2008 11:02 AM	9/24/2008 9:54 AM
NA	NA	NA	NA	NA
298	214	382	582	1100
<5	<5	8	<5	13
<2.0	<2.0	<2.0	<2.0	3.7
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	2.5	3.8
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	2.1	<2.0	2.6
<2.0	<2.0	<2.0	2.1	6.4
208	<200	<200	<200	<200
69	52	102	130	238
49	33	58	62	94
172	115	202	221	325
472	344	308	232	322
12	8	14	16	22
37	30	81	54	170
3	3	4	4	6
25	13	54	118	334
195	120	300	511	821
<10	<10	<10	<10	<10
<0.20	<0.20	<0.20	<0.20	<0.20
<5.0	<5.0	<5.0	<5.0	<5.0
87.6	74.9	114	120	135
<0.050	<0.050	0.050	<0.050	<0.050
11	<10	<10	12	<10
45.5	25.1	85.3	183	488
450	320	647	951	2020
0.48	0.69	0.15	0.13	<0.10
<0.020	<0.020	<0.020	<0.020	<0.020
69.8	42.9	74.8	81.4	92.4
0.31	0.31	0.87	0.52	0.55
0.012	0.014	<0.010	0.011	<0.010
<b>Field Measurements</b>				
20.56	20.45	20.85	19.94	16.83
488.6	329	650.9	1037.8	1973.1
102.5	95.1	94	100.6	78.8
9.21	8.56	8.39	9.13	7.6
8.27	7.64	7.89	8.02	7.75

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>BUCKEY FORK @ Old Rainer Road</b>					
River Mile: 4.90 Storet: 201236					
6/24/2008 3:56 PM	7/8/2008 8:04 AM	7/29/2008 8:20 AM	8/14/2008 9:22 AM	9/24/2008 8:12 AM	
NA	NA	NA	NA	NA	
1290	932	1310	1510	1640	
5	<5	<5	14	5	
<2.0	<2.0	<2.0	<2.0	<2.0	
0.59	0.82	0.61	0.64	0.61	
<2.0	<2.0	<2.0	<2.0	<2.0	
6.0	4.3	5.9	7.0	6.8	
<2.0	<2.0	2.1	2.5	2.3	
273	241	294	322	298	
<2.0	<2.0	<2.0	<2.0	2.0	
13300	8610	12500	15100	13800	
22	26	27	26	27	
125	91	133	148	165	
691	499	736	954	1080	
2510	1220	1660	2790	1360	
92	66	98	142	161	
13200	9510	16300	21200	24700	
4	3	4	5	6	
10	10	11	11	15	
374	283	404	438	544	
440	326	454	505	441	
<0.20	<0.20	<0.20	<0.20	<0.20	
113	71.4	90.7	96.4	98.6	
<5.0	<5.0	<5.0	<5.0	<5.0	
0.189	0.166	0.178	0.169	0.099	
23	26	12	22	10	
11.9	12.8	12.8	11.0	17.4	
1370	1100	1460	1480	1570	
0.16	0.16	0.15	0.17	0.35	
<0.020	<0.020	<0.020	<0.020	<0.020	
777	587	848	1070	32.4	
<0.20	<0.20	<1.00	<0.20	<1.00	
<0.010	<0.010	0.023	0.011	<0.010	
<b>Field Measurements</b>					
19.7	19.66	18.9	18.85	13.49	
1526.5	1120.9	1462.6	1662.3	1841.9	
99.1	88.6	101.5	90.3	100.2	
9.02	8.09	9.39	8.36	10.38	
3.05	3.44	3.36	3.28	3.19	

Site Location: <b>BUCKEY FORK @ Fletcher Road</b>					
River Mile: 3.41 Storet: 300476					
6/24/2008 3:42 PM	7/8/2008 8:19 AM	7/29/2008 8:39 AM	8/14/2008 9:36 AM	9/24/2008 8:27 AM	
NA	NA	NA	NA	NA	
1160	708	1170	1300	1520	
<5	7	<5	<5	<5	
<2.0	<2.0	<2.0	<2.0	<2.0	
0.57	0.39	0.55	0.58	0.72	
<2.0	<2.0	<2.0	<2.0	<2.0	
5.3	3.2	5.0	5.0	5.8	
<2.0	<2.0	<2.0	<2.0	2.2	
223	144	191	247	289	
<2.0	<2.0	<2.0	<2.0	<2.0	
9640	5200	9590	10900	11900	
32	34	35	34	32	
117	82	123	144	164	
630	427	678	907	900	
1060	481	631	760	830	
82	54	90	133	119	
13100	7010	12300	18400	18000	
4	3	5	5	6	
10	9	12	12	14	
351	258	411	437	530	
351	221	338	397	394	
<0.20	<0.20	<0.20	<0.20	<0.20	
82.0	34.3	66.5	72.0	89.6	
<5.0	<5.0	<5.0	<5.0	<5.0	
0.173	0.121	0.151	0.077	<0.050	
26	14	<10	12	<10	
12.2	11.3	12.0	13.0	15.9	
1230	868	1280	1240	1720	
0.20	0.18	0.22	0.22	0.21	
<0.020	<0.020	<0.020	<0.020	<0.020	
732	458	726	925	958	
<0.20	<0.20	<0.20	<1.00	<0.20	
<0.010	0.266	<0.010	<0.010	<0.010	
<b>Field Measurements</b>					
21.66	19.47	18.92	18.83	14.03	
1376.7	908.6	1297.4	1510.2	1749.2	
98.9	95	97.8	87.6	90.7	
8.67	8.71	9.05	8.12	9.29	
3.41	4.23	3.77	3.51	3.5	

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>BUCKEY FORK @ Hoover/ Fultanrose Roads</b>					
River Mile: 1.42 Storet: 201235					
6/24/2008 3:34 PM	7/8/2008 8:33 AM	7/29/2008 8:49 AM	8/14/2008 9:44 AM	9/24/2008 8:37 AM	
NA	NA	NA	NA	NA	
1110	772	1070	1280	1470	
23	17	15	5	5	
<2.0	<2.0	<2.0	<2.0	2.8	
0.44	0.28	0.37	0.39	<0.20	
<2.0	<2.0	<2.0	<2.0	<2.0	
4.7	2.2	2.6	2.8	3.8	
<2.0	<2.0	<2.0	<2.0	<2.0	
171	92.4	154	169	84.3	
4.8	4.9	5.5	3.6	11.8	
5090	2830	2270	586	855	
38	43	42	38	37	
118	89	126	136	163	
599	428	632	710	778	
712	326	210	55	127	
74	50	77	90	90	
8130	4430	7760	8840	4870	
5	4	6	6	8	
56	43	64	78	158	
563	509	713	750	1270	
248	137	190	201	82	
<0.20	<0.20	<0.20	<0.20	<0.20	
<5.0	<5.0	<5.0	<5.0	<5.0	
23.8	55.6	57.1	45.2	186	
0.165	0.103	0.121	0.065	<0.050	
27	14	<10	<10	10	
48.5	38.1	50.0	69.5	161	
1270	995	1330	1340	2010	
0.69	0.60	0.52	0.50	0.52	
0.025	<0.020	<0.020	<0.020	<0.020	
631	423	616	796	918	
<0.20	<0.20	0.31	<0.20	0.33	
<0.010	<0.010	0.022	<0.010	<0.010	
<b>Field Measurements</b>					
22.08	20.42	20.33	20.29	16.7	
1399.7	1024.1	1337.2	1568.3	2022.3	
96.2	88.4	103.1	89	74.5	
8.36	7.94	9.28	8.01	7.21	
6.78	5.9	6.91	6.29	6.81	

Site Location: <b>BUTCHERKNIFE CREEK @ SR 345</b>					
River Mile: 0.08 Storet: 300477					
Dupl A/B					
6/24/2008 3:50 PM	7/8/2008 8:14 AM	7/29/2008 8:33 AM	8/14/2008 9:30 AM	9/24/2008 8:21 AM	
NA	NA	NA	NA	NA	
942	560	1010/ 1000	1250	1640	
<5	14	<5/ 5	<5	47	
<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0	
0.52	0.33	0.51/ 0.54	0.66	0.98	
<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0	
2.7	<2.0	2.5/ 2.6	3.3	4.5	
<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0	
165	100	138/ 142	213	267	
<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0	
5450	2040	4690/ 4640	6710	8930	
46	45	48/ 50	52	49	
111	72	118/ 124	153	197	
561	349	612/ 627	777	1260	
418	471	223/ 216	246	957	
69	41	77/ 77	96	186	
10900	4920	11100/ 9890	13300	27200	
4	3	5/4.0	5	7	
10	8	13/ 12	15	20	
337	233	400/ 385	463	609	
250	140	223/ 237	309	371	
<0.20	<0.20	<0.20/ <0.20	<0.20	<0.20	
54.7	12.7	39.6/ 41.3	43.9	64.9	
<5.0	6.1	<5.0/ <5.0	<5.0	<5.0	
0.205	0.129	0.184/ 0.183	0.125	<0.050	
17	53	<10/ <10	<10	<10	
11.8	8.8	12.3/ 12.2	17.0	24.7	
1050	705	1120/ 1130	1130	1760	
0.27	0.21	0.32/ 0.32	0.44	0.54	
<0.020	<0.020	<0.020/ <0.020	<0.020	<0.020	
613	347	605/ 619	863	994	
<0.20	<0.20	<0.20/ <0.20	<0.20	<0.20	
<0.010	<0.010	<0.010/ <0.010	<0.010	<0.010	
<b>Field Measurements</b>					
19.85	19.02	18.91	18.86	13.53	
1173.9	737	1140.5	1444.7	1816.2	
100.7	107.1	98.7	85.2	75.8	
9.16	9.91	9.14	7.89	7.85	
3.82	4.79	4.62	4.01	3.92	

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>TURKEY RUN @ TR 49 (upper crossing)</b>					
River Mile: 2.90 Storet: 300479					
6/24/2008 10:48 AM	7/8/2008 10:17 AM	7/29/2008 10:27 AM	8/14/2008 11:31 AM	9/24/2008 10:21 AM	
NA	NA	NA	NA	NA	
572	288	416	642	814	
<5	<5	6	<5	<5	
<2.0	<2.0	<2.0	<2.0	<2.0	
<0.20	<0.20	<0.20	<0.20	<0.20	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
66.4	29.9	39.3	32.5	14.9	
<2.0	<2.0	<2.0	<2.0	<2.0	
<200	272	<200	<200	<200	
49	47	54	52	47	
69	39	67	83	108	
341	188	332	421	537	
261	441	334	237	162	
41	22	40	52	65	
4340	2530	3680	2760	657	
3	2	3	4	6	
10	8	11	12	14	
218	141	233	274	331	
49	26	30	20	13	
<0.20	<0.20	<0.20	<0.20	<0.20	
<5.0	<5.0	<5.0	<5.0	<5.0	
26.7	27.9	38.3	28.4	26.3	
<0.050	0.076	<0.050	<0.050	<0.050	
11	11	<10	<10	<10	
18.1	14.9	18.9	18.3	22.6	
678	418	644	758	1020	
0.57	1.02	0.60	0.15	<0.10	
<0.020	<0.020	<0.020	<0.020	<0.020	
313	141	289	370	448	
<0.20	<0.20	0.34	<0.20	0.22	
<0.010	<0.010	<0.010	<0.010	0.042	
17.51	20	19.35	19.5	14.08	
747.1	430.1	681.1	826.9	1017.2	
95.1	94.3	103.4	85.4	68.7	
9.08	8.56	9.51	7.82	7.05	
7.59	7.61	7.45	7.52	7.45	

Site Location: <b>TURKEY RUN @ RR Bridge near mouth</b>					
River Mile: 0.25 Storet: 300478					
6/24/2008 11:08 AM	7/8/2008 10:36 AM	7/29/2008 10:45 AM	8/14/2008 11:52 AM	9/25/2008 8:44 AM	
NA	NA	NA	NA	NA	
348	240	448	564	638	
22	5	7	<5	15	
<2.0	<2.0	<2.0	<2.0	<2.0	
<0.20	<0.20	<0.20	<0.20	<0.20	
<2.0	<2.0	<2.0	<2.0	<2.0	
2.3	<2.0	<2.0	<2.0	<2.0	
478	<2.0	3.3	<2.0	5.6	
9.2	13.1	6.6	3.3	8.1	
<2.0	<2.0	<2.0	<2.0	<2.0	
784	<200	<200	<200	<200	
45	39	41	51	63	
47	35	56	78	83	
208	157	259	372	376	
1440	333	219	149	212	
22	17	29	43	41	
386	917	213	162	1060	
3	2	3	4	4	
12	9	13	14	15	
160	130	201	267	277	
<10	23	10	<10	<10	
<0.20	<0.20	<0.20	<0.20	<0.20	
<5.0	<5.0	5.3	<5.0	<5.0	
57.6	42.4	57.8	41.6	53.3	
0.050	<0.050	<0.050	<0.050	<0.050	
11	14	<10	<10	11	
21.9	16.7	22.3	22.8	28.9	
440	360	541	687	799	
1.33	1.01	0.59	0.18	<0.10	
<0.020	<0.020	<0.020	<0.020	<0.020	
128	93.6	190	303	299	
<0.20	<0.20	0.45	<0.20	0.42	
0.024	<0.010	<0.010	0.015	0.049	
17.63	20.53	20.08	19.71	13.95	
482.4	390.6	550.7	755.1	798.6	
94.8	88.4	101.5	72.5	NA	
9.03	7.95	9.2	6.62	9.815	
7.65	7.55	7.56	7.39	6.14	

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>PAINTER CREEK @ TR 76</b> River Mile: 2.50 Storet: 300481					
6/24/2008 10:28 AM	7/8/2008 2:22 PM	7/29/2008 12:41 PM	8/14/2008 2:27 PM	9/24/2008 12:02 PM	
NA	NA	NA	NA	NA	
228	202	250	234	274	
14	11	10	55	7	
<2.0	<2.0	<2.0	<2.0	4.3	
<0.20	<0.20	<0.20	<0.20	<0.20	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	2.8	2.2	
<2.0	<2.0	<2.0	<2.0	<2.0	
288	<200	219	1090	<200	
52	50	58	72	88	
41	37	45	48	56	
152	138	166	178	206	
719	475	560	2200	760	
12	11	13	14	16	
91	69	132	203	2540	
3	3	3	4	6	
13	11	13	14	14	
132	117	144	155	184	
<10	<10	<10	<10	<10	
<0.20	<0.20	<0.20	<0.20	<0.20	
<5.0	<5.0	<5.0	<5.0	<5.0	
105	92.8	136	131	167	
0.051	<0.050	<0.050	<0.050	<0.050	
<10	14	<10	<10	<10	
25.8	19.9	23.9	24.8	24.8	
365	322	376	375	460	
0.79	1.29	0.46	0.22	<0.10	
<0.020	<0.020	<0.020	<0.020	<0.020	
33.5	29.3	34.8	34.8	21.7	
<0.20	<0.20	0.35	<0.20	0.64	
0.022	0.015	0.022	0.044	0.079	
17.61	22.23	21.17	20.27	15.71	
387.4	332.1	398.1	395.8	469.1	
91.2	94.8	106.9	83.3	11.8	
8.69	8.25	9.48	7.53	1.17	
7.78	7.91	7.91	7.92	7.55	

Site Location: <b>PAINTER CREEK @ Cooperrider Road</b> River Mile: 0.85 Storet: 300480					
Dupl A/B					
6/24/2008 10:16 AM	7/8/2008 2:12 PM	7/29/2008 12:53 PM	8/14/2008 2:38 PM	9/24/2008 12:13 PM	
NA	NA	NA	NA	NA	
302	210	276/ 280	334	722	
62	46	16/ 15	28	7	
<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0	
<0.20	<0.20	<0.20/ <0.20	<0.20	<0.20	
<2.0	<2.0	<2.0/ <2.0	3.6	<2.0	
2.9	<2.0	<2.0/ <2.0	<2.0	<2.0	
2.3	<2.0	<2.0/ <2.0	<2.0	<2.0	
23.9	8.9	2.5/ 2.5	3.2	5.2	
<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0	
1500	290	394/ 335	579	<200	
62	50	58/ 55	62	103	
45	37	48/ 45	59	109	
174	142	186/ 174	230	437	
2820	750	916/ 785	1250	379	
15	12	16/ 15	20	40	
486	202	162/ 154	198	374	
3	3	3/ 3.0	3	5	
14	10	14/ 13	16	41	
149	122	167/ 159	191	343	
41	25	<10/ <10	13	10	
<0.20	<0.20	<0.20/ <0.20	<0.20	<0.20	
<5.0	<5.0	<5.0/ <5.0	<5.0	<5.0	
93.1	86.0	132/ 133	128	115	
0.074	<0.050	<0.050/ <0.050	<0.050	<0.050	
23	14	<10/ <10	18	<10	
23.0	17.3	20.1/ 20.1	21.2	24.6	
404	331	407/ 399	498	973	
0.70	1.27	0.51/ 0.51	0.23	<0.10	
<0.020	<0.020	<0.020/ <0.020	<0.020	<0.020	
72.8	45.1	56.6/ 56.4	88.6	344	
<0.20	<0.20	0.2/ <0.20	<0.20	0.35	
0.043	0.013	0.018/ 0.017	0.053	0.010	
18.4	21.94	21.84	20.62	16.82	
457.8	344.2	416.6	516.9	972.5	
87.8	94.6	102.2	71.5	67.7	
8.24	8.27	8.95	6.42	6.55	
7.83	7.97	7.92	7.89	7.7	

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>VALLEY RUN @ Laurel Hill Road</b> River Mile: 5.40 Storet: 201238				
6/24/2008 12:19 PM	7/8/2008 12:28 PM	7/29/2008 1:59 PM	8/14/2008 12:45 PM	Dupl A/B 9/24/2008 11:15 AM
NA	NA	NA	NA	NA
298	224	308	344	408/ 388
18	8	5	7	<5/ <5
<2.0	<2.0	<2.0	<2.0	2.0/ 2.1
<0.20	<0.20	<0.20	<0.20	<0.20/ <0.20
<2.0	<2.0	<2.0	<2.0	<2.0/ <2.0
<2.0	<2.0	<2.0	<2.0	<2.0/ <2.0
2.0	<2.0	<2.0	<2.0	<2.0/ <2.0
2.1	2.1	2.0	<2.0	2.0/ <2.0
<2.0	<2.0	<2.0	<2.0	<2.0/ <2.0
437	<200	<200	212	<200/ <200
60	51	67	67	82/ 83
49	38	55	59	67/ 69
180	136	199	226	254/ 254
1080	606	546	572	305/ 305
14	10	15	19	21/ 22
123	96	121	160	248/ 244
3	2	3	3	5/ 4.0
20	13	23	31	35/ 33
151	120	162	173	179/ 169
<10	<10	<10	<10	<10/ <10
<0.20	<0.20	<0.20	<0.20	<0.20/ <0.20
<5.0	<5.0	<5.0	<5.0	<5.0/ <5.0
122	106	154	170	183/ 182
0.068	<0.050	0.059	<0.050	<0.050/ <0.05
11	<10	<10	26	<10/ <10
43.4	29.1	44.9	54.6	66.6/ 65.7
428	351	468	518	651/ 651
0.93	1.11	0.64	0.43	0.12/ 0.12
0.024	<0.020	<0.020	<0.020	<0.020/ <0.02
29.7	24.0	34.0	37.6	31.3/ 31.4
0.44	0.44	0.64	0.34	0.50/ 0.52
0.027	0.019	0.027	0.026	0.026/ 0.026
<b>Field Measurements</b>				
19.55	22.24	21.81	20.48	16.42
469.4	369	485.2	562.7	651.9
84.3	100.6	98.1	70.1	35.5
7.73	8.74	8.6	6.3	3.47
7.79	7.73	7.87	7.8	7.62

Site Location: <b>VALLEY RUN @ TR 333 - Cherry Hill Rd.</b> River Mile: 3.50 Storet: 300482				
6/24/2008 12:02 PM	7/8/2008 12:36 PM	7/29/2008 1:51 PM	8/14/2008 12:56 PM	9/24/2008 11:27 AM
NA	NA	NA	NA	NA
250	206	268	300	370
7	8	<5	5	6
<2.0	<2.0	<2.0	<2.0	<2.0
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	<2.0	<2.0
14.6	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
2.0	2.2	<2.0	<2.0	2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<200	<200	<200	<200	<200
51	51	59	60	64
45	38	52	58	66
166	136	192	219	251
594	692	378	394	515
13	10	15	18	21
77	86	103	152	211
2	3	3	4	4
17	12	20	23	25
134	119	156	169	174
<10	<10	<10	<10	<10
<0.20	<0.20	<0.20	<0.20	<0.20
<5.0	<5.0	<5.0	<5.0	<5.0
110	94.4	149	158	170
0.061	<0.050	0.058	0.072	<0.050
<10	17	<10	<10	<10
36.3	26.5	39.7	44.9	49.7
408	338	463	510	600
1.16	1.38	1.20	1.25	2.45
<0.020	<0.020	<0.020	<0.020	0.022
31.3	25.3	38.1	41.5	39.3
0.25	0.41	0.40	0.37	0.62
0.025	0.022	0.024	0.033	0.277
<b>Field Measurements</b>				
19.08	23.19	23.28	21.24	15.47
430.3	239.7	473.3	530.3	603.4
96	100.6	110.7	65.7	49.7
8.88	8.6	9.43	5.82	4.95
7.92	7.75	7.94	7.73	7.7



Appendix Table 1. Continued.

		Site Location: <b>VALLEY RUN @ Hopewell Indian Road</b>									
		River Mile: 1.28 Storet: 300363									
Parameter	Units			Dupl A/B		Dupl A/B		Dupl A/B		Dupl A	Dupl B
		2/11/2008 10:23 AM	3/27/2008 8:06 AM	4/17/2008 11:10 AM	5/28/2008 11:04 AM	6/24/2008 9:12 AM	7/8/2008 12:36 PM	7/29/2008 8:59 AM	8/14/2008 1:07 PM	8/14/2008 1:07 PM	9/24/2008 11:36 AM
BOD5	mg/L	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	176	176	184/ 188	210	256/ 242	202/ 216	262	280	288	340
Total Suspended Solids	mg/L	19	14	<5/ <5	5	18/ 17	9/ 8.0	7	23	20	<5
Arsenic	ug/L	<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	<2.0	<2.0	<2.0	<2.0
Cadmium	ug/L	<0.20	<0.20	<0.20/ <0.20	<0.20	<0.20/ <0.20	<0.20/ <0.20	<0.20	<0.20	<0.20	<0.20
Lead	ug/L	<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	<2.0	2.2	<2.0	<2.0
Selenium	ug/L	<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	<2.0	<2.0	<2.0	<2.0
Aluminum	ug/L	422	281	<200/ <200	<200	248/ 251	203/ 213	<200	283	307	<200
Barium	ug/L	45	38	42/ 41	47	55/ 54	46/ 47	59	56	57	69
Calcium	mg/L	33	27	35/ 35	37	46/ 45	35/ 35	51	49	50	60
Chromium	ug/L	<30	<30	<2.0/ <2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	<2.0	<2.0	<2.0	<2.0
Copper	ug/L	<10	<10	<2.0/ <2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	<2.0	<2.0	<2.0	<2.0
Hardness, Total	mg/L	124	100	133/ 133	138	173/ 170	129/ 129	193	188	195	232
Iron	ug/L	1060	649	400/ 406	580	770/ 766	607/ 689	591	922	929	556
Magnesium	mg/L	10	8	11/ 11.0	11	14/ 14	10/ 10.0	16	16	17	20
Manganese	ug/L	178	88	94/ 95	97	103/ 100	73/ 74	109	130	132	225
Nickel	ug/L	<40	<40	<2.0/ <2.0	2.0	<2.0/ <2.0	<2.0/ <2.0	2.0	<2.0	<2.0	2.1
Potassium	mg/L	2	2	2/ 2.0	2	2/ 2.0	2/ 2.0	3	3	3	4
Sodium	mg/L	11	10	12/ 12.0	12	16/ 15	11/ 11.0	17	17	18	21
Strontium	ug/L	98	83	104/ 104	114	138/ 134	105/ 106	151	154	158	172
Zinc	ug/L	<10	<10	<10/ <10	<10	<10/ <10	<10/ <10	<10	11	12	<10
Mercury	ug/L	<0.20	<0.20	<0.20/ <0.20	<0.20	<0.20/ <0.20	<0.20/ <0.20	<0.20	<0.20	<0.20	<0.20
Acidity	mg/L	<5.0	NA	<5.0/ <5.0	<5.0	<5.0/ <5.0	<5.0/ <5.0	<5.0	<5.0	<5.0	<5.0
Alkalinity	mg/L	71.3	NA	82.4/ 85.3	98.1	112/ 114	94.2/ 94.5	142	151	151	160
Ammonia	mg/L	<0.050	<0.050	<0.050/ <0.05	0.065	0.079/ 0.067	<0.050/ <0.05	<0.050	<0.050	<0.050	<0.050
COD	mg/L	<10	<10	<10/ <10	<10	<10/ <10	11/ <10	<10	18	25	<10
Chloride	mg/L	26.0	21.6	24.4/ 25.4	24.4	34.4/ 34.9	22.2/ 22.0	32.0	34.7	34.5	43.1
Conductivity	umhos/cm	297	264	304/ 301	294	389/ 394	314/ 316	424	434	436	544
Nitrate+nitrite	mg/L	1.83	1.26	0.55/ 0.59	0.76	0.99/ 0.95	1.12/ 1.20	0.77	0.51	0.52	0.14
Nitrite	mg/L	<0.020	<0.020	<0.020/ <0.02	<0.020	<0.020/ <0.02	<0.020/ <0.02	<0.020	<0.020	<0.020	<0.020
Sulfate	mg/L	32.4	NA	28.7/ 29.0	29.0	32.8/ 32.2	25.6/ 25.7	NA	40.5	40.6	39.3
TKN	mg/L	<0.20	<0.20	0.32/ <0.20	<0.20	0.33/ 0.32	0.39/ 0.47	0.61	<0.20	<0.20	0.48
Total Phosphorus	mg/L	0.018	0.018	<0.010/ <0.01	0.012	0.024/ 0.026	0.024/ 0.019	0.017	0.044	0.041	0.026
<b>Field Measurements</b>											
Temperature	°C	0.21	6.21	12.32	14.41	17.92	21.7	21.92	20.56	17.2	17.2
Conductivity	umhos/cm	279.2	259.3	313.1	346.5	426.1	325.2	432.7	465.1	543.1	543.1
D.O. Saturation	%	116.1	99	108.2	95	70.4	86	99.6	77.4	45.4	45.4
Dissolved Oxygen	mg/L	16.86	12.25	11.57	9.7	6.67	7.56	8.71	6.95	4.36	4.36
pH	S.U.	8.07	8.64	7.92	NA	7.61	7.72	7.9	7.88	7.65	7.65

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>MOXAHALA CREEK @ TR 312</b>					
River Mile: 24.0 Storet: 300441					
6/24/2008 8:39 AM	7/8/2008 8:01 AM	7/29/2008 8:57 AM	8/14/2008 9:08 AM	9/24/2008 8:22 AM	
NA	NA	NA	NA	NA	
860	806	1060	1150	1300	
34	27	23	15	9	
<2.0	<2.0	<2.0	<2.0	<2.0	
<0.20	<0.20	<0.20	<0.20	0.21	
<2.0	<2.0	<2.0	<2.0	<2.0	
2.2	<2.0	<2.0	<2.0	<2.0	
<2.0	<2.0	<2.0	<2.0	<2.0	
90.1	75.2	92.8	110	129	
<2.0	<2.0	<2.0	<2.0	<2.0	
7090	5860	8970	9410	10900	
22	21	20	19	19	
90	85	124	121	149	
422	406	569	582	710	
18600	14200	22000	23800	27500	
48	47	63	68	82	
5760	4990	7350	8190	9800	
4	3	4	4	5	
16	15	18	21	23	
332	329	397	451	513	
195	178	294	270	337	
<0.20	<0.20	<0.20	<0.20	<0.20	
90.5	80.9	130	122	177	
<5.0	<5.0	<5.0	<5.0	<5.0	
0.295	0.271 RC	0.384RC	0.426RC	0.467RC	
11	14	<10	18	<10	
10.9	12.8	12.5	12.7	13.4	
742	1050	1370	1430	1640	
0.11	<0.10	0.24	<0.10	<0.10	
<0.020	<0.020	<0.020	<0.020	<0.020	
498	520	698	821	839	
<0.20	<0.20 RC	<0.20RC	<0.20RC	<0.20RC	
<0.010	<0.010	<0.010	<0.010	<0.010	
<b>Field Measurements</b>					
17.79	21.1	19.78	19.63	14.35	
1216.8	1128.8	1375.7	1512.7	1777.4	
77.7	87.3	94.5	139.2	88.2	
7.36	7.75	8.59	12.69	8.97	
NA	NA	3.14	3.06	2.89	

Site Location: <b>MOXAHALA CK @ Dst. Roseville WWTP/ Athens R</b>					
River Mile: 13.40 Storet: 300440					
6/24/2008 12:19 PM	7/8/2008 10:01 AM	7/29/2008 10:36 AM	8/14/2008 11:03 PM	9/24/2008 10:04 AM	
NA	NA	NA	NA	NA	
NA	612	854	950RC	1030	
NA	37	14	5	<5	
NA	<2.0	<2.0	<2.0	<2.0	
NA	<0.20	<0.20	<0.20	<0.20	
NA	<2.0	<2.0	<2.0	<2.0	
NA	2.1	2.0	2.7	2.2	
NA	<2.0	<2.0	4.6	3.7	
NA	43.5	70.8	74.6	84.3	
NA	<2.0	<2.0	<2.0	<4.0UJ	
NA	2770	4540	4720	4330	
NA	34	29	28	28	
NA	76	109	111	127	
NA	346	507	537	605	
NA	3600	2790	744	354	
NA	38	57	63	70	
NA	3550	5670	6220	7390	
NA	4	4	5	6	
NA	22	26	35	42	
NA	342	459	557	625	
NA	102	144	146	157	
NA	<0.20	<0.20	<0.20	<0.20	
NA	9.4	38.9	33.7	39.4	
NA	12.2	<5.0	<5.0	<5.0	
NA	1.34	0.427RC	0.489	0.706RC	
NA	14	<10	<10	<10	
NA	18.0	13.5	14.6	17.2	
NA	768	1050	971RC	1180	
NA	0.18	0.58	0.10	0.20	
NA	0.025	<0.020	<0.020	<0.020	
NA	377	543	619	625	
NA	1.02 PT	<0.20RC	0.47PT	0.34RC	
NA	0.193	0.021	0.020	0.021	
<b>Field Measurements</b>					
NA	22.28	20.51	20.13	16.85	
NA	825.1	1039.7	1144.5	1303.4	
NA	97.8	96.8	160.1	86.9	
NA	8.49	8.69	14.47	8.4	
NA	NA	4.79	4.71	4.91	

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
Field Measurements	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>MOXAHALA CREEK @ Lambert Road</b>					
River Mile: 6.8 Storet: 300439					
	Dupl A/B		Dupl A/B		
	6/24/2008	7/8/2008	7/29/2008	8/14/2008	9/24/2008
	11:48 AM	10:17 AM	10:50 AM	11:21 AM	10:24 AM
NA	NA	NA	NA	NA	
572	558	772	904/ 916RC	988/ 984	
33	18	14	<5/ <5	<5/ <5	
<2.0	<2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	
<0.20	<0.20	<0.20	<0.20/ <0.20	<0.20/ <0.20	
<2.0	<2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	
<2.0	<2.0	<2.0	2.2/ 2.1	<2.0/ <2.0	
<2.0	<2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	
47.5	36.7	60.6	69.2/ 70.2	77.0/ 79.2	
<2.0	<2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0	
1210	1120	2930	3760/ 3710	3320/ 3260	
41	33	36	34/ 33	32/ 31	
73	68	98	109/ 109	125/ 123	
339	318	467	523/ 519	596/ 587	
3100	1930	1260	343/ 343	191/ 196	
38	36	54	61/ 60	69/ 68	
3590	2800	4830	7810/ 6630	7600/ 7310	
4	3	4	4/ 4.0	6/ 5.0	
16	17	28	36/ 36	42/ 42	
295	297	466	555/ 549	618/ 618	
75	65	114	131/ 131	150/ 142	
<0.20	<0.20	<0.20	<0.20/ <0.20	<0.20/ <0.20	
16.1	5.4	28.1	27.0/ 27.2	35.7/ 36.3	
5.2	13.0	<5.0	<5.0/ <5.0	<5.0/ <5.0	
0.264	0.282	0.356RC	0.314 <sup>RC</sup> /0.31	0.416 <sup>RC</sup> /0.411	
<10	<10	<10	16/ <10	<10/ <10	
10.1	14.3	17.9	21.1/ 21.2	20.1/ 19.9	
716	745	984	1020 <sup>PI</sup> /939 <sup>RC</sup>	1170/ 1150	
0.34	0.17	0.13	0.18/ 0.14	0.29/ 0.29	
<0.020	<0.020	<0.020	<0.020/ <0.02	<0.020/ <0.02	
334	338	488	608/ 598	609/ 602	
<0.20	0.30	<0.20RC	<0.20RC/ <0.2	<0.20 <sup>RC</sup> / <0.20	
0.012	0.023	0.014	<0.010/ 0.012	<0.010/ <0.01	
Field Measurements					
18.89	21.52	20.77	20.86	16.3	
836	758.5	978.5	1106.7	1268.1	
86.1	98.5	97	137.6	95.9	
7.98	8.67	8.66	12.26	9.37	
NA	NA	5.1	4.8	4.93	

Site Location: <b>MOXAHALA CREEK @ Moxadarla Road</b>					
River Mile: 3.3 Storet: 300437					
	Dupl A/B				
	6/24/2008	7/8/2008	7/29/2008	8/14/2008	9/24/2008
	12:09 PM	10:32 AM	11:07 AM	11:39 AM	10:37 AM
NA	NA	NA	NA	NA	
484	404	634/ 648	734	920	
23	13	8/ 8.0	<5	<5	
<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0	
<0.20	<0.20	<0.20/ <0.20	<0.20	<0.20	
<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0	
<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0	
<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0	
28.9	16.3	33.9/ 32.5	41.1	43.3	
<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0	
684	499	505/ 489	323	287	
45	45	50/ 50	42	63	
63	55	85/ 86	97	112	
273	232	377/ 379	448	514	
2170	867	231/ 222	65	67	
28	23	40/ 40	50	57	
1950	1110	2420/ 2500	3420	4030	
4	3	4/ 4.0	6	8	
20	18	35/ 34	33	73	
261	224	395/ 394	444	644	
28	21	39/ 42	62	69	
<0.20	<0.20	<0.20/ <0.20	<0.20	<0.20	
<5.0	<5.0	<5.0/ <5.0	<5.0	<5.0	
40.8	77.6	73.1/ 73.5	46.7	45.1	
0.169	0.103	0.168/ 0.164	0.186	0.167	
15	<10	<10/ <10	14	<10	
20.2	26.0	43.3/ 43.0	30.3	86.6	
635	555	881/ 878	938	1280	
0.59	0.79	0.36/ 0.36	0.22	0.22	
<0.020	<0.020	<0.020/ <0.02	<0.020	<0.020	
236	164	339/ 345	428	450	
<0.20	<0.20	0.40/ 0.36	<0.20	0.34	
0.010	<0.010	0.011/ 0.010	0.012	<0.010	
Field Measurements					
19.92	22.07	22.2	21.12	17.86	
691.5	582	874.1	961.2	1313.9	
84.6	97.9	89.9	139.4	99.4	
7.69	8.54	7.81	12.37	9.4	
NA	NA	7.39	7.09	6.55	

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>MOXAHALA CREEK @ CR 6</b> River Mile: 0.6 Storet: R15S06				
6/24/2008 12:34 PM	7/8/2008 10:45 AM	7/29/2008 11:30 AM	8/14/2008 11:58 AM	9/24/2008 10:52 AM
NA	NA	NA	NA	NA
604	408	664	744	892
14	13	8	<5	5
<2.0	<2.0	<2.0	<2.0	<2.0
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
39.1	15.5	29.6	38.1	36.2
<2.0	<2.0	<2.0	<2.0	<2.0
363	493	336	217	217
45	45	53	44	57
79	54	89	99	111
346	225	391	453	516
939	864	288	196	208
36	22	41	50	58
2730	1030	2320	2840	3160
4	3	4	5	8
24	17	32	33	71
339	218	379	416	650
33	20	31	41	38
<0.20	<0.20	<0.20	<0.20	<0.20
<5.0PT	<5.0	<5.0	<5.0	<5.0
32.1	76.7	75.0	51.2	48.9
0.221	0.080	0.136	0.120	0.085
<10	<10	<10	10	<10
24.8	25.8	39.3	32.1	78.7
765	549	857	844	1230
0.53	0.79	0.39	0.27	0.24
<0.020	<0.020	<0.020	<0.020	<0.020
322	153	333	430	445
<0.20	0.41	<0.20	<0.20	0.39
<0.010	0.020	<0.010	<0.010	<0.010
19.89	21.98	22.62	22	18.67
853.2	569.5	853.7	961.9	1254
93.6	99.8	99.2	141.2	106.6
8.51	8.72	8.55	12.31	9.92
NA	NA	7.66	7.71	7.09

Site Location: <b>BLACK FK MOXAHALA CK Adj. Tatmans Road</b> River Mile: 3.5 Storet: R99Q36				
6/24/2008 9:09 AM	7/8/2008 9:28 AM	7/29/2008 9:18 AM	8/14/2008 9:27 AM	9/24/2008 8:40 AM
NA	NA	NA	NA	NA
142	150	174	234	356
13	5	<5	<5	5
<2.0	<2.0	<2.0	<2.0	<2.0
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	2.7
<2.0	<2.0	<2.0	<2.0	<2.0
496	284	<200	<200	<200
46	43	54	57	82
26	25	35	41	54
94	91	124	152	209
852	618	345	174	874
7	7	9	12	18
139	95	188	164	3360
2	2	2	3	6
9	9	13	18	34
109	111	149	177	299
<10	<10	<10	<10	<10
<0.20	<0.20	<0.20	<0.20	<0.20
5.0	<5.0	<5.0	<5.0	<5.0
67.2	74.6	99.1	111	133
<0.050	<0.050	0.055	<0.050	<0.050
<10	11	<10	17	20
9.6	9.6	10.6	10.4	10.8
220	234	294	359	539
0.10	0.23	<0.10	<0.10	<0.10
<0.020	<0.020	<0.020	<0.020	<0.020
24.4	26.0	38.2	64.7	110
<0.20	0.41	0.32	<0.20	0.37
0.014	0.011	<0.010	<0.010	0.043
20.24	22.69	20.97	19.18	14.81
247.1	255.6	289.9	386	561
78.2	80.9	74	103.9	18.4
7.07	6.98	6.6	9.59	1.86
NA	NA	6.95	7.11	6.61

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>BLACK FK MOXAHALA @ TR 747</b>					
River Mile: 2.5 Storet: 201219					
6/24/2008 10:17 AM	7/8/2008 8:49 AM	7/29/2008 10:00 AM	8/14/2008 10:15 AM	9/24/2008 9:07 AM	
NA	NA	NA	NA	NA	
574	406	740	858	910	
55	34	47	57	67	
2.3	<2.0	3.4	4.3	3.4	
<0.20	<0.20	<0.20	<0.20	<0.20	
<2.0	<2.0	<2.0	<2.0	<2.0	
2.3	<2.0	<2.0	2.5	2.5	
<2.0	<2.0	<2.0	<2.0	<2.0	
10.9	7.0	12.5	11.7	8.1	
<2.0	<2.0	<2.0	<2.0	<2.0	
943	846	1150	853	405	
46	38	35	34	33	
66	48	78	87	93	
255	186	318	357	380	
24600	17100	38500	48300	43400	
22	16	30	34	36	
1420	763	1760	2360	2150	
4	3	5	5	5	
56	37	88	103	120	
427	308	653	719	786	
26	19	27	34	33	
<0.20	<0.20	<0.20	<0.20	<0.20	
<5.0	<5.0	54.6	<5.0	<5.0	
34.3	54.2	45.1	56.4	72.1	
0.353	0.196	0.308	0.676	0.281	
17	<10	<10	12	11	
12.7	10.8	12.3	12.3	14.1	
769	550	998	1030	1220	
0.40	0.44	0.10	<0.10	0.10	
<0.020	<0.020	<0.020PT	<0.020	<0.020	
328	204	448	482	494	
0.45	<0.20	1.75	0.40	0.63	
<0.010	0.015	<0.010	0.011	<0.010	
<b>Field Measurements</b>					
16	19.18	15.01	14.92	12.57	
892.8	603.5	1037.9	1172.1	1316	
79.9	82.7	92.1	134.8	76.8	
7.86	7.63	9.26	13.56	8.13	
NA	NA	6.73	6.8	6.72	

Site Location: <b>BLACK FK MOXAHALA CK @ SR669</b>					
River Mile: 1.93 Storet: 300456					
Dupl A/B					
6/24/2008 9:35 AM	7/8/2008 9:13 AM	7/29/2008 10:10 AM	8/14/2008 10:25 AM	9/24/2008 9:34 AM	
NA	NA	NA	NA	NA	
536	378/ 376	746	844	874	
25	23/ 22	36	37	48	
<2.0	<2.0/ <2.0	<2.0	<2.0	<2.0	
<0.20	<0.20/ <0.20	<0.20	<0.20	<0.20	
<2.0	<2.0/ <2.0	<2.0	<2.0	<2.0	
<2.0	<2.0/ <2.0	<2.0	2.6	2.6	
<2.0	<2.0/ <2.0	<2.0	<2.0	<2.0	
12.7	7.0/ 6.7	12.5	11.6	9.3	
<2.0	<2.0/ <2.0	<2.0	<2.0	<2.0	
268	321/ 332	448	263	<200	
44	37/ 38	38	33	33	
64	45/ 47	87	84	94	
250	174/ 183	349	342	383	
19600	11600/12100	31200	33200	25500	
22	15/ 16	32	32	36	
1400	724/ 757	1930	2080	2120	
5	3/ 3.0	5	5	5	
54	34/ 36	83	94	114	
414	290/ 303	625	661	748	
18	15/ 16	32	30	34	
<0.20	<0.20/ <0.20	<0.20	<0.20	<0.20	
<5.0	<5.0/ <5.0	<5.0	<5.0	<5.0	
35.1	52.5/ 52.4	42.2	50.8	70.6	
0.364	0.187/ 0.192	0.360	0.432	0.376	
<10	14/ 14	<10	13	<10	
13.3	11.0/ 10.6	12.2	12.6	14.7	
712	530/ 522	972	945	1160	
0.44	0.13/ 0.13	<0.10	<0.10	<0.10	
<0.020	<0.020/ <0.02	<0.020	<0.020	<0.020	
298	189/ 191	423	491	467	
0.48	<0.20/ <0.20	0.51	0.39	0.44	
<0.010	0.010/ 0.010	<0.010	<0.010	0.011	
<b>Field Measurements</b>					
16.5	20.02	16.93	16.89	13.69	
825.3	577.6	1001.8	1100.8	1227.3	
83.5	79.7	86	121.6	77.3	
8.14	7.23	8.3	11.75	8	
NA	NA	6.65	6.62	6.79	

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
Field Measurements	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>BLACK FK MOXAHALA CK @ SR669/Ceramic Rd.</b>				
River Mile: 0.24 Storet: R99Q35				
			Dupl A/B	Dupl A/B
6/24/2008	7/8/2008	7/29/2008	8/14/2008	9/24/2008
11:06 AM	9:40 AM	10:20 AM	10:38 AM	9:47 AM
NA	NA	NA	NA	NA
470	342	668	786/ 780	858/ 854
8	7	9	9/ 9.0	5/ 5.0
<2.0	<2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0
<0.20	<0.20	<0.20	<0.20/ <0.20	<0.20/ <0.20
<2.0	<2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0
<2.0	<2.0	<2.0	2.5/ 2.3	<2.0/ <2.0
<2.0	<2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0
16.0	7.8	14.4	13.4/ 12.9	11.1
<2.0	<2.0	<2.0	<2.0/ <2.0	<2.0/ <2.0
316	214	287	<200/ <200	<200/ <200
48	38	40	33/ 33	30/ 29
55	44	80	80/ 80	90/ 88
216	172	315	332/ 327	373/ 368
10300	2790	8260	7340/ 7120	1700/ 1640
19	15	28	32/ 31	36/ 36
1380	706	1720	1900/ 1860	1940/ 1900
4	3	4	5/ 5.0	6/ 6.0
38	30	67	94/ 90	121/ 118
315	272	525	637/ 614	783/ 763
23	26	25	19/ 22	19/ 15
<0.20	<0.20	<0.20	<0.20/ <0.20	<0.20/ <0.20
6.0PT	<5.0	<5.0	<5.0/ <5.0	<5.0/ <5.0
18.3	47.8	39.8	39.2/ 38.6	57.4/ 59.3
0.346	0.168	0.345RC	0.379 <sup>RC</sup> /0.391	0.272/ 0.270
11	11	<10	14/ <10	<10/ <10
14.2	11.2	14.3	14.4/ 14.4	15.5/ 15.7
608	500	913	940/ 945	1170/ 1170
0.59	0.15	<0.10	<0.10/ <0.10	<0.10/ 0.10
<0.020	<0.020	<0.020	<0.020/ <0.02	<0.020/ <0.02
260	176	399	485/ 480	463/ 469
0.37	0.36	<0.20RC	0.20 <sup>RC</sup> /0.25 <sup>RC</sup>	0.46/ 0.38
<0.010	<0.010	<0.010	<0.010/ <0.01	<0.010/ <0.01
Field Measurements				
17.8	20.65	18.36	18.6	15.46
696.7	523.8	894.7	1030.3	1194.5
77.3	90.5	93.7	125	80.1
7.34	8.11	8.78	11.65	7.97
NA	NA	6.81	6.81	7.02

Site Location: <b>OGG CREEK @ SR 555</b>				
River Mile: 2.10 Storet: 201231				
6/24/2008	7/8/2008	7/29/2008	8/14/2008	9/24/2008
10:39 AM	8:35 AM	9:33 AM	9:44 AM	9:22 AM
NA	NA	NA	NA	NA
166	150	170	192	186
19	<5	<5	6	15
<2.0	<2.0	<2.0	<2.0	<2.0
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	<2.0	<2.0
2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
2.1	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
1330	<200	<200	<200	213
62	47	55	63	79
30	30	33	36	42
104	104	115	123	142
1780	71	85	321	544
7	7	8	8	9
43	18	82	154	394
3	2	2	2	2
8	9	10	12	14
113	116	138	147	164
<10	<10	<10	<10	<10
<0.20	<0.20	<0.20	<0.20	<0.20
<5.0	<5.0	<5.0	<5.0	<5.0
75.5	90.0	112	115	114
0.061	<0.050	<0.050	<0.050	<0.050
<10	<10	<10	16	<10
14.2	10.6	12.7	15.4	19.4
237	250	276	291	338
1.33	0.14	<0.10	<0.10	<0.10
<0.020	<0.020	<0.020	<0.020	<0.020
19.1	19.6	17.9	19.0	18.3
0.26	0.22	0.69	<0.20	0.27
0.019	<0.010	0.016	0.014	0.010
Field Measurements				
17.65	19.3	18.9	19.38	15.17
266.5	277.7	271.1	296.3	354.8
81.4	87.4	74.9	96	48.2
7.76	8.06	6.96	8.83	4.84
NA	NA	7.15	7.18	7.05

Appendix Table 1. Continued.

Parameter	Units
BOD5	mg/L
Total Dissolved Solids	mg/L
Total Suspended Solids	mg/L
Arsenic	ug/L
Cadmium	ug/L
Chromium	ug/L
Copper	ug/L
Lead	ug/L
Nickel	ug/L
Selenium	ug/L
Aluminum	ug/L
Barium	ug/L
Calcium	mg/L
Hardness, Total	mg/L
Iron	ug/L
Magnesium	mg/L
Manganese	ug/L
Potassium	mg/L
Sodium	mg/L
Strontium	ug/L
Zinc	ug/L
Mercury	ug/L
Acidity	mg/L
Alkalinity	mg/L
Ammonia	mg/L
COD	mg/L
Chloride	mg/L
Conductivity	umhos/cm
Nitrate+nitrite	mg/L
Nitrite	mg/L
Sulfate	mg/L
TKN	mg/L
Total Phosphorus	mg/L
<b>Field Measurements</b>	
Temperature	°C
Conductivity	umhos/cm
D.O. Saturation	%
Dissolved Oxygen	mg/L
pH	S.U.

Site Location: <b>OGG CREEK @ near mouth</b> River Mile: 0.2 Storet: 300457				
6/24/2008 10:03 AM	7/8/2008 9:02 AM	7/29/2008 9:49 AM	8/14/2008 9:59 AM	9/24/2008 8:53 AM
NA	NA	NA	NA	NA
474	332	620	596	648
17	24	23	13	<5
<2.0	<2.0	<2.0	<2.0	<2.0
<0.20	<0.20	<0.20	<0.20	<0.20
<2.0	<2.0	<2.0	<2.0	<2.0
<2.0	<2.0	<2.0	2.3	<2.0
<2.0	<2.0	<2.0	<2.0	<2.0
12.1	7.9	14.7	9.8	3.4
<2.0	<2.0	<2.0	<2.0	<2.0
1160	1480	2670	2160	<200
40	37	35	31	30
64	46	87	78	88
238	173	324	298	335
6570	6810	5630	2850	1100
19	14	26	25	28
861	544	1210	956	868
5	3	4	4	5
52	31	71	78	104
468	315	670	705	808
10	17	29	18	<10
<0.20	<0.20	<0.20	<0.20	<0.20
<5.0	<5.0	<5.0	<5.0	<5.0
94.8	81.4	152	192	230
0.373	0.193	0.384	0.353	0.286
<10	11	<10	18	<10
15.2	10.0	11.5	12.2	12.5
679	501	872	799	985
0.50	0.16	<0.10	<0.10	<0.10
<0.020	<0.020	<0.020	<0.020	<0.020
211	149	304	286	241
0.27	0.32	0.59	0.28	0.44
<0.010	0.013	<0.010	<0.010	<0.010
<b>Field Measurements</b>				
15.52	18.78	14.42	15.02	11.68
764.2	529.2	873.3	867.5	1009.1
82.9	87.1	96.2	145.8	90.6
8.25	8.1	9.8	14.66	9.8
NA	NA	7.01	7.25	7.17

Site Location: <b>ANDREWS RUN @ SR 13</b> River Mile: 0.3 Storet: R15P01				
6/24/2008 8:35 AM	7/8/2008 7:51 AM	7/29/2008 8:48 AM	8/14/2008 8:48 AM	9/24/2008 8:11 AM
NA	NA	NA	NA	NA
1320	1280	1460	1460	1570
28	13	17	17	12
<2.0	<2.0	<2.0	<2.0	<2.0
0.32	0.25	0.25	0.28	0.30
<2.0	<2.0	<2.0	<2.0	<2.0
3.2	<2.0	<2.0	2.0	2.0
<2.0	<2.0	<2.0	<2.0	<2.0
156	147	159	168	179
<2.0	2.0	<2.0	<2.0	2.1
13800	12400	14300	14800	16500
19	18	16	15	16
124	121	144	136	156
573	566	660	653	752
43000	37000	44800	48500	61900
64	64	73	76	88
9710	9400	10600	14000	15000
4	4	5	5	6
20	22	24	27	30
424	455	490	535	620
380	355	428	376	435
<0.20	<0.20	<0.20	<0.20	<0.20
185	182	223	207	259
<5.0	<5.0	<5.0	<5.0	<5.0
0.392	0.413 RC	0.496	0.779RC	0.613RC
11 J	20	15	18	11
13.9	14.9	14.4	14.5	15.2
1550	1590	1750	1690	2020
0.12	<0.10	<0.10	<0.10	<0.10
<0.020	<0.020	<0.020	<0.020	<0.020
775	829	940	1080	978
<0.20	<0.20 RC	<0.40J	<0.20RC	<0.20RC
<0.010	<0.010	<0.010	<0.010	<0.010
<b>Field Measurements</b>				
17.37	19.8	19.13	19.18	13.62
1755	1672.5	1747.2	1824.3	2067.9
88.8	116.9	89.6	136.5	93.7
8.47	10.62	8.24	12.55	9.67
NA	NA	3.04	2.91	2.7

**Appendix Table 2.** Surface water results for semivolatile and volatile organic compounds, herbicides, and pesticides from the Jonathon and Moxahala Creeks study area, 2008.

