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Environmental
Protection Agency

Division of Surface Water

Appendices to Biological and Water Quality Study of the Captina Creek Watershed



Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

APPENDICES

Biological and Water Quality Study of the Captina Creek Watershed 2009

TABLE OF CONTENTS

Appendix Table 1. Surface water chemical/physical results	A1
Appendix Table 2. Surface water organic chemical results	A38
Appendix Table 3. Datasonde © continuous recorder results	A41
Appendix Table 4. Surface water bacteriological results	A57
Appendix Table 5. Sediment chemical results	A58
Appendix Table 6. Qualitative Habitat Evaluation Index scores and attributes	A66
Appendix Table 7. Fish species and abundance for each sampling location	A68
Appendix Table 8. Fish IBI scores and metrics	A102
Appendix Table 9. Macroinvertebrate collection results	A106
Appendix Table 10. Macroinvertebrate ICI scores and metrics	A149
Appendix Table 11. Methods, Biosurvey Background Information, and Notice to Users	A150

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. Captina Creek watershed chemical/physical surface water sampling results, 2008 and 2009. NA = not analyzed. PT = result is estimated; sample not analyzed within required holding time. J = The analyte was positively identified, the associated numerical value is estimated.

		Site Location: CAPTINA CREEK DST. NORTH FORK AND SOUTH FORK @ OLD FORD											
		River Mile: 25.3 Storet: 300389											
Parameter	Units											Duplicate A/B	
		4/29/2008	7/1/2008	7/21/2008	8/25/2008	9/8/2008	10/20/2008	11/12/2008	12/22/2008	1/21/2009	2/11/2009		
Acidity	mg/L	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
Alkalinity	mg/L	102	NA	126	144	127	163	159	96.7	NA	67.6	NA	67.6
Aluminum	ug/L	265	5180	214	913	<200	<200	<200	306	<200/ <200	914	<200/ <200	914
Ammonia	mg/L	<0.050	0.057	<0.050	<0.050	<0.050	<0.050	0.178	<0.050	<0.050/ <0.050	<0.050	<0.050/ <0.050	<0.050
Arsenic	ug/L	<2.0	2.8	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0/ <2.0	<2.0
Barium	ug/L	54	138	62	68	67	69	70	59	51/ 52	47	51/ 52	47
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	<0.20
Calcium	mg/L	47	62	51	47	43	62	69	56	50/ 51	35	50/ 51	35
Chloride	mg/L	12.0	16.0	14.6	17.4	9.3	37.5	31.3	18.9	19.6/ 19.5	13.3	19.6/ 19.5	13.3
Chromium	ug/L	<2.0	4.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0/ <2.0	<2.0
COD	mg/L	<10	<10	16	11	<10	14	<10	<20	<20/ <20	<20	<20/ <20	<20
Conductivity	umhos/cm	313	406	362	396	311	580	549	400	404/ 408	269	404/ 408	269
Copper	ug/L	<2.0	8.8	<2.0	2.8	<2.0	<2.0	<2.0	<2.0	<2.0/ <2.0	3.0	<2.0/ <2.0	3.0
Hardness, Total	mg/L	163	212	177	171	144	221	242	189	174/ 177	120	174/ 177	120
Iron	ug/L	404	9010	300	1610	115	95	<50	570	178/ 153	1390	178/ 153	1390
Lead	ug/L	<2.0	7.9	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0/ <2.0	<2.0	<2.0/ <2.0	<2.0
Magnesium	mg/L	11	14	12	13	9	16	17	12	12/ 12.0	8	12/ 12.0	8
Manganese	ug/L	62	1060	52	74	16	55	79	57	37/ 35	92	37/ 35	92
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
Nickel	ug/L	<2.0	7.9	<2.0	3.5	<2.0	2.4	2.1	<2.0	<2.0/ <2.0	3.1	<2.0/ <2.0	3.1
Nitrate+nitrite	mg/L	0.14	0.18	0.24	<0.10	<0.10	<0.10	<0.10	1.04	0.77/ 0.75	0.77	0.77/ 0.75	0.77
Nitrite	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.028/ 0.028	<0.020	0.028/ 0.028	<0.020
Potassium	mg/L	2	3	3	3	3	5	4	3	2/ 2.0	2	2/ 2.0	2
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
Sodium	mg/L	9	11	10	14	8	27	22	12	15/ 14	8	15/ 14	8
Strontium	ug/L	237	301	271	291	233	381	384	283	278/ 272	174	278/ 272	174
Sulfate	mg/L	44.0	NA	44.4	50.5	21.9	58.6	64.3	69.1	NA	39.8	NA	39.8
TKN	mg/L	0.37	<0.20	0.33	0.20	<0.20	0.97	0.27	0.38	0.23/ <0.20	0.25	0.23/ <0.20	0.25
TOC	mg/L	4.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	204	244	252	264	180	358	340	264	228/ 242	190	228/ 242	190
Total Phosphorus	mg/L	0.012	0.171	0.038	0.025	<0.010	0.262	0.024	0.035	0.026/ 0.018	0.031	0.026/ 0.018	0.031
Total Suspended Solids	mg/L	17	316	7	20	7	10	<5	9	<5/ <5	33	<5/ <5	33
Zinc	ug/L	<10	34	<10	<10	<10	<10	<10	<10	<10/ <10	<10	<10/ <10	<10
Field Measurements													
Temperature	°C	10.28	21.38	30.19	26.76	20.08	5.69	5.12	0.65	0.17	6.01	0.17	6.01
Conductivity	umhos/cm	340.2	429.7	391.6	397.7	327.2	529.5	451.4	382.5	387.4	253.9	387.4	253.9
Dissolved Oxygen	mg/L	10.67	8.06	11.75	10.72	9.37	11.64	13.78	17.69	20.15	15.74	20.15	15.74
D.O. Saturation	%	95.2	91.2	156.1	134.1	103.4	92.9	108.4	123.4	138.6	126.6	138.6	126.6
pH	S.U.	8.15	7.56	8.51	8.33	8.27	7.99	9.21	8.81	8.62	8.65	8.62	8.65

Appendix Table 1. Continued.

		Site Location: CAPTINA CREEK DST. CASEY RUN @ ST. RT. 148										
		River Mile: 23.12 Storet: C02S37										
Parameter	Units	Duplicate A		Duplicate B			Duplicate A		Duplicate B			
		4/29/2008	7/1/2008	7/21/2008	7/21/2008	8/25/2008	9/8/2008	10/20/2008	10/20/2008	11/12/2008	12/22/2008	
Acidity	mg/L	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Alkalinity	mg/L	100	NA	136	136	149	156	161	161	151	99.3	
Aluminum	ug/L	344	511	388	276	<200	<200	<200	<200	<200	354	
Ammonia	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
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
Barium	ug/L	55	59	71	67	70	71	79	81	65	63	
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
Calcium	mg/L	45	42	56	53	53	56	70	73	64	56	
Chloride	mg/L	10.2	8.5	15.0	15.0	20.0	20.3	36.9	37.3	28.5	18.3	
Chromium	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
COD	mg/L	<10	<10	<10	12	<10	<10	11	11	<10	<20	
Conductivity	umhos/cm	301	296	382	381	372	437	580	579	516	397	
Copper	ug/L	<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	154	142	189	182	194	197	245	256	226	189	
Iron	ug/L	583	785	311	289	269	141	67	92	<50	697	
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
Magnesium	mg/L	10	9	12	12	15	14	17	18	16	12	
Manganese	ug/L	66	78	58	50	45	20	12	13	<10	68	
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
Nickel	ug/L	<2.0	2.0	<2.0	<2.0	2.0	<2.0	2.5	2.3	2.0	<2.0	<2.0
Nitrate+nitrite	mg/L	0.16	0.19	0.48	0.52	<0.10	<0.10	<0.10	<0.10	<0.10	1.01	
Nitrite	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Potassium	mg/L	2	2	3	3	3	3	5	5	4	3	
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
Sodium	mg/L	8	7	12	12	17	15	26	27	20	12	
Strontium	ug/L	220	204	295	284	345	316	372	391	356	278	
Sulfate	mg/L	44.8	NA	42.9	42.5	52.1	47.6	67.0	65.9	64.9	61.3	
TKN	mg/L	0.25	<0.20	0.65	0.31	0.25	0.32	0.44	0.52	<0.20	0.34	
Total Dissolved Solids	mg/L	202	178	258	256	276	264	352	346	312	268	
Total Phosphorus	mg/L	0.018	0.039	0.029	<0.010	0.014	<0.010	0.059	0.079	0.015	0.042	
Total Suspended Solids	mg/L	21	39	16	19	53	<5	<5	<5	<5	18	
Zinc	ug/L	12	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Field Measurements												
Temperature	°C	11.58	18.62	26.42	26.42	25.64	19.28	5.92	5.92	4.65	0.21	
Conductivity	umhos/cm	358.5	314.9	422.9	422.9	428.8	438.3	531	531	417.7	378.3	
Dissolved Oxygen	mg/L	10.13	9.41	7.88	7.88	9.59	8.65	11.27	11.27	14.55	19.21	
D.O. Saturation	%	93.2	100.7	97.9	97.9	117.5	93.8	90.5	90.5	113	132.3	
pH	S.U.	8.23	8.03	8.26	8.26	8.24	8.03	8.37	8.37	8.33	8.8	

Appendix Table 1. Continued.

		Site Location: CAPTINA CREEK DST. CASEY RUN @ ST. RT. 148										
		River Mile: 23.12 Storet: C02S37										
Parameter	Units	1/21/2009	2/11/2009	3/25/2009	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009	Duplicate A 9/29/2009	Duplicate B 9/29/2009	
Acidity	mg/L	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Alkalinity	mg/L	NA	61.1	117	136	142	131	65.5	158	145	139	
Aluminum	ug/L	<200	1210	<200	<200	<200	<200	<200	<200	<200	<200	
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Arsenic	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Barium	ug/L	51	51	60	68	66	66	81	78	64	66	
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Calcium	mg/L	52	32	58	60	56	56	65	63	56	56	
Chloride	mg/L	17.7	10.5	17.7	14.5	18.3	20.3	10.9	21	20.8	20.9	
Chromium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
COD	mg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	
Conductivity	umhos/cm	406	239	444	447	460	449	226	491	454	453	
Copper	ug/L	<2	2.2	<2	4.4	<2	<2	2	2.9	<2	<2	
Hardness, Total	mg/L	179	109	207	212	202	197	232	223	193	193	
Iron	ug/L	94	2000	123	155	163	225	282	137	100	117	
Lead	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Magnesium	mg/L	12	7	15	15	15	14	17	16	13	13	
Manganese	ug/L	29	110	31	41	67	34	57	75	20	20	
Mercury	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	
Nickel	ug/L	<2	2.5	<2	4.2	<2	<2	<2	<2	<2	<2	
Nitrate+nitrite	mg/L	0.69	0.67	<0.1	0.22	<0.1	1.69	<0.1	<0.1	<0.1	<0.1	
Nitrite	mg/L	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Potassium	mg/L	2	2	2	2	3	3	3	3	4	4	
Selenium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Sodium	mg/L	11	7	13	13	14	15	18	18	17	17	
Strontium	ug/L	277	158	346	351	344	335	387	371	314	315	
Sulfate	mg/L	NA	34.8	69.9	54.9	58.5	59.4	21.5	52.8	51.4	51.3	
TKN	mg/L	<0.2	0.23	<0.2	0.34	0.32	0.2	0.3	<0.2	0.28	0.32	
Total Dissolved Solids	mg/L	240	168	258	294	282	268	184	366	268	278	
Total Phosphorus	mg/L	0.02	0.04	<0.01	0.02	0.02	0.02	<0.01	0.01	0.06	0.05	
Total Suspended Solids	mg/L	<5	58	<5	5	<5	5	8	<5	<5	<5	
Zinc	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Field Measurements												
Temperature	°C	0.15	5.46	7.96	21.83	19.56	25.37	24.16	20.88	14.58	14.58	
Conductivity	umhos/cm	412.2	230.1	438	444.2	472.7	466	485.3	493.7	464.5	464.5	
Dissolved Oxygen	mg/L	17.46	14.55	12.97	9.47	7.67	10.04	8.72	8.2	12.83	12.83	
D.O. Saturation	%	120.1	115.3	109.5	108.1	83.7	122.5	104	91.8	126.3	126.3	
pH	S.U.	8.5	8.22	8.34	8.55	7.9	8.3	8.04	7.87	8.05	8.05	

Appendix Table 1. Continued.

		Site Location: CAPTINA CREEK JUST DST. PERKINS RUN									
		River Mile: 22.4 Storet: 300390									
Parameter	Units	Duplicate A					Duplicate B				
		4/29/2008	7/1/2008	7/21/2008	8/25/2008	9/8/2008	9/8/2008	10/20/2008	11/12/2008	12/22/2008	
Acidity	mg/L	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Alkalinity	mg/L	132	NA	139	219	183	176	194	196	96.8	
Aluminum	ug/L	570	4320	336	262	<200	<200	<200	<200	222	
Ammonia	mg/L	<0.050	0.081	<0.050	0.059	0.195	<0.050	<0.050	0.065	<0.050	
Arsenic	ug/L	<2.0	6.9	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Barium	ug/L	51	108	70	82	73	69	62	61	59	
Cadmium	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
Calcium	mg/L	94	93	57	92	87	92	101	123	57	
Chloride	mg/L	39.7	304	16.0	119	78.4	74.0	157	162	23.5	
Chromium	ug/L	<2.0	4.4	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
COD	mg/L	10	<10	15	<10	<10	<10	11	<10	<20	
Conductivity	umhos/cm	842	2850	418	1910	1250	1190	2110	2040	478	
Copper	ug/L	10.1	13.9	<2.0	5.8	2.9	3.0	5.9	4.9	<2.0	
Hardness, Total	mg/L	309	306	192	324	300	312	347	414	192	
Iron	ug/L	1760	8070	528	543	194	114	82	133	453	
Lead	ug/L	<2.0	4.7	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Magnesium	mg/L	18	18	12	23	20	20	23	26	12	
Manganese	ug/L	642	442	42	178	102	97	129	136	79	
Mercury	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
Nickel	ug/L	7.7	14.8	2.2	3.4	3.2	3.3	4.9	5.9	4.4	
Nitrate+nitrite	mg/L	<0.10	0.14	0.40	<0.10	<0.10	<0.10	<0.10	0.11	1.00	
Nitrite	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Potassium	mg/L	3	5	3	4	4	4	5	4	3	
Selenium	ug/L	2.5	4.6	<2.0	<2.0	<2.0	<2.0	2.8	3.3	<2.0	
Sodium	mg/L	261	514	21	265	170	179	352	318	28	
Strontium	ug/L	1570	2050	344	1400	974	1050	1470	1730	337	
Sulfate	mg/L	236	NA	58.5	722	353	329	577	617	103	
TKN	mg/L	0.49	0.40	0.28	0.42	0.67	0.32	0.66	0.68	0.22	
Total Dissolved Solids	mg/L	600	1910	280	1400	848	812	1350	1370	288	
Total Phosphorus	mg/L	0.028	0.169	0.026	0.021	<0.010	<0.010	0.032	0.012	0.032	
Total Suspended Solids	mg/L	36	313	5	16	<5	5	<5	<5	5	
Zinc	ug/L	<10	24	<10	<10	<10	<10	<10	<10	<10	
Field Measurements											
Temperature	°C	11.28	19.98	24.6	24.93	21.43	21.43	8.86	5.54	0.12	
Conductivity	umhos/cm	1058.6	3008.5	789.7	5036	1830.1	1830.1	1907.3	1725.2	457.8	
Dissolved Oxygen	mg/L	10.99	8.9	9.77	7.71	8.75	8.75	10.64	13.72	20	
D.O. Saturation	%	100.6	98.8	117.6	94.7	99.5	99.5	92.3	109.5	137.4	
pH	S.U.	7.91	8.32	8.27	8.22	8.15	8.15	8.19	8.18	9.03	

Appendix Table 1. Continued.

		Site Location: CAPTINA CREEK UPST. ALLEDONIA, DST PERKINS RUN @ ST. RT. 148									
		River Mile: 22.10 Storet: C02K05									
Parameter	Units	1/21/2009	2/11/2009	3/25/2009	6/25/2009	7/28/2009	8/27/2009	Duplicate A 9/15/2009	Duplicate B 9/15/2009	9/29/2009	
Acidity	mg/L	NA	<5	<5	<5	<5	<5	<5	<5	<5	
Alkalinity	mg/L	NA	69.2	158	155	155	190	200	189	165	
Aluminum	ug/L	282	1560	<200	<200	225	<200	<200	<200	<200	
Ammonia	mg/L	<0.050	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Arsenic	ug/L	<2.0	<2	<2	<2	<2	2	<2	<2	<2	
Barium	ug/L	52	55	60	66	69	85	82	83	60	
Cadmium	ug/L	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Calcium	mg/L	65	36	107	75	98	145	153	155	78	
Chloride	mg/L	105	42.2	254	51.4	103	214	256	269	89.5	
Chromium	ug/L	<2.0	2.4	<2	<2	<2	<2	<2	<2	<2	
COD	mg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	
Conductivity	umhos/cm	1210	527	2370	943	1660	2640	3320	3310	1410	
Copper	ug/L	5.9	3.9	8.3	2.1	3.8	11.1	15.9	15.8	5	
Hardness, Total	mg/L	224	123	370	257	339	498	514	519	261	
Iron	ug/L	418	2610	269	275	419	368	159	204	219	
Lead	ug/L	<2.0	<2	<2	<2	<2	<2	<2	<2	<2	
Magnesium	mg/L	15	8	25	17	23	33	32	32	16	
Manganese	ug/L	107	140	82	98	100	161	192	239	104	
Mercury	ug/L	<0.20	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	
Nickel	ug/L	4.9	4.8	3.6	3.2	4	6.7	8.5	10	6.1	
Nitrate+nitrite	mg/L	0.90	0.58	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Nitrite	mg/L	0.021	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Potassium	mg/L	2	2	3	3	4	5	5	5	4	
Selenium	ug/L	2.2	<2	4.9	<2	<2	3.3	4.4	4.1	<2	
Sodium	mg/L	169	61	481	109	258	489	611	733	189	
Strontium	ug/L	877	350	1240	739	1070	1810	2360	2490	917	
Sulfate	mg/L	NA	119	629	237	518	904	1130	1100	399	
TKN	mg/L	0.32	0.25	0.39	<0.2	<0.2	0.48	0.64	0.58	0.2	
Total Dissolved Solids	mg/L	784	340	1520	608	1090	1810	2330	2310	900	
Total Phosphorus	mg/L	0.023	0.1	<0.01	0.02	0.02	<0.01	0.01	<0.01	0.05	
Total Suspended Solids	mg/L	11	87	26	7	8	7	<5	<5	<5	
Zinc	ug/L	<10	16	<10	<10	<10	<10	<10	<10	<10	
Field Measurements											
Temperature	°C	0.04	5.44	8.9	NA	24.27	23.77	22.83	22.83	14.77	
Conductivity	umhos/cm	1223.2	475	2343	NA	1765.5	2671.8	3352.5	3352.5	1422.4	
Dissolved Oxygen	mg/L	17.28	13.83	13.12	NA	12.39	10.09	10	10	12.62	
D.O. Saturation	%	119	109.7	114.1	NA	148.7	120.2	117.4	117.4	125.1	
pH	S.U.	8.37	8.11	8.24	NA	8.52	8.14	8.2	8.2	7.94	

Appendix Table 1. Continued.

		Site Location: CAPTINA CREEK DST OHIO VALLEY COAL River Mile: 20.9 Storet: 300391									
Parameter	Units	4/29/2008	7/21/2008	11/12/2008	12/22/2008	1/21/2009	2/11/2009	3/25/2009	6/9/2009	7/1/2009	
Acidity	mg/L	<5.0	<5.0	<5.0	<5.0	NA	<5	<5	<5	<5	
Alkalinity	mg/L	124	161	187	101	NA	63.1	126	154	158	
Aluminum	ug/L	353	474	201	258	734	1390	408	<200	<200	
Ammonia	mg/L	<0.050	<0.050	<0.050	0.053	<0.05	<0.05	<0.05	<0.05	<0.05	
Arsenic	ug/L	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2	<2	
Barium	ug/L	61	65	88	58	60	53	65	76	66	
Cadmium	ug/L	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	
Calcium	mg/L	55	60	127	61	61	32	63	82	72	
Chloride	mg/L	25.6	20.2	247	29.9	92.5	24.5	44.3	59.1	54.8	
Chromium	ug/L	<2.0	<2.0	<2.0	<2.0	<2	2.4	<2	<2	<2	
COD	mg/L	<10	<10	<10	<20	<20	<20	<20	<20	<20	
Conductivity	umhos/cm	534	525	2430	580	1100	362	771	1080	992	
Copper	ug/L	2.4	2.2	6.2	2.3	3.8	3.6	2.6	2.9	2.2	
Hardness, Total	mg/L	187	203	437	206	210	109	223	279	254	
Iron	ug/L	587	1150	381	572	1430	2340	797	354	149	
Lead	ug/L	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2	<2	
Magnesium	mg/L	12	13	29	13	14	7	16	18	18	
Manganese	ug/L	92	79	46	108	158	128	102	148	70	
Mercury	ug/L	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	
Nickel	ug/L	<2.0	3.7	5.5	6.3	5.6	4.1	2.1	5.2	3.6	
Nitrate+nitrite	mg/L	<0.10	0.30	<0.10	1.02	0.64	0.54	0.99	0.18	<0.1	
Nitrite	mg/L	<0.020	<0.020	<0.020	<0.020	0.02	<0.02	<0.02	<0.02	<0.02	
Potassium	mg/L	2	3	5	3	2	2	2	3	3	
Selenium	ug/L	<2.0	<2.0	4.4	<2.0	<2	<2	<2	<2	<2	
Sodium	mg/L	50	34	473	45	146	31	80	128	120	
Strontium	ug/L	426	414	1830	406	784	242	591	807	751	
Sulfate	mg/L	116	94.2	694	124	NA	70.6	168	287	250	
TKN	mg/L	<0.40	<0.20	0.84	0.35	0.26	<0.2	0.35	0.43	0.3	
Total Dissolved Solids	mg/L	350	328	1630	382	670	240	462	710	636	
Total Phosphorus	mg/L	0.028	0.048	0.025	0.033	0.05	0.04	0.02	0.02	0.02	
Total Suspended Solids	mg/L	19	38	21	9	50	81	46	10	<5	
Zinc	ug/L	<10	<10	<10	<10	<10	<10	10	<10	<10	
Field Measurements											
Temperature	°C	9.69	27.13	6.65	0.03	0.03	5.56	8.49	21.98	20.08	
Conductivity	umhos/cm	567	541.4	1975.3	574.7	1122	327	768	1073.6	1029.7	
Dissolved Oxygen	mg/L	10.8	8.63	13.68	17.82	17.05	14.09	13.18	9.03	7.21	
D.O. Saturation	%	95.1	108.7	112.5	122.2	117.1	112	112.8	103.5	79.6	
pH	S.U.	7.74	8.29	8.45	8.28	7.97	8.33	7.85	8.35	8.18	

Appendix Table 1. Continued.

		Site Location: CAPTINA CREEK AT ALLEDONIA @ CO. RD. 86					Site Location: CAPTINA CR. @ END OF ROAD, 0.4 MI. DST. BEND F.				
		River Mile: 20.54 Storet: C02S36					River Mile: 17.60 Storet: C02S80				
Parameter	Units	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009	6/9/2009	7/28/2009	8/27/2009	9/15/2009	
Acidity	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Alkalinity	mg/L	156	163	188	191	218	158	160	173	180	
Aluminum	ug/L	214	211	275	409	281	<200	<200	242	401	
Ammonia	mg/L	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Arsenic	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Barium	ug/L	72	72	81	93	103	83	75	86	87	
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Calcium	mg/L	71	67	66	83	95	80	62	77	75	
Chloride	mg/L	36.2	45.8	46.9	76.2	86.6	38.7	34.1	56.7	40.1	
Chromium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	
COD	mg/L	<20	<20	<20	<20	<20	24	<20	<20	22	
Conductivity	umhos/cm	816	912	941	1300	1510	906	749	1010	829	
Copper	ug/L	3.1	2.3	2.4	5.8	5.8	3.3	2.9	3.7	3.6	
Hardness, Total	mg/L	243	233	231	285	324	270	217	266	261	
Iron	ug/L	493	356	383	800	463	353	269	404	690	
Lead	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Magnesium	mg/L	16	16	16	19	21	17	15	18	18	
Manganese	ug/L	110	73	142	164	213	51	32	51	88	
Mercury	ug/L	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	<0.2	
Nickel	ug/L	4.6	3.1	2.2	3.6	3.1	3.4	<2	2.5	2.6	
Nitrate+nitrite	mg/L	0.16	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Potassium	mg/L	3	3	3	3	3	3	3	3	3	
Selenium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Sodium	mg/L	84	107	121	194	263	99	74	129	89	
Strontium	ug/L	650	699	668	952	1060	756	528	753	641	
Sulfate	mg/L	181	213	207	349	419	222	155	240	163	
TKN	mg/L	0.29	0.57	<0.2	0.23	0.43	0.35	<0.2	<0.2	0.26	
Total Dissolved Solids	mg/L	504	582	602	846	986	572	470	656	510	
Total Phosphorus	mg/L	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.03	
Total Suspended Solids	mg/L	15	12	10	17	11	9	10	10	26	
Zinc	ug/L	<10	12	<10	<10	<10	<10	<10	<10	<10	
Field Measurements											
Temperature	°C	21.77	20.78	23.89	22.85	19.64	22.91	26.26	24.09	21.05	
Conductivity	umhos/cm	813.9	940.7	820.9	1426.3	1521.6	904	658.6	1106.2	822.4	
Dissolved Oxygen	mg/L	8.13	6.54	8.47	7.58	6.79	8.45	9.17	8.8	8.19	
D.O. Saturation	%	92.8	73.3	100.6	88.5	74.4	98.5	113.8	105	92.2	
pH	S.U.	8.57	8.2	8.19	8.11	8.15	8.47	8.31	8.2	8.19	

Appendix Table 1. Continued.

		Site Location: CAPTINA CR. DST. ARMSTRONGS MILLS @ GAGE									
		River Mile: 16.00 Storet: C02S35									
Parameter	Units						Duplicate A		Duplicate B		
		4/29/2008	7/1/2008	7/21/2008	8/25/2008	9/8/2008	10/20/2008	11/12/2008	11/12/2008	12/22/2008	1/21/2009
Acidity	mg/L	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA
Alkalinity	mg/L	143	NA	144	195	201	198	201	202	103	NA
Aluminum	ug/L	<200	1450	311	282	<200	<200	<200	<200	253	<200
Ammonia	mg/L	NA	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.05
Arsenic	ug/L	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2
Barium	ug/L	61	66	68	82	110	83	84	85	58	55
Cadmium	ug/L	NA	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2
Calcium	mg/L	57	42	67	59	87	81	87	89	56	60
Chloride	mg/L	18.2	13.3	23.4	49.7	74.0	61.0	91.1	89.7	21.6	59.1
Chromium	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2
COD	mg/L	NA	<10	<10	<10	<10	<10	<10	<10	<20	<20
Conductivity	umhos/cm	490	361	636	825	1160	989	1270	1280	482	839
Copper	ug/L	2.0	3.0	2.0	3.5	3.1	2.3	3.2	3.2	<2.0	2.8
Hardness, Total	mg/L	196	142	225	221	308	289	308	313	189	207
Iron	ug/L	126	2020	526	423	107	55	81	165	480	204
Lead	ug/L	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2
Magnesium	mg/L	13	9	14	18	22	21	22	22	12	14
Manganese	ug/L	27	117	34	39	70	13	13	18	49	35
Mercury	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2
Nickel	ug/L	<2.0	3.4	3.0	2.6	2.3	2.1	2.8	2.8	3.5	2.4
Nitrate+nitrite	mg/L	NA	0.16	6.72	<0.10	<0.10	<0.10	<0.10	0.11	0.84	0.57
Nitrite	mg/L	NA	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.02
Potassium	mg/L	2	2	3	3	4	4	3	3	3	2
Selenium	ug/L	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2
Sodium	mg/L	36	20	57	103	158	104	162	159	29	94
Strontium	ug/L	402	264	540	649	823	685	852	846	354	602
Sulfate	mg/L	90.9	NA	165	199	292	190	304	302	95.5	NA
TKN	mg/L	NA	<0.20	0.40	0.26	0.27	0.47	0.36	0.50	0.50	0.22
Total Dissolved Solids	mg/L	320	238	486	552	770	626	820	828	318	508
Total Phosphorus	mg/L	NA	0.060	0.019	0.014	<0.010	0.064	0.015	0.013	0.056	0.01
Total Suspended Solids	mg/L	<5	56	5	<5	13	<5	<5	<5	9	7
Zinc	ug/L	<10	17	<10	<10	<10	<10	<10	<10	<10	<10
CBOD20	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Measurements											
Temperature	°C	10.43	18.19	27.21	27.43	22.07	6.53	6.54	6.54	0.11	0.06
Conductivity	umhos/cm	523.3	380	677.2	844.7	1192.1	902.5	1032	1032	464.7	853
Dissolved Oxygen	mg/L	10.76	9.22	8.77	8.34	9.4	12.59	13.49	13.49	17.68	18.1
D.O. Saturation	%	96.5	97.9	110.6	105.7	108	102.8	110.2	110.2	121.5	124.3
pH	S.U.	7.98	7.7	8.37	7.36	8.27	8.4	8.43	8.43	8.26	8.03

Appendix Table 1. Continued.

		Site Location: CAPTINA CR. DST. ARMSTRONGS MILLS @ GAGE										
		River Mile: 16.00 Storet: C02S35										
Parameter	Units	Duplicate A	Duplicate B		Duplicate A					Duplicate B	Duplicate A	Duplicate B
		2/11/2009	2/11/2009	3/25/2009	4/7/2009	6/9/2009	7/1/2009	7/28/2009	7/28/2009	7/29/2009	7/29/2009	
Acidity	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA	
Alkalinity	mg/L	66.9	66.7	145	113	160	177	153	158	NA	NA	
Aluminum	ug/L	1410	1460	<200	<200	<200	<200	616	366	263	271	
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Arsenic	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Barium	ug/L	54	55	59	45	88	72	83	78	75	74	
Cadmium	ug/L	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Calcium	mg/L	33	33	60	46	77	63	63	61	58	58	
Chloride	mg/L	19.7	19.2	33.6	14.5	41.7	28.2	37.9	37.6	30.5	30	
Chromium	ug/L	2.1	<2	<2	<2	<2	<2	<2	<2	<2	<2	
COD	mg/L	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	
Conductivity	umhos/cm	333	333	691	413	942	719	772	776	NA	NA	
Copper	ug/L	3.5	2.9	2	<2	3.2	2	3.9	4.2	2	2.1	
Hardness, Total	mg/L	111	111	212	160	262	219	223	214	207	207	
Iron	ug/L	2400	2460	93	124	335	233	1050	584	362	376	
Lead	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Magnesium	mg/L	7	7	15	11	17	15	16	15	15	15	
Manganese	ug/L	117	121	22	17	46	35	88	65	48	49	
Mercury	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	NA	
Nickel	ug/L	3.7	3.3	<2	<2	2.2	<2	2.5	2.1	<2	2	
Nitrate+nitrite	mg/L	0.54	0.56	<0.1	0.12	0.28	0.14	<0.1	<0.1	<0.1	<0.1	
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Potassium	mg/L	2	2	2	2	3	2	3	3	3	3	
Selenium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Sodium	mg/L	25	25	61	22	94	67	84	81	71	70	
Strontium	ug/L	230	232	525	312	714	553	571	554	541	532	
Sulfate	mg/L	62.1	61.2	136	65	232	127	167	168	138	139	
TKN	mg/L	0.24	0.24	<0.2	<0.2	0.33	0.34	<0.2	<0.2	<0.2	<0.2	
Total Dissolved Solids	mg/L	216	222	418	242	604	432	482	568	436	436	
Total Phosphorus	mg/L	0.05	0.05	<0.01	<0.01	0.02	0.02	0.02	0.03	0.02	0.01	
Total Suspended Solids	mg/L	77	70	6	<5	13	7	10	10	12	12	
Zinc	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
CBOD20	mg/L	NA	NA	NA	NA	4.3	4.5	4.4	5	3.9	4.4	
Field Measurements												
Temperature	°C	5.53	5.53	8.58	7.03	23.15	21.16	26.7	26.7	NA	NA	
Conductivity	umhos/cm	305	305	685	370	860.9	723.5	678.6	678.6	NA	NA	
Dissolved Oxygen	mg/L	13.64	13.64	13.68	15.23	8.41	7.21	9.57	9.57	NA	NA	
D.O. Saturation	%	108.4	108.4	117.4	125.7	98.6	81.3	119.7	119.7	NA	NA	
pH	S.U.	8.33	8.33	8.45	NA	8.58	8.24	8.32	8.32	NA	NA	

Appendix Table 1. Continued.

		Site Location: CAPTINA CR. DST. ARMSTRONGS MILLS @ GAGE									
		River Mile: 16.00 Storet: C02S35									
Parameter	Units	Duplicate A	Duplicate B	Duplicate A	Duplicate B		Duplicate A	Duplicate B			
		8/27/2009	8/27/2009	9/9/2009	9/9/2009	9/15/2009	9/16/2009	9/16/2009	9/29/2009	12/14/2009	
Acidity	mg/L	<5	<5	NA	NA	<5	NA	NA	<5	<5.0	
Alkalinity	mg/L	171	172	NA	NA	178	NA	NA	176	126	
Aluminum	ug/L	<200	447	2200	2340	423	<200	<200	<200	340	
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	
Arsenic	ug/L	<2	<2	2.1	2.1	<2	<2	<2	<2	<2.0	
Barium	ug/L	88	94	101	95	81	78	77	75	53	
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	
Calcium	mg/L	77	79	68	64	69	66	66	74	52	
Chloride	mg/L	66.7	65.2	47.2	47.7	40.5	45.4	45.4	66.9	21.2	
Chromium	ug/L	<2	<2	2.1	2.2	<2	<2	<2	<2	<2.0	
COD	mg/L	<20	<20	NA	NA	<20	NA	NA	<20	<20	
Conductivity	umhos/cm	1090	1090	NA	NA	797	NA	NA	1120	462	
Copper	ug/L	4.3	4.7	5.8	5.9	4.3	3.1	3.1	3.9	<2.0	
Hardness, Total	mg/L	266	271	232	217	242	235	235	255	175	
Iron	ug/L	333	836	3480	3400	634	281	271	388	495	
Lead	ug/L	<2	<2	2.3	2.4	<2	<2	<2	<2	<2.0	
Magnesium	mg/L	18	18	15	14	17	17	17	17	11	
Manganese	ug/L	49	100	138	130	49	47	45	45	36	
Mercury	ug/L	NA	NA	NA	NA	<0.2	NA	NA	<0.2	<0.20	
Nickel	ug/L	2.5	3	5.2	5.4	2.4	2.1	2.1	2.7	2.3	
Nitrate+nitrite	mg/L	<0.1	<0.1	0.15	0.15	<0.1	<0.1	<0.1	<0.1	0.59	
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.020	
Potassium	mg/L	3	4	4	4	3	3	3	4	2	
Selenium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2.0	
Sodium	mg/L	144	146	113	106	83	88	89	143	29	
Strontium	ug/L	792	809	671	630	625	616	619	773	327	
Sulfate	mg/L	277	277	217	218	154	181	180	274	73.5	
TKN	mg/L	0.25	0.27	0.23	<0.2	0.32	<0.2	<0.2	<0.2	0.26	
Total Dissolved Solids	mg/L	700	702	580	578	530	544	534	696	280	
Total Phosphorus	mg/L	<0.01	0.01	0.09	0.08	0.02	<0.01	0.01	0.03	0.026	
Total Suspended Solids	mg/L	8	8	73	84	17	10	10	5	8	
Zinc	ug/L	<10	<10	<10	12	<10	<10	<10	<10	<10	
CBOD20	mg/L	3.6	3.6	4.6	4.8	3.2	<3	<3	<2	NA	
Field Measurements											
Temperature	°C	24.24	24.24	NA	NA	21.21	NA	NA	15.74	2.29	
Conductivity	umhos/cm	1193.6	1193.6	NA	NA	800.9	NA	NA	971.7	468	
Dissolved Oxygen	mg/L	9.36	9.36	NA	NA	8.43	NA	NA	11.77	16.28	
D.O. Saturation	%	112.1	112.1	NA	NA	95.1	NA	NA	119	118.8	
pH	S.U.	8.35	8.35	NA	NA	8.39	NA	NA	8.1	8.29	

Appendix Table 1. Continued.

		Site Location: CRABAPPLE CREEK W OF ALLEDONIA @ TR 103				
		River Mile: 0.46 Storet: C02S49				
Parameter	Units	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009
Acidity	mg/L	<5	<5	<5	<5	<5
Alkalinity	mg/L	225	251	242	270	290
Aluminum	ug/L	<200	250	552	<200	322
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2	<2	<2	<2
Barium	ug/L	75	73	74	70	73
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	50	45	43	41	42
Chloride	mg/L	10.9	15.2	22.5	26.1	29
Chromium	ug/L	<2	<2	<2	<2	<2
COD	mg/L	<20	<20	<20	<20	<20
Conductivity	umhos/cm	605	656	680	731	785
Copper	ug/L	3.4	2.6	4	3.4	4
Hardness, Total	mg/L	174	158	153	148	154
Iron	ug/L	169	412	897	125	330
Lead	ug/L	<2	<2	<2	<2	<2
Magnesium	mg/L	12	11	11	11	12
Manganese	ug/L	13	21	55	<10	12
Mercury	ug/L	<0.2	<0.2	<0.2	NA	<0.2
Nickel	ug/L	<2	<2	<2	<2	<2
Nitrate+nitrite	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	2	2	2	2	2
Selenium	ug/L	<2	<2	<2	<2	<2
Sodium	mg/L	73	86	92	114	133
Strontium	ug/L	580	539	508	528	550
Sulfate	mg/L	65.1	68.9	66.2	63.8	63.6
TKN	mg/L	0.28	0.22	<0.2	<0.2	0.28
Total Dissolved Solids	mg/L	380	408	418	486	486
Total Phosphorus	mg/L	0.02	0.04	0.04	0.02	0.03
Total Suspended Solids	mg/L	<5	23	36	<5	<5
Zinc	ug/L	<10	18	<10	<10	<10
CBOD20	mg/L	NA	NA	NA	NA	NA
Field Measurements						
Temperature	°C	20.46	19.43	21.44	20.38	16.77
Conductivity	umhos/cm	601	674.4	593.2	796.7	790.7
Dissolved Oxygen	mg/L	9.21	8.14	10.37	9.73	8.56
D.O. Saturation	%	102.4	88.6	117.5	108	88.3
pH	S.U.	8.61	8.44	8.49	8.39	8.44

Appendix Table 1. Continued.

		Site Location: CAPTINA CREEK UPST. CRAVAT COAL CO.					
		River Mile: 11.70 Storet: C02S34					
Parameter	Units	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009	9/29/2009
Acidity	mg/L	<5	<5	<5	<5	<5	<5
Alkalinity	mg/L	158	180	153	170	169	176
Aluminum	ug/L	<200	<200	<200	<200	<200	<200
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2	<2	<2	<2	<2
Barium	ug/L	72	72	75	98	78	85
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	59	63	60	80	66	77
Chloride	mg/L	22.2	26.4	30.8	63.7	41.8	75.4
Chromium	ug/L	<2	<2	<2	<2	<2	<2
COD	mg/L	<20	<20	<20	<20	<20	<20
Conductivity	umhos/cm	612	677	676	1050	820	1220
Copper	ug/L	<2	<2	2.2	30.7	3	4.5
Hardness, Total	mg/L	205	219	212	278	239	266
Iron	ug/L	300	140	216	193	195	173
Lead	ug/L	<2	<2	<2	<2	<2	<2
Magnesium	mg/L	14	15	15	19	18	18
Manganese	ug/L	28	16	29	19	18	14
Mercury	ug/L	<0.2	<0.2	<0.2	NA	<0.2	<0.2
Nickel	ug/L	<2	<2	<2	2.2	<2	2.6
Nitrate+nitrite	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	2	2	3	4	3	4
Selenium	ug/L	<2	<2	<2	<2	<2	<2
Sodium	mg/L	50	62	67	143	98	161
Strontium	ug/L	505	561	533	779	677	815
Sulfate	mg/L	106	123	127	224 PT	173	316
TKN	mg/L	0.23	0.3	<0.2	<0.2	0.3	<0.2
Total Dissolved Solids	mg/L	370	402	420	670	530	774
Total Phosphorus	mg/L	0.02	0.01	0.02	<0.01	<0.01	0.01
Total Suspended Solids	mg/L	9	<5	6	<5	<5	<5
Zinc	ug/L	<10	<10	<10	<10	<10	<10
CBOD20	mg/L	NA	NA	NA	NA	NA	NA
Field Measurements							
Temperature	°C	23.54	21.56	24.82	23.65	20.98	15.53
Conductivity	umhos/cm	608.9	695	589.4	1141.4	821.2	1242.6
Dissolved Oxygen	mg/L	9.07	6.5	9.24	9.01	7.7	12.12
D.O. Saturation	%	107	73.8	111.7	106.7	86.5	122
pH	S.U.	8.65	8.17	8.2	8.26	8.46	8.16

Appendix Table 1. Continued.

		Site Location: CAPTINA CREEK AT CAPTINA @ ST. RT. 148 River Mile: 6.71 Storet: C02S32					
Parameter	Units	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/16/2009	9/29/2009
Acidity	mg/L	<5	<5	<5	<5	<5	<5
Alkalinity	mg/L	163	185	158	172	170	185
Aluminum	ug/L	<200	<200	233	<200	<200	<200
Ammonia	mg/L	<0.05	0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2	<2	<2	<2	<2
Barium	ug/L	72	74	73	89	76	88
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	61	70	64	77	66	76
Chloride	mg/L	19.8	23.7	27	43.5	37	61.5
Chromium	ug/L	<2	<2	<2	<2	<2	<2
COD	mg/L	<20	<20	<20	<20	<20	<20
Conductivity	umhos/cm	604	707	670	856	813	1060
Copper	ug/L	<2	2	2.6	3.2	3	3.6
Hardness, Total	mg/L	210	245	226	271	239	264
Iron	ug/L	321	184	435	253	191	192
Lead	ug/L	<2	<2	<2	<2	<2	<2
Magnesium	mg/L	14	17	16	19	18	18
Manganese	ug/L	41	53	58	32	28	20
Mercury	ug/L	<0.2	<0.2	<0.2	NA	<0.2	<0.2
Nickel	ug/L	<2	8.5	2	2	2	<2
Nitrate+nitrite	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	2	2	3	3	3	3
Selenium	ug/L	<2	<2	<2	<2	<2	<2
Sodium	mg/L	45	59	59	100	86	128
Strontium	ug/L	508	567	537	696	652	723
Sulfate	mg/L	101	127	127	178	174	250
TKN	mg/L	0.28	0.34	<0.2	0.21	0.31	<0.2
Total Dissolved Solids	mg/L	358	444	422	536	512	678
Total Phosphorus	mg/L	0.04	0.02	0.02	<0.01	<0.01	0.01
Total Suspended Solids	mg/L	12	5	13	6	<5	<5
Zinc	ug/L	<10	<10	22	<10	<10	<10
Field Measurements							
Temperature	°C	24.75	22.11	24.92	25.25	21.81	15.55
Conductivity	umhos/cm	600	730.8	585.3	938	815	1086.3
Dissolved Oxygen	mg/L	8.55	7.06	9.53	9.22	7.58	11.96
D.O. Saturation	%	103.1	81.1	115.3	112.3	86.6	120.4
pH	S.U.	8.56	8.19	8.1	8.34	8.41	8.12

Appendix Table 1. Continued.

		Site Location: CAPTINA CREEK UPST. STEINERSVILLE @ ST. RT. 148						
		River Mile: 3.33 Storet: C02S31						
Parameter	Units	Duplicate A					Duplicate B	
		6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009	9/15/2009	9/29/2009
Acidity	mg/L	<5	<5	<5	<5	<5	<5	<5
Alkalinity	mg/L	166	188	155	178	176	175	194
Aluminum	ug/L	<200	566	<200	<200	<200	<200	<200
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2	<2	<2	<2	<2	<2
Barium	ug/L	73	85	67	85	80	79	84
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	66	73	64	82	82	83	75
Chloride	mg/L	19.8	23.7	26.4	46	38	37.6	67.6
Chromium	ug/L	<2	<2	<2	<2	<2	<2	<2
COD	mg/L	<20	<20	<20	<20	<20	<20	<20
Conductivity	umhos/cm	625	718	681	932	891	891	1110
Copper	ug/L	<2	2.4	2	3.3	3.2	3.2	3.6
Hardness, Total	mg/L	231	256	226	283	287	294	261
Iron	ug/L	309	1710	200	252	249	254	179
Lead	ug/L	<2	<2	<2	<2	<2	<2	<2
Magnesium	mg/L	16	18	16	19	20	21	18
Manganese	ug/L	45	91	41	36	43	43	24
Mercury	ug/L	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2
Nickel	ug/L	<2	2.6	2.1	2.1	2	2	2.1
Nitrate+nitrite	mg/L	0.59	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	2	3	3	3	3	3	3
Selenium	ug/L	<2	<2	<2	<2	<2	<2	<2
Sodium	mg/L	48	61	58	101	98	99	131
Strontium	ug/L	556	614	551	707	735	744	724
Sulfate	mg/L	108	133	134	205	211	208	261
TKN	mg/L	<0.2	<0.2	<0.2	<0.2	0.39	0.41	<0.2
Total Dissolved Solids	mg/L	378	448	428	598	574	570	704
Total Phosphorus	mg/L	0.01	0.03	0.02	<0.01	<0.01	<0.01	0.01
Total Suspended Solids	mg/L	6	30	5	<5	<5	<5	<5
Zinc	ug/L	<10	<10	<10	<10	<10	<10	<10
Field Measurements								
Temperature	°C	24.54	22.88	22.91	24.51	21.69	21.69	15.85
Conductivity	umhos/cm	624	741.3	600.7	1021.1	897.7	897.7	1133
Dissolved Oxygen	mg/L	8.72	7.08	8.44	9.18	7.29	7.29	11.86
D.O. Saturation	%	104.8	82.5	98.3	110.4	83.1	83.1	120.2
pH	S.U.	8.4	8.16	8.08	8.25	8.33	8.33	8.11

Appendix Table 1. Continued.