Stream	JONATHON CREEK	JONATHON CREEK	TRIB TO JONATHON CR. (@ RM 13.74)	TRIB TO JONATHON CR. (@ RM 13.74)	KENT RUN	KENT RUN
River Mile	12.2	3.35	0.32	0.32	1.35	1.35
STORET Number	R15S01	300362	300467	300467	300422	300422
Date Sampled	8/19/2008	6/10/2008	6/10/2008	9/29/2008	6/10/2008	8/19/2008
Time Sampled	1:10 PM	11:55 AM	12:35 PM	8:00 AM	12:05 PM	11:00 AM
<b>Semivolatile Organic Compounds (ug/l)</b>						
Acenaphthene	<5.5	<5.4	<5.5	<5.3	<5.5	<5.7
Acenaphthylene	<5.5	<5.4	<5.5	<5.3	<5.5	<5.7
Anthracene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Benzo[a]anthracene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Benzo[a]pyrene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Benzo[b]fluoranthene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Benzo[g,h,i]perylene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Benzo[k]fluoranthene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
bis(2-Chloroethoxy)methane	<5.5	<5.4	<5.5	<5.3	<5.5	<5.7
bis(2-Chloroethyl)ether	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
bis(2-Chloroisopropyl)ether	<2.2 UJ	<2.2	<2.2	<2.1	<2.2	<2.3
bis(2-Ethylhexyl)phthalate	<11.0	<10.8	<11.0	<10.6	<11.0	<11.4
4-Bromophenyl-phenylether	<5.5	<5.4	<5.5	<5.3	<5.5	<5.7
Butylbenzylphthalate	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
4-Chloro-3-methylphenol	<11.0	<10.8	<11.0	<10.6	<11.0	<11.4
2-Chloronaphthalene	<5.5	<5.4	<5.5	<5.3	<5.5	<5.7
2-Chlorophenol	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
4-Chlorophenyl-phenylether	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Chrysene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Di-n-butylphthalate	<5.5	<5.4	<5.5	<5.3	<5.5	<5.7
Di-n-octylphthalate	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Dibenz[a,h]anthracene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
1,3-Dichlorobenzene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3 UJ
1,4-Dichlorobenzene	<2.2 UJ	<2.2	<2.2	<2.1	<2.2	<2.3 UJ
1,2-Dichlorobenzene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3 UJ
2,4-Dichlorophenol	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Diethylphthalate	<5.5	<5.4	<5.5	<5.3	<5.5	<5.7
2,4-Dimethylphenol	<11.0	<10.8	<11.0	<10.6	<11.0	<11.4
Dimethylphthalate	<5.5	<5.4	<5.5	<5.3 UJ	<5.5	<5.7
4,6-Dinitro-2-methylphenol	<5.5	<5.4	<5.5	<5.3	<5.5	<5.7
2,4-Dinitrophenol	<22.0	<21.6	<22.0	<21.2	<22.0	<22.9
2,6-Dinitrotoluene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
2,4-Dinitrotoluene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Fluoranthene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Fluorene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Hexachlorobenzene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Hexachlorobutadiene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Hexachlorocyclopentadiene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Hexachloroethane	<5.5	<5.4	<5.5	<5.3	<5.5	<5.7
Indeno[1,2,3-cd]pyrene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Isophorone	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
N-Nitroso-di-n-propylamine	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
N-Nitrosodiphenylamine	<5.5	<5.4	<5.5	<5.3	<5.5	<5.7
Naphthalene	<2.2 UJ	<2.2	<2.2	<2.1	<2.2	<2.3
Nitrobenzene	<2.2 UJ	<2.2	<2.2	<2.1	<2.2	<2.3



Appendix Table 2. Continued.

Stream	JONATHON CREEK	JONATHON CREEK	TRIB TO JONATHON CR. (@ RM 13.74)	TRIB TO JONATHON CR. (@ RM 13.74)	KENT RUN	KENT RUN
River Mile	12.2	3.35	0.32	0.32	1.35	1.35
STORET Number	R15S01	300362	300467	300467	300422	300422
Date Sampled	8/19/2008	6/10/2008	6/10/2008	9/29/2008	6/10/2008	8/19/2008
Time Sampled	1:10 PM	11:55 AM	12:35 PM	8:00 AM	12:05 PM	11:00 AM
<b>Semivolatile Organic Compounds (ug/l)</b>						
2-Nitrophenol	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
4-Nitrophenol	<22.0	<21.6	<22.0	<21.2	<22.0	<22.9
Pentachlorophenol	<11.0	<10.8	<11.0	<10.6	<11.0	<11.4
Phenanthrene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Phenol	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
Pyrene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
1,2,4-Trichlorobenzene	<2.2	<2.2	<2.2	<2.1	<2.2	<2.3
2,4,6-Trichlorophenol	<5.5	<5.4	<5.5	<5.3	<5.5	<5.7
<b>Pesticides (ug/l)</b>						
Aldrin	<0.0021	<0.0021	<0.0021	<0.0024	<0.0022	<0.0021
a-BHC	<0.0021	0.0078	0.0088	<0.0024 UJ	0.0099	<0.0021
b-BHC	<0.0021	<0.0021	<0.0021	<0.0024	<0.0022	<0.0021
d-BHC	<0.0021	0.0092	<0.0021	<0.0024 UJ	<0.0022	<0.0021
γ-BHC	<0.0021	<0.0021	<0.0021	<0.0024 UJ	0.0082	<0.0021
4,4'-DDD	<0.0064	<0.0064	<0.0063	<0.0071	<0.0067	<0.0063
4,4'-DDE	<0.0021	<0.0021	<0.0021	<0.0024	<0.0022	<0.0021
4,4'-DDT	<0.0064	<0.0064	<0.0063	<0.0071	<0.0067	<0.0063
Dieldrin	<0.0021	0.0049	<0.0021	<0.0024	<0.0022	<0.0021
Endosulfan I	<0.0021	<0.0021	<0.0021	<0.0024	<0.0022	<0.0021
Endosulfan II	<0.0021	<0.0021	<0.0021	<0.0024 UJ	<0.0022	<0.0021
Endosulfan sulfate	<0.021	<0.021	<0.021	<0.024	<0.022	<0.021
Endrin	<0.0021	<0.0021	<0.0021	<0.0024	<0.0022	<0.0021
Endrin aldehyde	<0.0064	<0.0064	<0.0063	<0.0071	<0.0067	<0.0063
Heptachlor	<0.0021	<0.0021	<0.0021	<0.0024	<0.0022	<0.0021
Heptachlor epoxide	<0.0021	<0.0021	0.0033	<0.0024	0.0041	<0.0021
Methoxychlor	<0.011	<0.011	<0.010	<0.012	<0.011	<0.011
Mirex	<0.011	<0.011	<0.010	<0.012	<0.011	<0.011
Hexachlorobenzene	<0.0021	<0.0021	<0.0021	<0.0024	<0.0022	<0.0021
<b>Herbicides (ug/l)</b>						
Acetochlor	NA	<b>0.29 J</b>	<0.21	NA	<0.22	NA
Alachlor	NA	<0.21 UJ	<0.21	NA	<0.22	NA
Atrazine	NA	<b>0.98 J</b>	<0.21	NA	0.72	NA
Benzo[a]pyrene	NA	<0.52 UJ	<0.52	NA	<0.56	NA
bis(2-Ethylhexyl)adipate	NA	<0.52 UJ	<0.52	NA	<0.56	NA
bis(2-Ethylhexyl)phthalate	NA	<b>1.19 B J</b>	<b>1.32 B</b>	NA	<b>1.77 B</b>	NA
Butachlor	NA	< <b>0.21 UJ</b>	<0.21	NA	<0.22	NA
Metolachlor	NA	0.42 J	0.28	NA	0.33	NA
Metribuzin	NA	<0.21 UJ	<0.21	NA	<0.22	NA
Pentachlorophenol	NA	<5.15 UJ	<5.15	NA	<5.56	NA
Propachlor	NA	<0.21 UJ	<0.21	NA	<0.22	NA
Simazine	NA	<0.21 UJ	<0.21	NA	0.32	NA

Appendix Table 2. Continued.

Stream	VALLEY RUN	MOXAHALA CREEK	BLACK FORK MOXAHALA CR.	BLACK FORK MOXAHALA CR.	OGG CREEK
River Mile	1.28	6.8	3.5	1.93	0.2
STORET Number	300363	300439	R99Q36	300456	300457
Date Sampled	6/10/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008
Time Sampled	12:50 PM	10:00 AM	10:00 AM	10:55 AM	12:10 PM
<b>Semivolatile Organic Compounds (ug/l)</b>					
Acenaphthene	<5.8	<5.6	<5.4	<5.3	<5.4 UJ
Acenaphthylene	<5.8	<5.6	<5.4	<5.3	<5.4 UJ
Anthracene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Benzo[a]anthracene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Benzo[a]pyrene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Benzo[b]fluoranthene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Benzo[g,h,i]perylene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Benzo[k]fluoranthene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
bis(2-Chloroethoxy)methane	<5.8	<5.6	<5.4	<5.3	<5.4 UJ
bis(2-Chloroethyl)ether	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
bis(2-Chloroisopropyl)ether	<2.3	<2.3 UJ	<2.2 UJ	<2.1 UJ	<2.2 UJ
bis(2-Ethylhexyl)phthalate	<11.5	<11.2	<10.8	<10.5	<10.8 UJ
4-Bromophenyl-phenylether	<5.8	<5.6	<5.4	<5.3	<5.4 UJ
Butylbenzylphthalate	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
4-Chloro-3-methylphenol	<11.5	<11.2	<10.8	<10.5	<10.8 UJ
2-Chloronaphthalene	<5.8	<5.6	<5.4	<5.3	<5.4 UJ
2-Chlorophenol	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
4-Chlorophenyl-phenylether	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Chrysene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Di-n-butylphthalate	<5.8	<5.6	<5.4	<5.3	<5.4 UJ
Di-n-octylphthalate	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Dibenz[a,h]anthracene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
1,3-Dichlorobenzene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
1,4-Dichlorobenzene	<2.3	<2.3 UJ	<2.2 UJ	<2.1 UJ	<2.2 UJ
1,2-Dichlorobenzene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
2,4-Dichlorophenol	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Diethylphthalate	<5.8	<5.6	<5.4	<5.3	<5.4 UJ
2,4-Dimethylphenol	<11.5	<11.2	<10.8	<10.5	<10.8 UJ
Dimethylphthalate	<5.8	<5.6	<5.4	<5.3	<5.4 UJ
4,6-Dinitro-2-methylphenol	<5.8	<5.6	<5.4	<5.3	<5.4 UJ
2,4-Dinitrophenol	<23.0	<22.5	<21.5	<21.1	<21.5 UJ
2,6-Dinitrotoluene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
2,4-Dinitrotoluene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Fluoranthene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Fluorene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Hexachlorobenzene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Hexachlorobutadiene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Hexachlorocyclopentadiene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Hexachloroethane	<5.8	<5.6	<5.4	<5.3	<5.4 UJ
Indeno[1,2,3-cd]pyrene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Isophorone	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
N-Nitroso-di-n-propylamine	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
N-Nitrosodiphenylamine	<5.8	<5.6	<5.4	<5.3	<5.4 UJ
Naphthalene	<2.3	<2.3 UJ	<2.2 UJ	<2.1 UJ	<2.2 UJ
Nitrobenzene	<2.3	<2.3 UJ	<2.2 UJ	<2.1 UJ	<2.2 UJ

Appendix Table 2. Continued.

Stream	VALLEY RUN	MOXAHALA CREEK	BLACK FORK MOXAHALA CR.	BLACK FORK MOXAHALA CR.	OGG CREEK
River Mile	1.28	6.8	3.5	1.93	0.2
STORET Number	300363	300439	R99Q36	300456	300457
Date Sampled	6/10/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008
Time Sampled	12:50 PM	10:00 AM	10:00 AM	10:55 AM	12:10 PM
<b>Semivolatile Organic Compounds (ug/l)</b>					
2-Nitrophenol	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
4-Nitrophenol	<23.0	<22.5	<21.5	<21.1	<21.5 UJ
Pentachlorophenol	<11.5	<11.2	<10.8	<10.5	<10.8 UJ
Phenanthrene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Phenol	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
Pyrene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
1,2,4-Trichlorobenzene	<2.3	<2.3	<2.2	<2.1	<2.2 UJ
2,4,6-Trichlorophenol	<5.8	<5.6	<5.4	<5.3	<5.4 UJ
<b>Pesticides (ug/l)</b>					
Aldrin	<0.0021	<0.0022	<0.0021	<0.0021	<0.0021
a-BHC	0.0087	<0.0022	<0.0021	<0.0021	<0.0021
b-BHC	<0.0021	<0.0022	<0.0021	<0.0021	<0.0021
d-BHC	<0.0021	<0.0022	<0.0021	<0.0021	<0.0021
γ-BHC	<0.0021	<0.0022	<0.0021	<0.0021	<0.0021
4,4'-DDD	<0.0064	<0.0065	<0.0063	<0.0063	<0.0062
4,4'-DDE	<0.0021	<0.0022	<0.0021	<0.0021	<0.0021
4,4'-DDT	<0.0064	<0.0065	<0.0063	<0.0063	<0.0062
Dieldrin	<0.0021	<0.0022	<0.0021	<0.0021	<0.0021
Endosulfan I	<0.0021	<0.0022	<0.0021	<0.0021	<0.0021
Endosulfan II	<0.0021	<0.0022	<0.0021	<0.0021	<0.0021
Endosulfan sulfate	<0.021	<0.022	<0.021	<0.021	<0.021
Endrin	<0.0021	<0.0022	<0.0021	<0.0021	<0.0021
Endrin aldehyde	<0.0064	<0.0065	<0.0063	<0.0063	<0.0062
Heptachlor	<0.0021	<0.0022	<0.0021	<0.0021	<0.0021
Heptachlor epoxide	0.0038	<0.0022	<0.0021	<0.0021	<0.0021
Methoxychlor	<0.011	<0.011	<0.011	<0.010	<0.010
Mirex	<0.011	<0.011	<0.011	<0.010	<0.010
Hexachlorobenzene	<0.0021	<0.0022	<0.0021	<0.0021	<0.0021
<b>Herbicides (ug/l)</b>					
Acetochlor	<0.21	NA	NA	NA	NA
Alachlor	<0.21	NA	NA	NA	NA
Atrazine	0.87	NA	NA	NA	NA
Benzo[a]pyrene	<0.52	NA	NA	NA	NA
bis(2-Ethylhexyl)adipate	<0.52	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	1.05 B	NA	NA	NA	NA
Butachlor	<0.21	NA	NA	NA	NA
Metolachlor	0.34	NA	NA	NA	NA
Metribuzin	<0.21	NA	NA	NA	NA
Pentachlorophenol	<5.21	NA	NA	NA	NA
Propachlor	<0.21	NA	NA	NA	NA
Simazine	<0.21	NA	NA	NA	NA

< - Not detected at or above the method detection limit (MDL value reported with the less than symbol).

J - The analyte was positively identified, the associated value is estimated.

UJ - The analyte was not detected above the sample quantitation limit (QL). The reported QL is estimated.

B - Analyte result is estimated. Analyte was detected in the associated method/trip/field blank as well as in the sample.

Appendix Table 3. Hourly measurements of dissolved oxygen, pH, temperature, and conductivity at stream locations in the Jonathon and Moxahala Creeks study area using Datasonde® continuous recorders, 2008.

<b>JONATHON CREEK - RM 7.60</b>											
STORET: 300462											
Date	Time	Temp.	pH	Spec.Conduct.	D.O.	Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l	M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/8/2008	11:00	21.15	7.95	0.377	8.11	8/19/2008	12:00	21.24	8.15	0.505	8.36
7/8/2008	12:00	21.44	7.97	0.379	8.2	8/19/2008	13:00	21.71	8.17	0.505	8.75
7/8/2008	13:00	21.83	7.99	0.38	8.27	8/19/2008	14:00	22.24	8.2	0.505	9.14
7/8/2008	14:00	22.05	7.99	0.382	8.26	8/19/2008	15:00	22.51	8.23	0.504	9.39
7/8/2008	15:00	22.47	8	0.383	8.29	8/19/2008	16:00	22.65	8.25	0.504	9.53
7/8/2008	16:00	22.82	8.01	0.385	8.28	8/19/2008	17:00	22.83	8.27	0.503	9.65
7/8/2008	17:00	23.14	8.02	0.386	8.27	8/19/2008	18:00	22.94	8.28	0.502	9.63
7/8/2008	18:00	23.24	8.01	0.386	8.13	8/19/2008	19:00	22.98	8.28	0.502	9.44
7/8/2008	19:00	23.29	8	0.387	8	8/19/2008	20:00	23	8.27	0.502	9.26
7/8/2008	20:00	22.88	8	0.359	7.99	8/19/2008	21:00	22.97	8.26	0.502	9
7/8/2008	21:00	22.62	7.97	0.343	7.95	8/19/2008	22:00	22.75	8.24	0.502	8.71
7/8/2008	22:00	22.72	7.88	0.342	7.72	8/19/2008	23:00	22.52	8.21	0.502	8.42
7/8/2008	23:00	21.51	7.8	0.191	7.41	8/20/2008	0:00	22.3	8.19	0.502	8.15
7/9/2008	0:00	21.6	7.65	0.229	7.34	8/20/2008	1:00	22.06	8.17	0.502	7.98
7/9/2008	1:00	21.62	7.64	0.259	7.21	8/20/2008	2:00	21.82	8.15	0.502	7.87
7/9/2008	2:00	21.27	7.57	0.21	6.9	8/20/2008	3:00	21.63	8.15	0.501	7.75
7/9/2008	3:00	21.18	7.55	0.189	6.78	8/20/2008	4:00	21.45	8.14	0.501	7.71
7/9/2008	4:00	20.98	7.63	0.166	6.65	8/20/2008	5:00	21.28	8.13	0.5	7.66
7/9/2008	5:00	20.88	7.53	0.168	6.73	8/20/2008	6:00	21.11	8.13	0.5	7.64
7/9/2008	6:00	20.79	7.47	0.188	6.83	8/20/2008	7:00	20.92	8.12	0.499	7.62
7/9/2008	7:00	20.71	7.48	0.214	7.01	8/20/2008	8:00	20.76	8.12	0.499	7.63
7/9/2008	8:00	20.64	7.51	0.244	7.21	8/20/2008	9:00	20.67	8.12	0.499	7.68
7/9/2008	9:00	20.54	7.54	0.261	7.31	8/20/2008	10:00	20.67	8.12	0.499	7.77
7/9/2008	10:00	20.44	7.55	0.274	7.25	8/20/2008	11:00	20.86	8.13	0.499	7.97
7/9/2008	11:00	20.39	7.56	0.263	7.32	8/20/2008	12:00	21.16	8.15	0.498	8.26
7/9/2008	12:00	20.42	7.58	0.259	7.35	8/20/2008	13:00	21.7	8.17	0.498	8.66
7/9/2008	13:00	20.57	7.58	0.26	7.39	8/20/2008	14:00	22.16	8.2	0.497	9.03
7/9/2008	14:00	20.76	7.57	0.254	7.44	8/20/2008	15:00	22.4	8.23	0.497	9.26
7/9/2008	15:00	20.95	7.57	0.255	7.47	8/20/2008	16:00	22.58	8.25	0.496	9.46
7/9/2008	16:00	21.15	7.59	0.26	7.51	8/20/2008	17:00	22.77	8.27	0.495	9.61
7/9/2008	17:00	21.34	7.61	0.266	7.52	8/20/2008	18:00	22.8	8.28	0.495	9.58
7/9/2008	18:00	21.46	7.62	0.272	7.55	8/20/2008	19:00	22.79	8.27	0.495	9.42
7/9/2008	19:00	21.47	7.64	0.277	7.58	8/20/2008	20:00	22.86	8.27	0.494	9.27
7/9/2008	20:00	21.47	7.65	0.28	7.6	8/20/2008	21:00	22.83	8.26	0.494	9.03
7/9/2008	21:00	21.44	7.66	0.283	7.61	8/20/2008	22:00	22.55	8.24	0.494	8.68
7/9/2008	22:00	21.4	7.68	0.285	7.64	8/20/2008	23:00	22.23	8.21	0.494	8.38
7/9/2008	23:00	21.34	7.69	0.287	7.66	8/21/2008	0:00	21.94	8.18	0.494	8.14
7/10/2008	0:00	21.23	7.7	0.29	7.68	8/21/2008	1:00	21.64	8.16	0.494	7.97
7/10/2008	1:00	21.1	7.71	0.293	7.71	8/21/2008	2:00	21.32	8.14	0.494	7.85
7/10/2008	2:00	20.96	7.72	0.297	7.74	8/21/2008	3:00	21.05	8.13	0.494	7.78
7/10/2008	3:00	20.81	7.73	0.301	7.76	8/21/2008	4:00	20.85	8.12	0.494	7.74
7/10/2008	4:00	20.65	7.74	0.305	7.8	8/21/2008	5:00	20.7	8.12	0.493	7.7
7/10/2008	5:00	20.48	7.75	0.309	7.83	8/21/2008	6:00	20.55	8.12	0.493	7.68
7/10/2008	6:00	20.3	7.76	0.312	7.88	8/21/2008	7:00	20.41	8.11	0.493	7.69
7/10/2008	7:00	20.13	7.77	0.314	7.9	8/21/2008	8:00	20.33	8.11	0.493	7.71
7/10/2008	8:00	20	7.77	0.316	7.95	8/21/2008	9:00	20.32	8.11	0.493	7.77
7/10/2008	9:00	19.9	7.78	0.318	8	8/21/2008	10:00	20.43	8.12	0.492	7.91
7/10/2008	10:00	19.87	7.79	0.32	8.06						

Appendix Table 3. Continued.

<b>JONATHON CREEK - RM 3.35</b>											
STORET: 300362											
Date	Time	Temp.	pH	Spec.Conduct.	D.O.	Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l	M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/8/2008	14:00	22.2	7.98	0.477	8.86	8/19/2008	16:00	22.62	8.22	0.79	8.77
7/8/2008	15:00	22.6	8	0.478	8.9	8/19/2008	17:00	22.72	8.25	0.79	8.76
7/8/2008	16:00	22.96	8.01	0.479	8.9	8/19/2008	18:00	22.61	8.24	0.79	8.7
7/8/2008	17:00	23.18	8.02	0.479	8.84	8/19/2008	19:00	22.48	8.23	0.79	8.56
7/8/2008	18:00	23.24	8.01	0.478	8.66	8/19/2008	20:00	22.5	8.21	0.79	8.48
7/8/2008	19:00	23.39	8.02	0.479	8.63	8/19/2008	21:00	22.58	8.21	0.79	8.4
7/8/2008	20:00	23.37	8.03	0.474	8.57	8/19/2008	22:00	22.59	8.2	0.79	8.39
7/8/2008	21:00	23.39	8.01	0.471	8.51	8/19/2008	23:00	22.75	8.21	0.79	8.37
7/8/2008	22:00	23.21	7.85	0.53	8.52	8/20/2008	0:00	22.78	8.21	0.79	8.38
7/8/2008	23:00	21.76	7.3	0.357	8.53	8/20/2008	1:00	22.82	8.21	0.79	8.4
7/9/2008	0:00	21.94	7.45	0.344	8.62	8/20/2008	2:00	22.82	8.23	0.79	8.44
7/9/2008	1:00	21.6	7.2	0.278	8.62	8/20/2008	3:00	22.74	8.24	0.79	8.46
7/9/2008	2:00	21.4	7.36	0.267	8.64	8/20/2008	4:00	22.59	8.24	0.79	8.47
7/9/2008	3:00	21.45	7.41	0.287	8.59	8/20/2008	5:00	22.4	8.23	0.79	8.48
7/9/2008	4:00	21.17	7.36	0.239	8.53	8/20/2008	6:00	22.23	8.22	0.79	8.49
7/9/2008	5:00	21.07	7.36	0.219	8.55	8/20/2008	7:00	22.07	8.21	0.79	8.49
7/9/2008	6:00	20.91	7.41	0.205	8.57	8/20/2008	8:00	21.94	8.21	0.79	8.53
7/9/2008	7:00	20.82	7.4	0.207	8.62	8/20/2008	9:00	21.88	8.21	0.79	8.58
7/9/2008	8:00	20.75	7.38	0.22	8.68	8/20/2008	10:00	21.84	8.2	0.79	8.58
7/9/2008	9:00	20.7	7.42	0.24	8.75	8/20/2008	11:00	21.91	8.2	0.79	8.66
7/9/2008	10:00	20.68	7.47	0.262	8.79	8/20/2008	12:00	22.02	8.2	0.8	8.7
7/9/2008	11:00	20.67	7.51	0.283	8.85	8/20/2008	13:00	22.26	8.22	0.8	8.77
7/9/2008	12:00	20.66	7.54	0.298	8.87	8/20/2008	14:00	22.55	8.24	0.79	8.83
7/9/2008	13:00	20.73	7.56	0.309	8.86	8/20/2008	15:00	22.8	8.26	0.79	8.87
7/9/2008	14:00	20.93	7.58	0.306	8.83	8/20/2008	16:00	23.03	8.27	0.79	8.92
7/9/2008	15:00	21.13	7.6	0.305	8.81	8/20/2008	17:00	23.07	8.26	0.79	8.87
7/9/2008	16:00	21.27	7.61	0.307	8.79	8/20/2008	18:00	22.76	8.24	0.8	8.71
7/9/2008	17:00	21.45	7.62	0.308	8.76						
7/9/2008	18:00	21.53	7.62	0.307	8.76						
7/9/2008	19:00	21.62	7.63	0.308	8.74						
7/9/2008	20:00	21.65	7.65	0.314	8.73						
7/9/2008	21:00	21.64	7.67	0.32	8.74						
7/9/2008	22:00	21.59	7.68	0.326	8.76						
7/9/2008	23:00	21.46	7.69	0.332	8.77						
7/10/2008	0:00	21.33	7.7	0.336	8.79						
7/10/2008	1:00	21.21	7.71	0.34	8.8						
7/10/2008	2:00	21.09	7.72	0.344	8.83						
7/10/2008	3:00	20.97	7.73	0.348	8.85						
7/10/2008	4:00	20.84	7.74	0.352	8.88						
7/10/2008	5:00	20.7	7.75	0.356	8.89						
7/10/2008	6:00	20.54	7.76	0.36	8.93						
7/10/2008	7:00	20.39	7.76	0.364	8.94						
7/10/2008	8:00	20.25	7.77	0.368	8.99						
7/10/2008	9:00	20.15	7.79	0.373	9.02						
7/10/2008	10:00	20.13	7.8	0.38	9.03						
7/10/2008	11:00	20.15	7.81	0.384	9.04						
7/10/2008	12:00	20.34	7.83	0.388	9.05						
7/10/2008	13:00	20.62	7.84	0.391	9.04						
7/10/2008	14:00	20.98	7.86	0.394	9.05						

Appendix Table 3. Continued.

JONATHON CREEK - RM 0.35											
STORET:											
Date	Time	Temp.	pH	Spec.Conduct.	D.O.	Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l	M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/8/2008	13:00	22.56	7.81	0.46	9.14	8/19/2008	11:00	22.56	7.91	0.72	8.52
7/8/2008	14:00	22.65	8.12	0.46	9.08	8/19/2008	12:00	23.69	7.95	0.722	8.81
7/8/2008	15:00	22.85	8.16	0.47	8.93	8/19/2008	13:00	24.64	7.99	0.723	8.99
7/8/2008	16:00	23.14	8.19	0.47	8.94	8/19/2008	14:00	25.26	8.01	0.724	9.07
7/8/2008	17:00	23.34	8.2	0.47	8.91	8/19/2008	15:00	25.23	8.01	0.724	8.94
7/8/2008	18:00	23.37	8.19	0.47	8.73	8/19/2008	16:00	24.84	7.99	0.724	8.73
7/8/2008	19:00	23.28	8.2	0.47	8.55	8/19/2008	17:00	24.55	7.98	0.726	8.55
7/8/2008	20:00	23.17	8.21	0.47	8.62	8/19/2008	18:00	24.16	7.96	0.726	8.4
7/8/2008	21:00	23.21	8.22	0.47	8.55	8/19/2008	19:00	23.85	7.94	0.727	8.24
7/8/2008	22:00	23.17	8	0.47	8.61	8/19/2008	20:00	23.61	7.92	0.728	8.06
7/8/2008	23:00	23	7.91	0.46	8.81	8/19/2008	21:00	23.36	7.88	0.731	7.85
7/9/2008	0:00	22.57	7.92	0.47	8.83	8/19/2008	22:00	23.17	7.86	0.736	7.71
7/9/2008	1:00	21.9	7.8	0.33	9.02	8/19/2008	23:00	22.97	7.84	0.739	7.67
7/9/2008	2:00	21.86	7.76	0.31	9.08	8/20/2008	0:00	22.74	7.83	0.743	7.62
7/9/2008	3:00	21.42	7.74	0.25	8.92	8/20/2008	1:00	22.53	7.82	0.745	7.65
7/9/2008	4:00	21.54	7.79	0.28	8.96	8/20/2008	2:00	22.31	7.81	0.748	7.64
7/9/2008	5:00	21.3	7.8	0.25	8.94	8/20/2008	3:00	22.1	7.8	0.748	7.67
7/9/2008	6:00	21.18	7.81	0.22	8.92	8/20/2008	4:00	21.92	7.8	0.749	7.68
7/9/2008	7:00	21.05	7.45	0.21	8.81	8/20/2008	5:00	21.74	7.79	0.749	7.71
7/9/2008	8:00	20.96	7.87	0.2	8.84	8/20/2008	6:00	21.57	7.79	0.751	7.72
7/9/2008	9:00	20.9	7.84	0.21	8.88	8/20/2008	7:00	21.42	7.78	0.752	7.74
7/9/2008	10:00	20.86	7.83	0.22	8.92	8/20/2008	8:00	21.32	7.78	0.753	7.8
7/9/2008	11:00	20.84	7.89	0.23	8.98	8/20/2008	9:00	21.41	7.8	0.754	7.94
7/9/2008	12:00	20.93	7.93	0.26	9.02	8/20/2008	10:00	21.59	7.82	0.754	8.15
7/9/2008	13:00	21.05	7.97	0.27	9	8/20/2008	11:00	22.49	7.87	0.756	8.52
7/9/2008	14:00	21.24	8.04	0.28	8.97	8/20/2008	12:00	23.62	7.92	0.757	8.77
7/9/2008	15:00	21.37	7.99	0.3	8.9	8/20/2008	13:00	24.6	7.95	0.76	8.92
7/9/2008	16:00	21.5	7.99	0.3	8.87	8/20/2008	14:00	25.06	7.98	0.76	8.98
7/9/2008	17:00	21.59	8	0.3	8.9	8/20/2008	15:00	25.15	7.98	0.761	8.95
7/9/2008	18:00	21.77	8.01	0.28	8.89	8/20/2008	16:00	24.87	7.98	0.762	8.83
7/9/2008	19:00	21.81	7.98	0.27	8.74	8/20/2008	17:00	24.57	7.96	0.764	8.66
7/9/2008	20:00	21.8	7.95	0.25	8.64	8/20/2008	18:00	24.17	7.94	0.765	8.45
7/9/2008	21:00	21.73	7.92	0.19	8.69	8/20/2008	19:00	23.69	7.9	0.766	8.22
7/9/2008	22:00	21.68	7.9	0.19	8.66	8/20/2008	20:00	23.36	7.88	0.767	8.03
7/9/2008	23:00	21.62	7.91	0.19	8.75	8/20/2008	21:00	22.99	7.84	0.769	7.87
7/10/2008	0:00	21.55	7.92	0.18	8.72	8/20/2008	22:00	22.67	7.82	0.771	7.75
7/10/2008	1:00	21.45	7.96	0.22	8.79	8/20/2008	23:00	22.38	7.79	0.772	7.69
7/10/2008	2:00	21.32	7.97	0.26	8.82	8/21/2008	0:00	22.19	7.79	0.776	7.66
7/10/2008	3:00	21.17	7.99	0.28	8.84	8/21/2008	1:00	22.04	7.78	0.78	7.65
7/10/2008	4:00	21.02	8.01	0.29	8.8	8/21/2008	2:00	21.91	7.77	0.782	7.66
7/10/2008	5:00	20.86	8.05	0.34	8.87	8/21/2008	3:00	21.76	7.76	0.784	7.66
7/10/2008	6:00	20.71	8.05	0.26	9.03	8/21/2008	4:00	21.63	7.75	0.786	7.66
7/10/2008	7:00	20.58	8.04	0.14	8.79	8/21/2008	5:00	21.54	7.74	0.789	7.69
7/10/2008	8:00	20.48	7.97	0.35	8.9	8/21/2008	6:00	21.39	7.73	0.791	7.66
7/10/2008	9:00	20.44	8.18	0.35	9.02	8/21/2008	7:00	21.28	7.72	0.793	7.69
						8/21/2008	8:00	21.25	7.72	0.794	7.73
						8/21/2008	9:00	21.37	7.73	0.796	7.91
						8/21/2008	10:00	21.77	7.78	0.796	8.18

Appendix Table 3. Continued.

VALLEY RUN - RM 1.28											
STORET: 300363											
Date	Time	Temp.	pH	Spec.Conduct.	D.O.	Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l	M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/8/2008	10:00	19.83	7.3	0.312	8	8/19/2008	10:00	18.98	7.54	0.458	6.52
7/8/2008	11:00	20.14	7.32	0.312	8.04	8/19/2008	11:00	19.07	7.55	0.459	6.54
7/8/2008	12:00	20.6	7.34	0.312	8.1	8/19/2008	12:00	19.34	7.56	0.46	6.78
7/8/2008	13:00	21.09	7.35	0.313	8.13	8/19/2008	13:00	19.81	7.58	0.46	7
7/8/2008	14:00	21.55	7.36	0.313	8.13	8/19/2008	14:00	20.29	7.61	0.46	7.28
7/8/2008	15:00	22.05	7.38	0.313	8.13	8/19/2008	15:00	20.62	7.63	0.46	7.52
7/8/2008	16:00	22.55	7.38	0.315	8.07	8/19/2008	16:00	20.92	7.65	0.459	7.66
7/8/2008	17:00	22.89	7.4	0.315	8	8/19/2008	17:00	21.1	7.67	0.459	7.77
7/8/2008	18:00	23	7.39	0.329	7.87	8/19/2008	18:00	21.27	7.68	0.459	7.85
7/8/2008	19:00	22.99	7.39	0.334	7.77	8/19/2008	19:00	21.33	7.7	0.459	7.81
7/8/2008	20:00	22.61	7.37	0.312	7.74	8/19/2008	20:00	21.38	7.69	0.459	7.7
7/8/2008	21:00	22.37	7.29	0.306	7.57	8/19/2008	21:00	21.39	7.68	0.46	7.57
7/8/2008	22:00	21.47	7.15	0.334	7.38	8/19/2008	22:00	21.37	7.67	0.46	7.4
7/8/2008	23:00	21.53	7.15	0.284	7.41	8/19/2008	23:00	21.33	7.67	0.46	7.29
7/9/2008	0:00	21.35	7.16	0.275	7.5	8/20/2008	0:00	21.22	7.65	0.461	7.17
7/9/2008	1:00	21.02	7.13	0.275	7.48	8/20/2008	1:00	21.05	7.63	0.461	7.02
7/9/2008	2:00	20.8	7.09	0.265	7.4	8/20/2008	2:00	20.86	7.62	0.461	6.92
7/9/2008	3:00	20.89	7.14	0.273	7.42	8/20/2008	3:00	20.65	7.6	0.462	6.8
7/9/2008	4:00	21.25	7.18	0.291	7.38	8/20/2008	4:00	20.41	7.6	0.462	6.72
7/9/2008	5:00	21.14	7.18	0.297	7.34	8/20/2008	5:00	20.15	7.59	0.462	6.65
7/9/2008	6:00	20.94	7.16	0.272	7.35	8/20/2008	6:00	19.89	7.59	0.462	6.59
7/9/2008	7:00	20.75	7.12	0.253	7.29	8/20/2008	7:00	19.63	7.58	0.463	6.5
7/9/2008	8:00	20.55	7.08	0.241	7.35	8/20/2008	8:00	19.4	7.57	0.464	6.46
7/9/2008	9:00	20.46	7.08	0.24	7.43	8/20/2008	9:00	19.21	7.57	0.464	6.48
7/9/2008	10:00	20.46	7.11	0.246	7.48	8/20/2008	10:00	19.13	7.58	0.464	6.55
7/9/2008	11:00	20.47	7.14	0.256	7.56	8/20/2008	11:00	19.17	7.57	0.465	6.57
7/9/2008	12:00	20.53	7.15	0.26	7.63	8/20/2008	12:00	19.35	7.59	0.465	6.72
7/9/2008	13:00	20.76	7.17	0.258	7.69	8/20/2008	13:00	19.75	7.6	0.465	6.96
7/9/2008	14:00	21.04	7.18	0.258	7.76	8/20/2008	14:00	20.19	7.63	0.465	7.21
7/9/2008	15:00	21.21	7.19	0.259	7.76	8/20/2008	15:00	20.51	7.66	0.464	7.49
7/9/2008	16:00	21.38	7.21	0.264	7.76	8/20/2008	16:00	20.91	7.69	0.464	7.79
7/9/2008	17:00	21.62	7.23	0.267	7.78	8/20/2008	17:00	21.22	7.7	0.463	7.85
7/9/2008	18:00	21.81	7.23	0.27	7.76	8/20/2008	18:00	21.34	7.72	0.462	7.93
7/9/2008	19:00	21.83	7.24	0.273	7.71	8/20/2008	19:00	21.31	7.73	0.462	7.78
7/9/2008	20:00	21.69	7.24	0.275	7.7	8/20/2008	20:00	21.24	7.72	0.461	7.69
7/9/2008	21:00	21.52	7.24	0.277	7.68	8/20/2008	21:00	21.13	7.71	0.462	7.53
7/9/2008	22:00	21.31	7.24	0.278	7.65	8/20/2008	22:00	21	7.7	0.461	7.47
7/9/2008	23:00	21.14	7.24	0.278	7.64	8/20/2008	23:00	20.87	7.7	0.461	7.39
7/10/2008	0:00	20.94	7.24	0.28	7.64	8/21/2008	0:00	20.7	7.69	0.461	7.28
7/10/2008	1:00	20.75	7.24	0.281	7.65	8/21/2008	1:00	20.55	7.67	0.461	7.22
7/10/2008	2:00	20.53	7.24	0.284	7.67	8/21/2008	2:00	20.37	7.66	0.461	7.1
7/10/2008	3:00	20.24	7.24	0.285	7.71	8/21/2008	3:00	20.16	7.63	0.461	6.94
7/10/2008	4:00	20	7.25	0.293	7.77	8/21/2008	4:00	19.94	7.61	0.461	6.83
7/10/2008	5:00	19.78	7.26	0.41	7.78	8/21/2008	5:00	19.72	7.61	0.461	6.74
7/10/2008	6:00	19.56	7.27	0.393	7.83	8/21/2008	6:00	19.5	7.59	0.461	6.66
7/10/2008	7:00	19.34	7.27	0.349	7.88	8/21/2008	7:00	19.32	7.59	0.461	6.56
7/10/2008	8:00	19.22	7.27	0.331	7.92	8/21/2008	8:00	19.15	7.58	0.461	6.54
7/10/2008	9:00	19.1	7.27	0.32	8	8/21/2008	9:00	19.03	7.58	0.462	6.51

Appendix Table 3. Continued.

MOXAHALA CREEK - RM 12.70											
STORET:											
Date	Time	Temp.	pH	Spec.Conduct.	D.O.	Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l	M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/8/2008	12:00	21.26	5.71	0.35	7.08	8/19/2008	13:00	20.15	4.43	1.181	10.48
7/8/2008	13:00	21.96	5.61	0.36	8.04	8/19/2008	14:00	20.87	4.42	1.181	10.64
7/8/2008	14:00	22.25	5.52	0.81	8.01	8/19/2008	15:00	21.21	4.42	1.182	10.5
7/8/2008	15:00	22.49	5.53	0.62	7.98	8/19/2008	16:00	21.25	4.41	1.18	10.23
7/8/2008	16:00	22.7	5.53	0.32	7.96	8/19/2008	17:00	21.16	4.39	1.182	9.9
7/8/2008	17:00	22.84	5.47	0.81	7.92	8/19/2008	18:00	21.09	4.39	1.182	9.53
7/8/2008	18:00	22.93	5.45	0.82	7.89	8/19/2008	19:00	20.99	4.38	1.181	9.1
						8/19/2008	20:00	20.87	4.37	1.181	8.7
						8/19/2008	21:00	20.76	4.37	1.18	8.38
						8/19/2008	22:00	20.65	4.37	1.178	8.16
						8/19/2008	23:00	20.55	4.38	1.177	8.08
						8/20/2008	0:00	20.48	4.38	1.176	8.04
						8/20/2008	1:00	20.42	4.39	1.176	8.01
						8/20/2008	2:00	20.32	4.39	1.178	8.01
						8/20/2008	3:00	20.18	4.39	1.18	8
						8/20/2008	4:00	20.01	4.39	1.181	8.01
						8/20/2008	5:00	19.82	4.39	1.182	8.01
						8/20/2008	6:00	19.61	4.39	1.183	8.02
						8/20/2008	7:00	19.39	4.39	1.183	8.04
						8/20/2008	8:00	19.19	4.39	1.185	8.16
						8/20/2008	9:00	19.1	4.4	1.185	8.52
						8/20/2008	10:00	19.16	4.4	1.186	8.99
						8/20/2008	11:00	19.39	4.4	1.187	9.48
						8/20/2008	12:00	19.86	4.41	1.19	9.94
						8/20/2008	13:00	20.51	4.42	1.19	10.28
						8/20/2008	14:00	21.07	4.43	1.193	10.47
						8/20/2008	15:00	21.45	4.43	1.201	10.44
						8/20/2008	16:00	21.53	4.43	1.212	10.23
						8/20/2008	17:00	21.4	4.42	1.216	9.89
						8/20/2008	18:00	21.23	4.41	1.214	9.38
						8/20/2008	19:00	21.08	4.4	1.21	8.91
						8/20/2008	20:00	20.96	4.39	1.205	8.59
						8/20/2008	21:00	20.8	4.39	1.199	8.31
						8/20/2008	22:00	20.61	4.39	1.194	8.16
						8/20/2008	23:00	20.43	4.4	1.19	8.09
						8/21/2008	0:00	20.28	4.4	1.189	8.05
						8/21/2008	1:00	20.17	4.4	1.19	8.02
						8/21/2008	2:00	20.08	4.39	1.191	8.01
						8/21/2008	3:00	19.97	4.39	1.192	8.01
						8/21/2008	4:00	19.83	4.38	1.192	8
						8/21/2008	5:00	19.66	4.38	1.192	8.01
						8/21/2008	6:00	19.45	4.37	1.192	8.03
						8/21/2008	7:00	19.21	4.37	1.192	8.06
						8/21/2008	8:00	19.01	4.37	1.192	8.19
						8/21/2008	9:00	18.93	4.37	1.192	8.58
						8/21/2008	10:00	19.05	4.38	1.193	9.18
						8/21/2008	11:00	19.38	4.38	1.193	9.73



Appendix Table 3. Continued.

MOXAHALA CREEK - RM 6.8											
STORET: 300439											
Date	Time	Temp.	pH	Spec.Conduct.	D.O.	Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l	M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/8/2008	13:00	21.62	6.4	0.259	7.82	8/19/2008	14:00	20.94	4.44	1.106	8.92
7/8/2008	14:00	21.91	6.38	0.261	8.05	8/19/2008	15:00	21.28	4.49	1.137	8.94
7/8/2008	15:00	22	6.35	0.331	7.27	8/19/2008	16:00	21.31	4.51	1.137	8.93
7/8/2008	16:00	22.17	6.34	0.33	6.45	8/19/2008	17:00	21.3	4.53	1.136	8.92
7/8/2008	17:00	22.92	6.35	0.245	7.97	8/19/2008	18:00	21.23	4.53	1.138	8.91
7/8/2008	18:00	22.97	6.34	0.293	6.78	8/19/2008	19:00	21.15	4.53	1.139	8.85
7/8/2008	19:00	23.12	6.32	0.291	6.84	8/19/2008	20:00	21.02	4.53	1.14	8.82
7/8/2008	20:00	23.05	6.33	0.31	6.6	8/19/2008	21:00	20.86	4.52	1.141	8.75
7/8/2008	21:00	22.98	6.37	0.3	6.38	8/19/2008	22:00	20.73	4.53	1.141	8.71
7/8/2008	22:00	22.85	6.52	0.234	7.13	8/19/2008	23:00	20.64	4.52	1.142	8.67
7/8/2008	23:00	22.23	6.62	0.517	7.57	8/20/2008	0:00	20.58	4.53	1.144	8.62
7/9/2008	0:00	22.08	6.5	0.171	6.41	8/20/2008	1:00	20.48	4.53	1.145	8.6
7/9/2008	1:00	21.61	6.55	0.207	7.35	8/20/2008	2:00	20.38	4.53	1.146	8.6
7/9/2008	2:00	21.37	6.46	0.376	7.28	8/20/2008	3:00	20.3	4.53	1.147	8.58
7/9/2008	3:00	21.11	6.45	0.147	7.26	8/20/2008	4:00	20.28	4.53	1.148	8.57
7/9/2008	4:00	20.98	6.44	0.274	7.4	8/20/2008	5:00	20.28	4.54	1.149	8.53
7/9/2008	5:00	21.02	6.48	0.161	7.34	8/20/2008	6:00	20.28	4.54	1.149	8.52
7/9/2008	6:00	21.11	6.53	0.273	7.48	8/20/2008	7:00	20.24	4.54	1.149	8.49
7/9/2008	7:00	21.11	6.62	0.291	7.54	8/20/2008	8:00	20.2	4.54	1.149	8.54
7/9/2008	8:00	21.04	6.64	0.314	7.55	8/20/2008	9:00	20.25	4.54	1.149	8.62
7/9/2008	9:00	20.95	6.61	0.33	7.55	8/20/2008	10:00	20.32	4.54	1.149	8.71
7/9/2008	10:00	20.91	6.45	0.111	6.33	8/20/2008	11:00	20.42	4.54	1.148	8.75
7/9/2008	11:00	20.85	6.53	0.106	7.11	8/20/2008	12:00	20.51	4.54	1.147	8.82
7/9/2008	12:00	20.84	6.59	0.336	7.71	8/20/2008	13:00	20.77	4.55	1.147	8.86
7/9/2008	13:00	20.91	6.61	0.192	7.77	8/20/2008	14:00	21.11	4.55	1.146	8.87
7/9/2008	14:00	21.05	6.62	0.272	7.83	8/20/2008	15:00	21.34	4.55	1.146	8.9
7/9/2008	15:00	21.15	6.63	0.375	7.86	8/20/2008	16:00	21.41	4.54	1.146	8.94
7/9/2008	16:00	21.28	6.55	0.143	6.88	8/20/2008	17:00	21.38	4.54	1.146	8.9
7/9/2008	17:00	21.44	6.64	0.338	7.92	8/20/2008	18:00	21.32	4.54	1.145	8.88
7/9/2008	18:00	21.53	6.65	0.301	7.96	8/20/2008	19:00	21.23	4.55	1.145	8.87
7/9/2008	19:00	21.53	6.66	0.189	7.96	8/20/2008	20:00	21.06	4.55	1.145	8.79
7/9/2008	20:00	21.58	6.66	0.237	7.95	8/20/2008	21:00	20.79	4.55	1.144	8.76
7/9/2008	21:00	21.6	6.66	0.313	7.95	8/20/2008	22:00	20.53	4.56	1.144	8.72
7/9/2008	22:00	21.53	6.67	0.399	7.94	8/20/2008	23:00	20.34	4.56	1.143	8.7
7/9/2008	23:00	21.4	6.67	0.411	7.94	8/21/2008	0:00	20.18	4.57	1.144	8.67
7/10/2008	0:00	21.32	6.67	0.419	7.95	8/21/2008	1:00	20.02	4.57	1.144	8.67
7/10/2008	1:00	21.24	6.68	0.427	7.95	8/21/2008	2:00	19.86	4.58	1.144	8.67
7/10/2008	2:00	21.12	6.68	0.435	7.95	8/21/2008	3:00	19.74	4.59	1.143	8.67
7/10/2008	3:00	20.98	6.68	0.44	7.97	8/21/2008	4:00	19.69	4.59	1.144	8.64
7/10/2008	4:00	20.83	6.68	0.449	7.99	8/21/2008	5:00	19.69	4.59	1.146	8.61
7/10/2008	5:00	20.67	6.68	0.455	8.03	8/21/2008	6:00	19.7	4.59	1.145	8.61
7/10/2008	6:00	20.49	6.68	0.46	8.05	8/21/2008	7:00	19.69	4.59	1.146	8.59
7/10/2008	7:00	20.31	6.69	0.431	8.1	8/21/2008	8:00	19.7	4.58	1.147	8.63
7/10/2008	8:00	20.17	6.69	0.444	8.14	8/21/2008	9:00	19.83	4.57	1.148	8.68
7/10/2008	9:00	20.06	6.69	0.433	8.17	8/21/2008	10:00	20.08	4.56	1.146	8.76
7/10/2008	10:00	20.01	6.69	0.443	8.22	8/21/2008	11:00	20.29	4.56	1.149	8.81
7/10/2008	11:00	20.07	6.7	0.442	8.26	8/21/2008	12:00	20.54	4.56	1.151	8.88
7/10/2008	12:00	20.25	6.7	0.445	8.3	8/21/2008	13:00	20.84	4.56	1.156	8.94
7/10/2008	13:00	20.52	6.7	0.437	8.34						

Appendix Table 3. Continued.