		Site Location: S FK. CAPTINA CR. S OF SOMERTON @ TR 35 River Mile: 9.48 Storet: C02S70					Site Location: S FK. CAPTINA CR. N OF NEW CASTLE @ SR 26 River Mile: 2.97 Storet: C02S69				
Parameter	Units	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009
Acidity	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Alkalinity	mg/L	101	94.9	86.5	90.9	98.9	111	116	97.1	109	123
Aluminum	ug/L	<200	215	620	584	395	<200	<200	<200	<200	<200
Ammonia	mg/L	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Barium	ug/L	53	53	54	59	54	61	59	53	65	70
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	40	34	34	35	36	43	40	37	40	44
Chloride	mg/L	6.1	5.3	5.5	<5	<5	9	7.7	8.2	7	8
Chromium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
COD	mg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Conductivity	umhos/cm	275	254	242	242	252	303	302	274	281	320
Copper	ug/L	2.1	<2	<2	2.1	2.4	2.4	2.1	<2	<2	<2
Hardness, Total	mg/L	133	114	110	116	119	144	137	125	137	147
Iron	ug/L	210	377	964	1020	546	136	194	210	359	141
Lead	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Magnesium	mg/L	8	7	6	7	7	9	9	8	9	9
Manganese	ug/L	45	74	85	88	60	19	39	27	39	27
Mercury	ug/L	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	NA	<0.2
Nickel	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nitrate+nitrite	mg/L	<0.1	0.16	<0.1	<0.1	<0.1	0.14	0.49	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	2	2	3	2	2	2	3	2	3	3
Selenium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Sodium	mg/L	6	5	5	5	6	7	7	6	7	8
Strontium	ug/L	197	166	164	168	169	230	221	201	223	248
Sulfate	mg/L	21	20.3	21.4	20.3	19.3	20.6	20.3	20.8	20.8	21
TKN	mg/L	0.48	0.3	0.64	0.21	0.45	0.4	0.23	<0.2	0.24	0.38
Total Dissolved Solids	mg/L	156	156	150	232	210	178	174	162	168	200
Total Phosphorus	mg/L	0.03	0.03	0.04	0.04	0.02	0.02	0.02	0.02	<0.01	0.01
Total Suspended Solids	mg/L	5	11	26	25	7	<5	<5	<5	11	<5
Zinc	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Field Measurements											
Temperature	°C	24.84	18.86	24.26	21.93	18.58	25.01	19.01	25.25	21.85	19.02
Conductivity	umhos/cm	275.2	240.3	246.4	246	252.7	303.7	285.4	279.4	293.1	322.3
Dissolved Oxygen	mg/L	8.62	7.4	10.2	6.87	7.11	8.53	9.41	11.05	7.92	8.68
D.O. Saturation	%	104	79.6	121.8	78.5	76	103.3	101.5	134.5	90.4	93.7
pH	S.U.	8.35	7.73	8.37	7.55	7.34	8.7	8.11	8.49	7.95	8.04

Appendix Table 1. Continued.

		Site Location: SOUTH FORK CAPTINA CREEK AT MOUTH @ CO. RD. 92													
		River Mile: 0.10 Storet: C02S60													
Parameter	Units	Duplicate A		Duplicate B		3/25/2009	3/25/2009	4/7/2009	6/9/2009	7/1/2009	7/28/2009	7/29/2009	8/27/2009	9/9/2009	9/15/2009
		3/25/2009	3/25/2009	4/7/2009	6/9/2009										
Acidity	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA	<5	
Alkalinity	mg/L	98	98.9	77.5	108	124	104	NA	121	NA	127	121	NA	127	
Aluminum	ug/L	<200	<200	<200	<200	<200	<200	203	<200	270	<200	<200	270	<200	
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Arsenic	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Barium	ug/L	52	52	39	61	68	60	59	71	61	82	71	61	82	
Cadmium	ug/L	<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	
Calcium	mg/L	41	41	32	43	43	38	36	42	39	48	42	39	48	
Chloride	mg/L	10.1	10.1	6.9	9.3	10	10.2	8.6	10	7.7	12.9	10	7.7	12.9	
Chromium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
COD	mg/L	<20	<20	<20	<20	<20	<20	NA	<20	NA	22	<20	NA	22	
Conductivity	umhos/cm	301	302	243	312	334	295	NA	320	NA	349	320	NA	349	
Copper	ug/L	2.6	2.2	<2	2.6	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Hardness, Total	mg/L	139	139	109	144	149	128	123	146	130	161	146	130	161	
Iron	ug/L	74	64	137	122	175	219	293	308	369	171	308	369	171	
Lead	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Magnesium	mg/L	9	9	7	9	10	8	8	10	8	10	10	8	10	
Manganese	ug/L	11	11	16	22	24	26	31	32	32	23	32	32	23	
Mercury	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	NA	NA	<0.2	NA	NA	<0.2	
Nickel	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Nitrate+nitrite	mg/L	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Potassium	mg/L	2	2	<2	2	3	3	3	3	3	3	3	3	3	
Selenium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Sodium	mg/L	8	7	5	7	8	7	7	9	7	11	9	7	11	
Strontium	ug/L	218	216	161	240	240	214	211	241	209	269	241	209	269	
Sulfate	mg/L	28.2	28.2	23.2	21.3	21.4	22.1	21.4	20.9	20.5	23.1	20.9	20.5	23.1	
TKN	mg/L	<0.2	<0.2	<0.2	0.41	0.31	0.2	0.21	0.33	<0.2	0.4	0.33	<0.2	0.4	
Total Dissolved Solids	mg/L	176	174	144	170	190	184	162	182	170	216	182	170	216	
Total Phosphorus	mg/L	<0.01	<0.01	<0.01	0.03	0.02	0.03	0.02	<0.01	0.02	0.07	<0.01	0.02	0.07	
Total Suspended Solids	mg/L	<5	<5	6	<5	<5	<5	12	10	10	<5	10	10	<5	
Zinc	ug/L	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10	<10	
CBOD20	mg/L	NA	NA	NA	3.6	6.3	4.1	3.7	3.6	4.1	<3	3.6	4.1	<3	
Field Measurements															
Temperature	°C	7.92	7.92	6.19	25.65	19.46	25.69	NA	23.56	NA	19.25	23.56	NA	19.25	
Conductivity	umhos/cm	298	298	217	311.1	338.3	302.6	NA	326	NA	349.5	326	NA	349.5	
Dissolved Oxygen	mg/L	13.53	13.53	15.22	8.35	8.08	10.5	NA	7.54	NA	9.19	7.54	NA	9.19	
D.O. Saturation	%	114.1	114.1	112.9	102.3	88	128.8	NA	88.9	NA	99.7	88.9	NA	99.7	
pH	S.U.	8.23	8.23	8.72	8.54	8.1	8.38	NA	7.89	NA	8.12	7.89	NA	8.12	

Appendix Table 1. Continued.

		Site Location: S FK. CAPTINA CREEK AT MOUTH @ CO. RD. 92 River Mile: 0.10 Storet: C02S60				Site Location: N FK. CAPTINA CR. UPST. BARNESVILLE WWTP River Mile: 10.52 Storet: C02W01				
Parameter		9/16/2009	9/29/2009	12/14/2009		6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009
Units										
Acidity	mg/L	NA	<5	<5.0		<5	<5	<5	<5	<5
Alkalinity	mg/L	NA	126	90.3		172	197	170	172	150
Aluminum	ug/L	<200	<200	459		<200	<200	<200	<200	<200
Ammonia	mg/L	<0.05	<0.05	<0.050		<0.05	0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2	<2.0		<2	<2	<2	<2	<2
Barium	ug/L	78	68	52		84	84	69	74	62
Cadmium	ug/L	<0.2	<0.2	<0.20		<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	46	45	36		81	80	68	73	60
Chloride	mg/L	14	11.5	11.2		40.8	38.2	32.5	39.1	30.1
Chromium	ug/L	<2	<2	<2.0		<2	<2	<2	<2	<2
COD	mg/L	NA	<20	<20		<20	<20	<20	<20	<20
Conductivity	umhos/cm	NA	337	272		578	580	523	552	481
Copper	ug/L	<2	<2	<2.0		3.9	<2	<2	<2	2
Hardness, Total	mg/L	156	149	119		264	262	223	248	207
Iron	ug/L	170	151	719		78	94	76	62	103
Lead	ug/L	<2	<2	<2.0		<2	<2	<2	<2	<2
Magnesium	mg/L	10	9	7		15	15	13	16	14
Manganese	ug/L	22	14	35		64	41	15	14	77
Mercury	ug/L	NA	<0.2	<0.20		<0.2	<0.2	<0.2	NA	<0.2
Nickel	ug/L	<2	<2	<2.0		<2	<2	<2	<2	<2
Nitrate+nitrite	mg/L	<0.1	<0.1	0.52		0.39	0.63	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.02	<0.02	<0.020		<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	3	4	2		3	3	3	3	4
Selenium	ug/L	<2	<2	<2.0		<2	<2	<2	<2	<2
Sodium	mg/L	11	8	7		21	20	19	22	19
Strontium	ug/L	259	243	169		413	393	344	392	329
Sulfate	mg/L	26.4	24.3	27.2		40.8	40.3	38.4	43.5	38.9
TKN	mg/L	1.22	<0.2	0.30		0.38	0.32	<0.2	<0.2	0.37
Total Dissolved Solids	mg/L	202	204	172		308	350	330	346	292
Total Phosphorus	mg/L	<0.01	0.01	0.025		0.03	0.03	0.03	0.03	0.1
Total Suspended Solids	mg/L	7	<5	13		<5	<5	<5	6	<5
Zinc	ug/L	<10	<10	<10		<10	<10	<10	<10	<10
CBOD20	mg/L	<3	<2	NA		NA	NA	3.6	NA	<3
Field Measurements										
Temperature	°C	NA	14.62	2.01		19.71	16.49	22.11	23.83	20.92
Conductivity	umhos/cm	NA	341.7	275		570.2	596.5	515.1	567.3	475.5
Dissolved Oxygen	mg/L	NA	10.97	17.11		7.89	8.03	13.36	11.07	7.02
D.O. Saturation	%	NA	108	123.8		86.4	82.3	153.4	131.3	78.7
pH	S.U.	NA	8	8.06		7.97	8.35	8.15	8.43	8.01

Appendix Table 1. Continued.

		Site Location: N. FK. CAPTINA CREEK DST BARNESVILLE WWTP River Mile: 10.12 Storet: C02S82					Site Location: N. FK. CAPTINA CR. SE OF BARNESVILLE @ SR 148 River Mile: 6.65 Storet: C02W05				
Parameter	Units	Dupl A/B		Dupl A/B			Dupl A/B		Dupl A/B		
		6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009
Acidity	mg/L	<5/ <5	<5	<5	<5/ <5	<5	<5	<5	<5	<5	<5
Alkalinity	mg/L	183/ 181	147	115	127/ 126	104	149	153	139	144	127
Aluminum	ug/L	265/ 261	499	<200	<200/ 266	<200	<200	286	420	<200	<200
Ammonia	mg/L	12.6/ 12.5	0.37	0.31	0.05/ 0.05	<0.05	0.51	0.07	<0.05	<0.05	<0.05
Arsenic	ug/L	<2/ <2	<2	<2	<2/ <2	<2	<2	<2	2.5	2.4	2.4
Barium	ug/L	45/ 43	45	26	24/ 27	17	72	67	64	57	48
Cadmium	ug/L	<0.2/ <0.2	<0.2	<0.2	<0.2/ <0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	60/ 62	59	49	52/ 54	47	73	65	60	57	53
Chloride	mg/L	76/ 75.4	69.3	71.1	71.9/ 69.8	69.8	36.6	38.3	44	54	47.8
Chromium	ug/L	<2/ <2	<2	<2	<2/ <2	<2	<2	<2	<2	<2	<2
COD	mg/L	28/ 32	<20	<20	<20/ <20	24	<20	<20	<20	<20	<20
Conductivity	umhos/cm	743/ 743	638	622	631/ 622	638	587	567	548	575	539
Copper	ug/L	6.4/ 6.1	3.5	2.3	2.7/ 2.8	3.6	3.3	2.3	2.9	2.8	3.3
Hardness, Total	mg/L	199/ 204	201	164	175/ 184	163	248	220	203	192	182
Iron	ug/L	578/ 601	910	238	147/ 288	109	405	529	714	251	194
Lead	ug/L	<2/ <2	3.5	<2	<2/ <2	<2	<2	<2	<2	<2	<2
Magnesium	mg/L	12/ 12.0	13	10	12-Nov	11	16	14	13	12	12
Manganese	ug/L	410/ 411	136	45	28/ 46	28	154	84	114	53	39
Mercury	ug/L	<0.2/ <0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	NA	<0.2
Nickel	ug/L	2.7/ 2.7	2.9	2.2	2.3/ 2.4	2.2	2.3	2.4	2.4	2.4	2.1
Nitrate+nitrite	mg/L	0.42/ 0.41	4.18	5.42	5.05/ 5.43	9.14	2.41	1.48	1.5	2.06	4.47
Nitrite	mg/L	0.2/ 0.2	0.32	0.21	<0.02/ <0.02	<0.02	0.44	0.02	<0.02	<0.02	<0.02
Potassium	mg/L	9/ 9.0	8	10	10/ 10.0	12	4	5	6	6	7
Selenium	ug/L	<2/ <2	<2	<2	<2/ <2	<2	<2	<2	<2	<2	<2
Sodium	mg/L	53/ 54	46	51	53/ 55	57	25	26	30	37	38
Strontium	ug/L	292/ 297	282	225	229/ 239	219	390	336	304	285	264
Sulfate	mg/L	43.2/ 43.5	40.9	42.6	40.8/ 40.4	37.4	65.1	56.3	53.7	44.9	40.6
TKN	mg/L	12/ 11.5	2.05	1.18	0.82/ 0.85	1.25	1.1	0.53	0.39	0.5	0.77
Total Dissolved Solids	mg/L	376/ 382	384	368	370/ 374	384	372	362	320	328	312
Total Phosphorus	mg/L	0.75/ 0.79	1.19	2.44	1.59/ 1.65	3.64	0.23	0.33	0.39	0.39	0.82
Total Suspended Solids	mg/L	25/ 22	32	8	5/ 5.0	<5	9	14	23	<5	<5
Zinc	ug/L	16/ 16	28	29	24/ 27	24	<10	16	<10	<10	<10
CBOD20	mg/L	NA	NA	5.9	NA	3.6	NA	NA	NA	NA	NA
Field Measurements											
Temperature	°C	21.37	17.51	21.92	23.75	21.58	20.71	18	19.68	22.92	20.18
Conductivity	umhos/cm	734.2	655.3	618.9	645.6	630.8	581.3	568.3	549.6	585	539.3
Dissolved Oxygen	mg/L	5.65	7.09	9.19	7.57	6.71	7.52	8.38	11.31	8.47	7.61
D.O. Saturation	%	63.9	74.3	105.1	89.7	76.2	84	88.6	123.8	98.7	84.1
pH	S.U.	7.58	8.06	8.05	7.99	7.99	8.06	8.08	7.93	8.4	8.05

Appendix Table 1. Continued.

		Site Location: N. FK. CAPTINA CREEK DST. LONG RUN @ CR26 River Mile: 3.94 Storet: C02S68					Site Location: JAKES RUN SOUTH OF HUNTER @ MOUTH River Mile: 0.01 Storet: C02S58				
Parameter	Units	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009
Acidity	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Alkalinity	mg/L	151	142	152	153	144	131	142	143	162	160
Aluminum	ug/L	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
Ammonia	mg/L	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2	<2	2	2.1	<2	<2	<2	<2	<2
Barium	ug/L	61	57	67	64	60	62	61	66	69	70
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	67	70	70	68	62	55	53	59	61	62
Chloride	mg/L	24	17.3	30.9	35.9	37.4	9.3	7.7	9.5	8.1	7.9
Chromium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
COD	mg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Conductivity	umhos/cm	571	556	586	588	565	392	390	416	416	423
Copper	ug/L	3	<2	<2	2	2.4	<2	<2	<2	<2	<2
Hardness, Total	mg/L	241	257	253	248	221	191	182	205	210	217
Iron	ug/L	230	245	171	140	121	62	132	<50	86	<50
Lead	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Magnesium	mg/L	18	20	19	19	16	13	12	14	14	15
Manganese	ug/L	80	109	55	55	36	10	12	<10	16	10
Mercury	ug/L	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	NA	<0.2
Nickel	ug/L	2.5	2	<2	2.1	2.2	<2	<2	<2	<2	<2
Nitrate+nitrite	mg/L	1.27	0.3	0.39	0.51	1.09	<0.1	0.25	<0.1	<0.1	<0.1
Nitrite	mg/L	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	3	3	4	4	5	2	2	2	2	2
Selenium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Sodium	mg/L	16	14	21	26	29	7	7	8	9	9
Strontium	ug/L	397	440	421	415	358	313	297	333	338	342
Sulfate	mg/L	95.6	107	92.4	77.4	63.5	45.8	39.5	45.9	38.2	34.5
TKN	mg/L	0.45	0.42	0.22	0.29	0.66	0.23	0.22	<0.2	<0.2	0.27
Total Dissolved Solids	mg/L	378	394	356	366	336	246	232	256	256	252
Total Phosphorus	mg/L	0.06	0.04	0.09	0.11	0.31	0.01	0.02	0.01	<0.01	0.02
Total Suspended Solids	mg/L	6	6	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Field Measurements											
Temperature	°C	22.62	20.97	21.82	24.86	18.02	20.06	17.25	20.32	21.45	20.18
Conductivity	umhos/cm	546.6	572.3	592	597.2	560.9	386.9	403.2	412.6	418.3	421.4
Dissolved Oxygen	mg/L	9.35	6.75	10.72	8.17	8.83	10.12	8.04	13.04	10.45	9.38
D.O. Saturation	%	108.4	75.7	122.3	98.8	93.4	111.5	83.7	144.4	118.4	103.6
pH	S.U.	8.53	7.94	8.32	8.43	7.85	8.32	8.11	8.44	8.38	8.45

Appendix Table 1. Continued.

		Site Location: NORTH FORK CAPTINA CREEK NEAR MOUTH @ CO. RD. 92									
		River Mile: 0.43 Storet: C02S54									
Parameter	Units	Duplicate A					Duplicate B				
		3/25/2009	4/7/2009	6/9/2009	7/1/2009	7/28/2009	7/28/2009	7/29/2009	8/27/2009	9/9/2009	9/15/2009
Acidity	mg/L	<5	<5	<5	<5	<5	<5	NA	<5	NA	<5
Alkalinity	mg/L	129	111	136	151	151	151	NA	147	NA	148
Aluminum	ug/L	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Barium	ug/L	58	44	66	63	69	69	60	71	57	63
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	67	55	69	64	68	67	58	66	54	63
Chloride	mg/L	22.8	17.1	22.3	21.2	30.7	31.3	26.6	32.8	27.9	38.4
Chromium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
COD	mg/L	<20	<20	<20	<20	<20	<20	NA	<20	NA	<20
Conductivity	umhos/cm	537	429	527	536	564	565	NA	560	NA	562
Copper	ug/L	2.9	<2	2.9	<2	<2	<2	<2	<2	<2	2
Hardness, Total	mg/L	246	195	251	230	248	241	211	243	188	227
Iron	ug/L	86	134	159	134	158	131	122	179	234	81
Lead	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Magnesium	mg/L	19	14	19	17	19	18	16	19	13	17
Manganese	ug/L	47	48	73	31	35	32	30	43	31	34
Mercury	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	NA	NA	<0.2
Nickel	ug/L	<2	<2	2.1	<2	<2	<2	<2	2	<2	2.1
Nitrate+nitrite	mg/L	0.1	0.27	0.44	0.15	0.11	0.11	<0.1	<0.1	0.44	<0.1
Nitrite	mg/L	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	2	2	3	3	4	4	3	4	4	4
Selenium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Sodium	mg/L	17	11	17	15	21	20	20	24	22	28
Strontium	ug/L	421	314	428	383	421	412	375	417	306	384
Sulfate	mg/L	99.8	72.1	79.6	76.4	82.7	83.4	72.8	79.3	47.7	66.9
TKN	mg/L	0.32	<0.2	0.47	0.23	0.23	0.24	0.28	0.4	0.3	0.49
Total Dissolved Solids	mg/L	370	260	352	334	364	352	312	334	272	332
Total Phosphorus	mg/L	<0.01	<0.01	0.03	0.03	0.04	0.04	0.03	0.04	0.1	0.07
Total Suspended Solids	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	5	<5
Zinc	ug/L	<10	<10	<10	11	<10	<10	<10	<10	<10	<10
CBOD20	mg/L	NA	NA	3.7	4.8	3.4	3.3	3.3	3.6	3.9	4
Field Measurements											
Temperature	°C	7.08	7.13	24.99	19.14	23.26	23.26	NA	23.12	NA	20.51
Conductivity	umhos/cm	527	383	517.1	531.4	571.3	571.3	NA	567.3	NA	558.8
Dissolved Oxygen	mg/L	13.47	15.6	9.68	7.7	9.7	9.7	NA	8.34	NA	9.3
D.O. Saturation	%	113.3	129	117.2	83.4	113.8	113.8	NA	97.5	NA	103.5
pH	S.U.	7.95	NA	8.41	7.96	8.07	8.07	NA	8.1	NA	8.06

Appendix Table 1. Continued.

		Site Location: N. FK. CAPTINA CREEK NEAR MOUTH @ CO. RD. 92 River Mile: 0.43 Storet: C02S54					Site Location: PEA VINE CR. SE OF ARMSTRONGS MILLS @ CR 5 River Mile: 0.15 Storet: C02S40				
Parameter	Units						Dupl A/B	Dupl A/B			
		9/16/2009	9/29/2009	12/14/2009			6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009
Acidity	mg/L	NA	<5	<5.0			<5/ <5	<5/ <5	<5	<5	<5
Alkalinity	mg/L	NA	157	133			157/ 154	189	186	205	211
Aluminum	ug/L	<200	<200	288			<200/ <200	<200/ <200	<200	<200	<200
Ammonia	mg/L	<0.05	<0.05	<0.050			<0.05/ <0.05	<0.05/ <0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2	<2.0			<2/ <2	<2/ <2	<2	<2	<2
Barium	ug/L	61	62	55			59/ 59	63/ 63	67	78	75
Cadmium	ug/L	<0.2	<0.2	<0.20			<0.2/ <0.2	<0.2/ <0.2	<0.2	<0.2	<0.2
Calcium	mg/L	59	64	63			53/ 52	56/ 57	59	68	68
Chloride	mg/L	39.5	31.9	28.2			<5/ <5	5.4/ 5.2	5.8	7.1	6.3
Chromium	ug/L	<2	<2	<2.0			<2/ <2	<2/ <2	<2	<2	<2
COD	mg/L	NA	<20	<20			<20/ <20	<20/ <20	<20	<20	<20
Conductivity	umhos/cm	NA	556	507			410/ 409	454/ 454	473	510	509
Copper	ug/L	<2	<2	<2.0			<2/ <2	<2/ <2	<2	<2	2.3
Hardness, Total	mg/L	217	230	219			182/ 179	193/ 196	205	236	236
Iron	ug/L	91	126	467			59/ <50	53/ 65	74	85	69
Lead	ug/L	<2	<2	<2.0			<2/ <2	<2/ <2	<2	<2	<2
Magnesium	mg/L	17	17	15			12/ 12.0	13/ 13	14	16	16
Manganese	ug/L	33	23	62			<10/ <10	<10/ <10	11	18	17
Mercury	ug/L	NA	<0.2	<0.20			<0.2/ <0.2	<0.2/ <0.2	<0.2	NA	<0.2
Nickel	ug/L	2.1	3.6	<2.0			<2/ <2	<2/ <2	<2	<2	<2
Nitrate+nitrite	mg/L	0.11	0.16	0.79			0.1/ 0.1	<0.1/ <0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.02	<0.02	<0.020			<0.02/ <0.02	<0.02/ <0.02	<0.02	<0.02	<0.02
Potassium	mg/L	4	5	3			2/ 2.0	2/ 2.0	2	2	2
Selenium	ug/L	<2	<2	<2.0			<2/ <2	<2/ <2	<2	<2	<2
Sodium	mg/L	28	23	18			20/ 20	21/ 22	24	28	26
Strontium	ug/L	369	378	330			376/ 371	424/ 430	461	537	522
Sulfate	mg/L	78.3	87.7	79.6			38.1/ 38.7	41/ 40.9	42.5	45	42.6
TKN	mg/L	<0.2	<0.2	0.34			<0.2/ 0.23	<0.2/ 0.29	<0.2	<0.2	0.71
Total Dissolved Solids	mg/L	340	332	302			240/ 244	268/ 260	282	312	304
Total Phosphorus	mg/L	0.06	0.16	0.037			<0.01/ <0.01	0.01/ 0.01	<0.01	<0.01	<0.01
Total Suspended Solids	mg/L	<5	<5	5			<5/ <5	<5/ <5	<5	<5	<5
Zinc	ug/L	<10	<10	<10			<10/ <10	<10/ <10	<10	<10	<10
CBOD20	mg/L	3	<2	NA			NA	NA	NA	NA	NA
Field Measurements											
Temperature	°C	NA	14.5	3.78			20.8	19.57	22.09	22.11	18.88
Conductivity	umhos/cm	NA	561.8	509			409.8	472.9	413.2	556.7	513.8
Dissolved Oxygen	mg/L	NA	11.48	14.4			9.6	7.04	9.53	9.52	8.51
D.O. Saturation	%	NA	112.8	109.4			107.4	76.9	109.3	109.2	91.7
pH	S.U.	NA	8.1	8.25			8.59	8.2	8.24	8.22	8.24

Appendix Table 1. Continued.

		Site Location: BEND FORK SE OF BETHESDA @ TWP. RD. 192 River Mile: 8.35 Storet: C02S44					Site Location: BEND FORK @ TWP. RD. 101 River Mile: 3.59 Storet: C02S43				
Parameter	Units	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009
Acidity	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Alkalinity	mg/L	157	157	152	157	177	167	166	160	183	185
Aluminum	ug/L	<200	<200	<200	<200	<200	369	<200	<200	<200	<200
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Barium	ug/L	68	58	61	64	68	84	70	72	80	80
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	85	72	77	78	87	71	62	64	66	69
Chloride	mg/L	15.3	17.9	22.4	23.9	18.1	9.6	11.8	16.2	16.3	18.9
Chromium	ug/L	<2	<2	<2	<2	2.9	<2	<2	<2	<2	<2
COD	mg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Conductivity	umhos/cm	636	594	633	631	677	527	517	550	546	569
Copper	ug/L	2.3	<2	<2	<2	<2	3.2	<2	<2	<2	<2
Hardness, Total	mg/L	311	266	287	289	328	243	217	226	231	242
Iron	ug/L	224	290	147	250	187	535	117	108	82	118
Lead	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Magnesium	mg/L	24	21	23	23	27	16	15	16	16	17
Manganese	ug/L	57	52	35	70	51	83	13	11	13	17
Mercury	ug/L	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	NA	<0.2
Nickel	ug/L	<2	2.3	2.1	2	2	2.2	<2	<2	<2	<2
Nitrate+nitrite	mg/L	0.51	0.25	0.28	0.16	0.13	0.21	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	3	4	4	4	5	3	3	3	3	3
Selenium	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Sodium	mg/L	16	16	20	21	23	25	29	30	38	39
Strontium	ug/L	537	452	494	489	610	442	397	416	434	444
Sulfate	mg/L	125	115	129	114	142	79.2	75.7	91.5	67.8	83.8
TKN	mg/L	0.47	0.33	0.29	0.2	0.48	0.38	0.28	<0.2	0.23	0.42
Total Dissolved Solids	mg/L	450	388	416	412	440	314	314	338	330	342
Total Phosphorus	mg/L	0.07	0.06	0.07	0.06	0.06	0.28	0.02	0.02	<0.01	0.03
Total Suspended Solids	mg/L	<5	7	<5	<5	<5	221	<5	5	<5	<5
Zinc	ug/L	<10	<10	<10	<10	<10	12	10	<10	<10	<10
Field Measurements											
Temperature	°C	20.51	19.45	23.4	19.81	16.23	19.93	18.8	22.33	20.16	16.87
Conductivity	umhos/cm	630.8	603.2	549.5	686.2	676.2	521.4	530.8	476.8	595.9	576
Dissolved Oxygen	mg/L	8.31	8.8	11.38	9.36	10.47	9.38	8.76	11.6	10.15	8.42
D.O. Saturation	%	92.4	95.9	133.8	102.8	106.8	103.2	94.1	133.7	112.2	87
pH	S.U.	8.09	8.33	8.42	8.04	8.16	8.38	8.37	8.6	8.31	8.47

Appendix Table 1. Continued.

		Site Location: BEND FORK N OF ALLEDONIA @ 1ST FORD River Mile: 0.26 Storet: C02S81					Site Location: JOY FORK AT MOUTH @ TWP. RD. 194 River Mile: 0.01 Storet: C02S47				
Parameter	Units	Dupl A/B									
		6/9/2009	7/28/2009	8/27/2009	9/15/2009	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009	
Acidity	mg/L	<5	<5	<5	<5	<5/ <5	<5	<5	<5	<5	
Alkalinity	mg/L	172	166	177	183	204/ 201	211	202	209	216	
Aluminum	ug/L	<200	<200	366	<200	<200/ <200	<200	<200	279	<200	
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05/ <0.05	<0.05	<0.05	<0.05	<0.05	
Arsenic	ug/L	<2	<2	<2	<2	<2/ <2	<2	<2	<2	<2	
Barium	ug/L	77	75	83	81	85/ 83	72	72	86	82	
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2/ <0.2	<0.2	<0.2	<0.2	<0.2	
Calcium	mg/L	64	61	64	68	57/ 55	51	50	55	56	
Chloride	mg/L	9.8	16.4	15.8	17.2	10.8/ 10.6	12.5	18.2	19.9	22.4	
Chromium	ug/L	<2	<2	<2	<2	<2/ <2	<2	<2	<2	<2	
COD	mg/L	<20	<20	<20	<20	<20/ <20	<20	<20	<20	<20	
Conductivity	umhos/cm	507	543	536	556	523/ 523	538	546	562	576	
Copper	ug/L	2.2	2.4	2	<2	2.7/ 2.9	<2	2.2	2.2	2.2	
Hardness, Total	mg/L	222	214	226	240	188/ 179	164	162	179	181	
Iron	ug/L	114	78	665	102	97/ 183	132	95	457	139	
Lead	ug/L	<2	<2	<2	<2	<2/ <2	<2	<2	<2	<2	
Magnesium	mg/L	15	15	16	17	11/ 10.0	9	9	10	10	
Manganese	ug/L	20	<10	42	<10	10/ 14.0	<10	<10	32	<10	
Mercury	ug/L	<0.2	<0.2	NA	<0.2	<0.2/ <0.2	<0.2	<0.2	NA	<0.2	
Nickel	ug/L	<2	<2	<2	<2	2.5/ <2	<2	<2	<2	<2	
Nitrate+nitrite	mg/L	<0.1	<0.1	<0.1	<0.1	0.19/ 0.17	0.14	0.1	<0.1	<0.1	
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02/ <0.02	<0.02	<0.02	<0.02	<0.02	
Potassium	mg/L	2	3	3	3	2/ 2.0	2	2	2	3	
Selenium	ug/L	<2	<2	<2	<2	<2/ <2	<2	<2	<2	<2	
Sodium	mg/L	26	33	30	32	48/ 47	52	58	57	63	
Strontium	ug/L	429	411	424	448	404/ 395	352	336	353	359	
Sulfate	mg/L	64.7	76	64.6	64.9	43.6/ 43.5	47.6	48.2	42.8	43.5	
TKN	mg/L	0.29	<0.2	<0.2	0.31	0.27/ 0.3	0.23	<0.2	<0.2	0.32	
Total Dissolved Solids	mg/L	290	326	326	342	314/ 312	326	326	346	356	
Total Phosphorus	mg/L	0.02	0.02	0.02	0.02	0.03/ 0.03	0.03	0.03	0.03	0.03	
Total Suspended Solids	mg/L	5	<5	17	<5	<5/ <5	<5	<5	<5	<5	
Zinc	ug/L	<10	11	<10	<10	<10	<10	<10	<10	<10	
Field Measurements											
Temperature	°C	21.19	24.06	21.26	18.8	18.91	18.12	21.83	19.29	16.08	
Conductivity	umhos/cm	501.8	478.8	580.6	566.2	515.5	548.6	476.5	610.6	617.4	
Dissolved Oxygen	mg/L	9.01	9.36	9.81	9.47	9.24	8.52	10.73	10.5	9.68	
D.O. Saturation	%	101.6	111.4	110.8	101.8	99.6	90.3	122.4	114.1	98.4	
pH	S.U.	8.53	8.41	8.31	8.26	8.4	8.17	8.48	8.37	8.43	

Appendix Table 1. Continued.

		Site Location: CAT RUN UPST. PIPELINE @ CO. RD. 56 River Mile: 3.30 Storet: C02K06					Site Location: CAT RUN NEAR MOUTH @ CO. RD. 56 River Mile: 0.25 Storet: C02S38				
Parameter	Units	Dupl A/B									
		6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009
Acidity	mg/L	<5	<5/ <5	<5	<5	<5	<5	<5	<5	<5	<5
Alkalinity	mg/L	147	159/ 160	185	191	187	164	193	211	229	227
Aluminum	ug/L	<200	254/ 242	<200	<200	<200	<200	<200	<200	<200	<200
Ammonia	mg/L	<0.05	<0.05/ <0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2/ <2	<2	<2	<2	<2	<2	<2	<2	<2
Barium	ug/L	64	60/ 60	63	70	66	61	66	83	96	91
Cadmium	ug/L	<0.2	<0.2/ <0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	47	43/ 44	45	49	46	54	59	76	89	86
Chloride	mg/L	5.3	6.3/ 6.1	10.2	11	11.8	6.8	8.9	15.8	15.5	18.4
Chromium	ug/L	<2	<2/ <2	<2	<2	<2	<2	<2	<2	<2	<2
COD	mg/L	<20	<20/ <20	21	<20	<20	<20	<20	<20	<20	<20
Conductivity	umhos/cm	400	420/ 419	491	494	490	490	572	828	863	933
Copper	ug/L	<2	<2/ <2	<2	2	<2	2.1	<2	<2	2.5	2.9
Hardness, Total	mg/L	159	149/ 151	154	168	160	184	205	268	309	301
Iron	ug/L	127	334/ 349	212	<50	80	225	729	602	866	300
Lead	ug/L	<2	<2/ <2	<2	<2	<2	<2	<2	<2	<2	<2
Magnesium	mg/L	10	10/ 10.0	10	11	11	12	14	19	21	21
Manganese	ug/L	<10	12/ 12.0	18	<10	<10	12	23	42	51	23
Mercury	ug/L	<0.2	<0.2/ <0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	NA	<0.2
Nickel	ug/L	<2	<2/ <2	<2	<2	<2	<2	<2	<2	<2	<2
Nitrate+nitrite	mg/L	0.1	0.1/ 0.11	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	2	2/ 2.0	2	2	2	2	2	2	3	3
Selenium	ug/L	<2	<2/ <2	<2	<2	<2	<2	<2	<2	<2	<2
Sodium	mg/L	26	31/ 31	43	50	52	34	45	83	93	104
Strontium	ug/L	393	391/ 391	431	479	488	447	507	672	731	744
Sulfate	mg/L	41.9	40/ 39.7	45.3	44.6	43.5	63.5	84.6	178	190	215
TKN	mg/L	<0.2	0.26/ <0.2	<0.2	0.28	0.25	0.2	0.23	<0.2	<0.2	0.27
Total Dissolved Solids	mg/L	240	254/ 246	300	292	288	294	350	524	558	598
Total Phosphorus	mg/L	0.01	0.03/ 0.03	0.02	<0.01	<0.01	0.01	0.02	0.01	<0.01	0.01
Total Suspended Solids	mg/L	<5	11/ 11.0	9	<5	<5	<5	5	<5	21	<5
Zinc	ug/L	<10	<10/ <10	<10	<10	<10	<10	<10	<10	<10	<10
Field Measurements											
Temperature	°C	22.09	19.75	21.43	22.79	19.07	21.97	19.71	20.17	22.06	20.65
Conductivity	umhos/cm	398.5	590.6	426	539.1	493.2	487.2	430	719.2	951.7	929
Dissolved Oxygen	mg/L	8.84	7.61	10.67	9.63	7.67	9.47	7.06	8.94	9.1	7.16
D.O. Saturation	%	101.3	83.4	120.8	111.9	82.9	108.4	77.3	98.8	104.4	80
pH	S.U.	8.69	8.09	8.37	8.42	8.5	8.5	8.17	7.87	8.02	8.18

Appendix Table 1. Continued.

		Site Location: CASEY RUN @ AT MOUTH									
		River Mile: 0.1 Storet: C02K12									
Parameter	Units	11/12/2008	12/22/2008	1/21/2009	2/11/2009	3/25/2009	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009
Acidity	mg/L	<5.0	<5.0	NA	<5	<5	<5	<5	<5	<5	<5
Alkalinity	mg/L	213	128	NA	62.8	140	148	174	177	190	193
Aluminum	ug/L	<200	<200	<200	629	<200	<200	<200	<200	<200	755
Ammonia	mg/L	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2.0	<2.0	<2	<2	<2	<2	<2	<2	<2	<2
Barium	ug/L	86	57	51	35	57	67	65	82	77	86
Cadmium	ug/L	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	82	60	54	29	61	62	63	69	70	76
Chloride	mg/L	<5.0	<5.0	<5	<5	<5	<5	<5	<5	<5	<5
Chromium	ug/L	<2.0	<2.0	<2	<2	<2	<2	<2	<2	<2	<2
COD	mg/L	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20
Conductivity	umhos/cm	537	362	368	193	403	377	418	450	456	469
Copper	ug/L	<2.0	<2.0	<2	<2	<2	<2	<2	<2	<2	2.3
Hardness, Total	mg/L	283	199	184	97	206	208	215	234	237	260
Iron	ug/L	<50	68	128	831	116	189	77	99	118	1250
Lead	ug/L	<2.0	<2.0	<2	<2	<2	<2	<2	<2	<2	<2
Magnesium	mg/L	19	12	12	6	13	13	14	15	15	17
Manganese	ug/L	<10	<10	<10	12	<10	<10	<10	13	<10	42
Mercury	ug/L	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2
Nickel	ug/L	<2.0	<2.0	<2	<2	<2	<2	3.2	<2	<2	2.2
Nitrate+nitrite	mg/L	0.84	0.15	0.13	0.13	<0.1	<0.1	0.11	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.020	<0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	2	2	<2	<2	2	2	2	2	2	3
Selenium	ug/L	<2.0	<2.0	<2	<2	<2	<2	<2	<2	<2	<2
Sodium	mg/L	5	5	<5	<5	5	5	5	5	6	6
Strontium	ug/L	441	301	280	131	319	324	337	371	374	417
Sulfate	mg/L	52.3	45.8	NA	26.7	48.8	35.1	37	44	38	38.7
TKN	mg/L	<0.20	0.21	<0.2	<0.2	<0.2	0.23	<0.2	<0.2	<0.2	0.21
Total Dissolved Solids	mg/L	378	276	234	140	268	232	252	276	266	278
Total Phosphorus	mg/L	0.053	0.017	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.9
Total Suspended Solids	mg/L	<5	<5	8	6	6	<5	5	<5	23	66
Zinc	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Field Measurements											
Temperature	°C	4.71	0.44	0.19	5.08	6.8	19.92	17.37	19.8	20.55	16.69
Conductivity	umhos/cm	433	349.5	376	199	404	381	429.3	456.5	464.1	470.4
Dissolved Oxygen	mg/L	13.37	20.29	18.4	15.53	13.47	9.87	7.84	4.36	8.35	7.38
D.O. Saturation	%	104.1	140.6	126.9	122	110.5	108.5	81.9	47.8	92.9	75.9
pH	S.U.	8.61	8.64	8.42	8.65	8.17	8.44	8.03	7.81	8.11	7.82

Appendix Table 1. Continued.

		Site Location: PERKINS RUN DST. OHIO VALLEY COAL SLURRY									
		River Mile: 0.3 Storet: 300392									
Parameter	Units	4/29/2008	7/21/2008	9/8/2008	10/20/2008	11/12/2008	12/22/2008	1/21/2009	3/25/2009		
Acidity	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5		
Alkalinity	mg/L	286	414	445	424	424	390	NA	419		
Aluminum	ug/L	223	<200	<200	<200	<200	<200	2990	241		
Ammonia	mg/L	0.062	0.188	<0.050	0.055	<0.050	0.217	0.36	0.15		
Arsenic	ug/L	<2.0	<2.0	2.2	2.1	2.8	2.1	8.4	2.4		
Barium	ug/L	33	39	20	22	21	39	77	37		
Cadmium	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2		
Calcium	mg/L	152	327	276	282	334	445	134	292		
Chloride	mg/L	141	309	371	469	510	417	737	344		
Chromium	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.1	<2		
COD	mg/L	10	<10	<10	<10	<10	<20	<20	<20		
Conductivity	umhos/cm	2240	4280	4550	5180	5200	5160	5700	4890		
Copper	ug/L	15.9	11.6	10.6	14.0	12.2	26.6	29.6	16		
Hardness, Total	mg/L	495	1020	887	902	1060	1030	462	931		
Iron	ug/L	1400	568	116	76	<50	449	5960	977		
Lead	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.8	<2		
Magnesium	mg/L	28	49	48	48	54	57	31	49		
Manganese	ug/L	1660	3090	754	828	251	2740	880	1900		
Mercury	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2		
Nickel	ug/L	5.0	10.6	7.3	8.2	8.7	10.3	27.6	7.2		
Nitrate+nitrite	mg/L	<0.10	<0.10	0.13	0.10	<0.10	<0.10	0.2	0.12		
Nitrite	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.02	<0.02		
Potassium	mg/L	3	5	5	5	5	5	7	5		
Selenium	ug/L	3.6	6.3	6.2	8.2	9.9	7.2	11.4	6.8		
Sodium	mg/L	390	1010	988	929	1140	1360	1410	1180		
Strontium	ug/L	1900	3430	3440	3290	3630	4100	4570	4170		
Sulfate	mg/L	809	1730	1560	1660	1780	1850	NA	1660		
TKN	mg/L	0.86	0.73	0.52	0.80	0.71	0.47	0.53	0.64		
Total Dissolved Solids	mg/L	1790	3250	3520	3670	3840	3860	3890	3480		
Total Phosphorus	mg/L	0.017	0.022	<0.010	0.106	<0.010	<0.010	0.11	<0.01		
Total Suspended Solids	mg/L	16	5	<5	<5	<5	7	188	34		
Zinc	ug/L	<10	<10	<10	<10	<10	<10	22	<10		
Field Measurements											
Temperature	°C	12.36	22.02	20.95	12.13	10.8	3.6	2.12	10.83		
Conductivity	umhos/cm	2568.9	4509.1	4795.7	4814.2	4236	5006	5899	4926		
Dissolved Oxygen	mg/L	9.87	9.46	10.99	11.57	12.5	14.26	16.42	12.39		
D.O. Saturation	%	93.1	109.8	125.1	109.5	114.7	109.6	121.7	113.8		
pH	S.U.	7.51	8.31	8.15	8.11	8.17	7.67	8.22	7.97		

Appendix Table 1. Continued.

		Site Location: PERKINS RUN @ MOUTH River Mile: 0.04 Storet: C02S78										
Parameter	Units	Duplicate A					Duplicate B					
		4/29/2008	7/1/2008	7/21/2008	8/25/2008	8/25/2008	9/8/2008	10/20/2008	11/12/2008	12/22/2008	3/25/2009	
Acidity	mg/L	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5
Alkalinity	mg/L	386	NA	232	436	425	364	379	363	206	426	
Aluminum	ug/L	616	7900	700	<200	<200	<200	<200	<200	560	<200	
Ammonia	mg/L	0.416	0.100	0.368	0.346	0.342	0.198	0.375	0.364	0.369	0.35	
Arsenic	ug/L	3.7	11.4	3.1	2.1	2.0	<2.0	3.1	2.8	<4.0	2.4	
Barium	ug/L	24	154	42	<15	<15	71	15	<15	23	18	
Cadmium	ug/L	<0.20	0.29	1.22	<0.20	<0.20	<0.20	<0.20	<0.20	0.72	<0.2	
Calcium	mg/L	244	149	503	263	289	89	289	321	552	269	
Chloride	mg/L	266	588	272	438	437	456	496	578	474	439	
Chromium	ug/L	<2.0	7.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	
COD	mg/L	10	<10	23	<10	<10	<10	<10	<10	<20	23	
Conductivity	umhos/cm	4860	5330	5250	5860	5880	5930	5930	6190	6940	6790	
Copper	ug/L	36.4	25.0	27.2	23.9	26.9	3.4	18.4	19.2	30.8	24.4 J	
Hardness, Total	mg/L	782	487	1470	863	936	305	948	1020	1730	890	
Iron	ug/L	4240	14600	7060	502	531	122	682	412	1360	385	
Lead	ug/L	<2.0	8.9	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	
Magnesium	mg/L	42	28	53	50	52	20	55	54	86	53	
Manganese	ug/L	2170	741	7990	571	582	93	1250	547	2480	1500	
Mercury	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	
Nickel	ug/L	26.6	23.1	119	8.8	8.9	3.5	13.8	18.2	173	6.5	
Nitrate+nitrite	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.19	<0.1	
Nitrite	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.02	
Potassium	mg/L	6	8	9	7	8	4	8	7	13	7	
Selenium	ug/L	10.2	9.7	12.2	9.3	9.7	<2.0	10.5	13.9	12.2	8.5	
Sodium	mg/L	1070	1060	1100	1480	1640	178	1220	1480	1950	1410	
Strontium	ug/L	5750	3970	6380	7170	7800	1020	5340	7190	8700	7250	
Sulfate	mg/L	2230	NA	2620	2330	2280	NA	2150	2300	3360	2660	
TKN	mg/L	1.05	0.42	0.32	0.99	0.72	0.76	0.89	1.13	0.49	0.89	
Total Dissolved Solids	mg/L	4160	3770	4460	4890	4930	4790	4410	4710	5710	5010	
Total Phosphorus	mg/L	0.048	0.352	0.047	<0.010	<0.010	<0.010	0.021	<0.010	0.022	<0.01	
Total Suspended Solids	mg/L	137	434	45	16	15	21	18	<5	41	28	
Zinc	ug/L	16	45	134	<10	<10	<10	<10	<10	85	<10	
Field Measurements												
Temperature	°C	13.01	21.51	25.02	24.1	24.1	21.42	8.71	7.94	-0.15	10.21	
Conductivity	umhos/cm	5376	5634.7	5548.1	6311.9	6311.9	6282.2	5588.6	5069	6907	6863	
Dissolved Oxygen	mg/L	9.85	8.23	8.34	7.81	7.81	8.22	13.08	12.69	19.06	12.72	
D.O. Saturation	%	95.3	94.9	102.7	94.8	94.8	94.9	114.6	108.9	133.2	116	
pH	S.U.	7.74	8.41	8.29	8.25	8.25	8.24	8.26	8.18	NA	7.95	

Appendix Table 1. Continued.

		Site Location: PERKINS RUN @ MOUTH River Mile: 0.04 Storet: C02S78			
Parameter	Units	7/28/2009	8/27/2009	9/15/2009	9/29/2009
Acidity	mg/L	<5	<5	<5	<5
Alkalinity	mg/L	266	250	262	226
Aluminum	ug/L	<200	<200	<200	231
Ammonia	mg/L	0.37	0.35	0.38	0.29
Arsenic	ug/L	2.9	2.4	2.1	2.3
Barium	ug/L	<15	<15	<15	<15
Cadmium	ug/L	<0.2	<0.2	0.2	0.36
Calcium	mg/L	233	340	318	283
Chloride	mg/L	454	459	463	431
Chromium	ug/L	<2	<2	<2	<2
COD	mg/L	<20	<20	<20	<20
Conductivity	umhos/cm	6570	6560	6480	6120
Copper	ug/L	17.2	36.9	33.4	28.1
Hardness, Total	mg/L	784	1060	992	896
Iron	ug/L	599	1160	914	1240
Lead	ug/L	<2	<2	<2	<2
Magnesium	mg/L	49	51	48	46
Manganese	ug/L	839	1800	1270	1570
Mercury	ug/L	<0.2	NA	<0.2	<0.2
Nickel	ug/L	29.6	48.2	39.8	61.5
Nitrate+nitrite	mg/L	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	7	7	7	8
Selenium	ug/L	9.7	10.9	9.9	8.2
Sodium	mg/L	1360	1520	1520	1150
Strontium	ug/L	5210	6970	6640	4940
Sulfate	mg/L	2870	2680	2660	2600
TKN	mg/L	0.54	0.53	0.82	0.55
Total Dissolved Solids	mg/L	4930	5050	4910	4600
Total Phosphorus	mg/L	<0.01	<0.01	<0.01	0.02
Total Suspended Solids	mg/L	28	8	6	16
Zinc	ug/L	<10	19	19	39
Field Measurements					
Temperature	°C	24.71	23.98	22.88	14.82
Conductivity	umhos/cm	6668.2	6702	6494.9	6254.1
Dissolved Oxygen	mg/L	9.64	6.88	7.16	12.28
D.O. Saturation	%	118.5	83.4	85	123.8
pH	S.U.	8.38	8.3	8.34	8.16

Appendix Table 1. Continued.

		Site Location: PINEY CREEK NW OF ALLEDONIA @ ST. RT. 148						
		River Mile: 0.02 Storet: C02S51						
Parameter	Units	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009	9/24/2009	9/29/2009
Acidity	mg/L	<5	<5	<5	<5	<5	NA	<5
Alkalinity	mg/L	191	174	147	180	189	NA	193
Aluminum	ug/L	<200	<200	<200	<200	<200	<200	<200
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2	<2	2	<2	2.5	<2
Barium	ug/L	96	83	71	117	88	116	69
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	87	75	72	108	93	118	90
Chloride	mg/L	134	94.1	88.4	273	225	339	214
Chromium	ug/L	<2	<2	<2	<2	<2	<2	<2
COD	mg/L	<20	<20	<20	<20	<20	<20	<20
Conductivity	umhos/cm	2220	1620	1440	3040	2640	3720	2430
Copper	ug/L	7.3	4.2	3.1	13.2	11.2	18.4	9.9
Hardness, Total	mg/L	295	261	246	373	323	414	307
Iron	ug/L	142	168	160	105	<50	<50	72
Lead	ug/L	<2	<2	<2	<2	<2	<2	<2
Magnesium	mg/L	19	18	16	25	22	29	20
Manganese	ug/L	17	15	11	26	10	14	<10
Mercury	ug/L	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2
Nickel	ug/L	3	2.6	2.6	4.2	3.4	4.7	4.4
Nitrate+nitrite	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	3	3	3	5	5	6	4
Selenium	ug/L	2.4	<2	<2	3.6	3.5	4.9	3.1
Sodium	mg/L	464	269	224	765	601	800	413
Strontium	ug/L	1720	1260	1040	2180	1770	2580	1600
Sulfate	mg/L	654	483	441	978	790	NA	697
TKN	mg/L	0.4	0.36	<0.2	0.31	0.49	0.4	1.07
Total Dissolved Solids	mg/L	1460	1060	936	2050	1730	2470	1680
Total Phosphorus	mg/L	0.01	0.02	0.01	<0.01	0.02	0.03	0.03
Total Suspended Solids	mg/L	<5	<5	<5	<5	<5	<5	<5
Zinc	ug/L	<10	16	<10	<10	<10	<10	<10
Field Measurements								
Temperature	°C	20.19	18.89	20.77	21.28	19.45	NA	14.17
Conductivity	umhos/cm	2214.2	1648.2	1467.1	3109	2549.4	NA	2481
Dissolved Oxygen	mg/L	8.69	7.94	12.27	9.74	9.74	NA	13
D.O. Saturation	%	96.6	85.8	137.6	110.9	106.8	NA	127.6
pH	S.U.	8.5	7.87	8.38	8.35	8.37	NA	8.22

Appendix Table 1. Continued.

		Site Location: LONG RUN (Trib. To NF CAPTINA) SE OF BARNESVILLE @ SR 148					
		River Mile: 0.04 Storet: C02S59					
Parameter	Units	1/5/2009	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009
Acidity	mg/L	<5	<5	<5	<5	<5	<5
Alkalinity	mg/L	106	137	134	148	148	155
Aluminum	ug/L	238	<200	<200	<200	<200	<200
Ammonia	mg/L	<0.05	<0.05	0.06	<0.05	<0.05	<0.05
Arsenic	ug/L	<2	<2	<2	<2	2	<2
Barium	ug/L	47	58	53	68	71	73
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	69	85	69	78	81	81
Chloride	mg/L	16.1	12.5	12.7	13.3	18.5	18.7
Chromium	ug/L	<2	<2	<2	<2	<2	<2
COD	mg/L	<20	<20	<20	<20	<20	<20
Conductivity	umhos/cm	527	626	556	624	649	650
Copper	ug/L	<2	2.1	<2	<2	<2	<2
Hardness, Total	mg/L	251	319	259	298	318	322
Iron	ug/L	404	242	263	199	264	217
Lead	ug/L	<2	<2	<2	<2	<2	<2
Magnesium	mg/L	19	26	21	25	28	29
Manganese	ug/L	190	164	159	112	140	109
Mercury	ug/L	<0.2	<0.2	<0.2	<0.2	NA	<0.2
Nickel	ug/L	<2	<2	2.1	<2	<2	<2
Nitrate+nitrite	mg/L	0.6	0.42	0.14	<0.1	<0.1	<0.1
Nitrite	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/L	3	2	2	3	3	3
Selenium	ug/L	<2	<2	<2	<2	<2	<2
Sodium	mg/L	12	12	11	12	16	17
Strontium	ug/L	416	559	453	532	582	591
Sulfate	mg/L	128	143	120	145	153	142
TKN	mg/L	0.45	0.37	0.35	0.33	0.27	1.16
Total Dissolved Solids	mg/L	314	432	382	408	418	454
Total Phosphorus	mg/L	0.15	0.02	0.02	0.02	<0.01	0.02
Total Suspended Solids	mg/L	7	9	9	<5	7	<5
Zinc	ug/L	<10	<10	<10	<10	<10	<10
Field Measurements							
Temperature	°C	NA	23.62	21.32	23.42	25.6	19.94
Conductivity	umhos/cm	NA	618.3	572.9	625.1	657.1	644.3
Dissolved Oxygen	mg/L	NA	7.56	6.59	8.51	7.01	6.84
D.O. Saturation	%	NA	89.3	74.4	100.1	85.9	75.2
pH	S.U.	NA	8.11	8.02	7.97	8.11	7.78

Appendix Table 1. Continued.

		Site Location: LONG RUN (TRIB TO PINEY CR) @ TR87 River Mile: 0.2 Storet: 300780					Site Location: PINEY CREEK upst AEC @ TR 87 upst Long Run River Mile: 3.0 Storet: 300779					
Parameter		Units	9/29/2009					9/29/2009				
Acidity		mg/L	<5.0				<5.0					
Alkalinity		mg/L	204				139					
Aluminum		ug/L	531				319					
Ammonia		mg/L	0.063				<0.050					
Arsenic		ug/L	<2.0				<2.0					
Barium		ug/L	90				67					
Cadmium		ug/L	<0.20				<0.20					
Calcium		mg/L	39				35					
Chloride		mg/L	7.0				11.8					
Chromium		ug/L	<2.0				<2.0					
COD		mg/L	<20				<20					
Conductivity		umhos/cm	564				358					
Copper		ug/L	2.4				<2.0					
Hardness, Total		mg/L	130				120					
Iron		ug/L	1020				575					
Lead		ug/L	<2.0				<2.0					
Magnesium		mg/L	8				8					
Manganese		ug/L	137				124					
Mercury		ug/L	<0.20				<0.20					
Nickel		ug/L	<2.0				<2.0					
Nitrate+nitrite		mg/L	0.13				0.11					
Nitrite		mg/L	<0.020				<0.020					
Potassium		mg/L	2				3					
Selenium		ug/L	<2.0				<2.0					
Sodium		mg/L	69				30					
Strontium		ug/L	319				269					
Sulfate		mg/L	65.8				27.4					
TKN		mg/L	0.22				<0.20					
Total Dissolved Solids		mg/L	344				204					
Total Phosphorus		mg/L	0.198				0.022					
Total Suspended Solids		mg/L	8				12					
Zinc		ug/L	<10				<10					
Field Measurements												
Temperature		°C	13.91				14.43					
Conductivity		umhos/cm	571.6				366.5					
Dissolved Oxygen		mg/L	11.66				10.65					
D.O. Saturation		%	113.2				104.4					
pH		S.U.	7.89				7.78					

Appendix Table 1. Continued.

		Site Location: CAPTINA CREEK upst Perkins Run, dst Piney Ck River Mile: 22.5 Storet: 300781					Site Location: Long Run (Trib to N. Fk Captina Cr) TR 192 River Mile: 2.24 Storet: 300594						
Parameter		Units	9/29/2009					1/5/2009					
Acidity		mg/L	<5.0					<5.0					
Alkalinity		mg/L	160					117					
Aluminum		ug/L	<200					201					
Ammonia		mg/L	<0.050					<0.050					
Arsenic		ug/L	<2.0					<2.0					
Barium		ug/L	68					48					
Cadmium		ug/L	<0.20					<0.20					
Calcium		mg/L	63					74					
Chloride		mg/L	60.9					34.2					
Chromium		ug/L	<2.0					<2.0					
COD		mg/L	<20					<20					
Conductivity		umhos/cm	911					617					
Copper		ug/L	3.2					<2.0					
Hardness, Total		mg/L	215					271					
Iron		ug/L	129					407					
Lead		ug/L	<2.0					<2.0					
Magnesium		mg/L	14					21					
Manganese		ug/L	34					184					
Mercury		ug/L	<0.20					<0.20					
Nickel		ug/L	2.1					<2.0					
Nitrate+nitrite		mg/L	<0.10					0.60					
Nitrite		mg/L	<0.020					<0.020					
Potassium		mg/L	4					2					
Selenium		ug/L	<2.0					<2.0					
Sodium		mg/L	109					21					
Strontium		ug/L	599					460					
Sulfate		mg/L	191					127					
TKN		mg/L	0.23					0.40					
Total Dissolved Solids		mg/L	558					376					
Total Phosphorus		mg/L	0.052					0.011					
Total Suspended Solids		mg/L	<5					7					
Zinc		ug/L	<10					<10					
Field Measurements													
Temperature		°C	14.32					NA					
Conductivity		umhos/cm	924.5					NA					
Dissolved Oxygen		mg/L	11.09					NA					
D.O. Saturation		%	108.7					NA					
pH		S.U.	7.69					NA					

Appendix Table 1. Continued.

		Site Location: Ohio Valley Coal Outfall 013 to Perkins Run River Mile: 0.1 Storet: C02S50											
												1/21/2009	1/21/2009
Parameter	Units	3/5/2008	4/29/2008	7/21/2008	9/8/2008	10/20/2008	10/20/2008	11/12/2008	12/22/2008	12:30	12:26		
Acidity	mg/L	NA	<5.0	<5.0	<5.0	<5.0	6.1	<5.0	<5.0	NA	NA		
Alkalinity	mg/L	NA	447	206	393	404	413	372	182	NA	NA		
Aluminum	ug/L	1090	339	560	<200	804	434	<200	<200	<200	<200		
Ammonia	mg/L	0.247	0.607	0.345	0.265	0.895	0.939	0.495	0.437	0.745	0.726		
Arsenic	ug/L	<2.0	3.3	2.9	2.8	5.6	5.0	2.9	2.1	2.7	2.8		
Barium	ug/L	41	15	37	15	<15	<15	<15	<15	<15	<15		
Cadmium	ug/L	2.95	<0.20	1.25	<0.20	<0.20	<0.20	<0.20	0.76	<0.2	<0.20		
Calcium	mg/L	337	249	568	294	325	299	339	509	321	377		
Chloride	mg/L	126	313	269	462	539	511	597	482	542	544		
Chromium	ug/L	<30	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2.0		
COD	mg/L	<10	<10	<10	<10	14	<10	<10	<20	27	<20		
Conductivity	umhos/cm	4720	5640	5450	6210	6930	7020	6420	7320	7720	7700		
Copper	ug/L	12	33.6	24.1	18.1	25.0	22.3	18.1	27.0	31.6	37.1		
Hardness, Total	mg/L	1130	811	1640	952	1040	961	1080	1640	1080	1230		
Iron	ug/L	17700	2660	5840	937	2650	1260	862	407	1540	1660		
Lead	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2.0		
Magnesium	mg/L	70	46	54	53	55	52	56	89	68	69		
Manganese	ug/L	4640	1630	7650	1130	2300	2210	878	2300	1510	1620		
Mercury	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20		
Nickel	ug/L	361	27.2	133	17.8	20.0	19.8	19.7	195	65.2	69.8		
Nitrate+nitrite	mg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	1.08	0.12	0.1	0.10		
Nitrite	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.02	<0.020		
Potassium	mg/L	6	6	8	8	11	11	8	14	9	9		
Selenium	ug/L	7.8	12.8	11.8	8.2	12.1	11.0	13.1	12.9	12.5	13.1		
Sodium	mg/L	816	1260	1200	1340	1490	1460	1620	1810	1540	1870		
Strontium	ug/L	4960	6670	7210	6870	7010	6930	8140	8070	8460	10100		
Sulfate	mg/L	NA	2850	2780	2650	2740	2670	2410	3610	NA	NA		
TKN	mg/L	<0.20	1.87	0.72	0.70	1.68	1.55	1.18	0.55	0.87	0.82		
Total Dissolved Solids	mg/L	4080	5030	4610	5050	5210	5220	4880	5750	6010	6040		
Total Phosphorus	mg/L	0.017	0.090	0.018	<0.010	0.061	0.075	<0.010	<0.010	0.01	0.011		
Total Suspended Solids	mg/L	31	21	26	7	64	28	<5	6	<5	5		
Zinc	ug/L	441	13	121	<10	<10	<10	<10	92	36	32		
Field Measurements													
Temperature	°C	4.94	13.46	25.49	20.43	11.25	13.13	7.38	-0.15	1.68	1.49		
Conductivity	µmhos/cm	4887	6440	5691	6580.3	6436	6481	5274.7	7174.3	7895	7736.4		
Dissolved Oxygen	mg/L	10.03	8.45	7.38	8.51	10.83	10.05	12.14	23.07	15.58	13.94		
D.O. Saturation	%	NA	82.8	91.7	96.4	101	97.8	102.8	161.4	115	102.3		
pH	S.U.	7.8	7.16	8.02	8.23	8.12	7.71	8.2	8.11	7.9	8.28		

Appendix Table 1. Continued.

		Site Location: Ohio Valley Coal Outfall 013 to Perkins Run River Mile: 0.1 Storet: C02S50				
Parameter	Units	3/25/2009	8/27/2009	9/15/2009		
Acidity	mg/L	<5	<5	<5		
Alkalinity	mg/L	455	259	276		
Aluminum	ug/L	220	<200	<200		
Ammonia	mg/L	0.42	0.4	0.44		
Arsenic	ug/L	2.9	2.4	2.4		
Barium	ug/L	20	<15	<15		
Cadmium	ug/L	<0.2	0.23	0.28		
Calcium	mg/L	328	351	299		
Chloride	mg/L	464	469	474		
Chromium	ug/L	<2	<2	<2		
COD	mg/L	<20	<20	<20		
Conductivity	umhos/cm	7100	6670	6530		
Copper	ug/L	30	38.6	40.7		
Hardness, Total	mg/L	1050	1080	948		
Iron	ug/L	549	1090	986		
Lead	ug/L	<2	<2	<2		
Magnesium	mg/L	56	50	49		
Manganese	ug/L	1890	1990	1420		
Mercury	ug/L	<0.2	NA	<0.2		
Nickel	ug/L	7.7	53.8	47		
Nitrate+nitrite	mg/L	<0.1	18.4	<0.1		
Nitrite	mg/L	<0.02	<0.02	<0.02		
Potassium	mg/L	8	8	8		
Selenium	ug/L	9.9	11	11		
Sodium	mg/L	1800	1580	1400		
Strontium	ug/L	9150	7270	6170		
Sulfate	mg/L	2830	2660	2630		
TKN	mg/L	1.79	0.71	2.03		
Total Dissolved Solids	mg/L	5270	5150	4960		
Total Phosphorus	mg/L	<0.01	<0.01	<0.01		
Total Suspended Solids	mg/L	26	7	6		
Zinc	ug/L	<10	25	26		
CBOD20	mg/L	NA	NA	NA		
Field Measurements						
Temperature	°C	10.14	23.8	22.04		
Conductivity	umhos/cm	7177	6818.1	6531.1		
Dissolved Oxygen	mg/L	13.74	7.94	7.48		
D.O. Saturation	%	125.2	96	87.4		
pH	S.U.	7.91	8.28	8.28		

		Site Location: BARNESVILLE WWTP OUTFALL TO NF CAPTINA CR River Mile: 10.50 Storet: C02W02				
Parameter	Units	6/9/2009	7/1/2009	7/28/2009	8/27/2009	9/15/2009
Acidity	mg/L	<5	<5	<5	<5	<5
Alkalinity	mg/L	172	128	108	122	104
Aluminum	ug/L	<200	<200	<200	<200	<200
Ammonia	mg/L	14.6	0.7	0.46	0.07	<0.05
Arsenic	ug/L	<2	<2	<2	<2	<2
Barium	ug/L	22	<15	<15	<15	<15
Cadmium	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2
Calcium	mg/L	55	51	48	51	49
Chloride	mg/L	81.5	78.3	72.8	73.5	70.3
Chromium	ug/L	<2	<2	<2	<2	<2
COD	mg/L	36	21	<20	<20	22
Conductivity	umhos/cm	775	671	626	635	644
Copper	ug/L	8	<2	2	<2	2.8
Hardness, Total	mg/L	183	173	161	173	172
Iron	ug/L	398	85	66	78	129
Lead	ug/L	<2	<2	<2	<2	<2
Magnesium	mg/L	11	11	10	11	12
Manganese	ug/L	318	111	42	45	69
Mercury	ug/L	<0.2	<0.2	<0.2	NA	<0.2
Nickel	ug/L	2.4	2.2	2.1	2.1	2.2
Nitrate+nitrite	mg/L	<0.1	4.84	5.39	5.67	12.1
Nitrite	mg/L	0.03	0.56	0.33	<0.02	<0.02
Potassium	mg/L	10	9	10	10	12
Selenium	ug/L	<2	<2	<2	<2	<2
Sodium	mg/L	59	54	54	55	60
Strontium	ug/L	256	235	216	225	239
Sulfate	mg/L	45.1	42.6	42.7	39.9	37.3
TKN	mg/L	17	1.99	1.67	1.01	1.31
Total Dissolved Solids	mg/L	384	402	394	380	398
Total Phosphorus	mg/L	0.94	1.45	2.54	2	3.89
Total Suspended Solids	mg/L	12	5	<5	<5	<5
Zinc	ug/L	14	25	29	28	27
CBOD20	mg/L	22	NA	6.8	NA	3.7
Field Measurements						
Temperature	°C	18.8	18.75	21.52	22.33	21
Conductivity	umhos/cm	763.2	670.5	627.5	649.5	634.6
Dissolved Oxygen	mg/L	3.9	5.24	6.26	5.78	6.53
D.O. Saturation	%	41.9	56.3	71	66.6	73.4
pH	S.U.	7.35	7.93	7.32	7.8	7.87

Appendix Table 1. Continued.

		Site Location: Ohio Valley Coal Outfall 010 to Perkins Run River Mile: 0.2 Storet: 300821				Site Location: Ohio Valley Coal Pond 8 (near belt line) outfall 007 Old Perkins Run River Mile: 22.1 Storet: 300822			
Parameter	Units	3/5/2008	2/11/2009			3/5/2008			
Acidity	mg/L	NA	<5.0			NA			
Alkalinity	mg/L	NA	152			NA			
Aluminum	ug/L	293	340			316			
Ammonia	mg/L	0.334	0.450			<0.050			
Arsenic	ug/L	<2.0	3.3			<2.0			
Barium	ug/L	30	28			40			
Cadmium	ug/L	0.88	<0.20			<0.20			
Calcium	mg/L	263	239			165			
Chloride	mg/L	365	512			125			
Chromium	ug/L	<30	<2.0			<30			
COD	mg/L	10	<20			16			
Conductivity	umhos/cm	4210	5040			1160			
Copper	ug/L	<10	18.5			<10			
Hardness, Total	mg/L	850	774			498			
Iron	ug/L	19700	1140			465			
Lead	ug/L	<2.0	<2.0			<2.0			
Magnesium	mg/L	47	43			21			
Manganese	ug/L	2290	1400			292			
Mercury	ug/L	<0.20	<0.20			<0.20			
Nickel	ug/L	152	49.4			<40			
Nitrate+nitrite	mg/L	0.43	0.26			0.24			
Nitrite	mg/L	<0.020	<0.020			<0.020			
Potassium	mg/L	5	6			3			
Selenium	ug/L	6.2	9.8			<2.0			
Sodium	mg/L	787	974			58			
Strontium	ug/L	3830	4370			869			
Sulfate	mg/L	NA	1840			NA			
TKN	mg/L	0.46	0.76			0.68			
Total Dissolved Solids	mg/L	3310	3610			798			
Total Phosphorus	mg/L	0.027	0.029			0.021			
Total Suspended Solids	mg/L	45	27			11			
Zinc	ug/L	127	12			<10			
Field Measurements									
Temperature	°C	4.37	6.03			4.47			
Conductivity	umhos/cm	4417	1933.9			1229			
Dissolved Oxygen	mg/L	10.63	13.13			12.02			
pH	S.U.	7.6	7.76			8.06			

Appendix Table 1. Continued.

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

Site Location: Ohio Valley Coal slurry impoundment #2 diversion ditch discharge to Perkins Run River Mile: 0.3 Storet: 300823				
1/21/2009				
NA				
NA				
2440				
0.366				
8.0				
68				
0.61				
130				
725				
2.0				
<20				
5690				
21.9				
452				
4430				
2.1				
31				
696				
<0.20				
27.7				
0.23				
0.025				
7				
9.3				
1350				
4570				
NA				
0.53				
3900				
0.112				
152				
18				
Field Measurements				
2.11				
5674.1				
14.84				
110				
8.23				

Site Location: Ohio Valley Coal slurry impound. #2 underdrain discharge to Perkins Run River Mile: 0.35 Storet: 300824				
1/21/2009				
NA				
NA				
<200				
0.321				
3.0				
27				
<0.20				
238				
514				
<2.0				
<20				
5850				
16.6				
792				
1160				
<2.0				
48				
1790				
<0.20				
7.1				
<0.10				
<0.020				
5				
6.6				
1140				
4010				
NA				
0.65				
4330				
0.018				
8				
<10				
Field Measurements				
8.88				
5965.5				
8.21				
72.3				
7.46				

Appendix Table 1. Continued.

		Site Location: Old Perkins Run dst. OVC pond 10 discharge			
		River Mile: 0.05 Storet: 300820			
Acidity	mg/L	<5.0			
Alkalinity	mg/L	115			
Aluminum	ug/L	2130			
Ammonia	mg/L	0.076			
Arsenic	ug/L	5.1			
Barium	ug/L	67			
Cadmium	ug/L	<0.20			
Calcium	mg/L	125			
Chloride	mg/L	212			
Chromium	ug/L	3.0			
COD	mg/L	<20			
Conductivity	umhos/cm	2170			
Copper	ug/L	11.5			
Hardness, Total	mg/L	415			
Iron	ug/L	4680			
Lead	ug/L	3.3			
Magnesium	mg/L	25			
Manganese	ug/L	376			
Mercury	ug/L	<0.20			
Nickel	ug/L	16.9			
Nitrate+nitrite	mg/L	0.26			
Nitrite	mg/L	<0.020			
Oil & Grease	mg/L	<2.0			
Potassium	mg/L	4			
Selenium	ug/L	3.9			
Sodium	mg/L	385			
Strontium	ug/L	1560			
Sulfate	mg/L	698			
TKN	mg/L	0.59			
Total Dissolved Solids	mg/L	1530			
Total Phosphorus	mg/L	0.182			
Total Suspended Solids	mg/L	160			
Zinc	ug/L	25			
Field Measurements					
Temperature	°C	6.03			
Conductivity	µmhos/cm	1933.9			
Dissolved Oxygen	mg/L	13.13			
D.O. Saturation	%	106.2			
pH	S.U.	7.76			

Appendix Table 2. Surface water results for semivolatile organic compounds and herbicides from the Captina Creek study area, 2008 and 2009.

Stream	CAPTINA CREEK	SF CAPTINA CREEK	NF CAPTINA CREEK	PERKINS RUN	PERKINS RUN	OHIO VALLEY COAL 013
River Mile	13.9	0.1	0.43	0.3	0.04	OUTFALL
STORET Number	C02K04	C02S60	C02S54	300392	C02S78	C02S50
Date Sampled	5/18/2009	5/18/2009	5/18/2009	4/29/2008	4/29/2008	4/29/2008
Semivolatile Organic Compounds (ug/l) USEPA 8270/ USEPA 625						
Acenaphthene	<2.0	<2.1	<2.0	<6.3	<5.5	<5.3
Acenaphthylene	<2.0	<2.1	<2.0	<6.3	<5.5	<5.3
Acetophenone	<2.0	<2.1	<2.0	NA	NA	NA
2-Acetylaminofluorene	<2.0	<2.1	<2.0	NA	NA	NA
Aniline	<2.0	<2.1	<2.0	NA	NA	NA
Anthracene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Benz[a]anthracene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Benzo[a]pyrene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Benzo[b]fluoranthene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Benzo[g,h,i]perylene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Benzo[k]fluoranthene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Benzyl alcohol	<2.0	<2.1	<2.0	NA	NA	NA
bis(2-Chloroethoxy)methane	<2.0	<2.1	<2.0	<6.3	<5.5	<5.3
bis(2-Chloroethyl)ether	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
bis(2-Chloroisopropyl)ether	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
bis(2-Ethylhexyl)phthalate	<2.0	<2.1	<2.0	<12.5	<10.9	<10.6
4-Bromophenyl-phenylether	<2.0	<2.1	<2.0	<6.3	<5.5	<5.3
Butylbenzylphthalate	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
4-Chloro-3-methylphenol	<2.0	<2.1	<2.0	<12.5	<10.9	<10.6
2-Chloronaphthalene	<2.0	<2.1	<2.0	<6.3	<5.5	<5.3
2-Chlorophenol	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
4-Chlorophenyl-phenylether	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Chrysene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Di-n-butylphthalate	<2.0	<2.1	<2.0	<6.3	<5.5	<5.3
Di-n-octylphthalate	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Dibenz[a,h]anthracene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Dibenzofuran	<2.0	<2.1	<2.0	NA	NA	NA
1,3-Dichlorobenzene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
1,4-Dichlorobenzene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
1,2-Dichlorobenzene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
3,3'-Dichlorobenzidine	<2.0	<2.1	<2.0	NA	NA	NA
2,6-Dichlorophenol	<2.0	<2.1	<2.0	NA	NA	NA
2,4-Dichlorophenol	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Diethylphthalate	<2.0	3.7 B	<2.0	<6.3	<5.5	<5.3
p-Dimethylaminoazobenzene	<2.0	<2.1	<2.0	NA	NA	NA
7,12-Dimethylbenz[a]anthracene	<2.0	<2.1	<2.0	NA	NA	NA
2,4-Dimethylphenol	<2.0	<2.1	<2.0	<12.5	<10.9	<10.6
Dimethylphthalate	<2.0	<2.1	<2.0	<6.3	<5.5	<5.3
4,6-Dinitro-2-methylphenol	<2.0	<2.1	<2.0	<6.3	<5.5	<5.3
1,3-Dinitrobenzene	<2.0	<2.1	<2.0	NA	NA	NA
2,4-Dinitrophenol	<2.0	<2.1	<2.0	<25.0	<21.9	<21.2
2,6-Dinitrotoluene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
2,4-Dinitrotoluene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Dinoseb	<2.0	<2.1	<2.0	NA	NA	NA
Diphenylamine	<2.0	<2.1	<2.0	NA	NA	NA
Ethyl methanesulfonate	<2.0	<2.1	<2.0	NA	NA	NA

Appendix Table 2. Continued.

Stream	CAPTINA CREEK	SF CAPTINA CREEK	NF CAPTINA CREEK	PERKINS RUN	PERKINS RUN	OHIO VALLEY COAL 013 OUTFALL
River Mile	13.9	0.1	0.43	0.3	0.04	
STORET Number	C02K04	C02S60	C02S54	300392	C02S78	C02S50
Date Sampled	5/18/2009	5/18/2009	5/18/2009	4/29/2008	4/29/2008	4/29/2008
Semivolatile Organic Compounds (ug/l) USEPA 8270/ USEPA 625						
Fluoranthene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Fluorene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Hexachlorobenzene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Hexachlorobutadiene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Hexachlorocyclopentadiene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Hexachloroethane	<2.0	<2.1	<2.0	<6.3	<5.5	<5.3
Hexachloropropene	<2.0	<2.1	<2.0	NA	NA	NA
Indeno[1,2,3-cd]pyrene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Isophorone	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Methyl methanesulfonate	<2.0	<2.1	<2.0	NA	NA	NA
3-Methylcholanthrene	<2.0	<2.1	<2.0	NA	NA	NA
2-Methylnaphthalene	<2.0	<2.1	<2.0	NA	NA	NA
3&4-Methylphenol	<2.0	<2.1	<2.0	NA	NA	NA
2-Methylphenol	<2.0	<2.1	<2.0	NA	NA	NA
N-Nitroso-di-n-butylamine	<2.0	<2.1	<2.0	NA	NA	NA
N-Nitroso-di-n-propylamine	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
N-Nitrosomorpholine	<2.0	<2.1	<2.0	NA	NA	NA
N-Nitrosopiperidine	<2.0	<2.1	<2.0	NA	NA	NA
N-Nitrosopyrrolidine	<2.0	<2.1	<2.0	NA	NA	NA
Naphthalene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
1,4-Naphthoquinone	<2.0	<2.1	<2.0	NA	NA	NA
2-Nitroaniline	<2.0	<2.1	<2.0	NA	NA	NA
4-Nitroaniline	<2.0	<2.1	<2.0	NA	NA	NA
Nitrobenzene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
4-Nitrophenol	<2.0	<2.1	<2.0	<25.0	<21.9	<21.2
2-Nitrophenol	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Pentachlorobenzene	<2.0	<2.1	<2.0	NA	NA	NA
Pentachlorophenol	<2.0	<2.1	<2.0	<12.5	<10.9	<10.6
Phenacetin	<2.0	<2.1	<2.0	NA	NA	NA
Phenanthrene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Phenol	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
2-Picoline	<2.0	<2.1	<2.0	NA	NA	NA
Pronamide	<2.0	<2.1	<2.0	NA	NA	NA
Pyrene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
Safrole	<2.0	<2.1	<2.0	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	<2.0	<2.1	<2.0	NA	NA	NA
2,3,4,6-Tetrachlorophenol	<2.0	<2.1	<2.0	NA	NA	NA
1,2,4-Trichlorobenzene	<2.0	<2.1	<2.0	<2.5	<2.2	<2.1
2,4,6-Trichlorophenol	<2.0	<2.1	<2.0	<6.3	<5.5	<5.3
2,4,5-Trichlorophenol	<2.0	<2.1	<2.0	NA	NA	NA
Herbicides (ug/l) USEPA 525.2						
Cyanazine	<0.21	<0.21	<0.22	NA	NA	NA
Acetochlor	<0.21	<0.22	<0.20	NA	NA	NA
Alachlor	<0.21	<0.22	<0.20	NA	NA	NA
Atrazine	<0.21	<0.22	<0.20	NA	NA	NA
Benzo[a]pyrene	<0.52	<0.54	<0.51	NA	NA	NA

Appendix Table 2. Continued.

Stream	CAPTINA CREEK	SF CAPTINA CREEK	NF CAPTINA CREEK	PERKINS RUN	PERKINS RUN	OHIO VALLEY COAL 013 OUTFALL
River Mile	13.9	0.1	0.43	0.3	0.04	
STORET Number	C02K04	C02S60	C02S54	300392	C02S78	C02S50
Date Sampled	5/18/2009	5/18/2009	5/18/2009	4/29/2008	4/29/2008	4/29/2008
Herbicides (ug/l) USEPA 525.2						
bis(2-Ethylhexyl)adipate	<0.52	<0.54	<0.51	NA	NA	NA
bis(2-Ethylhexyl)phthalate	0.93	0.58 B	0.74 B	NA	NA	NA
Butachlor	<0.21	<0.22	<0.20	NA	NA	NA
Metolachlor	<0.21	<0.22	<0.20	NA	NA	NA
Metribuzin	<0.21	<0.22	<0.20	NA	NA	NA
Pentachlorophenol	<5.15	<5.38	<5.08	NA	NA	NA
Propachlor	<0.21	<0.22	<0.20	NA	NA	NA
Simazine	<0.21	<0.22	<0.20	NA	NA	NA

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

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 Captina Creek study area using Datasonde© continuous recorders, 2009.

CAPTINA CREEK - RM 23.12					
STORET: C02S37					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/29/2009	13:00	14.58	7.98	0.45	9.52
9/29/2009	14:00	14.69	8.04	0.451	9.94
9/29/2009	15:00	14.75	8.08	0.452	10.17
9/29/2009	16:00	14.75	8.09	0.456	10.22
9/29/2009	17:00	14.71	8.09	0.462	10.24
9/29/2009	18:00	14.69	8.1	0.461	10.14
9/29/2009	19:00	14.63	8.12	0.458	9.98
9/29/2009	20:00	14.56	8.11	0.458	9.79
9/29/2009	21:00	14.48	8.09	0.462	9.56
9/29/2009	22:00	14.42	8.05	0.465	9.24
9/29/2009	23:00	14.36	7.99	0.471	8.94
9/30/2009	0:00	14.31	7.95	0.485	8.76
9/30/2009	1:00	14.21	7.93	0.468	8.55
9/30/2009	2:00	14.16	7.9	0.475	8.38
9/30/2009	3:00	14.14	7.9	0.471	8.31
9/30/2009	4:00	14.08	7.87	0.475	8.26
9/30/2009	5:00	14.01	7.88	0.476	8.18
9/30/2009	6:00	13.96	7.89	0.467	8.23
9/30/2009	7:00	13.91	7.85	0.484	8.13
9/30/2009	8:00	13.85	7.84	0.478	8.15
9/30/2009	9:00	13.84	7.86	0.479	8.15
9/30/2009	10:00	13.86	7.89	0.474	8.43
9/30/2009	11:00	13.91	7.91	0.475	8.73
9/30/2009	12:00	14.04	7.96	0.476	9.23
9/30/2009	13:00	14.26	8	0.48	9.67
9/30/2009	14:00	14.58	8.03	0.481	10.1
9/30/2009	15:00	14.8	8.1	0.476	10.55
9/30/2009	16:00	15.07	8.16	0.483	10.83
9/30/2009	17:00	15.28	8.14	0.482	10.98
9/30/2009	18:00	15.25	8.15	0.484	10.95
9/30/2009	19:00	15.06	8.16	0.473	10.71
9/30/2009	20:00	14.85	8.13	0.478	10.46
9/30/2009	21:00	14.68	8.13	0.478	10.29
9/30/2009	22:00	14.46	8.15	0.482	10.29
9/30/2009	23:00	14.17	8.15	0.477	10.05
10/1/2009	0:00	13.79	8.13	0.474	9.66
10/1/2009	1:00	13.45	8.06	0.482	9.35
10/1/2009	2:00	13.12	8.04	0.481	9.07
10/1/2009	3:00	12.82	8.01	0.482	8.87
10/1/2009	4:00	12.48	7.96	0.482	8.78
10/1/2009	5:00	12.15	7.95	0.481	8.72
10/1/2009	6:00	11.93	7.89	0.491	8.65
10/1/2009	7:00	11.6	7.9	0.482	8.69
10/1/2009	8:00	11.3	7.92	0.48	8.87
10/1/2009	9:00	11.29	7.97	0.484	9.06
10/1/2009	10:00	11.74	8.06	0.476	9.58
10/1/2009	11:00	11.62	8.08	0.469	9.86
10/1/2009	12:00	12.45	8.15	0.466	10.16
10/1/2009	13:00	13.08	8.12	0.469	10.53

CAPTINA CREEK - RM 22.5					
STORET: 300781					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/29/2009	11:00	14.15	8.32	0.903	9.2
9/29/2009	12:00	14.42	8.4	0.893	9.88
9/29/2009	13:00	14.56	8.47	0.878	10.3
9/29/2009	14:00	14.63	8.52	0.873	10.52
9/29/2009	15:00	14.65	8.56	0.878	10.64
9/29/2009	16:00	14.58	8.57	0.904	10.55
9/29/2009	17:00	14.5	8.57	0.92	10.32
9/29/2009	18:00	14.4	8.56	0.945	10
9/29/2009	19:00	14.31	8.54	0.966	9.67
9/29/2009	20:00	14.22	8.52	0.998	9.4
9/29/2009	21:00	14.16	8.5	1.008	9.19
9/29/2009	22:00	14.1	8.49	1.011	9.06
9/29/2009	23:00	14.05	8.47	1.008	8.98
9/30/2009	0:00	14.01	8.46	1	8.92
9/30/2009	1:00	13.96	8.45	0.99	8.86
9/30/2009	2:00	13.92	8.44	0.99	8.79
9/30/2009	3:00	13.87	8.43	0.996	8.75
9/30/2009	4:00	13.82	8.43	1.018	8.69
9/30/2009	5:00	13.76	8.41	1.048	8.67
9/30/2009	6:00	13.72	8.41	1.073	8.65
9/30/2009	7:00	13.66	8.41	1.088	8.66
9/30/2009	8:00	13.61	8.4	1.086	8.67
9/30/2009	9:00	13.59	8.4	1.067	8.75
9/30/2009	10:00	13.6	8.42	1.049	9.01
9/30/2009	11:00	13.69	8.46	1.034	9.46
9/30/2009	12:00	13.87	8.51	1.01	10.05
9/30/2009	13:00	14.12	8.57	0.996	10.65
9/30/2009	14:00	14.52	8.62	0.999	11.09
9/30/2009	15:00	14.83	8.64	0.988	11.36
9/30/2009	16:00	15.11	8.67	0.976	11.64
9/30/2009	17:00	15.35	8.68	0.983	11.64
9/30/2009	18:00	15.54	8.68	0.992	11.42
9/30/2009	19:00	15.14	8.65	0.961	10.76
9/30/2009	20:00	14.61	8.61	0.973	10.16
9/30/2009	21:00	14.15	8.57	1.026	9.64
9/30/2009	22:00	13.75	8.54	1.091	9.34
9/30/2009	23:00	13.43	8.53	1.102	9.21
10/1/2009	0:00	13.1	8.52	1.099	9.17
10/1/2009	1:00	12.8	8.52	1.086	9.15
10/1/2009	2:00	12.57	8.53	1.073	9.16
10/1/2009	3:00	12.38	8.53	1.061	9.15
10/1/2009	4:00	12.15	8.53	1.057	9.16
10/1/2009	5:00	11.93	8.53	1.067	9.14
10/1/2009	6:00	11.67	8.53	1.081	9.14
10/1/2009	7:00	11.38	8.53	1.095	9.18
10/1/2009	8:00	11.1	8.54	1.098	9.23
10/1/2009	9:00	10.94	8.56	1.088	9.56
10/1/2009	10:00	11.27	8.61	1.081	10.31
10/1/2009	11:00	12.19	8.65	1.077	11

Appendix Table 3. Continued.

CAPTINA CREEK - RM 22.10					
STORET: C02K05					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/29/2009	11:00	14.33	7.9	1.435	9.14
9/29/2009	12:00	14.48	8.01	1.42	9.68
9/29/2009	13:00	14.64	8.08	1.406	10.16
9/29/2009	14:00	14.77	8.14	1.415	10.49
9/29/2009	15:00	14.82	8.17	1.447	10.63
9/29/2009	16:00	14.78	8.18	1.477	10.62
9/29/2009	17:00	14.72	8.2	1.543	10.43
9/29/2009	18:00	14.62	8.18	1.571	10.13
9/29/2009	19:00	14.52	8.16	1.607	9.85
9/29/2009	20:00	14.43	8.14	1.653	9.52
9/29/2009	21:00	14.34	8.12	1.682	9.28
9/29/2009	22:00	14.27	8.09	1.693	9.12
9/29/2009	23:00	14.22	8.08	1.709	9.01
9/30/2009	0:00	14.17	8.06	1.704	8.93
9/30/2009	1:00	14.13	8.05	1.71	8.88
9/30/2009	2:00	14.08	8.04	1.694	8.84
9/30/2009	3:00	14.04	8.03	1.694	8.81
9/30/2009	4:00	14	8.02	1.691	8.76
9/30/2009	5:00	13.95	8	1.697	8.74
9/30/2009	6:00	13.89	7.99	1.712	8.71
9/30/2009	7:00	13.83	7.98	1.735	8.7
9/30/2009	8:00	13.79	7.98	1.746	8.7
9/30/2009	9:00	13.75	7.98	1.739	8.78
9/30/2009	10:00	13.76	7.99	1.749	9.01
9/30/2009	11:00	13.81	8.02	1.732	9.45
9/30/2009	12:00	13.97	8.07	1.727	9.95
9/30/2009	13:00	14.19	8.12	1.696	10.43
9/30/2009	14:00	14.57	8.18	1.723	10.93
9/30/2009	15:00	14.81	8.22	1.712	11.4
9/30/2009	16:00	15.13	8.27	1.706	11.66
9/30/2009	17:00	15.22	8.28	1.69	
9/30/2009	18:00	15.2	8.29	1.723	
9/30/2009	19:00	15.11	8.28	1.749	
9/30/2009	20:00	14.85	8.24	1.745	
9/30/2009	21:00	14.53	8.2	1.758	
9/30/2009	22:00	14.14	8.16	1.799	
9/30/2009	23:00	13.73	8.12	1.829	
10/1/2009	0:00	13.33	8.09	1.869	
10/1/2009	1:00	13	8.07	1.852	
10/1/2009	2:00	12.77	8.06	1.873	
10/1/2009	3:00	12.52	8.04	1.843	
10/1/2009	4:00	12.28	8.04	1.837	
10/1/2009	5:00	12.07	8.03	1.831	
10/1/2009	6:00	11.85	8.02	1.831	
10/1/2009	7:00	11.59	8.02	1.815	
10/1/2009	8:00	11.33	8.01	1.797	
10/1/2009	9:00	11.17	8.01	1.815	
10/1/2009	10:00	11.11	8.04	1.844	
10/1/2009	11:00	11.53	8.09	1.872	
10/1/2009	12:00	12.87	8.16	1.86	

CAPTINA CREEK - RM 20.54					
STORET: C02S36					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/28/2009	14:00	23.92	8.05	0.902	8.42
7/28/2009	15:00	24.05	8.1	0.877	8.77
7/28/2009	16:00	25.12	8.1	0.925	8.92
7/28/2009	17:00	25.28	8.13	0.904	9.17
7/28/2009	18:00	25.26	8.14	0.899	9.17
7/28/2009	19:00	25.01	8.13	0.887	8.97
7/28/2009	20:00	24.72	8.12	0.877	8.7
7/28/2009	21:00	24.38	8.1	0.869	8.35
7/28/2009	22:00	24.09	8.08	0.864	8.16
7/28/2009	23:00	23.84	8.06	0.856	7.98
7/29/2009	0:00	23.59	8.04	0.846	7.77
7/29/2009	1:00	23.33	8.03	0.839	7.62
7/29/2009	2:00	23.11	8.01	0.831	7.44
7/29/2009	3:00	22.9	7.99	0.825	7.24
7/29/2009	4:00	22.69	7.98	0.818	7.17
7/29/2009	5:00	22.48	7.97	0.803	7.1
7/29/2009	6:00	22.25	7.98	0.777	7.2
7/29/2009	7:00	21.85	7.94	0.734	7.07
7/29/2009	8:00	21.36	7.94	0.691	7.23
7/29/2009	9:00	21.23	7.96	0.696	7.33
7/29/2009	10:00	21.46	7.95	0.745	7.2
7/29/2009	11:00	21.64	7.93	0.789	7.11
7/29/2009	12:00	21.6	7.96	0.784	7.24
7/29/2009	13:00	21.86	7.99	0.807	7.43
7/29/2009	14:00	22.04	8.04	0.815	7.66
7/29/2009	15:00	22.16	8.06	0.835	7.75
7/29/2009	16:00	22.38	8.06	0.872	7.82
7/29/2009	17:00	22.57	8.06	0.933	7.83
7/29/2009	18:00	22.76	8.06	1.089	7.93
7/29/2009	19:00	22.85	8.09	1.272	7.96
7/29/2009	20:00	22.76	8.09	1.468	7.92
7/29/2009	21:00	22.59	8.09	1.459	7.81
7/29/2009	22:00	22.33	8.07	1.271	7.66
7/29/2009	23:00	22.13	8.05	1.279	7.55
7/30/2009	0:00	21.83	8.05	1.24	7.56
7/30/2009	1:00	21.7	8.04	1.042	7.57
7/30/2009	2:00	21.57	8.02	0.962	7.55
7/30/2009	3:00	21.37	8.02	0.881	7.56
7/30/2009	4:00	21.28	8	0.837	7.54
7/30/2009	5:00	21.15	7.99	0.808	7.53
7/30/2009	6:00	21.06	7.98	0.844	7.57
7/30/2009	7:00	20.91	7.98	0.88	7.62
7/30/2009	8:00	20.89	7.97	0.861	7.65
7/30/2009	9:00	20.92	7.97	0.796	7.77
7/30/2009	10:00	21.08	7.99	0.742	7.96
7/30/2009	11:00	21.3	8.02	0.707	8.22
7/30/2009	12:00	21.64	8.04	0.691	8.43
7/30/2009	13:00	22.11	8.1	0.675	8.76
7/30/2009	14:00	22.67	8.14	0.676	9.03

Appendix Table 3. Continued.