MOXAHALA CREEK - RM 3.3											
STORET: 300437											
Date	Time	Temp.	pH	Spec.Conduct.	D.O.	Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l	M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/8/2008	14:00	22.97	7.65	0.545	8.78	8/19/2008	10:00	20.4	7.03	0.973	8.49
7/8/2008	15:00	23.13	7.68	0.548	8.76	8/19/2008	11:00	20.55	7.03	0.972	8.59
7/8/2008	16:00	23.13	7.68	0.55	8.69	8/19/2008	12:00	20.83	7.02	0.971	8.72
7/8/2008	17:00	23.39	7.7	0.553	8.73	8/19/2008	13:00	21.08	7.02	0.971	8.81
7/8/2008	18:00	23.42	7.69	0.554	8.57	8/19/2008	14:00	21.35	7.02	0.971	8.89
7/8/2008	19:00	23.3	7.68	0.547	8.44	8/19/2008	15:00	21.64	7.02	0.97	8.99
7/8/2008	20:00	22.99	7.66	0.549	8.3	8/19/2008	16:00	22.07	7.02	0.97	9.12
7/8/2008	21:00	22.76	7.64	0.541	8.21	8/19/2008	17:00	22.29	7.02	0.97	9.19
7/8/2008	22:00	22.72	7.63	0.544	8.23	8/19/2008	18:00	22.56	7.02	0.97	9.26
7/8/2008	23:00	22.82	7.61	0.551	8.22	8/19/2008	19:00	22.82	7.03	0.97	9.23
7/9/2008	0:00	22.9	7.63	0.497	8.22	8/19/2008	20:00	23.12	7.04	0.97	9.13
7/9/2008	1:00	22.06	7.27	0.447	8.14	8/19/2008	21:00	23.37	7.04	0.97	8.98
7/9/2008	2:00	21.85	7.13	0.402	8.09	8/19/2008	22:00	23.55	7.05	0.97	8.89
7/9/2008	3:00	21.51	7.02	0.326	8.01	8/19/2008	23:00	23.61	7.06	0.969	8.75
7/9/2008	4:00	21.29	7.02	0.293	8.02	8/20/2008	0:00	23.5	7.07	0.968	8.65
7/9/2008	5:00	21.25	7.07	0.282	8.03	8/20/2008	1:00	23.29	7.08	0.966	8.53
7/9/2008	6:00	21.08	7.01	0.258	8.06	8/20/2008	2:00	22.96	7.08	0.965	8.42
7/9/2008	7:00	21.05	7.01	0.245	8.01	8/20/2008	3:00	22.61	7.09	0.965	8.29
7/9/2008	8:00	21.02	7.02	0.243	8.08	8/20/2008	4:00	22.25	7.09	0.964	8.21
7/9/2008	9:00	20.98	7.02	0.252	8.08	8/20/2008	5:00	21.9	7.09	0.964	8.16
7/9/2008	10:00	20.94	7.02	0.265	8.1	8/20/2008	6:00	21.57	7.09	0.965	8.13
7/9/2008	11:00	20.9	7.03	0.278	8.16	8/20/2008	7:00	21.28	7.08	0.966	8.13
7/9/2008	12:00	20.94	7.07	0.29	8.18	8/20/2008	8:00	21.03	7.08	0.968	8.19
7/9/2008	13:00	21.05	7.12	0.3	8.23	8/20/2008	9:00	20.86	7.08	0.969	8.34
7/9/2008	14:00	21.28	7.15	0.314	8.22	8/20/2008	10:00	20.73	7.09	0.971	8.45
7/9/2008	15:00	21.4	7.17	0.324	8.19	8/20/2008	11:00	20.82	7.09	0.973	8.57
7/9/2008	16:00	21.42	7.19	0.333	8.23	8/20/2008	12:00	21.09	7.08	0.974	8.7
7/9/2008	17:00	21.59	7.21	0.336	8.2	8/20/2008	13:00	21.31	7.07	0.976	8.78
7/9/2008	18:00	21.64	7.23	0.337	8.21	8/20/2008	14:00	21.49	7.07	0.978	8.88
7/9/2008	19:00	21.69	7.24	0.34	8.07	8/20/2008	15:00	21.62	7.07	0.979	8.98
7/9/2008	20:00	21.69	7.25	0.343	8.13	8/20/2008	16:00	21.88	7.07	0.98	9.11
7/9/2008	21:00	21.63	7.26	0.344	8.04	8/20/2008	17:00	22.21	7.07	0.981	9.2
7/9/2008	22:00	21.55	7.27	0.346	8.1	8/20/2008	18:00	22.42	7.07	0.982	9.24
7/9/2008	23:00	21.49	7.28	0.349	8.13	8/20/2008	19:00	22.61	7.08	0.984	9.2
7/10/2008	0:00	21.43	7.3	0.354	8.17	8/20/2008	20:00	22.89	7.08	0.985	9.15
7/10/2008	1:00	21.34	7.31	0.359	8.16	8/20/2008	21:00	23.09	7.08	0.986	9.03
7/10/2008	2:00	21.23	7.32	0.365	8.18	8/20/2008	22:00	23.21	7.08	0.988	8.94
7/10/2008	3:00	21.11	7.33	0.371	8.18	8/20/2008	23:00	23.25	7.08	0.989	8.82
7/10/2008	4:00	20.97	7.35	0.377	8.19	8/21/2008	0:00	23.15	7.09	0.99	8.68
7/10/2008	5:00	20.82	7.36	0.383	8.2	8/21/2008	1:00	22.95	7.09	0.992	8.6
7/10/2008	6:00	20.67	7.37	0.388	8.2	8/21/2008	2:00	22.67	7.09	0.993	8.46
7/10/2008	7:00	20.53	7.37	0.392	8.25	8/21/2008	3:00	22.32	7.08	0.994	8.37
7/10/2008	8:00	20.42	7.38	0.398	8.29	8/21/2008	4:00	21.94	7.07	0.995	8.3
7/10/2008	9:00	20.35	7.39	0.402	8.35	8/21/2008	5:00	21.56	7.07	0.996	8.24
						8/21/2008	6:00	21.22	7.06	0.996	8.21
						8/21/2008	7:00	20.91	7.05	0.996	8.19
						8/21/2008	8:00	20.67	7.05	0.995	8.28
						8/21/2008	9:00	20.53	7.05	0.995	8.42

Appendix Table 3. Continued.

<b>BUCKEYE FORK - RM 1.42</b>											
STORET: 201235											
Date	Time	Temp.	pH	Spec.Conduct.	D.O.	Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l	M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/8/2008	11:00	20.81	7.1	0.94	8.8	8/19/2008	15:00	21.84	6.54	1.65	8.52
7/8/2008	12:00	21.4	7.14	0.94	8.79	8/19/2008	16:00	22.39	6.54	1.65	8.49
7/8/2008	13:00	22.42	7.15	0.95	8.7	8/19/2008	17:00	23.12	6.64	1.67	8.41
7/8/2008	14:00	23.52	7.12	0.94	8.57	8/19/2008	18:00	23.69	6.81	1.69	8.3
7/8/2008	15:00	24.29	7.1	0.95	8.45	8/19/2008	19:00	24	6.91	1.7	8.18
7/8/2008	16:00	24.86	7.1	0.95	8.38	8/19/2008	20:00	24.15	6.93	1.7	8.06
7/8/2008	17:00	25.16	7.07	0.95	8.31	8/19/2008	21:00	24.16	6.91	1.7	7.96
7/8/2008	18:00	25.41	7.07	0.95	8.2	8/19/2008	22:00	24.04	6.9	1.7	7.87
7/8/2008	19:00	25.09	7.25	0.93	8.11	8/19/2008	23:00	23.8	6.9	1.69	7.84
7/8/2008	20:00	23.79	7.7	0.76	8.15	8/20/2008	0:00	23.49	6.9	1.69	7.83
7/8/2008	21:00	21.93	7.21	0.47	8.26	8/20/2008	1:00	23.13	6.89	1.69	7.82
7/8/2008	22:00	21.12	7.1	0.3	7.96	8/20/2008	2:00	22.75	6.88	1.69	7.86
						8/20/2008	3:00	22.38	6.88	1.69	7.88
						8/20/2008	4:00	21.92	6.87	1.68	7.95
						8/20/2008	5:00	21.48	6.88	1.68	8.01
						8/20/2008	6:00	21.03	6.9	1.68	8.07
						8/20/2008	7:00	20.57	6.93	1.69	8.14
						8/20/2008	8:00	20.22	6.94	1.69	8.21
						8/20/2008	9:00	19.99	6.95	1.69	8.28
						8/20/2008	10:00	19.87	6.96	1.69	8.34
						8/20/2008	11:00	19.93	6.97	1.7	8.41
						8/20/2008	12:00	20.17	6.99	1.7	8.47
						8/20/2008	13:00	20.55	6.99	1.7	8.52
						8/20/2008	14:00	20.98	6.99	1.7	8.56
						8/20/2008	15:00	21.44	6.99	1.7	8.58
						8/20/2008	16:00	22.1	6.98	1.7	8.56
						8/20/2008	17:00	22.91	6.95	1.7	8.48
						8/20/2008	18:00	23.47	6.92	1.7	8.37
						8/20/2008	19:00	23.68	6.86	1.69	8.27
						8/20/2008	20:00	23.75	6.76	1.68	8.12
						8/20/2008	21:00	23.62	6.71	1.67	8.02
						8/20/2008	22:00	23.34	6.75	1.67	7.96
						8/20/2008	23:00	22.98	6.86	1.68	7.94
						8/21/2008	0:00	22.61	6.97	1.7	7.93
						8/21/2008	1:00	22.26	7.06	1.7	7.92
						8/21/2008	2:00	21.96	7.1	1.71	7.95
						8/21/2008	3:00	21.64	7.08	1.7	7.98
						8/21/2008	4:00	21.31	7.08	1.7	8.02
						8/21/2008	5:00	20.97	7.1	1.71	8.06
						8/21/2008	6:00	20.6	7.13	1.71	8.11
						8/21/2008	7:00	20.24	7.15	1.71	8.16
						8/21/2008	8:00	19.95	7.14	1.71	8.24
						8/21/2008	9:00	19.79	7.12	1.71	8.31
						8/21/2008	10:00	19.74	7.1	1.71	8.38
						8/21/2008	11:00	19.88	7.08	1.71	8.45
						8/21/2008	12:00	20.24	7.07	1.71	8.53
						8/21/2008	13:00	20.75	7.07	1.71	8.57
						8/21/2008	14:00	21.32	7.06	1.72	8.58

Appendix Table 4. Bacteriological results collected from the Moxahala Creek watershed in 2008.

Location	RM	E. Coli								
		May 28	June 30	July 9	Aug 7	Aug 20	Aug 28	Sept 2	Sept 8	Oct 2
Moxahala Creek at Twp Rd 312 South of Moores Junction	24	NA	<10	460	<10	<10	20JL	NA	NA	NA
MOXAHALA CREEK DST. ROSEVILLE WWTP	13.4	NA	10JL	2500	10JL	10JL	<10	NA	NA	NA
MOXAHALA CREEK S OF AVONDALE @ LAMBERT RD.	6.8	NA	80JL/110JL	4500	10JL/10JL	<10/20JL	120JL/90JL	NA	NA	NA
MOXAHALA CREEK @ MOXADARLA RD.	3.3	NA	2000/1800JL	24000	40JL	20JL	170JL	NA	NA	NA
MOXAHALA CREEK AT SOUTH ZANESVILLE @ CO. RD. 6	0.6	NA	1200JL	27000	60JL	30JL	140JL	NA	NA	NA
Andrews Run (TRIB. TO MOXAHALA CR at RM 24.79)@ ST. RT. 13	0.3	NA	<10	<10	10JL	<10	<10	NA	NA	NA
BLACK FORK UPST. OGG CREEK, ADJ. TATMANS RD. (CO. RD. 22)	3.5	NA	220	2700	40JL	60JL	710	NA	NA	NA
BLACK FORK DST. OGG CREEK, DST. SEEP	2.5	NA	120JL	3800	10	10JL	10	NA	NA	NA
Black Fork @ SR 669 DST Ogg Creek	1.93	NA	90JL	3900	10	10	10	NA	NA	NA
BLACK FORK JUST S OF CROOKSVILLE @ ST. RT. 669	0.24	NA	30JL	320	20JL	65JL	10/10JL	NA	NA	NA
OGG CREEK S OF DEAVERTOWN @ ST. RT. 555	2.1	NA	240	2900	100JL	340	550	NA	NA	NA
OGG CREEK NEAR MOUTH (AT WHITE HOUSE)	0.2	NA	60JL	5200	700JL	40JL	20JL	NA	NA	NA
Jonathan Creek at SR 204	27.1	NA	730	3900J	430	200	380	240	80JL	90JL
JONATHAN CREEK @ HOPEWELL INDIAN RD.	22.32	NA	710	4400J	260	50JL	310J	130JL	60JL	50JL/80JL
JONATHAN CREEK DST GLASS ROCK TRIB, OFF ST. RT. 204	17.4	NA	2000	4900J	310	1700JL	440	510	2600	160JL
JONATHAN CREEK AT MT. PERRY @ CO. RD. 34	12.2	NA	2700	19000JL	170JL	130JL	NA	210	40JL	90JL
Jonathan Creek at Workman Road	7.6	NA	3000	9300JL	NA	80JL	NA	40JL	30JL	20JL
JONATHAN CREEK NEAR WHITE COTTAGE @ CROCK RD.	3.35	140JL	3100/3200	22000/17000JL	80JL/50JL	10JL/20JL	40JL/20JL	190JL/180JL	20JL/50JL	60JL/130JL
JONATHAN CREEK NEAR AVONDALE @ ST. RT. 93	1.1	NA	2900	33000	50JL	30JL	360	130JL	10JL	50JL
JONATHAN CREEK DST ST. RT. 93 DAM POOL @ POWELL RD.	0.9	NA	2200	37000	60JL	60JL	790	80JL	10JL	<10
Bowling Green Run at Boundries Road	0.1	NA	810JL	1800JL	510	260	930JL	NA	NA	NA
VALLEY RUN UPST. BERRY RUN @ LAUREL HILL RD.	5.4	NA	1200JL	3400	440	260	900JL	NA	NA	NA
Valley Run at TR 333 - Cherry Hill Rd	3.5	NA	1800JL	5500	430	560	3500	NA	NA	NA
VALLEY RUN @ HOPEWELL INDIAN RD.	1.28	330	2000/1600 JL	5500/7600	340/270	300/450	5000	250/280	150JL/130JL	370
TRIB. TO JONATHAN CREEK (19.47) NEAR MOUTH @ TWP. RD. 19	0.75	NA	640	680	22000	790	1800JL	NA	NA	NA
Trib to Jonathon Creek @ RM 17.55 Dst Oglebay Norton - TR92A	0.1	NA	2400	24000	15000JL	7500	NA	NA	NA	NA
PAINTER CREEK @ TWP. RD. 76, DST. TRIB.	2.68	NA	750	3700	240	270	880JL	NA	NA	NA
Painter Creek at Cooperrider Road (covered bridge)	0.85	NA	770	4100	280	80JL	4900	NA	NA	NA
TRIB TO JONATHAN CR (13.74) DST SUBURBAN LF @ SNOOK RD.	0.32	NA	230	1500JL	NA	NA	490	NA	NA	NA
TURKEY RUN @ TWP. RD. 49 (UPPER CROSSING)	2.9	NA	410	1800JL	510	50JL	1800JL	NA	NA	NA
Turkey Run @ RR bridge near mouth	0.25	NA	520	2000	200	60JL	1700JL	NA	NA	NA
BUCKEYE FORK ADJ ST. RT. 345/OLD RANIER RD.	4.9	NA	40JL	130JL	<10	<10	30JL	NA	NA	NA
BUCKEYE FORK @ FLETCHER RD.	3.41	NA	20JL	330	20JL	<10	20JL	NA	NA	NA
BUCKEYE FORK AT EAST FULTONHAM, ADJ. RABBIT LANE OR TR 88	1.42	NA	110JL	1100JL	40JL	60JL	20JL	NA	NA	NA
Butcherknife Creek at St. Rt. 345	0.08	NA	200	440	30JL	10JL	170JL	NA	NA	NA
KENT RUN @ ASBURY CHAPEL RD.	8.85	NA	3700	21000	450	310	NA	NA	NA	NA
KENT RUN @ SLACK RD.	3.68	NA	2700	25000	330	50JL	750	NA	NA	NA
KENT RUN @ LOWER KROFT RD, AT THE MAYSVILLE WTP INTAKE	1.35	NA	4600	27000	80JL	<10	460	50JL	10JL	220
THOMPSON CREEK @ COPPERMILL RD.	4.73	NA	5500	20000	130JL	190JL	1700JL	NA	NA	NA
THOMPSON CREEK @ U.S. RT. 22	0.39	NA	1800JL	4000JL	340	60JL	690	NA	NA	NA

Appendix Table 4. Continued.

Location	RM	Fecal Coliform								
		May 28	June 30	July 9	Aug 7	Aug 20	Aug 28	Sept 2	Sept 8	Oct 2
Moxahala Creek at Twp Rd 312 South of Moores Junction	24	NA	10	400J,JL	10	10	20JL	NA	NA	NA
MOXAHALA CREEK DST. ROSEVILLE WWTP	13.4	NA	40JL	4400	10JL	20JL	10	NA	NA	NA
MOXAHALA CREEK S OF AVONDALE @ LAMBERT RD.	6.8	NA	170JL/140JL	4300	15JL	20JL/30JL	10J,JL/150J,JL	NA	NA	NA
MOXAHALA CREEK @ MOXADARLA RD.	3.3	NA	2900/1900JL	29000J	80JL	30JL	400J	NA	NA	NA
MOXAHALA CREEK AT SOUTH ZANESVILLE @ CO. RD. 6	0.6	NA	1400JL	35000	120JL	120JL	NA	NA	NA	NA
Andrews Run (TRIB. TO MOXAHALA CR at RM 24.79)@ ST. RT. 13	0.3	NA	10	10JL	10	10	10JL	NA	NA	NA
BLACK FORK UPST. OGG CREEK, ADJ. TATMANS RD. (CO. RD. 22)	3.5	NA	240	6400JL	80JL	210	2600	NA	NA	NA
BLACK FORK DST. OGG CREEK, DST. SEEP	2.5	NA	200	8100JL	10JL	1000J,JL	10JL	NA	NA	NA
Black Fork @ SR 669 DST Ogg Creek	1.93	NA	160JL	4700/6700JL	10	10	10	NA	NA	NA
BLACK FORK JUST S OF CROOKSVILLE @ ST. RT. 669	0.24	NA	20JL	4900J	25JL	30JL/50JL	<10/10JL	NA	NA	NA
OGG CREEK S OF DEAVERTOWN @ ST. RT. 555	2.1	NA	410	2700J	270	430	450	NA	NA	NA
OGG CREEK NEAR MOUTH (AT WHITE HOUSE)	0.2	NA	70JL	7900J,JL	2400	30JL	190J,JL	NA	NA	NA
Jonathan Creek at SR 204	27.1	NA	1500JL	5000J,JL	630JL	430	600JL	310	230	70JL
JONATHAN CREEK @ HOPEWELL INDIAN RD.	22.32	NA	1100JL	2000J,JL	380	440	570	420	270	130JL/130JL
JONATHAN CREEK DST GLASS ROCK TRIB, OFF ST. RT. 204	17.4	NA	3100	17000J,JL	410	2000	630JL	540	4000	240
JONATHAN CREEK AT MT. PERRY @ CO. RD. 34	12.2	NA	4000J,JL	21000	210	320	NA	250	140JL	290
Jonathan Creek at Workman Road	7.6	NA	3700	20000	NA	220	NA	90JL	80JL	50JL
JONATHAN CREEK NEAR WHITE COTTAGE @ CROCK RD.	3.35	200	4700/4000	33000J/26000J	110JL	30JL/50JL	30JL/70JL	240/170JL	60JL/70JL	150JL/80JL
JONATHAN CREEK NEAR AVONDALE @ ST. RT. 93	1.1	NA	2000J,JL	55000	170JL	80JL	510	50JL	50JL	80J, JL
JONATHAN CREEK DST ST. RT. 93 DAM POOL @ POWELL RD.	0.9	NA	2300	44000J	140JL	20JL	850JL	120JL	40JL	30JL
Bowling Green Run at Boundries Road	0.1	NA	1300JL	4000	850JL	580	1100JL	NA	NA	NA
VALLEY RUN UPST. BERRY RUN @ LAUREL HILL RD.	5.4	NA	1900JL	7000J,JL	550	420	5000J,JL	NA	NA	NA
Valley Run at TR 333 - Cherry Hill Rd	3.5	NA	3000	8000J,JL	750JL	740JL	3900	NA	NA	NA
VALLEY RUN @ HOPEWELL INDIAN RD.	1.28	450	2400/1800JL	11000JL/14000JL	365	540/650JL	6000	440/570	240/350	500
TRIB. TO JONATHAN CREEK (19.47) NEAR MOUTH @ TWP. RD. 19	0.75	NA	930JL	2400	51000	3500	2000	NA	NA	NA
Trib to Jonathon Creek @ RM 17.55 Dst Oglebay Norton - TR92A	0.1	NA	3400	33000	22000	10000JL	NA	NA	NA	NA
PAINTER CREEK @ TWP. RD. 76, DST. TRIB.	2.68	NA	1100JL	3800J	400	330	930JL	NA	NA	NA
Painter Creek at Cooperrider Road (covered bridge)	0.85	NA	1500JL	3900J	250	230	7200JL	NA	NA	NA
TRIB TO JONATHAN CR (13.74) DST SUBURBAN LF @ SNOOK RD.	0.32	NA	490	2800	NA	NA	1600JL	NA	NA	NA
TURKEY RUN @ TWP. RD. 49 (UPPER CROSSING)	2.9	NA	450	1600JL	970JL	60JL	2100	NA	NA	NA
Turkey Run @ RR bridge near mouth	0.25	NA	580	3400	120JL	100JL	4000J,JL	NA	NA	NA
BUCKEYE FORK ADJ ST. RT. 345/OLD RANIER RD.	4.9	NA	80JL	380	20JL	10	40JL	NA	NA	NA
BUCKEYE FORK @ FLETCHER RD.	3.41	NA	80JL	480	10JL	10	100JL	NA	NA	NA
BUCKEYE FORK AT EAST FULTONHAM, ADJ. RABBIT LANE OR TR 88	1.42	NA	460	1900JL	30JL	110JL	70JL	NA	NA	NA
Butcherknife Creek at St. Rt. 345	0.08	NA	200	1000J,JL	80JL	50JL	140JL	NA	NA	NA
KENT RUN @ ASBURY CHAPEL RD.	8.85	NA	4700	19000JL	660JL	520	NA	NA	NA	NA
KENT RUN @ SLACK RD.	3.68	NA	5500	44000	350	70JL	1200JL	NA	NA	NA
KENT RUN @ LOWER KROFT RD, AT THE MAYSVILLE WTP INTAKE	1.35	NA	11000JL	18000J,JL	180JL	60JL	430	120JL	80JL	180JL
THOMPSON CREEK @ COPPERMILL RD.	4.73	NA	6000	37000	180JL	420	1900JL	NA	NA	NA
THOMPSON CREEK @ U.S. RT. 22	0.39	NA	2000J,JL	27000J	650JL	130JL	990JL	NA	NA	NA

J - The analyte was positively identified, the associated numerical value is estimated.

JL - The reported result is estimated because it has been computed using a colony count that is not within the acceptable count range.

< - Less than detection limit.

Appendix Table 5. Sediment results (metals, nutrients) from the Moxahala Creek study area, 2008.

Stream	JONATHON CREEK	JONATHON CREEK	TRIB TO JONATHON CREEK (@ RM 13.74)	KENT RUN	VALLEY RUN
River Mile	12.2	3.35	0.32	1.35	1.28
STORET Number	R15S01	300362	300467	300422	300363
Date Sampled	8/19/2008	7/28/2008	9/29/2008	8/19/2008	7/28/2008
Time Sampled	1:10 PM	12:15 PM	9:00 AM	11:00 AM	2:00 PM
<b>Metals (mg/kg)</b>					
Arsenic	6.74	11.9	16.9	5.86	4.89
Cadmium	0.150	0.275	0.168	0.149	0.150
Chromium	6.86	9.02	9.22	8.79	6.76
Copper	7.79	14.7	8.11	9.64	7.18
Lead	9.88	11.0	15.3	11.9	8.85
Nickel	10.8	30.4	16.2	14.2	9.86
Selenium	<1.16	<0.97	<0.79	<0.99	<0.78
Aluminum	4300	5560	3370	5540	4820
Barium	54.1	48.5	46.0	65.5	53.0
Calcium	4230	7240	2020	2660	1580
Iron	14100	18900	39800	23300	12600
Magnesium	1520	1590	863	1460	1180
Manganese	608	860	940	574	458
Potassium	<1160	<970	<788	<994	<777
Sodium	<2910	<2420	<1970	<2480	<1940
Strontium	<17	18	<12	<15	<12
Zinc	42.0	86.2	53.2	58.8	37.8
Mercury	0.034	<0.031	<0.030	0.043	<0.033
<b>Other</b>					
Ammonia (mg/kg)	20	28	21	25	20
Phosphorus - Total (mg/kg)	328	293	73	215	167
Percent Solids	63.7	69.9	75.8	66.0	65.2

Stream	MOXAHALA CREEK	BLACK FORK	BLACK FORK	OGG CREEK
River Mile	6.8	3.5	1.93	0.2
STORET Number	300439	R99Q36	300456	300457
Date Sampled	8/19/2008	8/19/2008	8/19/2008	8/19/2008
Time Sampled	10:00 AM	10:00 AM	10:55 AM	12:10 PM
<b>Metals (mg/kg)</b>				
Arsenic	6.48	5.15	8.59	40.0
Cadmium	<0.092	0.095	0.153	<0.201
Chromium	6.67	13.9 J	14.8 J	35.6 J
Copper	9.84	11.8 J	15.0 J	28.5 J
Lead	14.2	12.1	12.9	16.3
Nickel	11.6	18.7 J	21.2 J	14.2 J
Selenium	<0.92	<0.82	<1.01	2.59
Aluminum	9130	9060	9020	47700
Barium	27.8	76.5	87.7	69.6
Calcium	<919	1280	4610	2460
Iron	45200	21700	49100	243000
Magnesium	782	1900	2600	1990
Manganese	206	429	465	305
Potassium	<919	861	<1010	<2010
Sodium	<2300	<2040	<2510	<5020
Strontium	16	17	21	36
Zinc	77.6	53.1	67.0	66.2
Mercury	0.032	0.036	0.057	0.184
<b>Other</b>				
Ammonia (mg/kg)	34	24	27	88
Phosphorus - Total (mg/kg)	371	121	660 J	117
Percent Solids	56.5	68.0	60.3	26.2

J - results estimated due to either elevated spike recovery and poor correlation between lab duplicates (phosphorus), or due to matrix interference.

Appendix Table 6. Sediment sampling results for semivolatile organic compounds, pesticides, and PCBs from the Moxahala Creek study area, 2008.

Stream	JONATHON CREEK	JONATHON CREEK	TRIB TO JONATHON CREEK (@ RM 13.74)	KENT RUN	VALLEY RUN
River Mile	12.2	3.35	0.32	1.35	1.28
STORET Number	R15S01	300362	300467	300422	300363
Date Sampled	8/19/2008	7/28/2008	9/29/2008	8/19/2008	7/28/2008
Time Sampled	1:10 PM	12:15 PM	9:00 AM	11:00 AM	2:00 PM
<b>Semivolatile Organic Compounds (mg/kg)</b>					
Acenaphthene	<0.60	<0.58	<0.52	<0.59	<0.60
Acenaphthylene	<0.60	<0.58	<0.52	<0.59	<0.60
Acetophenone	<0.60	<0.58	<0.52	<0.59	<0.60
2-Acetylaminofluorene	<0.60	<0.58	<0.52	<0.59	<0.60
Aniline	<3.0	<2.9	<2.6	<2.9	<3.0
Anthracene	<0.60	<0.58	<0.52	<0.59	<0.60
Benz[a]anthracene	<0.60	<0.58	<0.52	<0.59	<0.60
Benzo[a]pyrene	<0.60	<0.58	<0.52	<0.59	<0.60
Benzo[b]fluoranthene	<0.60	<0.58	<0.52	<0.59	<0.60
Benzo[g,h,i]perylene	<0.60	<0.58	<0.52	<0.59	<0.60
Benzo[k]fluoranthene	<0.60	<0.58	<0.52	<0.59	<0.60
Benzyl alcohol	<0.60	<0.58	<0.52	<0.59	<0.60
bis(2-Chloroethoxy)methane	<0.60	<0.58	<0.52	<0.59	<0.60
bis(2-Chloroethyl)ether	<0.60	<0.58	<0.52	<0.59	<0.60
bis(2-Chloroisopropyl)ether	<0.60	<0.58	<0.52	<0.59	<0.60
bis(2-Ethylhexyl)phthalate	<0.60	<0.58	<0.52	<0.59	<0.60
4-Bromophenyl-phenylether	<0.60	<0.58	<0.52	<0.59	<0.60
Butylbenzylphthalate	<0.60	<0.58	<0.52	<0.59	<0.60
4-Chloro-3-methylphenol	<0.60	<0.58	<0.52 UJ	<0.59	<0.60
2-Chloronaphthalene	<0.60	<0.58	<0.52	<0.59	<0.60
2-Chlorophenol	<0.60	<0.58	<0.52	<0.59	<0.60
4-Chlorophenyl-phenylether	<0.60	<0.58	<0.52	<0.59	<0.60
Chrysene	<0.60	<0.58	<0.52	<0.59	<0.60
Di-n-butylphthalate	<0.60	<0.58	<0.52	<0.59	<0.60
Di-n-octylphthalate	<0.60	<0.58	<0.52	<0.59	<0.60
Dibenz[a,h]anthracene	<0.60	<0.58	<0.52	<0.59	<0.60
Dibenzofuran	<0.60	<0.58	<0.52	<0.59	<0.60
1,3-Dichlorobenzene	<0.60	<0.58	<0.52	<0.59	<0.60
1,4-Dichlorobenzene	<0.60	<0.58	<0.52	<0.59	<0.60
1,2-Dichlorobenzene	<0.60	<0.58	<0.52	<0.59	<0.60
3,3'-Dichlorobenzidine	<3.0	<2.9	<2.6	<2.9	<3.0
2,6-Dichlorophenol	<0.60	<0.58	<0.52	<0.59	<0.60
2,4-Dichlorophenol	<0.60	<0.58	<0.52	<0.59	<0.60
Diethylphthalate	<0.60	<0.58	<0.52	<0.59	<0.60
p-Dimethylaminoazobenzene	<0.60	<0.58	<0.52	<0.59	<0.60
7,12-Dimethylbenz[a]anthracene	<3.0	<2.9	<2.6	<2.9	<3.0
2,4-Dimethylphenol	<0.60	<0.58	<0.52	<0.59	<0.60
Dimethylphthalate	<0.60	<0.58	<0.52	<0.59	<0.60
4,6-Dinitro-2-methylphenol	<0.60 UJ	<0.58	<0.52 UJ	<0.59 UJ	<0.60
1,3-Dinitrobenzene	<0.60	<0.58	<0.52	<0.59	<0.60
2,4-Dinitrophenol	<3.0	<2.9	<2.6	<2.9	<3.0
2,6-Dinitrotoluene	<0.60	<0.58	<0.52	<0.59	<0.60
2,4-Dinitrotoluene	<0.60	<0.58	<0.52	<0.59	<0.60
Dinoseb	<0.60	<0.58	<0.52	<0.59	<0.60
Diphenylamine	<0.60	<0.58	<0.52	<0.59	<0.60
Ethyl methanesulfonate	<0.60	<0.58	<0.52	<0.59	<0.60

Appendix Table 6. Continued.

Stream	JONATHON CREEK	JONATHON CREEK	TRIB TO JONATHON CREEK (@ RM 13.74)	KENT RUN	VALLEY RUN
River Mile	12.2	3.35	0.32	1.35	1.28
STORET Number	R15S01	300362	300467	300422	300363
Date Sampled	8/19/2008	7/28/2008	9/29/2008	8/19/2008	7/28/2008
Time Sampled	1:10 PM	12:15 PM	9:00 AM	11:00 AM	2:00 PM
<b>Semivolatile Organic Compounds (mg/kg)</b>					
Fluoranthene	<0.60	<0.58	<0.52	<0.59	<0.60
Fluorene	<0.60	<0.58	<0.52	<0.59	<0.60
Hexachlorobenzene	<0.60	<0.58	<0.52	<0.59	<0.60
Hexachlorobutadiene	<0.60	<0.58	<0.52	<0.59	<0.60
Hexachlorocyclopentadiene	<0.60	<0.58	<0.52	<0.59	<0.60
Hexachloroethane	<0.60	<0.58	<0.52	<0.59	<0.60
Hexachloropropene	<0.60	<0.58	<0.52	<0.59	<0.60
Indeno[1,2,3-cd]pyrene	<0.60	<0.58	<0.52	<0.59	<0.60
Isophorone	<0.60	<0.58	<0.52	<0.59	<0.60
Methyl methanesulfonate	<0.60	<0.58	<0.52	<0.59	<0.60
3-Methylcholanthrene	<0.60	<0.58	<0.52	<0.59	<0.60
2-Methylnaphthalene	<0.60	<0.58	<0.52	<0.59	<0.60
3&4-Methylphenol	<0.60	<0.58	<0.52	<0.59	<0.60
2-Methylphenol	<0.60	<0.58	<0.52	<0.59	<0.60
N-Nitroso-di-n-butylamine	<0.60	<0.58	<0.52	<0.59	<0.60
N-Nitroso-di-n-propylamine	<0.60	<0.58	<0.52	<0.59	<0.60
N-Nitrosomorpholine	<0.60	<0.58	<0.52	<0.59	<0.60
N-Nitrosopiperidine	<0.60	<0.58	<0.52	<0.59	<0.60
N-Nitrosopyrrolidine	<0.60	<0.58	<0.52	<0.59	<0.60
Naphthalene	<0.60	<0.58	<0.52	<0.59	<0.60
1,4-Naphthoquinone	<0.60	<0.58	<0.52	<0.59	<0.60
2-Nitroaniline	<0.60	<0.58	<0.52	<0.59	<0.60
4-Nitroaniline	<0.60	<0.58	<0.52	<0.59	<0.60
Nitrobenzene	<0.60	<0.58	<0.52	<0.59	<0.60
4-Nitrophenol	<3.0	<2.9	<2.6	<2.9	<3.0
2-Nitrophenol	<0.60	<0.58	<0.52	<0.59	<0.60
Pentachlorobenzene	<0.60	<0.58	<0.52	<0.59	<0.60
Pentachlorophenol	<0.60 UJ	<0.58 R	<0.52 UJ	<0.59 UJ	<0.60 R
Phenacetin	<0.60	<0.58	<0.52	<0.59	<0.60
Phenanthrene	<0.60	<0.58	<0.52	<0.59	<0.60
Phenol	<0.60	<0.58	<0.52	<0.59	<0.60
2-Picoline	<0.60	<0.58	<0.52	<0.59	<0.60
Pronamide	<0.60	<0.58	<0.52	<0.59	<0.60
Pyrene	<0.60	<0.58	<0.52	<0.59	<0.60
Safrole	<0.60	<0.58	<0.52	<0.59	<0.60
1,2,4,5-Tetrachlorobenzene	<0.60	<0.58	<0.52	<0.59	<0.60
2,3,4,6-Tetrachlorophenol	<0.60	<0.58	<0.52	<0.59	<0.60
1,2,4-Trichlorobenzene	<0.60	<0.58	<0.52	<0.59	<0.60
2,4,6-Trichlorophenol	<0.60	<0.58	<0.52 UJ	<0.59	<0.60
2,4,5-Trichlorophenol	<0.60	<0.58	<0.52	<0.59	<0.60



Appendix Table 6. Continued.

Stream	JONATHON CREEK	JONATHON CREEK	TRIB TO JONATHON CREEK (@ RM 13.74)	KENT RUN	VALLEY RUN
River Mile	12.2	3.35	0.32	1.35	1.28
STORET Number	R15S01	300362	300467	300422	300363
Date Sampled	8/19/2008	7/28/2008	9/29/2008	8/19/2008	7/28/2008
Time Sampled	1:10 PM	12:15 PM	9:00 AM	11:00 AM	2:00 PM
<b>Pesticides (ug/kg)</b>					
Aldrin	<6.0	<5.8	<5.2	<5.9	<6.0
a-BHC	<6.0	<5.8	<5.2	<5.9	<6.0
b-BHC	<6.0	<5.8	<5.2	<5.9	<6.0
d-BHC	<6.0	<5.8	<5.2	<5.9	<6.0
y-BHC	<6.0	<5.8	<5.2	<5.9	<6.0
4,4'-DDD	<6.0	<5.8	<5.2	<5.9	<6.0
4,4'-DDE	<6.0	<5.8	<5.2	<5.9	<6.0
4,4'-DDT	<6.0	<5.8	<5.2	<5.9	<6.0
Dieldrin	<6.0	<5.8	<5.2	<5.9	<6.0
Endosulfan I	<6.0	<5.8	<5.2	<5.9	<6.0
Endosulfan II	<6.0	<5.8	<5.2	<5.9	<6.0
Endosulfan sulfate	<6.0	<5.8	<5.2	<5.9	<6.0
Endrin	<6.0	<5.8	<5.2	<5.9	<6.0
Endrin aldehyde	<6.0	<5.8	<5.2	<5.9	<6.0
Heptachlor	<6.0	<5.8	<5.2	<5.9	<6.0
Heptachlor epoxide	<6.0	<5.8	<5.2	<5.9	<6.0
Methoxychlor	<6.0	<5.8	<5.2	<5.9	<6.0
Mirex	<6.0	<5.8	<5.2	<5.9	<6.0
Hexachlorobenzene	<6.0	<5.8	<5.2	<5.9	<6.0
<b>PCBs (ug/kg)</b>					
PCB-1016	<29.7	<29.1	<26.2	<29.5	<30.1
PCB-1221	<29.7	<29.1	<26.2	<29.5	<30.1
PCB-1232	<29.7	<29.1	<26.2	<29.5	<30.1
PCB-1242	<29.7	<29.1	<26.2	<29.5	<30.1
PCB-1248	<29.7	<29.1	<26.2	<29.5	<30.1
PCB-1254	<29.7	<29.1	<26.2	<29.5	<30.1
PCB-1260	<29.7	<29.1	<26.2	<29.5	<30.1

Appendix Table 6. Continued.

Stream	MOXAHALA CREEK	BLACK FORK	BLACK FORK	OGG CREEK
River Mile	6.8	3.5	1.93	0.2
STORET Number	300439	R99Q36	300456	300457
Date Sampled	8/19/2008	8/19/2008	8/19/2008	8/19/2008
Time Sampled	10:00 AM	10:00 AM	10:55 AM	12:10 PM
<b>Semivolatile Organic Compounds (mg/kg)</b>				
Acenaphthene	<0.75	<0.57	<0.65	<1.47
Acenaphthylene	<0.75	<0.57	<0.65	<1.47
Acetophenone	<0.75	<0.57	<0.65	<1.47
2-Acetylaminofluorene	<0.75	<0.57	<0.65	<1.47
Aniline	<3.8	<2.9	<3.3	<7.4
Anthracene	<0.75	<0.57	<0.65	<1.47
Benz[a]anthracene	<0.75	<0.57	<0.65	<1.47
Benzo[a]pyrene	<0.75	<0.57	<0.65	<1.47
Benzo[b]fluoranthene	<0.75	<0.57	<0.65	<1.47
Benzo[g,h,i]perylene	<0.75	<0.57	<0.65	<1.47
Benzo[k]fluoranthene	<0.75	<0.57	<0.65	<1.47
Benzyl alcohol	<0.75	<0.57	<0.65	<1.47
bis(2-Chloroethoxy)methane	<0.75	<0.57	<0.65	<1.47
bis(2-Chloroethyl)ether	<0.75	<0.57	<0.65	<1.47
bis(2-Chloroisopropyl)ether	<0.75	<0.57	<0.65	<1.47
bis(2-Ethylhexyl)phthalate	<0.75	0.85 B	<0.65	<1.47
4-Bromophenyl-phenylether	<0.75	<0.57	<0.65	<1.47
Butylbenzylphthalate	<0.75	<0.57	<0.65	<1.47
4-Chloro-3-methylphenol	<0.75	<0.57	<0.65	<1.47
2-Chloronaphthalene	<0.75	<0.57	<0.65	<1.47
2-Chlorophenol	<0.75	<0.57	<0.65	<1.47
4-Chlorophenyl-phenylether	<0.75	<0.57	<0.65	<1.47
Chrysene	<0.75	<0.57	<0.65	<1.47
Di-n-butylphthalate	<0.75	<0.57	<0.65	<1.47
Di-n-octylphthalate	<0.75	<0.57	<0.65	<1.47
Dibenz[a,h]anthracene	<0.75	<0.57	<0.65	<1.47
Dibenzofuran	<0.75	<0.57	<0.65	<1.47
1,3-Dichlorobenzene	<0.75	<0.57	<0.65	<1.47
1,4-Dichlorobenzene	<0.75	<0.57	<0.65	<1.47
1,2-Dichlorobenzene	<0.75	<0.57	<0.65	<1.47
3,3'-Dichlorobenzidine	<3.8	<2.9	<3.3	<7.4
2,6-Dichlorophenol	<0.75	<0.57	<0.65	<1.47
2,4-Dichlorophenol	<0.75	<0.57	<0.65	<1.47
Diethylphthalate	<0.75	<0.57	<0.65	<1.47
p-Dimethylaminoazobenzene	<0.75	<0.57	<0.65	<1.47
7,12-Dimethylbenz[a]anthracene	<3.8	<2.9	<3.3	<7.4
2,4-Dimethylphenol	<0.75	<0.57	<0.65	<1.47
Dimethylphthalate	<0.75	<0.57	<0.65	<1.47
4,6-Dinitro-2-methylphenol	<0.75 UJ	<0.57 UJ	<0.65 UJ	<1.47 UJ
1,3-Dinitrobenzene	<0.75	<0.57	<0.65	<1.47
2,4-Dinitrophenol	<3.8	<2.9	<3.3	<7.4
2,6-Dinitrotoluene	<0.75	<0.57	<0.65	<1.47
2,4-Dinitrotoluene	<0.75	<0.57	<0.65	<1.47
Dinoseb	<0.75	<0.57	<0.65	<1.47
Diphenylamine	<0.75	<0.57	<0.65	<1.47
Ethyl methanesulfonate	<0.75	<0.57	<0.65	<1.47

Appendix Table 6. Continued.

Stream	MOXAHALA CREEK 6.8	BLACK FORK 3.5	BLACK FORK 1.93	OGG CREEK 0.2
River Mile				
STORET Number	300439	R99Q36	300456	300457
Date Sampled	8/19/2008	8/19/2008	8/19/2008	8/19/2008
Time Sampled	10:00 AM	10:00 AM	10:55 AM	12:10 PM
<b>Semivolatile Organic Compounds (mg/kg)</b>				
Fluoranthene	<0.75	<0.57	<0.65	<1.47
Fluorene	<0.75	<0.57	<0.65	<1.47
Hexachlorobenzene	<0.75	<0.57	<0.65	<1.47
Hexachlorobutadiene	<0.75	<0.57	<0.65	<1.47
Hexachlorocyclopentadiene	<0.75	<0.57	<0.65	<1.47
Hexachloroethane	<0.75	<0.57	<0.65	<1.47
Hexachloropropene	<0.75	<0.57	<0.65	<1.47
Indeno[1,2,3-cd]pyrene	<0.75	<0.57	<0.65	<1.47
Isophorone	<0.75	<0.57	<0.65	<1.47
Methyl methanesulfonate	<0.75	<0.57	<0.65	<1.47
3-Methylcholanthrene	<0.75	<0.57	<0.65	<1.47
2-Methylnaphthalene	<0.75	<0.57	<0.65	<1.47
3&4-Methylphenol	<0.75	<0.57	<0.65	<1.47
2-Methylphenol	<0.75	<0.57	<0.65	<1.47
N-Nitroso-di-n-butylamine	<0.75	<0.57	<0.65	<1.47
N-Nitroso-di-n-propylamine	<0.75	<0.57	<0.65	<1.47
N-Nitrosomorpholine	<0.75	<0.57	<0.65	<1.47
N-Nitrosopiperidine	<0.75	<0.57	<0.65	<1.47
N-Nitrosopyrrolidine	<0.75	<0.57	<0.65	<1.47
Naphthalene	<0.75	<0.57	<0.65	<1.47
1,4-Naphthoquinone	<0.75	<0.57	<0.65	<1.47
2-Nitroaniline	<0.75	<0.57	<0.65	<1.47
4-Nitroaniline	<0.75	<0.57	<0.65	<1.47
Nitrobenzene	<0.75	<0.57	<0.65	<1.47
4-Nitrophenol	<3.8	<2.9	<3.3	<7.4
2-Nitrophenol	<0.75	<0.57	<0.65	<1.47
Pentachlorobenzene	<0.75	<0.57	<0.65	<1.47
Pentachlorophenol	<0.75 UJ	<0.57 UJ	<0.65 UJ	<1.47 UJ
Phenacetin	<0.75	<0.57	<0.65	<1.47
Phenanthrene	<0.75	<0.57	<0.65	<1.47
Phenol	<0.75	<0.57	<0.65	<1.47
2-Picoline	<0.75	<0.57	<0.65	<1.47
Pronamide	<0.75	<0.57	<0.65	<1.47
Pyrene	<0.75	<0.57	<0.65	<1.47
Safrole	<0.75	<0.57	<0.65	<1.47
1,2,4,5-Tetrachlorobenzene	<0.75	<0.57	<0.65	<1.47
2,3,4,6-Tetrachlorophenol	<0.75	<0.57	<0.65	<1.47
1,2,4-Trichlorobenzene	<0.75	<0.57	<0.65	<1.47
2,4,6-Trichlorophenol	<0.75	<0.57	<0.65	<1.47
2,4,5-Trichlorophenol	<0.75	<0.57	<0.65	<1.47

Appendix Table 6. Continued.

Stream	MOXAHALA CREEK 6.8	BLACK FORK 3.5	BLACK FORK 1.93	OGG CREEK 0.2
River Mile				
STORET Number	300439	R99Q36	300456	300457
Date Sampled	8/19/2008	8/19/2008	8/19/2008	8/19/2008
Time Sampled	10:00 AM	10:00 AM	10:55 AM	12:10 PM
<b>Pesticides (ug/kg)</b>				
Aldrin	<7.5	<5.7	<6.5	<14.7
a-BHC	<7.5	<5.7	<6.5	<14.7
b-BHC	<7.5	<5.7	<6.5	<14.7
d-BHC	<7.5	<5.7	<6.5	<14.7
γ-BHC	<7.5	<5.7	<6.5	<14.7
4,4'-DDD	<7.5	<5.7	<6.5	<14.7
4,4'-DDE	<7.5	<5.7	<6.5	<14.7
4,4'-DDT	<7.5	<5.7	<6.5	<14.7
Dieldrin	<7.5	<5.7	<6.5	<14.7
Endosulfan I	<7.5	<5.7	<6.5	<14.7
Endosulfan II	<7.5	<5.7	<6.5	<14.7
Endosulfan sulfate	<7.5	<5.7	<6.5	<14.7
Endrin	<7.5	<5.7	<6.5	<14.7
Endrin aldehyde	<7.5	<5.7	<6.5	<14.7
Heptachlor	<7.5	<5.7	<6.5	<14.7
Heptachlor epoxide	<7.5	<5.7	<6.5	<14.7
Methoxychlor	<7.5	<5.7	<6.5	<14.7
Mirex	<7.5	<5.7	<6.5	<14.7
Hexachlorobenzene	<7.5	<5.7	<6.5	<14.7
<b>PCBs (ug/kg)</b>				
PCB-1016	<37.6	<28.5	<32.6	<73.5
PCB-1221	<37.6	<28.5	<32.6	<73.5
PCB-1232	<37.6	<28.5	<32.6	<73.5
PCB-1242	<37.6	<28.5	<32.6	<73.5
PCB-1248	<37.6	<28.5	<32.6	<73.5
PCB-1254	<37.6	<28.5	<32.6	<73.5
PCB-1260	<37.6	<28.5	<32.6	<73.5

< - Not detected at or above the method detection limit (MDL value reported with the less than symbol).

UJ - Estimated due to failure of the reporting limit standard, or due to low spike recovery.

B - Analytical result is estimated. Analyte was detected in the associated method/trip/field blank as well as in the sample.

R - The analyte result is unusable because quality control criteria was not met.

Appendix Table 7. Concentrations of monitored chemicals in effluent discharged from 12 facilities within the Jonathon and Moxahala Creeks study area. Results are reported for the time period 2003-2008. MDL = below lab method detection limit.