CAPTINA CREEK - RM 20.54					
STORET: C02S36					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/8/2009	13:00	20.99	7.64	1.35	8.17
9/8/2009	14:00	21.4	7.69	1.568	8.48
9/8/2009	15:00	22.07	7.74	1.814	8.97
9/8/2009	16:00	22.75	7.79	1.868	9.38
9/8/2009	17:00	22.64	7.8	1.792	9.28
9/8/2009	18:00	22.65	7.82	1.728	9.17
9/8/2009	19:00	21.09	7.8	1.192	8.77
9/8/2009	20:00	21.36	7.77	1.225	8.38
9/8/2009	21:00	20.82	7.66	0.944	8.14
9/8/2009	22:00	20.98	7.66	1.07	7.97
9/8/2009	23:00	20.88	7.66	1.103	7.8
9/9/2009	0:00	20.77	7.59	1.167	7.61
9/9/2009	1:00	20.53	7.52	1.612	7.56
9/9/2009	2:00	20.34	7.5	1.716	7.61
9/9/2009	3:00	20.12	7.52	1.429	7.65
9/9/2009	4:00	19.94	7.54	1.24	7.7
9/9/2009	5:00	19.62	7.56	1.126	7.73
9/9/2009	6:00	19.49	7.56	1.116	7.75
9/9/2009	7:00	19.22	7.57	1.052	7.75
9/9/2009	8:00	19.1	7.57	1.038	7.79
9/9/2009	9:00	18.98	7.57	1.004	7.83
9/9/2009	10:00	18.99	7.59	0.981	8
9/9/2009	11:00	19.2	7.62	0.963	8.23
9/9/2009	12:00	19.55	7.65	0.96	8.49
9/9/2009	13:00	19.96	7.7	0.951	8.86
9/9/2009	14:00	20.69	7.75	0.946	9.22
9/9/2009	15:00	21.61	7.81	0.947	9.72
9/9/2009	16:00	22.15	7.87	0.942	10.01
9/9/2009	17:00	22.37	7.9	0.935	10.05
9/9/2009	18:00	22.36	7.91	0.93	9.93
9/9/2009	19:00	22.36	7.91	0.943	9.8
9/9/2009	20:00	22.26	7.9	0.951	9.54
9/9/2009	21:00	21.97	7.87	0.949	9.18
9/9/2009	22:00	21.73	7.84	0.954	8.8
9/9/2009	23:00	21.52	7.8	0.956	8.47
9/10/2009	0:00	21.35	7.77	0.959	8.19
9/10/2009	1:00	21.13	7.74	0.96	7.92
9/10/2009	2:00	20.9	7.71	0.96	7.71
9/10/2009	3:00	20.64	7.68	0.962	7.54
9/10/2009	4:00	20.4	7.65	0.964	7.41
9/10/2009	5:00	20.16	7.62	0.969	7.28
9/10/2009	6:00	19.91	7.6	0.974	7.2
9/10/2009	7:00	19.65	7.58	0.972	7.19
9/10/2009	8:00	19.42	7.58	0.976	7.18
9/10/2009	9:00	19.3	7.57	0.992	7.27

CAPTINA CREEK - RM 17.60					
STORET: C02S80					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/28/2009	15:00	27.73	8.39	0.756	10.02
7/28/2009	16:00	29.42	8.47	0.755	10.39
7/28/2009	17:00	30.04	8.49	0.755	10.29
7/28/2009	18:00	29.34	8.41	0.756	8.77
7/28/2009	19:00	28.64	8.37	0.757	8.22
7/28/2009	20:00	28.01	8.31	0.756	7.5
7/28/2009	21:00	27.32	8.25	0.756	7.16
7/28/2009	22:00	26.53	8.15	0.755	6.71
7/28/2009	23:00	25.85	8.13	0.752	6.16
7/29/2009	0:00	25.21	8.1	0.75	6.3
7/29/2009	1:00	24.63	8.09	0.748	6.43
7/29/2009	2:00	24.12	8.07	0.748	6.09
7/29/2009	3:00	23.69	8.05	0.748	6.53
7/29/2009	4:00	23.33	8.03	0.75	6.2
7/29/2009	5:00	23.04	8.02	0.751	6.21
7/29/2009	6:00	22.64	7.98	0.715	6.63
7/29/2009	7:00	22.43	7.98	0.715	6.26
7/29/2009	8:00	22.34	7.99	0.722	6.82
7/29/2009	9:00	22.26	8.01	0.715	6.96
7/29/2009	10:00	22.35	8.04	0.713	7.4
7/29/2009	11:00	22.45	8.09	0.705	7.56
7/29/2009	12:00	22.56	8.13	0.696	7.76
7/29/2009	13:00	22.92	8.18	0.692	8.37
7/29/2009	14:00	23.21	8.24	0.683	8.46
7/29/2009	15:00	23.28	8.25	0.677	8.34
7/29/2009	16:00	23.31	8.26	0.669	8.4
7/29/2009	17:00	23.15	8.26	0.638	8.2
7/29/2009	18:00	23.03	8.25	0.655	8.24
7/29/2009	19:00	23.12	8.28	0.702	8.16
7/29/2009	20:00	23.05	8.26	0.711	7.96
7/29/2009	21:00	22.87	8.23	0.711	7.78
7/29/2009	22:00	22.62	8.2	0.703	7.67
7/29/2009	23:00	22.42	8.18	0.704	7.62
7/30/2009	0:00	22.27	8.18	0.707	7.63
7/30/2009	1:00	22.08	8.18	0.701	7.62
7/30/2009	2:00	21.97	8.17	0.721	7.55
7/30/2009	3:00	21.81	8.17	0.801	7.61
7/30/2009	4:00	21.64	8.15	0.963	7.61
7/30/2009	5:00	21.53	8.13	1.095	7.57
7/30/2009	6:00	21.41	8.13	1.131	7.58
7/30/2009	7:00	21.3	8.13	1.137	7.74
7/30/2009	8:00	21.24	8.11	1.123	7.73
7/30/2009	9:00	21.31	8.12	1.084	7.89
7/30/2009	10:00	21.54	8.18	1.002	8.23
7/30/2009	11:00	21.83	8.22	0.929	8.45
7/30/2009	12:00	22.1	8.25	0.873	8.53
7/30/2009	13:00	22.68	8.33	0.829	8.86

Appendix Table 3. Continued.

CAPTINA CREEK - RM 16.00					
STORET: C02S35					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/28/2009	16:00	26.82	8.49	0.749	10.18
7/28/2009	17:00	27.17	8.51	0.742	10.17
7/28/2009	18:00	27.5	8.52	0.741	10.19
7/28/2009	19:00	27.54	8.52	0.757	9.92
7/28/2009	20:00	27.35	8.51	0.755	9.58
7/28/2009	21:00	27	8.49	0.754	9.16
7/28/2009	22:00	26.63	8.47	0.753	8.79
7/28/2009	23:00	26.33	8.44	0.752	8.43
7/29/2009	0:00	26.07	8.42	0.75	8.15
7/29/2009	1:00	25.77	8.4	0.748	7.92
7/29/2009	2:00	25.48	8.38	0.746	7.7
7/29/2009	3:00	25.19	8.37	0.744	7.49
7/29/2009	4:00	24.9	8.34	0.742	7.31
7/29/2009	5:00	24.5	8.32	0.722	7.31
7/29/2009	6:00	24.01	8.29	0.685	7.37
7/29/2009	7:00	24.05	8.27	0.728	7
7/29/2009	8:00	23.83	8.25	0.715	6.97
7/29/2009	9:00	23.64	8.22	0.708	6.95
7/29/2009	10:00	23.6	8.23	0.707	7.12
7/29/2009	11:00	23.52	8.24	0.702	7.3
7/29/2009	12:00	23.46	8.23	0.696	7.34
7/29/2009	13:00	23.61	8.27	0.689	7.77
7/29/2009	14:00	23.56	8.27	0.681	7.9
7/29/2009	15:00	23.54	8.28	0.678	8.05
7/29/2009	16:00	23.58	8.3	0.677	8.32
7/29/2009	17:00	23.5	8.31	0.672	8.29
7/29/2009	18:00	23.51	8.31	0.67	8.46
7/29/2009	19:00	23.53	8.34	0.663	8.51
7/29/2009	20:00	23.44	8.38	0.651	8.49
7/29/2009	21:00	23.2	8.38	0.634	8.29
7/29/2009	22:00	23.01	8.38	0.621	8.11
7/29/2009	23:00	22.77	8.36	0.644	7.9
7/30/2009	0:00	22.55	8.35	0.663	7.79
7/30/2009	1:00	22.33	8.33	0.664	7.78
7/30/2009	2:00	22.16	8.32	0.666	7.8
7/30/2009	3:00	21.99	8.33	0.665	7.84
7/30/2009	4:00	21.84	8.33	0.673	7.9
7/30/2009	5:00	21.73	8.32	0.722	7.92
7/30/2009	6:00	21.6	8.31	0.817	7.94
7/30/2009	7:00	21.49	8.29	0.936	7.96
7/30/2009	8:00	21.42	8.28	1.012	7.98
7/30/2009	9:00	21.42	8.27	1.046	8.1
7/30/2009	10:00	21.57	8.29	1.047	8.38
7/30/2009	11:00	21.95	8.32	1.026	8.65
7/30/2009	12:00	22.2	8.35	0.973	8.89
7/30/2009	13:00	22.75	8.39	0.912	9.2

CAPTINA CREEK - RM 16.00					
STORET: C02S35					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/8/2009	15:00	22.56	8.19	1.211	9.55
9/8/2009	16:00	23.45	8.24	1.157	9.75
9/8/2009	17:00	23.67	8.25	1.086	9.48
9/8/2009	18:00	23.65	8.26	1.02	9.1
9/8/2009	19:00	23.24	8.25	0.972	8.69
9/8/2009	20:00	22.27	8.19	0.852	8.3
9/8/2009	21:00	21.21	8.15	0.766	8.28
9/8/2009	22:00	21.06	8.11	0.847	8.19
9/8/2009	23:00	20.63	8.07	0.727	8.21
9/9/2009	0:00	20.36	8.04	0.688	8.24
9/9/2009	1:00	20.28	8.03	0.71	8.25
9/9/2009	2:00	20.22	8.03	0.757	8.25
9/9/2009	3:00	19.91	8.02	0.746	8.31
9/9/2009	4:00	19.64	8.02	0.765	8.37
9/9/2009	5:00	19.44	8.01	0.793	8.38
9/9/2009	6:00	19.26	8.01	0.819	8.4
9/9/2009	7:00	19.13	8.01	0.827	8.39
9/9/2009	8:00	18.98	8	0.81	8.41
9/9/2009	9:00	18.83	8	0.775	8.47
9/9/2009	10:00	18.81	8	0.763	8.52
9/9/2009	11:00	19	8	0.776	8.61
9/9/2009	12:00	19.3	8.01	0.814	8.73
9/9/2009	13:00	19.81	8.03	0.865	8.92
9/9/2009	14:00	20.61	8.07	0.912	9.14
9/9/2009	15:00	21.35	8.11	0.945	9.34
9/9/2009	16:00	21.99	8.15	0.956	9.49
9/9/2009	17:00	22.51	8.19	0.95	9.55
9/9/2009	18:00	22.74	8.21	0.933	9.41
9/9/2009	19:00	22.57	8.21	0.912	9.14
9/9/2009	20:00	22.22	8.19	0.891	8.79
9/9/2009	21:00	21.93	8.18	0.873	8.55
9/9/2009	22:00	21.67	8.15	0.86	8.34
9/9/2009	23:00	21.39	8.13	0.849	8.2
9/10/2009	0:00	20.99	8.1	0.837	8.09
9/10/2009	1:00	20.66	8.07	0.828	8.05
9/10/2009	2:00	20.26	8.05	0.815	8.03
9/10/2009	3:00	19.96	8.03	0.803	8.04
9/10/2009	4:00	19.73	8.02	0.792	8.07
9/10/2009	5:00	19.53	8.01	0.783	8.08
9/10/2009	6:00	19.32	8	0.776	8.09
9/10/2009	7:00	19.12	8	0.77	8.11
9/10/2009	8:00	18.94	7.99	0.764	8.13
9/10/2009	9:00	18.81	8	0.759	8.23

Appendix Table 3. Continued.

CAPTINA CREEK - RM 16.00					
STORET: C02S35					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/15/2009	16:00	23.5	8.07	0.848	9.31
9/15/2009	17:00	23.71	8.07	0.85	9.29
9/15/2009	18:00	23.84	8.08	0.85	9.31
9/15/2009	19:00	23.95	8.08	0.849	9.23
9/15/2009	20:00	23.76	8.07	0.851	9.01
9/15/2009	21:00	23.5	8.06	0.853	8.83
9/15/2009	22:00	23.21	8.05	0.854	8.59
9/15/2009	23:00	22.88	8.03	0.854	8.35
9/16/2009	0:00	22.56	8.02	0.855	8.19
9/16/2009	1:00	22.27	8.01	0.857	8
9/16/2009	2:00	22	7.99	0.859	7.83
9/16/2009	3:00	21.71	7.98	0.86	7.66
9/16/2009	4:00	21.42	7.96	0.861	7.54
9/16/2009	5:00	21.12	7.95	0.861	7.42
9/16/2009	6:00	20.81	7.93	0.86	7.32
9/16/2009	7:00	20.49	7.92	0.857	7.23
9/16/2009	8:00	20.18	7.9	0.854	7.13
9/16/2009	9:00	19.98	7.89	0.853	7.09
9/16/2009	10:00	19.93	7.9	0.854	7.24
9/16/2009	11:00	20.64	7.95	0.853	7.75
9/16/2009	12:00	21.89	7.97	0.854	8.18
9/16/2009	13:00	22.6	8.01	0.852	8.73
9/16/2009	14:00	22.87	8.01	0.848	8.89
9/16/2009	15:00	22.84	8.02	0.843	8.96
9/16/2009	16:00	23.08	8.04	0.838	9.15
9/16/2009	17:00	23.03	8.06	0.834	9.21
9/16/2009	18:00	23	8.06	0.828	9.18
9/16/2009	19:00	23.09	8.06	0.827	9.1
9/16/2009	20:00	22.88	8.06	0.827	8.89
9/16/2009	21:00	22.48	8.05	0.825	8.78
9/16/2009	22:00	22.11	8.04	0.824	8.59
9/16/2009	23:00	21.8	8.03	0.82	8.39
9/17/2009	0:00	21.52	8.03	0.817	8.22
9/17/2009	1:00	21.22	8.01	0.814	8.02
9/17/2009	2:00	20.93	8	0.814	7.86
9/17/2009	3:00	20.6	7.99	0.812	7.73
9/17/2009	4:00	20.28	7.96	0.815	7.56
9/17/2009	5:00	19.91	7.94	0.816	7.38
9/17/2009	6:00	19.57	7.93	0.813	7.31
9/17/2009	7:00	19.26	7.93	0.813	7.28
9/17/2009	8:00	19.02	7.93	0.813	7.26
9/17/2009	9:00	18.88	7.94	0.815	7.47
9/17/2009	10:00	18.71	7.96	0.819	7.62
9/17/2009	11:00	19.21	7.99	0.827	8.05
9/17/2009	12:00	19.91	8.01	0.83	8.35
9/17/2009	13:00	20.39	8.02	0.841	8.63

CAPTINA CREEK - RM 16.00					
STORET: C02S35					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/29/2009	14:00	15.58	8.24	1.075	10.37
9/29/2009	15:00	15.5	8.24	1.07	10.13
9/29/2009	16:00	15.37	8.24	1.063	10.05
9/29/2009	17:00	15.25	8.23	1.056	9.81
9/29/2009	18:00	15.19	8.22	1.05	9.67
9/29/2009	19:00	15.14	8.2	1.043	9.49
9/29/2009	20:00	15.08	8.19	1.038	9.34
9/29/2009	21:00	14.99	8.19	1.032	9.31
9/29/2009	22:00	14.98	8.19	1.023	9.31
9/29/2009	23:00	14.91	8.19	1.016	9.23
9/30/2009	0:00	14.87	8.19	1.008	9.18
9/30/2009	1:00	14.82	8.18	1.001	9.11
9/30/2009	2:00	14.77	8.18	0.995	9.05
9/30/2009	3:00	14.72	8.17	0.99	9.06
9/30/2009	4:00	14.65	8.16	0.981	9.04
9/30/2009	5:00	14.58	8.15	0.978	9.02
9/30/2009	6:00	14.52	8.14	0.969	8.99
9/30/2009	7:00	14.45	8.13	0.966	9
9/30/2009	8:00	14.35	8.14	0.964	9.12
9/30/2009	9:00	14.43	8.16	0.959	9.4
9/30/2009	10:00	14.45	8.18	0.956	9.61
9/30/2009	11:00	14.59	8.21	0.954	10.06
9/30/2009	12:00	14.88	8.25	0.957	10.49
9/30/2009	13:00	15.18	8.27	0.956	10.72
9/30/2009	14:00	15.52	8.28	0.956	10.82
9/30/2009	15:00	15.76	8.33	0.952	11.05
9/30/2009	16:00	15.93	8.34	0.952	11.01
9/30/2009	17:00	15.93	8.31	0.952	10.45
9/30/2009	18:00	15.31	8.29	0.949	10.35
9/30/2009	19:00	14.72	8.24	0.946	9.82
9/30/2009	20:00	14.42	8.2	0.944	9.57
9/30/2009	21:00	14.38	8.2	0.943	9.56
9/30/2009	22:00	14.22	8.2	0.941	9.53
9/30/2009	23:00	13.9	8.2	0.938	9.56
10/1/2009	0:00	13.67	8.21	0.935	9.56
10/1/2009	1:00	13.65	8.21	0.934	9.54
10/1/2009	2:00	13.52	8.22	0.932	9.51
10/1/2009	3:00	13.3	8.21	0.932	9.5
10/1/2009	4:00	13.09	8.22	0.93	9.52
10/1/2009	5:00	12.83	8.21	0.931	9.53
10/1/2009	6:00	12.62	8.2	0.929	9.53
10/1/2009	7:00	12.36	8.19	0.928	9.57
10/1/2009	8:00	12.2	8.2	0.926	9.75
10/1/2009	9:00	12.27	8.24	0.925	10.31
10/1/2009	10:00	12.6	8.29	0.925	10.74
10/1/2009	11:00	13.36	8.3	0.927	10.93
10/1/2009	12:00	15.59	8.26	0.93	11.34
10/1/2009	13:00	16.85	8.29	0.935	11.4
10/1/2009	14:00	18.04	8.39	0.94	11.46

Appendix Table 3. Continued.

CAPTINA CREEK - RM 11.70					
STORET: C02S34					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/8/2009	16:00	23.71	8.14	0.954	10.11
9/8/2009	17:00	23.61	8.15	0.949	9.74
9/8/2009	18:00	23.59	8.13	0.95	9.07
9/8/2009	19:00	22.97	8.09	0.903	8.52
9/8/2009	20:00	22.63	8.02	0.915	8.12
9/8/2009	21:00	22.39	7.9	0.962	7.93
9/8/2009	22:00	22.34	7.95	1.051	7.89
9/8/2009	23:00	22.06	7.94	1.145	7.94
9/9/2009	0:00	21.57	7.92	1.232	8.05
9/9/2009	1:00	21.43	7.92	1.227	8.1
9/9/2009	2:00	21.26	7.92	1.107	8.15
9/9/2009	3:00	21.08	7.92	0.985	8.18
9/9/2009	4:00	20.86	7.91	0.881	8.21
9/9/2009	5:00	20.54	7.89	0.829	8.27
9/9/2009	6:00	20.25	7.88	0.812	8.33
9/9/2009	7:00	19.96	7.86	0.775	8.39
9/9/2009	8:00	19.71	7.85	0.74	8.43
9/9/2009	9:00	19.55	7.84	0.727	8.5
9/9/2009	10:00	19.6	7.85	0.734	8.62
9/9/2009	11:00	19.81	7.88	0.744	8.81
9/9/2009	12:00	20.11	7.92	0.751	9.02
9/9/2009	13:00	20.5	7.96	0.761	9.2
9/9/2009	14:00	21.6	8.03	0.776	9.62
9/9/2009	15:00	22.15	8.06	0.792	9.71
9/9/2009	16:00	22.39	8.08	0.807	9.63
9/9/2009	17:00	22.34	8.07	0.816	9.32
9/9/2009	18:00	22.3	8.05	0.82	8.97
9/9/2009	19:00	22.38	8.03	0.817	8.71
9/9/2009	20:00	22.24	8	0.809	8.45
9/9/2009	21:00	22.01	7.97	0.8	8.25
9/9/2009	22:00	21.7	7.94	0.793	8.16
9/9/2009	23:00	21.28	7.92	0.791	8.14
9/10/2009	0:00	20.83	7.9	0.797	8.16
9/10/2009	1:00	20.51	7.88	0.809	8.19
9/10/2009	2:00	20.26	7.86	0.828	8.21
9/10/2009	3:00	20.08	7.85	0.848	8.21
9/10/2009	4:00	19.94	7.85	0.868	8.23
9/10/2009	5:00	19.78	7.84	0.885	8.24
9/10/2009	6:00	19.58	7.83	0.9	8.28
9/10/2009	7:00	19.33	7.82	0.913	8.29
9/10/2009	8:00	19.1	7.82	0.922	8.36
9/10/2009	9:00	18.99	7.84	0.929	8.55

CAPTINA CREEK - RM 11.70					
STORET: C02S34					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/15/2009	15:00	24.9	8.2	0.793	10.38
9/15/2009	16:00	24.4	8.19	0.789	9.72
9/15/2009	17:00	23.86	8.17	0.789	9.12
9/15/2009	18:00	23.47	8.13	0.793	8.66
9/15/2009	19:00	23.12	8.12	0.796	8.27
9/15/2009	20:00	22.88	8.09	0.797	7.84
9/15/2009	21:00	22.71	8.05	0.798	7.46
9/15/2009	22:00	22.48	8.01	0.799	7.27
9/15/2009	23:00	22.12	7.98	0.801	7.21
9/16/2009	0:00	21.67	7.96	0.804	7.24
9/16/2009	1:00	21.2	7.93	0.806	7.27
9/16/2009	2:00	20.76	7.91	0.808	7.33
9/16/2009	3:00	20.36	7.9	0.809	7.38
9/16/2009	4:00	19.94	7.88	0.809	7.46
9/16/2009	5:00	19.54	7.87	0.81	7.54
9/16/2009	6:00	19.18	7.86	0.81	7.61
9/16/2009	7:00	18.86	7.85	0.81	7.68
9/16/2009	8:00	18.59	7.85	0.81	7.87
9/16/2009	9:00	18.53	7.89	0.81	8.34
9/16/2009	10:00	19.49	7.97	0.809	9.41
9/16/2009	11:00	21.22	8.07	0.807	10.51
9/16/2009	12:00	23.11	8.15	0.804	11.3
9/16/2009	13:00	24.06	8.19	0.801	11.53
9/16/2009	14:00	24.2	8.21	0.798	11.2
9/16/2009	15:00	24.06	8.2	0.797	10.62
9/16/2009	16:00	23.49	8.18	0.797	10.03
9/16/2009	17:00	22.92	8.16	0.798	9.43
9/16/2009	18:00	22.29	8.11	0.799	8.86
9/16/2009	19:00	21.73	8.06	0.8	8.4
9/16/2009	20:00	21.13	8.01	0.8	8.01
9/16/2009	21:00	20.69	7.98	0.799	7.77
9/16/2009	22:00	20.39	7.94	0.798	7.57
9/16/2009	23:00	20.11	7.91	0.796	7.5
9/17/2009	0:00	19.78	7.9	0.796	7.51
9/17/2009	1:00	19.37	7.88	0.797	7.58
9/17/2009	2:00	18.91	7.86	0.799	7.65
9/17/2009	3:00	18.44	7.84	0.799	7.78
9/17/2009	4:00	18	7.82	0.799	7.89
9/17/2009	5:00	17.59	7.81	0.799	7.99
9/17/2009	6:00	17.2	7.8	0.798	8.09
9/17/2009	7:00	16.85	7.79	0.798	8.18
9/17/2009	8:00	16.68	7.79	0.798	8.3
9/17/2009	9:00	16.83	7.83	0.796	8.94
9/17/2009	10:00	17.65	7.92	0.795	9.81
9/17/2009	11:00	19.35	8.04	0.792	10.86
9/17/2009	12:00	20.87	8.11	0.789	11.43

Appendix Table 3. Continued.

CAPTINA CREEK - RM 11.70					
STORET: C02S34					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/29/2009	14:00	15.67	8.19	1.206	10.58
9/29/2009	15:00	15.76	8.23	1.203	10.73
9/29/2009	16:00	15.73	8.25	1.199	10.72
9/29/2009	17:00	15.6	8.25	1.197	10.47
9/29/2009	18:00	15.46	8.23	1.193	10.19
9/29/2009	19:00	15.34	8.21	1.186	9.92
9/29/2009	20:00	15.23	8.19	1.181	9.7
9/29/2009	21:00	15.13	8.16	1.176	9.49
9/29/2009	22:00	15.05	8.14	1.171	9.35
9/29/2009	23:00	14.97	8.12	1.165	9.28
9/30/2009	0:00	14.9	8.1	1.161	9.19
9/30/2009	1:00	14.82	8.09	1.156	9.17
9/30/2009	2:00	14.75	8.08	1.153	9.15
9/30/2009	3:00	14.69	8.06	1.149	9.12
9/30/2009	4:00	14.63	8.05	1.145	9.14
9/30/2009	5:00	14.56	8.04	1.142	9.1
9/30/2009	6:00	14.49	8.03	1.138	9.11
9/30/2009	7:00	14.42	8.02	1.133	9.16
9/30/2009	8:00	14.35	8.02	1.128	9.18
9/30/2009	9:00	14.3	8.02	1.123	9.29
9/30/2009	10:00	14.29	8.02	1.118	9.42
9/30/2009	11:00	14.33	8.04	1.112	9.74
9/30/2009	12:00	14.44	8.07	1.105	10.11
9/30/2009	13:00	14.64	8.1	1.099	10.5
9/30/2009	14:00	14.96	8.14	1.095	10.87
9/30/2009	15:00	15.34	8.18	1.091	11.25
9/30/2009	16:00	15.64	8.22	1.085	11.44
9/30/2009	17:00	15.71	8.24	1.081	11.47
9/30/2009	18:00	15.63	8.26	1.075	11.31
9/30/2009	19:00	15.27	8.25	1.071	10.91
9/30/2009	20:00	14.95	8.24	1.066	10.57
9/30/2009	21:00	14.7	8.21	1.062	10.12
9/30/2009	22:00	14.41	8.18	1.058	9.81
9/30/2009	23:00	14.09	8.15	1.054	9.62
10/1/2009	0:00	13.75	8.13	1.05	9.52
10/1/2009	1:00	13.41	8.11	1.045	9.48
10/1/2009	2:00	13.11	8.09	1.041	9.49
10/1/2009	3:00	12.89	8.08	1.037	9.51
10/1/2009	4:00	12.68	8.05	1.034	9.49
10/1/2009	5:00	12.43	8.05	1.028	9.56
10/1/2009	6:00	12.19	8.04	1.024	9.59
10/1/2009	7:00	11.94	8.03	1.017	9.72
10/1/2009	8:00	11.71	8.02	1.013	9.76
10/1/2009	9:00	11.54	8.02	1.008	9.95
10/1/2009	10:00	11.58	8.03	1.003	10.29
10/1/2009	11:00	11.79	8.05	0.999	10.69
10/1/2009	12:00	13.56	8.13	0.99	11.52
10/1/2009	13:00	15.23	8.16	0.987	11.86
10/1/2009	14:00	16.9	8.19	0.983	12.08

CAPTINA CREEK - RM 6.71					
STORET: C02S32					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/28/2009	16:00	28.9	8.37	0.63	10.09
7/28/2009	17:00	29.19	8.37	0.629	9.75
7/28/2009	18:00	28.76	8.36	0.629	9.25
7/28/2009	19:00	28.36	8.34	0.631	8.76
7/28/2009	20:00	27.68	8.31	0.633	8.15
7/28/2009	21:00	26.92	8.24	0.638	7.63
7/28/2009	22:00	26.31	8.19	0.639	7.34
7/28/2009	23:00	26	8.18	0.638	7.24
7/29/2009	0:00	25.7	8.14	0.642	7.13
7/29/2009	1:00	25.54	8.14	0.641	7.08
7/29/2009	2:00	25.24	8.12	0.644	7.06
7/29/2009	3:00	24.97	8.1	0.646	7.05
7/29/2009	4:00	24.65	8.06	0.65	6.99
7/29/2009	5:00	24.41	8.07	0.647	7.09
7/29/2009	6:00	23.85	8.04	0.622	7.39
7/29/2009	7:00	23.7	8.03	0.602	7.32
7/29/2009	8:00	23.63	8.03	0.613	7.32
7/29/2009	9:00	23.59	8.04	0.612	7.54
7/29/2009	10:00	23.59	8.07	0.61	7.9
7/29/2009	11:00	23.69	8.13	0.607	8.29
7/29/2009	12:00	23.75	8.15	0.601	8.39
7/29/2009	13:00	23.89	8.18	0.604	8.62
7/29/2009	14:00	24.18	8.22	0.608	8.91
7/29/2009	15:00	24.32	8.24	0.608	8.95
7/29/2009	16:00	24.38	8.26	0.608	8.93
7/29/2009	17:00	24.48	8.28	0.604	8.93
7/29/2009	18:00	24.3	8.26	0.605	8.62
7/29/2009	19:00	24.39	8.29	0.603	8.62
7/29/2009	20:00	24.26	8.27	0.604	8.28
7/29/2009	21:00	24.01	8.25	0.606	8.01
7/29/2009	22:00	23.76	8.21	0.608	7.83
7/29/2009	23:00	23.61	8.2	0.608	7.76
7/30/2009	0:00	23.4	8.18	0.607	7.72
7/30/2009	1:00	23.19	8.16	0.606	7.67
7/30/2009	2:00	22.99	8.14	0.606	7.65
7/30/2009	3:00	22.83	8.12	0.607	7.65
7/30/2009	4:00	22.71	8.11	0.609	7.66
7/30/2009	5:00	22.61	8.11	0.609	7.69
7/30/2009	6:00	22.49	8.11	0.608	7.71
7/30/2009	7:00	22.4	8.11	0.606	7.76
7/30/2009	8:00	22.37	8.12	0.602	7.87
7/30/2009	9:00	22.47	8.15	0.592	8.09
7/30/2009	10:00	22.67	8.19	0.576	8.41
7/30/2009	11:00	22.91	8.23	0.563	8.66
7/30/2009	12:00	23.18	8.27	0.559	8.91

Appendix Table 3. Continued.

CAPTINA CREEK - RM 6.71					
STORET: C02S32					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/29/2009	14:00	15.94	8.29	1.049	10.07
9/29/2009	15:00	16.01	8.31	1.054	10.09
9/29/2009	16:00	15.92	8.31	1.058	9.92
9/29/2009	17:00	15.85	8.3	1.062	9.72
9/29/2009	18:00	15.81	8.29	1.067	9.5
9/29/2009	19:00	15.76	8.28	1.073	9.33
9/29/2009	20:00	15.68	8.26	1.078	9.16
9/29/2009	21:00	15.59	8.25	1.085	9.07
9/29/2009	22:00	15.48	8.24	1.091	8.98
9/29/2009	23:00	15.38	8.22	1.097	8.94
9/30/2009	0:00	15.28	8.2	1.104	8.9
9/30/2009	1:00	15.18	8.19	1.113	8.85
9/30/2009	2:00	15.07	8.17	1.121	8.85
9/30/2009	3:00	14.97	8.16	1.13	8.84
9/30/2009	4:00	14.87	8.15	1.138	8.83
9/30/2009	5:00	14.77	8.14	1.144	8.86
9/30/2009	6:00	14.69	8.14	1.15	8.86
9/30/2009	7:00	14.6	8.13	1.154	8.87
9/30/2009	8:00	14.53	8.13	1.158	8.93
9/30/2009	9:00	14.51	8.14	1.159	9.08
9/30/2009	10:00	14.55	8.17	1.16	9.4
9/30/2009	11:00	14.63	8.21	1.154	9.7
9/30/2009	12:00	14.75	8.24	1.154	10.05
9/30/2009	13:00	15.05	8.29	1.154	10.42
9/30/2009	14:00	15.38	8.32	1.153	10.69
9/30/2009	15:00	15.7	8.34	1.153	10.89
9/30/2009	16:00	15.89	8.36	1.15	10.94
9/30/2009	17:00	16.1	8.36	1.148	10.87
9/30/2009	18:00	15.8	8.35	1.146	10.41
9/30/2009	19:00	15.3	8.33	1.145	10.05
9/30/2009	20:00	14.86	8.3	1.144	9.64
9/30/2009	21:00	14.6	8.28	1.142	9.48
9/30/2009	22:00	14.41	8.26	1.14	9.39
9/30/2009	23:00	14.21	8.26	1.137	9.33
10/1/2009	0:00	13.94	8.26	1.135	9.29
10/1/2009	1:00	13.75	8.25	1.133	9.29
10/1/2009	2:00	13.59	8.24	1.132	9.27
10/1/2009	3:00	13.45	8.23	1.13	9.25
10/1/2009	4:00	13.26	8.22	1.13	9.24
10/1/2009	5:00	13.02	8.2	1.129	9.25
10/1/2009	6:00	12.78	8.19	1.129	9.29
10/1/2009	7:00	12.52	8.18	1.128	9.32
10/1/2009	8:00	12.28	8.17	1.127	9.44
10/1/2009	9:00	12.22	8.19	1.126	9.82
10/1/2009	10:00	12.41	8.23	1.125	10.33
10/1/2009	11:00	12.42	8.25	1.122	10.49
10/1/2009	12:00	13.19	8.29	1.121	10.84
10/1/2009	13:00	14.33	8.31	1.12	11.02
10/1/2009	14:00	15.79	8.32	1.119	11.16
10/1/2009	15:00	17.18	8.33	1.118	11.32

CAPTINA CREEK - RM 3.33					
STORET: C02S31					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/8/2009	16:00	24.3	8.05	0.978	10.16
9/8/2009	17:00	24.51	8.04	0.979	9.71
9/8/2009	18:00	24.09	8	0.98	8.83
9/8/2009	19:00	23.63	7.95	0.974	8.27
9/8/2009	20:00	23.28	7.93	0.972	8
9/8/2009	21:00	22.91	7.92	0.971	7.86
9/8/2009	22:00	22.63	7.9	0.97	7.81
9/8/2009	23:00	22.39	7.9	0.972	7.79
9/9/2009	0:00	22.24	7.9	0.974	7.78
9/9/2009	1:00	22.13	7.9	0.975	7.75
9/9/2009	2:00	22.13	7.91	0.971	7.84
9/9/2009	3:00	22.12	7.93	0.953	7.88
9/9/2009	4:00	21.85	7.92	0.917	7.9
9/9/2009	5:00	21.52	7.92	0.882	7.96
9/9/2009	6:00	21.17	7.91	0.851	8.04
9/9/2009	7:00	20.92	7.92	0.827	8.1
9/9/2009	8:00	20.76	7.93	0.809	8.15
9/9/2009	9:00	20.69	7.94	0.795	8.24
9/9/2009	10:00	20.71	7.95	0.76	8.36
9/9/2009	11:00	20.81	7.94	0.697	8.4
9/9/2009	12:00	20.82	7.91	0.632	8.41
9/9/2009	13:00	21.02	7.9	0.597	8.49
9/9/2009	14:00	21.62	7.9	0.606	8.61
9/9/2009	15:00	22.04	7.93	0.651	8.69
9/9/2009	16:00	22.33	7.96	0.717	8.76
9/9/2009	17:00	22.5	7.99	0.788	8.8
9/9/2009	18:00	22.46	7.99	0.847	8.68
9/9/2009	19:00	22.5	8	0.886	8.56
9/9/2009	20:00	22.41	7.99	0.906	8.35
9/9/2009	21:00	22.34	7.98	0.91	8.23
9/9/2009	22:00	22.17	7.97	0.903	8.14
9/9/2009	23:00	21.97	7.96	0.89	8.08
9/10/2009	0:00	21.77	7.95	0.874	8.08
9/10/2009	1:00	21.6	7.93	0.857	8.04
9/10/2009	2:00	21.4	7.91	0.839	8.03
9/10/2009	3:00	21.23	7.9	0.824	8.05
9/10/2009	4:00	21.06	7.88	0.809	8.04
9/10/2009	5:00	20.85	7.87	0.796	8.06
9/10/2009	6:00	20.61	7.85	0.784	8.09
9/10/2009	7:00	20.33	7.84	0.774	8.14
9/10/2009	8:00	20.05	7.82	0.765	8.18
9/10/2009	9:00	19.87	7.82	0.757	8.34
9/10/2009	10:00	19.83	7.83	0.752	8.53
9/10/2009	11:00	20.1	7.85	0.748	8.87
9/10/2009	12:00	20.62	7.9	0.745	9.4
9/10/2009	13:00	21.13	7.97	0.742	9.92

Appendix Table 3. Continued.

CAPTINA CREEK - RM 3.33					
STORET: C02S31					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/15/2009	15:00	20.05	7.57	0.402	9.37
9/15/2009	16:00	19.95	7.56	0.401	9.12
9/15/2009	17:00	19.97	7.53	0.38	8.93
9/15/2009	18:00	19.91	7.47	0.354	8.56
9/15/2009	19:00	19.76	7.42	0.344	8.51
9/15/2009	20:00	19.46	7.36	0.33	8.44
9/15/2009	21:00	19.26	7.36	0.335	8.43
9/15/2009	22:00	19.03	7.37	0.335	8.47
9/15/2009	23:00	18.78	7.37	0.331	8.52
9/16/2009	0:00	18.56	7.37	0.335	8.54
9/16/2009	1:00	18.41	7.37	0.347	8.56
9/16/2009	2:00	18.25	7.38	0.359	8.58
9/16/2009	3:00	18.08	7.4	0.364	8.63
9/16/2009	4:00	17.91	7.42	0.364	8.65
9/16/2009	5:00	17.77	7.44	0.359	8.67
9/16/2009	6:00	17.63	7.44	0.35	8.69
9/16/2009	7:00	17.47	7.46	0.339	8.74
9/16/2009	8:00	17.32	7.46	0.332	8.81
9/16/2009	9:00	17.22	7.47	0.328	8.94
9/16/2009	10:00	17.3	7.49	0.327	9.18
9/16/2009	11:00	17.77	7.6	0.326	9.66
9/16/2009	12:00	18.17	7.65	0.326	9.82
9/16/2009	13:00	18.62	7.71	0.326	9.91
9/16/2009	14:00	19.67	7.73	0.326	9.96
9/16/2009	15:00	19.94	7.73	0.326	9.74
9/16/2009	16:00	20.15	7.73	0.327	9.56
9/16/2009	17:00	20.41	7.7	0.328	9.29
9/16/2009	18:00	20.43	7.64	0.33	8.85
9/16/2009	19:00	20.35	7.57	0.332	8.58
9/16/2009	20:00	20.12	7.48	0.336	8.29
9/16/2009	21:00	19.79	7.42	0.339	8.22
9/16/2009	22:00	19.42	7.39	0.343	8.23
9/16/2009	23:00	19.05	7.38	0.346	8.27
9/17/2009	0:00	18.67	7.38	0.348	8.32
9/17/2009	1:00	18.37	7.39	0.351	8.38
9/17/2009	2:00	18.12	7.4	0.353	8.42
9/17/2009	3:00	17.9	7.4	0.355	8.46
9/17/2009	4:00	17.72	7.41	0.356	8.51
9/17/2009	5:00	17.56	7.42	0.358	8.55
9/17/2009	6:00	17.33	7.43	0.36	8.59
9/17/2009	7:00	17.09	7.44	0.362	8.64
9/17/2009	8:00	16.89	7.46	0.363	8.78
9/17/2009	9:00	16.8	7.48	0.365	8.9
9/17/2009	10:00	16.92	7.51	0.366	9.06
9/17/2009	11:00	17.26	7.56	0.367	9.38
9/17/2009	12:00	19.31	7.5	0.371	9.54

CAPTINA CREEK - RM 3.33					
STORET: C02S31					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/29/2009	15:00	16.32	8.34	1.066	10.14
9/29/2009	16:00	16.21	8.34	1.057	9.87
9/29/2009	17:00	16.08	8.32	1.049	9.61
9/29/2009	18:00	15.95	8.3	1.04	9.42
9/29/2009	19:00	15.78	8.27	1.033	9.26
9/29/2009	20:00	15.63	8.25	1.027	9.12
9/29/2009	21:00	15.49	8.22	1.022	9.01
9/29/2009	22:00	15.38	8.21	1.017	8.89
9/29/2009	23:00	15.3	8.19	1.014	8.83
9/30/2009	0:00	15.21	8.18	1.012	8.8
9/30/2009	1:00	15.16	8.17	1.011	8.89
9/30/2009	2:00	15.1	8.17	1.011	8.87
9/30/2009	3:00	15.06	8.16	1.012	8.77
9/30/2009	4:00	15.02	8.16	1.014	8.86
9/30/2009	5:00	14.96	8.15	1.017	8.82
9/30/2009	6:00	14.92	8.15	1.019	8.9
9/30/2009	7:00	14.87	8.15	1.022	8.91
9/30/2009	8:00	14.84	8.15	1.025	8.93
9/30/2009	9:00	14.84	8.15	1.028	9.02
9/30/2009	10:00	14.89	8.17	1.03	9.26
9/30/2009	11:00	14.94	8.21	1.03	9.67
9/30/2009	12:00	15.05	8.24	1.031	9.96
9/30/2009	13:00	15.29	8.29	1.034	10.43
9/30/2009	14:00	15.6	8.35	1.036	10.95
9/30/2009	15:00	15.94	8.38	1.037	11.23
9/30/2009	16:00	16.19	8.4	1.041	11.39
9/30/2009	17:00	16.45	8.42	1.044	11.41
9/30/2009	18:00	16.18	8.41	1.049	10.91
9/30/2009	19:00	15.96	8.37	1.054	10.41
9/30/2009	20:00	15.58	8.32	1.059	9.87
9/30/2009	21:00	15.27	8.27	1.064	9.5
9/30/2009	22:00	14.98	8.23	1.068	9.3
9/30/2009	23:00	14.68	8.2	1.073	9.13
10/1/2009	0:00	14.34	8.18	1.077	9.11
10/1/2009	1:00	14	8.16	1.081	9.01
10/1/2009	2:00	13.81	8.15	1.085	9.08
10/1/2009	3:00	13.6	8.13	1.089	9.09
10/1/2009	4:00	13.4	8.13	1.093	9.13
10/1/2009	5:00	13.2	8.12	1.098	9.17
10/1/2009	6:00	13.07	8.12	1.101	9.19
10/1/2009	7:00	12.87	8.12	1.107	9.24
10/1/2009	8:00	12.72	8.11	1.11	9.29
10/1/2009	9:00	12.66	8.12	1.115	9.52
10/1/2009	10:00	12.79	8.15	1.118	10.03
10/1/2009	11:00	12.99	8.2	1.12	10.53
10/1/2009	12:00	13.26	8.24	1.123	10.93
10/1/2009	13:00	13.66	8.29	1.126	11.24
10/1/2009	14:00	14.79	8.35	1.125	11.73
10/1/2009	15:00	16.89	8.4	1.122	12.31

Appendix Table 3. Continued.

NORTH FORK CAPTINA CREEK - RM 0.43					
STORET: C02S54					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/28/2009	12:00	21.69	8.36	0.555	10.2
7/28/2009	13:00	22.61	8.43	0.553	10.77
7/28/2009	14:00	23.35	8.5	0.549	11.2
7/28/2009	15:00	24.17	8.56	0.544	11.56
7/28/2009	16:00	25.11	8.59	0.541	11.57
7/28/2009	17:00	25.56	8.6	0.537	11.15
7/28/2009	18:00	25.37	8.6	0.533	10.4
7/28/2009	19:00	25.09	8.6	0.53	9.6
7/28/2009	20:00	24.86	8.57	0.528	8.74
7/28/2009	21:00	24.48	8.53	0.524	7.97
7/28/2009	22:00	24.08	8.49	0.519	7.47
7/28/2009	23:00	23.77	8.46	0.512	7.2
7/29/2009	0:00	23.52	8.42	0.506	7.05
7/29/2009	1:00	23.25	8.38	0.503	6.99
7/29/2009	2:00	22.97	8.34	0.502	6.95
7/29/2009	3:00	22.68	8.28	0.504	6.94
7/29/2009	4:00	22.39	8.22	0.506	6.94
7/29/2009	5:00	22.12	8.17	0.509	6.99
7/29/2009	6:00	21.82	8.14	0.504	7.23
7/29/2009	7:00	21.61	8.1	0.507	7.19
7/29/2009	8:00	21.47	8.09	0.513	7.27
7/29/2009	9:00	21.32	8.09	0.51	7.52
7/29/2009	10:00	21.35	8.13	0.518	7.97
7/29/2009	11:00	21.33	8.18	0.52	8.27
7/29/2009	12:00	21.36	8.23	0.522	8.61
7/29/2009	13:00	21.59	8.29	0.519	9.1
7/29/2009	14:00	21.73	8.33	0.512	9.31
7/29/2009	15:00	21.65	8.33	0.505	9.01
7/29/2009	16:00	21.68	8.36	0.498	8.96
7/29/2009	17:00	21.59	8.37	0.475	8.61
7/29/2009	18:00	21.67	8.41	0.472	8.7
7/29/2009	19:00	21.61	8.43	0.456	8.59
7/29/2009	20:00	21.37	8.37	0.437	8.42
7/29/2009	21:00	21.18	8.33	0.442	8.3
7/29/2009	22:00	21.05	8.29	0.451	8.14
7/29/2009	23:00	20.89	8.24	0.453	8.08
7/30/2009	0:00	20.7	8.21	0.455	8.04
7/30/2009	1:00	20.58	8.19	0.459	8.02
7/30/2009	2:00	20.43	8.17	0.459	8.08
7/30/2009	3:00	20.26	8.17	0.461	8.13
7/30/2009	4:00	20.16	8.16	0.464	8.13
7/30/2009	5:00	20.09	8.16	0.472	8.13
7/30/2009	6:00	20.03	8.15	0.48	8.13
7/30/2009	7:00	19.99	8.14	0.486	8.13
7/30/2009	8:00	20	8.15	0.489	8.25
7/30/2009	9:00	20.14	8.2	0.489	8.61
7/30/2009	10:00	20.41	8.26	0.485	9.08
7/30/2009	11:00	20.61	8.3	0.482	9.26
7/30/2009	12:00	20.91	8.36	0.479	9.57
7/30/2009	13:00	21.52	8.46	0.477	10.22
7/30/2009	14:00	22.18	8.55	0.475	10.55
7/30/2009	15:00	22.49	8.61	0.476	10.23

NORTH FORK CAPTINA CREEK - RM 0.43					
STORET: C02S54					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/8/2009	12:00	19.76	8.13	0.53	9.65
9/8/2009	13:00	20.37	8.22	0.528	10.18
9/8/2009	14:00	21.02	8.28	0.526	10.5
9/8/2009	15:00	21.51	8.32	0.517	10.23
9/8/2009	16:00	22.08	8.34	0.515	10.35
9/8/2009	17:00	22.06	8.32	0.51	9.71
9/8/2009	18:00	21.18	8.19	0.481	8.49
9/8/2009	19:00	20.82	8.14	0.461	8.33
9/8/2009	20:00	20.61	8.14	0.462	8.07
9/8/2009	21:00	20.5	8.19	0.463	7.85
9/8/2009	22:00	20.42	8.18	0.455	7.72
9/8/2009	23:00	20.03	8.13	0.437	7.78
9/9/2009	0:00	19.73	8.09	0.437	7.8
9/9/2009	1:00	19.54	8.04	0.446	7.77
9/9/2009	2:00	19.38	8.02	0.454	7.78
9/9/2009	3:00	19.19	8	0.46	7.79
9/9/2009	4:00	18.97	8	0.463	7.81
9/9/2009	5:00	18.77	7.99	0.464	7.81
9/9/2009	6:00	18.56	7.98	0.466	7.86
9/9/2009	7:00	18.36	7.98	0.468	7.88
9/9/2009	8:00	18.17	7.98	0.47	7.95
9/9/2009	9:00	18.03	7.99	0.472	8.16
9/9/2009	10:00	18.15	8.05	0.472	8.72
9/9/2009	11:00	18.46	8.14	0.472	9.37
9/9/2009	12:00	18.94	8.23	0.471	10.02
9/9/2009	13:00	19.27	8.3	0.471	10.28
9/9/2009	14:00	20.2	8.38	0.471	10.79
9/9/2009	15:00	21.52	8.44	0.471	11.07
9/9/2009	16:00	21.94	8.48	0.47	11.03
9/9/2009	17:00	21.92	8.49	0.468	10.66
9/9/2009	18:00	21.74	8.47	0.469	9.98
9/9/2009	19:00	21.12	8.41	0.469	9.05
9/9/2009	20:00	20.88	8.37	0.469	8.41
9/9/2009	21:00	20.61	8.33	0.469	7.92
9/9/2009	22:00	20.32	8.31	0.47	7.69
9/9/2009	23:00	20.06	8.29	0.472	7.57
9/10/2009	0:00	19.78	8.27	0.475	7.52
9/10/2009	1:00	19.55	8.24	0.478	7.48
9/10/2009	2:00	19.33	8.19	0.482	7.47
9/10/2009	3:00	19.14	8.14	0.487	7.47
9/10/2009	4:00	18.94	8.09	0.492	7.51
9/10/2009	5:00	18.76	8.05	0.498	7.54
9/10/2009	6:00	18.58	8.02	0.504	7.6
9/10/2009	7:00	18.29	8	0.511	7.68
9/10/2009	8:00	18	7.99	0.516	7.8
9/10/2009	9:00	17.84	8.01	0.521	8.1
9/10/2009	10:00	17.93	8.11	0.525	8.62

Appendix Table 3. Continued.