Discharger/ Parameter	50 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile	Permit Limit -Monthly Avg.-	Permit Limit -Maximum-
<b>Roseville WWTP (0PC00020) – Moxahala Creek (RM 13.63)</b>				
Total Suspended Solids (mg/l)	8	33.8	65	90 (weekly)
CBOD5 (mg/l)	6.6	15.1	25	40 (weekly)
Flow Rate (MGD)	0.558	1.4296	Monitor	Monitor
Fecal Coliform (cfu/100ml): Summer	121	1636	1000	2000 (weekly)
<b>Roseville WTP (0IW00122) – Porter Run (RM 0.6)</b>				
Total Suspended Solids (mg/l)	2	23	30	45
Bromodichloromethane (ug/l)	MDL	MDL	Monitor	Monitor
Bromoform (Tribromomethane) (ug/l)	MDL	MDL	Monitor	Monitor
Dibromochloromethane, Total (ug/l)	MDL	MDL	Monitor	Monitor
Chloroform (ug/l)	MDL	MDL	Monitor	Monitor
Methyl Bromide (ug/l)	MDL	MDL	Monitor	Monitor
Methyl Chloride (ug/l)	MDL	MDL	Monitor	Monitor
Methylene Chloride (ug/l)	MDL	MDL	Monitor	Monitor
Flow Rate (MGD)	0	0.097	Monitor	Monitor
Chlorine, Total Residual (mg/l)	MDL	MDL	Monitor	0.035
<b>Crooksville WTP (0IV00021) - Moxahala Creek (RM 17.3)</b>				
pH (S.U.)	7.4 (5 <sup>th</sup> percentile)	8.2	Monitor	6.5 (min)-9.0 (max)
Total Suspended Solids (mg/l)	3	19.2	30	45
Flow Rate (MGD)	0.0286	0.0663	Monitor	Monitor
Chlorine, Total Residual (mg/l)	No data – new permit monitoring 8/2008		Monitor	Monitor
Trihalomethane, Total (ug/l)	Only 2 samples – 3.1 and 6.6 ug/l		Monitor	Monitor
<b>Crown Wehrle Estates WWTP (0PG00023) – Jonathon Creek (RM 25.7)</b>				
Dissolved Oxygen (mg/l)	6.9	5.2 (5 <sup>th</sup> percentile)	Monitor	5.0 (min)
pH (S.U.)	6.9 (5 <sup>th</sup> percentile)	8.6	Monitor	6.5 (min)-9.0 (max)
Total Suspended Solids (mg/l)	6	42	12	18 (weekly)
CBOD5 (mg/l)	2.5	17.66	10	15 (weekly)
Ammonia-N (mg/l): winter (2005-2008)	0.081	7.02	6.5	9.8 (weekly)
Ammonia-N (mg/l): summer (2005-2008)	0.067	1.137	2.0	3.0 (weekly)
Chlorine, Total Residual (mg/l)	0.01	0.02	Monitor	0.022
Fecal Coliform (cfu/100ml): Summer	291	7000	1000	2000 (weekly)
Flow Rate (MGD)	0.035	0.077	Monitor	Monitor
<b>North Perry County WWTP (0PK00003) – Jonathon Creek (RM 19.75)</b>				
Facility is permitted, but not yet built				
<b>Sidwell Materials Inc. (0IJ00041) – Jonathon Creek</b>				
<b>Outfall 001 – RM 2.5</b>				
pH (S.U.)	6.9 (5 <sup>th</sup> percentile)	8.0	Monitor	6.5 (min)-9.0 (max)
Total Suspended Solids (mg/l)	10	32.5	35	70
COD (mg/l): data from 2008	MDL	MDL	Monitor	Monitor
Flow Rate (MGD)	0.036	0.36	Monitor	Monitor
<b>Outfall 002 – RM 1.98</b>				
pH (S.U.)	6.9 (5 <sup>th</sup> percentile)	7.8	Monitor	6.5 (min)-9.0 (max)
Total Suspended Solids (mg/l)	8	18.8	35	70
Flow Rate (MGD)	0.036	0.036	Monitor	Monitor

Table 7. Continued.

Discharger/ Parameter	50 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile	Permit Limit -Monthly Avg.-	Permit Limit -Maximum-
Hopewell Hts. MHC (0PV00032) – Unnamed Trib. To Kent Run (RM 14.95, 0.2) Data from 2005-2008				
Dissolved Oxygen (mg/l)	9.0	5.2 (5 <sup>th</sup> percentile)	Monitor	5.0 (min)
pH (S.U.)	7.1 (5 <sup>th</sup> percentile)	8.3	Monitor	6.5 (min)-9.0 (max)
Total Suspended Solids (mg/l)	4	43.8	12	18
CBOD5 (mg/l)	6	11.7	10	15
Ammonia-N (mg/l): winter	0.332	8.17	3.0	4.5
Ammonia-N (mg/l): summer	0.231	21.473	1.5	2.3
Chlorine, Total Residual (mg/l)	0	0	Monitor	0.019
Fecal Coliform (cfu/100ml): Summer	1	5400	1000	2000 (weekly)
Flow Rate (MGD)	0.0015	0.0022	Monitor	Monitor
Hopewell Elementary School (4PT00124) - Unnamed Trib. To Kent Run (RM 11.42, 1.5)				
Dissolved Oxygen (mg/l)	7.2	6.8 (5 <sup>th</sup> percentile)	Monitor	6.0 (min)
Total Suspended Solids (mg/l)	1	8.7	12	18 (weekly)
CBOD5 (mg/l)	3	6.8	10	15 (weekly)
Ammonia-N (mg/l): winter	0.2	3.41	3.0	4.5 (weekly)
Ammonia-N (mg/l): summer	0.1	0.26	1.0	1.5 (weekly)
Chlorine, Total Residual (mg/l)	0.12	0.26	Monitor	0.019
Fecal Coliform (cfu/100ml): Summer	50	230	1000	2000 (weekly)
Flow Rate (MGD)	0.0015	0.0015	Monitor	Monitor
Ohio Waste System Suburban South Recycling and Disposal (0IN00176) - Unnamed Trib. Jonathon Creek (RM 13.74, 1.75)				
pH (S.U.)	7.0 (5 <sup>th</sup> percentile)	8.3	Monitor	6.5 (min)-9.0 (max)
Total Suspended Solids (mg/l)	5	54	35	70
Flow Rate (MGD)	0.0108	0.0864	Monitor	Monitor
Oil & Grease (mg/l)	<3	<3	Monitor	10
COD (mg/l)	14.5	35.4	Monitor	Monitor
Ammonia-N (mg/l)	MDL	0.65	Monitor	Monitor
Hardness, Total (CaCO3) (mg/l)	229	342	Monitor	Monitor
Iron-T (ug/l)	600	3141	Monitor	Monitor
Zinc-T (ug/l)	17	94	Monitor	Monitor
Cadmium-T (ug/l)	MDL	MDL	Monitor	Monitor
Copper-T (ug/l)	MDL	20	Monitor	Monitor
Phosphorus-T (mg/l)	MDL	0.21	Monitor	Monitor
Manganese-T (ug/l)	340	878	Monitor	Monitor
Lead-T (ug/l)	MDL	8	-	-
Solids, Dissolved (mg/l)	352	549	Monitor	Monitor
CBOD5 (mg/l): only 2008	MDL	13.2	Monitor	Monitor
Chromium-T (ug/l)	MDL	MDL	-	-
Chromium-Diss. Hex. (ug/l)	MDL	MDL	-	-
Mercury-T (ug/l)	MDL	MDL	-	-
Specific Conductance (umho/cm)	534	768	-	-
BOD5 (mg/l)	5	12.7	-	-
TOC (mg/l)	5.7	9.6	-	-
Cyanide-T (mg/l)	MDL	MDL	-	-
Chloride-T (mg/l)	21	109	-	-
Arsenic-T (mg/l)	MDL	MDL	-	-
Selenium-T (ug/l)	MDL	MDL	-	-
Beryllium-T (ug/l)	MDL	MDL	-	-
Nickel-T (ug/l)	21	66	-	-
Phenol (ug/l)	MDL	MDL	-	-

Table 7. Continued.

Discharger/ Parameter	50 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile	Permit Limit -Monthly Avg.-	Permit Limit -Maximum-
Olgebay Norton Industrial Sands Glass Plant (0IJ00000)				
Outfall 001 - Unnamed Trib. To Jonathon Creek (RM 17.55, 0.4)				
pH (S.U.)	7.2 (5 <sup>th</sup> percentile)	8.1	Monitor	6.5 (min)-9.0 (max)
Total Suspended Solids (mg/l)	10	41	35	45
Iron-T (ug/l)	290	1159	Monitor	Monitor
Flow Rate (MGD)	0.5	0.5	Monitor	Monitor
Outfall 002 - Unnamed Trib. To Jonathon Creek (RM 17.55, 0.3)				
pH (S.U.)	7.0 (5 <sup>th</sup> percentile)	7.9	Monitor	6.5 (min)-9.0 (max)
Total Suspended Solids (mg/l)	11	45	35	45
Iron-T (ug/l)	420	1250	Monitor	Monitor
Oil & Grease (mg/l)	<3	<3	Monitor	Monitor
Flow Rate (MGD)	0.08	0.08	Monitor	Monitor
Outfall 008 - Unnamed Trib. To Painter Creek (RM 0.95, 1.1)				
pH (S.U.)	7.0 (5 <sup>th</sup> percentile)	8.1	Monitor	6.5 (min)-9.0 (max)
Total Suspended Solids (mg/l)	7	30	35	45
Flow Rate (MGD)	0.0086	0.0086	Monitor	Monitor
Outfall 009 - Unnamed Trib. To Painter Creek (RM 0.95, 1.0)				
pH (S.U.)	5.7 (5 <sup>th</sup> percentile)	8.6	Monitor	6.5 (min)-9.0 (max)
Total Suspended Solids (mg/l)	12	46	35	45
Flow Rate (MGD)	0.0086	0.0086	Monitor	Monitor
B & D Commissary (0IH00048) - Unnamed Trib. To Turkey Run (RM 0.45, 0.1)				
Dissolved Oxygen (mg/l)	5.1	3.3 (5 <sup>th</sup> percentile)	Monitor	Monitor
pH (S.U.)	6.9 (5 <sup>th</sup> percentile)	8.0	Monitor	6.5 (min)-9.0 (max)
Total Suspended Solids (mg/l)	1	4.4	12	18
CBOD5 (mg/l)	1	5	10	15
Oil & Grease (mg/l)	2	5.5	15	20
Ammonia-N (mg/l)	0.04	0.26	2	3
Chlorine, Total Residual (mg/l)	0.03	0.101	Monitor	0.019
Fecal Coliform (cfu/100ml): Summer	21	382	1000	2000
Phosphorus-T (mg/l)	0.466	5.249	Monitor	Monitor
Flow Rate (MGD)	0.0042	0.0103	Monitor	Monitor
Maysville Regional Water District WTP (0IV00061) - Unnamed Trib. To Jonathon Creek (RM 4.2, 0.2)				
pH (S.U.)	7.3 (5 <sup>th</sup> percentile)	8.1	Monitor	6.5 (min)-9.0 (max)
Total Suspended Solids (mg/l)	15	240	35	45
Chlorine, Total Residual (mg/l)	0.12	0.84	Monitor	0.019
Trihalomethane, Total (ug/l)	Only 3 samples: 5.96 – 7.16		Monitor	Monitor
Flow Rate (MGD)	0.005	0.0075	Monitor	Monitor
Ohio Oil Gathering Corp. II – Sego Terminal (0IN00127) - Unnamed Trib. To Turkey Run (RM 2.03, 1.15)				
No effluent data – not discharging				
Shelly Materials Inc DBA CSC East Fultonham				
Outfall 001 – Bush Creek (RM 0.3)				
Total Suspended Solids (mg/l)	5	26	Monitor	45
Flow Rate (MGD)	0.51	0.51	Monitor	Monitor
Outfall 002 – Bush Creek (RM 0.05)				
Total Suspended Solids (mg/l)	4.5	58.2	30	45
Flow Rate (MGD)	1.43	1.43	Monitor	Monitor
Outfall 004 – Bush Creek (RM 0.22)				
Total Suspended Solids (mg/l)	5	47	30	45
Flow Rate (MGD)	2.31	2.31	Monitor	Monitor

Table 7. Continued.

Discharger/ Parameter	50 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile	Permit Limit -Monthly Avg.-	Permit Limit -Maximum-
Shelly Materials Inc DBA CSC East Fultonham				
Outfall 005 – Buckeye Fork (RM 2.49)				
Total Suspended Solids (mg/l)	5	20	30	45
Flow Rate (MGD)	0.26	0.26	Monitor	Monitor
Outfall 006 – Unnamed Trib. To Buckeye Fork (RM 3.29, 0.15)				
Total Suspended Solids (mg/l)	7	18.1	30	45
Flow Rate (MGD)	0.26	0.26	Monitor	Monitor
Outfall 007 – Buckeye Fork (RM 3.29)				
Total Suspended Solids (mg/l)	No discharge		30	45
Flow Rate (MGD)	No discharge		Monitor	Monitor
Outfall 008 – Buckeye Fork (RM 1.9)				
Total Suspended Solids (mg/l)	7	19	30	45
Flow Rate (MGD)	0.42	0.42	Monitor	Monitor
Outfall 011 – Buckeye Fork (RM 1.45)				
Total Suspended Solids (mg/l)	7	17	30	45
Flow Rate (MGD)	0.08	0.08	Monitor	Monitor



Appendix Table 8. Qualitative Habitat Evaluation Index (QHEI) scores for the Moxahala Creek study area, 2008.

River Mile	QHEI	Gradient (ft/mile)	WWH Attributes						Total WWH Attributes	MWH Attributes						Total MLL MWH Attributes	(MWH/HL+1)/(WWH+1) Ratio	(MWH/MLL+1)/(MWHH+1) Ratio													
			High Influence			Moderate Influence				High Influence			Moderate Influence																		
			No Channelization or Recovered Boulder/Cobble/Gravel Substrates	Silt Free Substrates	Good/Excellent Substrates	Moderate/High Sinuosity	Extensive/Moderate Cover	Fast Current/Eddies		Low-Normal Overall Embeddedness	Max Depth > 40 cm	Low-Normal Riffle Embeddedness	Channelized or No Recovery Silt/Muck Substrates	No Sinuosity	Sparse/No Cover				Max Depth < 40 cm (WD, HW)	Recovering Channel	Heavy/Moderate Silt Cover	Sand Substrates (Boat)	Hardpan Substrate Origin	Fair/Poor Development	Low Sinuosity	Only 1-2 Cover Types	Intermittent and Poor Pools	No Fast Current	High/Mod. Overall Embeddedness	High/Mod. Riffle Embeddedness	No Riffle
<b>(17-300) Moxahala Creek</b>																															
Year: 2008																															
24.0	63.0	7.49	#	#	#	#	#	#	6										0										3	0.14	0.57
21.9	65.0	7.49	#	#	#	#	#	#	4										0										6	0.20	1.40
13.4	57.0	3.04	#	#	#	#	#	#	4										1										5	0.40	1.40
6.9	65.0	4.62	#	#	#	#	#	#	7										1										2	0.25	0.50
4.2	81.5	4.15	#	#	#	#	#	#	9										0										1	0.10	0.20
0.6	70.5	0.10	#	#	#	#	#	#	7										0										2	0.13	0.38
<b>(17-301) Shawnee Run</b>																															
Year: 2008																															
0.1	57.5	37.03	#	#	#	#	#	#	4									3										3	0.80	1.40	
<b>(17-308) Black Fork</b>																															
Year: 2008																															
3.5	63.5	10.93	#	#	#	#	#	#	6									0										5	0.14	0.86	
2.3	70.0	10.93	#	#	#	#	#	#	6									0										6	0.14	1.00	
2.0	65.5	11.98	#	#	#	#	#	#	4									0										6	0.20	1.40	
0.1	62.0	2.96	#	#	#	#	#	#	6									0										4	0.14	0.71	
<b>(17-310) Jonathan Creek</b>																															
Year: 2008																															
27.0	55.0	7.78	#	#	#	#	#	#	4									0										6	0.20	1.40	
22.2	57.5	8.33	#	#	#	#	#	#	5									1										5	0.33	1.17	
17.0	64.5	4.44	#	#	#	#	#	#	5									1										5	0.33	1.17	
12.2	67.0	4.22	#	#	#	#	#	#	4									0										6	0.20	1.40	
7.6	90.0	5.01	#	#	#	#	#	#	9									0										2	0.10	0.30	
3.3	87.5	5.06	#	#	#	#	#	#	9									0										0	0.10	0.10	
1.3	65.0	5.06	#	#	#	#	#	#	3									1										6	0.50	2.00	
0.8	76.5	5.04	#	#	#	#	#	#	8									0										1	0.11	0.22	
<b>(17-311) Thompson Run</b>																															
Year: 2008																															
4.7	72.5	14.60	#	#	#	#	#	#	7									0										4	0.13	0.63	
0.5	63.5	2.31	#	#	#	#	#	#	5									0										5	0.17	1.00	
<b>(17-312) Hibbs Run</b>																															
Year: 2008																															

Appendix Table 8. Qualitative Habitat Evaluation Index (QHEI) scores for the Moxahala Creek study area, 2008.

River Mile	QHEI	Gradient (ft/mile)	WWH Attributes										MWH Attributes																					
			Key QHEI Components										High Influence					Moderate Influence					Total MLL MWH Attributes	(MWH+1)/(WWH+1) Ratio	(MWH+1)/(MWH+1) Ratio									
			No Channelization or Recovered Boulder/Cobble/Gravel Substrates	Silt Free Substrates	Good/Excellent Substrates	Moderate/High Sinuosity	Extensive/Moderate Cover	Fast Current/Eddies	Low-Normal Overall Embeddedness	Max Depth > 40 cm	Low-Normal Riffle Embeddedness	Total WWH Attributes	Channelized or No Recovery Silt/Muck Substrates	No Sinuosity	Sparse/No Cover	Max Depth < 40 cm (WD, HW)	Total HLL MWH Attributes	Recovering Channel	Heavy/Moderate Silt Cover	Sand Substrates (Boat)	Hardpan Substrate Origin	Fair/Poor Development				Low Sinuosity	Only 1-2 Cover Types	Intermittent and Poor Pools	No Fast Current	High/Mod. Overall Embeddedness	High/Mod. Riffle Embeddedness	No Riffle		
(17-312) Hibbs Run													Year: 2008																					
0.1	77.0	44.44	#	#	#	#	#	#	#	#	#	8						0													2	0.11	0.33	
(17-313) Kent Run													Year: 2008																					
8.9	70.0	12.50	#	#	#	#	#	#	#	#	#	6						0														4	0.14	0.71
3.7	81.5	17.86	#	#	#	#	#	#	#	#	#	8						0														1	0.11	0.22
1.6	75.0	13.61	#	#	#	#	#	#	#	#	#	7						0														2	0.13	0.38
(17-314) Salt Run													Year: 2008																					
0.1	76.0	16.81	#	#	#	#	#	#	#	#	#	7						0														4	0.13	0.63
(17-315) Buckeye Fork													Year: 2008																					
4.8	72.0	9.17	#	#	#	#	#	#	#	#	#	6						1														3	0.29	0.71
3.5	58.0	18.52	#	#	#	#	#	#	#	#	#	2						2														6	1.00	3.00
1.4	65.0	7.63	#	#	#	#	#	#	#	#	#	4						0														7	0.20	1.60
(17-316) Bush Creek													Year: 2008																					
0.2	38.5	28.99	#	#	#	#	#	#	#	#	#	2						3														6	1.33	3.33
(17-317) Twomile Run													Year: 2008																					
0.1	50.0	71.43	#	#	#	#	#	#	#	#	#	6						2														2	0.43	0.71
(17-318) Butcherknife Creek													Year: 2008																					
0.1	61.5	18.69	#	#	#	#	#	#	#	#	#	4						1														6	0.40	1.60
(17-319) Turkey Run													Year: 2008																					
2.8	75.0	13.51	#	#	#	#	#	#	#	#	#	7						0														4	0.13	0.63
0.4	72.0	8.26	#	#	#	#	#	#	#	#	#	5						2														3	0.50	1.00
(17-320) Painter Creek													Year: 2008																					
2.5	55.0	10.36	#	#	#	#	#	#	#	#	#	4						2														5	0.60	1.60
0.9	69.5	10.36	#	#	#	#	#	#	#	#	#	7						0														4	0.13	0.63

Appendix Table 8. Qualitative Habitat Evaluation Index (QHEI) scores for the Moxahala Creek study area, 2008.

River Mile	QHEI	Gradient (ft/mile)	WWH Attributes									MWH Attributes										Total MLL MWH Attributes	(MWH/HL+1)/(WWH+1) Ratio	(MWH/ML+1)/(WWH+1) Ratio						
			W									H					L													
			No Channelization or Recovered Boulder/Cobble/Gravel Substrates	Silt Free Substrates	Good/Excellent Substrates	Moderate/High Sinuosity	Extensive/Moderate Cover	Fast Current/Eddies	Low-Normal Overall Embeddedness	Max Depth > 40 cm	Low-Normal Riffle Embeddedness	Total WWH Attributes	Channelized or No Recovery Silt/Muck Substrates	No Sinuosity	Sparse/No Cover	Max Depth < 40 cm (WD, HW)	Total HLL MWH Attributes	Recovering Channel	Heavy/Moderate Silt Cover	Sand Substrates (Boat)	Hardpan Substrate Origin				Fair/Poor Development	Low Sinuosity	Only 1-2 Cover Types	Intermittent and Poor Pools	No Fast Current	High/Mod. Overall Embeddedness
(17-321) Valley Run																														
Year: 2008																														
5.4	60.5	7.25	#	#	#					3		◆		1	●	●	●	●	●	●	●	●	●	●	●	●	●	5	0.50	1.75
3.5	74.0	7.25	#	#	#	#	#	#	#	6				0	●	●	●	●	●	●	●	●	●	●	●	●	4	0.14	0.71	
0.5	83.5	6.51	#	#	#	#	#	#	#	9				0	●	●	●	●	●	●	●	●	●	●	●	●	0	0.10	0.10	
(17-325) Ogg Creek																														
Year: 2008																														
2.0	67.0	11.70	#	#	#	#	#	#	#	6		◆		1	●	●	●	●	●	●	●	●	●	●	●	●	3	0.29	0.71	
0.2	80.0	12.05	#	#	#	#	#	#	#	7				0	●	●	●	●	●	●	●	●	●	●	●	●	3	0.13	0.50	
(17-326) Trib. to Moxahala Creek (RM 24.79)																														
Year: 2008																														
0.4	54.0	14.39	#	#	#	#				4		◆		1	●	●	●	●	●	●	●	●	●	●	●	●	4	0.40	1.20	
(17-339) Trib. to Jonathan Creek (RM 19.47)																														
Year: 2008																														
0.4	57.5	13.33	#	#	#	#	#	#	#	5				0	●	●	●	●	●	●	●	●	●	●	●	●	5	0.17	1.00	
(17-340) Bowling Green Run																														
Year: 2008																														
0.2	61.5	9.90	#	#	#	#	#			4				0	●	●	●	●	●	●	●	●	●	●	●	●	6	0.20	1.40	
(17-341) Trib. to Moxahala Creek (RM 22.56)																														
Year: 2008																														
0.2	51.0	22.22	#	#	#					3		◆		1	●	●	●	●	●	●	●	●	●	●	●	●	6	0.50	2.00	
(17-342) Trib. to Black Fork (RM 2.32)																														
Year: 2008																														
0.1	30.5	50.00	#	#	#					3		◆	◆	2	●	●	●	●	●	●	●	●	●	●	●	●	6	0.75	2.25	
(17-343) Painter Run																														
Year: 2008																														
0.2	44.5	12.35	#	#	#					3		◆	◆	3	●	●	●	●	●	●	●	●	●	●	●	4	1.00	2.00		

Appendix Table 9. Fish Species of the Moxahala Creek study area, 2008.

# Species List

River Code: <b>17-300</b>	Stream: <b>Moxahala Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>24.00</b>	Location: Twp. Rd. 312	Date Range: 08/26/2008
Time Fished: 900 sec	Drainage: 9.0 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
No Fish				0	0.00	0			
				<i>Mile Total</i>					0
				<i>Number of Species</i>					0
				<i>Number of Hybrids</i>					0

# Species List

River Code: <b>17-300</b>	Stream: <b>Moxahala Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>21.90</b>	Location: St. Rt. 37	Date Range: 09/29/2008
Time Fished: 600 sec	Drainage: 23.3 sq mi	
Dist Fished: 0.12 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
No Fish				0	0.00	0			
				<i>Mile Total</i>					0
				<i>Number of Species</i>					0
				<i>Number of Hybrids</i>					0

# Species List

River Code: <b>17-300</b>	Stream: <b>Moxahala Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>13.60</b>	Location: Crooksville WWTP mixing zone	Date Range: 08/06/2008
Time Fished: 1200 sec	Drainage: 75.0 sq mi	
Dist Fished: 0.05 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	1	6.00	0.40	0.12	0.81	20.00
Creek Chub	N	G	N	T	1	6.00	0.40	0.03	0.20	5.00
Yellow Bullhead		I	C	T	4	24.00	1.61	0.30	2.02	12.50
White Crappie	S	I	C		2	12.00	0.81	1.08	7.27	90.00
Largemouth Bass	F	C	C		14	84.00	5.65	0.30	2.02	3.57
Green Sunfish	S	I	C	T	83	498.00	33.47	3.60	24.24	7.23
Bluegill Sunfish	S	I	C	P	138	828.00	55.65	8.40	56.57	10.14
Green Sf X Bluegill Sf					5	30.00	2.02	1.02	6.87	34.00
<i>Mile Total</i>					248	1,488.00		14.85		
<i>Number of Species</i>					7					
<i>Number of Hybrids</i>					1					

# Species List

River Code: <b>17-300</b> River Mile: <b>13.40</b> Time Fished: 900 sec Dist Fished: 0.15 km	Stream: <b>Moxahala Creek</b> Location: dst. Crooksville WWTP Drainage: 75.0 sq mi Basin: Muskingum River	Sample Date: <b>2008</b> Date Range: 08/06/2008  No of Passes: 1 Sampler Type: D
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Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Creek Chub	N	G	N	T	1	2.00	33.33	0.14	69.39	68.00
Green Sunfish	S	I	C	T	1	2.00	33.33	0.02	10.20	10.00
Bluegill Sunfish	S	I	C	P	1	2.00	33.33	0.04	20.41	20.00
<i>Mile Total</i>					3	6.00		0.20		
<i>Number of Species</i>					3					
<i>Number of Hybrids</i>					0					



# Species List

River Code: <b>17-300</b>	Stream: <b>Moxahala Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>6.90</b>	Location: Lambert Rd.	Date Range: 08/06/2008
Time Fished: 1200 sec	Drainage: 98.0 sq mi	
Dist Fished: 0.20 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Green Sunfish	S	I	C	T	1	1.50	50.00	0.02	47.37	12.00
Green Sf X Bluegill Sf					1	1.50	50.00	0.02	52.63	13.00
<i>Mile Total</i>					2	3.00		0.04		
<i>Number of Species</i>					1					
<i>Number of Hybrids</i>					1					

## Species List

River Code: <b>17-300</b>	Stream: <b>Moxahala Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>4.20</b>	Location: Twp. Rd. 261	Date Range: 08/06/2008
Time Fished: 2700 sec	Drainage: 194.0 sq mi	Thru: 09/08/2008
Dist Fished: 0.40 km	Basin: Muskingum River	No of Passes: 2
		Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	2	1.50	2.50	0.07	1.81	45.00
Northern Hog Sucker	R	I	S	M	2	1.50	2.50	0.07	1.81	45.00
Smallmouth Redhorse	R	I	S	M	1	0.75	1.25	0.05	1.31	65.00
Common Carp	G	O	M	T	1	0.75	1.25	0.68	18.10	900.00
Creek Chub	N	G	N	T	2	1.50	2.50	0.00	0.12	3.00
Emerald Shiner	N	I	M		3	2.25	3.75	0.01	0.16	2.67
Spotfin Shiner	N	I	M		11	8.25	13.75	0.02	0.51	2.27
Mimic Shiner	N	I	M	I	3	2.25	3.75	0.00	0.12	2.00
Bluntnose Minnow	N	O	C	T	3	2.25	3.75	0.01	0.16	2.67
Channel Catfish	F		C		3	2.25	3.75	0.65	17.50	290.00
Rock Bass	S	C	C		4	3.00	5.00	0.07	1.82	22.50
Smallmouth Bass	F	C	C	M	1	0.75	1.25	0.05	1.21	60.00
Spotted Bass	F	C	C		12	9.00	15.00	1.18	31.57	130.83
Largemouth Bass	F	C	C		1	0.75	1.25	0.01	0.20	10.00
Green Sunfish	S	I	C	T	10	7.50	12.50	0.03	0.79	3.90
Bluegill Sunfish	S	I	C	P	7	5.25	8.75	0.05	1.31	9.29
Green Sf X Bluegill Sf					1	0.75	1.25	0.03	0.80	40.00
Blackside Darter	D	I	S		10	7.50	12.50	0.02	0.56	2.78
Johnny Darter	D	I	C		2	1.50	2.50	0.00	0.07	1.50
Freshwater Drum			M	P	1	0.75	1.25	0.75	20.11	1,000.00
<i>Mile Total</i>					80	60.00		3.73		
<i>Number of Species</i>					19					
<i>Number of Hybrids</i>					1					

## Species List

River Code: <b>17-300</b>	Stream: <b>Moxahala Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>0.60</b>	Location: near mouth	Date Range: 07/15/2008
Time Fished: 6699 sec	Drainage: 302.0 sq mi	Thru: 09/17/2008
Dist Fished: 1.00 km	Basin: Muskingum River	No of Passes: 2
		Sampler Type: A

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M	156	156.00	45.75	11.76	24.15	75.40
Silver Redhorse	R	I	S M	1	1.00	0.29	2.00	4.11	2,000.00
Golden Redhorse	R	I	S M	2	2.00	0.59	0.08	0.16	40.00
Common Carp	G	O	M T	12	12.00	3.52	19.70	40.45	1,641.67
Emerald Shiner	N	I	M	38	38.00	11.14	0.07	0.14	1.84
Spotfin Shiner	N	I	M	13	13.00	3.81	0.09	0.18	6.81
Sand Shiner	N	I	M M	19	19.00	5.57	0.03	0.06	1.58
Mimic Shiner	N	I	M I	28	28.00	8.21	0.04	0.08	1.43
Bluntnose Minnow	N	O	C T	4	4.00	1.17	0.01	0.02	2.50
Channel Catfish	F		C	13	13.00	3.81	4.20	8.62	323.08
Flathead Catfish	F	P	C	1	1.00	0.29	0.70	1.44	700.00
Rock Bass	S	C	C	3	3.00	0.88	0.21	0.43	70.00
Smallmouth Bass	F	C	C M	16	16.00	4.69	5.55	11.40	346.88
Spotted Bass	F	C	C	5	5.00	1.47	0.44	0.90	87.60
Largemouth Bass	F	C	C	6	6.00	1.76	0.08	0.15	12.50
Green Sunfish	S	I	C T	3	3.00	0.88	0.11	0.23	36.67
Bluegill Sunfish	S	I	C P	10	10.00	2.93	0.52	1.07	52.00
Green Sf X Bluegill Sf				1	1.00	0.29	0.02	0.04	20.00
Logperch	D	I	S M	3	3.00	0.88	0.03	0.06	10.00
Eastern Sand Darter [S]	D	I	S R	1	1.00	0.29	0.00	0.01	4.00
Greenside Darter	D	I	S M	1	1.00	0.29	0.01	0.02	10.00
Freshwater Drum			M P	5	5.00	1.47	3.05	6.26	610.00
<i>Mile Total</i>				341	341.00		48.70		
<i>Number of Species</i>				21					
<i>Number of Hybrids</i>				1					

## Species List

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River Code: <b>17-300</b>	Stream: <b>Moxahala Creek</b>	River Segment Totals
Mile Range: <b>0.60</b>		Date Range: 07/15/2008
Thru: <b>24.00</b>		Thru: 09/29/2008
Dist Fished: 2.07 km	Basin: Muskingum River	No of Passes: 9
		Sampler Type: A D E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		156	34.67	13.57	2.61	19.61	75.40
Silver Redhorse	R	I	S	M	1	0.22	0.09	0.44	3.34	2,000.00
Golden Redhorse	R	I	S	M	4	0.78	0.30	0.03	0.25	42.50
Northern Hog Sucker	R	I	S	M	2	0.33	0.13	0.02	0.11	45.00
White Sucker	W	O	S	T	1	0.67	0.26	0.01	0.10	20.00
Smallmouth Redhorse	R	I	S	M	1	0.17	0.07	0.01	0.08	65.00
Common Carp	G	O	M	T	13	2.83	1.11	4.53	33.98	1,584.62
Creek Chub	N	G	N	T	4	1.22	0.48	0.02	0.15	19.75
Emerald Shiner	N	I	M		41	8.94	3.50	0.02	0.13	1.90
Spotfin Shiner	N	I	M		24	4.72	1.85	0.02	0.18	4.73
Sand Shiner	N	I	M	M	19	4.22	1.65	0.01	0.05	1.58
Mimic Shiner	N	I	M	I	31	6.72	2.63	0.01	0.07	1.48
Bluntnose Minnow	N	O	C	T	7	1.39	0.54	0.00	0.03	2.57
Channel Catfish	F		C		16	3.39	1.33	1.08	8.09	316.88
Yellow Bullhead		I	C	T	4	2.67	1.04	0.03	0.25	12.50
Flathead Catfish	F	P	C		1	0.22	0.09	0.16	1.17	700.00
White Crappie	S	I	C		2	1.33	0.52	0.12	0.90	90.00
Rock Bass	S	C	C		7	1.33	0.52	0.06	0.46	42.86
Smallmouth Bass	F	C	C	M	17	3.72	1.46	1.24	9.33	330.00
Spotted Bass	F	C	C		17	3.11	1.22	0.36	2.69	118.12
Largemouth Bass	F	C	C		21	10.83	4.24	0.05	0.39	6.43
Green Sunfish	S	I	C	T	98	58.06	22.73	0.44	3.27	7.87
Bluegill Sunfish	S	I	C	P	156	95.61	37.43	1.06	7.99	12.85
Green Sf X Bluegill Sf					8	3.89	1.52	0.13	0.95	30.38
Blackside Darter	D	I	S		10	1.67	0.65	0.00	0.04	2.78
Logperch	D	I	S	M	3	0.67	0.26	0.01	0.05	10.00
Eastern Sand Darter [S]	D	I	S	R	1	0.22	0.09	0.00	0.01	4.00
Johnny Darter	D	I	C		2	0.33	0.13	0.00	0.00	1.50
Greenside Darter	D	I	S	M	1	0.22	0.09	0.00	0.02	10.00
Freshwater Drum			M	P	6	1.28	0.50	0.84	6.34	675.00
No Fish					0	0.00	0.00			
					<i>Stream Total</i>	674	255.44	13.33		
					<i>Number of Species</i>	29				
					<i>Number of Hybrids</i>	1				

# Species List

River Code: <b>17-301</b>	Stream: <b>Shawnee Run</b>	Sample Date: <b>2008</b>
River Mile: <b>0.10</b>	Location: Milldale Rd.	Date Range: 06/18/2008
Time Fished: 1440 sec	Drainage: 2.6 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	6	12.00	1.06			
Northern Hog Sucker	R	I	S	M	4	8.00	0.71			
White Sucker	W	O	S	T	6	12.00	1.06			
Western Blacknose Dace	N	G	S	T	34	68.00	6.03			
Creek Chub	N	G	N	T	159	318.00	28.19			
South. Redbelly Dace	N	H	S		9	18.00	1.60			
Striped Shiner	N	I	S		17	34.00	3.01			
Silverjaw Minnow	N	I	M		2	4.00	0.35			
Bluntnose Minnow	N	O	C	T	123	246.00	21.81			
Central Stoneroller	N	H	N		166	332.00	29.43			
Bluegill Sunfish	S	I	C	P	14	28.00	2.48			
Green Sf X Bluegill Sf					9	18.00	1.60			
Johnny Darter	D	I	C		6	12.00	1.06			
Greenside Darter	D	I	S	M	7	14.00	1.24			
Fantail Darter	D	I	C		2	4.00	0.35			
<i>Mile Total</i>					564	1,128.00				
<i>Number of Species</i>					14					
<i>Number of Hybrids</i>					1					

# Species List

River Code: <b>17-308</b>	Stream: <b>Black Fork</b>	Sample Date: <b>2008</b>
River Mile: <b>3.50</b>	Location: adj. Tatmans Rd.	Date Range: 08/26/2008
Time Fished: 1800 sec	Drainage: 9.0 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Least Brook Lamprey		F	N		11	22.00	3.13			
White Sucker	W	O	S	T	6	12.00	1.71			
Common Carp	G	O	M	T	3	6.00	0.85			
Creek Chub	N	G	N	T	5	10.00	1.42			
Striped Shiner	N	I	S		1	2.00	0.28			
Spotfin Shiner	N	I	M		2	4.00	0.57			
Bluntnose Minnow	N	O	C	T	17	34.00	4.84			
Central Stoneroller	N	H	N		4	8.00	1.14			
Yellow Bullhead		I	C	T	15	30.00	4.27			
Largemouth Bass	F	C	C		32	64.00	9.12			
Green Sunfish	S	I	C	T	91	182.00	25.93			
Bluegill Sunfish	S	I	C	P	156	312.00	44.44			
Green Sf X Bluegill Sf					5	10.00	1.42			
Johnny Darter	D	I	C		3	6.00	0.85			
<i>Mile Total</i>					351	702.00				
<i>Number of Species</i>					13					
<i>Number of Hybrids</i>					1					

# Species List

River Code: <b>17-308</b> River Mile: <b>2.30</b> Time Fished: 900 sec Dist Fished: 0.15 km	Stream: <b>Black Fork</b> Location: dst. Ogg Creek, dst. mine trib. Drainage: 23.0 sq mi Basin: Muskingum River                      No of Passes: 1	Sample Date: <b>2008</b> Date Range: 08/26/2008  Sampler Type: E
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Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	1	2.00	7.69	0.01	8.86	7.00
Creek Chub	N	G	N	T	12	24.00	92.31	0.14	91.14	6.00
<i>Mile Total</i>					13	26.00		0.16		
<i>Number of Species</i>					2					
<i>Number of Hybrids</i>					0					

# Species List

River Code: <b>17-308</b>	Stream: <b>Black Fork</b>	Sample Date: <b>2008</b>
River Mile: <b>2.00</b>	Location: St. Rt. 669, dst. Ogg Creek	Date Range: 08/26/2008
Time Fished: 900 sec	Drainage: 24.4 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	Sampler Type: E
	No of Passes: 1	

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	2	4.00	9.52	0.01	5.15	2.50
Creek Chub	N	G	N	T	17	34.00	80.95	0.17	87.63	5.00
Bluegill Sunfish	S	I	C	P	1	2.00	4.76	0.01	5.15	5.00
Johnny Darter	D	I	C		1	2.00	4.76	0.00	2.06	2.00
<i>Mile Total</i>					21	42.00		0.19		
<i>Number of Species</i>					4					
<i>Number of Hybrids</i>					0					



# Species List

River Code: <b>17-308</b>	Stream: <b>Black Fork</b>	Sample Date: <b>2008</b>
River Mile: <b>0.10</b>	Location: St. Rt. 669 near mouth	Date Range: 08/28/2008
Time Fished: 900 sec	Drainage: 28.7 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	1	2.00	1.85	0.01	1.10	3.00
Creek Chub	N	G	N	T	28	56.00	51.85	0.39	72.06	7.00
Bluntnose Minnow	N	O	C	T	1	2.00	1.85	0.00	0.74	2.00
Yellow Bullhead		I	C	T	1	2.00	1.85	0.01	1.10	3.00
Green Sunfish	S	I	C	T	16	32.00	29.63	0.13	23.53	4.00
Bluegill Sunfish	S	I	C	P	7	14.00	12.96	0.01	1.47	0.57
<i>Mile Total</i>					54	108.00		0.54		
<i>Number of Species</i>					6					
<i>Number of Hybrids</i>					0					

# Species List

River Code: <b>17-308</b> Mile Range: <b>0.10</b> Thru: <b>3.50</b> Dist Fished: 0.60 km	Stream: <b>Black Fork</b>  Basin: Muskingum River      No of Passes: 4	River Segment Totals Date Range: 08/26/2008 Thru: 08/28/2008 Sampler Type: E
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Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Least Brook Lamprey		F	N		11	5.50	2.51			
White Sucker	W	O	S	T	10	5.00	2.28	0.01	3.35	3.75
Common Carp	G	O	M	T	3	1.50	0.68			
Creek Chub	N	G	N	T	62	31.00	14.12	0.24	78.79	6.19
Striped Shiner	N	I	S		1	0.50	0.23			
Spotfin Shiner	N	I	M		2	1.00	0.46			
Bluntnose Minnow	N	O	C	T	18	9.00	4.10	0.00	0.45	2.00
Central Stoneroller	N	H	N		4	2.00	0.91			
Yellow Bullhead		I	C	T	16	8.00	3.64	0.00	0.67	3.00
Largemouth Bass	F	C	C		32	16.00	7.29			
Green Sunfish	S	I	C	T	107	53.50	24.37	0.04	14.29	4.00
Bluegill Sunfish	S	I	C	P	164	82.00	37.36	0.01	2.01	1.13
Green Sf X Bluegill Sf					5	2.50	1.14			
Johnny Darter	D	I	C		4	2.00	0.91	0.00	0.45	2.00
<i>Stream Total</i>					439	219.50		0.30		
<i>Number of Species</i>					13					
<i>Number of Hybrids</i>					1					

## Species List

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River Code: <b>17-310</b>	Stream: <b>Jonathan Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>27.00</b>	Location: St. Rt. 204	Date Range: 08/12/2008
Time Fished: 2700 sec	Drainage: 7.4 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	2	4.00	0.14			
Northern Hog Sucker	R	I	S	M	52	104.00	3.54			
White Sucker	W	O	S	T	151	302.00	10.27			
Western Blacknose Dace	N	G	S	T	30	60.00	2.04			
Creek Chub	N	G	N	T	144	288.00	9.80			
Striped Shiner	N	I	S		77	154.00	5.24			
Silverjaw Minnow	N	I	M		5	10.00	0.34			
Fathead Minnow	N	O	C	T	1	2.00	0.07			
Bluntnose Minnow	N	O	C	T	300	600.00	20.41			
Central Stoneroller	N	H	N		506	1,012.00	34.42			
Rock Bass	S	C	C		7	14.00	0.48			
Smallmouth Bass	F	C	C	M	1	2.00	0.07			
Bluegill Sunfish	S	I	C	P	1	2.00	0.07			
Blackside Darter	D	I	S		2	4.00	0.14			
Logperch	D	I	S	M	6	12.00	0.41			
Johnny Darter	D	I	C		53	106.00	3.61			
Greenside Darter	D	I	S	M	54	108.00	3.67			
Banded Darter	D	I	S	I	33	66.00	2.24			
Fantail Darter	D	I	C		45	90.00	3.06			
<i>Mile Total</i>					1,470	2,940.00				
<i>Number of Species</i>					19					
<i>Number of Hybrids</i>					0					

# Species List

River Code: <b>17-310</b>	Stream: <b>Jonathan Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>22.20</b>	Location: Hopewell Indian Rd.	Date Range: 08/12/2008
Time Fished: 2400 sec	Drainage: 27.4 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	27	54.00	1.41	3.40	7.83	62.96
Northern Hog Sucker	R	I	S	M	92	184.00	4.81	11.86	27.30	64.44
White Sucker	W	O	S	T	32	64.00	1.67	1.24	2.85	19.35
Western Blacknose Dace	N	G	S	T	35	70.00	1.83	0.20	0.46	2.86
Creek Chub	N	G	N	T	112	224.00	5.85	1.12	2.58	5.00
Striped Shiner	N	I	S		275	550.00	14.37	3.79	8.73	6.89
Sand Shiner	N	I	M	M	180	360.00	9.40	0.72	1.66	2.00
Mimic Shiner	N	I	M	I	16	32.00	0.84	0.06	0.14	1.88
Silverjaw Minnow	N	I	M		74	148.00	3.87	0.57	1.31	3.85
Bluntnose Minnow	N	O	C	T	244	488.00	12.75	1.76	4.05	3.61
Central Stoneroller	N	H	N		456	912.00	23.82	11.31	26.05	12.41
Brindled Madtom		I	C	I	2	4.00	0.10	0.12	0.28	30.00
Rock Bass	S	C	C		16	32.00	0.84	2.00	4.60	62.50
Smallmouth Bass	F	C	C	M	11	22.00	0.57	3.16	7.28	143.64
Green Sunfish	S	I	C	T	2	4.00	0.10	0.16	0.37	40.00
Bluegill Sunfish	S	I	C	P	8	16.00	0.42	0.18	0.41	11.25
Blackside Darter	D	I	S		5	10.00	0.26	0.02	0.06	2.40
Logperch	D	I	S	M	7	14.00	0.37	0.16	0.37	11.43
Johnny Darter	D	I	C		54	108.00	2.82	0.16	0.37	1.48
Greenside Darter	D	I	S	M	144	288.00	7.52	1.04	2.39	3.61
Banded Darter	D	I	S	I	119	238.00	6.22	0.38	0.87	1.60
Fantail Darter	D	I	C		3	6.00	0.16	0.02	0.04	3.00
<i>Mile Total</i>					1,914	3,828.00		43.43		
<i>Number of Species</i>					22					
<i>Number of Hybrids</i>					0					

## Species List

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River Code: <b>17-310</b>	Stream: <b>Jonathan Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>17.00</b>	Location: adj. St. Rt. 204 dst. Glass Rock Trib.	Date Range: 08/11/2008
Time Fished: 5100 sec	Drainage: 70.0 sq mi	Thru: 09/16/2008
Dist Fished: 0.40 km	Basin: Muskingum River	No of Passes: 2
		Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	210	157.50	4.78	7.53	25.99	47.79
Northern Hog Sucker	R	I	S	M	207	155.25	4.71	3.41	11.77	21.95
White Sucker	W	O	S	T	144	108.00	3.27	2.64	9.12	24.45
Western Blacknose Dace	N	G	S	T	1	0.75	0.02	0.00	0.01	3.00
Creek Chub	N	G	N	T	34	25.50	0.77	0.25	0.85	9.70
Redfin Shiner	N	I	N		101	75.75	2.30	0.12	0.43	1.63
Striped Shiner	N	I	S		466	349.50	10.60	2.42	8.34	6.91
Sand Shiner	N	I	M	M	440	330.00	10.01	0.45	1.55	1.36
Mimic Shiner	N	I	M	I	29	21.75	0.66	0.05	0.16	2.07
Silverjaw Minnow	N	I	M		161	120.75	3.66	0.33	1.14	2.73
Bluntnose Minnow	N	O	C	T	1,739	1,304.25	39.55	3.38	11.65	2.59
Central Stoneroller	N	H	N		630	472.50	14.33	4.12	14.24	8.73
Yellow Bullhead		I	C	T	3	2.25	0.07	0.17	0.57	73.33
Brindled Madtom		I	C	I	3	2.25	0.07	0.02	0.05	6.67
Rock Bass	S	C	C		9	6.75	0.20	0.67	2.30	98.57
Smallmouth Bass	F	C	C	M	18	13.50	0.41	2.93	10.10	216.67
Largemouth Bass	F	C	C		3	2.25	0.07	0.09	0.32	41.33
Green Sunfish	S	I	C	T	13	9.75	0.30	0.17	0.58	17.31
Bluegill Sunfish	S	I	C	P	11	8.25	0.25	0.05	0.16	5.45
Green Sf X Bluegill Sf					1	0.75	0.02	0.02	0.08	30.00
Blackside Darter	D	I	S		8	6.00	0.18	0.02	0.07	3.25
Logperch	D	I	S	M	2	1.50	0.05	0.02	0.08	15.00
Johnny Darter	D	I	C		23	17.25	0.52	0.02	0.07	1.09
Greenside Darter	D	I	S	M	60	45.00	1.36	0.06	0.21	1.35
Banded Darter	D	I	S	I	78	58.50	1.77	0.05	0.16	0.78
Fantail Darter	D	I	C		3	2.25	0.07	0.00	0.01	1.67
<i>Mile Total</i>					4,397	3,297.75		28.96		
<i>Number of Species</i>					25					
<i>Number of Hybrids</i>					1					

## Species List

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River Code: <b>17-310</b>	Stream: <b>Jonathan Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>12.20</b>	Location: Co. Rd. 34	Date Range: 08/11/2008
Time Fished: 4800 sec	Drainage: 103.0 sq mi	Thru: 09/15/2008
Dist Fished: 0.40 km	Basin: Muskingum River	No of Passes: 2
		Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	322	241.50	10.90	9.81	36.93	40.61
Northern Hog Sucker	R	I	S	M	325	243.75	11.01	6.19	23.30	25.38
White Sucker	W	O	S	T	73	54.75	2.47	1.00	3.78	18.33
Golden Shiner	N	I	M	T	1	0.75	0.03	0.02	0.07	25.00
Creek Chub	N	G	N	T	52	39.00	1.76	0.45	1.69	11.54
Redfin Shiner	N	I	N		116	87.00	3.93	0.15	0.55	1.68
Striped Shiner	N	I	S		294	220.50	9.96	1.85	6.95	8.37
Sand Shiner	N	I	M	M	75	56.25	2.54	0.11	0.40	1.89
Mimic Shiner	N	I	M	I	11	8.25	0.37	0.02	0.07	2.18
Silverjaw Minnow	N	I	M		168	126.00	5.69	0.31	1.17	2.46
Bluntnose Minnow	N	O	C	T	853	639.75	28.89	1.47	5.53	2.29
Central Stoneroller	N	H	N		105	78.75	3.56	0.45	1.69	5.71
Yellow Bullhead		I	C	T	3	2.25	0.10	0.60	2.26	266.67
Brindled Madtom		I	C	I	25	18.75	0.85	0.10	0.37	5.20
Rock Bass	S	C	C		15	11.25	0.51	0.52	1.94	45.89
Smallmouth Bass	F	C	C	M	7	5.25	0.24	2.11	7.95	402.14
Largemouth Bass	F	C	C		5	3.75	0.17	0.06	0.21	15.00
Green Sunfish	S	I	C	T	60	45.00	2.03	0.51	1.90	11.23
Bluegill Sunfish	S	I	C	P	24	18.00	0.81	0.11	0.42	6.17
Green Sf X Bluegill Sf					3	2.25	0.10	0.15	0.58	68.33
Blackside Darter	D	I	S		31	23.25	1.05	0.04	0.16	1.84
Logperch	D	I	S	M	23	17.25	0.78	0.14	0.52	7.94
Johnny Darter	D	I	C		109	81.75	3.69	0.10	0.36	1.16
Greenside Darter	D	I	S	M	156	117.00	5.28	0.22	0.82	1.86
Banded Darter	D	I	S	I	77	57.75	2.61	0.08	0.28	1.30
Fantail Darter	D	I	C		20	15.00	0.68	0.03	0.11	2.00
<i>Mile Total</i>					2,953	2,214.75		26.56		
<i>Number of Species</i>					25					
<i>Number of Hybrids</i>					1					