NORTH FORK CAPTINA CREEK - RM 6.65					
STORET: C02W05					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/28/2009	11:00	19.5	8.04	0.522	8.54
7/28/2009	12:00	20.13	8.11	0.514	8.86
7/28/2009	13:00	20.92	8.16	0.516	9.11
7/28/2009	14:00	21.5	8.22	0.522	9.37
7/28/2009	15:00	22.13	8.26	0.528	9.54
7/28/2009	16:00	22.92	8.27	0.54	9.29
7/28/2009	17:00	23.23	8.26	0.548	8.8
7/28/2009	18:00	23.49	8.25	0.549	8.49
7/28/2009	19:00	23.46	8.23	0.551	8.18
7/28/2009	20:00	23.32	8.19	0.556	7.86
7/28/2009	21:00	23.02	8.14	0.559	7.6
7/28/2009	22:00	22.74	8.11	0.553	7.5
7/28/2009	23:00	22.46	8.09	0.538	7.47
7/29/2009	0:00	22.28	8.08	0.523	7.5
7/29/2009	1:00	22.16	8.06	0.51	7.47
7/29/2009	2:00	21.96	8.03	0.506	7.45
7/29/2009	3:00	21.74	8.03	0.503	7.5
7/29/2009	4:00	21.53	8.02	0.503	7.57
7/29/2009	5:00	21.32	8.01	0.505	7.62
7/29/2009	6:00	21.09	8	0.5	7.7
7/29/2009	7:00	20.99	7.98	0.518	7.72
7/29/2009	8:00	20.89	7.98	0.534	7.84
7/29/2009	9:00	20.78	7.99	0.529	7.91
7/29/2009	10:00	20.76	8	0.53	8
7/29/2009	11:00	20.73	8.02	0.535	8.08
7/29/2009	12:00	20.78	8.04	0.542	8.19
7/29/2009	13:00	20.85	8.05	0.545	8.29
7/29/2009	14:00	20.94	8.08	0.525	8.29
7/29/2009	15:00	21	8.09	0.468	8.3
7/29/2009	16:00	21.03	8.09	0.464	8.26
7/29/2009	17:00	21.03	8.08	0.483	8.2
7/29/2009	18:00	21.12	8.07	0.512	8.18
7/29/2009	19:00	21.11	8.05	0.498	8.07
7/29/2009	20:00	21.1	8.01	0.485	7.99
7/29/2009	21:00	21.14	8.02	0.454	8.03
7/29/2009	22:00	20.98	8.04	0.454	8.04
7/29/2009	23:00	20.74	8.04	0.474	8.06
7/30/2009	0:00	20.53	8.03	0.482	8.05
7/30/2009	1:00	20.35	8.01	0.479	8.06
7/30/2009	2:00	20.19	8	0.464	8.03
7/30/2009	3:00	20.03	7.98	0.45	8.04
7/30/2009	4:00	19.89	7.98	0.441	8.05
7/30/2009	5:00	19.82	7.98	0.44	8.07
7/30/2009	6:00	19.76	7.98	0.446	8.1
7/30/2009	7:00	19.73	8	0.449	8.17
7/30/2009	8:00	19.71	8.02	0.451	8.29
7/30/2009	9:00	19.77	8.05	0.457	8.36
7/30/2009	10:00	19.9	8.08	0.461	8.51
7/30/2009	11:00	20.15	8.11	0.47	8.62
7/30/2009	12:00	20.38	8.13	0.482	8.6
7/30/2009	13:00	20.83	8.17	0.49	8.77
7/30/2009	14:00	21.16	8.19	0.496	8.74
7/30/2009	15:00	21.74	8.21	0.496	8.85
7/30/2009	16:00	22.33	8.23	0.489	8.79

SOUTH FORK CAPTINA CREEK - RM 0.10					
STORET: C02S60					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/28/2009	13:00	24.69	8.33	0.298	
7/28/2009	14:00	25.81	8.44	0.293	
7/28/2009	15:00	26.56	8.5	0.29	
7/28/2009	16:00	27.1	8.51	0.288	
7/28/2009	17:00	27.44	8.54	0.285	
7/28/2009	18:00	27.13	8.51	0.285	
7/28/2009	19:00	26.76	8.45	0.285	
7/28/2009	20:00	26.27	8.36	0.287	
7/28/2009	21:00	25.56	8.25	0.29	
7/28/2009	22:00	24.8	8.15	0.293	
7/28/2009	23:00	24.11	8.07	0.297	
7/29/2009	0:00	23.55	8	0.3	
7/29/2009	1:00	23.1	7.95	0.301	
7/29/2009	2:00	22.76	7.92	0.302	
7/29/2009	3:00	22.49	7.9	0.302	
7/29/2009	4:00	22.26	7.89	0.302	
7/29/2009	5:00	22.06	7.87	0.3	
7/29/2009	6:00	21.82	7.86	0.294	
7/29/2009	7:00	21.72	7.85	0.294	
7/29/2009	8:00	21.67	7.86	0.291	
7/29/2009	9:00	21.62	7.86	0.292	
7/29/2009	10:00	21.76	7.93	0.299	
7/29/2009	11:00	21.89	7.98	0.294	
7/29/2009	12:00	22.1	8.08	0.292	
7/29/2009	13:00	22.48	8.16	0.289	
7/29/2009	14:00	22.79	8.22	0.284	
7/29/2009	15:00	22.82	8.24	0.281	
7/29/2009	16:00	22.78	8.24	0.28	
7/29/2009	17:00	22.53	8.18	0.271	
7/29/2009	18:00	22.54	8.2	0.277	
7/29/2009	19:00	22.56	8.19	0.282	
7/29/2009	20:00	22.44	8.17	0.28	
7/29/2009	21:00	22.1	8.09	0.273	
7/29/2009	22:00	21.78	8.03	0.272	
7/29/2009	23:00	21.49	8.01	0.274	
7/30/2009	0:00	21.21	8	0.276	
7/30/2009	1:00	20.94	7.98	0.275	
7/30/2009	2:00	20.66	7.97	0.27	
7/30/2009	3:00	20.4	7.96	0.27	
7/30/2009	4:00	20.24	7.98	0.271	
7/30/2009	5:00	20.18	7.98	0.27	
7/30/2009	6:00	20.14	7.98	0.271	
7/30/2009	7:00	20.15	7.97	0.274	
7/30/2009	8:00	20.23	7.98	0.276	
7/30/2009	9:00	20.44	8.02	0.277	
7/30/2009	10:00	20.82	8.1	0.276	
7/30/2009	11:00	21.2	8.16	0.276	
7/30/2009	12:00	21.52	8.23	0.277	
7/30/2009	13:00	22.16	8.32	0.277	
7/30/2009	14:00	23.08	8.43	0.278	
7/30/2009	15:00	23.35	8.41	0.279	

Appendix Table 3. Continued.

SOUTH FORK CAPTINA CREEK - RM 0.10					
STORET: C02S60					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/8/2009	12:00	20.33	7.94	0.285	9.24
9/8/2009	13:00	21.16	8.04	0.285	9.32
9/8/2009	14:00	22.2	8.16	0.285	9.46
9/8/2009	15:00	22.17	8.13	0.283	8.94
9/8/2009	16:00	23	8.18	0.285	9.03
9/8/2009	17:00	22.52	8.12	0.282	8.4
9/8/2009	18:00	22.34	8.02	0.277	8.03
9/8/2009	19:00	22.12	7.97	0.281	7.97
9/8/2009	20:00	21.7	7.91	0.286	7.88
9/8/2009	21:00	21.34	7.89	0.292	7.84
9/8/2009	22:00	21.28	7.88	0.29	7.8
9/8/2009	23:00	21.15	7.85	0.286	7.78
9/9/2009	0:00	20.91	7.82	0.284	7.82
9/9/2009	1:00	20.6	7.81	0.282	7.85
9/9/2009	2:00	20.31	7.79	0.281	7.89
9/9/2009	3:00	20.01	7.78	0.28	7.92
9/9/2009	4:00	19.71	7.78	0.281	8.01
9/9/2009	5:00	19.43	7.77	0.283	7.96
9/9/2009	6:00	19.19	7.77	0.283	8.09
9/9/2009	7:00	18.94	7.76	0.283	8.09
9/9/2009	8:00	18.7	7.75	0.284	8.17
9/9/2009	9:00	18.53	7.77	0.283	8.32
9/9/2009	10:00	18.64	7.84	0.283	8.76
9/9/2009	11:00	19.02	7.93	0.282	9.18
9/9/2009	12:00	19.66	8.04	0.281	9.55
9/9/2009	13:00	20.23	8.14	0.28	9.67
9/9/2009	14:00	21.6	8.25	0.28	9.94
9/9/2009	15:00	22.89	8.3	0.28	9.88
9/9/2009	16:00	23.29	8.32	0.279	9.59
9/9/2009	17:00	23.34	8.29	0.281	8.98
9/9/2009	18:00	23.12	8.25	0.281	8.61
9/9/2009	19:00	22.6	8.16	0.281	8.09
9/9/2009	20:00	22.2	8.07	0.282	7.81
9/9/2009	21:00	21.67	7.98	0.285	7.67
9/9/2009	22:00	21.19	7.89	0.285	7.6
9/9/2009	23:00	20.81	7.83	0.287	7.55
9/10/2009	0:00	20.46	7.79	0.286	7.58
9/10/2009	1:00	20.2	7.77	0.287	7.65
9/10/2009	2:00	19.96	7.76	0.287	7.72
9/10/2009	3:00	19.72	7.75	0.287	7.79
9/10/2009	4:00	19.51	7.75	0.288	7.8
9/10/2009	5:00	19.31	7.75	0.288	7.91
9/10/2009	6:00	19.09	7.75	0.289	7.98
9/10/2009	7:00	18.81	7.75	0.29	8.02
9/10/2009	8:00	18.51	7.76	0.291	8.19
9/10/2009	9:00	18.32	7.79	0.291	8.42
9/10/2009	10:00	18.35	7.84	0.292	8.68

BEND FORK - RM 0.26					
STORET: C02S81					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/28/2009	14:00	23.38	8.52	0.523	9.77
7/28/2009	15:00	23.74	8.56	0.521	9.86
7/28/2009	16:00	24.3	8.57	0.518	9.71
7/28/2009	17:00	24.49	8.57	0.517	9.34
7/28/2009	18:00	24.4	8.55	0.516	8.84
7/28/2009	19:00	24.13	8.52	0.516	8.42
7/28/2009	20:00	23.91	8.47	0.517	7.98
7/28/2009	21:00	23.5	8.43	0.518	7.65
7/28/2009	22:00	23.05	8.38	0.52	7.5
7/28/2009	23:00	22.71	8.35	0.521	7.47
7/29/2009	0:00	22.45	8.33	0.522	7.49
7/29/2009	1:00	22.22	8.31	0.522	7.52
7/29/2009	2:00	21.98	8.3	0.524	7.55
7/29/2009	3:00	21.75	8.29	0.526	7.61
7/29/2009	4:00	21.52	8.27	0.528	7.64
7/29/2009	5:00	21.33	8.27	0.529	7.71
7/29/2009	6:00	21.08	8.25	0.508	7.68
7/29/2009	7:00	20.97	8.23	0.499	7.76
7/29/2009	8:00	20.93	8.24	0.503	7.82
7/29/2009	9:00	20.92	8.25	0.506	7.99
7/29/2009	10:00	21.01	8.28	0.506	8.23
7/29/2009	11:00	21.06	8.32	0.5	8.4
7/29/2009	12:00	21.12	8.33	0.496	8.48
7/29/2009	13:00	21.4	8.38	0.494	8.86
7/29/2009	14:00	21.57	8.4	0.49	8.79
7/29/2009	15:00	21.54	8.39	0.488	8.58
7/29/2009	16:00	21.56	8.4	0.486	8.62
7/29/2009	17:00	21.54	8.41	0.464	8.47
7/29/2009	18:00	21.5	8.39	0.461	8.47
7/29/2009	19:00	21.5	8.41	0.47	8.48
7/29/2009	20:00	21.32	8.36	0.461	8.31
7/29/2009	21:00	21.1	8.33	0.467	8.27
7/29/2009	22:00	20.87	8.33	0.463	8.28
7/29/2009	23:00	20.68	8.33	0.465	8.29
7/30/2009	0:00	20.54	8.33	0.471	8.31
7/30/2009	1:00	20.42	8.33	0.473	8.33
7/30/2009	2:00	20.29	8.32	0.47	8.33
7/30/2009	3:00	20.18	8.31	0.466	8.34
7/30/2009	4:00	20.08	8.29	0.466	8.35
7/30/2009	5:00	20	8.28	0.466	8.35
7/30/2009	6:00	19.9	8.28	0.469	8.39
7/30/2009	7:00	19.84	8.28	0.47	8.39
7/30/2009	8:00	19.83	8.28	0.473	8.5
7/30/2009	9:00	19.96	8.31	0.477	8.73
7/30/2009	10:00	20.26	8.36	0.48	9.06
7/30/2009	11:00	20.52	8.42	0.482	9.25
7/30/2009	12:00	20.69	8.44	0.485	9.22
7/30/2009	13:00	21.35	8.51	0.486	9.7
7/30/2009	14:00	21.92	8.54	0.487	9.68

Appendix Table 3. Continued.

BEND FORK - RM 0.26					
STORET: C02S81					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/8/2009	14:00	20.39	8.3	0.53	9.25
9/8/2009	15:00	20.71	8.32	0.528	9.04
9/8/2009	16:00	21.31	8.33	0.523	8.87
9/8/2009	17:00	21.08	8.3	0.522	8.47
9/8/2009	18:00	20.77	8.27	0.523	8.34
9/8/2009	19:00	20.16	8.21	0.431	8.42
9/8/2009	20:00	19.82	8.11	0.42	8.46
9/8/2009	21:00	19.25	8.07	0.386	8.59
9/8/2009	22:00	18.82	8.05	0.375	8.66
9/8/2009	23:00	18.84	8.06	0.419	8.61
9/9/2009	0:00	18.74	8.08	0.436	8.67
9/9/2009	1:00	18.53	8.08	0.446	8.71
9/9/2009	2:00	18.32	8.09	0.462	8.73
9/9/2009	3:00	18.15	8.11	0.469	8.74
9/9/2009	4:00	18	8.1	0.456	8.73
9/9/2009	5:00	17.84	8.09	0.454	8.76
9/9/2009	6:00	17.67	8.08	0.449	8.82
9/9/2009	7:00	17.49	8.06	0.445	8.83
9/9/2009	8:00	17.32	8.05	0.446	8.86
9/9/2009	9:00	17.24	8.05	0.455	8.93
9/9/2009	10:00	17.33	8.05	0.467	9.02
9/9/2009	11:00	17.6	8.08	0.473	9.14
9/9/2009	12:00	17.97	8.11	0.475	9.23
9/9/2009	13:00	18.39	8.14	0.476	9.29
9/9/2009	14:00	19.03	8.16	0.477	9.27
9/9/2009	15:00	19.79	8.18	0.479	9.26
9/9/2009	16:00	20.22	8.21	0.481	9.15
9/9/2009	17:00	20.26	8.2	0.484	8.9
9/9/2009	18:00	20.26	8.2	0.487	8.65
9/9/2009	19:00	20.2	8.18	0.489	8.52
9/9/2009	20:00	20	8.15	0.491	8.33
9/9/2009	21:00	19.73	8.13	0.493	8.28
9/9/2009	22:00	19.49	8.11	0.494	8.29
9/9/2009	23:00	19.28	8.1	0.495	8.29
9/10/2009	0:00	19.03	8.09	0.496	8.33
9/10/2009	1:00	18.81	8.08	0.497	8.37
9/10/2009	2:00	18.58	8.08	0.498	8.42
9/10/2009	3:00	18.37	8.08	0.5	8.46
9/10/2009	4:00	18.18	8.07	0.501	8.49
9/10/2009	5:00	18.01	8.07	0.502	8.54
9/10/2009	6:00	17.8	8.06	0.504	8.56
9/10/2009	7:00	17.53	8.06	0.505	8.62
9/10/2009	8:00	17.31	8.07	0.507	8.72
9/10/2009	9:00	17.25	8.08	0.507	8.93

CAT RUN - RM 3.30					
STORET: C02K06					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
7/28/2009	18:00	26.64	8.77	0.439	8.7
7/28/2009	19:00	25.34	8.7	0.447	7.95
7/28/2009	20:00	24.15	8.61	0.457	7.42
7/28/2009	21:00	23.1	8.52	0.465	7.06
7/28/2009	22:00	22.26	8.46	0.47	6.97
7/28/2009	23:00	21.69	8.43	0.473	7.04
7/29/2009	0:00	21.26	8.41	0.475	7.13
7/29/2009	1:00	20.92	8.4	0.475	7.18
7/29/2009	2:00	20.62	8.4	0.476	7.26
7/29/2009	3:00	20.36	8.39	0.477	7.3
7/29/2009	4:00	20.15	8.39	0.478	7.35
7/29/2009	5:00	19.98	8.37	0.469	7.3
7/29/2009	6:00	19.8	8.36	0.367	7.96
7/29/2009	7:00	19.78	8.32	0.364	7.7
7/29/2009	8:00	19.84	8.4	0.418	7.99
7/29/2009	9:00	19.74	8.43	0.384	8.47
7/29/2009	10:00	19.68	8.52	0.412	8.69
7/29/2009	11:00	19.47	8.55	0.382	8.85
7/29/2009	12:00	19.61	8.56	0.362	8.81
7/29/2009	13:00	19.9	8.6	0.341	9.01
7/29/2009	14:00	20.02	8.61	0.337	8.99
7/29/2009	15:00	19.93	8.58	0.341	8.8
7/29/2009	16:00	20.07	8.61	0.347	8.94
7/29/2009	17:00	20.13	8.61	0.352	8.75
7/29/2009	18:00	20.03	8.59	0.353	8.8
7/29/2009	19:00	20.09	8.6	0.356	8.75
7/29/2009	20:00	19.9	8.55	0.358	8.65
7/29/2009	21:00	19.66	8.49	0.361	8.52
7/29/2009	22:00	19.57	8.49	0.364	8.49
7/29/2009	23:00	19.4	8.5	0.366	8.53
7/30/2009	0:00	19.25	8.49	0.369	8.57
7/30/2009	1:00	19.13	8.49	0.372	8.58
7/30/2009	2:00	19	8.49	0.375	8.61
7/30/2009	3:00	18.96	8.47	0.363	8.65
7/30/2009	4:00	18.94	8.46	0.366	8.58
7/30/2009	5:00	18.9	8.45	0.373	8.59
7/30/2009	6:00	18.87	8.44	0.378	8.59
7/30/2009	7:00	18.86	8.44	0.383	8.62
7/30/2009	8:00	18.88	8.48	0.386	8.73
7/30/2009	9:00	19.11	8.55	0.387	9.1
7/30/2009	10:00	19.6	8.64	0.388	9.54
7/30/2009	11:00	19.92	8.7	0.39	9.62

Appendix Table 3. Continued.

CAT RUN - RM 3.30					
STORET: C02K06					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/8/2009	17:00	20.35	7.99	0.388	8.82
9/8/2009	18:00	19.97	7.95	0.391	8.57
9/8/2009	19:00	19.61	7.9	0.391	8.55
9/8/2009	20:00	19.25	7.84	0.346	8.5
9/8/2009	21:00	18.91	7.84	0.368	8.62
9/8/2009	22:00	18.35	7.87	0.35	9.07
9/8/2009	23:00	18.27	7.82	0.281	9.06
9/9/2009	0:00	18.15	7.82	0.287	9.04
9/9/2009	1:00	18.02	7.83	0.289	9.03
9/9/2009	2:00	17.88	7.83	0.291	9.03
9/9/2009	3:00	17.73	7.83	0.297	9.03
9/9/2009	4:00	17.57	7.84	0.302	9.05
9/9/2009	5:00	17.4	7.85	0.309	9.06
9/9/2009	6:00	17.22	7.86	0.316	9.09
9/9/2009	7:00	17.02	7.86	0.324	9.11
9/9/2009	8:00	16.86	7.87	0.33	9.14
9/9/2009	9:00	16.82	7.9	0.337	9.26
9/9/2009	10:00	17.17	7.99	0.342	9.46
9/9/2009	11:00	17.87	8.09	0.347	9.61
9/9/2009	12:00	18.37	8.15	0.352	9.54
9/9/2009	13:00	19	8.21	0.356	9.7
9/9/2009	14:00	20.19	8.27	0.361	9.41
9/9/2009	15:00	20.68	8.29	0.365	9.38
9/9/2009	16:00	20.86	8.31	0.367	9.39
9/9/2009	17:00	20.97	8.29	0.371	9.24
9/9/2009	18:00	20.28	8.2	0.375	9.05
9/9/2009	19:00	19.8	8.13	0.379	8.79
9/9/2009	20:00	19.39	8.02	0.384	8.52
9/9/2009	21:00	18.98	7.97	0.388	8.54
9/9/2009	22:00	18.55	7.95	0.39	8.6
9/9/2009	23:00	18.13	7.94	0.393	8.66
9/10/2009	0:00	17.81	7.93	0.396	8.72
9/10/2009	1:00	17.58	7.93	0.398	8.77
9/10/2009	2:00	17.28	7.93	0.401	8.83
9/10/2009	3:00	17.11	7.92	0.403	8.85
9/10/2009	4:00	17.02	7.92	0.405	8.87
9/10/2009	5:00	16.89	7.92	0.408	8.89
9/10/2009	6:00	16.63	7.92	0.41	8.93
9/10/2009	7:00	16.37	7.92	0.411	8.99
9/10/2009	8:00	16.17	7.93	0.414	9.15
9/10/2009	9:00	16.21	8	0.414	9.42
9/10/2009	10:00	16.8	8.1	0.415	9.68
9/10/2009	11:00	17.95	8.21	0.415	9.97
9/10/2009	12:00	19.23	8.29	0.416	9.94
9/10/2009	13:00	19.68	8.38	0.414	10.09
9/10/2009	14:00	20.09	8.44	0.412	10.26

PINEY CREEK - RM 3.0					
STORET: 300779					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/29/2009	13:00	14.44	7.83	0.343	9.27
9/29/2009	14:00	14.54	7.87	0.343	9.47
9/29/2009	15:00	14.55	7.89	0.343	9.57
9/29/2009	16:00	14.55	7.9	0.343	9.51
9/29/2009	17:00	14.47	7.89	0.343	9.33
9/29/2009	18:00	14.38	7.87	0.344	9.08
9/29/2009	19:00	14.28	7.85	0.344	8.88
9/29/2009	20:00	14.16	7.83	0.345	8.67
9/29/2009	21:00	14.06	7.82	0.346	8.52
9/29/2009	22:00	13.97	7.8	0.344	8.4
9/29/2009	23:00	13.89	7.78	0.344	8.35
9/30/2009	0:00	13.84	7.78	0.345	8.32
9/30/2009	1:00	13.78	7.77	0.346	8.28
9/30/2009	2:00	13.74	7.77	0.346	8.28
9/30/2009	3:00	13.71	7.76	0.347	8.27
9/30/2009	4:00	13.67	7.76	0.347	8.24
9/30/2009	5:00	13.63	7.76	0.347	8.25
9/30/2009	6:00	13.58	7.75	0.348	8.23
9/30/2009	7:00	13.55	7.75	0.348	8.25
9/30/2009	8:00	13.51	7.75	0.349	8.28
9/30/2009	9:00	13.5	7.75	0.349	8.33
9/30/2009	10:00	13.5	7.75	0.349	8.49
9/30/2009	11:00	13.59	7.77	0.348	8.79
9/30/2009	12:00	13.68	7.79	0.348	9.09
9/30/2009	13:00	13.78	7.82	0.348	9.35
9/30/2009	14:00	14.05	7.86	0.348	9.66
9/30/2009	15:00	14.22	7.89	0.348	9.87
9/30/2009	16:00	14.39	7.91	0.348	9.99
9/30/2009	17:00	14.5	7.94	0.347	10.03
9/30/2009	18:00	14.51	7.94	0.347	9.94
9/30/2009	19:00	14.27	7.92	0.348	9.65
9/30/2009	20:00	14	7.89	0.349	9.29
9/30/2009	21:00	13.76	7.86	0.349	9.03
9/30/2009	22:00	13.46	7.84	0.351	8.83
9/30/2009	23:00	13.13	7.82	0.351	8.7
10/1/2009	0:00	12.75	7.8	0.352	8.64
10/1/2009	1:00	12.41	7.8	0.352	8.63
10/1/2009	2:00	12.04	7.79	0.353	8.65
10/1/2009	3:00	11.69	7.78	0.353	8.69
10/1/2009	4:00	11.31	7.79	0.353	8.81
10/1/2009	5:00	10.95	7.79	0.353	8.9
10/1/2009	6:00	10.6	7.78	0.353	8.98
10/1/2009	7:00	10.26	7.79	0.353	9.07
10/1/2009	8:00	9.96	7.79	0.353	9.17
10/1/2009	9:00	9.76	7.79	0.352	9.37
10/1/2009	10:00	9.95	7.81	0.353	9.61
10/1/2009	11:00	10.37	7.82	0.353	9.88
10/1/2009	12:00	10.84	7.85	0.353	10.18
10/1/2009	13:00	11.64	7.88	0.353	10.38

Appendix Table 3. Continued.

PINEY CREEK - RM 0.02					
STORET: C02S51					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/29/2009	13:00	13.99	8.42	2.393	10.33
9/29/2009	14:00	14.06	8.46	2.373	10.38
9/29/2009	15:00	14.06	8.46	2.35	10.24
9/29/2009	16:00	13.99	8.45	2.324	9.99
9/29/2009	17:00	13.95	8.42	2.294	9.76
9/29/2009	18:00	13.88	8.38	2.272	9.48
9/29/2009	19:00	13.81	8.35	2.252	9.37
9/29/2009	20:00	13.72	8.31	2.243	9.21
9/29/2009	21:00	13.65	8.28	2.247	9.16
9/29/2009	22:00	13.59	8.26	2.255	9.15
9/29/2009	23:00	13.54	8.25	2.274	9.14
9/30/2009	0:00	13.49	8.24	2.301	9.14
9/30/2009	1:00	13.46	8.24	2.326	9.15
9/30/2009	2:00	13.44	8.24	2.347	9.18
9/30/2009	3:00	13.41	8.23	2.358	9.2
9/30/2009	4:00	13.37	8.23	2.358	9.21
9/30/2009	5:00	13.33	8.22	2.346	9.24
9/30/2009	6:00	13.28	8.21	2.334	9.24
9/30/2009	7:00	13.23	8.21	2.321	9.24
9/30/2009	8:00	13.19	8.21	2.315	9.3
9/30/2009	9:00	13.16	8.22	2.312	9.4
9/30/2009	10:00	13.16	8.24	2.312	9.6
9/30/2009	11:00	13.19	8.29	2.307	9.94
9/30/2009	12:00	13.3	8.35	2.327	10.29
9/30/2009	13:00	13.47	8.41	2.34	10.61
9/30/2009	14:00	13.71	8.47	2.353	10.75
9/30/2009	15:00	13.9	8.51	2.368	10.89
9/30/2009	16:00	14.02	8.55	2.378	10.95
9/30/2009	17:00	14.04	8.53	2.387	10.55
9/30/2009	18:00	13.79	8.47	2.395	10.07
9/30/2009	19:00	13.56	8.42	2.401	9.7
9/30/2009	20:00	13.26	8.36	2.403	9.42
9/30/2009	21:00	13.02	8.32	2.41	9.35
9/30/2009	22:00	12.77	8.29	2.415	9.33
9/30/2009	23:00	12.47	8.27	2.421	9.37
10/1/2009	0:00	12.15	8.26	2.431	9.42
10/1/2009	1:00	11.83	8.25	2.443	9.51
10/1/2009	2:00	11.59	8.24	2.453	9.59
10/1/2009	3:00	11.33	8.24	2.469	9.66
10/1/2009	4:00	11.03	8.23	2.478	9.74
10/1/2009	5:00	10.77	8.23	2.483	9.83
10/1/2009	6:00	10.48	8.22	2.486	9.89
10/1/2009	7:00	10.19	8.21	2.482	9.97
10/1/2009	8:00	9.92	8.22	2.471	10.14
10/1/2009	9:00	9.75	8.25	2.466	10.51
10/1/2009	10:00	9.73	8.28	2.454	10.74
10/1/2009	11:00	10.03	8.33	2.446	10.93
10/1/2009	12:00	10.58	8.42	2.44	11.29
10/1/2009	13:00	12.11	8.51	2.44	11.55

LONG RUN - RM 0.2					
STORET: 300780					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/29/2009	12:00	14.17	7.75	0.523	9.94
9/29/2009	13:00	14.12	7.88	0.526	10.27
9/29/2009	14:00	14.21	7.91	0.527	10.44
9/29/2009	15:00	14.2	7.92	0.53	10.37
9/29/2009	16:00	14.07	7.91	0.533	10.01
9/29/2009	17:00	13.94	7.88	0.536	9.48
9/29/2009	18:00	13.82	7.85	0.538	9.02
9/29/2009	19:00	13.73	7.82	0.539	8.76
9/29/2009	20:00	13.63	7.8	0.539	8.56
9/29/2009	21:00	13.56	7.78	0.54	8.42
9/29/2009	22:00	13.5	7.77	0.538	8.4
9/29/2009	23:00	13.48	7.76	0.536	8.34
9/30/2009	0:00	13.46	7.76	0.539	8.42
9/30/2009	1:00	13.41	7.77	0.542	8.44
9/30/2009	2:00	13.37	7.77	0.543	8.44
9/30/2009	3:00	13.34	7.77	0.544	8.44
9/30/2009	4:00	13.28	7.76	0.545	8.25
9/30/2009	5:00	13.23	7.74	0.548	8.16
9/30/2009	6:00	13.13	7.73	0.548	8.24
9/30/2009	7:00	13.1	7.73	0.548	8.36
9/30/2009	8:00	13.09	7.74	0.547	8.4
9/30/2009	9:00	13.1	7.75	0.547	8.5
9/30/2009	10:00	13.15	7.76	0.547	8.82
9/30/2009	11:00	13.27	7.8	0.546	9.5
9/30/2009	12:00	13.45	7.84	0.545	10.01
9/30/2009	13:00	13.66	7.87	0.547	10.17
9/30/2009	14:00	13.95	7.89	0.549	10.57
9/30/2009	15:00	14.21	7.91	0.548	10.61
9/30/2009	16:00	14.55	7.94	0.55	10.88
9/30/2009	17:00	14.52	7.94	0.552	10.43
9/30/2009	18:00	14.36	7.92	0.554	10.12
9/30/2009	19:00	13.93	7.88	0.556	9.32
9/30/2009	20:00	13.4	7.83	0.557	8.82
9/30/2009	21:00	13.05	7.8	0.558	8.63
9/30/2009	22:00	12.81	7.78	0.558	8.52
9/30/2009	23:00	12.48	7.76	0.558	8.51
10/1/2009	0:00	12.15	7.76	0.558	8.58
10/1/2009	1:00	11.8	7.76	0.559	8.65
10/1/2009	2:00	11.44	7.77	0.56	8.75
10/1/2009	3:00	11.11	7.78	0.562	8.83
10/1/2009	4:00	10.79	7.78	0.563	8.88
10/1/2009	5:00	10.47	7.78	0.564	8.88
10/1/2009	6:00	10.16	7.77	0.565	8.94
10/1/2009	7:00	9.87	7.77	0.565	9.01
10/1/2009	8:00	9.61	7.77	0.565	9.08
10/1/2009	9:00	9.52	7.78	0.565	9.45
10/1/2009	10:00	9.85	7.81	0.565	9.95
10/1/2009	11:00	10.14	7.82	0.565	10.09
10/1/2009	12:00	10.93	7.85	0.566	10.48

Appendix Table 3. Continued.

PERKINS RUN - RM 0.04					
STORET: C02S78					
Date	Time	Temp.	pH	Spec.Conduct.	D.O.
M/DD/YEAR	HHMM	°C	SU	mS/cm	mg/l
9/29/2009	11:00	14.62	8.17	6.154	9.63
9/29/2009	12:00	15.09	8.18	6.161	9.57
9/29/2009	13:00	14.95	8.18	6.167	9.58
9/29/2009	14:00	15.08	8.19	6.165	9.55
9/29/2009	15:00	15.04	8.19	6.167	9.57
9/29/2009	16:00	14.94	8.2	6.183	9.59
9/29/2009	17:00	14.9	8.19	6.183	9.6
9/29/2009	18:00	14.82	8.2	6.21	9.62
9/29/2009	19:00	14.79	8.22	6.245	9.61
9/29/2009	20:00	14.72	8.22	6.251	9.65
9/29/2009	21:00	14.7	8.22	6.268	9.65
9/29/2009	22:00	14.68	8.22	6.285	9.66
9/29/2009	23:00	14.63	8.21	6.295	9.65
9/30/2009	0:00	14.58	8.21	6.295	9.67
9/30/2009	1:00	14.54	8.2	6.299	9.68
9/30/2009	2:00	14.48	8.19	6.302	9.7
9/30/2009	3:00	14.44	8.19	6.307	9.71
9/30/2009	4:00	14.36	8.18	6.305	9.73
9/30/2009	5:00	14.3	8.18	6.31	9.76
9/30/2009	6:00	14.24	8.17	6.301	9.74
9/30/2009	7:00	14.17	8.17	6.3	9.77
9/30/2009	8:00	14.13	8.17	6.303	9.79
9/30/2009	9:00	14.11	8.17	6.281	9.8
9/30/2009	10:00	14.1	8.17	6.264	9.82
9/30/2009	11:00	14.23	8.17	6.268	9.82
9/30/2009	12:00	14.47	8.16	6.283	9.75
9/30/2009	13:00	14.61	8.17	6.289	9.75
9/30/2009	14:00	15.04	8.16	6.298	9.66
9/30/2009	15:00	15.06	8.17	6.291	9.65
9/30/2009	16:00	14.97	8.16	6.293	9.68
9/30/2009	17:00	14.94	8.15	6.283	9.65
9/30/2009	18:00	14.69	8.15	6.284	9.69
9/30/2009	19:00	14.31	8.15	6.295	9.78
9/30/2009	20:00	13.99	8.15	6.298	9.84
9/30/2009	21:00	13.93	8.15	6.313	9.85
9/30/2009	22:00	13.68	8.14	6.308	9.91
9/30/2009	23:00	13.45	8.13	6.311	9.94
10/1/2009	0:00	13.13	8.13	6.309	10.03
10/1/2009	1:00	13	8.13	6.314	10.05
10/1/2009	2:00	12.89	8.12	6.317	10.06
10/1/2009	3:00	12.69	8.12	6.318	10.11
10/1/2009	4:00	12.47	8.12	6.317	10.15
10/1/2009	5:00	12.26	8.11	6.315	10.21
10/1/2009	6:00	12.05	8.11	6.313	10.24
10/1/2009	7:00	11.87	8.11	6.313	10.31
10/1/2009	8:00	11.72	8.11	6.317	10.34
10/1/2009	9:00	11.74	8.11	6.317	10.35
10/1/2009	10:00	12.07	8.1	6.317	10.26
10/1/2009	11:00	13.58	8.1	6.328	9.97

Appendix Table 4. Bacteriological results collected from the Captina Creek study area in 2009. NA = not analyzed.

Location	River Mile	E. Coli								
		6/30	7/20	7/21	7/29	8/18	8/25	9/1	9/14	9/17
CAPTINA CREEK DST. CASEY RUN @ ST. RT. 148	23.12	70 JL	20 JL	50 JL	NA	NA	90 JL	NA	10 JL	NA
CAPTINA CREEK DST. ARMSTRONGS MILLS @ GAGE @ SR148	16.00	40 JL	100 JL	210	230	220	40 JL	5	200	70 JL
CAPTINA CREEK UPST. STEINERSVILLE @ ST. RT. 148	3.33	150 JL	120 JL	20 JL	NA	NA	5	NA	40 JL	NA
N. FK. CAPTINA CREEK NEAR MOUTH @ CO. RD. 92	0.43	30 JL	70 JL	360	270/ 310	140 JL	30 JL	70 JL	110 JL	130 JL
S. FK. CAPTINA CREEK AT MOUTH @ CO. RD. 92	0.1	5	40 JL	150 JL	330	20 JL	60 JL	20 JL	50 JL	50 JL/ 50 JL
BEND FORK N OF ALLEDONIA, NEAR MOUTH @ FIRST FORD	0.26	20 JL	80 JL	NA	NA	NA	5	NA	50 JL	30 JL
CAT RUN NEAR MOUTH @ CO. RD. 56 (CAT RUN RD.)	0.25	80 JL/ 60 JL	NA	1100 JL	NA	NA	100 JL/ 70 JL	NA	10 JL	NA

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

Appendix Table 5. Sediment sampling results for metals, semivolatile organic compounds, particle size, and nutrients from the Captina Creek study area, 2009. Less than (<) = Not detected at or above the method detection limit (MDL value reported with the less than symbol). NA = not analyzed.

Stream	CAPTINA CREEK	CAPTINA CREEK	CAPTINA CREEK	CAPTINA CREEK	CAPTINA CREEK
River Mile	23.12	20.9	20.54	16.00	6.71
STORET Number	C02S37	300391	C02S36	C02S35	C02S32
Date Sampled	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009
Metals (mg/kg) USEPA 200.8/ 200.7/ 7471A					
Arsenic	9.25	15.1	10.7	11.1	11.7
Cadmium	0.219	0.267	0.205	0.136	0.141
Chromium	15.8	16.8	13.3	10.7	11.6
Copper	21.2	21.3	19.3	15.5	15.4
Lead	18.9	21.6	17.5	13.2	15.9
Nickel	25.1	24.6	22.7	17.9	17.9
Selenium	<1.57	<1.36	<1.53	<1.12	<0.98
Aluminum	14400	17400	11200	7540	8040
Barium	182	206	155	103	93.0
Calcium	17500	17300	21500	12400	11500
Iron	28800	32000	27900	27600	39600
Magnesium	5040	5200	4570	3190	3070
Manganese	1150	1100	1160	774	489
Potassium	2190	3080	1700	<1120	1030
Sodium	<3920	<3390	<3820	<2790	<2450
Strontium	90	166	118	72	58
Zinc	84.9	89.4	80.2	55.6	62.3
Mercury	<0.049	0.067	<0.037	0.033	0.050
Semivolatile Organic Compounds (mg/kg) USEPA 8270					
Acenaphthene	<0.92	<0.93	<0.81	<0.56	<0.64
Acenaphthylene	<0.92	<0.93	<0.81	<0.56	<0.64
Acetophenone	<0.92	<0.93	<0.81	<0.56	<0.64
2-Acetylaminofluorene	<0.92	<0.93	<0.81	<0.56	<0.64
Aniline	<4.6	<4.7	<4.0	<2.8	<3.2
Anthracene	<0.92	<0.93	<0.81	<0.56	<0.64
Benz[a]anthracene	<0.92	<0.93	<0.81	<0.56	<0.64
Benzo[a]pyrene	<0.92	<0.93	<0.81	<0.56	<0.64
Benzo[b]fluoranthene	<0.92	<0.93	<0.81	<0.56	<0.64
Benzo[g,h,i]perylene	<0.92	<0.93	<0.81	<0.56	<0.64
Benzo[k]fluoranthene	<0.92	<0.93	<0.81	<0.56	<0.64
Benzyl alcohol	<0.92	<0.93	<0.81	<0.56	<0.64
bis(2-Chloroethoxy)methane	<0.92	<0.93	<0.81	<0.56	<0.64
bis(2-Chloroethyl)ether	<0.92	<0.93	<0.81	<0.56	<0.64
bis(2-Chloroisopropyl)ether	<0.92	<0.93	<0.81	<0.56	<0.64
bis(2-Ethylhexyl)phthalate	<0.92	<0.93	<0.81	<0.56	<0.64
4-Bromophenyl-phenylether	<0.92	<0.93	<0.81	<0.56	<0.64
Butylbenzylphthalate	<0.92	<0.93	<0.81	<0.56	<0.64
4-Chloro-3-methylphenol	<0.92	<0.93	<0.81	<0.56	<0.64
2-Chloronaphthalene	<0.92	<0.93	<0.81	<0.56	<0.64
2-Chlorophenol	<0.92	<0.93	<0.81	<0.56	<0.64
4-Chlorophenyl-phenylether	<0.92	<0.93	<0.81	<0.56	<0.64
Chrysene	<0.92	<0.93	<0.81	<0.56	<0.64
Di-n-butylphthalate	<0.92	<0.93	<0.81	<0.56	<0.64
Di-n-octylphthalate	<0.92	<0.93	<0.81	<0.56	<0.64
Dibenz[a,h]anthracene	<0.92	<0.93	<0.81	<0.56	<0.64
Dibenzofuran	<0.92	<0.93	<0.81	<0.56	<0.64

Appendix Table 5. Continued.

Stream	CAPTINA CREEK	CAPTINA CREEK	CAPTINA CREEK	CAPTINA CREEK	CAPTINA CREEK
River Mile	23.12	20.9	20.54	16.00	6.71
STORET Number	C02S37	300391	C02S36	C02S35	C02S32
Date Sampled	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009
Semivolatile Organic Compounds (mg/kg) USEPA 8270					
1,3-Dichlorobenzene	<0.92	<0.93	<0.81	<0.56	<0.64
1,4-Dichlorobenzene	<0.92	<0.93	<0.81	<0.56	<0.64
1,2-Dichlorobenzene	<0.92	<0.93	<0.81	<0.56	<0.64
3,3'-Dichlorobenzidine	<4.6	<4.7	<4.0	<2.8	<3.2
2,6-Dichlorophenol	<0.92	<0.93	<0.81	<0.56	<0.64
2,4-Dichlorophenol	<0.92	<0.93	<0.81	<0.56	<0.64
Diethylphthalate	<0.92	<0.93	<0.81	<0.56	<0.64
p-Dimethylaminoazobenzene	<0.92	<0.93	<0.81	<0.56	<0.64
7,12-Dimethylbenz[a]anthracene	<4.6	<4.7	<4.0	<2.8	<3.2
2,4-Dimethylphenol	<0.92	<0.93	<0.81	<0.56	<0.64
Dimethylphthalate	<0.92	<0.93	<0.81	<0.56	<0.64
4,6-Dinitro-2-methylphenol	<0.92	<0.93	<0.81	<0.56	<0.64
1,3-Dinitrobenzene	<0.92	<0.93	<0.81	<0.56	<0.64
2,4-Dinitrophenol	<4.6	<4.7	<4.0	<2.8	<3.2
2,6-Dinitrotoluene	<0.92	<0.93	<0.81	<0.56	<0.64
2,4-Dinitrotoluene	<0.92	<0.93	<0.81	<0.56	<0.64
Dinoseb	<0.92	<0.93	<0.81	<0.56	<0.64
Diphenylamine	<0.92	<0.93	<0.81	<0.56	<0.64
Ethyl methanesulfonate	<0.92	<0.93	<0.81	<0.56	<0.64
Fluoranthene	<0.92	<0.93	<0.81	<0.56	<0.64
Fluorene	<0.92	<0.93	<0.81	<0.56	<0.64
Hexachlorobenzene	<0.92	<0.93	<0.81	<0.56	<0.64
Hexachlorobutadiene	<0.92	<0.93	<0.81	<0.56	<0.64
Hexachlorocyclopentadiene	<0.92	<0.93	<0.81	<0.56	<0.64
Hexachloroethane	<0.92	<0.93	<0.81	<0.56	<0.64
Hexachloropropene	<0.92	<0.93	<0.81	<0.56	<0.64
Indeno[1,2,3-cd]pyrene	<0.92	<0.93	<0.81	<0.56	<0.64
Isophorone	<0.92	<0.93	<0.81	<0.56	<0.64
Methyl methanesulfonate	<0.92	<0.93	<0.81	<0.56	<0.64
3-Methylcholanthrene	<0.92	<0.93	<0.81	<0.56	<0.64
2-Methylnaphthalene	<0.92	1.53	<0.81	<0.56	<0.64
3&4-Methylphenol	<0.92	<0.93	<0.81	<0.56	<0.64
2-Methylphenol	<0.92	<0.93	<0.81	<0.56	<0.64
N-Nitroso-di-n-butylamine	<0.92	<0.93	<0.81	<0.56	<0.64
N-Nitroso-di-n-propylamine	<0.92	<0.93	<0.81	<0.56	<0.64
N-Nitrosomorpholine	<0.92	<0.93	<0.81	<0.56	<0.64
N-Nitrosopiperidine	<0.92	<0.93	<0.81	<0.56	<0.64
N-Nitrosopyrrolidine	<0.92	<0.93	<0.81	<0.56	<0.64
Naphthalene	<0.92	1.24	<0.81	<0.56	<0.64
1,4-Naphthoquinone	<0.92	<0.93	<0.81	<0.56	<0.64
2-Nitroaniline	<0.92	<0.93	<0.81	<0.56	<0.64
4-Nitroaniline	<0.92	<0.93	<0.81	<0.56	<0.64
Nitrobenzene	<0.92	<0.93	<0.81	<0.56	<0.64
4-Nitrophenol	<4.6	<4.7	<4.0	<2.8	<3.2
2-Nitrophenol	<0.92	<0.93	<0.81	<0.56	<0.64
Pentachlorobenzene	<0.92	<0.93	<0.81	<0.56	<0.64
Pentachlorophenol	<0.92	<0.93	<0.81	<0.56	<0.64

Appendix Table 5. Continued.

Stream	CAPTINA CREEK	CAPTINA CREEK	CAPTINA CREEK	CAPTINA CREEK	CAPTINA CREEK
River Mile	23.12	20.9	20.54	16.00	6.71
STORET Number	C02S37	300391	C02S36	C02S35	C02S32
Date Sampled	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009
Semivolatile Organic Compounds (mg/kg) USEPA 8270					
Phenacetin	<0.92	<0.93	<0.81	<0.56	<0.64
Phenanthrene	<0.92	<0.93	<0.81	<0.56	<0.64
Phenol	<0.92	<0.93	<0.81	<0.56	<0.64
2-Picoline	<0.92	<0.93	<0.81	<0.56	<0.64
Pronamide	<0.92	<0.93	<0.81	<0.56	<0.64
Pyrene	<0.92	<0.93	<0.81	<0.56	<0.64
Safrole	<0.92	<0.93	<0.81	<0.56	<0.64
1,2,4,5-Tetrachlorobenzene	<0.92	<0.93	<0.81	<0.56	<0.64
2,3,4,6-Tetrachlorophenol	<0.92	<0.93	<0.81	<0.56	<0.64
1,2,4-Trichlorobenzene	<0.92	<0.93	<0.81	<0.56	<0.64
2,4,6-Trichlorophenol	<0.92	<0.93	<0.81	<0.56	<0.64
2,4,5-Trichlorophenol	<0.92	<0.93	<0.81	<0.56	<0.64
Volatile Organic Compounds (mg/kg) USEPA 8260					
Acetone	<0.089	<0.110	NA	NA	NA
Benzene	<0.071	<0.088	NA	NA	NA
Bromobenzene	<0.071	<0.088	NA	NA	NA
Bromochloromethane	<0.071	<0.088	NA	NA	NA
Bromodichloromethane	<0.071	<0.088	NA	NA	NA
Bromoform	<0.071	<0.088	NA	NA	NA
Bromomethane	<0.071	<0.088	NA	NA	NA
2-Butanone	<0.071	<0.088	NA	NA	NA
n-Butylbenzene	<0.071	<0.088	NA	NA	NA
sec-Butylbenzene	<0.071	<0.088	NA	NA	NA
tert-Butylbenzene	<0.071	<0.088	NA	NA	NA
Carbon disulfide	<0.071	<0.088	NA	NA	NA
Carbon tetrachloride	<0.071	<0.088	NA	NA	NA
Chlorobenzene	<0.071	<0.088	NA	NA	NA
Chloroethane	<0.071	<0.088	NA	NA	NA
Chloroform	<0.071	<0.088	NA	NA	NA
Chloromethane	<0.071	<0.088	NA	NA	NA
2-Chlorotoluene	<0.071	<0.088	NA	NA	NA
4-Chlorotoluene	<0.071	<0.088	NA	NA	NA
Dibromochloromethane	<0.071	<0.088	NA	NA	NA
1,2-Dibromo-3-chloropropane	<0.071	<0.088	NA	NA	NA
1,2-Dibromoethane	<0.071	<0.088	NA	NA	NA
Dibromomethane	<0.071	<0.088	NA	NA	NA
1,2-Dichlorobenzene	<0.071	<0.088	NA	NA	NA
1,3-Dichlorobenzene	<0.071	<0.088	NA	NA	NA
1,4-Dichlorobenzene	<0.071	<0.088	NA	NA	NA
Dichlorodifluoromethane	<0.071	<0.088	NA	NA	NA
1,1-Dichloroethane	<0.071	<0.088	NA	NA	NA
1,2-Dichloroethane	<0.071	<0.088	NA	NA	NA
1,1-Dichloroethene	<0.071	<0.088	NA	NA	NA
cis-1,2-Dichloroethene	<0.071	<0.088	NA	NA	NA
trans-1,2-Dichloroethene	<0.071	<0.088	NA	NA	NA
1,2-Dichloropropane	<0.071	<0.088	NA	NA	NA
1,3-Dichloropropane	<0.071	<0.088	NA	NA	NA

Appendix Table 5. Continued.

Stream	CAPTINA CREEK	CAPTINA CREEK	CAPTINA CREEK	CAPTINA CREEK	CAPTINA CREEK
River Mile	23.12	20.9	20.54	16.00	6.71
STORET Number	C02S37	300391	C02S36	C02S35	C02S32
Date Sampled	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009
Volatile Organic Compounds (mg/kg) USEPA 8260					
2,2-Dichloropropane	<0.071	<0.088	NA	NA	NA
1,1-Dichloropropene	<0.071	<0.088	NA	NA	NA
cis-1,3-Dichloropropene	<0.071	<0.088	NA	NA	NA
trans-1,3-Dichloropropene	<0.071	<0.088	NA	NA	NA
Ethylbenzene	<0.071	<0.088	NA	NA	NA
Hexachlorobutadiene	<0.071	<0.088	NA	NA	NA
2-Hexanone	<0.071	<0.088	NA	NA	NA
Isopropylbenzene	<0.071	<0.088	NA	NA	NA
4-Isopropyltoluene	<0.071	<0.088	NA	NA	NA
Methylene chloride	<0.071	<0.088	NA	NA	NA
4-Methyl-2-pentanone	<0.071	<0.088	NA	NA	NA
Naphthalene	<0.071	<0.088	NA	NA	NA
n-Propylbenzene	<0.071	<0.088	NA	NA	NA
Styrene	<0.071	<0.088	NA	NA	NA
1,1,1,2-Tetrachloroethane	<0.071	<0.088	NA	NA	NA
1,1,2,2-Tetrachloroethane	<0.071	<0.088	NA	NA	NA
Tetrachloroethene	<0.071	<0.088	NA	NA	NA
Toluene	<0.071	<0.088	NA	NA	NA
1,2,3-Trichlorobenzene	<0.071	<0.088	NA	NA	NA
1,2,4-Trichlorobenzene	<0.071	<0.088	NA	NA	NA
1,1,1-Trichloroethane	<0.071	<0.088	NA	NA	NA
1,1,2-Trichloroethane	<0.071	<0.088	NA	NA	NA
Trichloroethene	<0.071	<0.088	NA	NA	NA
Trichlorofluoromethane	<0.071	<0.088	NA	NA	NA
1,2,3-Trichloropropane	<0.071	<0.088	NA	NA	NA
1,2,4-Trimethylbenzene	<0.071	<0.088	NA	NA	NA
1,3,5-Trimethylbenzene	<0.071	<0.088	NA	NA	NA
Vinyl chloride	<0.071	<0.088	NA	NA	NA
o-Xylene	<0.071	<0.088	NA	NA	NA
Total m&p-xylenes	<0.071	<0.088	NA	NA	NA
Other					
Ammonia (mg/kg)	100	76	61	45 PT	NA
Total Phosphorus (mg/kg)	830	1400	620	517	689
Solids %	44.0	40.4	50.3	67.6	62.7
Coarse clay (2-4u) %	3.1	6.6	4.8	1.4	3.1
Coarse silt (30-60u) %	43	44	52	4.3	6.1
Fine clay (<1u) %	6.2	9.9	4.8	2.9	4.6
Fine silt (8-15u) %	23	16	17	5.7	4.6
Medium clay (1-2u) %	6.2	6.6	4.8	2.9	3.1
Medium silt (15-30u) %	9.3	6.6	11	11	12
Sand and larger (>60u) %	0	0	0	68	63
Very fine silt (4-8u) %	9.3	9.9	4.8	2.9	3.1

Appendix Table 5. Continued.

Stream	CAPTINA CREEK	NORTH FORK CAPTINA CREEK	SOUTH FORK CAPTINA CREEK	BEND FORK	CAT RUN
River Mile	0.5	0.43	0.1	0.26	3.3
STORET Number	C02K01	C02S54	C02S60	C02S81	C02K06
Date Sampled	8/3/2009	8/11/2009	8/11/2009	8/3/2009	8/11/2009
Metals (mg/kg) USEPA 200.8/ 200.7/ 7471A					
Arsenic	9.01	9.89	9.09	15.3	17.6
Cadmium	0.252	0.192	0.164	0.174	0.217
Chromium	14.9	12.6	12.4	14.4	25.5
Copper	23.9	17.5	15.2	16.7	41.0
Lead	18.9	35.2	15.0	17.6	24.8
Nickel	24.3	19.7	18.9	20.9	37.5
Selenium	<1.55	1.23	<1.28	<1.02	<1.15
Aluminum	13100	10900	10400	10100	14200
Barium	176	127	142	146	214
Calcium	14100	21600	14000	13200	10700
Iron	28700	25600	25000	48300	57500
Magnesium	4540	4200	4290	4040	5300
Manganese	972	898	975	963	1160
Potassium	1930	1830	1300	1320	1820
Sodium	<3880	<3030	<3200	<2560	<2880
Strontium	94	83	66	83	91
Zinc	88.0	77.8	65.7	74.4	114
Mercury	0.064	0.047	<0.041	0.030	<0.033
Semivolatile Organic Compounds (mg/kg) USEPA 8270					
Acenaphthene	<0.90	<0.78	<0.73	<0.58	<0.63
Acenaphthylene	<0.90	<0.78	<0.73	<0.58	<0.63
Acetophenone	<0.90	<0.78	<0.73	<0.58	<0.63
2-Acetylaminofluorene	<0.90	<0.78	<0.73	<0.58	<0.63
Aniline	<4.5	<3.9	<3.7	<2.9	<3.2
Anthracene	<0.90	<0.78	<0.73	<0.58	<0.63
Benz[a]anthracene	<0.90	<0.78	<0.73	<0.58	<0.63
Benzo[a]pyrene	<0.90	<0.78	<0.73	<0.58	<0.63
Benzo[b]fluoranthene	<0.90	<0.78	<0.73	<0.58	<0.63
Benzo[g,h,i]perylene	<0.90	<0.78	<0.73	<0.58	<0.63
Benzo[k]fluoranthene	<0.90	<0.78	<0.73	<0.58	<0.63
Benzyl alcohol	<0.90	<0.78	<0.73	<0.58	<0.63
bis(2-Chloroethoxy)methane	<0.90	<0.78	<0.73	<0.58	<0.63
bis(2-Chloroethyl)ether	<0.90	<0.78	<0.73	<0.58	<0.63
bis(2-Chloroisopropyl)ether	<0.90	<0.78	<0.73	<0.58	<0.63
bis(2-Ethylhexyl)phthalate	<0.90	<0.78	<0.73	<0.58	<0.63
4-Bromophenyl-phenylether	<0.90	<0.78	<0.73	<0.58	<0.63
Butylbenzylphthalate	<0.90	<0.78	<0.73	<0.58	<0.63
4-Chloro-3-methylphenol	<0.90	<0.78	<0.73	<0.58	<0.63
2-Chloronaphthalene	<0.90	<0.78	<0.73	<0.58	<0.63
2-Chlorophenol	<0.90	<0.78	<0.73	<0.58	<0.63
4-Chlorophenyl-phenylether	<0.90	<0.78	<0.73	<0.58	<0.63
Chrysene	<0.90	<0.78	<0.73	<0.58	<0.63
Di-n-butylphthalate	<0.90	<0.78	<0.73	<0.58	<0.63
Di-n-octylphthalate	<0.90	<0.78	<0.73	<0.58	<0.63
Dibenz[a,h]anthracene	<0.90	<0.78	<0.73	<0.58	<0.63
Dibenzofuran	<0.90	<0.78	<0.73	<0.58	<0.63

Appendix Table 5. Continued.

Stream	CAPTINA CREEK	NORTH FORK CAPTINA CREEK	SOUTH FORK CAPTINA CREEK	BEND FORK	CAT RUN
River Mile	0.5	0.43	0.1	0.26	3.3
STORET Number	C02K01	C02S54	C02S60	C02S81	C02K06
Date Sampled	8/3/2009	8/11/2009	8/11/2009	8/3/2009	8/11/2009
Semivolatile Organic Compounds (mg/kg) USEPA 8270					
1,3-Dichlorobenzene	<0.90	<0.78	<0.73	<0.58	<0.63
1,4-Dichlorobenzene	<0.90	<0.78	<0.73	<0.58	<0.63
1,2-Dichlorobenzene	<0.90	<0.78	<0.73	<0.58	<0.63
3,3'-Dichlorobenzidine	<4.5	<3.9	<3.7	<2.9	<3.2
2,6-Dichlorophenol	<0.90	<0.78	<0.73	<0.58	<0.63
2,4-Dichlorophenol	<0.90	<0.78	<0.73	<0.58	<0.63
Diethylphthalate	<0.90	<0.78	<0.73	<0.58	<0.63
p-Dimethylaminoazobenzene	<0.90	<0.78	<0.73	<0.58	<0.63
7,12-Dimethylbenz[a]anthracene	<4.5	<3.9	<3.7	<2.9	<3.2
2,4-Dimethylphenol	<0.90	<0.78	<0.73	<0.58	<0.63
Dimethylphthalate	<0.90	<0.78	<0.73	<0.58	<0.63
4,6-Dinitro-2-methylphenol	<0.90	<0.78	<0.73	<0.58	<0.63
1,3-Dinitrobenzene	<0.90	<0.78	<0.73	<0.58	<0.63
2,4-Dinitrophenol	<4.5	<3.9	<3.7	<2.9	<3.2
2,6-Dinitrotoluene	<0.90	<0.78	<0.73	<0.58	<0.63
2,4-Dinitrotoluene	<0.90	<0.78	<0.73	<0.58	<0.63
Dinoseb	<0.90	<0.78	<0.73	<0.58	<0.63
Diphenylamine	<0.90	<0.78	<0.73	<0.58	<0.63
Ethyl methanesulfonate	<0.90	<0.78	<0.73	<0.58	<0.63
Fluoranthene	<0.90	<0.78	<0.73	<0.58	<0.63
Fluorene	<0.90	<0.78	<0.73	<0.58	<0.63
Hexachlorobenzene	<0.90	<0.78	<0.73	<0.58	<0.63
Hexachlorobutadiene	<0.90	<0.78	<0.73	<0.58	<0.63
Hexachlorocyclopentadiene	<0.90	<0.78	<0.73	<0.58	<0.63
Hexachloroethane	<0.90	<0.78	<0.73	<0.58	<0.63
Hexachloropropene	<0.90	<0.78	<0.73	<0.58	<0.63
Indeno[1,2,3-cd]pyrene	<0.90	<0.78	<0.73	<0.58	<0.63
Isophorone	<0.90	<0.78	<0.73	<0.58	<0.63
Methyl methanesulfonate	<0.90	<0.78	<0.73	<0.58	<0.63
3-Methylcholanthrene	<0.90	<0.78	<0.73	<0.58	<0.63
2-Methylnaphthalene	<0.90	<0.78	<0.73	<0.58	<0.63
3&4-Methylphenol	<0.90	<0.78	<0.73	<0.58	<0.63
2-Methylphenol	<0.90	<0.78	<0.73	<0.58	<0.63
N-Nitroso-di-n-butylamine	<0.90	<0.78	<0.73	<0.58	<0.63
N-Nitroso-di-n-propylamine	<0.90	<0.78	<0.73	<0.58	<0.63
N-Nitrosomorpholine	<0.90	<0.78	<0.73	<0.58	<0.63
N-Nitrosopiperidine	<0.90	<0.78	<0.73	<0.58	<0.63
N-Nitrosopyrrolidine	<0.90	<0.78	<0.73	<0.58	<0.63
Naphthalene	<0.90	<0.78	<0.73	<0.58	<0.63
1,4-Naphthoquinone	<0.90	<0.78	<0.73	<0.58	<0.63
2-Nitroaniline	<0.90	<0.78	<0.73	<0.58	<0.63
4-Nitroaniline	<0.90	<0.78	<0.73	<0.58	<0.63
Nitrobenzene	<0.90	<0.78	<0.73	<0.58	<0.63
4-Nitrophenol	<4.5	<3.9	<3.7	<2.9	<3.2
2-Nitrophenol	<0.90	<0.78	<0.73	<0.58	<0.63
Pentachlorobenzene	<0.90	<0.78	<0.73	<0.58	<0.63
Pentachlorophenol	<0.90	<0.78 UJ	<0.73 UJ	<0.58	<0.63 UJ

Appendix Table 5. Continued.

Stream	CAPTINA CREEK	NORTH FORK CAPTINA CREEK	SOUTH FORK CAPTINA CREEK	BEND FORK	CAT RUN
River Mile	0.5	0.43	0.1	0.26	3.3
STORET Number	C02K01	C02S54	C02S60	C02S81	C02K06
Date Sampled	8/3/2009	8/11/2009	8/11/2009	8/3/2009	8/11/2009
Semivolatile Organic Compounds (mg/kg) USEPA 8270					
Phenacetin	<0.90	<0.78	<0.73	<0.58	<0.63
Phenanthrene	<0.90	<0.78	<0.73	<0.58	<0.63
Phenol	<0.90	<0.78	<0.73	<0.58	<0.63
2-Picoline	<0.90	<0.78	<0.73	<0.58	<0.63
Pronamide	<0.90	<0.78	<0.73	<0.58	<0.63
Pyrene	<0.90	<0.78	<0.73	<0.58	<0.63
Safrole	<0.90	<0.78	<0.73	<0.58	<0.63
1,2,4,5-Tetrachlorobenzene	<0.90	<0.78	<0.73	<0.58	<0.63
2,3,4,6-Tetrachlorophenol	<0.90	<0.78	<0.73	<0.58	<0.63
1,2,4-Trichlorobenzene	<0.90	<0.78	<0.73	<0.58	<0.63
2,4,6-Trichlorophenol	<0.90	<0.78	<0.73	<0.58	<0.63
2,4,5-Trichlorophenol	<0.90	<0.78	<0.73	<0.58	<0.63
Volatile Organic Compounds (mg/kg) USEPA 8260					
Acetone	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	NA	NA
Bromobenzene	NA	NA	NA	NA	NA
Bromochloromethane	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA
Bromoform	NA	NA	NA	NA	NA
Bromomethane	NA	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA	NA
n-Butylbenzene	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA
tert-Butylbenzene	NA	NA	NA	NA	NA
Carbon disulfide	NA	NA	NA	NA	NA
Carbon tetrachloride	NA	NA	NA	NA	NA
Chlorobenzene	NA	NA	NA	NA	NA
Chloroethane	NA	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA
Chloromethane	NA	NA	NA	NA	NA
2-Chlorotoluene	NA	NA	NA	NA	NA
4-Chlorotoluene	NA	NA	NA	NA	NA
Dibromochloromethane	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	NA	NA	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA	NA	NA
Dibromomethane	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA
1,3-Dichloropropane	NA	NA	NA	NA	NA

Appendix Table 5. Continued.

Stream	CAPTINA CREEK	NORTH FORK CAPTINA CREEK	SOUTH FORK CAPTINA CREEK	BEND FORK	CAT RUN
River Mile	0.5	0.43	0.1	0.26	3.3
STORET Number	C02K01	C02S54	C02S60	C02S81	C02K06
Date Sampled	8/3/2009	8/11/2009	8/11/2009	8/3/2009	8/11/2009
Volatile Organic Compounds (mg/kg) USEPA 8260					
2,2-Dichloropropane	NA	NA	NA	NA	NA
1,1-Dichloropropene	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	NA	NA	NA
4-Isopropyltoluene	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA
n-Propylbenzene	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA
1,1,1,2-Tetrachloroethane	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	NA
Vinyl chloride	NA	NA	NA	NA	NA
o-Xylene	NA	NA	NA	NA	NA
Total m&p-xylenes	NA	NA	NA	NA	NA
Other					
Ammonia (mg/kg)	96	170	86	33	27
Total Phosphorus (mg/kg)	736	1570	593	490	1480
Solids %	46.0	49.2	51.2	69.8	62.0
Coarse clay (2-4u) %	5.8	1.5	1.5	1.6	1.5
Coarse silt (30-60u) %	37	6.2	7.6	4.7	1.5
Fine clay (<1u) %	8.7	3.1	3.1	3.1	1.5
Fine silt (8-15u) %	23	6.2	7.6	4.7	4.4
Medium clay (1-2u) %	5.8	1.5	1.5	1.6	1.5
Medium silt (15-30u) %	10	19	15	11	8.8
Sand and larger (>60u) %	0	58	59	70	78
Very fine silt (4-8u) %	10	4.6	4.6	3.1	2.9

PT - reported result is estimated because the sample was not analyzed within the required holding time.

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

Appendix Table 6. Qualitative Habitat Evaluation Index (QHEI) scores and physical attributes for fish sampling sites in the Captina Creek watershed, 2008(Captina Creek only) and 2009.

River Mile	QHEI	Habitat Rating	MWH Attributes																													
			WWH Attributes											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	Total WWH Attributes	Channelized or No Recovery	Silt/Muck Substrates	No Sinuosity	Sparse/ No Cover	Max. Depth <40 cm (WD,HW sites)	Total High Influence Attributes	Recovering Channel	Heavy/Moderate Silt Cover	Sand Substrates (Boat)	Hardpan Substrate Origin	Fair/Poor Development	Low Sinuosity	Only 1-2 Cover Types	Intermittent & Poor Pools	No Fast Current	High/Mod. Overall Embeddedness	High/Mod. Riffle Embeddedness	No Riffle	Total Moderate Influence Attributes	(MWH H.I.+1)/(WWH+1) Ratio
<i>Captina Creek - 2009 (06-100)</i>																																
23.1	65.5	Good	■	■			■		■	■	■	■	5				◆	1	●				●	●			●	●	●	6	0.33	1.33
22.1	67.0	Good	■	■		■		■	■	■	■	■	6					0	●				●	●			●	●	●	5	0.14	0.86
20.9	69.5	Good	■	■		■	■	■	■	■	■	■	8					0	●				●				●	●	●	4	0.11	0.56
20.5	72.5	Good	■	■		■	■	■	■	■	■	■	7					0	●								●	●	●	3	0.13	0.50
17.6	92.0	Excellent	■	■		■	■	■	■	■	■	■	8					0	●								●	●	●	2	0.11	0.33
16.0	70.5	Good	■	■		■		■	■	■	■	■	6					0									●	●	●	3	0.14	0.57
11.7	67.5	Good	■	■			■	■	■	■	■	■	7					0									●	●	●	2	0.13	0.38
6.7	70.5	Good	■	■			■	■	■	■	■	■	6					0									●	●	●	2	0.14	0.43
3.3	75.0	Excellent	■	■		■		■	■	■	■	■	6					0	●				●	●			●	●	●	5	0.14	0.86
<i>Captina Creek - 2008 (06-100)</i>																																
25.2	84.0	Excellent	■	■		■	■	■	■	■	■	■	9				◆	1	●											1	0.20	0.30
23.1	83.5	Excellent	■	■		■		■	■	■	■	■	7					0	●				●				●	●	●	3	0.13	0.50
22.4	85.0	Excellent	■	■		■	■	■	■	■	■	■	8					0									●	●	●	1	0.11	0.22
14.5	83.5	Excellent	■	■		■	■	■	■	■	■	■	8					0	●								●	●	●	2	0.11	0.33
<i>North Fork Captina Creek (06-123)</i>																																
6.6	71.0	Excellent	■	■		■	■	■	■	■	■	■	7				◆	1	●				●				●	●	●	4	0.25	0.75
3.9	66.0	Good	■	■		■	■	■	■	■	■	■	7					0	●				●				●	●	●	4	0.13	0.63
0.4	59.0	Fair	■				■	■	■	■	■	■	3				◆	1	●				●	●	●		●	●	●	6	0.50	2.00
<i>South Fork Captina Creek (06-117)</i>																																
9.5	72.5	Excellent	■	■		■		■	■	■	■	■	5				◆	2	●								●	●	●	4	0.50	1.17
3.0	67.5	Good	■			■	■	■	■	■	■	■	7					0	●				●	●			●	●	●	4	0.13	0.63
0.1	60.5	Good	■	■			■	■	■	■	■	■	5				◆	1	●				●	●			●	●	●	5	0.33	1.17
<i>Bend Fork (06-106)</i>																																
8.4	56.5	Good	■	■								■	3				◆	3	●				●				●	●	●	5	1.00	2.25
3.6	86.0	Excellent	■	■		■	■	■	■	■	■	■	9					0												0	0.10	0.10
0.3	83.0	Excellent	■	■		■	■	■	■	■	■	■	8					0	●								●	●	●	2	0.11	0.33
<i>Joy Fork (06-108)</i>																																
0.3	71.0	Excellent	■	■		■	■	■	■	■	■	■	8				◆	1												0	0.22	0.22
<i>Jakes Run (06-124)</i>																																
0.1	65.0	Good	■	■		■	■		■	■	■	■	6				◆	2									●	●	●	1	0.43	0.57

Appendix Table 6. Continued.

River Mile	QHEI	Habitat Rating	MWH Attributes																																										
			WWH Attributes											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	Total WWH Attributes	Channelized or No Recovery	Silt/Muck Substrates	No Sinuosity	Sparse/ No Cover	Max. Depth <40 cm (WD,HW sites)	Total High Influence Attributes	Recovering Channel	Heavy/Moderate Silt Cover	Sand Substrates (Boat)	Hardpan Substrate Origin	Fair/Poor Development	Low Sinuosity	Only 1-2 Cover Types	Intermittent & Poor Pools	No Fast Current	High/Mod. Overall Embeddedness	High/Mod. Riffle Embeddedness	No Riffle	Total Moderate Influence Attributes	(MWH H.I.+1)/(WWH+1) Ratio	(MWH M.I.+1)/(WWH+1) Ratio												
<i>Peavine Creek (06-103)</i>																																													
0.1	73.0	Excellent	■	■	■	■	■	■	■	■	■	7	■	■	◆	■	1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1	0.25	0.38											
<i>Crabapple Creek (06-110)</i>																																													
0.5	75.0	Excellent	■	■	■	■	■	■	■	■	8	■	◆	■	1	■	●	■	■	■	■	■	■	■	■	■	■	■	■	1	0.22	0.33													
<i>Piney Creek (06-111)</i>																																													
0.1	79.5	Excellent	■	■	■	■	■	■	■	■	9	■	■	■	0	■	●	■	■	■	■	■	■	■	■	■	■	■	■	2	0.10	0.30													
<i>Casey Run (06-113)</i>																																													
0.2	60.0	Good	■	■	■	■	■	■	■	5	■	◆	◆	◆	3	■	■	■	■	■	■	■	■	■	■	■	■	■	2	0.67	1.00														
<i>Long Run (06-125)</i>																																													
2.2	87.0	Excellent	■	■	■	■	■	■	■	7	■	■	■	0	■	●	■	■	■	■	■	■	■	■	■	■	■	■	3	0.13	0.50														
0.1	92.0	Excellent	■	■	■	■	■	■	■	9	■	■	■	0	■	●	■	■	■	■	■	■	■	■	■	■	■	■	1	0.10	0.20														
<i>Cat Run (06-101)</i>																																													
3.3	86.0	Excellent	■	■	■	■	■	■	■	9	■	◆	■	1	■	●	■	■	■	■	■	■	■	■	■	■	■	1	0.20	0.30															
0.4	83.0	Excellent	■	■	■	■	■	■	■	9	■	■	■	0	■	●	■	■	■	■	■	■	■	■	■	■	■	1	0.10	0.20															

Appendix Table 7. Fish species and abundance for each sampling location in the Captina Creek watershed study area, 2008 and 2009.

Species List

River Code: 06-100	Stream: Captina Creek	Sample Date: 2008
River Mile: 25.20	Location: dst. North and South Forks	Date Range: 07/17/2008
Time Fished: 3840 sec	Drainage: 68.8 sq mi	
Dist Fished: 0.20 km	Basin: Central Ohio River Tribs 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
Black Redhorse	R	I	S I	71	106.50	15.37	13.00	27.86	122.07
Golden Redhorse	R	I	S M	35	52.50	7.58	6.07	13.01	115.60
Northern Hog Sucker	R	I	S M	50	75.00	10.82	5.32	11.39	70.88
White Sucker	W	O	S T	1	1.50	0.22	0.30	0.64	198.00
Common Carp	G	O	M T	3	4.50	0.65	13.98	29.97	3,106.67
Creek Chub	N	G	N T	1	1.50	0.22	0.01	0.01	4.00
Silver Shiner	N	I	S I	10	15.00	2.16	0.04	0.08	2.44
Striped Shiner	N	I	S	90	135.00	19.48	0.53	1.13	3.92
Spotfin Shiner	N	I	M	3	4.50	0.65	0.01	0.02	2.50
Sand Shiner	N	I	M M	32	48.00	6.93	0.09	0.20	1.94
Bluntnose Minnow	N	O	C T	58	87.00	12.55	0.18	0.38	2.04
Central Stoneroller	N	H	N	25	37.50	5.41	0.25	0.54	6.67
Yellow Bullhead		I	C T	2	3.00	0.43	0.28	0.60	93.50
Stonecat Madtom		I	C I	3	4.50	0.65	0.08	0.18	18.33
Rock Bass	S	C	C	10	15.00	2.16	0.56	1.19	37.10
Smallmouth Bass	F	C	C M	9	13.50	1.95	2.01	4.30	148.56
Largemouth Bass	F	C	C	1	1.50	0.22	0.01	0.01	3.00
Green Sunfish	S	I	C T	1	1.50	0.22	0.02	0.04	12.00
Bluegill Sunfish	S	I	C P	3	4.50	0.65	0.03	0.06	6.67
Longear Sunfish	S	I	C M	7	10.50	1.52	0.49	1.05	46.57
Green Sf X Bluegill Sf				2	3.00	0.43	0.03	0.06	10.00
Logperch	D	I	S M	5	7.50	1.08	0.10	0.22	13.60
Johnny Darter	D	I	C	1	1.50	0.22	0.00	0.00	1.00
Greenside Darter	D	I	S M	17	25.50	3.68	0.10	0.21	3.76
Banded Darter	D	I	S I	4	6.00	0.87	0.01	0.02	1.50
Variagate Darter	D	I	S I	2	3.00	0.43	0.01	0.03	4.00
Rainbow Darter	D	I	S M	4	6.00	0.87	0.01	0.02	1.50
Fantail Darter	D	I	C	10	15.00	2.16	0.03	0.06	1.90
Freshwater Drum			M P	2	3.00	0.43	3.14	6.72	1,045.00
<i>Mile Total</i>				462	693.00		46.65		
<i>Number of Species</i>				28					
<i>Number of Hybrids</i>				1					

Species List

River Code: 06-100	Stream: Captina Creek	Sample Date: 2009
River Mile: 23.20	Location: St. Rt. 148, dst. Casey Run	Date Range: 07/14/2009
Time Fished: 5228 sec	Drainage: 75.4 sq mi	Thru: 09/08/2009
Dist Fished: 0.44 km	Basin: Central Ohio River Tribs 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
Longnose Gar		P	M	1	0.63	0.06	0.01	0.01	12.00
Gizzard Shad		O	M	1	0.75	0.07	0.05	0.10	72.00
Silver Redhorse	R	I	S M	9	5.63	0.51	0.64	1.16	114.13
Black Redhorse	R	I	S I	24	16.75	1.53	2.16	3.89	128.25
Golden Redhorse	R	I	S M	178	117.75	10.75	27.49	49.58	238.12
Northern Hog Sucker	R	I	S M	145	100.88	9.21	13.97	25.20	147.60
White Sucker	W	O	S T	62	41.88	3.82	1.58	2.85	39.00
Western Blacknose Dace	N	G	S T	1	0.63	0.06	0.00	0.00	2.00
Creek Chub	N	G	N T	5	3.13	0.29	0.03	0.05	8.75
Emerald Shiner	N	I	M	28	21.00	1.92	0.03	0.06	1.50
Silver Shiner	N	I	S I	15	10.50	0.96	0.04	0.07	3.67
Rosyface Shiner	N	I	S I	82	58.38	5.33	0.11	0.19	1.85
Striped Shiner	N	I	S	96	69.00	6.30	0.87	1.56	13.00
Spotfin Shiner	N	I	M	24	17.50	1.60	0.05	0.08	2.61
Sand Shiner	N	I	M M	20	14.25	1.30	0.02	0.03	1.25
Mimic Shiner	N	I	M I	74	55.50	5.07	0.08	0.15	1.45
Silverjaw Minnow	N	I	M	1	0.75	0.07	0.00	0.00	2.00
Bluntnose Minnow	N	O	C T	102	73.00	6.66	0.21	0.37	2.81
Central Stoneroller	N	H	N	336	248.50	22.68	1.57	2.83	6.50
Channel Catfish	F		C	1	0.75	0.07	1.11	2.00	1,475.00
Brown Bullhead		I	C T	1	0.63	0.06	0.05	0.09	83.00
Stonecat Madtom		I	C I	4	2.88	0.26	0.02	0.04	8.00
Brook Silverside		I	M M	1	0.75	0.07	0.00	0.00	1.00
Rock Bass	S	C	C	17	11.38	1.04	0.59	1.07	52.15
Smallmouth Bass	F	C	C M	9	6.13	0.56	0.62	1.12	103.67
Largemouth Bass	F	C	C	4	3.00	0.27	0.13	0.24	44.75
Green Sunfish	S	I	C T	4	2.50	0.23	0.03	0.06	13.00
Bluegill Sunfish	S	I	C P	34	23.50	2.15	0.20	0.36	8.41
Longear Sunfish	S	I	C M	22	14.38	1.31	0.38	0.68	26.22
Yellow Perch			M	1	0.63	0.06	0.01	0.01	12.00
Logperch	D	I	S M	13	8.25	0.75	0.28	0.50	33.77
Johnny Darter	D	I	C	7	4.38	0.40	0.01	0.01	1.25
Greenside Darter	D	I	S M	54	38.00	3.47	0.09	0.16	2.47
Banded Darter	D	I	S I	74	50.63	4.62	0.06	0.12	1.27
Variagate Darter	D	I	S I	17	12.38	1.13	0.07	0.13	5.82
Rainbow Darter	D	I	S M	31	20.50	1.87	0.05	0.09	2.43
Fantail Darter	D	I	C	52	34.50	3.15	0.08	0.14	2.25
Freshwater Drum			M P	2	1.25	0.11	2.75	4.96	2,200.00
Mottled Sculpin		I	C	4	2.75	0.25	0.02	0.03	6.25
<i>Mile Total</i>				1,556	1,095.50		55.44		
<i>Number of Species</i>				39					
<i>Number of Hybrids</i>				0					

Species List

Page A71

River Code: 06-100	Stream: Captina Creek	Sample Date: 2008
River Mile: 23.10	Location: St. Rt. 148, dst. Casey Run	Date Range: 08/25/2008
Time Fished: 3120 sec	Drainage: 75.4 sq mi	
Dist Fished: 0.20 km	Basin: Central Ohio River Tribs 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
Longnose Gar		P	M	1	1.50	0.12	0.04	0.12	25.00
Black Redhorse	R	I	S I	41	61.50	4.82	2.64	8.40	42.95
Golden Redhorse	R	I	S M	23	34.50	2.71	1.66	5.28	48.14
Northern Hog Sucker	R	I	S M	38	57.00	4.47	14.64	46.53	256.76
White Sucker	W	O	S T	11	16.50	1.29	0.64	2.05	39.00
Creek Chub	N	G	N T	4	6.00	0.47	0.06	0.20	10.67
Silver Shiner	N	I	S I	28	42.00	3.29	0.06	0.18	1.36
Striped Shiner	N	I	S	69	103.50	8.12	0.58	1.85	5.63
Spotfin Shiner	N	I	M	4	6.00	0.47	0.01	0.04	2.00
Sand Shiner	N	I	M M	149	223.50	17.53	0.29	0.91	1.28
Bluntnose Minnow	N	O	C T	57	85.50	6.71	0.18	0.58	2.16
Central Stoneroller	N	H	N	139	208.50	16.35	2.11	6.71	10.12
Yellow Bullhead		I	C T	5	7.50	0.59	0.71	2.24	94.00
Stonecat Madtom		I	C I	9	13.50	1.06	0.07	0.21	4.88
Brindled Madtom		I	C I	4	6.00	0.47	0.03	0.09	4.75
Rock Bass	S	C	C	14	21.00	1.65	1.31	4.15	62.17
Smallmouth Bass	F	C	C M	11	16.50	1.29	0.23	0.74	14.18
Largemouth Bass	F	C	C	2	3.00	0.24	0.03	0.10	10.00
Green Sunfish	S	I	C T	24	36.00	2.82	0.45	1.42	12.45
Bluegill Sunfish	S	I	C P	26	39.00	3.06	0.20	0.63	5.11
Longear Sunfish	S	I	C M	34	51.00	4.00	0.84	2.68	16.50
Logperch	D	I	S M	4	6.00	0.47	0.10	0.32	16.75
Johnny Darter	D	I	C	2	3.00	0.24	0.01	0.04	4.50
Greenside Darter	D	I	S M	47	70.50	5.53	0.15	0.48	2.13
Banded Darter	D	I	S I	29	43.50	3.41	0.03	0.09	0.66
Variegate Darter	D	I	S I	4	6.00	0.47	0.03	0.10	5.50
Rainbow Darter	D	I	S M	25	37.50	2.94	0.04	0.13	1.12
Fantail Darter	D	I	C	39	58.50	4.59	0.05	0.15	0.82
Freshwater Drum			M P	3	4.50	0.35	4.24	13.47	941.67
Mottled Sculpin		I	C	4	6.00	0.47	0.03	0.10	5.00
<i>Mile Total</i>				850	1,275.00		31.45		
<i>Number of Species</i>				30					
<i>Number of Hybrids</i>				0					

Species List

River Code: 06-100	Stream: Captina Creek	Sample Date: 2008
River Mile: 22.40	Location: dst. Perkins Run	Date Range: 08/25/2008
Time Fished: 2334 sec	Drainage: 86.5 sq mi	
Dist Fished: 0.20 km	Basin: Central Ohio River Tribs 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
Black Redhorse	R	I	S	I	13	19.50	1.77	1.43	4.90	73.29
Golden Redhorse	R	I	S	M	42	63.00	5.73	7.74	26.52	122.83
Northern Hog Sucker	R	I	S	M	41	61.50	5.59	5.72	19.60	93.00
White Sucker	W	O	S	T	3	4.50	0.41	0.03	0.09	5.67
Creek Chub	N	G	N	T	1	1.50	0.14	0.01	0.02	4.00
Silver Shiner	N	I	S	I	2	3.00	0.27	0.01	0.04	3.50
Rosyface Shiner	N	I	S	I	21	31.50	2.86	0.03	0.10	0.95
Striped Shiner	N	I	S		49	73.50	6.68	0.25	0.84	3.33
Spotfin Shiner	N	I	M		5	7.50	0.68	0.03	0.09	3.60
Sand Shiner	N	I	M	M	96	144.00	13.10	0.18	0.60	1.22
Bluntnose Minnow	N	O	C	T	88	132.00	12.01	0.30	1.04	2.30
Central Stoneroller	N	H	N		166	249.00	22.65	0.75	2.58	3.03
Yellow Bullhead		I	C	T	1	1.50	0.14	0.30	1.02	198.00
Stonecat Madtom		I	C	I	1	1.50	0.14	0.01	0.02	4.00
Brindled Madtom		I	C	I	1	1.50	0.14	0.01	0.02	3.00
Rock Bass	S	C	C		3	4.50	0.41	0.37	1.28	83.00
Smallmouth Bass	F	C	C	M	36	54.00	4.91	8.45	28.96	156.54
Largemouth Bass	F	C	C		4	6.00	0.55	1.12	3.84	187.00
Green Sunfish	S	I	C	T	3	4.50	0.41	0.07	0.23	15.00
Bluegill Sunfish	S	I	C	P	7	10.50	0.95	0.09	0.30	8.29
Longear Sunfish	S	I	C	M	5	7.50	0.68	0.33	1.13	44.00
Sauger	F	P	S		3	4.50	0.41	1.02	3.50	227.00
Logperch	D	I	S	M	2	3.00	0.27	0.05	0.18	17.50
Johnny Darter	D	I	C		1	1.50	0.14	0.01	0.02	3.00
Greenside Darter	D	I	S	M	54	81.00	7.37	0.20	0.70	2.52
Banded Darter	D	I	S	I	29	43.50	3.96	0.07	0.23	1.54
Variagate Darter	D	I	S	I	7	10.50	0.95	0.10	0.33	9.14
Rainbow Darter	D	I	S	M	33	49.50	4.50	0.09	0.29	1.71
Fantail Darter	D	I	C		12	18.00	1.64	0.03	0.10	1.67
Sauger X Walleye	E	P			1	1.50	0.14	0.41	1.39	270.00
Mottled Sculpin		I	C		3	4.50	0.41	0.02	0.06	3.67
<i>Mile Total</i>					733	1,099.50		29.19		
<i>Number of Species</i>					30					
<i>Number of Hybrids</i>					1					

Species List

Page A73

River Code: 06-100	Stream: Captina Creek	Sample Date: 2009
River Mile: 22.10	Location:	Date Range: 07/13/2009
Time Fished: 5387 sec	Drainage: 87.0 sq mi	Thru: 09/08/2009
Dist Fished: 0.42 km	Basin: Central Ohio River Tribs No of Passes: 2	Sampler Type: 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
Black Redhorse	R	I	S I	24	16.84	0.77	2.71	6.92	162.53
Golden Redhorse	R	I	S M	128	92.66	4.26	14.06	35.89	153.56
Northern Hog Sucker	R	I	S M	159	114.82	5.28	9.87	25.18	89.99
White Sucker	W	O	S T	10	7.30	0.34	0.25	0.63	34.10
River Chub	N	I	N I	6	4.36	0.20	0.04	0.10	9.00
Western Blacknose Dace	N	G	S T	1	0.68	0.03	0.00	0.00	2.00
Creek Chub	N	G	N T	7	5.25	0.24	0.02	0.06	4.29
Emerald Shiner	N	I	M	36	27.00	1.24	0.03	0.08	1.11
Silver Shiner	N	I	S I	14	9.75	0.45	0.02	0.05	1.93
Rosyface Shiner	N	I	S I	81	57.68	2.65	0.13	0.34	2.36
Striped Shiner	N	I	S	77	56.18	2.58	0.73	1.87	13.13
Spotfin Shiner	N	I	M	33	23.52	1.08	0.12	0.31	5.35
Sand Shiner	N	I	M M	141	101.18	4.66	0.13	0.34	1.31
Mimic Shiner	N	I	M I	180	127.30	5.86	0.16	0.40	1.23
Silverjaw Minnow	N	I	M	4	2.93	0.13	0.00	0.01	1.25
Bluntnose Minnow	N	O	C T	406	289.70	13.33	0.53	1.36	1.83
Central Stoneroller	N	H	N	1,181	851.73	39.19	4.72	12.04	5.51
Yellow Bullhead		I	C T	3	2.05	0.09	0.22	0.57	109.00
Stonecat Madtom		I	C I	17	11.73	0.54	0.23	0.60	19.56
Brindled Madtom		I	C I	1	0.75	0.03	0.01	0.02	8.00
Rock Bass	S	C	C	4	3.00	0.14	0.18	0.46	59.50
Smallmouth Bass	F	C	C M	36	25.64	1.18	4.05	10.34	158.69
Bluegill Sunfish	S	I	C P	2	1.36	0.06	0.01	0.02	5.00
Longear Sunfish	S	I	C M	5	3.61	0.17	0.05	0.13	13.80
Hybrid X Sunfish				1	0.68	0.03	0.01	0.03	17.00
Logperch	D	I	S M	3	2.18	0.10	0.04	0.10	18.00
Johnny Darter	D	I	C	3	2.18	0.10	0.00	0.01	1.67
Greenside Darter	D	I	S M	78	55.70	2.56	0.22	0.57	3.88
Banded Darter	D	I	S I	179	126.20	5.81	0.17	0.43	1.32
Variagate Darter	D	I	S I	43	30.82	1.42	0.19	0.48	6.18
Rainbow Darter	D	I	S M	80	56.93	2.62	0.19	0.49	3.48
Fantail Darter	D	I	C	77	54.68	2.52	0.04	0.11	0.78
Mottled Sculpin		I	C	10	7.09	0.33	0.04	0.10	5.72
<i>Mile Total</i>				3,030	2,173.50		39.18		
<i>Number of Species</i>				32					
<i>Number of Hybrids</i>				1					

Species List

River Code: 06-100	Stream: Captina Creek	Sample Date: 2009
River Mile: 20.90	Location: adj. St. Rt. 148, dst. OVC	Date Range: 07/20/2009
Time Fished: 4688 sec	Drainage: 87.9 sq mi	Thru: 09/15/2009
Dist Fished: 0.40 km	Basin: Central Ohio River Tribs 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
Silver Redhorse	R	I	S M	35	26.25	2.36	3.66	11.63	139.33
Black Redhorse	R	I	S I	43	32.25	2.90	4.50	14.30	139.52
Golden Redhorse	R	I	S M	180	135.00	12.14	9.28	29.51	68.77
Northern Hog Sucker	R	I	S M	108	81.00	7.28	4.26	13.55	52.62
White Sucker	W	O	S T	4	3.00	0.27	0.07	0.21	22.33
River Chub	N	I	N I	7	5.25	0.47	0.05	0.16	9.29
Western Blacknose Dace	N	G	S T	3	2.25	0.20	0.00	0.01	1.67
Creek Chub	N	G	N T	6	4.50	0.40	0.02	0.06	4.33
Emerald Shiner	N	I	M	102	76.50	6.88	0.07	0.21	0.87
Silver Shiner	N	I	S I	2	1.50	0.13	0.01	0.02	4.50
Rosyface Shiner	N	I	S I	34	25.50	2.29	0.04	0.13	1.62
Striped Shiner	N	I	S	109	81.75	7.35	1.03	3.29	12.66
Spotfin Shiner	N	I	M	20	15.00	1.35	0.04	0.14	2.91
Sand Shiner	N	I	M M	1	0.75	0.07	0.00	0.00	1.00
Mimic Shiner	N	I	M I	96	72.00	6.47	0.06	0.20	0.86
Bluntnose Minnow	N	O	C T	150	112.50	10.11	0.22	0.70	1.96
Central Stoneroller	N	H	N	166	124.50	11.19	0.66	2.11	5.34
Yellow Bullhead		I	C T	6	4.50	0.40	0.56	1.79	125.00
Stonecat Madtom		I	C I	5	3.75	0.34	0.03	0.08	6.80
Rock Bass	S	C	C	13	9.75	0.88	0.89	2.82	90.92
Smallmouth Bass	F	C	C M	33	24.75	2.23	4.82	15.32	194.73
Largemouth Bass	F	C	C	3	2.25	0.20	0.02	0.06	8.67
Green Sunfish	S	I	C T	16	12.00	1.08	0.36	1.14	29.75
Bluegill Sunfish	S	I	C P	11	8.25	0.74	0.08	0.27	10.09
Longear Sunfish	S	I	C M	7	5.25	0.47	0.11	0.36	21.43
Green Sf X Longear Sf				5	3.75	0.34	0.08	0.24	20.00
Green Sf X Hybrid				1	0.75	0.07	0.06	0.18	74.00
Logperch	D	I	S M	3	2.25	0.20	0.04	0.14	19.67
Johnny Darter	D	I	C	22	16.50	1.48	0.02	0.05	1.00
Greenside Darter	D	I	S M	64	48.00	4.32	0.06	0.18	1.17
Banded Darter	D	I	S I	70	52.50	4.72	0.07	0.21	1.26
Variagate Darter	D	I	S I	52	39.00	3.51	0.19	0.61	4.95
Rainbow Darter	D	I	S M	50	37.50	3.37	0.04	0.14	1.13
Fantail Darter	D	I	C	55	41.25	3.71	0.05	0.16	1.24
Mottled Sculpin		I	C	1	0.75	0.07	0.01	0.03	13.00
<i>Mile Total</i>				1,483	1,112.25		31.46		
<i>Number of Species</i>				33					
<i>Number of Hybrids</i>				2					

Species List

River Code: 06-100	Stream: Captina Creek	Sample Date: 2009
River Mile: 20.50	Location: Co. Rd. 86, at Alledonia	Date Range: 07/20/2009
Time Fished: 6145 sec	Drainage: 96.0 sq mi	Thru: 09/14/2009
Dist Fished: 0.40 km	Basin: Central Ohio River Tribs 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
Silver Redhorse	R	I	S M	15	11.25	0.53	2.22	5.59	197.44
Black Redhorse	R	I	S I	63	47.25	2.21	8.40	21.13	177.80
Golden Redhorse	R	I	S M	117	87.75	4.10	15.52	39.02	176.84
Northern Hog Sucker	R	I	S M	115	86.25	4.03	3.62	9.10	41.95
River Chub	N	I	N I	32	24.00	1.12	0.24	0.60	10.00
Western Blacknose Dace	N	G	S T	20	15.00	0.70	0.02	0.06	1.50
Creek Chub	N	G	N T	4	3.00	0.14	0.02	0.05	6.50
Emerald Shiner	N	I	M	60	45.00	2.10	0.03	0.06	0.57
Silver Shiner	N	I	S I	10	7.50	0.35	0.03	0.06	3.40
Rosyface Shiner	N	I	S I	117	87.75	4.10	0.11	0.27	1.24
Striped Shiner	N	I	S	111	83.25	3.89	0.19	0.48	2.28
Spotfin Shiner	N	I	M	18	13.50	0.63	0.06	0.14	4.07
Sand Shiner	N	I	M M	97	72.75	3.40	0.09	0.22	1.18
Mimic Shiner	N	I	M I	97	72.75	3.40	0.07	0.18	0.96
Silverjaw Minnow	N	I	M	1	0.75	0.04	0.00	0.00	2.00
Bluntnose Minnow	N	O	C T	159	119.25	5.57	0.19	0.47	1.56
Central Stoneroller	N	H	N	467	350.25	16.35	1.39	3.51	3.98
Striped Sh X River Chub		I		1	0.75	0.04	0.00	0.01	5.00
Yellow Bullhead		I	C T	1	0.75	0.04	0.16	0.41	217.00
Stonecat Madtom		I	C I	10	7.50	0.35	0.03	0.07	3.70
Rock Bass	S	C	C	5	3.75	0.18	0.52	1.31	138.60
Smallmouth Bass	F	C	C M	31	23.25	1.09	3.90	9.81	167.70
Green Sunfish	S	I	C T	2	1.50	0.07	0.06	0.15	40.50
Bluegill Sunfish	S	I	C P	2	1.50	0.07	0.01	0.03	7.00
Longear Sunfish	S	I	C M	4	3.00	0.14	0.21	0.52	68.75
Green Sf X Longear Sf				1	0.75	0.04	0.02	0.06	32.00
Logperch	D	I	S M	2	1.50	0.07	0.03	0.07	19.50
Johnny Darter	D	I	C	10	7.50	0.35	0.01	0.02	1.00
Greenside Darter	D	I	S M	222	166.50	7.77	0.19	0.47	1.12
Banded Darter	D	I	S I	621	465.75	21.74	0.52	1.31	1.12
Variagate Darter	D	I	S I	148	111.00	5.18	0.49	1.22	4.38
Rainbow Darter	D	I	S M	159	119.25	5.57	0.19	0.47	1.58
Fantail Darter	D	I	C	117	87.75	4.10	0.09	0.22	1.00
Freshwater Drum			M P	1	0.75	0.04	1.13	2.83	1,500.00
Mottled Sculpin		I	C	17	12.75	0.60	0.04	0.10	3.06
<i>Mile Total</i>				2,857	2,142.75		39.77		
<i>Number of Species</i>				33					
<i>Number of Hybrids</i>				2					