## Species List

River Code: <b>17-310</b>	Stream: <b>Jonathan Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>7.60</b>	Location: Workman Rd.	Date Range: 08/06/2008
Time Fished: 5400 sec	Drainage: 125.0 sq mi	Thru: 09/15/2008
Dist Fished: 0.40 km	Basin: Muskingum River	No of Passes: 2
		Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	115	86.25	4.97	2.99	16.80	34.61
Northern Hog Sucker	R	I	S	M	225	168.75	9.73	3.76	21.14	22.25
White Sucker	W	O	S	T	30	22.50	1.30	0.32	1.82	14.33
Creek Chub	N	G	N	T	66	49.50	2.85	1.07	6.00	21.52
Redfin Shiner	N	I	N		30	22.50	1.30	0.04	0.23	1.83
Striped Shiner	N	I	S		355	266.25	15.35	1.49	8.41	5.61
Sand Shiner	N	I	M	M	36	27.00	1.56	0.03	0.19	1.25
Bluntnose Minnow	N	O	C	T	543	407.25	23.48	0.76	4.29	1.87
Central Stoneroller	N	H	N		559	419.25	24.17	3.82	21.50	9.11
Brindled Madtom		I	C	I	12	9.00	0.52	0.09	0.50	9.83
Rock Bass	S	C	C		31	23.25	1.34	2.18	12.24	93.55
Smallmouth Bass	F	C	C	M	6	4.50	0.26	0.50	2.80	110.50
Largemouth Bass	F	C	C		2	1.50	0.09	0.02	0.11	12.50
Green Sunfish	S	I	C	T	9	6.75	0.39	0.18	1.04	27.22
Bluegill Sunfish	S	I	C	P	4	3.00	0.17	0.04	0.21	12.50
Blackside Darter	D	I	S		12	9.00	0.52	0.02	0.10	1.92
Logperch	D	I	S	M	22	16.50	0.95	0.12	0.70	7.50
Johnny Darter	D	I	C		39	29.25	1.69	0.04	0.23	1.40
Greenside Darter	D	I	S	M	133	99.75	5.75	0.23	1.27	2.26
Banded Darter	D	I	S	I	40	30.00	1.73	0.04	0.24	1.45
Fantail Darter	D	I	C		44	33.00	1.90	0.04	0.20	1.07
<i>Mile Total</i>					2,313	1,734.75		17.76		
<i>Number of Species</i>					21					
<i>Number of Hybrids</i>					0					

## Species List

River Code: <b>17-310</b>	Stream: <b>Jonathan Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>3.30</b>	Location: Crock Rd.	Date Range: 08/07/2008
Time Fished: 6600 sec	Drainage: 150.0 sq mi	Thru: 09/15/2008
Dist Fished: 0.40 km	Basin: Muskingum River	No of Passes: 2
		Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S M	121	90.75	6.82	8.76	23.01	96.49
Northern Hog Sucker	R	I	S M	260	195.00	14.66	9.98	26.21	51.16
White Sucker	W	O	S T	25	18.75	1.41	1.02	2.67	54.18
Creek Chub	N	G	N T	1	0.75	0.06	0.01	0.02	10.00
Redfin Shiner	N	I	N	23	17.25	1.30	0.04	0.09	2.04
Striped Shiner	N	I	S	239	179.25	13.48	2.26	5.95	12.63
Spotfin Shiner	N	I	M	18	13.50	1.02	0.07	0.19	5.22
Sand Shiner	N	I	M M	27	20.25	1.52	0.04	0.11	2.07
Mimic Shiner	N	I	M I	58	43.50	3.27	0.08	0.22	1.90
Silverjaw Minnow	N	I	M	2	1.50	0.11	0.00	0.01	2.00
Bluntnose Minnow	N	O	C T	105	78.75	5.92	0.10	0.27	1.31
Central Stoneroller	N	H	N	366	274.50	20.64	4.59	12.05	16.71
Channel Catfish	F		C	6	4.50	0.34	1.61	4.24	358.33
Yellow Bullhead		I	C T	16	12.00	0.90	1.69	4.43	140.63
Brindled Madtom		I	C I	4	3.00	0.23	0.03	0.07	9.00
Rock Bass	S	C	C	30	22.50	1.69	1.18	3.09	52.32
Smallmouth Bass	F	C	C M	42	31.50	2.37	3.24	8.51	102.86
Spotted Bass	F	C	C	3	2.25	0.17	0.38	0.99	166.67
Largemouth Bass	F	C	C	9	6.75	0.51	0.81	2.13	120.33
Green Sunfish	S	I	C T	31	23.25	1.75	0.37	0.97	15.87
Bluegill Sunfish	S	I	C P	36	27.00	2.03	0.32	0.85	11.97
Redear Sunfish	E	I	C	1	0.75	0.06	0.03	0.07	37.00
Green Sf X Bluegill Sf				23	17.25	1.30	0.53	1.38	30.48
Blackside Darter	D	I	S	8	6.00	0.45	0.03	0.08	5.29
Logperch	D	I	S M	42	31.50	2.37	0.22	0.59	7.10
Johnny Darter	D	I	C	3	2.25	0.17	0.00	0.01	2.00
Greenside Darter	D	I	S M	164	123.00	9.25	0.53	1.40	4.33
Banded Darter	D	I	S I	72	54.00	4.06	0.08	0.21	1.48
Rainbow Darter	D	I	S M	13	9.75	0.73	0.03	0.08	3.08
Fantail Darter	D	I	C	25	18.75	1.41	0.04	0.10	2.08
<i>Mile Total</i>				1,773	1,329.75		38.06		
<i>Number of Species</i>				29					
<i>Number of Hybrids</i>				1					



# Species List

River Code: <b>17-310</b>	Stream: <b>Jonathan Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>1.30</b>	Location: upst. St. Rt. 93	Date Range: 07/15/2008
Time Fished: 5985 sec	Drainage: 193.0 sq mi	Thru: 09/17/2008
Dist Fished: 1.00 km	Basin: Muskingum River	Sampler Type: A
	No of Passes: 2	

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Silver Redhorse	R	I	S	M	8	8.00	1.92	1.80	4.72	225.00
Golden Redhorse	R	I	S	M	261	261.00	62.74	30.14	79.11	115.49
Northern Hog Sucker	R	I	S	M	14	14.00	3.37	2.15	5.64	153.57
Striped Shiner	N	I	S		37	37.00	8.89	0.36	0.94	9.71
Spotfin Shiner	N	I	M		24	24.00	5.77	0.11	0.29	4.58
Bluntnose Minnow	N	O	C	T	10	10.00	2.40	0.02	0.05	2.00
Trout-perch		I	M		1	1.00	0.24	0.01	0.03	12.00
Rock Bass	S	C	C		5	5.00	1.20	0.64	1.68	128.00
Smallmouth Bass	F	C	C	M	16	16.00	3.85	1.19	3.12	74.38
Largemouth Bass	F	C	C		7	7.00	1.68	0.14	0.35	19.29
Green Sunfish	S	I	C	T	3	3.00	0.72	0.14	0.37	46.67
Bluegill Sunfish	S	I	C	P	23	23.00	5.53	1.00	2.61	43.26
Green Sf X Bluegill Sf					6	6.00	1.44	0.41	1.06	67.50
Logperch	D	I	S	M	1	1.00	0.24	0.01	0.01	5.00
<i>Mile Total</i>					416	416.00		38.10		
<i>Number of Species</i>					13					
<i>Number of Hybrids</i>					1					

## Species List

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River Code: <b>17-310</b>	Stream: <b>Jonathan Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>0.80</b>	Location: Powell Rd.	Date Range: 09/18/2008
Time Fished: 3302 sec	Drainage: 194.0 sq mi	
Dist Fished: 0.20 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M	4	6.00	0.34	1.37	1.88	228.25
Black Redhorse	R	I	S I	1	1.50	0.09	0.21	0.28	137.00
Golden Redhorse	R	I	S M	18	27.00	1.53	3.20	4.39	118.56
Northern Hog Sucker	R	I	S M	84	126.00	7.15	3.49	4.78	27.67
White Sucker	W	O	S T	42	63.00	3.57	0.37	0.51	5.83
Smallmouth Redhorse	R	I	S M	5	7.50	0.43	0.42	0.58	56.00
Common Carp	G	O	M T	10	15.00	0.85	32.00	43.92	2,133.33
Creek Chub	N	G	N T	1	1.50	0.09	0.01	0.01	5.00
Emerald Shiner	N	I	M	27	40.50	2.30	0.09	0.12	2.11
Scarlet Shiner	N	I	S M	5	7.50	0.43	0.02	0.03	3.00
Striped Shiner	N	I	S	77	115.50	6.55	0.66	0.90	5.68
Spotfin Shiner	N	I	M	50	75.00	4.26	0.21	0.29	2.80
Sand Shiner	N	I	M M	55	82.50	4.68	0.11	0.16	1.37
Bluntnose Minnow	N	O	C T	241	361.50	20.51	0.81	1.11	2.24
Central Stoneroller	N	H	N	223	334.50	18.98	3.04	4.17	9.09
Channel Catfish	F		C	28	42.00	2.38	17.89	24.56	426.00
Yellow Bullhead		I	C T	1	1.50	0.09	0.07	0.10	47.00
Flathead Catfish	F	P	C	4	6.00	0.34	3.06	4.19	509.33
Rock Bass	S	C	C	3	4.50	0.26	0.06	0.08	13.33
Smallmouth Bass	F	C	C M	2	3.00	0.17	0.30	0.41	100.00
Spotted Bass	F	C	C	12	18.00	1.02	3.70	5.08	205.44
Green Sunfish	S	I	C T	19	28.50	1.62	0.27	0.37	9.58
Bluegill Sunfish	S	I	C P	26	39.00	2.21	0.90	1.24	23.08
Green Sf X Hybrid				1	1.50	0.09	0.02	0.02	10.00
Blackside Darter	D	I	S	1	1.50	0.09	0.02	0.03	15.00
Logperch	D	I	S M	11	16.50	0.94	0.09	0.12	5.18
Johnny Darter	D	I	C	4	6.00	0.34	0.02	0.02	3.00
Greenside Darter	D	I	S M	150	225.00	12.77	0.33	0.45	1.47
Banded Darter	D	I	S I	32	48.00	2.72	0.06	0.08	1.16
Rainbow Darter	D	I	S M	16	24.00	1.36	0.06	0.08	2.38
Fantail Darter	D	I	C	22	33.00	1.87	0.04	0.05	1.05
<i>Mile Total</i>				1,175	1,762.50		72.86		
<i>Number of Species</i>				30					
<i>Number of Hybrids</i>				1					

## Species List

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River Code: <b>17-310</b>	Stream: <b>Jonathan Creek</b>		River Segment Totals		
Mile Range: <b>0.80</b>			Date Range: 07/15/2008		
Thru: <b>27.00</b>			Thru: 09/18/2008		
Dist Fished: 3.10 km	Basin: Muskingum River	No of Passes: 13	Sampler Type: D A E		

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		4	0.46	0.02	0.11	0.33	228.25
Silver Redhorse	R	I	S	M	8	1.23	0.06	0.30	0.87	225.00
Black Redhorse	R	I	S	I	1	0.12	0.01	0.02	0.05	137.00
Golden Redhorse	R	I	S	M	1,076	135.31	6.63	10.42	30.12	67.73
Northern Hog Sucker	R	I	S	M	1,259	151.35	7.42	5.52	15.97	34.39
White Sucker	W	O	S	T	497	64.38	3.16	0.96	2.79	21.70
Smallmouth Redhorse	R	I	S	M	5	0.58	0.03	0.04	0.10	56.00
Common Carp	G	O	M	T	10	1.15	0.06	2.67	7.71	2,133.33
Golden Shiner	N	I	M	T	1	0.12	0.01	0.00	0.01	25.00
Western Blacknose Dace	N	G	S	T	66	10.12	0.50	0.02	0.05	2.86
Creek Chub	N	G	N	T	410	57.15	2.80	0.39	1.12	11.00
Emerald Shiner	N	I	M		27	3.12	0.15	0.01	0.02	2.11
Redfin Shiner	N	I	N		270	31.15	1.53	0.06	0.17	1.71
Scarlet Shiner	N	I	S	M	5	0.58	0.03	0.00	0.01	3.00
Striped Shiner	N	I	S		1,820	224.96	11.03	1.77	5.11	7.68
Spotfin Shiner	N	I	M		92	11.54	0.57	0.05	0.14	3.74
Sand Shiner	N	I	M	M	813	100.73	4.94	0.17	0.51	1.57
Mimic Shiner	N	I	M	I	114	13.77	0.68	0.03	0.08	1.96
Silverjaw Minnow	N	I	M		410	50.35	2.47	0.15	0.45	2.82
Fathead Minnow	N	O	C	T	1	0.15	0.01			
Bluntnose Minnow	N	O	C	T	4,035	486.88	23.87	1.17	3.38	2.42
Central Stoneroller	N	H	N		2,845	365.27	17.91	3.36	9.71	10.68
Channel Catfish	F		C		34	3.92	0.19	1.76	5.09	414.06
Yellow Bullhead		I	C	T	23	2.65	0.13	0.41	1.20	144.22
Flathead Catfish	F	P	C		4	0.46	0.02	0.25	0.74	509.33
Brindled Madtom		I	C	I	46	5.38	0.26	0.05	0.14	7.91
Trout-perch		I	M		1	0.15	0.01	0.00	0.01	12.00
Rock Bass	S	C	C		116	14.46	0.71	1.03	2.99	70.87
Smallmouth Bass	F	C	C	M	103	12.96	0.64	1.95	5.63	143.80
Spotted Bass	F	C	C		15	1.73	0.08	0.37	1.07	197.69
Largemouth Bass	F	C	C		26	3.27	0.16	0.19	0.54	55.46
Green Sunfish	S	I	C	T	137	16.00	0.78	0.26	0.76	14.87
Bluegill Sunfish	S	I	C	P	133	16.58	0.81	0.34	0.99	17.98
Redear Sunfish	E	I	C		1	0.12	0.01	0.00	0.01	37.00
Green Sf X Bluegill Sf					33	4.04	0.20	0.18	0.53	40.64
Green Sf X Hybrid					1	0.12	0.01	0.00	0.00	10.00
Blackside Darter	D	I	S		67	8.00	0.39	0.02	0.07	2.70
Logperch	D	I	S	M	114	13.69	0.67	0.11	0.31	7.57
Johnny Darter	D	I	C		285	37.00	1.81	0.04	0.12	1.31
Greenside Darter	D	I	S	M	861	106.96	5.24	0.29	0.83	2.63
Banded Darter	D	I	S	I	451	57.88	2.84	0.08	0.22	1.32
Rainbow Darter	D	I	S	M	29	3.35	0.16	0.01	0.03	2.69
Fantail Darter	D	I	C		162	20.54	1.01	0.02	0.07	1.50
<i>Stream Total</i>					16,411	2,039.73		34.60		
<i>Number of Species</i>					41					
<i>Number of Hybrids</i>					2					

# Species List

River Code: <b>17-311</b>	Stream: <b>Thompson Run</b>	Sample Date: <b>2008</b>
River Mile: <b>4.70</b>	Location: Coppermill Rd.	Date Range: 08/14/2008
Time Fished: 2400 sec	Drainage: 9.3 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	1	2.00	0.08			
Northern Hog Sucker	R	I	S	M	3	6.00	0.25			
White Sucker	W	O	S	T	231	462.00	19.12			
Creek Chub	N	G	N	T	243	486.00	20.12			
Striped Shiner	N	I	S		68	136.00	5.63			
Silverjaw Minnow	N	I	M		23	46.00	1.90			
Bluntnose Minnow	N	O	C	T	72	144.00	5.96			
Central Stoneroller	N	H	N		429	858.00	35.51			
Rock Bass	S	C	C		4	8.00	0.33			
Largemouth Bass	F	C	C		5	10.00	0.41			
Green Sunfish	S	I	C	T	3	6.00	0.25			
Bluegill Sunfish	S	I	C	P	45	90.00	3.73			
Johnny Darter	D	I	C		46	92.00	3.81			
Greenside Darter	D	I	S	M	5	10.00	0.41			
Rainbow Darter	D	I	S	M	23	46.00	1.90			
Fantail Darter	D	I	C		7	14.00	0.58			
<i>Mile Total</i>					1,208	2,416.00				
<i>Number of Species</i>					16					
<i>Number of Hybrids</i>					0					

# Species List

River Code: <b>17-311</b>	Stream: <b>Thompson Run</b>	Sample Date: <b>2008</b>
River Mile: <b>0.50</b>	Location: U.S. Rt. 22	Date Range: 08/19/2008
Time Fished: 2400 sec	Drainage: 15.3 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	17	34.00	1.78			
Northern Hog Sucker	R	I	S	M	41	82.00	4.29			
White Sucker	W	O	S	T	85	170.00	8.90			
Creek Chub	N	G	N	T	97	194.00	10.16			
Striped Shiner	N	I	S		167	334.00	17.49			
Spotfin Shiner	N	I	M		1	2.00	0.10			
Silverjaw Minnow	N	I	M		17	34.00	1.78			
Bluntnose Minnow	N	O	C	T	267	534.00	27.96			
Central Stoneroller	N	H	N		95	190.00	9.95			
Yellow Bullhead		I	C	T	8	16.00	0.84			
Rock Bass	S	C	C		19	38.00	1.99			
Smallmouth Bass	F	C	C	M	7	14.00	0.73			
Largemouth Bass	F	C	C		5	10.00	0.52			
Green Sunfish	S	I	C	T	17	34.00	1.78			
Bluegill Sunfish	S	I	C	P	34	68.00	3.56			
Green Sf X Bluegill Sf					8	16.00	0.84			
Blackside Darter	D	I	S		1	2.00	0.10			
Logperch	D	I	S	M	6	12.00	0.63			
Johnny Darter	D	I	C		18	36.00	1.88			
Greenside Darter	D	I	S	M	30	60.00	3.14			
Rainbow Darter	D	I	S	M	7	14.00	0.73			
Fantail Darter	D	I	C		8	16.00	0.84			
<i>Mile Total</i>					955	1,910.00				
<i>Number of Species</i>					21					
<i>Number of Hybrids</i>					1					

# Species List

River Code: <b>17-311</b> Mile Range: <b>0.50</b> Thru: <b>4.70</b> Dist Fished: 0.30 km	Stream: <b>Thompson Run</b>  Basin: Muskingum River      No of Passes: 2	River Segment Totals Date Range: 08/14/2008 Thru: 08/19/2008 Sampler Type: E
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Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	18	18.00	0.83			
Northern Hog Sucker	R	I	S	M	44	44.00	2.03			
White Sucker	W	O	S	T	316	316.00	14.61			
Creek Chub	N	G	N	T	340	340.00	15.72			
Striped Shiner	N	I	S		235	235.00	10.86			
Spotfin Shiner	N	I	M		1	1.00	0.05			
Silverjaw Minnow	N	I	M		40	40.00	1.85			
Bluntnose Minnow	N	O	C	T	339	339.00	15.67			
Central Stoneroller	N	H	N		524	524.00	24.23			
Yellow Bullhead		I	C	T	8	8.00	0.37			
Rock Bass	S	C	C		23	23.00	1.06			
Smallmouth Bass	F	C	C	M	7	7.00	0.32			
Largemouth Bass	F	C	C		10	10.00	0.46			
Green Sunfish	S	I	C	T	20	20.00	0.92			
Bluegill Sunfish	S	I	C	P	79	79.00	3.65			
Green Sf X Bluegill Sf					8	8.00	0.37			
Blackside Darter	D	I	S		1	1.00	0.05			
Logperch	D	I	S	M	6	6.00	0.28			
Johnny Darter	D	I	C		64	64.00	2.96			
Greenside Darter	D	I	S	M	35	35.00	1.62			
Rainbow Darter	D	I	S	M	30	30.00	1.39			
Fantail Darter	D	I	C		15	15.00	0.69			
<i>Stream Total</i>					2,163	2,163.00				
<i>Number of Species</i>					21					
<i>Number of Hybrids</i>					1					

## Species List

River Code: <b>17-312</b>	Stream: <b>Hibbs Run</b>	Sample Date: <b>2008</b>
River Mile: <b>0.10</b>	Location: Coppermill Rd.	Date Range: 06/18/2008
Time Fished: 2160 sec	Drainage: 1.6 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	24	48.00	3.36			
Western Blacknose Dace	N	G	S	T	35	70.00	4.90			
Creek Chub	N	G	N	T	172	344.00	24.06			
South. Redbelly Dace	N	H	S		143	286.00	20.00			
Striped Shiner	N	I	S		4	8.00	0.56			
Silverjaw Minnow	N	I	M		36	72.00	5.03			
Bluntnose Minnow	N	O	C	T	34	68.00	4.76			
Central Stoneroller	N	H	N		85	170.00	11.89			
Largemouth Bass	F	C	C		2	4.00	0.28			
Bluegill Sunfish	S	I	C	P	27	54.00	3.78			
Johnny Darter	D	I	C		107	214.00	14.97			
Rainbow Darter	D	I	S	M	9	18.00	1.26			
Orangethroat Darter	D	I	S		1	2.00	0.14			
Fantail Darter	D	I	C		36	72.00	5.03			
<i>Mile Total</i>					715	1,430.00				
<i>Number of Species</i>					14					
<i>Number of Hybrids</i>					0					

# Species List

River Code: <b>17-313</b>	Stream: <b>Kent Run</b>	Sample Date: <b>2008</b>
River Mile: <b>8.90</b>	Location: Asbury Chapel Rd.	Date Range: 08/18/2008
Time Fished: 2400 sec	Drainage: 9.8 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Northern Hog Sucker	R	I	S	M	11	22.00	0.78			
White Sucker	W	O	S	T	223	446.00	15.86			
Creek Chub	N	G	N	T	264	528.00	18.78			
Striped Shiner	N	I	S		36	72.00	2.56			
Silverjaw Minnow	N	I	M		60	120.00	4.27			
Bluntnose Minnow	N	O	C	T	371	742.00	26.39			
Central Stoneroller	N	H	N		130	260.00	9.25			
Yellow Bullhead		I	C	T	2	4.00	0.14			
Rock Bass	S	C	C		1	2.00	0.07			
Largemouth Bass	F	C	C		9	18.00	0.64			
Green Sunfish	S	I	C	T	20	40.00	1.42			
Bluegill Sunfish	S	I	C	P	24	48.00	1.71			
Logperch	D	I	S	M	2	4.00	0.14			
Johnny Darter	D	I	C		93	186.00	6.61			
Greenside Darter	D	I	S	M	32	64.00	2.28			
Rainbow Darter	D	I	S	M	9	18.00	0.64			
Fantail Darter	D	I	C		119	238.00	8.46			
<i>Mile Total</i>					1,406	2,812.00				
<i>Number of Species</i>					17					
<i>Number of Hybrids</i>					0					



## Species List

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River Code: <b>17-313</b>	Stream: <b>Kent Run</b>	Sample Date: <b>2008</b>
River Mile: <b>3.70</b>	Location: Slack Rd.	Date Range: 08/18/2008
Time Fished: 2400 sec	Drainage: 15.1 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	8	16.00	0.30			
Northern Hog Sucker	R	I	S	M	29	58.00	1.09			
White Sucker	W	O	S	T	37	74.00	1.39			
Western Blacknose Dace	N	G	S	T	9	18.00	0.34			
Creek Chub	N	G	N	T	144	288.00	5.41			
Striped Shiner	N	I	S		32	64.00	1.20			
Silverjaw Minnow	N	I	M		90	180.00	3.38			
Bluntnose Minnow	N	O	C	T	224	448.00	8.42			
Central Stoneroller	N	H	N		1,463	2,926.00	55.00			
Rock Bass	S	C	C		8	16.00	0.30			
Smallmouth Bass	F	C	C	M	2	4.00	0.08			
Green Sunfish	S	I	C	T	3	6.00	0.11			
Bluegill Sunfish	S	I	C	P	1	2.00	0.04			
Logperch	D	I	S	M	2	4.00	0.08			
Johnny Darter	D	I	C		49	98.00	1.84			
Greenside Darter	D	I	S	M	51	102.00	1.92			
Rainbow Darter	D	I	S	M	144	288.00	5.41			
Fantail Darter	D	I	C		364	728.00	13.68			
<i>Mile Total</i>					2,660	5,320.00				
<i>Number of Species</i>					18					
<i>Number of Hybrids</i>					0					

## Species List

River Code: <b>17-313</b>	Stream: <b>Kent Run</b>	Sample Date: <b>2008</b>
River Mile: <b>1.60</b>	Location: upst. Lower Kroft Rd.	Date Range: 08/19/2008
Time Fished: 2700 sec	Drainage: 22.3 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	4	8.00	0.16	0.05	0.35	6.25
Northern Hog Sucker	R	I	S	M	54	108.00	2.12	1.22	8.48	11.30
White Sucker	W	O	S	T	66	132.00	2.59	1.04	7.23	7.88
Western Blacknose Dace	N	G	S	T	7	14.00	0.27	0.04	0.28	2.86
Creek Chub	N	G	N	T	285	570.00	11.18	3.88	26.96	6.81
Striped Shiner	N	I	S		13	26.00	0.51	0.10	0.69	3.85
Silverjaw Minnow	N	I	M		62	124.00	2.43	0.12	0.83	0.97
Bluntnose Minnow	N	O	C	T	338	676.00	13.25	1.08	7.51	1.60
Central Stoneroller	N	H	N		1,410	2,820.00	55.29	5.64	39.19	2.00
Rock Bass	S	C	C		4	8.00	0.16	0.14	0.97	17.50
Largemouth Bass	F	C	C		3	6.00	0.12	0.05	0.35	8.33
Green Sunfish	S	I	C	T	3	6.00	0.12	0.40	2.78	66.67
Bluegill Sunfish	S	I	C	P	1	2.00	0.04	0.02	0.11	8.00
Johnny Darter	D	I	C		95	190.00	3.73	0.18	1.28	0.97
Greenside Darter	D	I	S	M	42	84.00	1.65	0.12	0.83	1.43
Rainbow Darter	D	I	S	M	48	96.00	1.88	0.14	0.97	1.46
Fantail Darter	D	I	C		115	230.00	4.51	0.17	1.18	0.74
<i>Mile Total</i>					2,550	5,100.00		14.39		
<i>Number of Species</i>					17					
<i>Number of Hybrids</i>					0					

River Code: <b>17-313</b>	Stream: <b>Kent Run</b>	River Segment Totals
Mile Range: <b>1.60</b>		Date Range: 08/18/2008
Thru: <b>8.90</b>		Thru: 08/19/2008
Dist Fished: 0.45 km	Basin: Muskingum River	No of Passes: 3
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	12	8.00	0.18	0.05	0.35	6.25
Northern Hog Sucker	R	I	S	M	94	62.67	1.42	1.22	8.48	11.30
White Sucker	W	O	S	T	326	217.33	4.93	1.04	7.23	7.88
Western Blacknose Dace	N	G	S	T	16	10.67	0.24	0.04	0.28	2.86
Creek Chub	N	G	N	T	693	462.00	10.47	3.88	26.96	6.81
Striped Shiner	N	I	S		81	54.00	1.22	0.10	0.69	3.85
Silverjaw Minnow	N	I	M		212	141.33	3.20	0.12	0.83	0.97
Bluntnose Minnow	N	O	C	T	933	622.00	14.10	1.08	7.51	1.60
Central Stoneroller	N	H	N		3,003	2,002.00	45.39	5.64	39.19	2.00
Yellow Bullhead		I	C	T	2	1.33	0.03			
Rock Bass	S	C	C		13	8.67	0.20	0.14	0.97	17.50
Smallmouth Bass	F	C	C	M	2	1.33	0.03			
Largemouth Bass	F	C	C		12	8.00	0.18	0.05	0.35	8.33
Green Sunfish	S	I	C	T	26	17.33	0.39	0.40	2.78	66.67
Bluegill Sunfish	S	I	C	P	26	17.33	0.39	0.02	0.11	8.00
Logperch	D	I	S	M	4	2.67	0.06			
Johnny Darter	D	I	C		237	158.00	3.58	0.18	1.28	0.97
Greenside Darter	D	I	S	M	125	83.33	1.89	0.12	0.83	1.43
Rainbow Darter	D	I	S	M	201	134.00	3.04	0.14	0.97	1.46
Fantail Darter	D	I	C		598	398.67	9.04	0.17	1.18	0.74
<i>Stream Total</i>					6,616	4,410.67		14.39		
<i>Number of Species</i>					20					
<i>Number of Hybrids</i>					0					

# Species List

River Code: <b>17-314</b>	Stream: <b>Salt Run</b>	Sample Date: <b>2008</b>
River Mile: <b>0.10</b>	Location: Bagley Rd.	Date Range: 06/18/2008
Time Fished: 1800 sec	Drainage: 3.2 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Northern Hog Sucker	R	I	S	M	3	6.00	0.72			
White Sucker	W	O	S	T	58	116.00	13.91			
Western Blacknose Dace	N	G	S	T	28	56.00	6.71			
Creek Chub	N	G	N	T	145	290.00	34.77			
South. Redbelly Dace	N	H	S		15	30.00	3.60			
Silverjaw Minnow	N	I	M		23	46.00	5.52			
Bluntnose Minnow	N	O	C	T	19	38.00	4.56			
Central Stoneroller	N	H	N		61	122.00	14.63			
Bluegill Sunfish	S	I	C	P	6	12.00	1.44			
Johnny Darter	D	I	C		17	34.00	4.08			
Rainbow Darter	D	I	S	M	21	42.00	5.04			
Fantail Darter	D	I	C		21	42.00	5.04			
<i>Mile Total</i>					417	834.00				
<i>Number of Species</i>					12					
<i>Number of Hybrids</i>					0					

# Species List

River Code: <b>17-315</b>	Stream: <b>Buckeye Fork</b>	Sample Date: <b>2008</b>
River Mile: <b>4.80</b>	Location: adj. St. Rt. 345	Date Range: 08/25/2008
Time Fished: 600 sec	Drainage: 8.1 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
No Fish				0	0.00	0			
				<i>Mile Total</i>					0
				<i>Number of Species</i>					0
				<i>Number of Hybrids</i>					0

# Species List

River Code: <b>17-315</b> River Mile: <b>3.50</b> Time Fished: 900 sec Dist Fished: 0.15 km	Stream: <b>Buckeye Fork</b> Location: Fletcher Rd. Drainage: 16.7 sq mi Basin: Muskingum River	Sample Date: <b>2008</b> Date Range: 08/25/2008  No of Passes: 1 Sampler Type: E
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Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Green Sunfish	S	I	C	T	4	8.00	100.00			
	<i>Mile Total</i>				4	8.00				
					<i>Number of Species</i>	1				
					<i>Number of Hybrids</i>	0				

# Species List

River Code: <b>17-315</b>	Stream: <b>Buckeye Fork</b>	Sample Date: <b>2008</b>
River Mile: <b>1.40</b>	Location: Fultonrose Rd.	Date Range: 08/25/2008
Time Fished: 1200 sec	Drainage: 22.6 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	2	4.00	1.56	0.06	0.78	15.00
Creek Chub	N	G	N	T	49	98.00	38.28	1.09	14.10	11.12
Silverjaw Minnow	N	I	M		1	2.00	0.78	0.00	0.05	2.00
Flathead Catfish	F	P	C		1	2.00	0.78	5.20	67.25	2,600.00
Largemouth Bass	F	C	C		1	2.00	0.78	0.03	0.39	15.00
Green Sunfish	S	I	C	T	57	114.00	44.53	0.91	11.80	8.00
Bluegill Sunfish	S	I	C	P	11	22.00	8.59	0.13	1.71	6.00
Green Sf X Bluegill Sf					5	10.00	3.91	0.30	3.88	30.00
Blackside Darter	D	I	S		1	2.00	0.78	0.00	0.05	2.00
<i>Mile Total</i>					128	256.00		7.73		
<i>Number of Species</i>					8					
<i>Number of Hybrids</i>					1					

# Species List

River Code: <b>17-315</b> Mile Range: <b>1.40</b> Thru: <b>4.80</b> Dist Fished: 0.45 km	Stream: <b>Buckeye Fork</b>  Basin: Muskingum River      No of Passes: 3	River Segment Totals Date Range: 08/25/2008  Sampler Type: E
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Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	2	1.33	1.52	0.03	0.78	15.00
Creek Chub	N	G	N	T	49	32.67	37.12	0.55	14.10	11.12
Silverjaw Minnow	N	I	M		1	0.67	0.76	0.00	0.05	2.00
Flathead Catfish	F	P	C		1	0.67	0.76	2.60	67.25	2,600.00
Largemouth Bass	F	C	C		1	0.67	0.76	0.02	0.39	15.00
Green Sunfish	S	I	C	T	61	40.67	46.21	0.46	11.80	8.00
Bluegill Sunfish	S	I	C	P	11	7.33	8.33	0.07	1.71	6.00
Green Sf X Bluegill Sf					5	3.33	3.79	0.15	3.88	30.00
Blackside Darter	D	I	S		1	0.67	0.76	0.00	0.05	2.00
No Fish					0	0.00	0.00			
<i>Stream Total</i>					132	88.00		3.87		
<i>Number of Species</i>					8					
<i>Number of Hybrids</i>					1					



# Species List

River Code: <b>17-316</b>	Stream: <b>Bush Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>0.20</b>	Location: St. Rt. 345	Date Range: 09/18/2008
Time Fished: 1500 sec	Drainage: 3.0 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	3	6.00	0.43			
Northern Hog Sucker	R	I	S	M	2	4.00	0.28			
White Sucker	W	O	S	T	60	120.00	8.52			
Western Blacknose Dace	N	G	S	T	5	10.00	0.71			
Creek Chub	N	G	N	T	194	388.00	27.56			
Striped Shiner	N	I	S		6	12.00	0.85			
Spotfin Shiner	N	I	M		6	12.00	0.85			
Fathead Minnow	N	O	C	T	1	2.00	0.14			
Bluntnose Minnow	N	O	C	T	81	162.00	11.51			
Central Stoneroller	N	H	N		211	422.00	29.97			
Yellow Bullhead		I	C	T	3	6.00	0.43			
Largemouth Bass	F	C	C		1	2.00	0.14			
Green Sunfish	S	I	C	T	118	236.00	16.76			
Bluegill Sunfish	S	I	C	P	8	16.00	1.14			
Green Sf X Bluegill Sf					4	8.00	0.57			
Fantail Darter	D	I	C		1	2.00	0.14			
<i>Mile Total</i>					704	1,408.00				
<i>Number of Species</i>					15					
<i>Number of Hybrids</i>					1					

# Species List

River Code: <b>17-317</b>	Stream: <b>Twomile Run</b>	Sample Date: <b>2008</b>
River Mile: <b>0.10</b>	Location: at mouth	Date Range: 07/08/2008
Time Fished: 1134 sec	Drainage: 0.6 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Creek Chub	N	G	N	T	100	200.00	100.00			
	<i>Mile Total</i>				100	200.00				
					<i>Number of Species</i>	1				
					<i>Number of Hybrids</i>	0				

# Species List

River Code: <b>17-318</b>	Stream: <b>Butcherknife Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>0.10</b>	Location: St. Rt. 345	Date Range: 08/25/2008
Time Fished: 600 sec	Drainage: 6.8 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Green Sunfish	S	I	C	T	3	6.00	100.00			
	<i>Mile Total</i>				3	6.00				
					<i>Number of Species</i>	1				
					<i>Number of Hybrids</i>	0				

# Species List

River Code: <b>17-319</b>	Stream: <b>Turkey Run</b>	Sample Date: <b>2008</b>
River Mile: <b>2.80</b>	Location: Twp. Rd. 49 (upper crossing)	Date Range: 08/20/2008
Time Fished: 2400 sec	Drainage: 8.4 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	2	4.00	0.36			
Northern Hog Sucker	R	I	S	M	12	24.00	2.17			
White Sucker	W	O	S	T	39	78.00	7.05			
Western Blacknose Dace	N	G	S	T	9	18.00	1.63			
Creek Chub	N	G	N	T	146	292.00	26.40			
South. Redbelly Dace	N	H	S		2	4.00	0.36			
Scarlet Shiner	N	I	S	M	9	18.00	1.63			
Striped Shiner	N	I	S		84	168.00	15.19			
Silverjaw Minnow	N	I	M		10	20.00	1.81			
Bluntnose Minnow	N	O	C	T	123	246.00	22.24			
Central Stoneroller	N	H	N		9	18.00	1.63			
Rock Bass	S	C	C		5	10.00	0.90			
Green Sunfish	S	I	C	T	32	64.00	5.79			
Bluegill Sunfish	S	I	C	P	13	26.00	2.35			
Blackside Darter	D	I	S		11	22.00	1.99			
Logperch	D	I	S	M	1	2.00	0.18			
Johnny Darter	D	I	C		24	48.00	4.34			
Greenside Darter	D	I	S	M	2	4.00	0.36			
Fantail Darter	D	I	C		20	40.00	3.62			
<i>Mile Total</i>					553	1,106.00				
<i>Number of Species</i>					19					
<i>Number of Hybrids</i>					0					

## Species List

River Code: <b>17-319</b>	Stream: <b>Turkey Run</b>	Sample Date: <b>2008</b>
River Mile: <b>0.40</b>	Location: upst. RR bridge near mouth	Date Range: 08/21/2008
Time Fished: 1800 sec	Drainage: 14.2 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	14	28.00	3.21			
Northern Hog Sucker	R	I	S	M	12	24.00	2.75			
White Sucker	W	O	S	T	20	40.00	4.59			
Western Blacknose Dace	N	G	S	T	6	12.00	1.38			
Creek Chub	N	G	N	T	76	152.00	17.43			
Redfin Shiner	N	I	N		2	4.00	0.46			
Striped Shiner	N	I	S		55	110.00	12.61			
Sand Shiner	N	I	M	M	8	16.00	1.83			
Silverjaw Minnow	N	I	M		2	4.00	0.46			
Bluntnose Minnow	N	O	C	T	92	184.00	21.10			
Central Stoneroller	N	H	N		11	22.00	2.52			
Brindled Madtom		I	C	I	1	2.00	0.23			
Rock Bass	S	C	C		1	2.00	0.23			
Largemouth Bass	F	C	C		1	2.00	0.23			
Green Sunfish	S	I	C	T	19	38.00	4.36			
Bluegill Sunfish	S	I	C	P	5	10.00	1.15			
Blackside Darter	D	I	S		9	18.00	2.06			
Logperch	D	I	S	M	2	4.00	0.46			
Johnny Darter	D	I	C		53	106.00	12.16			
Greenside Darter	D	I	S	M	2	4.00	0.46			
Fantail Darter	D	I	C		45	90.00	10.32			
	<i>Mile Total</i>				436	872.00				
	<i>Number of Species</i>				21					
	<i>Number of Hybrids</i>				0					

# Species List

River Code: <b>17-319</b> Mile Range: <b>0.40</b> Thru: <b>2.80</b> Dist Fished: 0.30 km	Stream: <b>Turkey Run</b>  Basin: Muskingum River      No of Passes: 2	River Segment Totals Date Range: 08/20/2008 Thru: 08/21/2008 Sampler Type: E
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Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	16	16.00	1.62			
Northern Hog Sucker	R	I	S	M	24	24.00	2.43			
White Sucker	W	O	S	T	59	59.00	5.97			
Western Blacknose Dace	N	G	S	T	15	15.00	1.52			
Creek Chub	N	G	N	T	222	222.00	22.45			
South. Redbelly Dace	N	H	S		2	2.00	0.20			
Redfin Shiner	N	I	N		2	2.00	0.20			
Scarlet Shiner	N	I	S	M	9	9.00	0.91			
Striped Shiner	N	I	S		139	139.00	14.05			
Sand Shiner	N	I	M	M	8	8.00	0.81			
Silverjaw Minnow	N	I	M		12	12.00	1.21			
Bluntnose Minnow	N	O	C	T	215	215.00	21.74			
Central Stoneroller	N	H	N		20	20.00	2.02			
Brindled Madtom		I	C	I	1	1.00	0.10			
Rock Bass	S	C	C		6	6.00	0.61			
Largemouth Bass	F	C	C		1	1.00	0.10			
Green Sunfish	S	I	C	T	51	51.00	5.16			
Bluegill Sunfish	S	I	C	P	18	18.00	1.82			
Blackside Darter	D	I	S		20	20.00	2.02			
Logperch	D	I	S	M	3	3.00	0.30			
Johnny Darter	D	I	C		77	77.00	7.79			
Greenside Darter	D	I	S	M	4	4.00	0.40			
Fantail Darter	D	I	C		65	65.00	6.57			
<i>Stream Total</i>					989	989.00				
<i>Number of Species</i>					23					
<i>Number of Hybrids</i>					0					

## Species List

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River Code: <b>17-320</b>	Stream: <b>Painter Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>2.50</b>	Location: Twp. Rd. 76	Date Range: 08/19/2008
Time Fished: 2400 sec	Drainage: 11.3 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Least Brook Lamprey		F	N	7	14.00	0.67			
Golden Redhorse	R	I	S M	19	38.00	1.81			
Northern Hog Sucker	R	I	S M	20	40.00	1.90			
White Sucker	W	O	S T	219	438.00	20.84			
Western Blacknose Dace	N	G	S T	19	38.00	1.81			
Creek Chub	N	G	N T	268	536.00	25.50			
South. Redbelly Dace	N	H	S	1	2.00	0.10			
Scarlet Shiner	N	I	S M	3	6.00	0.29			
Striped Shiner	N	I	S	238	476.00	22.65			
Sand Shiner	N	I	M M	9	18.00	0.86			
Silverjaw Minnow	N	I	M	18	36.00	1.71			
Bluntnose Minnow	N	O	C T	99	198.00	9.42			
Central Stoneroller	N	H	N	17	34.00	1.62			
Channel Catfish	F		C	1	2.00	0.10			
Rock Bass	S	C	C	3	6.00	0.29			
Largemouth Bass	F	C	C	3	6.00	0.29			
Green Sunfish	S	I	C T	6	12.00	0.57			
Bluegill Sunfish	S	I	C P	13	26.00	1.24			
Green Sf X Bluegill Sf				2	4.00	0.19			
Blackside Darter	D	I	S	6	12.00	0.57			
Logperch	D	I	S M	4	8.00	0.38			
Johnny Darter	D	I	C	49	98.00	4.66			
Greenside Darter	D	I	S M	4	8.00	0.38			
Fantail Darter	D	I	C	23	46.00	2.19			
<i>Mile Total</i>				1,051	2,102.00				
<i>Number of Species</i>				23					
<i>Number of Hybrids</i>				1					

# Species List

River Code: <b>17-320</b>	Stream: <b>Painter Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>0.90</b>	Location: Cooperrider Rd. (covered bridge)	Date Range: 08/19/2008
Time Fished: 2400 sec	Drainage: 17.8 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	42	84.00	3.78			
Northern Hog Sucker	R	I	S	M	33	66.00	2.97			
White Sucker	W	O	S	T	79	158.00	7.10			
Creek Chub	N	G	N	T	37	74.00	3.33			
Redfin Shiner	N	I	N		30	60.00	2.70			
Striped Shiner	N	I	S		214	428.00	19.24			
Sand Shiner	N	I	M	M	18	36.00	1.62			
Silverjaw Minnow	N	I	M		2	4.00	0.18			
Bluntnose Minnow	N	O	C	T	310	620.00	27.88			
Central Stoneroller	N	H	N		157	314.00	14.12			
Brindled Madtom		I	C	I	2	4.00	0.18			
Rock Bass	S	C	C		3	6.00	0.27			
Smallmouth Bass	F	C	C	M	8	16.00	0.72			
Green Sunfish	S	I	C	T	4	8.00	0.36			
Bluegill Sunfish	S	I	C	P	5	10.00	0.45			
Blackside Darter	D	I	S		13	26.00	1.17			
Logperch	D	I	S	M	15	30.00	1.35			
Johnny Darter	D	I	C		37	74.00	3.33			
Greenside Darter	D	I	S	M	39	78.00	3.51			
Banded Darter	D	I	S	I	5	10.00	0.45			
Fantail Darter	D	I	C		59	118.00	5.31			
<i>Mile Total</i>					1,112	2,224.00				
<i>Number of Species</i>					21					
<i>Number of Hybrids</i>					0					



## Species List

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River Code: <b>17-320</b>	Stream: <b>Painter Creek</b>		River Segment Totals		
Mile Range: <b>0.90</b>			Date Range: 08/19/2008		
Thru: <b>2.50</b>					
Dist Fished: 0.30 km	Basin: Muskingum River	No of Passes: 2	Sampler Type: E		

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Least Brook Lamprey		F	N		7	7.00	0.32			
Golden Redhorse	R	I	S	M	61	61.00	2.82			
Northern Hog Sucker	R	I	S	M	53	53.00	2.45			
White Sucker	W	O	S	T	298	298.00	13.78			
Western Blacknose Dace	N	G	S	T	19	19.00	0.88			
Creek Chub	N	G	N	T	305	305.00	14.10			
South. Redbelly Dace	N	H	S		1	1.00	0.05			
Redfin Shiner	N	I	N		30	30.00	1.39			
Scarlet Shiner	N	I	S	M	3	3.00	0.14			
Striped Shiner	N	I	S		452	452.00	20.90			
Sand Shiner	N	I	M	M	27	27.00	1.25			
Silverjaw Minnow	N	I	M		20	20.00	0.92			
Bluntnose Minnow	N	O	C	T	409	409.00	18.91			
Central Stoneroller	N	H	N		174	174.00	8.04			
Channel Catfish	F		C		1	1.00	0.05			
Brindled Madtom		I	C	I	2	2.00	0.09			
Rock Bass	S	C	C		6	6.00	0.28			
Smallmouth Bass	F	C	C	M	8	8.00	0.37			
Largemouth Bass	F	C	C		3	3.00	0.14			
Green Sunfish	S	I	C	T	10	10.00	0.46			
Bluegill Sunfish	S	I	C	P	18	18.00	0.83			
Green Sf X Bluegill Sf					2	2.00	0.09			
Blackside Darter	D	I	S		19	19.00	0.88			
Logperch	D	I	S	M	19	19.00	0.88			
Johnny Darter	D	I	C		86	86.00	3.98			
Greenside Darter	D	I	S	M	43	43.00	1.99			
Banded Darter	D	I	S	I	5	5.00	0.23			
Fantail Darter	D	I	C		82	82.00	3.79			
<i>Stream Total</i>					2,163	2,163.00				
<i>Number of Species</i>					27					
<i>Number of Hybrids</i>					1					

## Species List

River Code: <b>17-321</b>	Stream: <b>Valley Run</b>	Sample Date: <b>2008</b>
River Mile: <b>5.40</b>	Location: Laurel Hill Rd.	Date Range: 08/13/2008
Time Fished: 2400 sec	Drainage: 9.7 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	35	70.00	3.43			
Northern Hog Sucker	R	I	S	M	20	40.00	1.96			
White Sucker	W	O	S	T	194	388.00	19.04			
Bigeye Chub	N	I	S	I	59	118.00	5.79			
Western Blacknose Dace	N	G	S	T	2	4.00	0.20			
Creek Chub	N	G	N	T	70	140.00	6.87			
Redfin Shiner	N	I	N		2	4.00	0.20			
Striped Shiner	N	I	S		226	452.00	22.18			
Silverjaw Minnow	N	I	M		72	144.00	7.07			
Bluntnose Minnow	N	O	C	T	159	318.00	15.60			
Yellow Bullhead		I	C	T	5	10.00	0.49			
Brindled Madtom		I	C	I	1	2.00	0.10			
Rock Bass	S	C	C		3	6.00	0.29			
Smallmouth Bass	F	C	C	M	3	6.00	0.29			
Largemouth Bass	F	C	C		4	8.00	0.39			
Green Sunfish	S	I	C	T	5	10.00	0.49			
Bluegill Sunfish	S	I	C	P	12	24.00	1.18			
Green Sf X Bluegill Sf					1	2.00	0.10			
Blackside Darter	D	I	S		18	36.00	1.77			
Logperch	D	I	S	M	7	14.00	0.69			
Johnny Darter	D	I	C		104	208.00	10.21			
Greenside Darter	D	I	S	M	9	18.00	0.88			
Fantail Darter	D	I	C		8	16.00	0.79			
<i>Mile Total</i>					1,019	2,038.00				
<i>Number of Species</i>					22					
<i>Number of Hybrids</i>					1					

## Species List

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River Code: <b>17-321</b>	Stream: <b>Valley Run</b>	Sample Date: <b>2008</b>
River Mile: <b>3.50</b>	Location: Cherry Hill Rd.	Date Range: 08/13/2008
Time Fished: 2700 sec	Drainage: 17.3 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Redfin Pickerel		P	M	P	4	8.00	0.37		
Golden Redhorse	R	I	S	M	33	66.00	3.08		
Northern Hog Sucker	R	I	S	M	68	136.00	6.36		
White Sucker	W	O	S	T	93	186.00	8.69		
Bigeye Chub	N	I	S	I	24	48.00	2.24		
Western Blacknose Dace	N	G	S	T	1	2.00	0.09		
Creek Chub	N	G	N	T	99	198.00	9.25		
Redfin Shiner	N	I	N		26	52.00	2.43		
Striped Shiner	N	I	S		196	392.00	18.32		
Sand Shiner	N	I	M	M	1	2.00	0.09		
Silverjaw Minnow	N	I	M		47	94.00	4.39		
Bluntnose Minnow	N	O	C	T	44	88.00	4.11		
Central Stoneroller	N	H	N		18	36.00	1.68		
Brindled Madtom		I	C	I	2	4.00	0.19		
Rock Bass	S	C	C		12	24.00	1.12		
Smallmouth Bass	F	C	C	M	6	12.00	0.56		
Largemouth Bass	F	C	C		1	2.00	0.09		
Green Sunfish	S	I	C	T	7	14.00	0.65		
Bluegill Sunfish	S	I	C	P	22	44.00	2.06		
Green Sf X Bluegill Sf					3	6.00	0.28		
Blackside Darter	D	I	S		25	50.00	2.34		
Logperch	D	I	S	M	4	8.00	0.37		
Johnny Darter	D	I	C		131	262.00	12.24		
Greenside Darter	D	I	S	M	72	144.00	6.73		
Banded Darter	D	I	S	I	29	58.00	2.71		
Fantail Darter	D	I	C		102	204.00	9.53		
<i>Mile Total</i>				1,070	2,140.00				
<i>Number of Species</i>				25					
<i>Number of Hybrids</i>				1					

## Species List

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River Code: <b>17-321</b>	Stream: <b>Valley Run</b>	Sample Date: <b>2008</b>
River Mile: <b>0.50</b>	Location: George Ice Rd.	Date Range: 08/20/2008
Time Fished: 2700 sec	Drainage: 28.8 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Least Brook Lamprey		F	N	6	12.00	0.44	0.12	0.46	10.00
Golden Redhorse	R	I	S M	39	78.00	2.88	6.60	25.49	84.62
Northern Hog Sucker	R	I	S M	63	126.00	4.65	2.43	9.39	19.30
White Sucker	W	O	S T	55	110.00	4.06	2.00	7.72	18.18
Creek Chub	N	G	N T	65	130.00	4.80	1.70	6.57	13.08
Redfin Shiner	N	I	N	21	42.00	1.55	0.10	0.39	2.38
Striped Shiner	N	I	S	382	764.00	28.19	3.60	13.90	4.71
Sand Shiner	N	I	M M	61	122.00	4.50	0.13	0.50	1.07
Mimic Shiner	N	I	M I	36	72.00	2.66	0.08	0.31	1.11
Silverjaw Minnow	N	I	M	73	146.00	5.39	0.16	0.62	1.10
Bluntnose Minnow	N	O	C T	165	330.00	12.18	0.74	2.86	2.24
Central Stoneroller	N	H	N	142	284.00	10.48	1.50	5.79	5.28
Yellow Bullhead		I	C T	5	10.00	0.37	1.56	6.03	156.00
Brindled Madtom		I	C I	2	4.00	0.15	0.04	0.15	10.00
Rock Bass	S	C	C	9	18.00	0.66	1.46	5.64	81.11
Smallmouth Bass	F	C	C M	7	14.00	0.52	2.48	9.58	177.14
Green Sunfish	S	I	C T	22	44.00	1.62	0.58	2.24	13.18
Bluegill Sunfish	S	I	C P	24	48.00	1.77	0.10	0.39	2.08
Blackside Darter	D	I	S	6	12.00	0.44	0.02	0.09	2.00
Logperch	D	I	S M	6	12.00	0.44	0.08	0.31	6.67
Johnny Darter	D	I	C	48	96.00	3.54	0.10	0.39	1.06
Greenside Darter	D	I	S M	35	70.00	2.58	0.14	0.54	2.00
Banded Darter	D	I	S I	38	76.00	2.80	0.07	0.29	0.97
Fantail Darter	D	I	C	45	90.00	3.32	0.09	0.35	1.00
<i>Mile Total</i>				1,355	2,710.00		25.89		
<i>Number of Species</i>				24					
<i>Number of Hybrids</i>				0					

River Code: <b>17-321</b>	Stream: <b>Valley Run</b>		River Segment Totals		
Mile Range: <b>0.50</b>			Date Range: 08/13/2008		
Thru: <b>5.40</b>			Thru: 08/20/2008		
Dist Fished: 0.45 km	Basin: Muskingum River	No of Passes: 3	Sampler Type: E		

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Least Brook Lamprey		F	N	6	4.00	0.17	0.12	0.46	10.00
Redfin Pickerel		P	M P	4	2.67	0.12			
Golden Redhorse	R	I	S M	107	71.33	3.11	6.60	25.49	84.62
Northern Hog Sucker	R	I	S M	151	100.67	4.38	2.43	9.39	19.30
White Sucker	W	O	S T	342	228.00	9.93	2.00	7.72	18.18
Bigeye Chub	N	I	S I	83	55.33	2.41			
Western Blacknose Dace	N	G	S T	3	2.00	0.09			
Creek Chub	N	G	N T	234	156.00	6.79	1.70	6.57	13.08
Redfin Shiner	N	I	N	49	32.67	1.42	0.10	0.39	2.38
Striped Shiner	N	I	S	804	536.00	23.34	3.60	13.90	4.71
Sand Shiner	N	I	M M	62	41.33	1.80	0.13	0.50	1.07
Mimic Shiner	N	I	M I	36	24.00	1.05	0.08	0.31	1.11
Silverjaw Minnow	N	I	M	192	128.00	5.57	0.16	0.62	1.10
Bluntnose Minnow	N	O	C T	368	245.33	10.69	0.74	2.86	2.24
Central Stoneroller	N	H	N	160	106.67	4.65	1.50	5.79	5.28
Yellow Bullhead		I	C T	10	6.67	0.29	1.56	6.03	156.00
Brindled Madtom		I	C I	5	3.33	0.15	0.04	0.15	10.00
Rock Bass	S	C	C	24	16.00	0.70	1.46	5.64	81.11
Smallmouth Bass	F	C	C M	16	10.67	0.46	2.48	9.58	177.14
Largemouth Bass	F	C	C	5	3.33	0.15			
Green Sunfish	S	I	C T	34	22.67	0.99	0.58	2.24	13.18
Bluegill Sunfish	S	I	C P	58	38.67	1.68	0.10	0.39	2.08
Green Sf X Bluegill Sf				4	2.67	0.12			
Blackside Darter	D	I	S	49	32.67	1.42	0.02	0.09	2.00
Logperch	D	I	S M	17	11.33	0.49	0.08	0.31	6.67
Johnny Darter	D	I	C	283	188.67	8.22	0.10	0.39	1.06
Greenside Darter	D	I	S M	116	77.33	3.37	0.14	0.54	2.00
Banded Darter	D	I	S I	67	44.67	1.95	0.07	0.29	0.97
Fantail Darter	D	I	C	155	103.33	4.50	0.09	0.35	1.00
<i>Stream Total</i>				3,444	2,296.00		25.89		
<i>Number of Species</i>				28					
<i>Number of Hybrids</i>				1					

# Species List

River Code: <b>17-325</b>	Stream: <b>Ogg Creek</b>	Sample Date: <b>2008</b>
River Mile: <b>2.00</b>	Location: St. Rt. 555	Date Range: 08/26/2008
Time Fished: 1800 sec	Drainage: 6.1 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	49	98.00	7.03			
Western Blacknose Dace	N	G	S	T	61	122.00	8.75			
Creek Chub	N	G	N	T	155	310.00	22.24			
Silverjaw Minnow	N	I	M		2	4.00	0.29			
Bluntnose Minnow	N	O	C	T	34	68.00	4.88			
Central Stoneroller	N	H	N		338	676.00	48.49			
Largemouth Bass	F	C	C		3	6.00	0.43			
Green Sunfish	S	I	C	T	8	16.00	1.15			
Bluegill Sunfish	S	I	C	P	8	16.00	1.15			
Green Sf X Bluegill Sf					2	4.00	0.29			
Johnny Darter	D	I	C		21	42.00	3.01			
Fantail Darter	D	I	C		16	32.00	2.30			
<i>Mile Total</i>					697	1,394.00				
<i>Number of Species</i>					11					
<i>Number of Hybrids</i>					1					

# Species List

River Code: <b>17-325</b> River Mile: <b>0.20</b> Time Fished: 900 sec Dist Fished: 0.15 km	Stream: <b>Ogg Creek</b> Location: near mouth Drainage: 13.3 sq mi Basin: Muskingum River	Sample Date: <b>2008</b> Date Range: 08/26/2008  No of Passes: 1 Sampler Type: E
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Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	1	2.00	2.50			
Creek Chub	N	G	N	T	35	70.00	87.50			
Yellow Bullhead		I	C	T	1	2.00	2.50			
Bluegill Sunfish	S	I	C	P	2	4.00	5.00			
Green Sf X Bluegill Sf					1	2.00	2.50			
<i>Mile Total</i>					40	80.00				
<i>Number of Species</i>					4					
<i>Number of Hybrids</i>					1					

# Species List

River Code: <b>17-325</b> Mile Range: <b>0.20</b> Thru: <b>2.00</b> Dist Fished: 0.30 km	Stream: <b>Ogg Creek</b>  Basin: Muskingum River      No of Passes: 2	River Segment Totals Date Range: 08/26/2008  Sampler Type: E
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Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	50	50.00	6.78			
Western Blacknose Dace	N	G	S	T	61	61.00	8.28			
Creek Chub	N	G	N	T	190	190.00	25.78			
Silverjaw Minnow	N	I	M		2	2.00	0.27			
Bluntnose Minnow	N	O	C	T	34	34.00	4.61			
Central Stoneroller	N	H	N		338	338.00	45.86			
Yellow Bullhead		I	C	T	1	1.00	0.14			
Largemouth Bass	F	C	C		3	3.00	0.41			
Green Sunfish	S	I	C	T	8	8.00	1.09			
Bluegill Sunfish	S	I	C	P	10	10.00	1.36			
Green Sf X Bluegill Sf					3	3.00	0.41			
Johnny Darter	D	I	C		21	21.00	2.85			
Fantail Darter	D	I	C		16	16.00	2.17			
<i>Stream Total</i>					737	737.00				
<i>Number of Species</i>					12					
<i>Number of Hybrids</i>					1					



# Species List

River Code: <b>17-326</b>	Stream: <b>Trib. to Moxahala Creek (RM 24.79)</b>	Sample Date: <b>2008</b>
River Mile: <b>0.40</b>	Location: St. Rt. 13	Date Range: 08/26/2008
Time Fished: 900 sec	Drainage: 2.4 sq mi	
Dist Fished: 0.12 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Creek Chub	N	G	N	T	63	157.50	85.14			
Yellow Bullhead		I	C	T	4	10.00	5.41			
Largemouth Bass	F	C	C		3	7.50	4.05			
Bluegill Sunfish	S	I	C	P	4	10.00	5.41			
<i>Mile Total</i>					74	185.00				
<i>Number of Species</i>					4					
<i>Number of Hybrids</i>					0					

# Species List

River Code: <b>17-339</b>	Stream: <b>Trib. to Jonathan Creek (RM 19.47)</b>	Sample Date: <b>2008</b>
River Mile: <b>0.40</b>	Location: near mouth	Date Range: 08/20/2008
Time Fished: 2400 sec	Drainage: 6.0 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	45	90.00	2.23			
Northern Hog Sucker	R	I	S	M	81	162.00	4.02			
White Sucker	W	O	S	T	138	276.00	6.85			
Creek Chub	N	G	N	T	168	336.00	8.34			
Redfin Shiner	N	I	N		25	50.00	1.24			
Striped Shiner	N	I	S		289	578.00	14.34			
Sand Shiner	N	I	M	M	4	8.00	0.20			
Silverjaw Minnow	N	I	M		70	140.00	3.47			
Bluntnose Minnow	N	O	C	T	898	1,796.00	44.57			
Central Stoneroller	N	H	N		110	220.00	5.46			
Yellow Bullhead		I	C	T	2	4.00	0.10			
Rock Bass	S	C	C		6	12.00	0.30			
Smallmouth Bass	F	C	C	M	6	12.00	0.30			
Largemouth Bass	F	C	C		8	16.00	0.40			
Green Sunfish	S	I	C	T	12	24.00	0.60			
Bluegill Sunfish	S	I	C	P	21	42.00	1.04			
Green Sf X Bluegill Sf					1	2.00	0.05			
Blackside Darter	D	I	S		11	22.00	0.55			
Logperch	D	I	S	M	1	2.00	0.05			
Johnny Darter	D	I	C		36	72.00	1.79			
Greenside Darter	D	I	S	M	25	50.00	1.24			
Banded Darter	D	I	S	I	11	22.00	0.55			
Fantail Darter	D	I	C		47	94.00	2.33			
<i>Mile Total</i>					2,015	4,030.00				
<i>Number of Species</i>					22					
<i>Number of Hybrids</i>					1					

# Species List

River Code: <b>17-340</b>	Stream: <b>Bowling Green Run</b>	Sample Date: <b>2008</b>
River Mile: <b>0.20</b>	Location: Boundaries Rd.	Date Range: 08/12/2008
Time Fished: 1800 sec	Drainage: 11.1 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	2	4.00	0.11			
Northern Hog Sucker	R	I	S	M	46	92.00	2.44			
White Sucker	W	O	S	T	134	268.00	7.12			
Western Blacknose Dace	N	G	S	T	48	96.00	2.55			
Creek Chub	N	G	N	T	157	314.00	8.34			
Striped Shiner	N	I	S		160	320.00	8.50			
Sand Shiner	N	I	M	M	53	106.00	2.81			
Silverjaw Minnow	N	I	M		331	662.00	17.58			
Bluntnose Minnow	N	O	C	T	327	654.00	17.37			
Central Stoneroller	N	H	N		259	518.00	13.75			
Yellow Bullhead		I	C	T	3	6.00	0.16			
Brindled Madtom		I	C	I	3	6.00	0.16			
Rock Bass	S	C	C		12	24.00	0.64			
Smallmouth Bass	F	C	C	M	3	6.00	0.16			
Largemouth Bass	F	C	C		3	6.00	0.16			
Green Sunfish	S	I	C	T	1	2.00	0.05			
Blackside Darter	D	I	S		11	22.00	0.58			
Logperch	D	I	S	M	4	8.00	0.21			
Johnny Darter	D	I	C		42	84.00	2.23			
Greenside Darter	D	I	S	M	85	170.00	4.51			
Banded Darter	D	I	S	I	82	164.00	4.35			
Fantail Darter	D	I	C		117	234.00	6.21			
<i>Mile Total</i>					1,883	3,766.00				
<i>Number of Species</i>					22					
<i>Number of Hybrids</i>					0					

# Species List

River Code: <b>17-341</b>	Stream: <b>Trib. to Moxahala Creek (RM 22.56)</b>	Sample Date: <b>2008</b>
River Mile: <b>0.20</b>	Location: St. Rt. 13	Date Range: 09/29/2008
Time Fished: 1500 sec	Drainage: 0.4 sq mi	
Dist Fished: 0.10 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Creek Chub	N	G	N	T	131	393.00	85.62			
Black Bullhead		I	C	P	4	12.00	2.61			
Largemouth Bass	F	C	C		1	3.00	0.65			
Green Sunfish	S	I	C	T	4	12.00	2.61			
Bluegill Sunfish	S	I	C	P	13	39.00	8.50			
<i>Mile Total</i>					153	459.00				
<i>Number of Species</i>					5					
<i>Number of Hybrids</i>					0					

# Species List

River Code: <b>17-342</b> River Mile: <b>0.10</b> Time Fished: 600 sec Dist Fished: 0.12 km	Stream: <b>Trib. to Black Fork (RM 2.32)</b> Location: dst. old mine overflow Drainage: 0.1 sq mi Basin: Muskingum River                      No of Passes: 1	Sample Date: <b>2008</b> Date Range: 08/26/2008  Sampler Type: E
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Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
No Fish				0	0.00	0			
				<i>Mile Total</i>					0
				<i>Number of Species</i>					0
				<i>Number of Hybrids</i>					0

## Species List

River Code: <b>17-343</b>	Stream: <b>Painter Run</b>	Sample Date: <b>2008</b>
River Mile: <b>0.20</b>	Location: at mouth	Date Range: 09/18/2008
Time Fished: 1800 sec	Drainage: 4.6 sq mi	
Dist Fished: 0.15 km	Basin: Muskingum River	No of Passes: 1
		Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Northern Hog Sucker	R	I	S	M	38	76.00	2.56	0.69	5.63	9.04
White Sucker	W	O	S	T	137	274.00	9.24	2.74	22.47	10.00
Western Blacknose Dace	N	G	S	T	14	28.00	0.94	0.08	0.66	2.85
Creek Chub	N	G	N	T	217	434.00	14.63	2.68	21.98	6.17
South. Redbelly Dace	N	H	S		5	10.00	0.34	0.04	0.31	3.80
Scarlet Shiner	N	I	S	M	2	4.00	0.13	0.01	0.07	2.00
Striped Shiner	N	I	S		57	114.00	3.84	0.52	4.23	4.53
Sand Shiner	N	I	M	M	4	8.00	0.27	0.01	0.07	1.00
Silverjaw Minnow	N	I	M		206	412.00	13.89	1.03	8.42	2.49
Bluntnose Minnow	N	O	C	T	549	1,098.00	37.02	2.33	19.11	2.12
Central Stoneroller	N	H	N		193	386.00	13.01	1.22	10.03	3.17
Cr Chub X S. Redbelly D					1	2.00	0.07	0.01	0.05	3.00
Yellow Bullhead		I	C	T	6	12.00	0.40	0.31	2.54	25.80
Largemouth Bass	F	C	C		1	2.00	0.07	0.05	0.38	23.00
Green Sunfish	S	I	C	T	8	16.00	0.54	0.19	1.59	12.13
Bluegill Sunfish	S	I	C	P	17	34.00	1.15	0.18	1.49	5.35
Johnny Darter	D	I	C		28	56.00	1.89	0.12	0.97	2.11
<i>Mile Total</i>					1,483	2,966.00		12.19		
<i>Number of Species</i>					16					
<i>Number of Hybrids</i>					1					

Appendix Table 10. The Index of Biotic Integrity (IBI) and Modified Index of Well Being (MIwb) metrics and scores for fish sampling sites in the Moxahala Creek study area, 2008.

River Mile	Type	Date	Drainage area (sq mi)	Number of						Percent of Individuals					Rel.No. minus tolerants /(0.3km)	IBI	
				Total species	Minnow species	Headwater species	Sensitive species	Darter & Sculpin species	Simple Lithophils	Tolerant fishes	Omni-vores	Pioneering fishes	Insect-ivores	DELT anomalies			
<b><i>Moxahala Creek - (17-300)</i></b>																	
Year: 2008																	
24.00	E	08/26/2008	9.0	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0.0(1)	0(1) * *	12
<b><i>Shawnee Run - (17-301)</i></b>																	
Year: 2008																	
0.10	E	06/18/2008	2.6	14(5)	7(5)	3(3)	3(5)	3(5)	7(5)	57(1)	23(1)	51(3)	10(1)	0.0(5)	484(5)		44
<b><i>Black Fork - (17-308)</i></b>																	
Year: 2008																	
3.50	E	08/26/2008	9.0	12(3)	5(3)	1(1)	0(1)	1(1)	2(1)	39(3)	7(5)	33(3)	76(5)	0.0(5)	428(3)		34
<b><i>Jonathan Creek - (17-310)</i></b>																	
Year: 2008																	
27.00	E	08/12/2008	7.4	19(5)	7(5)	2(3)	6(5)	6(5)	9(5)	43(3)	31(1)	34(3)	23(3)	0.0(5)	1688(5)		48
<b><i>Thompson Creek - (17-311)</i></b>																	
Year: 2008																	
4.70	E	08/14/2008	9.3	16(5)	5(3)	1(1)	4(3)	4(5)	6(5)	45(3)	25(3)	32(3)	19(1)	0.0(5)	1318(5)		42
0.50	E	08/19/2008	15.3	21(5)	6(3)	1(1)	6(5)	6(5)	8(5)	50(3)	37(1)	44(3)	39(3)	0.0(5)	962(5)		44
<b><i>Hibbs Run - (17-312)</i></b>																	
Year: 2008																	
0.10	E	06/18/2008	1.6	14(5)	7(5)	3(3)	1(1)	4(5)	6(5)	37(3)	8(5)	49(3)	31(5)	0.0(5)	900(5)		50
<b><i>Kent Run - (17-313)</i></b>																	
Year: 2008																	
8.90	E	08/18/2008	9.8	17(5)	5(3)	1(1)	4(3)	5(5)	6(5)	63(1)	42(1)	58(1)	29(3)	0.0(5)	1052(5)		38
3.70	E	08/18/2008	15.1	18(5)	6(3)	2(3)	6(5)	5(5)	8(5)	16(5)	10(5)	19(5)	29(3)	0.0(5)	4486(5)		54
<b><i>Salt Run - (17-314)</i></b>																	
Year: 2008																	
0.10	E	06/18/2008	3.2	12(5)	6(5)	3(3)	2(3)	3(5)	5(5)	60(1)	19(3)	49(3)	22(3)	0.0(5)	334(5)		46
<b><i>Buckeye Fork - (17-315)</i></b>																	
Year: 2008																	
4.80	E	08/25/2008	8.1	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0.0(1)	0(1) * *		12

◆ - IBI is low end adjusted.

\* - < 200 Total individuals in sample

\*\* - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

Appendix Table 10. The Index of Biotic Integrity (IBI) and Modified Index of Well Being (MIwb) metrics and scores for fish sampling sites in the Moxahala Creek study area, 2008.

River Mile	Type	Date	Drainage area (sq mi)	Number of						Percent of Individuals					Rel.No. minus tolerants /(0.3km)	IBI
				Total species	Minnow species	Headwater species	Sensitive species	Darter & Sculpin species	Simple Lithophils	Tolerant fishes	Omni-vores	Pioneering fishes	Insect-ivores	DELT anomalies		
3.50	E	08/25/2008	16.7	1(1)	0(1)	0(1)	0(1)	0(1)	0(1)	100(1)	0(1)	100(1)	100(1)	0.0(1)	0(1) * *	12
<i>Bush Creek - (17-316)</i>																
Year: 2008																
0.20	E	09/18/2008	3.0	15(5)	7(5)	2(3)	2(3)	1(1)	5(5)	66(1)	20(3)	56(1)	21(3)	0.0(5)	484(5)	40
<i>Two Mile Run - (17-317)</i>																
Year: 2008																
0.10	E	07/08/2008	0.6	1(1)	1(1)	0(1)	0(1)	0(1)	0(1)	100(1)	0(5)	100(1)	0(1)	0.0(5)	0(1) *	20
<i>Butcher Knife Creek - (17-318)</i>																
Year: 2008																
0.10	E	08/25/2008	6.8	1(1)	0(1)	0(1)	0(1)	0(1)	0(1)	100(1)	0(1)	100(1)	100(1)	0.0(1)	0(1) * *	12
<i>Turkey Run - (17-319)</i>																
Year: 2008																
2.80	E	08/20/2008	8.4	19(5)	8(5)	3(3)	5(5)	5(5)	10(5)	63(1)	29(1)	61(1)	40(3)	0.0(5)	408(3)	42
0.40	E	08/21/2008	14.2	21(5)	8(5)	2(3)	6(5)	5(5)	8(5)	49(3)	26(3)	56(1)	53(5)	0.0(5)	446(3)	48
<i>Painter Creek - (17-320)</i>																
Year: 2008																
2.50	E	08/19/2008	11.3	23(5)	9(5)	4(5)	6(5)	5(5)	10(5)	58(1)	30(3)	42(3)	39(3)	0.0(5)	880(5)	50
0.90	E	08/19/2008	17.8	21(5)	7(5)	1(1)	8(5)	6(5)	8(5)	39(3)	35(1)	35(3)	47(3)	0.0(5)	1364(5)	46
<i>Valley Run - (17-321)</i>																
Year: 2008																
5.40	E	08/13/2008	9.7	22(5)	7(5)	2(3)	7(5)	5(5)	9(5)	43(3)	35(1)	40(3)	57(5)	0.0(5)	1168(5)	50
3.50	E	08/13/2008	17.3	25(5)	9(5)	2(3)	9(5)	6(5)	10(5)	23(5)	13(5)	31(3)	74(5)	0.0(5)	1652(5)	56
<i>Ogg Creek - (17-325)</i>																
Year: 2008																
2.00	E	08/26/2008	6.1	11(3)	5(3)	2(3)	0(1)	2(3)	2(1)	44(3)	12(5)	32(3)	8(1)	0.0(5)	780(5)	36
0.20	E	08/26/2008	13.3	4(1)	1(1)	0(1)	0(1)	0(1)	1(1)	93(1)	3(5)	88(1)	8(1)	0.0(5)	6(1) *	20
<i>Moxahala trib. 24.79 - (17-326)</i>																
Year: 2008																

◆ - IBI is low end adjusted.

\* - < 200 Total individuals in sample

\*\* - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.



Appendix Table 10. The Index of Biotic Integrity (IBI) and Modified Index of Well Being (MIwb) metrics and scores for fish sampling sites in the Moxahala Creek study area, 2008.

River Mile	Type	Date	Drainage area (sq mi)	Number of						Percent of Individuals					Rel.No. minus tolerants /(0.3km)	IBI
				Total species	Minnow species	Headwater species	Sensitive species	Darter & Sculpin species	Simple Lithophils	Tolerant fishes	Omni-vores	Pioneering fishes	Insect-ivores	DELT anomalies		
0.40	E	08/26/2008	2.4	4(1)	1(1)	0(1)	0(1)	0(1)	0(1)	91(1)	0(5)	85(1)	11(1)	0.0(5)	18(1) *	20
<i>Jonathan trib. 19.47 - (17-339)</i>																
Year: 2008																
0.40	E	08/20/2008	6.0	22(5)	7(5)	1(1)	7(5)	6(5)	8(5)	60(1)	51(1)	59(1)	34(3)	0.0(5)	1594(5)	42
<i>Bowling Green Run - (17-340)</i>																
Year: 2008																
0.20	E	08/12/2008	11.1	22(5)	7(5)	2(3)	8(5)	6(5)	9(5)	36(3)	25(3)	46(3)	50(5)	0.0(5)	2426(5)	52
<i>Moxahala trib. 22.56 - (17-341)</i>																
Year: 2008																
0.20	E	09/29/2008	0.4	5(3)	1(1)	0(1)	0(1)	0(1)	0(1)	88(1)	0(5)	88(1)	14(3)	0.0(5)	54(3)	26
<i>Black Fork trib 2.32 - (17-342)</i>																
Year: 2008																
0.10	E	08/26/2008	0.1	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0.0(1)	0(1) * *	12
<i>Painter Run - (17-343)</i>																
Year: 2008																
0.20	E	09/18/2008	4.6	16(5)	9(5)	2(3)	3(3)	1(1)	6(5)	63(1)	46(1)	68(1)	25(3)	0.0(5)	1104(5)	38

◆ - IBI is low end adjusted.

\* - < 200 Total individuals in sample

\*\* - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

Appendix Table 10. The Index of Biotic Integrity (IBI) and Modified Index of Well Being (MIwb) metrics and scores for fish sampling sites in the Moxahala Creek study area, 2008.

River Mile	Type	Date	Drainage area (sq mi)	Number of					Percent of Individuals					Rel.No. minus tolerants /(0.3km)	IBI	Modified Iwb	
				Total species	Sunfish species	Sucker species	Intolerant species	Darter species	Simple Lithophils	Tolerant fishes	Omni-vores	Top carnivores	Insect-ivores				DELT anomalies
<b>Moxahala Creek - (17300)</b>																	
Year: 2008																	
21.90	E	09/29/2008	23	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0(1)	0.0(1)	0(1)	0.0(1)	0(1)* *	12	0.0
13.60	D	08/06/2008	75	7(1)	3(3)	1(1)	0(1)	0(1)	0(1)	36(3)	0(5)	5.7(5)	92(5)	0.0(5)	954(5)	36	6.7
13.40	D	08/06/2008	75	3(1)	2(3)	0(1)	0(1)	0(1)	0(1)	67(1)	0(1)	0.0(1)	67(1)	0.0(1)	2(1)* *	14	0.6
6.90	D	08/06/2008	98	1(1)	1(1)	0(1)	0(1)	0(1)	0(1)	50(1)	0(1)	0.0(1)	50(1)	0.0(1)	2(1)* *	12	0.7
4.20	D	08/06/2008	194	16(3)	3(3)	2(1)	1(1)	2(1)	23(3)	20(3)	6(5)	18.8(5)	68(5)	0.0(5)	83(1) *	36	6.9
4.20	D	09/08/2008	194	7(1)	2(3)	2(1)	0(1)	0(1)	18(1)	18(1)	0(1)	45.5(1)	36(1)	0.0(1)	14(1)* *	14	4.9
<b>Black Fork - (17308)</b>																	
Year: 2008																	
2.30	E	08/26/2008	23	2(1)	0(1)	1(1)	0(1)	0(1)	8(1)	100(1)	8(1)	0.0(1)	0(1)	0.0(1)	0(1)* *	12	0.0
2.00	E	08/26/2008	24	4(1)	1(1)	1(1)	0(1)	1(1)	10(1)	90(1)	10(1)	0.0(1)	10(1)	0.0(1)	4(1)* *	12	1.9
0.10	E	08/28/2008	28	6(1)	2(3)	1(1)	0(1)	0(1)	2(1)	87(1)	4(5)	0.0(1)	44(3)	0.0(5)	14(1) *	24	0.9
<b>Jonathan Creek - (17310)</b>																	
Year: 2008																	
22.20	E	08/12/2008	27	22(5)	3(3)	3(5)	3(3)	6(5)	38(5)	22(5)	14(5)	1.4(3)	53(3)	0.0(5)	2978(5)	52	10.4
17.00	D	08/11/2008	70	23(5)	3(3)	3(3)	3(3)	6(5)	35(3)	38(3)	37(1)	0.6(1)	47(3)	0.0(5)	1466(5)	40	9.3
17.00	D	09/16/2008	70	24(5)	3(3)	3(3)	3(3)	5(5)	22(3)	47(1)	46(1)	0.7(1)	38(3)	0.0(5)	2229(5)	38	9.7
12.20	D	08/11/2008	103	24(5)	3(3)	3(3)	3(3)	6(5)	45(5)	36(3)	31(3)	1.0(1)	62(5)	0.0(5)	1451(5)	46	9.7
12.20	D	09/15/2008	103	24(5)	3(3)	3(3)	3(3)	6(5)	43(5)	35(3)	32(3)	0.8(1)	62(5)	0.0(5)	1416(5)	46	9.6
7.60	D	08/06/2008	125	21(3)	3(3)	3(3)	2(1)	6(5)	47(5)	21(5)	19(3)	1.6(3)	53(3)	0.0(5)	990(5)	44	9.0
7.60	D	09/15/2008	125	21(3)	3(3)	3(3)	2(1)	6(5)	37(5)	32(3)	28(3)	1.8(3)	43(3)	0.0(5)	1508(5)	42	9.5
3.30	D	08/07/2008	150	26(5)	3(3)	3(3)	3(3)	6(5)	55(5)	9(5)	7(5)	5.5(5)	69(5)	0.0(5)	1076(5)	54	10.0
3.30	D	09/15/2008	150	26(5)	3(3)	3(3)	3(3)	7(5)	52(5)	11(5)	8(5)	4.2(3)	63(5)	0.0(5)	1317(5)	52	10.0
0.80	D	09/18/2008	194	29(5)	3(3)	5(5)	2(1)	7(5)	38(5)	27(3)	25(3)	1.8(3)	51(3)	0.0(5)	1292(5)	46	9.8

na - Qualitative data, Modified Iwb not applicable.

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\*\* - < 50 Total individuals in sample

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Appendix Table 10. The Index of Biotic Integrity (IBI) and Modified Index of Well Being (MIwb) metrics and scores for fish sampling sites in the Moxahala Creek study area, 2008.

River Mile	Type	Date	Drainage area (sq mi)	Number of					Percent of Individuals					Rel.No. minus tolerants /(0.3km)	IBI	Modified Iwb	
				Total species	Sunfish species	Sucker species	Intolerant species	Darter species	Simple Lithophils	Tolerant fishes	Omni-vores	Top carnivores	Insect-ivores				DELT anomalies
Kent Run - (17313)																	
Year: 2008																	
1.60	E	08/19/2008	22	17(3)	3(3)	3(5)	0(1)	4(5)	9(1)	27(5)	16(5)	0.3(1)	17(1)	0.0(5)	3702(5)	40	8.5
Buckeye Fork - (17315)																	
Year: 2008																	
1.40	E	08/25/2008	22	8(1)	2(3)	1(1)	0(1)	1(1)	2(1)	84(1)	2(5)	1.6(3)	55(5)	0.0(5)	40(1)	28	4.6
Valley Run - (17321)																	
Year: 2008																	
0.50	E	08/20/2008	28	24(5)	3(3)	3(3)	3(3)	6(5)	46(5)	23(5)	16(5)	1.2(3)	67(5)	0.0(5)	2086(5)	52	10.3

na - Qualitative data, Modified Iwb not applicable.

◆ - IBI is low end adjusted.

\* - < 200 Total individuals in sample

\*\* - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

Appendix Table 10. The Index of Biotic Integrity (IBI) and Modified Index of Well Being (MIwb) metrics and scores for fish sampling sites in the Moxahala Creek

River Mile	Type	Date	Drainage area (sq mi)	Number of				Percent of Individuals						DELTA anomalies	Rel.No. minus tolerants /(1.0 km)	Modified IBI	Modified Iwb
				Total species	Sunfish species	Sucker species	Intolerant species	Rnd-bodied suckers	Simple Lithophils	Tolerant fishes	Omnivores	Top carnivores	Insect- ivores				
Moxahala Creek - (17-300)																	
Year: 2008																	
0.60	A	07/15/2008	302	12(3)	0(1)	2(1)	0(1)	1(1)	1(1)	3(5)	48(1)	5(1)	43(3)	0.0(5)	430(5)	28	8.2
0.60	A	09/17/2008	302	15(3)	3(3)	0(1)	1(1)	0(1)	4(1)	10(5)	55(1)	17(5)	20(1)	0.0(5)	214(3)	30	7.8
Jonathan Creek - (17-310)																	
Year: 2008																	
1.30	A	07/15/2008	193	9(1)	2(3)	2(1)	0(1)	58(5)	77(5)	5(5)	5(5)	4(1)	90(5)	0.0(5)	350(3)	40	6.7
1.30	A	09/17/2008	193	12(3)	3(3)	3(3)	0(1)	76(5)	77(5)	1(5)	0(5)	9(3)	89(5)	0.0(5)	456(5)	48	7.1

◆ - IBI is low end adjusted.

\* - < 200 Total individuals in sample

\*\* - < 50 Total individuals in sample

**Appendix Table 11. Macroinvertebrate species of the Moxahala Creek study area, 2008.**

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Moxahala Creek  
Twp. Rd. 312

Collection Date: 08/14/2008 River Code: 17-300 RM: 24.00

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Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
21300	<i>Hetaerina sp</i>	+			
47600	<i>Sialis sp</i>	+			

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No. Quantitative Taxa: 0	Total Taxa: 2
No. Qualitative Taxa: 2	ICI:
Number of Organisms: 0	Qual EPT: 0

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Moxahala Creek  
St. Rt. 37

Collection Date: 08/04/2008 River Code: 17-300 RM: 21.80

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Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
47600	<i>Sialis sp</i>	+			
55300	<i>Ptilostomis sp</i>	+			
60300	<i>Dineutus sp</i>	+			
82730	<i>Chironomus (C.) decorus group</i>	+			
84410	<i>Polypedilum (Pentapedilum) tritum var. I</i>	+			

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No. Quantitative Taxa: 0	Total Taxa: 5
No. Qualitative Taxa: 5	ICI:
Number of Organisms: 0	Qual EPT: 1

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Moxahala Creek  
dst. Crooksville WWTP

Collection Date: 08/13/2008 River Code: 17-300 RM: 13.40

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
27500	<i>Somatochlora sp</i>	+			
44501	<i>Corixidae</i>	+			
45900	<i>Notonecta sp</i>	+			
47600	<i>Sialis sp</i>	+			
51600	<i>Polycentropus sp</i>	+			
63300	<i>Hydroporini</i>	+			
63900	<i>Laccophilus sp</i>	+			
74501	<i>Ceratopogonidae</i>	1 +			
78702	<i>Psectrotanypus dyari</i>	1			
82730	<i>Chironomus (C.) decorus group</i>	13 +			
84410	<i>Polypedilum (Pentapedilum) tritum var. I</i>	9 +			
84421	<i>Polypedilum (P.) sp 2</i>	4			
84470	<i>Polypedilum (P.) illinoense</i>	2 +			

No. Quantitative Taxa: 6	Total Taxa: 13
No. Qualitative Taxa: 11	ICI: 0
Number of Organisms: 30	Qual EPT: 1



**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Moxahala Creek  
Lambert Rd.

Collection Date: 08/18/2008 River Code: 17-300 RM: 6.90

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Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
06700	<i>Crangonyx sp</i>	+			
07880	<i>Cambarus (Tubericambarus) thomai</i>	+			
13400	<i>Stenacron sp</i>	+			
47600	<i>Sialis sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
52570	<i>Hydropsyche simulans</i>	+			
63300	<i>Hydroporini</i>	+			
72700	<i>Anopheles sp</i>	+			

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No. Quantitative Taxa: 0	Total Taxa: 9
No. Qualitative Taxa: 9	ICI:
Number of Organisms: 0	Qual EPT: 4

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Moxahala Creek  
Twp. Rd. 261

Collection Date: 08/19/2008 River Code: 17-300 RM: 4.30

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
06201	<i>Hyalella azteca</i>	+			
06700	<i>Crangonyx sp</i>	+			
08255	<i>Orconectes rusticus x sanbornii</i>	+			
11130	<i>Baetis intercalaris</i>	+			
13521	<i>Stenonema femoratum</i>	+			
22001	<i>Coenagrionidae</i>	+			
47600	<i>Sialis sp</i>	+			
48200	<i>Chauliodes sp</i>	+			
50315	<i>Chimarra obscura</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
63300	<i>Hydroporini</i>	+			
68130	<i>Helichus sp</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
68901	<i>Macronychus glabratus</i>	+			
69400	<i>Stenelmis sp</i>	+			
71900	<i>Tipula sp</i>	+			
74100	<i>Simulium sp</i>	+			
77120	<i>Ablabesmyia mallochi</i>	+			
77500	<i>Conchapelopia sp</i>	+			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	+			
86100	<i>Chrysops sp</i>	+			
97601	<i>Corbicula fluminea</i>	+			

No. Quantitative Taxa: 0            Total Taxa: 25  
 No. Qualitative Taxa: 25            ICI:  
 Number of Organisms: 0            Qual EPT: 7

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Moxahala Creek  
near mouth

Collection Date: 08/19/2008 River Code: 17-300 RM: 0.80

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
06201	<i>Hyalella azteca</i>	+			
08601	<i>Hydrachnidia</i>	+	No. Quantitative Taxa: 0		Total Taxa: 40
11120	<i>Baetis flavistriga</i>	+	No. Qualitative Taxa: 40		ICI:
11130	<i>Baetis intercalaris</i>	+	Number of Organisms: 0		Qual EPT: 14
11200	<i>Callibaetis sp</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
23600	<i>Aeshna sp</i>	+			
23909	<i>Boyeria vinosa</i>	+			
43570	<i>Neoplea sp</i>	+			
48410	<i>Corydalus cornutus</i>	+			
50315	<i>Chimarra obscura</i>	+			
51300	<i>Neureclipsis sp</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
52540	<i>Hydropsyche dicantha</i>	+			
52570	<i>Hydropsyche simulans</i>	+			
53800	<i>Hydroptila sp</i>	+			
60300	<i>Dineutus sp</i>	+			
67700	<i>Paracymus sp</i>	+			
68130	<i>Helichus sp</i>	+			
68901	<i>Macronychus glabratus</i>	+			
69400	<i>Stenelmis sp</i>	+			
72700	<i>Anopheles sp</i>	+			
77115	<i>Ablabesmyia janta</i>	+			
77120	<i>Ablabesmyia mallochi</i>	+			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	+			
80410	<i>Cricotopus (C.) sp</i>	+			
82101	<i>Thienemanniella taurocapita</i>	+			
83040	<i>Dicrotendipes neomodestus</i>	+			
84300	<i>Phaenopsectra obediens group</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
85800	<i>Tanytarsus sp</i>	+			
85821	<i>Tanytarsus glabrescens group sp 7</i>	+			
85840	<i>Tanytarsus sepp</i>	+			
86401	<i>Atherix lantha</i>	+			
87540	<i>Hemerodromia sp</i>	+			

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Shawnee Run  
Milldale Rd.

Collection Date: 07/30/2008 River Code: 17-301 RM: 0.08

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
03600	<i>Oligochaeta</i>	+			
04400	<i>Lumbricidae</i>	+			
11120	<i>Baetis flavistriga</i>	+			
11130	<i>Baetis intercalaris</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
23909	<i>Boyeria vinosa</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
53800	<i>Hydroptila sp</i>	+			
60900	<i>Peltodytes sp</i>	+			
63900	<i>Laccophilus sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77120	<i>Ablabesmyia mallochi</i>	+			
77800	<i>Helopelopia sp</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
80430	<i>Cricotopus (C.) tremulus group</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
82730	<i>Chironomus (C.) decorus group</i>	+			
82820	<i>Cryptochironomus sp</i>	+			
84300	<i>Phaenopsectra obediens group</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84540	<i>Polypedilum (Tripodura) scalaenum group</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
87540	<i>Hemerodromia sp</i>	+			
95100	<i>Physella sp</i>	+			

No. Quantitative Taxa: 0                      Total Taxa: 30  
 No. Qualitative Taxa: 30                      ICI:  
 Number of Organisms: 0                      Qual EPT: 9

Ohio EPA/DSW Ecological Assessment Section  
 Macroinvertebrate Collection

Site: Black Fork  
 adj. Tatmans Rd.

Collection Date: 08/13/2008 River Code: 17-308 RM: 3.60

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+	98600	<i>Sphaerium sp</i>	+
03925	<i>Branchiura sowerbyi</i>	+	99100	<i>Pyganodon grandis</i>	+
06201	<i>Hyaella azteca</i>	+			
08250	<i>Orconectes (Procericambarus) rusticus</i>	+	No. Quantitative Taxa: 0		Total Taxa: 46
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+	No. Qualitative Taxa: 46		ICI:
11251	<i>Centroptilum sp (w/ hindwing pads)</i>	+	Number of Organisms: 0		Qual EPT: 12
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+			
13521	<i>Stenonema femoratum</i>	+			
15000	<i>Paraleptophlebia sp</i>	+			
17200	<i>Caenis sp</i>	+			
22001	<i>Coenagrionidae</i>	+			
22300	<i>Argia sp</i>	+			
23909	<i>Boyeria vinosa</i>	+			
27500	<i>Somatochlora sp</i>	+			
28955	<i>Plathemis lydia</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
36200	<i>Haploperla brevis</i>	+			
47600	<i>Sialis sp</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
59500	<i>Oecetis sp</i>	+			
60300	<i>Dineutus sp</i>	+			
60400	<i>Gyrinus sp</i>	+			
63300	<i>Hydroporini</i>	+			
68130	<i>Helichus sp</i>	+			
68601	<i>Ancyronyx variegata</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
69400	<i>Stenelmis sp</i>	+			
72700	<i>Anopheles sp</i>	+			
77115	<i>Ablabesmyia janta</i>	+			
77120	<i>Ablabesmyia mallochi</i>	+			
78655	<i>Procladius (Holotanypus) sp</i>	+			
82600	<i>Axarus sp</i>	+			
83300	<i>Glyptotendipes (G.) sp</i>	+			
84300	<i>Phaenopsectra obediens group</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84460	<i>Polypedilum (P.) fallax group</i>	+			
84540	<i>Polypedilum (Tripodura) scalaenum group</i>	+			
84700	<i>Stenochironomus sp</i>	+			
84800	<i>Tribelos jucundum</i>	+			
85821	<i>Tanytarsus glabrescens group sp 7</i>	+			
86100	<i>Chrysops sp</i>	+			
95100	<i>Physella sp</i>	+			

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Black Fork  
dst. Ogg Creek, dst. mine trib.

Collection Date: 08/13/2008 River Code: 17-308 RM: 2.50

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	1 +			
03600	<i>Oligochaeta</i>	8			
07880	<i>Cambarus (Tubericambarus) thomai</i>	+			
11251	<i>Centroptilum sp (w/ hindwing pads)</i>	+			
17200	<i>Caenis sp</i>	1 +			
22001	<i>Coenagrionidae</i>	1 +			
45400	<i>Trichocorixa sp</i>	+			
47600	<i>Sialis sp</i>	3 +			
51400	<i>Nyctiophylax sp</i>	1			
60400	<i>Gyrinus sp</i>	+			
63300	<i>Hydroporini</i>	+			
77120	<i>Ablabesmyia mallochi</i>	18			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	2			
78402	<i>Natarsia baltimoreus</i>	+			
79400	<i>Zavreliomyia sp</i>	3			
82730	<i>Chironomus (C.) decorus group</i>	30 +			
83000	<i>Dicrotendipes sp</i>	1			
84302	<i>Phaenopsectra punctipes</i>	3 +			
84410	<i>Polypedilum (Pentapedilum) tritum var. I</i>	2			
84460	<i>Polypedilum (P.) fallax group</i>	1			
84470	<i>Polypedilum (P.) illinoense</i>	2			
95100	<i>Physella sp</i>	15 +			
96200	<i>Planorbella sp</i>	1			

No. Quantitative Taxa: 17      Total Taxa: 23  
 No. Qualitative Taxa: 13      ICI: **10**  
 Number of Organisms: 93      Qual EPT: 2

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Black Fork  
St. Rt. 669, dst. Ogg Creek

Collection Date: 08/13/2008 River Code: 17-308 RM: 1.93

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
07880	<i>Cambarus (Tubericambarus) thomai</i>	+			
47600	<i>Sialis sp</i>	+			
48610	<i>Nigronia fasciatus</i>	1			
51600	<i>Polycentropus sp</i>	+			
63300	<i>Hydroporini</i>	+			
63900	<i>Laccophilus sp</i>	+			
66500	<i>Enochrus sp</i>	+			
74100	<i>Simulium sp</i>	4			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	1			
78350	<i>Meropelopia sp</i>	1			
78402	<i>Natarsia baltimoreus</i>	+			
82730	<i>Chironomus (C.) decorus group</i>	1			
84460	<i>Polypedilum (P.) fallax group</i>	2			
84470	<i>Polypedilum (P.) illinoense</i>	2			

No. Quantitative Taxa: 7                      Total Taxa: 14

No. Qualitative Taxa: 7                      ICI: 0

Number of Organisms: 12                      Qual EPT: 1

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Black Fork  
St. Rt. 669 near mouth

Collection Date: 08/13/2008 River Code: 17-308 RM: 0.20

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Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
08255	<i>Orconectes rusticus x sanbornii</i>	+			
22001	<i>Coenagrionidae</i>	+			
47600	<i>Sialis sp</i>	+			
48610	<i>Nigronia fasciatus</i>	+			
68130	<i>Helichus sp</i>	+			
71900	<i>Tipula sp</i>	+			
77120	<i>Ablabesmyia mallochi</i>	+			
78401	<i>Natarsia species A (sensu Roback, 1978)</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			

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No. Quantitative Taxa: 0	Total Taxa: 9
No. Qualitative Taxa: 9	ICI:
Number of Organisms: 0	Qual EPT: 0



Ohio EPA/DSW Ecological Assessment Section  
 Macroinvertebrate Collection

Site: Jonathan Creek  
 St. Rt. 204

Collection Date: 07/28/2008 River Code: 17-310 RM: 27.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
05800	<i>Caecidotea sp</i>	+	82700	<i>Chironomus sp</i>	+
06201	<i>Hyalella azteca</i>	+	82820	<i>Cryptochironomus sp</i>	+
07860	<i>Cambarus (Puncticambarus) robustus</i>	+	83840	<i>Microtendipes pedellus group</i>	+
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+	84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+
08601	<i>Hydrachnidia</i>	+	84750	<i>Stictochironomus sp</i>	+
11018	<i>Acerpenna macdunnoughi</i>	+	85500	<i>Paratanytarsus sp</i>	+
11120	<i>Baetis flavistriga</i>	+	85501	<i>Paratanytarsus n.sp 1</i>	+
11130	<i>Baetis intercalaris</i>	+	85625	<i>Rheotanytarsus sp</i>	+
11430	<i>Dipheter hageni</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	+
12200	<i>Isonychia sp</i>	+	95100	<i>Physella sp</i>	+
13000	<i>Leucrocota sp</i>	+	96900	<i>Ferrissia sp</i>	+
13400	<i>Stenacron sp</i>	+	98600	<i>Sphaerium sp</i>	+
13521	<i>Stenonema femoratum</i>	+	99180	<i>Strophitus undulatus undulatus</i>	+
13590	<i>Maccaffertium vicarium</i>	+			
15000	<i>Paraleptophlebia sp</i>	+	No. Quantitative Taxa: 0		Total Taxa: 57
21200	<i>Calopteryx sp</i>	+	No. Qualitative Taxa: 57		ICI:
22001	<i>Coenagrionidae</i>	+	Number of Organisms: 0		Qual EPT: 15
23909	<i>Boyeria vinosa</i>	+			
25510	<i>Stylogomphus albistylus</i>	+			
47600	<i>Sialis sp</i>	+			
50301	<i>Chimarra aterrima</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52440	<i>Ceratopsyche slossonae</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
60400	<i>Gyrinus sp</i>	+			
63300	<i>Hydroporini</i>	+			
66200	<i>Cymbiodyta sp</i>	+			
68130	<i>Helichus sp</i>	+			
68601	<i>Ancyronyx variegata</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
68901	<i>Macronychus glabratus</i>	+			
69400	<i>Stenelmis sp</i>	+			
71100	<i>Hexatoma sp</i>	+			
72340	<i>Dixella sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
77800	<i>Helopelopia sp</i>	+			
80204	<i>Brillia flavifrons group</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	+			

Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection

Site: Jonathan Creek  
Hopewell Indian Rd.

Collection Date: 08/11/2008 River Code: 17-310 RM: 22.40

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01320	<i>Hydra sp</i>	5	78401	<i>Natarsia species A (sensu Roback, 1978)</i>	+
01801	<i>Turbellaria</i>	17 +	78450	<i>Nilotanypus fimbriatus</i>	61
02600	<i>Nematomorpha</i>	1	78655	<i>Procladius (Holotanypus) sp</i>	+
03600	<i>Oligochaeta</i>	40 +	80370	<i>Corynoneura lobata</i>	177
04964	<i>Mooreobdella microstoma</i>	+	80410	<i>Cricotopus (C.) sp</i>	117
05900	<i>Lirceus sp</i>	71 +	80420	<i>Cricotopus (C.) bicinctus</i>	59 +
06700	<i>Crangonyx sp</i>	24 +	80430	<i>Cricotopus (C.) tremulus group</i>	59
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+	80850	<i>Heterotrissocladius marcidus</i>	59
08601	<i>Hydrachnidia</i>	17 +	81632	<i>Parakiefferiella n.sp 2</i>	59
11120	<i>Baetis flavistriga</i>	+	82121	<i>Thienemanniella lobapodema</i>	448
11130	<i>Baetis intercalaris</i>	+	82730	<i>Chironomus (C.) decorus group</i>	+
13400	<i>Stenacron sp</i>	10 +	82820	<i>Cryptochironomus sp</i>	+
13521	<i>Stenonema femoratum</i>	1	82885	<i>Cryptotendipes pseudotener</i>	+
13590	<i>Maccaffertium vicarium</i>	2 +	83300	<i>Glyptotendipes (G.) sp</i>	59
17200	<i>Caenis sp</i>	1 +	83820	<i>Microtendipes "caelum" (sensu Simpson &amp; Bode, 1980)</i>	+
18750	<i>Hexagenia limbata</i>	+	83840	<i>Microtendipes pedellus group</i>	351
21200	<i>Calopteryx sp</i>	+	84210	<i>Paratendipes albimanus or P. duplicatus</i>	176
21300	<i>Hetaerina sp</i>	17 +	84300	<i>Phaenopsectra obediens group</i>	+
22001	<i>Coenagrionidae</i>	+	84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+
23905	<i>Boyeria grafiana</i>	+	84450	<i>Polypedilum (Uresipedilum) flavum</i>	+
23909	<i>Boyeria vinosa</i>	1 +	84460	<i>Polypedilum (P.) fallax group</i>	117
44501	<i>Corixidae</i>	+	84470	<i>Polypedilum (P.) illinoense</i>	59 +
47600	<i>Sialis sp</i>	+	84750	<i>Stictochironomus sp</i>	+
52200	<i>Cheumatopsyche sp</i>	77 +	85230	<i>Cladotanytarsus mancus group</i>	+
52430	<i>Ceratopsyche morosa group</i>	+	85261	<i>Cladotanytarsus vanderwulpi group Type 1</i>	59 +
52530	<i>Hydropsyche depravata group</i>	+	85500	<i>Paratanytarsus sp</i>	528
53800	<i>Hydroptila sp</i>	17 +	85615	<i>Rheotanytarsus pellucidus</i>	117
60400	<i>Gyrinus sp</i>	+	85625	<i>Rheotanytarsus sp</i>	880 +
60900	<i>Peltodytes sp</i>	+	85800	<i>Tanytarsus sp</i>	176 +
66500	<i>Enochrus sp</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	821 +
68075	<i>Psephenus herricki</i>	+	85840	<i>Tanytarsus sepp</i>	821 +
68601	<i>Ancyronyx variegata</i>	1 +	87540	<i>Hemerodromia sp</i>	16 +
68708	<i>Dubiraphia vittata group</i>	17 +	93900	<i>Elimia sp</i>	9 +
68901	<i>Macronychus glabratus</i>	19 +	95100	<i>Physella sp</i>	1
69400	<i>Stenelmis sp</i>	3 +	96900	<i>Ferrissia sp</i>	100 +
70501	<i>Tipulidae</i>	16	98600	<i>Sphaerium sp</i>	+
71100	<i>Hexatoma sp</i>	+	99860	<i>Lampsilis radiata luteola</i>	+
74100	<i>Simulium sp</i>	+			
74501	<i>Ceratopogonidae</i>	+			
77120	<i>Ablabesmyia mallochi</i>	117 +	No. Quantitative Taxa: 48		Total Taxa: 81
77500	<i>Conchapelopia sp</i>	235 +	No. Qualitative Taxa: 61		ICI: 42
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	59	Number of Organisms: 6142		Qual EPT: 10
77800	<i>Helopelopia sp</i>	+			
78140	<i>Labrundinia pilosella</i>	45			

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Jonathan Creek

Collection Date: 08/14/2008 River Code: 17-310 RM: 17.53

adj. St. Rt. 204 dst. Glass Rock Trib.