Species List

River Code: 06-100	Stream: Captina Creek	Sample Date: 2009
River Mile: 17.90	Location: dst. Bend Fork	Date Range: 07/08/2009
Time Fished: 6850 sec	Drainage: 125.0 sq mi	Thru: 09/02/2009
Dist Fished: 0.40 km	Basin: Central Ohio River Tribs No of Passes: 2	Sampler Type: 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
Silver Redhorse	R	I	S M	13	9.75	0.62	0.04	0.12	4.23
Black Redhorse	R	I	S I	81	60.75	3.86	9.49	28.57	156.27
Golden Redhorse	R	I	S M	77	57.75	3.67	7.68	23.13	133.06
Northern Hog Sucker	R	I	S M	135	101.25	6.43	2.83	8.52	27.95
White Sucker	W	O	S T	19	14.25	0.91	0.18	0.53	12.32
River Chub	N	I	N I	30	22.50	1.43	0.28	0.83	12.27
Creek Chub	N	G	N T	2	1.50	0.10	0.00	0.01	2.50
Emerald Shiner	N	I	M	2	1.50	0.10	0.00	0.01	2.00
Silver Shiner	N	I	S I	8	6.00	0.38	0.02	0.05	2.50
Rosyface Shiner	N	I	S I	191	143.25	9.10	0.26	0.78	1.81
Striped Shiner	N	I	S	205	153.75	9.77	0.77	2.33	5.02
Spotfin Shiner	N	I	M	36	27.00	1.72	0.10	0.29	3.57
Sand Shiner	N	I	M M	126	94.50	6.00	0.09	0.27	0.96
Mimic Shiner	N	I	M I	91	68.25	4.34	0.08	0.24	1.18
Silverjaw Minnow	N	I	M	18	13.50	0.86	0.03	0.09	2.33
Bluntnose Minnow	N	O	C T	408	306.00	19.44	0.55	1.66	1.80
Central Stoneroller	N	H	N	278	208.50	13.24	2.08	6.25	9.97
Channel Catfish	F		C	1	0.75	0.05	1.31	3.95	1,750.00
Yellow Bullhead		I	C T	6	4.50	0.29	0.51	1.53	113.00
Brown Bullhead		I	C T	1	0.75	0.05	0.14	0.41	180.00
Stonecat Madtom		I	C I	3	2.25	0.14	0.03	0.08	12.00
Brindled Madtom		I	C I	2	1.50	0.10	0.01	0.02	5.00
Rock Bass	S	C	C	9	6.75	0.43	0.54	1.63	80.00
Smallmouth Bass	F	C	C M	36	27.00	1.72	3.38	10.17	125.11
Green Sunfish	S	I	C T	3	2.25	0.14	0.06	0.19	27.33
Bluegill Sunfish	S	I	C P	12	9.00	0.57	0.10	0.30	11.17
Longear Sunfish	S	I	C M	2	1.50	0.10	0.07	0.22	49.00
Logperch	D	I	S M	2	1.50	0.10	0.03	0.10	22.50
Johnny Darter	D	I	C	10	7.50	0.48	0.01	0.03	1.40
Greenside Darter	D	I	S M	128	96.00	6.10	0.17	0.52	1.80
Banded Darter	D	I	S I	90	67.50	4.29	0.10	0.31	1.53
Variegate Darter	D	I	S I	26	19.50	1.24	0.14	0.43	7.38
Rainbow Darter	D	I	S M	24	18.00	1.14	0.05	0.14	2.50
Fantail Darter	D	I	C	23	17.25	1.10	0.03	0.09	1.71
Freshwater Drum			M P	1	0.75	0.05	2.06	6.21	2,750.00
<i>Mile Total</i>				2,099	1,574.25		33.23		
<i>Number of Species</i>				35					
<i>Number of Hybrids</i>				0					

Species List

Page A77

River Code: 06-100	Stream: Captina Creek	Sample Date: 2009
River Mile: 17.60	Location: 0.6 mi. dst. Bend Fork	Date Range: 07/16/2009
Time Fished: 5176 sec	Drainage: 125.0 sq mi	Thru: 09/16/2009
Dist Fished: 0.40 km	Basin: Central Ohio River Tribs 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
Quillback	C	O	M	9	6.75	0.19	0.05	0.06	7.00
Silver Redhorse	R	I	S M	4	3.00	0.09	0.81	1.11	271.33
Black Redhorse	R	I	S I	88	66.00	1.88	11.50	15.63	174.17
Golden Redhorse	R	I	S M	117	87.75	2.50	16.47	22.40	187.74
Northern Hog Sucker	R	I	S M	229	171.75	4.90	14.98	20.37	87.23
White Sucker	W	O	S T	2	1.50	0.04	0.00	0.01	3.00
River Chub	N	I	N I	72	54.00	1.54	1.00	1.36	18.47
Emerald Shiner	N	I	M	137	102.75	2.93	0.09	0.12	0.85
Silver Shiner	N	I	S I	51	38.25	1.09	0.11	0.15	2.86
Rosyface Shiner	N	I	S I	155	116.25	3.31	0.24	0.33	2.10
Striped Shiner	N	I	S	340	255.00	7.27	1.30	1.77	5.11
Spotfin Shiner	N	I	M	63	47.25	1.35	0.15	0.21	3.22
Sand Shiner	N	I	M M	17	12.75	0.36	0.01	0.02	1.12
Mimic Shiner	N	I	M I	213	159.75	4.56	0.18	0.24	1.12
Silverjaw Minnow	N	I	M	17	12.75	0.36	0.03	0.04	2.16
Bluntnose Minnow	N	O	C T	695	521.25	14.86	1.15	1.56	2.21
Central Stoneroller	N	H	N	1,491	1,118.25	31.89	8.72	11.86	7.80
Yellow Bullhead		I	C T	5	3.75	0.11	1.32	1.79	351.60
Stonecat Madtom		I	C I	9	6.75	0.19	0.13	0.18	19.78
Rock Bass	S	C	C	20	15.00	0.43	1.80	2.45	120.07
Smallmouth Bass	F	C	C M	66	49.50	1.41	5.96	8.11	120.46
Largemouth Bass	F	C	C	1	0.75	0.02	0.03	0.04	42.00
Bluegill Sunfish	S	I	C P	2	1.50	0.04	0.01	0.02	9.50
Orangespotted Sunfish	S	I	C	1	0.75	0.02	0.01	0.02	18.00
Sauger	F	P	S	1	0.75	0.02	0.38	0.51	500.00
Logperch	D	I	S M	1	0.75	0.02	0.03	0.04	38.00
Johnny Darter	D	I	C	17	12.75	0.36	0.02	0.02	1.14
Greenside Darter	D	I	S M	236	177.00	5.05	0.42	0.57	2.37
Banded Darter	D	I	S I	404	303.00	8.64	0.36	0.49	1.19
Variagate Darter	D	I	S I	78	58.50	1.67	0.19	0.26	3.27
Rainbow Darter	D	I	S M	76	57.00	1.63	0.10	0.13	1.68
Fantail Darter	D	I	C	56	42.00	1.20	0.07	0.09	1.61
Freshwater Drum			M P	3	2.25	0.06	5.93	8.05	2,633.33
<i>Mile Total</i>				4,676	3,507.00		73.56		
<i>Number of Species</i>				33					
<i>Number of Hybrids</i>				0					

Species List

River Code: 06-100	Stream: Captina Creek	Sample Date: 2009
River Mile: 16.00	Location:	Date Range: 07/14/2009
Time Fished: 6966 sec	Drainage: 127.0 sq mi	Thru: 09/16/2009
Dist Fished: 0.42 km	Basin: Central Ohio River Tribs	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
Silver Redhorse	R	I	S M	5	3.41	0.10	0.34	0.39	98.20
Black Redhorse	R	I	S I	76	55.70	1.64	20.07	23.14	355.44
Golden Redhorse	R	I	S M	72	51.20	1.51	16.88	19.46	324.91
Northern Hog Sucker	R	I	S M	201	144.95	4.26	24.92	28.73	171.19
River Chub	N	I	N I	19	13.91	0.41	0.15	0.17	10.39
Gravel Chub	N	I	S M	6	4.50	0.13	0.01	0.01	2.50
Western Blacknose Dace	N	G	S T	2	1.36	0.04	0.00	0.00	3.00
Creek Chub	N	G	N T	1	0.75	0.02	0.00	0.00	3.00
Redside Dace	N	I	S I	1	0.68	0.02	0.00	0.00	4.00
Emerald Shiner	N	I	M	57	42.75	1.26	0.04	0.05	0.96
Silver Shiner	N	I	S I	17	12.55	0.37	0.02	0.03	1.82
Rosyface Shiner	N	I	S I	89	62.73	1.84	0.13	0.15	2.07
Striped Shiner	N	I	S	223	155.59	4.58	0.72	0.84	4.61
Spotfin Shiner	N	I	M	31	22.02	0.65	0.19	0.22	8.86
Sand Shiner	N	I	M M	70	50.39	1.48	0.06	0.07	1.16
Mimic Shiner	N	I	M I	117	82.70	2.43	0.08	0.10	0.99
Bluntnose Minnow	N	O	C T	429	307.43	9.04	0.49	0.56	1.56
Central Stoneroller	N	H	N	1,995	1,416.41	41.66	8.02	9.24	5.63
Yellow Bullhead		I	C T	2	1.43	0.04	0.30	0.35	210.50
Stonecat Madtom		I	C I	15	10.43	0.31	0.20	0.23	19.00
Rock Bass	S	C	C	12	8.73	0.26	0.37	0.43	43.42
Smallmouth Bass	F	C	C M	53	38.39	1.13	6.77	7.80	173.50
Largemouth Bass	F	C	C	1	0.75	0.02	0.01	0.01	12.00
Green Sunfish	S	I	C T	4	3.00	0.09	0.07	0.08	22.75
Longear Sunfish	S	I	C M	2	1.50	0.04	0.06	0.07	37.50
Hybrid X Sunfish				2	1.36	0.04	0.05	0.06	36.50
Sauger	F	P	S	1	0.68	0.02	0.27	0.31	392.00
Logperch	D	I	S M	13	9.55	0.28	0.13	0.15	13.69
Johnny Darter	D	I	C	11	8.05	0.24	0.01	0.01	1.18
Greenside Darter	D	I	S M	141	102.41	3.01	0.64	0.74	6.58
Banded Darter	D	I	S I	663	463.64	13.64	0.42	0.48	0.89
Variegated Darter	D	I	S I	165	115.30	3.39	0.41	0.47	3.51
Rainbow Darter	D	I	S M	252	174.48	5.13	0.21	0.24	1.18
Fantail Darter	D	I	C	42	29.05	0.85	0.06	0.07	1.95
Freshwater Drum			M P	3	2.11	0.06	4.66	5.37	2,150.00
<i>Mile Total</i>				4,793	3,399.89		86.74		
<i>Number of Species</i>				34					
<i>Number of Hybrids</i>				1					

Species List

River Code: 06-100	Stream: Captina Creek	Sample Date: 2008
River Mile: 16.00	Location: USGS gage, dst. Armstrongs Mills	Date Range: 08/26/2008
Time Fished: 4440 sec	Drainage: 134.0 sq mi	
Dist Fished: 0.20 km	Basin: Central Ohio River Tribs 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
Black Redhorse	R	I	S I	21	31.50	2.17	3.39	11.79	107.53
Golden Redhorse	R	I	S M	10	15.00	1.04	1.76	6.12	117.30
Northern Hog Sucker	R	I	S M	69	103.50	7.14	5.11	17.79	49.39
River Chub	N	I	N I	16	24.00	1.66	0.63	2.19	26.27
Western Blacknose Dace	N	G	S T	1	1.50	0.10	0.01	0.02	3.00
Creek Chub	N	G	N T	20	30.00	2.07	0.04	0.12	1.18
Silver Shiner	N	I	S I	13	19.50	1.35	0.09	0.31	4.54
Rosyface Shiner	N	I	S I	52	78.00	5.38	0.04	0.13	0.46
Striped Shiner	N	I	S	85	127.50	8.80	0.32	1.10	2.47
Spotfin Shiner	N	I	M	4	6.00	0.41	0.03	0.11	5.25
Sand Shiner	N	I	M M	79	118.50	8.18	0.14	0.47	1.14
Bluntnose Minnow	N	O	C T	48	72.00	4.97	0.12	0.40	1.59
Central Stoneroller	N	H	N	311	466.50	32.19	2.62	9.12	5.62
Yellow Bullhead		I	C T	2	3.00	0.21	0.40	1.40	134.00
Stonecat Madtom		I	C I	6	9.00	0.62	0.02	0.08	2.50
Rock Bass	S	C	C	20	30.00	2.07	2.83	9.85	94.35
Smallmouth Bass	F	C	C M	19	28.50	1.97	6.70	23.33	235.23
Green Sunfish	S	I	C T	1	1.50	0.10	0.08	0.26	50.00
Bluegill Sunfish	S	I	C P	9	13.50	0.93	0.17	0.58	12.44
Longear Sunfish	S	I	C M	17	25.50	1.76	0.78	2.72	30.63
Green Sf X Bluegill Sf				1	1.50	0.10	0.02	0.06	12.00
Sauger	F	P	S	1	1.50	0.10	0.48	1.67	320.00
Logperch	D	I	S M	5	7.50	0.52	0.19	0.65	25.00
Greenside Darter	D	I	S M	44	66.00	4.55	0.14	0.48	2.09
Banded Darter	D	I	S I	60	90.00	6.21	0.09	0.30	0.97
Variagate Darter	D	I	S I	4	6.00	0.41	0.10	0.33	15.75
Rainbow Darter	D	I	S M	36	54.00	3.73	0.06	0.21	1.09
Fantail Darter	D	I	C	11	16.50	1.14	0.02	0.08	1.36
Freshwater Drum			M P	1	1.50	0.10	2.40	8.35	1,600.00
<i>Mile Total</i>				966	1,449.00		28.74		
<i>Number of Species</i>				28					
<i>Number of Hybrids</i>				1					

Species List

River Code: 06-100	Stream: Captina Creek	Sample Date: 2009
River Mile: 11.70	Location:	Date Range: 07/29/2009
Time Fished: 1666 sec	Drainage: 141.0 sq mi	
Dist Fished: 0.20 km	Basin: Central Ohio River Tribs 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
Silver Redhorse	R	I	S M	1	1.50	0.16	0.28	1.56	183.00
Black Redhorse	R	I	S I	6	9.00	0.99	1.29	7.31	143.40
Golden Redhorse	R	I	S M	17	25.50	2.79	4.46	25.26	175.00
Northern Hog Sucker	R	I	S M	35	52.50	5.75	6.95	39.36	132.44
Rosyface Shiner	N	I	S I	4	6.00	0.66	0.02	0.13	3.75
Striped Shiner	N	I	S	30	45.00	4.93	0.53	2.99	11.73
Spotfin Shiner	N	I	M	1	1.50	0.16	0.00	0.01	1.00
Sand Shiner	N	I	M M	28	42.00	4.60	0.11	0.64	2.68
Mimic Shiner	N	I	M I	44	66.00	7.22	0.18	1.00	2.68
Silverjaw Minnow	N	I	M	4	6.00	0.66	0.02	0.14	4.00
Bluntnose Minnow	N	O	C T	95	142.50	15.60	0.22	1.23	1.53
Central Stoneroller	N	H	N	101	151.50	16.58	0.56	3.16	3.69
Yellow Bullhead		I	C T	1	1.50	0.16	0.02	0.10	12.00
Rock Bass	S	C	C	10	15.00	1.64	1.08	6.11	72.00
Smallmouth Bass	F	C	C M	5	7.50	0.82	0.39	2.23	52.50
Largemouth Bass	F	C	C	3	4.50	0.49	0.10	0.58	22.67
Green Sunfish	S	I	C T	7	10.50	1.15	0.24	1.34	22.43
Bluegill Sunfish	S	I	C P	8	12.00	1.31	0.32	1.78	26.25
Longear Sunfish	S	I	C M	1	1.50	0.16	0.07	0.40	47.00
Hybrid X Sunfish				1	1.50	0.16	0.03	0.16	19.00
Sauger	F	P	S	1	1.50	0.16	0.39	2.19	257.00
Logperch	D	I	S M	7	10.50	1.15	0.08	0.42	7.17
Johnny Darter	D	I	C	1	1.50	0.16	0.00	0.01	1.00
Greenside Darter	D	I	S M	43	64.50	7.06	0.10	0.54	1.47
Banded Darter	D	I	S I	94	141.00	15.44	0.10	0.57	0.71
Variegate Darter	D	I	S I	18	27.00	2.96	0.07	0.38	2.47
Rainbow Darter	D	I	S M	29	43.50	4.76	0.05	0.27	1.10
Fantail Darter	D	I	C	14	21.00	2.30	0.03	0.15	1.25
<i>Mile Total</i>				609	913.50		17.67		
<i>Number of Species</i>				27					
<i>Number of Hybrids</i>				1					

Species List

River Code: 06-100	Stream: Captina Creek	Sample Date: 2009
River Mile: 6.70	Location: St. Rt. 148, at Captina	Date Range: 07/29/2009
Time Fished: 4291 sec	Drainage: 157.0 sq mi	Thru: 09/15/2009
Dist Fished: 0.40 km	Basin: Central Ohio River Tribs 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
Silver Redhorse	R	I	S M	2	1.50	0.14	0.23	0.80	152.50
Black Redhorse	R	I	S I	19	14.25	1.33	3.97	13.80	278.49
Golden Redhorse	R	I	S M	38	28.50	2.66	6.25	21.74	219.32
Northern Hog Sucker	R	I	S M	132	99.00	9.23	5.75	20.01	58.11
Smallmouth Redhorse	R	I	S M	3	2.25	0.21	0.19	0.65	82.33
Western Blacknose Dace	N	G	S T	2	1.50	0.14	0.00	0.01	2.50
Emerald Shiner	N	I	M	135	101.25	9.44	0.12	0.42	1.21
Silver Shiner	N	I	S I	5	3.75	0.35	0.02	0.06	4.20
Rosyface Shiner	N	I	S I	13	9.75	0.91	0.01	0.05	1.34
Striped Shiner	N	I	S	30	22.50	2.10	0.31	1.07	13.68
Spotfin Shiner	N	I	M	13	9.75	0.91	0.04	0.13	3.73
Sand Shiner	N	I	M M	12	9.00	0.84	0.01	0.05	1.42
Mimic Shiner	N	I	M I	53	39.75	3.71	0.06	0.19	1.38
Bluntnose Minnow	N	O	C T	75	56.25	5.24	0.12	0.43	2.19
Central Stoneroller	N	H	N	426	319.50	29.79	2.14	7.44	6.70
Flathead Catfish	F	P	C	1	0.75	0.07	0.33	1.15	442.00
Stonecat Madtom		I	C I	4	3.00	0.28	0.04	0.14	13.75
Brindled Madtom		I	C I	1	0.75	0.07	0.01	0.02	8.00
Rock Bass	S	C	C	28	21.00	1.96	2.17	7.56	103.51
Smallmouth Bass	F	C	C M	15	11.25	1.05	1.54	5.34	136.40
Largemouth Bass	F	C	C	1	0.75	0.07	0.00	0.01	4.00
Green Sunfish	S	I	C T	1	0.75	0.07	0.01	0.05	17.00
Bluegill Sunfish	S	I	C P	1	0.75	0.07	0.02	0.07	26.00
Longear Sunfish	S	I	C M	12	9.00	0.84	0.35	1.21	38.50
Pumpkinseed Sunfish	S	I	C P	3	2.25	0.21	0.20	0.71	90.67
Green Sf X Hybrid				2	1.50	0.14	0.03	0.11	21.50
Sauger	F	P	S	1	0.75	0.07	0.19	0.66	253.00
Logperch	D	I	S M	19	14.25	1.33	0.14	0.49	9.79
Johnny Darter	D	I	C	5	3.75	0.35	0.01	0.02	1.27
Greenside Darter	D	I	S M	168	126.00	11.75	0.21	0.74	1.69
Banded Darter	D	I	S I	95	71.25	6.64	0.06	0.21	0.86
Variegated Darter	D	I	S I	72	54.00	5.03	0.09	0.30	1.62
Rainbow Darter	D	I	S M	23	17.25	1.61	0.05	0.17	2.83
Fantail Darter	D	I	C	15	11.25	1.05	0.01	0.05	1.16
Sauger X Walleye	E	P		1	0.75	0.07	0.21	0.73	280.00
Freshwater Drum			M P	4	3.00	0.28	3.86	13.44	1,287.50
<i>Mile Total</i>				1,430	1,072.50		28.75		
<i>Number of Species</i>				34					
<i>Number of Hybrids</i>				2					

Species List

River Code: 06-100	Stream: Captina Creek	Sample Date: 2009
River Mile: 3.30	Location: St. Rt. 148, upst. Steinersville	Date Range: 07/29/2009
Time Fished: 4933 sec	Drainage: 163.0 sq mi	Thru: 09/15/2009
Dist Fished: 0.40 km	Basin: Central Ohio River Tribs 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
Silver Redhorse	R	I	S M	5	3.75	0.37	0.80	3.58	213.80
Black Redhorse	R	I	S I	13	9.75	0.96	1.19	5.32	122.21
Golden Redhorse	R	I	S M	24	18.00	1.78	2.78	12.41	154.52
Northern Hog Sucker	R	I	S M	62	46.50	4.59	2.22	9.90	47.72
Smallmouth Redhorse	R	I	S M	5	3.75	0.37	0.09	0.41	24.60
Emerald Shiner	N	I	M	218	163.50	16.14	0.25	1.11	1.52
Silver Shiner	N	I	S I	12	9.00	0.89	0.03	0.12	3.08
Rosyface Shiner	N	I	S I	3	2.25	0.22	0.00	0.01	1.33
Striped Shiner	N	I	S	9	6.75	0.67	0.06	0.25	8.26
Spotfin Shiner	N	I	M	58	43.50	4.29	0.11	0.51	2.61
Sand Shiner	N	I	M M	20	15.00	1.48	0.02	0.07	1.10
Mimic Shiner	N	I	M I	90	67.50	6.66	0.06	0.27	0.88
Bluntnose Minnow	N	O	C T	116	87.00	8.59	0.14	0.61	1.57
Central Stoneroller	N	H	N	228	171.00	16.88	0.58	2.57	3.37
Channel Catfish	F		C	6	4.50	0.44	3.64	16.23	808.33
Yellow Bullhead		I	C T	1	0.75	0.07	0.10	0.44	132.00
Stonecat Madtom		I	C I	1	0.75	0.07	0.00	0.01	4.00
Brindled Madtom		I	C I	2	1.50	0.15	0.00	0.01	2.00
Brook Silverside		I	M M	1	0.75	0.07	0.00	0.00	1.00
Rock Bass	S	C	C	5	3.75	0.37	0.12	0.52	31.20
Smallmouth Bass	F	C	C M	16	12.00	1.18	1.00	4.47	83.51
Spotted Bass	F	C	C	13	9.75	0.96	0.80	3.56	81.83
Largemouth Bass	F	C	C	6	4.50	0.44	0.51	2.26	112.67
Green Sunfish	S	I	C T	7	5.25	0.52	0.14	0.63	26.71
Bluegill Sunfish	S	I	C P	1	0.75	0.07	0.06	0.25	75.00
Longear Sunfish	S	I	C M	8	6.00	0.59	0.16	0.70	26.29
Green Sf X Hybrid				1	0.75	0.07	0.02	0.08	25.00
Sauger	F	P	S	3	2.25	0.22	0.41	1.83	182.00
Walleye	F	P	S	1	0.75	0.07	0.02	0.09	28.00
Logperch	D	I	S M	32	24.00	2.37	0.20	0.88	8.25
Johnny Darter	D	I	C	1	0.75	0.07	0.00	0.01	2.00
Greenside Darter	D	I	S M	112	84.00	8.29	0.10	0.45	1.20
Banded Darter	D	I	S I	136	102.00	10.07	0.08	0.36	0.79
Variegated Darter	D	I	S I	28	21.00	2.07	0.04	0.18	1.93
Rainbow Darter	D	I	S M	75	56.25	5.55	0.07	0.29	1.17
Fantail Darter	D	I	C	18	13.50	1.33	0.02	0.11	1.78
Sauger X Walleye	E	P		5	3.75	0.37	0.73	3.27	195.40
Freshwater Drum			M P	9	6.75	0.67	5.88	26.22	870.44
<i>Mile Total</i>				1,351	1,013.25		22.41		
<i>Number of Species</i>				36					
<i>Number of Hybrids</i>				2					

Species List

River Code: 06-101	Stream: Cat Run	Sample Date: 2009
River Mile: 3.30	Location: ust. T 203	Date Range: 06/30/2009
Time Fished: 4413 sec	Drainage: 9.0 sq mi	Thru: 08/12/2009
Dist Fished: 0.35 km	Basin: Central Ohio River Tribs 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
White Sucker	W	O	S	T	66	60.50	5.86			
Western Blacknose Dace	N	G	S	T	283	248.00	24.01			
Creek Chub	N	G	N	T	160	140.00	13.55			
Central Stoneroller	N	H	N		516	482.25	46.68			
Largemouth Bass	F	C	C		1	1.00	0.10			
Bluegill Sunfish	S	I	C	P	3	3.00	0.29			
Fantail Darter	D	I	C		110	98.25	9.51			
<i>Mile Total</i>					1,139	1,033.00				
<i>Number of Species</i>					7					
<i>Number of Hybrids</i>					0					

Species List

River Code: 06-101	Stream: Cat Run	Sample Date: 2009
River Mile: 0.40	Location: adj. Cat Run Rd.	Date Range: 06/30/2009
Time Fished: 2123 sec	Drainage: 12.9 sq mi	
Dist Fished: 0.20 km	Basin: Central Ohio River Tribs 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	4.50	0.49			
White Sucker	W	O	S	T	13	19.50	2.11			
River Chub	N	I	N	I	1	1.50	0.16			
Western Blacknose Dace	N	G	S	T	23	34.50	3.73			
Creek Chub	N	G	N	T	30	45.00	4.86			
Emerald Shiner	N	I	M		1	1.50	0.16			
Rosyface Shiner	N	I	S	I	18	27.00	2.92			
Striped Shiner	N	I	S		17	25.50	2.76			
Sand Shiner	N	I	M	M	2	3.00	0.32			
Silverjaw Minnow	N	I	M		1	1.50	0.16			
Bluntnose Minnow	N	O	C	T	35	52.50	5.67			
Central Stoneroller	N	H	N		93	139.50	15.07			
Stonecat Madtom		I	C	I	1	1.50	0.16			
Smallmouth Bass	F	C	C	M	1	1.50	0.16			
Johnny Darter	D	I	C		3	4.50	0.49			
Greenside Darter	D	I	S	M	27	40.50	4.38			
Banded Darter	D	I	S	I	6	9.00	0.97			
Variegate Darter	D	I	S	I	1	1.50	0.16			
Rainbow Darter	D	I	S	M	262	393.00	42.46			
Fantail Darter	D	I	C		79	118.50	12.80			
<i>Mile Total</i>					617	925.50				
<i>Number of Species</i>					20					
<i>Number of Hybrids</i>					0					

Species List

River Code: 06-103	Stream: Peavine Creek	Sample Date: 2009
River Mile: 0.10	Location:	Date Range: 06/24/2009
Time Fished: 2558 sec	Drainage: 9.9 sq mi	
Dist Fished: 0.20 km	Basin: Central Ohio River Tribs 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	5	7.50	0.69			
Western Blacknose Dace	N	G	S	T	3	4.50	0.42			
Rosyface Shiner	N	I	S	I	35	52.50	4.86			
Striped Shiner	N	I	S		54	81.00	7.50			
Bluntnose Minnow	N	O	C	T	35	52.50	4.86			
Central Stoneroller	N	H	N		330	495.00	45.83			
Rock Bass	S	C	C		1	1.50	0.14			
Smallmouth Bass	F	C	C	M	5	7.50	0.69			
Greenside Darter	D	I	S	M	51	76.50	7.08			
Banded Darter	D	I	S	I	41	61.50	5.69			
Variagate Darter	D	I	S	I	21	31.50	2.92			
Rainbow Darter	D	I	S	M	113	169.50	15.69			
Fantail Darter	D	I	C		26	39.00	3.61			
<i>Mile Total</i>					720	1,080.00				
<i>Number of Species</i>					13					
<i>Number of Hybrids</i>					0					

Species List

River Code: 06-106	Stream: Bend Fork	Sample Date: 2009
River Mile: 8.40	Location: Twp. Rd. 192	Date Range: 07/07/2009
Time Fished: 1980 sec	Drainage: 9.0 sq mi	
Dist Fished: 0.12 km	Basin: Central Ohio River Tribs 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	15	37.50	0.92			
White Sucker	W	O	S	T	75	187.50	4.62			
River Chub	N	I	N	I	37	92.50	2.28			
Western Blacknose Dace	N	G	S	T	68	170.00	4.18			
Creek Chub	N	G	N	T	111	277.50	6.83			
Rosyface Shiner	N	I	S	I	33	82.50	2.03			
Striped Shiner	N	I	S		210	525.00	12.92			
Silverjaw Minnow	N	I	M		105	262.50	6.46			
Bluntnose Minnow	N	O	C	T	290	725.00	17.85			
Central Stoneroller	N	H	N		428	1,070.00	26.34			
Striped Sh X Creek Chub		I			1	2.50	0.06			
Yellow Bullhead		I	C	T	3	7.50	0.18			
Stonecat Madtom		I	C	I	1	2.50	0.06			
Largemouth Bass	F	C	C		14	35.00	0.86			
Bluegill Sunfish	S	I	C	P	10	25.00	0.62			
Johnny Darter	D	I	C		54	135.00	3.32			
Greenside Darter	D	I	S	M	27	67.50	1.66			
Rainbow Darter	D	I	S	M	25	62.50	1.54			
Fantail Darter	D	I	C		118	295.00	7.26			
<i>Mile Total</i>					1,625	4,062.50				
<i>Number of Species</i>					18					
<i>Number of Hybrids</i>					1					

Species List

Page A87

River Code: 06-106	Stream: Bend Fork	Sample Date: 2009
River Mile: 3.60	Location:	Date Range: 07/07/2009
Time Fished: 5884 sec	Drainage: 19.6 sq mi	Thru: 09/16/2009
Dist Fished: 0.40 km	Basin: Central Ohio River Tribs 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
Black Redhorse	R	I	S I	1	0.75	0.03			
Northern Hog Sucker	R	I	S M	32	24.00	1.03	0.98	6.34	40.94
White Sucker	W	O	S T	55	41.25	1.76	0.43	2.74	28.30
River Chub	N	I	N I	227	170.25	7.28	1.21	7.79	12.39
Western Blacknose Dace	N	G	S T	62	46.50	1.99	0.09	0.57	2.78
Creek Chub	N	G	N T	10	7.50	0.32	0.09	0.58	6.00
Silver Shiner	N	I	S I	8	6.00	0.26	0.04	0.27	5.60
Rosyface Shiner	N	I	S I	74	55.50	2.37	0.12	0.79	2.74
Striped Shiner	N	I	S	150	112.50	4.81	1.46	9.43	14.77
Silverjaw Minnow	N	I	M	1	0.75	0.03			
Bluntnose Minnow	N	O	C T	219	164.25	7.02	0.33	2.12	2.88
Central Stoneroller	N	H	N	1,395	1,046.25	44.74	5.43	35.03	7.09
Hybrid X Minnow				3	2.25	0.10			
Stonecat Madtom		I	C I	1	0.75	0.03	0.08	0.54	55.00
Rock Bass	S	C	C	2	1.50	0.06	0.15	0.99	102.00
Smallmouth Bass	F	C	C M	12	9.00	0.38	2.22	14.34	134.73
Largemouth Bass	F	C	C	1	0.75	0.03	0.01	0.03	3.00
Johnny Darter	D	I	C	16	12.00	0.51	0.03	0.17	2.13
Greenside Darter	D	I	S M	231	173.25	7.41	1.05	6.77	5.98
Banded Darter	D	I	S I	36	27.00	1.15	0.07	0.46	2.47
Variagate Darter	D	I	S I	97	72.75	3.11	0.51	3.28	6.27
Rainbow Darter	D	I	S M	274	205.50	8.79	0.63	4.08	3.06
Fantail Darter	D	I	C	211	158.25	6.77	0.58	3.71	3.17
<i>Mile Total</i>				3,118	2,338.50		15.51		
<i>Number of Species</i>				22					
<i>Number of Hybrids</i>				1					

River Code: 06-106	Stream: Bend Fork	Sample Date: 2009
River Mile: 0.30	Location: first ford near mouth	Date Range: 07/20/2009
Time Fished: 4254 sec	Drainage: 27.0 sq mi	Thru: 09/15/2009
Dist Fished: 0.35 km	Basin: Central Ohio River Tribs	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
Black Redhorse	R	I	S	I	23	23.00	2.38	3.00	20.99	130.43
Golden Redhorse	R	I	S	M	7	6.00	0.62	0.52	3.62	92.00
Northern Hog Sucker	R	I	S	M	36	33.50	3.46	0.87	6.06	26.28
White Sucker	W	O	S	T	21	19.00	1.96	1.17	8.20	64.05
River Chub	N	I	N	I	37	32.00	3.31	0.34	2.39	10.80
Western Blacknose Dace	N	G	S	T	6	4.50	0.47	0.01	0.05	1.60
Creek Chub	N	G	N	T	12	9.50	0.98	0.16	1.14	14.92
Emerald Shiner	N	I	M		11	11.00	1.14	0.01	0.08	1.09
Silver Shiner	N	I	S	I	4	4.00	0.41	0.01	0.04	1.50
Rosyface Shiner	N	I	S	I	124	107.25	11.09	0.17	1.18	1.56
Striped Shiner	N	I	S		66	62.50	6.46	0.79	5.51	12.26
Spotfin Shiner	N	I	M		13	13.00	1.34	0.03	0.18	2.00
Sand Shiner	N	I	M	M	23	18.50	1.91	0.02	0.13	0.96
Mimic Shiner	N	I	M	I	45	43.50	4.50	0.05	0.35	1.18
Bluntnose Minnow	N	O	C	T	89	84.25	8.71	0.20	1.41	2.44
Central Stoneroller	N	H	N		205	183.25	18.95	1.53	10.74	7.91
Yellow Bullhead		I	C	T	1	1.00	0.10	0.12	0.84	120.00
Stonecat Madtom		I	C	I	3	2.75	0.28	0.10	0.72	35.33
Rock Bass	S	C	C		11	9.50	0.98	0.67	4.66	72.00
Smallmouth Bass	F	C	C	M	34	31.50	3.26	3.99	27.91	131.44
Largemouth Bass	F	C	C		1	1.00	0.10	0.00	0.03	4.00
Green Sunfish	S	I	C	T	1	1.00	0.10	0.01	0.08	12.00
Bluegill Sunfish	S	I	C	P	4	4.00	0.41	0.01	0.08	2.75
Logperch	D	I	S	M	1	0.75	0.08	0.02	0.16	31.00
Johnny Darter	D	I	C		7	5.75	0.59	0.01	0.05	1.18
Greenside Darter	D	I	S	M	64	53.50	5.53	0.12	0.86	2.34
Banded Darter	D	I	S	I	56	47.50	4.91	0.05	0.36	1.11
Variagate Darter	D	I	S	I	37	31.25	3.23	0.13	0.93	4.30
Rainbow Darter	D	I	S	M	116	97.00	10.03	0.13	0.92	1.38
Fantail Darter	D	I	C		31	26.00	2.69	0.05	0.35	1.98
<i>Mile Total</i>					1,089	967.25		14.29		
<i>Number of Species</i>					30					
<i>Number of Hybrids</i>					0					

Species List

River Code: 06-106	Stream: Bend Fork	Sample Date: 2009
River Mile: 0.10	Location: at mouth	Date Range: 07/08/2009
Time Fished: 7310 sec	Drainage: 27.0 sq mi	Thru: 09/02/2009
Dist Fished: 0.40 km	Basin: Central Ohio River Tribs 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
Black Redhorse	R	I	S I	8	6.00	0.29	0.85	6.07	142.13
Golden Redhorse	R	I	S M	8	6.00	0.29	0.74	5.24	122.75
Northern Hog Sucker	R	I	S M	35	26.25	1.28	1.37	9.77	52.30
White Sucker	W	O	S T	21	15.75	0.77	0.71	5.02	44.75
River Chub	N	I	N I	58	43.50	2.11	0.49	3.49	11.27
Western Blacknose Dace	N	G	S T	6	4.50	0.22	0.03	0.22	7.00
Creek Chub	N	G	N T	23	17.25	0.84	0.15	1.07	8.70
Silver Shiner	N	I	S I	11	8.25	0.40	0.02	0.12	2.09
Rosyface Shiner	N	I	S I	341	255.75	12.43	0.39	2.79	1.53
Striped Shiner	N	I	S	244	183.00	8.90	1.54	10.93	8.39
Spotfin Shiner	N	I	M	9	6.75	0.33	0.03	0.21	4.44
Sand Shiner	N	I	M M	105	78.75	3.83	0.13	0.94	1.68
Mimic Shiner	N	I	M I	72	54.00	2.62	0.07	0.47	1.21
Fathead Minnow	N	O	C T	5	3.75	0.18	0.02	0.15	5.40
Bluntnose Minnow	N	O	C T	613	459.75	22.35	0.78	5.54	1.69
Central Stoneroller	N	H	N	720	540.00	26.25	4.59	32.65	8.50
Yellow Bullhead		I	C T	3	2.25	0.11	0.30	2.13	132.67
Stonecat Madtom		I	C I	13	9.75	0.47	0.06	0.44	6.38
Brindled Madtom		I	C I	2	1.50	0.07	0.00	0.02	2.00
Rock Bass	S	C	C	3	2.25	0.11	0.34	2.44	152.33
Smallmouth Bass	F	C	C M	18	13.50	0.66	0.77	5.49	57.11
Bluegill Sunfish	S	I	C P	1	0.75	0.04	0.00	0.01	2.00
Logperch	D	I	S M	1	0.75	0.04	0.01	0.10	18.00
Johnny Darter	D	I	C	4	3.00	0.15	0.00	0.03	1.25
Greenside Darter	D	I	S M	54	40.50	1.97	0.09	0.63	2.19
Banded Darter	D	I	S I	88	66.00	3.21	0.09	0.63	1.34
Variagate Darter	D	I	S I	78	58.50	2.84	0.25	1.79	4.29
Rainbow Darter	D	I	S M	129	96.75	4.70	0.14	0.98	1.43
Fantail Darter	D	I	C	69	51.75	2.52	0.09	0.65	1.77
Mottled Sculpin		I	C	1	0.75	0.04	0.00	0.02	3.00
<i>Mile Total</i>				2,743	2,057.25		14.05		
<i>Number of Species</i>				30					
<i>Number of Hybrids</i>				0					

Species List

River Code: 06-108 River Mile: 0.30 Time Fished: 2400 sec Dist Fished: 0.20 km	Stream: Joy Fork Location: Drainage: 5.9 sq mi Basin: Central Ohio River Tribs No of Passes: 1	Sample Date: 2009 Date Range: 06/23/2009 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	14	21.00	1.55			
Western Blacknose Dace	N	G	S	T	273	409.50	30.20			
Creek Chub	N	G	N	T	157	235.50	17.37			
South. Redbelly Dace	N	H	S		1	1.50	0.11			
Redside Dace	N	I	S	I	3	4.50	0.33			
Bluntnose Minnow	N	O	C	T	29	43.50	3.21			
Central Stoneroller	N	H	N		300	450.00	33.19			
Johnny Darter	D	I	C		65	97.50	7.19			
Rainbow Darter	D	I	S	M	7	10.50	0.77			
Fantail Darter	D	I	C		55	82.50	6.08			
<i>Mile Total</i>					904	1,356.00				
<i>Number of Species</i>					10					
<i>Number of Hybrids</i>					0					

Species List

River Code: 06-110	Stream: Crabapple Creek	Sample Date: 2009
River Mile: 0.50	Location:	Date Range: 06/24/2009
Time Fished: 3603 sec	Drainage: 8.2 sq mi	
Dist Fished: 0.20 km	Basin: Central Ohio River Tribs 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	18	27.00	1.45			
White Sucker	W	O	S	T	13	19.50	1.05			
Western Blacknose Dace	N	G	S	T	33	49.50	2.66			
Creek Chub	N	G	N	T	61	91.50	4.92			
South. Redbelly Dace	N	H	S		1	1.50	0.08			
Redside Dace	N	I	S	I	5	7.50	0.40			
Rosyface Shiner	N	I	S	I	10	15.00	0.81			
Striped Shiner	N	I	S		52	78.00	4.19			
Silverjaw Minnow	N	I	M		22	33.00	1.77			
Bluntnose Minnow	N	O	C	T	131	196.50	10.56			
Central Stoneroller	N	H	N		623	934.50	50.20			
Stonecat Madtom		I	C	I	1	1.50	0.08			
Bluegill Sunfish	S	I	C	P	1	1.50	0.08			
Johnny Darter	D	I	C		16	24.00	1.29			
Greenside Darter	D	I	S	M	69	103.50	5.56			
Variegated Darter	D	I	S	I	4	6.00	0.32			
Rainbow Darter	D	I	S	M	52	78.00	4.19			
Fantail Darter	D	I	C		17	25.50	1.37			
Mottled Sculpin		I	C		112	168.00	9.02			
<i>Mile Total</i>					1,241	1,861.50				
<i>Number of Species</i>					19					
<i>Number of Hybrids</i>					0					

Species List

Page A92

River Code: 06-111	Stream: Piney Creek	Sample Date: 2009
River Mile: 0.10	Location:	Date Range: 06/17/2009
Time Fished: 1620 sec	Drainage: 9.9 sq mi	
Dist Fished: 0.15 km	Basin: Central Ohio River Tribs 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	0.47			
Western Blacknose Dace	N	G	S	T	1	2.00	0.23			
Creek Chub	N	G	N	T	49	98.00	11.50			
Rosyface Shiner	N	I	S	I	35	70.00	8.22			
Striped Shiner	N	I	S		7	14.00	1.64			
Sand Shiner	N	I	M	M	8	16.00	1.88			
Silverjaw Minnow	N	I	M		4	8.00	0.94			
Bluntnose Minnow	N	O	C	T	16	32.00	3.76			
Central Stoneroller	N	H	N		139	278.00	32.63			
Yellow Bullhead		I	C	T	1	2.00	0.23			
Green Sunfish	S	I	C	T	1	2.00	0.23			
Bluegill Sunfish	S	I	C	P	1	2.00	0.23			
Johnny Darter	D	I	C		1	2.00	0.23			
Greenside Darter	D	I	S	M	8	16.00	1.88			
Banded Darter	D	I	S	I	10	20.00	2.35			
Variegated Darter	D	I	S	I	1	2.00	0.23			
Rainbow Darter	D	I	S	M	37	74.00	8.69			
Fantail Darter	D	I	C		5	10.00	1.17			
Mottled Sculpin		I	C		100	200.00	23.47			
<i>Mile Total</i>					426	852.00				
<i>Number of Species</i>					19					
<i>Number of Hybrids</i>					0					

Species List

River Code: 06-113 River Mile: 0.20 Time Fished: 2400 sec Dist Fished: 0.20 km	Stream: Casey Run Location: near mouth Drainage: 0.6 sq mi Basin: Central Ohio River Tribs No of Passes: 1	Sample Date: 2009 Date Range: 06/25/2009 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
Western Blacknose Dace	N	G	S	T	16	24.00	30.77			
Creek Chub	N	G	N	T	12	18.00	23.08			
Johnny Darter	D	I	C		1	1.50	1.92			
Fantail Darter	D	I	C		22	33.00	42.31			
Mottled Sculpin		I	C		1	1.50	1.92			
<i>Mile Total</i>					52	78.00				
<i>Number of Species</i>					5					
<i>Number of Hybrids</i>					0					

Species List

River Code: 06-117 River Mile: 9.50 Time Fished: 3120 sec Dist Fished: 0.20 km	Stream: South Fork Captina Creek Location: Drainage: 16.4 sq mi Basin: Central Ohio River Tribs No of Passes: 1	Sample Date: 2009 Date Range: 06/30/2009 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
Black Redhorse	R	I	S	I	8	12.00	0.76			
Golden Redhorse	R	I	S	M	20	30.00	1.89			
Northern Hog Sucker	R	I	S	M	22	33.00	2.08			
White Sucker	W	O	S	T	5	7.50	0.47			
Bigeye Chub	N	I	S	I	5	7.50	0.47			
Creek Chub	N	G	N	T	25	37.50	2.36			
Silver Shiner	N	I	S	I	13	19.50	1.23			
Striped Shiner	N	I	S		223	334.50	21.08			
Spotfin Shiner	N	I	M		8	12.00	0.76			
Sand Shiner	N	I	M	M	14	21.00	1.32			
Silverjaw Minnow	N	I	M		54	81.00	5.10			
Bluntnose Minnow	N	O	C	T	194	291.00	18.34			
Central Stoneroller	N	H	N		253	379.50	23.91			
Yellow Bullhead		I	C	T	3	4.50	0.28			
Rock Bass	S	C	C		4	6.00	0.38			
Smallmouth Bass	F	C	C	M	19	28.50	1.80			
Largemouth Bass	F	C	C		1	1.50	0.09			
Bluegill Sunfish	S	I	C	P	29	43.50	2.74			
Longear Sunfish	S	I	C	M	12	18.00	1.13			
Johnny Darter	D	I	C		16	24.00	1.51			
Greenside Darter	D	I	S	M	22	33.00	2.08			
Banded Darter	D	I	S	I	9	13.50	0.85			
Rainbow Darter	D	I	S	M	19	28.50	1.80			
Fantail Darter	D	I	C		80	120.00	7.56			
<i>Mile Total</i>					1,058	1,587.00				
<i>Number of Species</i>					24					
<i>Number of Hybrids</i>					0					