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
03040	<i>Fredericella sp</i>	1 +	80370	<i>Corynoneura lobata</i>	6
03600	<i>Oligochaeta</i>	18 +	80410	<i>Cricotopus (C.) sp</i>	12 +
05900	<i>Lirceus sp</i>	3 +	80420	<i>Cricotopus (C.) bicinctus</i>	18
06700	<i>Crangonyx sp</i>	+	80430	<i>Cricotopus (C.) tremulus group</i>	+
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	1 +	81690	<i>Paratrichocladius sp</i>	+
08601	<i>Hydrachnidia</i>	+	81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	9
11130	<i>Baetis intercalaris</i>	+	82101	<i>Thienemanniella taurocapita</i>	2
11150	<i>Pseudocloeon propinquum</i>	1 +	82121	<i>Thienemanniella lobapodema</i>	16
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	82730	<i>Chironomus (C.) decorus group</i>	+
12200	<i>Isonychia sp</i>	+	82820	<i>Cryptochironomus sp</i>	3 +
13000	<i>Leucrocuta sp</i>	+	83040	<i>Dicrotendipes neomodestus</i>	3 +
13510	<i>Maccaffertium exiguum</i>	2	84300	<i>Phaenopsectra obediens group</i>	6
13561	<i>Maccaffertium pulchellum</i>	1	84302	<i>Phaenopsectra punctipes</i>	6
13590	<i>Maccaffertium vicarium</i>	8 +	84460	<i>Polypedilum (P.) fallax group</i>	147
15000	<i>Paraleptophlebia sp</i>	1	84470	<i>Polypedilum (P.) illinoense</i>	20 +
17200	<i>Caenis sp</i>	+	84480	<i>Polypedilum (P.) laetum group</i>	29
21200	<i>Calopteryx sp</i>	1 +	84520	<i>Polypedilum (Tripodura) halterale group</i>	9
22300	<i>Argia sp</i>	+	84540	<i>Polypedilum (Tripodura) scalaenum group</i>	29
23909	<i>Boyeria vinosa</i>	+	84750	<i>Stictochironomus sp</i>	+
50315	<i>Chimarra obscura</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	3
52200	<i>Cheumatopsyche sp</i>	1 +	85625	<i>Rheotanytarsus sp</i>	20 +
52430	<i>Ceratopsyche morosa group</i>	+	85800	<i>Tanytarsus sp</i>	6 +
52530	<i>Hydropsyche depravata group</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	12
52540	<i>Hydropsyche dicantha</i>	+	85840	<i>Tanytarsus sepp</i>	6
52570	<i>Hydropsyche simulans</i>	+	87540	<i>Hemerodromia sp</i>	+
53800	<i>Hydroptila sp</i>	+	93900	<i>Elimia sp</i>	5 +
60300	<i>Dineutus sp</i>	+	95100	<i>Physella sp</i>	+
60900	<i>Peltodytes sp</i>	+	96900	<i>Ferrissia sp</i>	3 +
63900	<i>Laccophilus sp</i>	+	98600	<i>Sphaerium sp</i>	+
66500	<i>Enochrus sp</i>	+	99860	<i>Lampsilis radiata luteola</i>	+
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+	No. Quantitative Taxa: 42      Total Taxa: 74		
68601	<i>Ancyronyx variegata</i>	1 +	No. Qualitative Taxa: 53      ICI: 28		
68708	<i>Dubiraphia vittata group</i>	+	Number of Organisms: 495      Qual EPT: 14		
68901	<i>Macronychus glabratus</i>	+			
69400	<i>Stenelmis sp</i>	5 +			
74501	<i>Ceratopogonidae</i>	4 +			
77120	<i>Ablabesmyia mallochi</i>	3 +			
77500	<i>Conchapelopia sp</i>	6			
77740	<i>Hayesomyia senata</i>	54			
77800	<i>Helopelopia sp</i>	3			
78140	<i>Labrundinia pilosella</i>	4			
78450	<i>Nilotanypus fimbriatus</i>	7 +			
78655	<i>Procladius (Holotanypus) sp</i>	+			

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Jonathan Creek

Collection Date: 08/18/2008 River Code: 17-310 RM: 12.20

Co. Rd. 34

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
03360	<i>Plumatella sp</i>	+	80360	<i>Corynoneura "celeripes" (sensu Simpson &amp; Bode, 1980)</i>	+
03600	<i>Oligochaeta</i>	+			
04685	<i>Placobdella ornata</i>	+	80370	<i>Corynoneura lobata</i>	16
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+	80420	<i>Cricotopus (C.) bicinctus</i>	75
11125	<i>Pseudocloeon frondale</i>	3	80430	<i>Cricotopus (C.) tremulus group</i>	75
11130	<i>Baetis intercalaris</i>	49 +	82121	<i>Thienemanniella lobapodema</i>	95 +
12200	<i>Isonychia sp</i>	182 +	82141	<i>Thienemanniella xena</i>	32
13000	<i>Leucrocuta sp</i>	1 +	82820	<i>Cryptochironomus sp</i>	+
13100	<i>Nixe sp</i>	+	83040	<i>Dicrotendipes neomodestus</i>	15
13400	<i>Stenacron sp</i>	2 +	84116	<i>Paracladopelma nereis</i>	+
13510	<i>Maccaffertium exiguum</i>	131 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	195 +
13561	<i>Maccaffertium pulchellum</i>	57	84470	<i>Polypedilum (P.) illinoense</i>	45 +
13590	<i>Maccaffertium vicarium</i>	262 +	84800	<i>Tribelos jucundum</i>	+
16700	<i>Tricorythodes sp</i>	2	85500	<i>Paratanytarsus sp</i>	15
21200	<i>Calopteryx sp</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	90 +
22001	<i>Coenagrionidae</i>	+	85625	<i>Rheotanytarsus sp</i>	652 +
22300	<i>Argia sp</i>	41 +	85800	<i>Tanytarsus sp</i>	15 +
23909	<i>Boyeria vinosa</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	361 +
24900	<i>Gomphus sp</i>	+	85840	<i>Tanytarsus sepp</i>	105 +
26700	<i>Macromia sp</i>	+	86401	<i>Atherix lantha</i>	1
42700	<i>Belostoma sp</i>	+	87540	<i>Hemerodromia sp</i>	13
47600	<i>Sialis sp</i>	+	93900	<i>Elimia sp</i>	+
52200	<i>Cheumatopsyche sp</i>	106 +	96900	<i>Ferrissia sp</i>	3
52430	<i>Ceratopsyche morosa group</i>	1 +	97601	<i>Corbicula fluminea</i>	+
53800	<i>Hydroptila sp</i>	16	98001	<i>Sphaeriidae</i>	16
57900	<i>Pycnopsyche sp</i>	+	98600	<i>Sphaerium sp</i>	+
59410	<i>Nectopsyche diarina</i>	+	99440	<i>Fusconaia flava</i>	+
60300	<i>Dineutus sp</i>	+	99860	<i>Lampsilis radiata luteola</i>	+
60400	<i>Gyrinus sp</i>	+			
66500	<i>Enochrus sp</i>	+	No. Quantitative Taxa: 37		Total Taxa: 71
68075	<i>Psephenus herricki</i>	+	No. Qualitative Taxa: 55		ICI: 46
68601	<i>Ancyronyx variegata</i>	+	Number of Organisms: 2800		Qual EPT: 11
68708	<i>Dubiraphia vittata group</i>	+			
68901	<i>Macronychus glabratus</i>	13 +			
69400	<i>Stenelmis sp</i>	2 +			
69930	<i>Lampyridae</i>	1			
71100	<i>Hexatoma sp</i>	+			
72340	<i>Dixella sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	1			
74673	<i>Atrichopogon websteri</i>	+			
77120	<i>Ablabesmyia mallochi</i>	16 +			
78140	<i>Labrundinia pilosella</i>	+			
78450	<i>Nilotanypus fimbriatus</i>	95 +			

Ohio EPA/DSW Ecological Assessment Section  
 Macroinvertebrate Collection

Site: Jonathan Creek  
 Workman Rd.

Collection Date: 08/18/2008 River Code: 17-310 RM: 7.60

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
03600	<i>Oligochaeta</i>	48	84450	<i>Polypedilum (Uresipedilum) flavum</i>	87 +
06201	<i>Hyalella azteca</i>	+	84475	<i>Polypedilum (P.) ophioides</i>	+
07875	<i>Cambarus (Tubericambarus) polychromatus</i>	+	84750	<i>Stictochironomus sp</i>	+
11130	<i>Baetis intercalaris</i>	+	85500	<i>Paratanytarsus sp</i>	22 +
11150	<i>Pseudocloeon propinquum</i>	+	85625	<i>Rheotanytarsus sp</i>	1300 +
11200	<i>Callibaetis sp</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	412 +
12200	<i>Isonychia sp</i>	15 +	85840	<i>Tanytarsus sepp</i>	260
13000	<i>Leucrocuta sp</i>	32 +	86401	<i>Atherix lantha</i>	1 +
13400	<i>Stenacron sp</i>	7 +	87540	<i>Hemerodromia sp</i>	10 +
13510	<i>Maccaffertium exiguum</i>	63	93900	<i>Elimia sp</i>	1 +
13521	<i>Stenonema femoratum</i>	3 +	96900	<i>Ferrissia sp</i>	14
13561	<i>Maccaffertium pulchellum</i>	147 +	97601	<i>Corbicula fluminea</i>	1 +
13570	<i>Maccaffertium terminatum</i>	+			
13590	<i>Maccaffertium vicarium</i>	105 +	No. Quantitative Taxa: 34		Total Taxa: 56
17200	<i>Caenis sp</i>	+	No. Qualitative Taxa: 41		ICI: 40
22001	<i>Coenagrionidae</i>	+	Number of Organisms: 3329		Qual EPT: 16
22300	<i>Argia sp</i>	2			
23909	<i>Boyeria vinosa</i>	+			
36500	<i>Sweltsa sp</i>	+			
48410	<i>Corydalus cornutus</i>	1			
52200	<i>Cheumatopsyche sp</i>	7 +			
52430	<i>Ceratopsyche morosa group</i>	3 +			
59410	<i>Nectopsyche diarina</i>	+			
59700	<i>Triaenodes sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68601	<i>Ancyronyx variegata</i>	+			
68901	<i>Macronychus glabratus</i>	4 +			
70501	<i>Tipulidae</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77120	<i>Ablabesmyia mallochi</i>	22 +			
77800	<i>Helopelopia sp</i>	22			
78450	<i>Nilotanypus fimbriatus</i>	8			
80370	<i>Corynoneura lobata</i>	128			
80410	<i>Cricotopus (C.) sp</i>	22			
80420	<i>Cricotopus (C.) bicinctus</i>	43			
80430	<i>Cricotopus (C.) tremulus group</i>	325 +			
82101	<i>Thienemanniella taurocapita</i>	8			
82121	<i>Thienemanniella lobapodema</i>	120			
82820	<i>Cryptochironomus sp</i>	43			
83040	<i>Dicrotendipes neomodestus</i>	43			
83840	<i>Microtendipes pedellus group</i>	+			
84040	<i>Parachironomus frequens</i>	+			

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Jonathan Creek  
Crock Rd.

Collection Date: 08/18/2008 River Code: 17-310 RM: 3.30

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+	84540	<i>Polypedilum (Tripodura) scalaenum group</i>	54
03360	<i>Plumatella sp</i>	2 +	84800	<i>Tribelos jucundum</i>	9
03451	<i>Urnatella gracilis</i>	1	85625	<i>Rheotanytarsus sp</i>	194 +
03600	<i>Oligochaeta</i>	2	85821	<i>Tanytarsus glabrescens group sp 7</i>	36 +
07701	<i>Cambaridae</i>	+	85840	<i>Tanytarsus sepp</i>	87
11130	<i>Baetis intercalaris</i>	4 +	86401	<i>Atherix lantha</i>	+
11651	<i>Procloeon sp (w/o hindwing pads)</i>	1	87540	<i>Hemerodromia sp</i>	25
13400	<i>Stenacron sp</i>	31 +	93900	<i>Elimia sp</i>	3 +
13510	<i>Maccaffertium exiguum</i>	1	98600	<i>Sphaerium sp</i>	+
13521	<i>Stenonema femoratum</i>	+			
13561	<i>Maccaffertium pulchellum</i>	3 +	No. Quantitative Taxa: 41		Total Taxa: 53
13570	<i>Maccaffertium terminatum</i>	1 +	No. Qualitative Taxa: 34		ICI: 38
13590	<i>Maccaffertium vicarium</i>	6 +	Number of Organisms: 836		Qual EPT: 12
17200	<i>Caenis sp</i>	1			
21200	<i>Calopteryx sp</i>	+			
22001	<i>Coenagrionidae</i>	+			
22300	<i>Argia sp</i>	3			
36500	<i>Sweltsa sp</i>	2 +			
48410	<i>Corydalus cornutus</i>	1 +			
50315	<i>Chimarra obscura</i>	+			
52200	<i>Cheumatopsyche sp</i>	15 +			
52430	<i>Ceratopsyche morosa group</i>	+			
52540	<i>Hydropsyche dicantha</i>	+			
53501	<i>Hydroptilidae</i>	1			
59160	<i>Ceraclea spongillovorax</i>	+			
59500	<i>Oecetis sp</i>	1			
60300	<i>Dineutus sp</i>	1 +			
68901	<i>Macronychus glabratus</i>	1 +			
69400	<i>Stenelmis sp</i>	10			
74100	<i>Simulium sp</i>	11 +			
74501	<i>Ceratopogonidae</i>	2 +			
74673	<i>Atrichopogon websteri</i>	1			
77120	<i>Ablabesmyia mallochi</i>	9 +			
77800	<i>Helopelopia sp</i>	101 +			
78140	<i>Labrundinia pilosella</i>	1			
78450	<i>Nilotanytus fimbriatus</i>	32			
80370	<i>Corynoneura lobata</i>	1			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
81530	<i>Orthocladius (Symposiocladius) lignicola</i>	9			
81650	<i>Parametriocnemus sp</i>	20			
81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	36 +			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	36 +			
84460	<i>Polypedilum (P.) fallax group</i>	27 +			
84470	<i>Polypedilum (P.) illinoense</i>	54 +			

Ohio EPA/DSW Ecological Assessment Section  
 Macroinvertebrate Collection

Site: Jonathan Creek  
 St. Rt. 93

Collection Date: 08/18/2008 River Code: 17-310 RM: 1.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01320	<i>Hydra sp</i>	129 +	84470	<i>Polypedilum (P.) illinoense</i>	11 +
01801	<i>Turbellaria</i>	41	84540	<i>Polypedilum (Tripodura) scalaenum group</i>	7
03600	<i>Oligochaeta</i>	4	84800	<i>Tribelos jucundum</i>	33
06201	<i>Hyalella azteca</i>	8	85800	<i>Tanytarsus sp</i>	14
08601	<i>Hydrachnidia</i>	9	85821	<i>Tanytarsus glabrescens group sp 7</i>	43 +
11200	<i>Callibaetis sp</i>	8 +	85840	<i>Tanytarsus sepp</i>	14 +
13400	<i>Stenacron sp</i>	3 +	93900	<i>Elimia sp</i>	400 +
13521	<i>Stenonema femoratum</i>	4 +	98600	<i>Sphaerium sp</i>	+
13590	<i>Maccaffertium vicarium</i>	3			
17200	<i>Caenis sp</i>	1	No. Quantitative Taxa: 41		Total Taxa: 52
22001	<i>Coenagrionidae</i>	9 +	No. Qualitative Taxa: 24		ICI: 32
22300	<i>Argia sp</i>	23 +	Number of Organisms: 1117		Qual EPT: 4
23909	<i>Boyeria vinosa</i>	+			
43570	<i>Neolea sp</i>	+			
51206	<i>Cyrnellus fraternus</i>	1			
51600	<i>Polycentropus sp</i>	3 +			
52200	<i>Cheumatopsyche sp</i>	1			
52430	<i>Ceratopsyche morosa group</i>	1			
53800	<i>Hydroptila sp</i>	35			
54300	<i>Oxyethira sp</i>	48			
60900	<i>Peltodytes sp</i>	+			
63300	<i>Hydroporini</i>	+			
66500	<i>Enochrus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68300	<i>Cyphon sp</i>	+			
68601	<i>Ancyronyx variegata</i>	+			
72700	<i>Anopheles sp</i>	+			
74501	<i>Ceratopogonidae</i>	1 +			
77120	<i>Ablabesmyia mallochi</i>	25			
77130	<i>Ablabesmyia rhamphe group</i>	34			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	7			
78130	<i>Labrundinia neopilosella</i>	7			
78450	<i>Nilotanytus fimbriatus</i>	4			
80370	<i>Corynoneura lobata</i>	4			
82730	<i>Chironomus (C.) decorus group</i>	11			
83003	<i>Dicrotendipes fumidus</i>	7			
83040	<i>Dicrotendipes neomodestus</i>	29			
83158	<i>Endochironomus nigricans</i>	62 +			
83300	<i>Glyptotendipes (G.) sp</i>	4			
83840	<i>Microtendipes pedellus group</i>	+			
84210	<i>Paratendipes albimanus or P. duplicatus</i>	7			
84300	<i>Phaenopsectra obediens group</i>	47			
84315	<i>Phaenopsectra flavipes</i>	4			
84460	<i>Polypedilum (P.) fallax group</i>	11			

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Jonathan Creek  
Powell Rd.

Collection Date: 08/18/2008 River Code: 17-310 RM: 0.80

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
03360	<i>Plumatella sp</i>	+	No. Quantitative Taxa: 0      Total Taxa: 41 No. Qualitative Taxa: 41      ICI: Number of Organisms: 0      Qual EPT: 15		
06201	<i>Hyalella azteca</i>	+			
08601	<i>Hydrachnidia</i>	+			
11130	<i>Baetis intercalaris</i>	+			
12200	<i>Isonychia sp</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
13561	<i>Maccaffertium pulchellum</i>	+			
13590	<i>Maccaffertium vicarium</i>	+			
17200	<i>Caenis sp</i>	+			
22001	<i>Coenagrionidae</i>	+			
48410	<i>Corydalus cornutus</i>	+			
50315	<i>Chimarra obscura</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52540	<i>Hydropsyche dicantha</i>	+			
52560	<i>Hydropsyche orris</i>	+			
52570	<i>Hydropsyche simulans</i>	+			
53800	<i>Hydroptila sp</i>	+			
54160	<i>Ochrotrichia sp</i>	+			
67100	<i>Hydrobius sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68901	<i>Macronychus glabratus</i>	+			
69400	<i>Stenelmis sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	+			
78450	<i>Nilotanytus fimbriatus</i>	+			
78600	<i>Pentaneura inconspicua</i>	+			
80310	<i>Cardiocladius obscurus</i>	+			
81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	+			
82820	<i>Cryptochironomus sp</i>	+			
83040	<i>Dicrotendipes neomodestus</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
85615	<i>Rheotanytarsus pellucidus</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
86200	<i>Tabanus sp</i>	+			
86401	<i>Atherix lantha</i>	+			
87540	<i>Hemerodromia sp</i>	+			



**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Thompson Run  
Coppermill Rd.

Collection Date: 07/22/2008 River Code: 17-311 RM: 4.80

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+			
07860	<i>Cambarus (Puncticambarus) robustus</i>	+	No. Quantitative Taxa: 0		Total Taxa: 42
11120	<i>Baetis flavistriga</i>	+	No. Qualitative Taxa: 42		ICI:
11130	<i>Baetis intercalaris</i>	+	Number of Organisms: 0		Qual EPT: 12
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
17200	<i>Caenis sp</i>	+			
22001	<i>Coenagrionidae</i>	+			
23909	<i>Boyeria vinosa</i>	+			
33100	<i>Leuctra sp</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
42700	<i>Belostoma sp</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
60400	<i>Gyrinus sp</i>	+			
60900	<i>Peltodytes sp</i>	+			
63300	<i>Hydroporini</i>	+			
63900	<i>Laccophilus sp</i>	+			
66500	<i>Enochrus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
69400	<i>Stenelmis sp</i>	+			
71100	<i>Hexatoma sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
82101	<i>Thienemanniella taurocapita</i>	+			
82820	<i>Cryptochironomus sp</i>	+			
83820	<i>Microtendipes "caelum" (sensu Simpson &amp; Bode, 1980)</i>	+			
83840	<i>Microtendipes pedellus group</i>	+			
84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84750	<i>Stictochironomus sp</i>	+			
85400	<i>Micropsectra sp</i>	+			
85615	<i>Rheotanytarsus pellucidus</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
85821	<i>Tanytarsus glabrescens group sp 7</i>	+			
95100	<i>Physella sp</i>	+			

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Thompson Run  
U.S. Rt. 22

Collection Date: 07/23/2008 River Code: 17-311 RM: 0.30

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
07860	<i>Cambarus (Puncticambarus) robustus</i>	+			
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+			
11120	<i>Baetis flavistriga</i>	+			
11130	<i>Baetis intercalaris</i>	+			
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+			
11670	<i>Procloeon viridoculare</i>	+			
12200	<i>Isonychia sp</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
17200	<i>Caenis sp</i>	+			
22001	<i>Coenagrionidae</i>	+			
23909	<i>Boyeria vinosa</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
44501	<i>Corixidae</i>	+			
47600	<i>Sialis sp</i>	+			
48410	<i>Corydalis cornutus</i>	+			
51400	<i>Nyctiophylax sp</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
60300	<i>Dineutus sp</i>	+			
60900	<i>Peltodytes sp</i>	+			
66500	<i>Enochrus sp</i>	+			
69400	<i>Stenelmis sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77120	<i>Ablabesmyia mallochi</i>	+			
77500	<i>Conchapelopia sp</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	+			
82730	<i>Chironomus (C.) decorus group</i>	+			
83040	<i>Dicrotendipes neomodestus</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84750	<i>Stictochironomus sp</i>	+			
85500	<i>Paratanytarsus sp</i>	+			
85800	<i>Tanytarsus sp</i>	+			

No. Quantitative Taxa: 0            Total Taxa: 39  
 No. Qualitative Taxa: 39            ICI:  
 Number of Organisms: 0            Qual EPT: 14

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Hibbs Run  
Coppermill Rd.

Collection Date: 07/22/2008 River Code: 17-312 RM: 0.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
07860	<i>Cambarus (Puncticambarus) robustus</i>	+			
11120	<i>Baetis flavistriga</i>	+			
11130	<i>Baetis intercalaris</i>	+			
11430	<i>Dipheter hageni</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
15000	<i>Paraleptophlebia sp</i>	+			
17200	<i>Caenis sp</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
50301	<i>Chimarra aterrima</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52315	<i>Diplectrone modesta</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
57400	<i>Neophylax sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68201	<i>Scirtidae</i>	+			
69400	<i>Stenelmis sp</i>	+			
71100	<i>Hexatoma sp</i>	+			
74100	<i>Simulium sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
79400	<i>Zavreliomyia sp</i>	+			
81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	+			
82101	<i>Thienemanniella taurocapita</i>	+			
84000	<i>Parachironomus sp</i>	+			
84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84750	<i>Stictochironomus sp</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
85821	<i>Tanytarsus glabrescens group sp 7</i>	+			

No. Quantitative Taxa: 0            Total Taxa: 33  
 No. Qualitative Taxa: 33            ICI:  
 Number of Organisms: 0            Qual EPT: 15

Ohio EPA/DSW Ecological Assessment Section  
 Macroinvertebrate Collection

Site: Kent Run  
 Asbury Chapel Rd.

Collection Date: 07/24/2008 River Code: 17-313 RM: 8.90

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
00653	<i>Eunapius fragilis</i>	+	84450	<i>Polypedilum (Uresipedilum) flavum</i>	+
01801	<i>Turbellaria</i>	+	84750	<i>Stictochironomus sp</i>	+
03600	<i>Oligochaeta</i>	+	85500	<i>Paratanytarsus sp</i>	+
04686	<i>Placobdella papillifera</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	+
06201	<i>Hyaella azteca</i>	+	85625	<i>Rheotanytarsus sp</i>	+
07870	<i>Cambarus (Tubericambarus) sp</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	+
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+	95100	<i>Physella sp</i>	+
11120	<i>Baetis flavistriga</i>	+	98600	<i>Sphaerium sp</i>	+
11125	<i>Pseudocloeon frondale</i>	+			
11130	<i>Baetis intercalaris</i>	+	No. Quantitative Taxa: 0		Total Taxa: 52
13400	<i>Stenacron sp</i>	+	No. Qualitative Taxa: 52		ICI:
13521	<i>Stenonema femoratum</i>	+	Number of Organisms: 0		Qual EPT: 15
17200	<i>Caenis sp</i>	+			
22001	<i>Coenagrionidae</i>	+			
23909	<i>Boyeria vinosa</i>	+			
33100	<i>Leuctra sp</i>	+			
44501	<i>Corixidae</i>	+			
47600	<i>Sialis sp</i>	+			
49400	<i>Sisyra sp</i>	+			
50315	<i>Chimarra obscura</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
52570	<i>Hydropsyche simulans</i>	+			
53501	<i>Hydroptilidae</i>	+			
59570	<i>Oecetis nocturna</i>	+			
59730	<i>Triaenodes melaca</i>	+			
63300	<i>Hydroporini</i>	+			
68130	<i>Helichus sp</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
69400	<i>Stenelmis sp</i>	+			
71100	<i>Hexatoma sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
78140	<i>Labrundinia pilosella</i>	+			
78450	<i>Nilotanypus fimbriatus</i>	+			
80415	<i>Cricotopus (Isocladius) absurdus</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
82200	<i>Tvetenia bavarica group</i>	+			
83820	<i>Microtendipes "caelum" (sensu Simpson &amp; Bode, 1980)</i>	+			
84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+			

Ohio EPA/DSW Ecological Assessment Section  
 Macroinvertebrate Collection

Site: Kent Run  
 Slack Rd.

Collection Date: 07/24/2008 River Code: 17-313 RM: 3.60

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
00401	<i>Spongillidae</i>	+			
03301	<i>Plumatellidae</i>	+			
06201	<i>Hyaella azteca</i>	+			
07860	<i>Cambarus (Puncticambarus) robustus</i>	+			
11120	<i>Baetis flavistriga</i>	+			
11130	<i>Baetis intercalaris</i>	+			
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+			
12200	<i>Isonychia sp</i>	+			
13000	<i>Leucrocota sp</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
13590	<i>Maccaffertium vicarium</i>	+			
17200	<i>Caenis sp</i>	+			
22001	<i>Coenagrionidae</i>	+			
24900	<i>Gomphus sp</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
50315	<i>Chimarra obscura</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
60400	<i>Gyrinus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
69400	<i>Stenelmis sp</i>	+			
72340	<i>Dixella sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77120	<i>Ablabesmyia mallochi</i>	+			
77500	<i>Conchapelopia sp</i>	+			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	+			
80415	<i>Cricotopus (Isocladius) absurdus</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
82101	<i>Thienemanniella taurocapita</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84750	<i>Stictochironomus sp</i>	+			
85500	<i>Paratanytarsus sp</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
85821	<i>Tanytarsus glabrescens group sp 7</i>	+			
86401	<i>Atherix lantha</i>	+			
87540	<i>Hemerodromia sp</i>	+			
96900	<i>Ferrissia sp</i>	+			

Ohio EPA/DSW Ecological Assessment Section  
 Macroinvertebrate Collection

Site: Kent Run  
 Lower Kroft Rd.

Collection Date: 08/12/2008 River Code: 17-313 RM: 1.30

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+	83840	<i>Microtendipes pedellus group</i>	+
03360	<i>Plumatella sp</i>	+	84300	<i>Phaenopsectra obediens group</i>	+
03925	<i>Branchiura sowerbyi</i>	+	84450	<i>Polypedilum (Uresipedilum) flavum</i>	+
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+	84470	<i>Polypedilum (P.) illinoense</i>	+
08601	<i>Hydrachnidia</i>	+	84750	<i>Stictochironomus sp</i>	+
11120	<i>Baetis flavistriga</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	+
11130	<i>Baetis intercalaris</i>	+	85625	<i>Rheotanytarsus sp</i>	+
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	85800	<i>Tanytarsus sp</i>	+
11670	<i>Procloeon viridoculare</i>	+	85840	<i>Tanytarsus sepp</i>	+
12200	<i>Isonychia sp</i>	+	86401	<i>Atherix lantha</i>	+
13000	<i>Leucrocuta sp</i>	+	87540	<i>Hemerodromia sp</i>	+
13400	<i>Stenacron sp</i>	+	95100	<i>Physella sp</i>	+
13521	<i>Stenonema femoratum</i>	+	96900	<i>Ferrissia sp</i>	+
13590	<i>Maccaffertium vicarium</i>	+			
17200	<i>Caenis sp</i>	+	No. Quantitative Taxa: 0		Total Taxa: 57
23909	<i>Boyeria vinosa</i>	+	No. Qualitative Taxa: 57		ICI:
34130	<i>Acroneuria frisoni</i>	+	Number of Organisms: 0		Qual EPT: 17
47600	<i>Sialis sp</i>	+			
48410	<i>Corydalus cornutus</i>	+			
50315	<i>Chimarra obscura</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52540	<i>Hydropsyche dicantha</i>	+			
59570	<i>Oecetis nocturna</i>	+			
60300	<i>Dineutus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68201	<i>Scirtidae</i>	+			
68601	<i>Ancyronyx variegata</i>	+			
68700	<i>Dubiraphia sp</i>	+			
68901	<i>Macronychus glabratus</i>	+			
69400	<i>Stenelmis sp</i>	+			
72340	<i>Dixella sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
74501	<i>Ceratopogonidae</i>	+			
77120	<i>Ablabesmyia mallochi</i>	+			
77500	<i>Conchapelopia sp</i>	+			
77800	<i>Helopelopia sp</i>	+			
78450	<i>Nilotanytus fimbriatus</i>	+			
81690	<i>Paratrichocladius sp</i>	+			
81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	+			
83040	<i>Dicrotendipes neomodestus</i>	+			
83820	<i>Microtendipes "caelum" (sensu Simpson &amp; Bode, 1980)</i>	+			

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Salt Run  
Bagley Rd.

Collection Date: 07/23/2008 River Code: 17-314 RM: 0.02

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
07860	<i>Cambarus (Puncticambarus) robustus</i>	+			
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+			
11120	<i>Baetis flavistriga</i>	+			
11130	<i>Baetis intercalaris</i>	+			
13000	<i>Leucrocuta sp</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
17200	<i>Caenis sp</i>	+			
23600	<i>Aeshna sp</i>	+			
23909	<i>Boyeria vinosa</i>	+			
33100	<i>Leuctra sp</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
34200	<i>Eccopectura xanthenes</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52315	<i>Diplectrona modesta</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
60900	<i>Peltodytes sp</i>	+			
63300	<i>Hydroporini</i>	+			
66500	<i>Enochrus sp</i>	+			
68130	<i>Helichus sp</i>	+			
68702	<i>Dubiraphia bivittata</i>	+			
69400	<i>Stenelmis sp</i>	+			
71100	<i>Hexatoma sp</i>	+			
72340	<i>Dixella sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77800	<i>Helopelopia sp</i>	+			
82200	<i>Tvetenia bavarica group</i>	+			
84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+			
85500	<i>Paratanytarsus sp</i>	+			
85615	<i>Rheotanytarsus pellucidus</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
96900	<i>Ferrissia sp</i>	+			

No. Quantitative Taxa: 0            Total Taxa: 35  
 No. Qualitative Taxa: 35            ICI:  
 Number of Organisms: 0            Qual EPT: 14

**Ohio EPA/DSW Ecological Assessment Section**  
**Macroinvertebrate Collection**

Site: Buckeye Fork

Collection Date: 07/23/2008 River Code: 17-315 RM: 5.50

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Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
07880	<i>Cambarus (Tubericambarus) thomai</i>	+			
23618	<i>Aeshna umbrosa</i>	+			
23704	<i>Anax junius</i>	+			
45300	<i>Sigara sp</i>	+			
47600	<i>Sialis sp</i>	+			
63300	<i>Hydroporini</i>	+			
63700	<i>Ilybius sp</i>	+			
63900	<i>Laccophilus sp</i>	+			

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No. Quantitative Taxa: 0	Total Taxa: 8
No. Qualitative Taxa: 8	ICI:
Number of Organisms: 0	Qual EPT: 0



**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Buckeye Fork  
Fletcher Rd.

Collection Date: 07/24/2008 River Code: 17-315 RM: 3.40

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
07801	<i>Cambarus (C.) sp</i>	+			
07880	<i>Cambarus (Tubericambarus) thomai</i>	+			
23600	<i>Aeshna sp</i>	+			
33501	<i>Capniidae</i>	+			
45900	<i>Notonecta sp</i>	+			
47600	<i>Sialis sp</i>	+			
52315	<i>Diplectrona modesta</i>	+			
61400	<i>Agabus sp</i>	+			
63300	<i>Hydroporini</i>	+			
63700	<i>Ilybius sp</i>	+			
63900	<i>Laccophilus sp</i>	+			
66500	<i>Enochrus sp</i>	+			
82730	<i>Chironomus (C.) decorus group</i>	+			
84410	<i>Polypedilum (Pentapedilum) tritum var. I</i>	+			
84421	<i>Polypedilum (P.) sp 2</i>	+			

No. Quantitative Taxa: 0	Total Taxa: 15
No. Qualitative Taxa: 15	ICI:
Number of Organisms: 0	Qual EPT: 2

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Buckeye Fork  
Co. Rd. 88 at East Fultonham

Collection Date: 08/12/2008 River Code: 17-315 RM: 1.50

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
03600	<i>Oligochaeta</i>	7			
11130	<i>Baetis intercalaris</i>	1			
13561	<i>Maccaffertium pulchellum</i>	1			
22001	<i>Coenagrionidae</i>	+			
22300	<i>Argia sp</i>	+			
33100	<i>Leuctra sp</i>	+			
47600	<i>Sialis sp</i>	12	+		
52200	<i>Cheumatopsyche sp</i>	1	+		
52530	<i>Hydropsyche depravata group</i>		+		
69400	<i>Stenelmis sp</i>	3			
74100	<i>Simulium sp</i>	3			
74501	<i>Ceratopogonidae</i>	5			
77500	<i>Conchapelopia sp</i>	1			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	1			
77800	<i>Helopelopia sp</i>	1			
84210	<i>Paratendipes albimanus or P. duplicatus</i>	5			
84302	<i>Phaenopsectra punctipes</i>		+		
84315	<i>Phaenopsectra flavipes</i>	1			
84430	<i>Polypedilum (P.) albicorne</i>	1			
84460	<i>Polypedilum (P.) fallax group</i>	2	+		
84520	<i>Polypedilum (Tripodura) halterale group</i>	6	+		
84540	<i>Polypedilum (Tripodura) scalaenum group</i>	1			
85500	<i>Paratanytarsus sp</i>	2			
85615	<i>Rheotanytarsus pellucidus</i>	1	+		
85625	<i>Rheotanytarsus sp</i>	6			
85800	<i>Tanytarsus sp</i>	1			

No. Quantitative Taxa: 21      Total Taxa: 26

No. Qualitative Taxa: 10      ICI: 22

Number of Organisms: 62      Qual EPT: 3

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Bush Creek  
St. Rt. 345

Collection Date: 07/30/2008 River Code: 17-316 RM: 0.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+			
06201	<i>Hyalella azteca</i>	+			
08255	<i>Orconectes rusticus x sanbornii</i>	+			
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+			
11130	<i>Baetis intercalaris</i>	+			
12200	<i>Isonychia sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
17200	<i>Caenis sp</i>	+			
22001	<i>Coenagrionidae</i>	+			
22300	<i>Argia sp</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
50315	<i>Chimarra obscura</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
53501	<i>Hydroptilidae</i>	+			
65800	<i>Berosus sp</i>	+			
69400	<i>Stenelmis sp</i>	+			
74100	<i>Simulium sp</i>	+			
83840	<i>Microtendipes pedellus group</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84540	<i>Polypedilum (Tripodura) scalaenum group</i>	+			
84750	<i>Stictochironomus sp</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
87540	<i>Hemerodromia sp</i>	+			
95100	<i>Physella sp</i>	+			

No. Quantitative Taxa: 0	Total Taxa: 27
No. Qualitative Taxa: 27	ICI:
Number of Organisms: 0	Qual EPT: 11

Ohio EPA/DSW Ecological Assessment Section  
 Macroinvertebrate Collection

Site: Twomile Run  
 at mouth

Collection Date: 07/29/2008 River Code: 17-317 RM: 0.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
07880	<i>Cambarus (Tubericambarus) thomai</i>	+			
11120	<i>Baetis flavistriga</i>	+			
11130	<i>Baetis intercalaris</i>	+			
11200	<i>Callibaetis sp</i>	+			
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+			
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
17200	<i>Caenis sp</i>	+			
23600	<i>Aeshna sp</i>	+			
47600	<i>Sialis sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52315	<i>Diplectrone modesta</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
60900	<i>Peltodytes sp</i>	+			
63300	<i>Hydroporini</i>	+			
63900	<i>Laccophilus sp</i>	+			
67800	<i>Tropisternus sp</i>	+			
68201	<i>Scirtidae</i>	+			
69400	<i>Stenelmis sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
74501	<i>Ceratopogonidae</i>	+			
77120	<i>Ablabesmyia mallochi</i>	+			
77500	<i>Conchapelopia sp</i>	+			
78450	<i>Nilotanytus fimbriatus</i>	+			
79400	<i>Zavreliomyia sp</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
82141	<i>Thienemanniella xena</i>	+			
83840	<i>Microtendipes pedellus group</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84475	<i>Polypedilum (P.) ophioides</i>	+			
85501	<i>Paratanytarsus n.sp 1</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
85752	<i>Sublettea coffmani</i>	+			
85840	<i>Tanytarsus sepp</i>	+			
95100	<i>Physella sp</i>	+			
98200	<i>Pisidium sp</i>	+			

No. Quantitative Taxa: 0            Total Taxa: 40  
 No. Qualitative Taxa: 40            ICI:  
 Number of Organisms: 0            Qual EPT: 12

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Butcherknife Creek  
St. Rt. 345

Collection Date: 07/23/2008 River Code: 17-318 RM: 0.08

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
07880	<i>Cambarus (Tubericambarus) thomai</i>	+			
22001	<i>Coenagrionidae</i>	+			
27500	<i>Somatochlora sp</i>	+			
45300	<i>Sigara sp</i>	+			
47600	<i>Sialis sp</i>	+			
52315	<i>Diplectrona modesta</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
71900	<i>Tipula sp</i>	+			
72700	<i>Anopheles sp</i>	+			
82730	<i>Chironomus (C.) decorus group</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			

No. Quantitative Taxa: 0	Total Taxa: 11
No. Qualitative Taxa: 11	ICI:
Number of Organisms: 0	Qual EPT: 2

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Turkey Run  
Twp. Rd. 49 (upper crossing)

Collection Date: 07/29/2008 River Code: 17-319 RM: 2.80

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+			
11120	<i>Baetis flavistriga</i>	+			
11130	<i>Baetis intercalaris</i>	+			
11150	<i>Pseudocloeon propinquum</i>	+			
13400	<i>Stenacron sp</i>	+			
17200	<i>Caenis sp</i>	+			
21200	<i>Calopteryx sp</i>	+			
23909	<i>Boyeria vinosa</i>	+			
33100	<i>Leuctra sp</i>	+			
50301	<i>Chimarra aterrima</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
68130	<i>Helichus sp</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
69400	<i>Stenelmis sp</i>	+			
70700	<i>Dicranota sp</i>	+			
72340	<i>Dixella sp</i>	+			
72700	<i>Anopheles sp</i>	+			
80001	<i>Orthoclaadiinae</i>	+			
81690	<i>Paratrichocladius sp</i>	+			
82200	<i>Tvetenia bavarica group</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
86401	<i>Atherix lantha</i>	+			

No. Quantitative Taxa: 0	Total Taxa: 25
No. Qualitative Taxa: 25	ICI:
Number of Organisms: 0	Qual EPT: 10

Ohio EPA/DW Ecological Assessment Section  
 Macroinvertebrate Collection

Site: Turkey Run  
 RR bridge near mouth

Collection Date: 07/30/2008 River Code: 17-319 RM: 0.25

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
04686	<i>Placobdella papillifera</i>	+			
07860	<i>Cambarus (Punciticambarus) robustus</i>	+	No. Quantitative Taxa: 0		Total Taxa: 43
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+	No. Qualitative Taxa: 43		ICI:
11014	<i>Acentrella turbida</i>	+	Number of Organisms: 0		Qual EPT: 12
11120	<i>Baetis flavistriga</i>	+			
11130	<i>Baetis intercalaris</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
21300	<i>Hetaerina sp</i>	+			
23909	<i>Boyeria vinosa</i>	+			
24900	<i>Gomphus sp</i>	+			
45900	<i>Notonecta sp</i>	+			
47600	<i>Sialis sp</i>	+			
50315	<i>Chimarra obscura</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52315	<i>Diplectrona modesta</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
68130	<i>Helichus sp</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
69400	<i>Stenelmis sp</i>	+			
74100	<i>Simulium sp</i>	+			
77120	<i>Ablabesmyia mallochi</i>	+			
77500	<i>Conchapelopia sp</i>	+			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	+			
78140	<i>Labrundinia pilosella</i>	+			
79400	<i>Zavrelimyia sp</i>	+			
80360	<i>Corynoneura "celeripes" (sensu Simpson &amp; Bode, 1980)</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
80430	<i>Cricotopus (C.) tremulus group</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
82101	<i>Thienemanniella taurocapita</i>	+			
84210	<i>Paratendipes albimanus or P. duplicatus</i>	+			
84300	<i>Phaenopsectra obediens group</i>	+			
84460	<i>Polypedilum (P.) fallax group</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
85500	<i>Paratanytarsus sp</i>	+			
85615	<i>Rheotanytarsus pellucidus</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
85800	<i>Tanytarsus sp</i>	+			
85821	<i>Tanytarsus glabrescens group sp 7</i>	+			

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Painter Creek  
Twp. Rd. 76

Collection Date: 07/28/2008 River Code: 17-320 RM: 2.50

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
00653	<i>Eunapius fragilis</i>	+			
04685	<i>Placobdella ornata</i>	+			
04686	<i>Placobdella papillifera</i>	+			
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+			
11120	<i>Baetis flavistriga</i>	+			
11430	<i>Dipheter hageni</i>	+			
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
13590	<i>Maccaffertium vicarium</i>	+			
15000	<i>Paraleptophlebia sp</i>	+			
23909	<i>Boyeria vinosa</i>	+			
27500	<i>Somatochlora sp</i>	+			
33100	<i>Leuctra sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
53800	<i>Hydroptila sp</i>	+			
63300	<i>Hydroporini</i>	+			
68130	<i>Helichus sp</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
69400	<i>Stenelmis sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
82200	<i>Tvetenia bavarica group</i>	+			
84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84750	<i>Stictochironomus sp</i>	+			
85500	<i>Paratanytarsus sp</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
85840	<i>Tanytarsus sepp</i>	+			
98600	<i>Sphaerium sp</i>	+			

No. Quantitative Taxa: 0            Total Taxa: 34  
 No. Qualitative Taxa: 34            ICI:  
 Number of Organisms: 0            Qual EPT: 12



Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection

Site: Painter Creek

Collection Date: 08/12/2008 River Code: 17-320 RM: 0.85

Cooperrider Rd. (covered bridge)

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
03360	<i>Plumatella sp</i>	+	79400	<i>Zavreliomyia sp</i>	69
03600	<i>Oligochaeta</i>	32 +	80360	<i>Corynoneura "celeripes" (sensu Simpson &amp; Bode, 1980)</i>	32
07820	<i>Cambarus (Cambarus) sp A</i>	+	80370	<i>Corynoneura lobata</i>	320
11120	<i>Baetis flavistriga</i>	31 +	80410	<i>Cricotopus (C.) sp</i>	69
11130	<i>Baetis intercalaris</i>	179 +	80420	<i>Cricotopus (C.) bicinctus</i>	759 +
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+	81690	<i>Paratrichocladius sp</i>	69 +
11430	<i>Dipheter hageni</i>	2	81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	69
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+	82101	<i>Thienemanniella taurocapita</i>	96 +
11670	<i>Procloeon viridoculare</i>	+	82121	<i>Thienemanniella lobapodema</i>	64
12200	<i>Isonychia sp</i>	1	82141	<i>Thienemanniella xena</i>	64
13400	<i>Stenacron sp</i>	+	82700	<i>Chironomus sp</i>	+
13521	<i>Stenonema femoratum</i>	+	83040	<i>Dicrotendipes neomodestus</i>	+
13561	<i>Maccaffertium pulchellum</i>	+	83840	<i>Microtendipes pedellus group</i>	+
13590	<i>Maccaffertium vicarium</i>	1 +	84210	<i>Paratendipes albimanus or P. duplicatus</i>	+
15000	<i>Paraleptophlebia sp</i>	16	84300	<i>Phaenopsectra obediens group</i>	+
17200	<i>Caenis sp</i>	+	84450	<i>Polypedilum (Uresipedilum) flavum</i>	414 +
21300	<i>Hetaerina sp</i>	1	84470	<i>Polypedilum (P.) illinoense</i>	139 +
23600	<i>Aeshna sp</i>	+	84750	<i>Stictochironomus sp</i>	+
23909	<i>Boyeria vinosa</i>	2 +	85500	<i>Paratanytarsus sp</i>	69
27500	<i>Somatochlora sp</i>	+	85501	<i>Paratanytarsus n.sp 1</i>	69
45000	<i>Hesperocorixa sp</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	206 +
47600	<i>Sialis sp</i>	+	85625	<i>Rheotanytarsus sp</i>	3031 +
50315	<i>Chimarra obscura</i>	1	85800	<i>Tanytarsus sp</i>	69 +
51400	<i>Nyctiophylax sp</i>	+	85802	<i>Tanytarsus curticornis</i>	69
52200	<i>Cheumatopsyche sp</i>	190 +	85821	<i>Tanytarsus glabrescens group sp 7</i>	414 +
52430	<i>Ceratopsyche morosa group</i>	2 +	85840	<i>Tanytarsus sepp</i>	139
54160	<i>Ochrotrichia sp</i>	+	87180	<i>Odontomyia sp (w/ peltate scales)</i>	+
57900	<i>Pycnopsyche sp</i>	+	87540	<i>Hemerodromia sp</i>	18
60900	<i>Peltodytes sp</i>	+	96900	<i>Ferrissia sp</i>	8 +
63300	<i>Hydroporini</i>	+	98600	<i>Sphaerium sp</i>	+
65800	<i>Berosus sp</i>	+	99860	<i>Lampsilis radiata luteola</i>	+
66500	<i>Enochrus sp</i>	+			
66901	<i>Helocombus bifidus</i>	+			
67800	<i>Tropisternus sp</i>	+	No. Quantitative Taxa: 39 Total Taxa: 75		
68130	<i>Helichus sp</i>	2 +	No. Qualitative Taxa: 58 ICI: 48		
68707	<i>Dubiraphia quadrinotata</i>	+	Number of Organisms: 7233 Qual EPT: 15		
68901	<i>Macronychus glabratus</i>	2 +			
69400	<i>Stenelmis sp</i>	3 +			
71100	<i>Hexatoma sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	373 +			
77120	<i>Ablabesmyia mallochi</i>	+			
77500	<i>Conchapelopia sp</i>	139 +			
78655	<i>Procladius (Holotanypus) sp</i>	+			

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Valley Run  
Laurel Hill Rd.

Collection Date: 07/28/2008 River Code: 17-321 RM: 5.40

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+			
03600	<i>Oligochaeta</i>	+			
05900	<i>Lirceus sp</i>	+			
07860	<i>Cambarus (Puncticambarus) robustus</i>	+			
08255	<i>Orconectes rusticus x sanbornii</i>	+			
11130	<i>Baetis intercalaris</i>	+			
11430	<i>Dipheter hageni</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
13590	<i>Maccaffertium vicarium</i>	+			
22001	<i>Coenagrionidae</i>	+			
24900	<i>Gomphus sp</i>	+			
47600	<i>Sialis sp</i>	+			
50301	<i>Chimarra aterrima</i>	+			
51400	<i>Nyctiophylax sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
68901	<i>Macronychus glabratus</i>	+			
69400	<i>Stenelmis sp</i>	+			
74100	<i>Simulium sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	+			
77800	<i>Helopelopia sp</i>	+			
80204	<i>Brillia flavifrons group</i>	+			
82820	<i>Cryptochironomus sp</i>	+			
83840	<i>Microtendipes pedellus group</i>	+			
84460	<i>Polypedilum (P.) fallax group</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84750	<i>Stictochironomus sp</i>	+			
85615	<i>Rheotanytarsus pellucidus</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
85821	<i>Tanytarsus glabrescens group sp 7</i>	+			
85840	<i>Tanytarsus sepp</i>	+			
93900	<i>Elimia sp</i>	+			
98200	<i>Pisidium sp</i>	+			
98600	<i>Sphaerium sp</i>	+			

No. Quantitative Taxa: 0                      Total Taxa: 39  
 No. Qualitative Taxa: 39                      ICI:  
 Number of Organisms: 0                      Qual EPT: 9

Ohio EPA/DSW Ecological Assessment Section  
 Macroinvertebrate Collection

Site: Valley Run  
 Cherry Hill Rd.

Collection Date: 07/29/2008 River Code: 17-321 RM: 3.50

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
00653	<i>Eunapius fragilis</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	+
01801	<i>Turbellaria</i>	+	85625	<i>Rheotanytarsus sp</i>	+
03360	<i>Plumatella sp</i>	+	93900	<i>Elimia sp</i>	+
03600	<i>Oligochaeta</i>	+	98600	<i>Sphaerium sp</i>	+
04687	<i>Placobdella parasitica</i>	+			
05900	<i>Lirceus sp</i>	+	No. Quantitative Taxa: 0		Total Taxa: 48
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+	No. Qualitative Taxa: 48		ICI:
11130	<i>Baetis intercalaris</i>	+	Number of Organisms: 0		Qual EPT: 14
11670	<i>Procloeon viridoculare</i>	+			
12200	<i>Isonychia sp</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
13590	<i>Maccaffertium vicarium</i>	+			
17200	<i>Caenis sp</i>	+			
22001	<i>Coenagrionidae</i>	+			
23909	<i>Boyeria vinosa</i>	+			
50301	<i>Chimarra aterrima</i>	+			
50315	<i>Chimarra obscura</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
53800	<i>Hydroptila sp</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68601	<i>Ancyronyx variegata</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
68901	<i>Macronychus glabratus</i>	+			
69400	<i>Stenelmis sp</i>	+			
71100	<i>Hexatoma sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
74501	<i>Ceratopogonidae</i>	+			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	+			
77800	<i>Helopelopia sp</i>	+			
78140	<i>Labrundinia pilosella</i>	+			
81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	+			
82820	<i>Cryptochironomus sp</i>	+			
83840	<i>Microtendipes pedellus group</i>	+			
84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84475	<i>Polypedilum (P.) ophioides</i>	+			
84750	<i>Stictochironomus sp</i>	+			
84888	<i>Xenochironomus xenolabis</i>	+			

Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection

Site: Valley Run

Collection Date: 08/12/2008 River Code: 17-321 RM: 1.40

Hopewell Indian Rd.

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01320	<i>Hydra sp</i>	7	78450	<i>Nilotanypus fimbriatus</i>	5
03600	<i>Oligochaeta</i>	9 +	80204	<i>Brillia flavifrons group</i>	+
04685	<i>Placobdella ornata</i>	+	80370	<i>Corynoneura lobata</i>	144
05900	<i>Lirceus sp</i>	17 +	80420	<i>Cricotopus (C.) bicinctus</i>	12
06201	<i>Hyaella azteca</i>	+	80430	<i>Cricotopus (C.) tremulus group</i>	12 +
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+	81040	<i>Limnophyes sp</i>	12
11120	<i>Baetis flavistriga</i>	+	81530	<i>Orthocladus (Symposiocladius) lignicola</i>	12
11130	<i>Baetis intercalaris</i>	+	81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	12
11650	<i>Procloeon sp (w/ hindwing pads)</i>	2	82101	<i>Thienemanniella taurocapita</i>	5
12200	<i>Isonychia sp</i>	2 +	82121	<i>Thienemanniella lobapodema</i>	51 +
13100	<i>Nixe sp</i>	+	82141	<i>Thienemanniella xena</i>	8
13400	<i>Stenacron sp</i>	45 +	82300	<i>Xylotopus par</i>	+
13521	<i>Stenonema femoratum</i>	5 +	82820	<i>Cryptochironomus sp</i>	+
13590	<i>Maccaffertium vicarium</i>	382 +	83040	<i>Dicrotendipes neomodestus</i>	36
14950	<i>Leptophlebia sp or Paraleptophlebia sp</i>	6	83820	<i>Microtendipes "caelum" (sensu Simpson &amp; Bode, 1980)</i>	+
17200	<i>Caenis sp</i>	+	83840	<i>Microtendipes pedellus group</i>	36
21200	<i>Calopteryx sp</i>	1 +	84210	<i>Paratendipes albimanus or P. duplicatus</i>	12
21300	<i>Hetaerina sp</i>	+	84302	<i>Phaenopsectra punctipes</i>	+
22001	<i>Coenagrionidae</i>	8 +	84315	<i>Phaenopsectra flavipes</i>	+
23909	<i>Boyeria vinosa</i>	2 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	+
24900	<i>Gomphus sp</i>	+	84460	<i>Polypedilum (P.) fallax group</i>	60 +
52200	<i>Cheumatopsyche sp</i>	16 +	84470	<i>Polypedilum (P.) illinoense</i>	48 +
52430	<i>Ceratopsyche morosa group</i>	+	84475	<i>Polypedilum (P.) ophioides</i>	48
53800	<i>Hydroptila sp</i>	8	84520	<i>Polypedilum (Tripodura) halterale group</i>	+
59724	<i>Triaenodes injustus</i>	+	84540	<i>Polypedilum (Tripodura) scalaenum group</i>	12 +
63300	<i>Hydroporini</i>	+	84700	<i>Stenochironomus sp</i>	+
63900	<i>Laccophilus sp</i>	+	84750	<i>Stictochironomus sp</i>	+
66500	<i>Enochrus sp</i>	+	84790	<i>Tribelos fuscicorne</i>	+
67000	<i>Helophorus sp</i>	+	85500	<i>Paratanytarsus sp</i>	48
67500	<i>Laccobius sp</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	24 +
67700	<i>Paracymus sp</i>	+	85625	<i>Rheotanytarsus sp</i>	480 +
68601	<i>Ancyronyx variegata</i>	1 +	85800	<i>Tanytarsus sp</i>	12 +
68707	<i>Dubiraphia quadrinotata</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	216 +
68708	<i>Dubiraphia vittata group</i>	+	85840	<i>Tanytarsus sepp</i>	60
68901	<i>Macronychus glabratus</i>	2 +	87540	<i>Hemerodromia sp</i>	29
69400	<i>Stenelmis sp</i>	1 +	93900	<i>Elimia sp</i>	+
72340	<i>Dixella sp</i>	+	96900	<i>Ferrissia sp</i>	3
72700	<i>Anopheles sp</i>	+	98600	<i>Sphaerium sp</i>	1 +
74673	<i>Atrichopogon websteri</i>	278	99860	<i>Lampsilis radiata luteola</i>	+
77120	<i>Ablabesmyia mallochi</i>	5 +			
77500	<i>Conchapelopia sp</i>	48 +			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	12 +	No. Quantitative Taxa: 48	Total Taxa: 83	
78140	<i>Labrundinia pilosella</i>	18	No. Qualitative Taxa: 61	ICI: 46	
78401	<i>Natarsia species A (sensu Roback, 1978)</i>	+	Number of Organisms: 2273	Qual EPT: 11	

Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection

Site: Ogg Creek  
St. Rt. 555

Collection Date: 08/13/2008 River Code: 17-325 RM: 2.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	2	84300	<i>Phaenopsectra obediens group</i>	31
03360	<i>Plumatella sp</i>	+	84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+
03600	<i>Oligochaeta</i>	6 +	84460	<i>Polypedilum (P.) fallax group</i>	41
06700	<i>Crangonyx sp</i>	1	84470	<i>Polypedilum (P.) illinoense</i>	+
07860	<i>Cambarus (Puncticambarus) robustus</i>	+	84480	<i>Polypedilum (P.) laetum group</i>	19
08250	<i>Orconectes (Procericambarus) rusticus</i>	+	84790	<i>Tribelos fuscicorne</i>	10 +
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+	85230	<i>Cladotanytarsus mancus group</i>	+
11120	<i>Baetis flavistriga</i>	+	85400	<i>Micropsectra sp</i>	+
11125	<i>Pseudocloeon frondale</i>	+	85500	<i>Paratanytarsus sp</i>	396
11651	<i>Procloeon sp (w/o hindwing pads)</i>	10 +	85501	<i>Paratanytarsus n.sp 1</i>	10
13400	<i>Stenacron sp</i>	1	85625	<i>Rheotanytarsus sp</i>	19 +
13521	<i>Stenonema femoratum</i>	3 +	85800	<i>Tanytarsus sp</i>	41 +
16200	<i>Eurylophella sp</i>	6	85802	<i>Tanytarsus curticornis</i>	19 +
17200	<i>Caenis sp</i>	+	85818	<i>Tanytarsus glabrescens group sp 4</i>	19
21300	<i>Hetaerina sp</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	122
22001	<i>Coenagrionidae</i>	+	85840	<i>Tanytarsus sepp</i>	60
23909	<i>Boyeria vinosa</i>	+	87540	<i>Hemerodromia sp</i>	2
28908	<i>Perithemis tenera</i>	+	94400	<i>Fossaria sp</i>	+
33100	<i>Leuctra sp</i>	+	95100	<i>Physella sp</i>	2 +
34130	<i>Acroneuria frisoni</i>	+	96900	<i>Ferrissia sp</i>	2
47600	<i>Sialis sp</i>	+			
50301	<i>Chimarra aterrima</i>	+	No. Quantitative Taxa: 33		Total Taxa: 64
52200	<i>Cheumatopsyche sp</i>	4 +	No. Qualitative Taxa: 44		ICI: 40
57400	<i>Neophylax sp</i>	+	Number of Organisms: 1325		Qual EPT: 11
57900	<i>Pycnopsyche sp</i>	+			
63300	<i>Hydroporini</i>	+			
67800	<i>Tropisternus sp</i>	+			
69400	<i>Stenelmis sp</i>	+			
74100	<i>Simulium sp</i>	+			
74501	<i>Ceratopogonidae</i>	+			
77115	<i>Ablabesmyia janta</i>	10			
77120	<i>Ablabesmyia mallochi</i>	10 +			
77500	<i>Conchapelopia sp</i>	10 +			
78140	<i>Labrundinia pilosella</i>	61			
78401	<i>Natarsia species A (sensu Roback, 1978)</i>	+			
78402	<i>Natarsia baltimoreus</i>	+			
79400	<i>Zavrelimyia sp</i>	122 +			
80370	<i>Corynoneura lobata</i>	212			
82121	<i>Thienemanniella lobapodema</i>	4			
82730	<i>Chironomus (C.) decorus group</i>	+			
83003	<i>Dicrotendipes fumidus</i>	10			
83040	<i>Dicrotendipes neomodestus</i>	+			
83840	<i>Microtendipes pedellus group</i>	50 +			
83900	<i>Nilothauma sp</i>	10			

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Ogg Creek  
at mouth

Collection Date: 08/13/2008 River Code: 17-325 RM: 0.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
03700	<i>Naididae</i>	+			
03900	<i>Tubificidae</i>	+			
11200	<i>Callibaetis sp</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
17200	<i>Caenis sp</i>	+			
22001	<i>Coenagrionidae</i>	+			
63900	<i>Laccophilus sp</i>	+			
65800	<i>Berosus sp</i>	+			
69400	<i>Stenelmis sp</i>	+			
71100	<i>Hexatoma sp</i>	+			
74501	<i>Ceratopogonidae</i>	+			
77115	<i>Ablabesmyia janta</i>	+			
77120	<i>Ablabesmyia mallochi</i>	+			
78401	<i>Natarsia species A (sensu Roback, 1978)</i>	+			
78402	<i>Natarsia baltimoreus</i>	+			
82770	<i>Chironomus (C.) riparius group</i>	+			
82820	<i>Cryptochironomus sp</i>	+			
83002	<i>Dicrotendipes modestus</i>	+			
83040	<i>Dicrotendipes neomodestus</i>	+			
83158	<i>Endochironomus nigricans</i>	+			
95100	<i>Physella sp</i>	+			
95907	<i>Gyraulus (Torquis) parvus</i>	+			

No. Quantitative Taxa: 0	Total Taxa: 23
No. Qualitative Taxa: 23	ICI:
Number of Organisms: 0	Qual EPT: 4

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Trib. to Moxahala Creek (RM 24.79)  
St. Rt. 13

Collection Date: 08/14/2008 River Code: 17-326 RM: 0.33

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Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
82730	<i>Chironomus (C.) decorus group</i>	+			

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No. Quantitative Taxa: 0      Total Taxa: 1  
No. Qualitative Taxa: 1      ICI:  
Number of Organisms: 0      Qual EPT: 0

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Trib. to Jonathan Creek (RM 13.74)  
Snook Rd.

Collection Date: 07/23/2008 River Code: 17-337 RM: 0.30

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+			
05900	<i>Lirceus sp</i>	+			
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+			
11120	<i>Baetis flavistriga</i>	+			
11130	<i>Baetis intercalaris</i>	+			
11430	<i>Dipheter hageni</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
15000	<i>Paraleptophlebia sp</i>	+			
17200	<i>Caenis sp</i>	+			
23909	<i>Boyeria vinosa</i>	+			
25510	<i>Stylogomphus albistylus</i>	+			
43205	<i>Nepa apiculata</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
68901	<i>Macronychus glabratus</i>	+			
69400	<i>Stenelmis sp</i>	+			
72340	<i>Dixella sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	+			
77800	<i>Helopelopia sp</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84750	<i>Stictochironomus sp</i>	+			
85615	<i>Rheotanytarsus pellucidus</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			

No. Quantitative Taxa: 0                      Total Taxa: 36  
 No. Qualitative Taxa: 36                      ICI:  
 Number of Organisms: 0                      Qual EPT: 11



**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Trib. to Jonathan Creek (RM 17.55)  
Twp. Rd. 92A

Collection Date: 07/23/2008 River Code: 17-338 RM: 0.10

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Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
07860	<i>Cambarus (Puncticambarus) robustus</i>	+			
87250	<i>Odontomyia (Odontomyiina) sp</i>	+			

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No. Quantitative Taxa: 0	Total Taxa: 2
No. Qualitative Taxa: 2	ICI:
Number of Organisms: 0	Qual EPT: 0

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Trib. to Jonathan Creek (RM 19.47)  
at mouth

Collection Date: 07/28/2008 River Code: 17-339 RM: 0.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+			
04685	<i>Placobdella ornata</i>	+			
05900	<i>Lirceus sp</i>	+			
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+			
11130	<i>Baetis intercalaris</i>	+			
11150	<i>Pseudocloeon propinquum</i>	+			
11430	<i>Dipheter hageni</i>	+			
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
13590	<i>Maccaffertium vicarium</i>	+			
17200	<i>Caenis sp</i>	+			
22001	<i>Coenagrionidae</i>	+			
23909	<i>Boyeria vinosa</i>	+			
47600	<i>Sialis sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52450	<i>Ceratopsyche sparna</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
60400	<i>Gyrinus sp</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
69400	<i>Stenelmis sp</i>	+			
72340	<i>Dixella sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
77800	<i>Helopelopia sp</i>	+			
79400	<i>Zavreliomyia sp</i>	+			
80410	<i>Cricotopus (C.) sp</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	+			
82121	<i>Thienemanniella lobapodema</i>	+			
82141	<i>Thienemanniella xena</i>	+			
82730	<i>Chironomus (C.) decorus group</i>	+			
84210	<i>Paratendipes albimanus or P. duplicatus</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
85615	<i>Rheotanytarsus pellucidus</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
87540	<i>Hemerodromia sp</i>	+			

No. Quantitative Taxa: 0      Total Taxa: 41  
 No. Qualitative Taxa: 41      ICI:  
 Number of Organisms: 0      Qual EPT: 12

Ohio EPA/DW Ecological Assessment Section  
 Macroinvertebrate Collection

Site: Bowling Green Run  
 Boundaries Rd.

Collection Date: 07/28/2008 River Code: 17-340 RM: 0.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
05900	<i>Lirceus sp</i>	+	85625	<i>Rheotanytarsus sp</i>	+
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+	93900	<i>Elimia sp</i>	+
11120	<i>Baetis flavistriga</i>	+	95100	<i>Physella sp</i>	+
11130	<i>Baetis intercalaris</i>	+	96900	<i>Ferrissia sp</i>	+
11430	<i>Dipheter hageni</i>	+	98200	<i>Pisidium sp</i>	+
13400	<i>Stenacron sp</i>	+	98600	<i>Sphaerium sp</i>	+
13521	<i>Stenonema femoratum</i>	+			
13590	<i>Maccaffertium vicarium</i>	+	No. Quantitative Taxa: 0		Total Taxa: 50
22001	<i>Coenagrionidae</i>	+	No. Qualitative Taxa: 50		ICI:
23600	<i>Aeshna sp</i>	+	Number of Organisms: 0		Qual EPT: 11
23909	<i>Boyeria vinosa</i>	+			
47600	<i>Sialis sp</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
53800	<i>Hydroptila sp</i>	+			
60400	<i>Gyrinus sp</i>	+			
60900	<i>Peltodytes sp</i>	+			
63900	<i>Laccophilus sp</i>	+			
67500	<i>Laccobius sp</i>	+			
67700	<i>Paracymus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
69210	<i>Optioservus ampliatus</i>	+			
69400	<i>Stenelmis sp</i>	+			
71100	<i>Hexatoma sp</i>	+			
72340	<i>Dixella sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	+			
78140	<i>Labrundinia pilosella</i>	+			
79300	<i>Trissopelopia ogemawi</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	+			
82730	<i>Chironomus (C.) decorus group</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84475	<i>Polypedilum (P.) ophioides</i>	+			
84520	<i>Polypedilum (Tripodura) halterale group</i>	+			
84750	<i>Stictochironomus sp</i>	+			
85615	<i>Rheotanytarsus pellucidus</i>	+			

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Trib. to Moxahala Creek (RM 22.56)  
St. Rt. 13

Collection Date: 08/14/2008 River Code: 17-341 RM: 0.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
07860	<i>Cambarus (Puncticambarus) robustus</i>	+			
08260	<i>Orconectes (Crockerinus) sanbornii sanbornii</i>	+			
17200	<i>Caenis sp</i>	+			
47600	<i>Sialis sp</i>	+			
52315	<i>Diplectrona modesta</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
74100	<i>Simulium sp</i>	+			
77800	<i>Helopelopia sp</i>	+			
78200	<i>Larsia sp</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
82730	<i>Chironomus (C.) decorus group</i>	+			
82820	<i>Cryptochironomus sp</i>	+			
83003	<i>Dicrotendipes fumidus</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
85800	<i>Tanytarsus sp</i>	+			
85840	<i>Tanytarsus sepp</i>	+			
89704	<i>Limnophora aequifrons</i>	+			

No. Quantitative Taxa: 0                      Total Taxa: 19

No. Qualitative Taxa: 19                      ICI:

Number of Organisms: 0                      Qual EPT: 3

**Ohio EPA/DSW Ecological Assessment Section  
Macroinvertebrate Collection**

Site: Painter Run  
at mouth

Collection Date: 07/29/2008 River Code: 17-343 RM: 0.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+			
03301	<i>Plumatellidae</i>	+			
08255	<i>Orconectes rusticus x sanbornii</i>	+			
11130	<i>Baetis intercalaris</i>	+			
22001	<i>Coenagrionidae</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
65800	<i>Berosus sp</i>	+			
74100	<i>Simulium sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
77800	<i>Helopelopia sp</i>	+			
80350	<i>Corynoneura sp</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
81690	<i>Paratrichocladius sp</i>	+			
82101	<i>Thienemanniella taurocapita</i>	+			
82141	<i>Thienemanniella xena</i>	+			
82730	<i>Chironomus (C.) decorus group</i>	+			
82820	<i>Cryptochironomus sp</i>	+			
83820	<i>Microtendipes "caelum" (sensu Simpson &amp; Bode, 1980)</i>	+			
84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84470	<i>Polypedilum (P.) illinoense</i>	+			
84520	<i>Polypedilum (Tripodura) halterale group</i>	+			
85500	<i>Paratanytarsus sp</i>	+			
85615	<i>Rheotanytarsus pellucidus</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
85821	<i>Tanytarsus glabrescens group sp 7</i>	+			
87540	<i>Hemerodromia sp</i>	+			

No. Quantitative Taxa: 0            Total Taxa: 27  
 No. Qualitative Taxa: 27            ICI:  
 Number of Organisms: 0            Qual EPT: 2

Appendix Table 12. The Invertebrate Community Index (ICI) metric and scores for macroinvertebrate sampling sites in the Moxahala Creek study area, 2008. Page A162

River Mile	Drainage Area (sq mi)	Number of				Percent:					Qual. EPT	Eco-region	ICI	
		Total Taxa	Mayfly Taxa	Caddisfly Taxa	Dipteran Taxa	Mayflies	Caddisflies	Tanytarsini	Other Dipt/NI	Tolerant Organisms				
<b>Moxahala Creek (17-300)</b>														
Year: 2008														
13.40	75.0	6(0)	0(0)	0(0)	6(0)	0.0(0)	0.0(0)	0.0(0)	100(0)	83.3(0)	1(0)	4	0	
<b>Black Fork (17-308)</b>														
Year: 2008														
2.50	23.0	17(2)	1(0)	1(2)	9(2)	1.1(2)	1.1(2)	0.0(0)	93.5(0)	62.4(0)	2(0)	4	10	
1.93	24.4	7(0)	0(0)	0(0)	6(0)	0.0(0)	0.0(0)	0.0(0)	91.7(0)	41.7(0)	1(0)	4	0	
<b>Jonathan Creek (17-310)</b>														
Year: 2008														
22.40	27.4	48(6)	4(2)	2(4)	26(6)	0.2(2)	1.5(2)	55.4(6)	41.9(4)	6.1(6)	10(4)	3	42	
17.53	70.0	42(6)	5(2)	1(2)	27(6)	2.6(2)	0.2(2)	9.5(2)	86.3(0)	41.6(0)	14(6)	3	28	
12.20	103.0	37(4)	9(6)	3(4)	19(4)	24.6(4)	4.4(2)	44.2(6)	24.8(6)	4.4(6)	11(4)	4	46	
7.60	125.0	34(4)	7(4)	2(2)	18(4)	11.2(2)	0.3(2)	59.9(6)	28.4(4)	3.2(6)	16(6)	4	40	
3.30	150.0	41(6)	8(4)	3(4)	20(6)	5.7(2)	2.0(2)	37.9(6)	52.2(2)	9.9(2)	12(4)	4	38	
1.10	193.0	41(6)	5(2)	6(6)	22(6)	1.7(2)	8.0(2)	6.4(2)	81.1(0)	3.3(6)	4(0)	4	32	
<b>Buckeye Fork (17-315)</b>														
Year: 2008														
1.50	22.5	21(2)	2(0)	1(2)	15(4)	3.2(2)	1.6(2)	16.1(4)	54.8(2)	14.5(4)	3(0)	4	22	
<b>Painter Creek (17-320)</b>														
Year: 2008														
0.85	17.8	39(6)	6(4)	3(6)	23(6)	3.2(2)	2.7(4)	56.2(6)	37.8(4)	13.0(4)	15(6)	3	48	
<b>Valley Run (17-321)</b>														
Year: 2008														
1.40	26.4	48(6)	6(4)	2(4)	29(6)	19.4(4)	1.1(2)	37.0(6)	41.9(4)	5.8(6)	11(4)	3	46	
<b>Ogg Creek (17-325)</b>														
Year: 2008														
2.10	6.1	33(4)	4(2)	1(4)	23(6)	1.5(2)	0.3(2)	51.8(6)	46.4(2)	3.8(6)	11(6)	4	40	

Appendix Table 13. Methods, Biosurvey Background Information, and Notice to Users

## METHODS

All chemical, physical, and biological field, EPA laboratory, data processing, and data analysis methods and procedures adhere to those specified in the Manual of Ohio EPA Surveillance Methods and Quality Assurance Practices (Ohio Environmental Protection Agency 2006d), Manual of Laboratory Operating Procedures, Volumes I-IV (Ohio EPA 2002), Biological Criteria for the Protection of Aquatic Life, Volumes II-III (Ohio Environmental Protection Agency 1987b, 1989a, 1989b, 2006a, 2006b), The Qualitative Habitat Evaluation Index (QHEI); Rationale, Methods, and Application (Rankin 1989, Ohio EPA 2006c) for habitat assessment, and Ohio EPA Sediment Sampling Guide and Methodologies (Ohio EPA 2001).

### Determining Use Attainment

Use attainment status is a term describing the degree to which environmental indicators are either above or below criteria specified by the Ohio Water Quality Standards (WQS; Ohio Administrative Code 3745-1). Assessing aquatic use attainment status involves a primary reliance on the Ohio EPA biological criteria (OAC 3745-1-07; Table 7-15). These are confined to ambient assessments and apply to rivers and streams outside of mixing zones. Numerical biological criteria are based on multimetric biological indices including the Index of Biotic Integrity (IBI) and modified Index of Well-Being (MIwb), indices measuring the response of the fish community, and the Invertebrate Community Index (ICI), which indicates the response of the macroinvertebrate community. Three attainment status results are possible at each sampling location - full, partial, or non-attainment. Full attainment means that all of the applicable indices meet the biocriteria. Partial attainment means that one or more of the applicable indices fails to meet the biocriteria. Non-attainment means that none of the applicable indices meet the biocriteria or one of the organism groups reflects poor or very poor performance. An aquatic life use attainment table (Table 1) is constructed based on the sampling results and is arranged from upstream to downstream and includes the sampling locations indicated by river mile, the applicable biological indices, the use attainment status (*i.e.*, full, partial, or non), the Qualitative Habitat Evaluation Index (QHEI), and a sampling location description. All biological results were compared to WWH or EWH biocriteria for the Western Allegheny Plateau ecoregion.

### Stream Habitat Evaluation

Physical habitat is evaluated using the Qualitative Habitat Evaluation Index (QHEI) developed by the Ohio EPA for streams and rivers in Ohio (Rankin 1989, 1995). Various attributes of the available habitat are scored based on their overall importance to the establishment of viable, diverse aquatic faunas. Evaluations of type and quality of substrate, amount of instream cover, channel morphology, extent of riparian canopy, pool and riffle development and quality, and stream gradient are among the metrics used to evaluate the characteristics of a stream segment, not just the characteristics of a single sampling site. As such, individual sites may have much poorer physical habitat due to a localized disturbance yet still support aquatic communities closely resembling those sampled at adjacent sites with better habitat, provided water quality conditions are similar. QHEI scores from hundreds of segments around the state have indicated that values higher than 60 were generally conducive to the establishment of warmwater faunas while those which scored in excess of 75-80 often typify habitat conditions which have the ability to support exceptional faunas.

### Sediment and Surface Water Assessment

Fine grain sediment samples were collected multi-incrementally in the upper four inches of bottom material at each location using decontaminated stainless steel scoops. Decontamination of sediment sampling equipment followed the procedures outlined in the Ohio EPA sediment sampling guidance manual (Ohio EPA 2001). Sediment incremental samples were homogenized in stainless steel pans, transferred into glass jars with teflon lined lids, placed on ice (to maintain 4°C) in a cooler, and delivered to Ohio EPA's Environmental Services laboratory. Sediment data is reported on a dry weight basis. Surface water samples were collected directly into appropriate containers, preserved and delivered to Ohio EPA's Environmental Services laboratory. Surface water samples were collected three to five times from each location from the upper 12 inches of water. Collected water was preserved using appropriate methods, as outlined in Parts II and III of the Manual of Ohio EPA Surveillance Methods and Quality Assurance Practices (Ohio EPA 2006d). Bacteriological samples were collected three to five times at each location. Bacteriological samples were collected directly from the river into sterilized polyethylene containers, cooled to 4°C, and transported to the Ohio EPA laboratory for analysis within 6 hours of sample collection. All samples were analyzed for fecal coliform and *E. coli* bacteria using U.S.EPA approved methods.

Surface water samples were evaluated using comparisons to Ohio Water Quality Standards criteria, reference conditions, or published literature. Sediment evaluations were conducted using guidelines established in MacDonald *et al.* (2000), along with a comparison of metals results to Ohio Sediment Reference Values (Ohio EPA 2003).



### **Macroinvertebrate Community Assessment**

Macroinvertebrates were collected from artificial substrates and from the natural habitats. The artificial substrate collection provided quantitative data and consisted of a composite sample of five modified Hester-Dendy multiple-plate samplers colonized for six weeks. At the time of the artificial substrate collection, a qualitative multihabitat composite sample was also collected. This sampling effort consisted of an inventory of all observed macroinvertebrate taxa from the natural habitats at each site with no attempt to quantify populations other than notations on the predominance of specific taxa or taxa groups within major macrohabitat types (e.g., riffle, run, pool, margin). Due to marginal flow conditions, most watershed sites were collected using only qualitative sampling. Detailed discussion of macroinvertebrate field and laboratory procedures is contained in Biological Criteria for the Protection of Aquatic Life: Volume III, Standardized Biological Field Sampling and Laboratory Methods for Assessing Fish and Macroinvertebrate Communities (Ohio EPA 1989a), including errata updates.

### **Fish Community Assessment**

Fish were sampled once or twice at each site using pulsed DC electrofishing methods. The Scioto Brush Creek basin was sampled using either the boat electrofishing method, with sampling distances of 500 meters or the wading electrofishing method with sampling distances of 100 to 200 meters. Fish were processed in the field, and included identifying each individual to species, counting, weighing (at sites greater than 20 sq. mi.), and recording any external abnormalities. Discussion of the fish community assessment methodology used in this report is contained in Biological Criteria for the Protection of Aquatic Life: Volume III, Standardized Biological Field Sampling and Laboratory Methods for Assessing Fish and Macroinvertebrate Communities (Ohio EPA 1989a).

### **Field Instrument Calibration**

Field instruments are calibrated using manufacturer recommended procedures along with procedures noted in the Manual of Ohio EPA Surveillance Methods and Quality Assurance Practices (2006d) and Biological Criteria for the Protection of Aquatic Life, Volume III (1989b). pH, conductivity, and dissolved oxygen meters were calibrated daily before the start of field work. Laser rangefinders, used to measure sampling distance, were calibrated once at the Groveport Field Facility prior to summer field sampling activities. Fish weighing scales were checked against certified weights once per week during the field season. Calibration of pH, conductivity, dissolved oxygen, fish weighing scales, and laser rangefinders were recorded in a logbook maintained by Ohio EPA, Ecological Assessment Section and Southeast District Office.

### **Causal Associations**

Using the results, conclusions, and recommendations of this report requires an understanding of the methodology used to determine the use attainment status and assigning probable causes and sources of impairment. The identification of impairment in rivers and streams is straightforward - the numerical biological criteria are used to judge aquatic life use attainment and impairment (partial and non-attainment). The rationale for using the biological criteria, within a weight of evidence framework, has been extensively discussed elsewhere (Karr *et al.* 1986; Karr 1991; Ohio EPA 1987a,b; Yoder 1989; Miner and Borton 1991; Yoder 1991; Yoder 1995). Describing the causes and sources associated with observed impairments relies on an interpretation of multiple lines of evidence including water chemistry data, sediment data, habitat data, effluent data, land use data, and biological results (Yoder and Rankin 1995). Thus the assignment of principal causes and sources of impairment in this report represent the association of impairments (based on response indicators) with stressor and exposure indicators. The reliability of the identification of probable causes and sources is increased where many such prior associations have been identified, or have been experimentally or statistically linked together. The ultimate measure of success in water resource management is the restoration of lost or damaged ecosystem attributes including aquatic community structure and function. While there have been criticisms of misapplying the metaphor of ecosystem "health" compared to human patient "health" (Suter 1993), in this document we are referring to the process for evaluating biological integrity and causes or sources associated with observed impairments, not whether human health and ecosystem health are analogous concepts.

## BIOSURVEY BACKGROUND INFORMATION

### *What is a Biological and Water Quality Survey?*

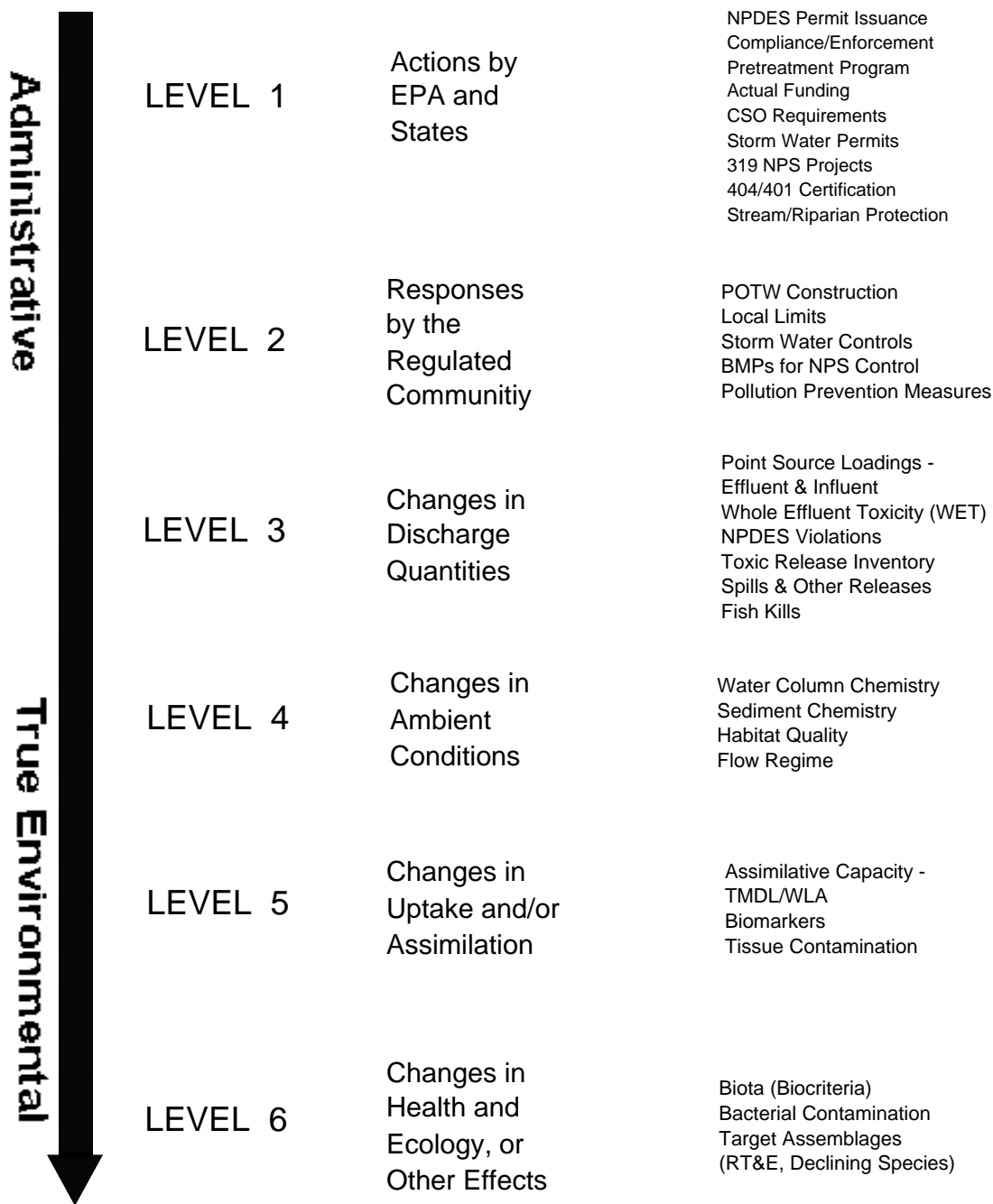
A biological and water quality survey, or “biosurvey,” is an interdisciplinary monitoring effort coordinated on a waterbody specific or watershed scale. This effort may involve a relatively simple setting focusing on one or two small streams, one or two principal stressors, and a handful of sampling sites or a much more complex effort including entire drainage basins, multiple and overlapping stressors, and tens of sites. Each year Ohio EPA conducts biosurveys in 4-5 watersheds study areas with an aggregate total of 250-300 sampling sites.

The Ohio EPA employs biological, chemical, and physical monitoring and assessment techniques in biosurveys in order to meet three major objectives: 1) determine the extent to which use designations assigned in the Ohio Water Quality Standards (WQS) are either attained or not attained; 2) determine if use designations assigned to a given water body are appropriate and attainable; and 3) determine if any changes in key ambient biological, chemical, or physical indicators have taken place over time, particularly before and after the implementation of point source pollution controls or best management practices. The data gathered by a biosurvey is processed, evaluated, and synthesized in a biological and water quality report. Each biological and water quality study contains a summary of major findings and recommendations for revisions to WQS, future monitoring needs, or other actions which may be needed to resolve existing impairment of designated uses. While the principal focus of a biosurvey is on the status of aquatic life uses, the status of other uses such as recreation and water supply, as well as human health concerns, are also addressed.

The findings and conclusions of a biological and water quality study may factor into regulatory actions taken by Ohio EPA (e.g., NPDES permits, Director’s Orders, the Ohio Water Quality Standards [OAC 3745-1], Water Quality Permit Support Documents [WQPSDs]), and are eventually incorporated into State Water Quality Management Plans, the Ohio Nonpoint Source Assessment, and the biennial Integrated Water Quality Monitoring and Assessment Report (305[b] and 303[d]).

### *Hierarchy of Indicators*

A carefully conceived ambient monitoring approach, using cost-effective indicators consisting of ecological, chemical, and toxicological measures, can ensure that all relevant pollution sources are judged objectively on the basis of environmental results. Ohio EPA relies on a tiered approach in attempting to link the results of administrative activities with true environmental measures. This integrated approach includes a hierarchical continuum from administrative to true environmental indicators (Figure 1). The six “levels” of indicators include: 1) actions taken by regulatory agencies (permitting, enforcement, grants); 2) responses by the regulated community (treatment works, pollution prevention); 3) changes in discharged quantities (pollutant loadings); 4) changes in ambient conditions (water quality, habitat); 5) changes in uptake and/or assimilation (tissue contamination, biomarkers, wasteload allocation); and, 6) changes in health, ecology, or other effects (ecological condition, pathogens). In this process the results of administrative activities (levels 1 and 2) can be linked to efforts to improve water quality (levels 3, 4, and 5) which should translate into the environmental “results” (level 6). Thus, the aggregate effect of billions of dollars spent on water pollution control since the early 1970s can now be determined with quantifiable measures of environmental condition. Superimposed on this hierarchy is the concept of stressor, exposure, and response indicators. *Stressor* indicators generally include activities which have the potential to degrade the aquatic environment such as pollutant discharges (permitted and unpermitted), land use effects, and habitat modifications. *Exposure* indicators are those which measure the effects of stressors and can include whole effluent toxicity tests, tissue residues, and biomarkers, each of which provides evidence of biological exposure to a stressor or bioaccumulative agent. *Response* indicators are generally composite measures of the cumulative effects of stress and exposure and include the more direct measures of community and population response that are represented here by the biological indices which comprise Ohio’s biological criteria. Other response indicators could include target assemblages, i.e., rare, threatened, endangered, special status, and declining species or bacterial levels which serve as surrogates for the recreation uses. These indicators represent the essential technical elements for watershed-based management approaches. The key, however, is to use the different indicators *within* the roles which are most appropriate for each.



*Figure 1. Hierarchy of administrative and environmental indicators which can be used for water quality management activities such as monitoring and assessment, reporting, and the evaluation of overall program effectiveness. This is patterned after a model developed by the U.S. EPA.*

Describing the causes and sources associated with observed impairments revealed by the biological criteria and linking this with pollution sources involves an interpretation of multiple lines of evidence including water chemistry data, sediment data, habitat data, effluent data, biomonitoring results, land use data, and biological response signatures within the biological data itself. Thus the assignment of principal causes and sources of impairment represents the association of impairments (defined by response indicators) with stressor and exposure indicators. The principal reporting venue for this process on a watershed or subbasin scale is a biological and water quality report. These reports then provide the foundation for aggregated assessments such as the Integrated Water Quality Monitoring and Assessment Report (305[b] and 303[d]), the Ohio Nonpoint Source Assessment, and other technical bulletins.

*Ohio Water Quality Standards: Designated Aquatic Life Use*

The Ohio Water Quality Standards (WQS; Ohio Administrative Code 3745-1) consist of designated uses and chemical, physical, and biological criteria designed to represent measurable properties of the environment that are consistent with the goals specified by each use designation. Use designations consist of two broad groups, aquatic life and non-aquatic life uses. In applications of the Ohio WQS to the management of water resource issues in Ohio's rivers and streams, the aquatic life use criteria frequently result in the most stringent protection and restoration requirements, hence their emphasis in biological and water quality reports. Also, an emphasis on protecting for aquatic life generally results in water quality suitable for all uses. The five different aquatic life uses currently defined in the Ohio WQS are described as follows:

- 1) *Warmwater Habitat (WWH)* - this use designation defines the "typical" warmwater assemblage of aquatic organisms for Ohio rivers and streams; *this use represents the principal restoration target for the majority of water resource management efforts in Ohio.*
- 2) *Exceptional Warmwater Habitat (EWH)* - this use designation is reserved for waters which support "unusual and exceptional" assemblages of aquatic organisms which are characterized by a high diversity of species, particularly those which are highly intolerant and/or rare, threatened, endangered, or special status (*i.e.*, declining species); *this designation represents a protection goal for water resource management efforts dealing with Ohio's best water resources.*
- 3) *Coldwater Habitat (CWH)* - this use is intended for waters which support assemblages of cold water organisms and/or those which are stocked with salmonids with the intent of providing a put-and-take fishery on a year round basis which is further sanctioned by the Ohio DNR, Division of Wildlife; this use should not be confused with the Seasonal Salmonid Habitat (SSH) use which applies to the Lake Erie tributaries which support periodic "runs" of salmonids during the spring, summer, and/or fall.
- 4) *Modified Warmwater Habitat (MWH)* - this use applies to streams and rivers which have been subjected to extensive, maintained, and essentially permanent hydromodifications such that the biocriteria for the WWH use are not attainable *and where the activities have been sanctioned by state or federal law*; the representative aquatic assemblages are generally composed of species which are tolerant to low dissolved oxygen, silt, nutrient enrichment, and poor quality habitat.
- 5) *Limited Resource Water (LRW)* - this use applies to small streams (usually <3 mi<sup>2</sup> drainage area) and other water courses which have been irretrievably altered to the extent that no appreciable assemblage of aquatic life can be supported; such waterways generally include small streams in extensively urbanized areas, those which lie in watersheds with extensive drainage modifications, those which completely lack water on a recurring annual basis (*i.e.*, true ephemeral streams), or other irretrievably altered waterways.

Chemical, physical, and/or biological criteria are generally assigned to each use designation in accordance with the broad goals defined by each. As such the system of use designations employed in the Ohio WQS constitutes a "tiered" approach in that varying and graduated levels of protection are provided by each. This hierarchy is especially apparent for parameters such as dissolved oxygen, ammonia-nitrogen, temperature, and the biological criteria. For other parameters such as heavy metals, the technology to construct an equally graduated set of criteria has been lacking, thus the same water quality criteria may apply to two or three different use designations.

*Ohio Water Quality Standards: Non-Aquatic Life Uses*

In addition to assessing the appropriateness and status of aquatic life uses, each biological and water quality survey also addresses non-aquatic life uses such as recreation, water supply, and human health concerns as appropriate. The recreation uses most applicable to rivers and streams are the Primary Contact Recreation (PCR) and Secondary Contact Recreation (SCR) uses. The criterion for designating the PCR use can be having a water depth of at least one meter over an area of at least 100 square feet or, lacking this, where frequent human contact is a reasonable expectation. If a water body does not meet either criterion, the SCR use applies. The attainment status of PCR and SCR is determined using bacterial indicators (*e.g.*, fecal coliform, *E. coli*) and the criteria for each are specified in the Ohio WQS.

Attainment of recreation uses are evaluated based on monitored bacteria levels. The Ohio Water Quality Standards state that all waters should be free from any public health nuisance associated with raw or poorly treated sewage (Administrative Code 3745-1-04, Part F). Additional criteria (Administrative Code 3745-1-07) apply to waters that are designated as suitable for full body contact such as swimming (PCR- primary contact recreation) or for partial body contact such as wading (SCR- secondary contact recreation). These standards were developed to protect human health, because even though fecal coliform bacteria are relatively harmless in most cases, their presence indicates that the water has been contaminated with fecal matter.

Water supply uses include Public Water Supply (PWS), Agricultural Water Supply (AWS), and Industrial Water Supply (IWS). Public Water Supplies are simply defined as segments within 500 yards of a potable water supply or food processing industry intake. The AWS and IWS use designations generally apply to all waters unless it can be clearly shown that they are not applicable. An example of this would be an urban area where livestock watering or pasturing does not take place, thus the AWS use would not apply. Chemical criteria are specified in the Ohio WQS for each use and attainment status is based primarily on chemical-specific indicators. Human health concerns are additionally addressed with fish tissue data, but any consumption advisories are issued by the Ohio Department of Health.

## NOTICE TO USERS

Ohio EPA incorporated biological criteria into the Ohio Water Quality Standards (WQS; Ohio Administrative Code 3745-1) regulations in February 1990 (effective May 1990). These criteria consist of numeric values for the Index of Biotic Integrity (IBI) and Modified Index of Well-Being (MIwb), both of which are based on fish assemblage data, and the Invertebrate Community Index (ICI), which is based on macroinvertebrate assemblage data. Criteria for each index are specified for each of Ohio's five ecoregions (as described by Omernik 1987), and are further organized by organism group, index, site type, and aquatic life use designation. These criteria, along with the existing chemical and whole effluent toxicity evaluation methods and criteria, figure prominently in the monitoring and assessment of Ohio's surface water resources.

The following documents support the use of biological criteria by outlining the rationale for using biological information, the methods by which the biocriteria were derived and calculated, the field methods by which sampling must be conducted, and the process for evaluating results:

- Ohio Environmental Protection Agency. 1987a. Biological criteria for the protection of aquatic life: Volume I. The role of biological data in water quality assessment. Div. Water Qual. Monit. & Assess., Surface Water Section, Columbus, Ohio.
- Ohio Environmental Protection Agency. 1987b. Biological criteria for the protection of aquatic life: Volume II. Users manual for biological field assessment of Ohio surface waters. Div. Water Qual. Monit. & Assess., Surface Water Section, Columbus, Ohio.
- Ohio Environmental Protection Agency. 1989b. Addendum to Biological criteria for the protection of aquatic life: Volume II. Users manual for biological field assessment of Ohio surface waters. Div. Water Qual. Plan. & Assess., Ecol. Assess. Sect., Columbus, Ohio.
- Ohio Environmental Protection Agency. 1989c. Biological criteria for the protection of aquatic life: Volume III. Standardized biological field sampling and laboratory methods for assessing fish and macroinvertebrate communities. Div. Water Quality Plan. & Assess., Ecol. Assess. Sect., Columbus, Ohio.
- Ohio Environmental Protection Agency. 1990. The use of biological criteria in the Ohio EPA surface water monitoring and assessment program. Div. Water Qual. Plan. & Assess., Ecol. Assess. Sect., Columbus, Ohio.
- Ohio Environmental Protection Agency. 2006a. 2006 updates to Biological Criteria for the Protection of Aquatic Life: Volume II and Volume II Addendum. Users manual for biological field assessment of Ohio surface waters. Div. of Surface Water, Ecol. Assess. Sect., Columbus, Ohio.
- Ohio Environmental Protection Agency. 2006b. 2006 updates to Biological Criteria for the Protection of Aquatic Life: Volume III. Standardized biological field sampling and laboratory methods for assessing fish and macroinvertebrate communities. Div. of Surface Water, Ecol. Assess. Sect., Columbus, Ohio.
- Ohio Environmental Protection Agency. 2006c. Methods for assessing habitat in flowing waters: Using the Qualitative Habitat Evaluation Index (QHEI). Ohio EPA Tech. Bull. EAS/2006-06-1. Div. of Surface Water, Ecol. Assess. Sect., Columbus, Ohio.
- Rankin, E.T. 1989. The qualitative habitat evaluation index (QHEI): rationale, methods, and application. Div. Water Qual. Plan. & Assess., Ecol. Assess. Sect., Columbus, Ohio.

In addition to the preceding guidance documents, the following publications by the Ohio EPA should also be consulted as they present supplemental information and analyses used by the Ohio EPA to implement the biological criteria.

- DeShon, J.D. 1995. Development and application of the invertebrate community index (ICI), pp. 217-243. in W.S. Davis and T. Simon (eds.). *Biological Assessment and Criteria: Tools for Risk-based Planning and Decision Making*. Lewis Publishers, Boca Raton, FL.
- Rankin, E. T. 1995. The use of habitat assessments in water resource management programs, pp. 181-208. in W. Davis and T. Simon (eds.). *Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making*. Lewis Publishers, Boca Raton, FL.
- Yoder, C.O. and E.T. Rankin. 1995. Biological criteria program development and implementation in Ohio, pp. 109-144. in W. Davis and T. Simon (eds.). *Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making*. Lewis Publishers, Boca Raton, FL.
- Yoder, C.O. and E.T. Rankin. 1995. Biological response signatures and the area of degradation value: new tools for interpreting multimetric data, pp. 263-286. in W. Davis and T. Simon (eds.). *Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making*. Lewis Publishers, Boca Raton, FL.
- Yoder, C.O. 1995. Policy issues and management applications for biological criteria, pp. 327-344. in W. Davis and T. Simon (eds.). *Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making*. Lewis Publishers, Boca Raton, FL.
- Yoder, C.O. and E.T. Rankin. 1995. The role of biological criteria in water quality monitoring, assessment, and regulation. *Environmental Regulation in Ohio: How to Cope With the Regulatory Jungle*. Inst. of Business Law, Santa Monica, CA. 54 pp.
- Yoder, C.O. and M.A. Smith. 1999. Using fish assemblages in a State biological assessment and criteria program: essential concepts and considerations, pp. 17-63. in T. Simon (ed.). *Assessing the Sustainability and Biological Integrity of Water Resources Using Fish Communities*. CRC Press, Boca Raton, FL.

These documents and this report may be obtained by writing to:

Ohio EPA, Division of Surface Water  
Ecological Assessment Section  
4675 Homer Ohio Lane  
Groveport, Ohio 43125

or

[www.epa.state.oh.us/dsw/formspubs.html](http://www.epa.state.oh.us/dsw/formspubs.html)