Species List

Page A95

River Code: 06-117	Stream: South Fork Captina Creek	Sample Date: 2009
River Mile: 3.00	Location: St. Rt. 26	Date Range: 07/21/2009
Time Fished: 4165 sec	Drainage: 33.7 sq mi	Thru: 09/15/2009
Dist Fished: 0.42 km	Basin: Central Ohio River Tribs 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
Quillback	C	O	M	8	5.45	0.29	0.04	0.33	7.50
Black Redhorse	R	I	S I	76	51.82	2.74	4.19	33.92	80.84
Golden Redhorse	R	I	S M	17	11.66	0.62	1.05	8.47	89.41
Northern Hog Sucker	R	I	S M	87	59.32	3.14	0.72	5.83	12.15
White Sucker	W	O	S T	128	87.27	4.61	0.79	6.36	9.00
Western Blacknose Dace	N	G	S T	31	21.41	1.13	0.04	0.32	1.82
Creek Chub	N	G	N T	38	26.86	1.42	0.20	1.61	7.30
Silver Shiner	N	I	S I	32	21.89	1.16	0.10	0.77	4.31
Rosyface Shiner	N	I	S I	21	14.32	0.76	0.04	0.33	2.86
Striped Shiner	N	I	S	139	96.00	5.08	0.72	5.80	7.45
Spotfin Shiner	N	I	M	7	4.77	0.25	0.03	0.23	5.86
Sand Shiner	N	I	M M	124	85.30	4.51	0.16	1.31	1.90
Mimic Shiner	N	I	M I	9	6.41	0.34	0.01	0.11	2.11
Silverjaw Minnow	N	I	M	334	229.77	12.15	0.35	2.86	1.53
Bluntnose Minnow	N	O	C T	933	642.27	33.96	0.89	7.18	1.37
Central Stoneroller	N	H	N	328	228.89	12.10	1.99	16.10	8.71
Stonecat Madtom		I	C I	3	2.11	0.11	0.02	0.13	7.33
Rock Bass	S	C	C	1	0.75	0.04	0.08	0.62	101.00
Smallmouth Bass	F	C	C M	6	4.30	0.23	0.27	2.17	60.42
Largemouth Bass	F	C	C	3	2.05	0.11	0.07	0.56	33.67
Bluegill Sunfish	S	I	C P	30	20.45	1.08	0.14	1.14	6.90
Longear Sunfish	S	I	C M	1	0.68	0.04	0.04	0.36	65.00
Johnny Darter	D	I	C	111	76.77	4.06	0.08	0.64	1.02
Greenside Darter	D	I	S M	206	145.43	7.69	0.27	2.18	1.86
Banded Darter	D	I	S I	16	11.32	0.60	0.02	0.15	1.69
Rainbow Darter	D	I	S M	6	4.36	0.23	0.02	0.13	3.50
Fantail Darter	D	I	C	42	29.86	1.58	0.05	0.41	1.68
<i>Mile Total</i>				2,737	1,891.50		12.35		
<i>Number of Species</i>				27					
<i>Number of Hybrids</i>				0					

Species List

River Code: 06-117	Stream: South Fork Captina Creek	Sample Date: 2009
River Mile: 0.10	Location: Co. Rd. 92, at mouth	Date Range: 07/21/2009
Time Fished: 5572 sec	Drainage: 36.1 sq mi	Thru: 09/14/2009
Dist Fished: 0.40 km	Basin: Central Ohio River Tribs 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
Silver Redhorse	R	I	S M	4	3.00	0.16	0.02	0.19	5.00
Black Redhorse	R	I	S I	13	9.75	0.53	0.44	5.64	45.00
Golden Redhorse	R	I	S M	10	7.50	0.41	0.30	3.81	39.50
Northern Hog Sucker	R	I	S M	119	89.25	4.85	0.92	11.85	10.34
White Sucker	W	O	S T	23	17.25	0.94	0.08	1.06	4.78
Western Blacknose Dace	N	G	S T	1	0.75	0.04	0.00	0.03	3.00
Creek Chub	N	G	N T	18	13.50	0.73	0.11	1.43	8.22
Redside Dace	N	I	S I	1	0.75	0.04	0.00	0.02	2.00
Emerald Shiner	N	I	M	14	10.50	0.57	0.01	0.19	1.36
Silver Shiner	N	I	S I	3	2.25	0.12	0.00	0.04	1.33
Rosyface Shiner	N	I	S I	117	87.75	4.77	0.15	1.86	1.65
Striped Shiner	N	I	S	118	88.50	4.81	0.71	9.07	7.98
Spotfin Shiner	N	I	M	50	37.50	2.04	0.09	1.16	2.41
Sand Shiner	N	I	M M	6	4.50	0.24	0.01	0.12	2.00
Mimic Shiner	N	I	M I	30	22.50	1.22	0.05	0.60	2.07
Silverjaw Minnow	N	I	M	9	6.75	0.37	0.01	0.13	1.44
Bluntnose Minnow	N	O	C T	225	168.75	9.18	0.38	4.88	2.25
Central Stoneroller	N	H	N	661	495.75	26.96	2.06	26.48	4.16
Yellow Bullhead		I	C T	4	3.00	0.16	0.33	4.22	109.50
Stonecat Madtom		I	C I	37	27.75	1.51	0.21	2.75	7.70
Brindled Madtom		I	C I	3	2.25	0.12	0.02	0.28	9.67
Rock Bass	S	C	C	11	8.25	0.45	0.48	6.16	58.09
Smallmouth Bass	F	C	C M	4	3.00	0.16	0.20	2.56	66.25
Largemouth Bass	F	C	C	2	1.50	0.08	0.02	0.24	12.50
Bluegill Sunfish	S	I	C P	9	6.75	0.37	0.06	0.76	8.78
Logperch	D	I	S M	1	0.75	0.04	0.02	0.28	29.00
Johnny Darter	D	I	C	16	12.00	0.65	0.02	0.21	1.36
Greenside Darter	D	I	S M	147	110.25	6.00	0.20	2.56	1.81
Banded Darter	D	I	S I	222	166.50	9.05	0.20	2.54	1.19
Variagate Darter	D	I	S I	65	48.75	2.65	0.25	3.26	5.20
Rainbow Darter	D	I	S M	172	129.00	7.01	0.21	2.67	1.61
Fantail Darter	D	I	C	335	251.25	13.66	0.23	2.90	0.90
Mottled Sculpin		I	C	2	1.50	0.08	0.01	0.10	5.00
<i>Mile Total</i>				2,452	1,839.00		7.79		
<i>Number of Species</i>				33					
<i>Number of Hybrids</i>				0					

Species List

River Code: 06-123	Stream: North Fork Captina Creek	Sample Date: 2009
River Mile: 6.60	Location: St. Rt. 148	Date Range: 06/30/2009
Time Fished: 2100 sec	Drainage: 7.0 sq mi	
Dist Fished: 0.20 km	Basin: Central Ohio River Tribs 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	8	12.00	1.95			
White Sucker	W	O	S	T	45	67.50	10.95			
River Chub	N	I	N	I	1	1.50	0.24			
Western Blacknose Dace	N	G	S	T	37	55.50	9.00			
Creek Chub	N	G	N	T	130	195.00	31.63			
Redside Dace	N	I	S	I	6	9.00	1.46			
Striped Shiner	N	I	S		28	42.00	6.81			
Silverjaw Minnow	N	I	M		22	33.00	5.35			
Bluntnose Minnow	N	O	C	T	24	36.00	5.84			
Central Stoneroller	N	H	N		63	94.50	15.33			
Stonecat Madtom		I	C	I	2	3.00	0.49			
Largemouth Bass	F	C	C		8	12.00	1.95			
Johnny Darter	D	I	C		4	6.00	0.97			
Greenside Darter	D	I	S	M	3	4.50	0.73			
Rainbow Darter	D	I	S	M	5	7.50	1.22			
Fantail Darter	D	I	C		25	37.50	6.08			
<i>Mile Total</i>					411	616.50				
<i>Number of Species</i>					16					
<i>Number of Hybrids</i>					0					

Species List

River Code: 06-123	Stream: North Fork Captina Creek	Sample Date: 2009
River Mile: 3.90	Location: Co. Rd. 26	Date Range: 07/21/2009
Time Fished: 6405 sec	Drainage: 24.3 sq mi	Thru: 09/03/2009
Dist Fished: 0.40 km	Basin: Central Ohio River Tribs 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
Black Redhorse	R	I	S I	63	47.25	4.29	8.60	24.49	182.01
Golden Redhorse	R	I	S M	18	13.50	1.22	3.22	9.17	238.54
Northern Hog Sucker	R	I	S M	95	71.25	6.46	11.79	33.58	165.51
White Sucker	W	O	S T	36	27.00	2.45	4.61	13.12	170.69
River Chub	N	I	N I	2	1.50	0.14	0.05	0.14	32.00
Western Blacknose Dace	N	G	S T	16	12.00	1.09	0.02	0.07	2.00
Creek Chub	N	G	N T	19	14.25	1.29	0.13	0.37	9.00
Silver Shiner	N	I	S I	2	1.50	0.14	0.00	0.01	2.00
Rosyface Shiner	N	I	S I	114	85.50	7.76	0.18	0.52	2.14
Striped Shiner	N	I	S	12	9.00	0.82	0.08	0.24	9.39
Spotfin Shiner	N	I	M	45	33.75	3.06	0.08	0.22	2.32
Sand Shiner	N	I	M M	2	1.50	0.14	0.00	0.01	2.50
Mimic Shiner	N	I	M I	16	12.00	1.09	0.02	0.06	1.63
Silverjaw Minnow	N	I	M	26	19.50	1.77	0.07	0.21	3.69
Bluntnose Minnow	N	O	C T	279	209.25	18.98	0.84	2.38	4.00
Central Stoneroller	N	H	N	278	208.50	18.91	1.10	3.12	5.26
Stonecat Madtom		I	C I	11	8.25	0.75	0.19	0.55	23.53
Rock Bass	S	C	C	9	6.75	0.61	0.63	1.80	93.56
Smallmouth Bass	F	C	C M	24	18.00	1.63	2.57	7.31	142.67
Largemouth Bass	F	C	C	2	1.50	0.14	0.06	0.16	37.00
Green Sunfish	S	I	C T	1	0.75	0.07	0.04	0.11	52.00
Bluegill Sunfish	S	I	C P	10	7.50	0.68	0.14	0.39	18.40
Longear Sunfish	S	I	C M	1	0.75	0.07	0.02	0.07	32.00
Johnny Darter	D	I	C	42	31.50	2.86	0.03	0.08	0.88
Greenside Darter	D	I	S M	235	176.25	15.99	0.52	1.48	2.95
Banded Darter	D	I	S I	29	21.75	1.97	0.03	0.09	1.40
Rainbow Darter	D	I	S M	12	9.00	0.82	0.02	0.05	1.97
Fantail Darter	D	I	C	71	53.25	4.83	0.07	0.20	1.33
<i>Mile Total</i>				1,470	1,102.50		35.11		
<i>Number of Species</i>				28					
<i>Number of Hybrids</i>				0					

Species List

River Code: 06-123	Stream: North Fork Captina Creek	Sample Date: 2009
River Mile: 0.40	Location: dst. Co. Rd. 42	Date Range: 07/14/2009
Time Fished: 3363 sec	Drainage: 33.0 sq mi	Thru: 09/14/2009
Dist Fished: 0.40 km	Basin: Central Ohio River Tribs 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
Black Redhorse	R	I	S I	52	39.00	2.39	3.43	25.42	87.98
Golden Redhorse	R	I	S M	21	15.75	0.96	1.24	9.18	78.67
Northern Hog Sucker	R	I	S M	150	112.50	6.89	2.33	17.28	20.74
White Sucker	W	O	S T	44	33.00	2.02	0.53	3.90	15.95
Western Blacknose Dace	N	G	S T	2	1.50	0.09	0.00	0.02	2.00
Creek Chub	N	G	N T	12	9.00	0.55	0.06	0.48	7.17
Emerald Shiner	N	I	M	23	17.25	1.06	0.03	0.20	1.58
Silver Shiner	N	I	S I	16	12.00	0.73	0.03	0.22	2.50
Rosyface Shiner	N	I	S I	95	71.25	4.36	0.13	0.96	1.82
Striped Shiner	N	I	S	64	48.00	2.94	0.67	4.94	13.89
Spotfin Shiner	N	I	M	50	37.50	2.30	0.12	0.90	3.24
Sand Shiner	N	I	M M	62	46.50	2.85	0.07	0.54	1.56
Mimic Shiner	N	I	M I	137	102.75	6.29	0.16	1.17	1.53
Silverjaw Minnow	N	I	M	88	66.00	4.04	0.14	1.07	2.18
Bluntnose Minnow	N	O	C T	424	318.00	19.48	1.00	7.41	3.14
Central Stoneroller	N	H	N	355	266.25	16.31	1.95	14.45	7.33
Yellow Bullhead		I	C T	3	2.25	0.14	0.41	3.04	182.67
Stonecat Madtom		I	C I	10	7.50	0.46	0.17	1.28	23.06
Rock Bass	S	C	C	2	1.50	0.09	0.20	1.44	130.00
Smallmouth Bass	F	C	C M	3	2.25	0.14	0.11	0.78	46.67
Largemouth Bass	F	C	C	1	0.75	0.05	0.01	0.04	7.00
Yellow Perch			M	1	0.75	0.05	0.01	0.07	12.00
Johnny Darter	D	I	C	26	19.50	1.19	0.02	0.18	1.26
Greenside Darter	D	I	S M	308	231.00	14.15	0.38	2.81	1.65
Banded Darter	D	I	S I	65	48.75	2.99	0.06	0.48	1.31
Variagate Darter	D	I	S I	9	6.75	0.41	0.05	0.37	7.33
Rainbow Darter	D	I	S M	40	30.00	1.84	0.04	0.32	1.45
Fantail Darter	D	I	C	103	77.25	4.73	0.10	0.71	1.23
Mottled Sculpin		I	C	11	8.25	0.51	0.05	0.36	5.82
<i>Mile Total</i>				2,177	1,632.75		13.50		
<i>Number of Species</i>				29					
<i>Number of Hybrids</i>				0					

Species List

River Code: 06-124 River Mile: 0.10 Time Fished: 1500 sec Dist Fished: 0.15 km	Stream: Jakes Run Location: Drainage: 5.1 sq mi Basin: Central Ohio River Tribs No of Passes: 1	Sample Date: 2009 Date Range: 06/30/2009 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
Northern Hog Sucker	R	I	S	M	1	2.00	0.15			
White Sucker	W	O	S	T	38	76.00	5.85			
Western Blacknose Dace	N	G	S	T	60	120.00	9.23			
Creek Chub	N	G	N	T	78	156.00	12.00			
Bluntnose Minnow	N	O	C	T	4	8.00	0.62			
Central Stoneroller	N	H	N		26	52.00	4.00			
Johnny Darter	D	I	C		10	20.00	1.54			
Greenside Darter	D	I	S	M	23	46.00	3.54			
Banded Darter	D	I	S	I	13	26.00	2.00			
Rainbow Darter	D	I	S	M	1	2.00	0.15			
Fantail Darter	D	I	C		366	732.00	56.31			
Mottled Sculpin		I	C		30	60.00	4.62			
<i>Mile Total</i>					650	1,300.00				
<i>Number of Species</i>					12					
<i>Number of Hybrids</i>					0					

Species List

River Code: 06-125	Stream: Long Run	Sample Date: 2009
River Mile: 0.10	Location: St. Rt. 148, at mouth	Date Range: 06/26/2009
Time Fished: 3060 sec	Drainage: 10.7 sq mi	
Dist Fished: 0.20 km	Basin: Central Ohio River Tribs	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
Black Redhorse	R	I	S	I	12	18.00	2.43			
Golden Redhorse	R	I	S	M	4	6.00	0.81			
Northern Hog Sucker	R	I	S	M	20	30.00	4.06			
White Sucker	W	O	S	T	4	6.00	0.81			
Common Carp	G	O	M	T	1	1.50	0.20			
Creek Chub	N	G	N	T	7	10.50	1.42			
Emerald Shiner	N	I	M		4	6.00	0.81			
Silver Shiner	N	I	S	I	2	3.00	0.41			
Rosyface Shiner	N	I	S	I	4	6.00	0.81			
Striped Shiner	N	I	S		10	15.00	2.03			
Spotfin Shiner	N	I	M		4	6.00	0.81			
Sand Shiner	N	I	M	M	1	1.50	0.20			
Silverjaw Minnow	N	I	M		9	13.50	1.83			
Bluntnose Minnow	N	O	C	T	126	189.00	25.56			
Central Stoneroller	N	H	N		28	42.00	5.68			
Yellow Bullhead		I	C	T	8	12.00	1.62			
Stonecat Madtom		I	C	I	6	9.00	1.22			
Rock Bass	S	C	C		3	4.50	0.61			
Smallmouth Bass	F	C	C	M	17	25.50	3.45			
Largemouth Bass	F	C	C		2	3.00	0.41			
Green Sunfish	S	I	C	T	12	18.00	2.43			
Bluegill Sunfish	S	I	C	P	49	73.50	9.94			
Longear Sunfish	S	I	C	M	4	6.00	0.81			
Johnny Darter	D	I	C		3	4.50	0.61			
Greenside Darter	D	I	S	M	105	157.50	21.30			
Banded Darter	D	I	S	I	28	42.00	5.68			
Rainbow Darter	D	I	S	M	10	15.00	2.03			
Fantail Darter	D	I	C		8	12.00	1.62			
Sauger X Walleye	E	P			2	3.00	0.41			
<i>Mile Total</i>					493	739.50				
<i>Number of Species</i>					28					
<i>Number of Hybrids</i>					1					

Appendix Table 8. Index of Biotic Integrity (IBI) metrics and scores for sampling locations in the Captina Creek watershed study area, 2008 and 2009.

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
Captina Creek - (06100)																	
Year: 2009																	
23.20	D	07/14/2009	75	33(5)	4(5)	5(5)	7(5)	7(5)	66(5)	13(5)	11(5)	2.8(3)	80(5)	0.0(5)	663(3)	56	9.8
23.20	D	09/08/2009	75	30(5)	3(3)	4(5)	7(5)	6(5)	41(5)	10(5)	10(5)	1.4(3)	57(5)	0.0(5)	1328(5)	56	9.8
22.10	D	07/13/2009	87	28(5)	2(3)	4(5)	8(5)	7(5)	29(3)	15(5)	14(5)	1.3(3)	47(3)	0.0(5)	1776(5)	52	9.7
22.10	E	09/08/2009	87	29(5)	2(3)	4(5)	9(5)	7(5)	28(3)	13(5)	12(5)	1.3(3)	43(3)	0.0(5)	2063(5)	52	9.5
20.90	D	07/20/2009	87	28(5)	3(3)	4(5)	8(5)	7(5)	56(5)	8(5)	6(5)	3.2(3)	72(5)	0.0(5)	815(5)	56	9.9
20.90	D	09/15/2009	87	29(5)	4(5)	4(5)	7(5)	7(5)	48(5)	15(5)	13(5)	3.4(3)	76(5)	0.1(5)	1133(5)	58	9.9
20.50	D	07/20/2009	96	27(5)	4(5)	4(5)	7(5)	5(5)	67(5)	6(5)	5(5)	1.0(1)	80(5)	0.0(5)	2121(5)	56	9.9
20.40	D	09/14/2009	97	31(5)	4(5)	3(3)	8(5)	7(5)	53(5)	7(5)	6(5)	1.6(3)	71(5)	0.0(5)	1887(5)	56	10.3
17.90	D	07/08/2009	125	29(5)	4(5)	4(3)	7(5)	6(5)	39(5)	26(3)	26(3)	1.9(3)	57(5)	0.1(5)	1286(5)	52	10.0
17.90	E	09/02/2009	125	29(5)	2(3)	5(5)	9(5)	7(5)	59(5)	14(5)	14(5)	2.5(3)	73(5)	0.0(5)	1205(5)	56	10.1
17.60	D	07/16/2009	125	28(5)	3(3)	4(3)	8(5)	6(5)	44(5)	10(5)	10(5)	1.3(3)	53(3)	0.1(3)	3033(5)	50	10.4
17.60	D	09/16/2009	125	30(5)	1(1)	5(5)	8(5)	7(5)	33(3)	19(5)	20(3)	2.4(3)	49(3)	0.0(5)	2930(5)	48	10.8
16.10	D	07/14/2009	127	28(5)	1(1)	4(3)	9(5)	7(5)	44(5)	7(5)	7(5)	0.9(1)	51(3)	0.0(5)	3608(5)	48	10.2
16.10	D	09/16/2009	127	30(5)	3(3)	3(3)	8(5)	7(5)	34(3)	12(5)	11(5)	2.2(3)	44(3)	0.0(5)	2568(5)	50	10.3
11.70	D	07/29/2009	141	27(5)	4(5)	4(3)	5(3)	7(5)	47(5)	17(5)	16(5)	3.1(3)	65(5)	0.9(3)	759(5)	52	9.3
6.70	D	07/29/2009	157	32(5)	5(5)	5(5)	7(5)	7(5)	46(5)	7(5)	7(5)	5.4(5)	65(5)	0.0(5)	852(5)	60	10.0
6.60	D	09/15/2009	157	25(5)	1(1)	4(3)	7(5)	7(5)	42(5)	5(5)	4(5)	1.7(3)	58(5)	0.0(5)	1176(5)	52	9.2
3.40	D	07/29/2009	163	29(5)	2(3)	5(5)	6(5)	7(5)	46(5)	8(5)	8(5)	2.7(3)	67(5)	0.0(5)	906(5)	56	9.9
3.40	D	09/15/2009	163	32(5)	4(5)	5(5)	7(5)	6(5)	31(3)	10(5)	9(5)	4.5(3)	73(5)	0.1(5)	935(5)	56	9.5
Year: 2008																	
25.20	E	07/17/2008	68	27(5)	4(5)	4(5)	5(5)	7(5)	63(5)	14(5)	13(5)	4.3(3)	76(5)	0.0(5)	594(3)	56	9.4
23.10	D	08/25/2008	75	30(5)	4(5)	4(5)	6(5)	7(5)	38(5)	12(5)	8(5)	3.3(3)	72(5)	0.0(5)	1124(5)	58	10.0
22.40	D	08/25/2008	86	30(5)	4(5)	4(5)	7(5)	7(5)	41(5)	13(5)	12(5)	6.4(5)	58(5)	0.0(5)	956(5)	60	9.6

na - Qualitative data, Modified Iwb not applicable.

A102

04/01/2010

♦ - 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 8. Index of Biotic Integrity (IBI) metrics and scores for sampling locations in the Captina Creek watershed study area, 2008 and 2009.

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
16.0	D	08/26/2008	134	28(5)	4(5)	3(3)	7(5)	6(5)	42(5)	7(5)	5(5)	4.1(3)	56(5)	0.0(5)	1341(5)	56	10.1
Bend Fork - (06106)																	
Year: 2009																	
0.30	E	07/20/2009	27	22(5)	1(1)	3(5)	6(5)	7(5)	59(5)	9(5)	6(5)	3.3(3)	70(5)	0.0(5)	666(3)	52	9.0
0.30	E	09/15/2009	27	28(5)	3(3)	4(5)	8(5)	6(5)	46(5)	14(5)	14(5)	5.0(3)	61(5)	0.0(5)	1030(5)	56	9.8
0.10	E	07/08/2009	27	24(5)	1(1)	4(5)	8(5)	6(5)	46(5)	14(5)	13(5)	1.0(1)	57(5)	0.0(5)	1172(5)	52	9.5
0.10	E	09/02/2009	27	28(5)	2(3)	4(5)	9(5)	6(5)	33(3)	29(3)	28(3)	0.7(1)	45(3)	0.0(5)	1937(5)	46	9.8
S. Fk. Captina Creek - (06117)																	
Year: 2009																	
3.00	E	07/21/2009	33	18(3)	1(1)	1(1)	4(5)	5(5)	29(3)	29(3)	24(3)	1.1(3)	49(3)	0.0(5)	396(3)	38	7.8
3.00	E	09/15/2009	33	26(5)	2(3)	5(5)	6(5)	5(5)	28(3)	43(3)	41(1)	0.3(1)	46(3)	0.0(5)	1832(5)	44	9.6
0.10	E	07/21/2009	36	22(5)	1(1)	2(3)	7(5)	7(5)	36(3)	6(5)	5(5)	0.3(1)	57(5)	0.0(5)	1664(5)	48	8.8
0.10	E	09/14/2009	36	31(5)	2(3)	5(5)	8(5)	6(5)	47(5)	15(5)	15(5)	1.0(3)	65(5)	0.0(5)	1608(5)	56	10.2
N. Fk. Captina Creek - (06123)																	
Year: 2009																	
3.90	E	07/21/2009	24	25(5)	3(3)	4(5)	6(5)	5(5)	48(5)	17(5)	13(5)	2.6(3)	64(5)	0.0(5)	573(3)	54	9.1
3.90	E	09/03/2009	24	27(5)	3(3)	4(5)	7(5)	5(5)	41(5)	27(5)	25(3)	2.3(3)	51(3)	0.0(5)	1106(5)	52	9.5
0.40	E	07/14/2009	33	21(5)	0(1)	3(3)	5(5)	6(5)	28(3)	20(5)	20(3)	0.0(1)	50(3)	0.0(5)	692(3)	42	8.4
0.40	E	09/14/2009	33	28(5)	1(1)	4(5)	7(5)	6(5)	43(5)	22(5)	21(3)	0.4(1)	66(5)	0.0(5)	1914(5)	50	10.2

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 8. Index of Biotic Integrity (IBI) metrics and scores for sampling locations in the Captina Creek watershed study area, 2008 and 2009.

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			
<i>Peavine Creek - (06-103)</i>																	
Year: 2009																	
0.10	E	06/24/2009	9.9	13(3)	5(3)	2(3)	7(5)	5(5)	8(5)	5(5)	5(5)	5(5)	48(5)	0.0(5)	1023(5)	54	
<i>Bend Fork - (06-106)</i>																	
Year: 2009																	
8.40	E	07/07/2009	9.0	18(5)	8(5)	2(3)	6(5)	4(5)	7(5)	34(5)	23(3)	35(3)	39(3)	0.2(3)	2695(5)	50	
3.60	E	07/07/2009	19.6	20(5)	8(5)	2(3)	*(5)	6(5)	10(5)	9(5)	7(5)	7(5)	50(5)	0.1(5)	1746(5)	58	
3.60	E	09/16/2009	19.6	19(5)	8(5)	2(3)	*(5)	6(5)	11(5)	12(5)	10(5)	8(5)	39(3)	0.1(5)	2412(5)	56	
<i>Joy Fork - (06-108)</i>																	
Year: 2009																	
0.30	E	06/23/2009	5.9	10(3)	6(5)	4(5)	2(1)	3(3)	5(3)	52(3)	5(5)	28(5)	14(1)	0.1(5)	647(5)	44	
<i>S. Fk. Captina Creek - (06-117)</i>																	
Year: 2009																	
9.50	E	06/30/2009	16.4	24(5)	9(5)	1(1)	*(5)	5(5)	10(5)	21(5)	19(3)	27(5)	53(5)	0.0(5)	1247(5)	54	
<i>N. Fk. Captina Creek - (06-123)</i>																	
Year: 2009																	
6.60	E	06/30/2009	7.0	16(5)	8(5)	3(3)	6(5)	4(5)	7(5)	57(1)	17(3)	44(3)	25(3)	0.2(5)	263(3)	46	
<i>Jakes Run - (06-124)</i>																	
Year: 2009																	
0.10	E	06/30/2009	5.1	12(5)	4(3)	3(3)	4(3)	6(5)	6(5)	28(5)	7(5)	14(5)	68(5)	0.0(5)	940(5)	54	

◆ - 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 8. Index of Biotic Integrity (IBI) metrics and scores for sampling locations in the Captina Creek watershed study area, 2008 and 2009.

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			
<i>Cat Run - (06-101)</i>																	
Year: 2009																	
3.30	E	06/30/2009	9.0	7(3)	3(1)	2(3)	0(1)	1(1)	2(1)	37(3)	6(5)	11(5)	9(1)	0.0(5)	896(5)	34	
3.30	E	08/12/2009	9.0	5(1)	3(1)	2(3)	0(1)	1(1)	2(1)	57(1)	5(5)	19(5)	11(1)	0.0(5)	273(3)	28	
0.40	E	06/30/2009	12.9	20(5)	10(5)	2(3)	*(5)	6(5)	9(5)	16(5)	8(5)	11(5)	68(5)	0.2(5)	774(5)	58	
<i>Crabapple Creek - (06-110)</i>																	
Year: 2009																	
0.50	E	06/24/2009	8.2	19(5)	9(5)	5(5)	7(5)	6(5)	10(5)	19(5)	12(5)	19(5)	31(3)	0.1(5)	1505(5)	58	
<i>Piney Creek - (06-111)</i>																	
Year: 2009																	
0.10	E	06/17/2009	9.9	19(5)	8(5)	3(3)	6(5)	7(5)	8(5)	16(5)	4(5)	17(5)	51(5)	0.2(5)	712(3)	56	
<i>Casey Run - (06-113)</i>																	
Year: 2009																	
0.20	E	06/25/2009	0.6	5(3)	2(3)	3(3)	0(1)	3(5)	1(3)	54(3)	0(5)	25(5)	46(5)	0.0(5)	36(3) *	44	
<i>Long Run - (06-125)</i>																	
Year: 2009																	
0.10	E	06/26/2009	10.7	26(5)	9(5)	1(1)	*(5)	5(5)	9(5)	32(5)	27(3)	32(3)	61(5)	0.0(5)	497(3)	50	

◆ - 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 9. Macroinvertebrate sampling results for each sampling location in the Captina Creek watershed study area, 2008 and 2009.

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Captina Creek

Collection Date: 08/27/2009 River Code: 06-100 RM: 23.12

St. Rt. 148, dst. Casey Run

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
00401	<i>Spongillidae</i>	+	59110	<i>Ceraclea ancylus</i>	+
01801	<i>Turbellaria</i>	4 +	59310	<i>Mystacides sepulchralis</i>	+
02600	<i>Nematomorpha</i>	6	59570	<i>Oecetis nocturna</i>	+
03360	<i>Plumatella sp</i>	1 +	59970	<i>Petrophila sp</i>	2 +
03600	<i>Oligochaeta</i>	+	60300	<i>Dineutus sp</i>	+
05800	<i>Caecidotea sp</i>	+	60400	<i>Gyrinus sp</i>	+
06201	<i>Hyaella azteca</i>	+	60900	<i>Peltodytes sp</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	63300	<i>Hydroporini</i>	+
08601	<i>Hydrachnidia</i>	2 +	65800	<i>Berosus sp</i>	+
11120	<i>Baetis flavistriga</i>	+	68025	<i>Ectopria sp</i>	+
11130	<i>Baetis intercalaris</i>	11 +	68075	<i>Psephenus herricki</i>	3 +
11200	<i>Callibaetis sp</i>	+	68130	<i>Helichus sp</i>	+
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+	68601	<i>Ancyronyx variegata</i>	+
11650	<i>Proclaeon sp (w/ hindwing pads)</i>	+	68708	<i>Dubiraphia vittata group</i>	+
12200	<i>Isonychia sp</i>	11 +	68901	<i>Macronychus glabratus</i>	8 +
13000	<i>Leucrocota sp</i>	2 +	69400	<i>Stenelmis sp</i>	2 +
13100	<i>Nixe sp</i>	+	70600	<i>Antocha sp</i>	4 +
13400	<i>Stenacron sp</i>	68 +	72340	<i>Dixella sp</i>	+
13521	<i>Stenonema femoratum</i>	+	72700	<i>Anopheles sp</i>	+
13561	<i>Maccaffertium pulchellum</i>	54 +	74501	<i>Ceratopogonidae</i>	2
13590	<i>Maccaffertium vicarium</i>	16 +	77130	<i>Ablabesmyia rhamphe group</i>	13
16700	<i>Tricorythodes sp</i>	15 +	77500	<i>Conchapelopia sp</i>	80 +
17200	<i>Caenis sp</i>	402 +	77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	13
18700	<i>Hexagenia sp</i>	+	78450	<i>Nilotanypus fimbriatus</i>	24
21200	<i>Calopteryx sp</i>	+	78655	<i>Procladius (Holotanypus) sp</i>	+
22001	<i>Coenagrionidae</i>	+	80370	<i>Corynoneura lobata</i>	32
22300	<i>Argia sp</i>	12 +	80430	<i>Cricotopus (C.) tremulus group</i>	27
23905	<i>Boyeria grafiana</i>	+	80480	<i>Cricotopus (Isocladius) sp</i>	+
23909	<i>Boyeria vinosa</i>	1 +	81280	<i>Nanocladius (Plecopteracoluthus) downesi</i>	+
34120	<i>Acroneuria carolinensis</i>	5 +	81460	<i>Orthocladius (O.) sp</i>	13
34130	<i>Acroneuria frisoni</i>	3 +	81650	<i>Parametriocnemus sp</i>	13 +
36500	<i>Sweltsa sp</i>	+	82141	<i>Thienemanniella xena</i>	24
44501	<i>Corixidae</i>	+	82820	<i>Cryptochironomus sp</i>	+
47600	<i>Sialis sp</i>	+	83003	<i>Dicrotendipes fumidus</i>	13
48410	<i>Corydalus cornutus</i>	3 +	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	67 +
50315	<i>Chimarra obscura</i>	+	83840	<i>Microtendipes pedellus group</i>	+
51400	<i>Nyctiophylax sp</i>	+	84155	<i>Paralauterborniella nigrohalteralis</i>	+
51600	<i>Polycentropus sp</i>	+	84300	<i>Phaenopsectra obediens group</i>	13
52200	<i>Cheumatopsyche sp</i>	115 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	40
52430	<i>Ceratopsyche morosa group</i>	24 +	84460	<i>Polypedilum (P.) fallax group</i>	13
52540	<i>Hydropsyche dicantha</i>	1 +	84470	<i>Polypedilum (P.) illinoense</i>	+
53800	<i>Hydroptila sp</i>	+	85230	<i>Cladotanytarsus mancus group</i>	+
57900	<i>Pycnopsyche sp</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	13
58505	<i>Helicopsyche borealis</i>	9 +			

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

Site: Captina Creek
St. Rt. 148, dst. Casey Run

Collection Date: 08/27/2009 River Code: 06-100 RM: 23.12

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
85625	<i>Rheotanytarsus sp</i>	295			
85720	<i>Stempellinella fimbriata</i>	16			
85752	<i>Sublettea coffmani</i>	27			
85800	<i>Tanytarsus sp</i>	+			
85802	<i>Tanytarsus curticornis</i>	27			
85821	<i>Tanytarsus glabrescens group sp 7</i>	281 +			
85840	<i>Tanytarsus sepp</i>	121			
86401	<i>Atherix lantha</i>	1 +			
87540	<i>Hemerodromia sp</i>	2			
94400	<i>Fossaria sp</i>	+			
95100	<i>Physella sp</i>	+			
96900	<i>Ferrissia sp</i>	17 +			
98200	<i>Pisidium sp</i>	1			
98600	<i>Sphaerium sp</i>	+			

No. Quantitative Taxa: 52 Total Taxa: 101
 No. Qualitative Taxa: 80 ICI: **54**
 Number of Organisms: 1972 Qual EPT: 30

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Captina Creek

Collection Date: 08/27/2009 River Code: 06-100 RM: 22.10

St. Rt. 148, dst. Perkins Run

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01200	<i>Cordylophora lacustris</i>	1	68075	<i>Psephenus herricki</i>	6 +
01801	<i>Turbellaria</i>	4 +	68130	<i>Helichus sp</i>	+
03360	<i>Plumatella sp</i>	+	68700	<i>Dubiraphia sp</i>	+
03600	<i>Oligochaeta</i>	4 +	68901	<i>Macronychus glabratus</i>	3
04964	<i>Mooreobdella microstoma</i>	+	69400	<i>Stenelmis sp</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	72700	<i>Anopheles sp</i>	+
11130	<i>Baetis intercalaris</i>	+	74100	<i>Simulium sp</i>	+
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	74501	<i>Ceratopogonidae</i>	28 +
11651	<i>Procloeon sp (w/o hindwing pads)</i>	2 +	77120	<i>Ablabesmyia mallochii</i>	15
11670	<i>Procloeon viridoculare</i>	+	77500	<i>Conchapelopia sp</i>	15 +
12200	<i>Isonychia sp</i>	+	78655	<i>Procladius (Holotanypus) sp</i>	15 +
13000	<i>Leucrocuta sp</i>	+	80370	<i>Corynoneura lobata</i>	12
13400	<i>Stenacron sp</i>	+	80430	<i>Cricotopus (C.) tremulus group</i>	8
13521	<i>Stenonema femoratum</i>	+	81650	<i>Parametriocnemus sp</i>	+
13561	<i>Maccaffertium pulchellum</i>	+	82730	<i>Chironomus (C.) decorus group</i>	8 +
16700	<i>Tricorythodes sp</i>	11 +	82820	<i>Cryptochironomus sp</i>	8 +
17200	<i>Caenis sp</i>	113 +	82885	<i>Cryptotendipes pseudotener</i>	+
18700	<i>Hexagenia sp</i>	+	83040	<i>Dicrotendipes neomodestus</i>	15
21200	<i>Calopteryx sp</i>	1 +	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	+
22001	<i>Coenagrionidae</i>	+	83840	<i>Microtendipes pedellus group</i>	23
22300	<i>Argia sp</i>	2 +	84155	<i>Paralauterborniella nigrohalteralis</i>	8 +
23909	<i>Boyeria vinosa</i>	+	84210	<i>Paratendipes albimanus or P. duplicatus</i>	68
34120	<i>Acroneuria carolinensis</i>	1	84300	<i>Phaenopsectra obediens group</i>	23
34130	<i>Acroneuria frisoni</i>	1 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	+
36500	<i>Sweltsa sp</i>	+	84460	<i>Polypedilum (P.) fallax group</i>	8
42700	<i>Belostoma sp</i>	+	84470	<i>Polypedilum (P.) illinoense</i>	+
45100	<i>Palmacorixa sp</i>	+	84520	<i>Polypedilum (Tripodura) halterale group</i>	+
48410	<i>Corydalus cornutus</i>	+	84750	<i>Stictochironomus sp</i>	+
50315	<i>Chimarra obscura</i>	+	85230	<i>Cladotanytarsus mancus group</i>	15
51400	<i>Nyctiophylax sp</i>	+	85500	<i>Paratanytarsus sp</i>	8
51600	<i>Polycentropus sp</i>	+	85625	<i>Rheotanytarsus sp</i>	30 +
52200	<i>Cheumatopsyche sp</i>	7 +	85720	<i>Stempellinella fimbriata</i>	4
52430	<i>Ceratopsyche morosa group</i>	+	85800	<i>Tanytarsus sp</i>	114 +
52540	<i>Hydropsyche dicantha</i>	+	85815	<i>Tanytarsus glabrescens group sp 1</i>	15
53800	<i>Hydroptila sp</i>	1 +	85821	<i>Tanytarsus glabrescens group sp 7</i>	137
57900	<i>Pycnopsyche sp</i>	+	85840	<i>Tanytarsus sepp</i>	23
58505	<i>Helicopsyche borealis</i>	+	86401	<i>Atherix lantha</i>	+
59110	<i>Ceraclea ancylus</i>	+	87540	<i>Hemerodromia sp</i>	25
59310	<i>Mystacides sepulchralis</i>	+	95100	<i>Physella sp</i>	60 +
59970	<i>Petrophila sp</i>	+	96900	<i>Ferrissia sp</i>	18 +
60300	<i>Dineutus sp</i>	+	97601	<i>Corbicula fluminea</i>	8 +
60900	<i>Peltodytes sp</i>	+	98600	<i>Sphaerium sp</i>	+
63900	<i>Laccophilus sp</i>	+			
67800	<i>Tropisternus sp</i>	+			

Collection Date: 08/27/2009 River Code: 06-100 RM: 22.10

Site: Captina Creek
St. Rt. 148, dst. Perkins Run

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
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No. Quantitative Taxa: 40 Total Taxa: 86

No. Qualitative Taxa: 68 ICI: **40**

Number of Organisms: 868 Qual EPT: 25

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Captina Creek

Collection Date: 08/26/2009 River Code: 06-100 RM: 20.90

adj. St. Rt. 148, dst. OVC

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01320	<i>Hydra sp</i>	1	59970	<i>Petrophila sp</i>	2 +
01801	<i>Turbellaria</i>	1	60300	<i>Dineutus sp</i>	+
03360	<i>Plumatella sp</i>	1	60900	<i>Peltodytes sp</i>	+
03600	<i>Oligochaeta</i>	+	63900	<i>Laccophilus sp</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	65700	<i>Anacaena sp</i>	1
08601	<i>Hydrachnidia</i>	6 +	67800	<i>Tropisternus sp</i>	+
11119	<i>Plauditus dubius or P. virilis</i>	+	68075	<i>Psephenus herricki</i>	1 +
11130	<i>Baetis intercalaris</i>	+	68130	<i>Helichus sp</i>	2
11200	<i>Callibaetis sp</i>	+	68601	<i>Ancyronyx variegata</i>	+
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+	68708	<i>Dubiraphia vittata group</i>	+
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	68901	<i>Macronychus glabratus</i>	3
11670	<i>Procloeon viridoculare</i>	+	69225	<i>Optioservus fastiditus</i>	+
12200	<i>Isonychia sp</i>	+	69400	<i>Stenelmis sp</i>	21 +
13000	<i>Leucrocuta sp</i>	2 +	69930	<i>Lampyridae</i>	+
13400	<i>Stenacron sp</i>	20 +	70600	<i>Antocha sp</i>	1
13561	<i>Maccaffertium pulchellum</i>	2	71100	<i>Hexatoma sp</i>	+
14950	<i>Leptophlebia sp or Paraleptophlebia sp</i>	+	72340	<i>Dixella sp</i>	+
16700	<i>Tricorythodes sp</i>	112 +	72700	<i>Anopheles sp</i>	+
17200	<i>Caenis sp</i>	360 +	77500	<i>Conchapelopia sp</i>	182 +
18600	<i>Ephemera sp</i>	+	77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	46
18700	<i>Hexagenia sp</i>	+	78450	<i>Nilotanytus fimbriatus</i>	48 +
22001	<i>Coenagrionidae</i>	+	78655	<i>Procladius (Holotanytus) sp</i>	+
22300	<i>Argia sp</i>	2 +	80360	<i>Corynoneura "celeripes" (sensu Simpson & Bode, 1980)</i>	32
23909	<i>Boyeria vinosa</i>	+	80370	<i>Corynoneura lobata</i>	32
26700	<i>Macromia sp</i>	+	80410	<i>Cricotopus (C.) sp</i>	+
27400	<i>Neurocordulia sp</i>	+	80420	<i>Cricotopus (C.) bicinctus</i>	+
34130	<i>Acroneuria frisoni</i>	2	80430	<i>Cricotopus (C.) tremulus group</i>	46 +
43300	<i>Ranatra sp</i>	+	83040	<i>Dicrotendipes neomodestus</i>	46 +
45100	<i>Palmacorixa sp</i>	+	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	46
47600	<i>Sialis sp</i>	1 +	83840	<i>Microtendipes pedellus group</i>	46
48410	<i>Corydalus cornutus</i>	2 +	84302	<i>Phaenopsectra punctipes</i>	+
50315	<i>Chimarra obscura</i>	+	84450	<i>Polypedilum (Uresipedilum) flavum</i>	91
51300	<i>Neureclipsis sp</i>	1	84460	<i>Polypedilum (P.) fallax group</i>	46
51400	<i>Nyctiophylax sp</i>	+	85230	<i>Cladotanytarsus mancus group</i>	+
51600	<i>Polycentropus sp</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	46
52200	<i>Cheumatopsyche sp</i>	153 +	85625	<i>Rheotanytarsus sp</i>	2191 +
52430	<i>Ceratopsyche morosa group</i>	24 +	85720	<i>Stempellinella fimbriata</i>	16
52540	<i>Hydropsyche dicantha</i>	2 +	85752	<i>Sublettea coffmani</i>	137
53800	<i>Hydroptila sp</i>	24 +	85800	<i>Tanytarsus sp</i>	274 +
57900	<i>Pycnopsyche sp</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	1004 +
58505	<i>Helicopsyche borealis</i>	+	85840	<i>Tanytarsus sepp</i>	137 +
59110	<i>Ceraclea ancylus</i>	+	86100	<i>Chrysops sp</i>	+
59300	<i>Mystacides sp</i>	+			
59500	<i>Oecetis sp</i>	+			

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

Site: Captina Creek
adj. St. Rt. 148, dst. OVC

Collection Date: 08/26/2009 River Code: 06-100 RM: 20.90

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
87540	<i>Hemerodromia sp</i>	10			
95100	<i>Physella sp</i>	1 +			
96900	<i>Ferrissia sp</i>	35 +			
97601	<i>Corbicula fluminea</i>	+			

No. Quantitative Taxa: 46 Total Taxa: 90
No. Qualitative Taxa: 69 ICI: **48**
Number of Organisms: 5259 Qual EPT: 26

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Captina Creek

Collection Date: 08/26/2009 River Code: 06-100 RM: 20.54

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
03600	<i>Oligochaeta</i>	+	78655	<i>Procladius (Holotanypus) sp</i>	+
08200	<i>Orconectes sp</i>	+	80410	<i>Cricotopus (C.) sp</i>	+
11119	<i>Plauditus dubius or P. virilis</i>	+	80420	<i>Cricotopus (C.) bicinctus</i>	+
11130	<i>Baetis intercalaris</i>	+	80430	<i>Cricotopus (C.) tremulus group</i>	+
11150	<i>Pseudocloeon propinquum</i>	+	81280	<i>Nanocladius (Plecopteracoluthus) downesi</i>	+
11200	<i>Callibaetis sp</i>	+	81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	+
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	82885	<i>Cryptotendipes pseudotener</i>	+
12200	<i>Isonychia sp</i>	+	83003	<i>Dicrotendipes fumidus</i>	+
13000	<i>Leucrocota sp</i>	+	83040	<i>Dicrotendipes neomodestus</i>	+
13400	<i>Stenacron sp</i>	+	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	+
13590	<i>Maccaffertium vicarium</i>	+			
16700	<i>Tricorythodes sp</i>	+	84210	<i>Paratendipes albimanus or P. duplicatus</i>	+
17200	<i>Caenis sp</i>	+	84470	<i>Polypedilum (P.) illinoense</i>	+
18600	<i>Ephemera sp</i>	+	84520	<i>Polypedilum (Tripodura) halterale group</i>	+
21200	<i>Calopteryx sp</i>	+	85500	<i>Paratanytarsus sp</i>	+
22001	<i>Coenagrionidae</i>	+	85625	<i>Rheotanytarsus sp</i>	+
22300	<i>Argia sp</i>	+	94400	<i>Fossaria sp</i>	+
23905	<i>Boyeria grafiana</i>	+	95100	<i>Physella sp</i>	+
23909	<i>Boyeria vinosa</i>	+	96900	<i>Ferrissia sp</i>	+
26700	<i>Macromia sp</i>	+			
34130	<i>Acroneuria frisoni</i>	+	No. Quantitative Taxa: 0		Total Taxa: 62
45100	<i>Palmacorixa sp</i>	+	No. Qualitative Taxa: 62		ICI:
48410	<i>Corydalus cornutus</i>	+	Number of Organisms: 0		Qual EPT: 21
50315	<i>Chimarra obscura</i>	+			
51400	<i>Nyctiophylax sp</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52540	<i>Hydropsyche dicantha</i>	+			
58505	<i>Helicopsyche borealis</i>	+			
59110	<i>Ceraclea ancylus</i>	+			
59970	<i>Petrophila sp</i>	+			
60300	<i>Dineutus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68702	<i>Dubiraphia bivittata</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
68901	<i>Macronychus glabratus</i>	+			
69210	<i>Optioservus ampliatus</i>	+			
69400	<i>Stenelmis sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74501	<i>Ceratopogonidae</i>	+			
77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	+			
78450	<i>Nilotanypus fimbriatus</i>	+			

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Captina Creek

Collection Date: 08/26/2009 River Code: 06-100 RM: 17.30

dst. Bend Fork

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	3 +	67800	<i>Tropisternus sp</i>	+
03360	<i>Plumatella sp</i>	+	68075	<i>Psephenus herricki</i>	1 +
03600	<i>Oligochaeta</i>	16 +	68130	<i>Helichus sp</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	68708	<i>Dubiraphia vittata group</i>	+
11014	<i>Acentrella turbida</i>	+	69210	<i>Optioservus ampliatus</i>	+
11130	<i>Baetis intercalaris</i>	9 +	69400	<i>Stenelmis sp</i>	+
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	70600	<i>Antocha sp</i>	1
11670	<i>Procloeon viridoculare</i>	+	71900	<i>Tipula sp</i>	+
12200	<i>Isonychia sp</i>	+	72700	<i>Anopheles sp</i>	+
13000	<i>Leucrocuta sp</i>	7 +	74100	<i>Simulium sp</i>	+
13400	<i>Stenacron sp</i>	59 +	74501	<i>Ceratopogonidae</i>	+
13521	<i>Stenonema femoratum</i>	+	77120	<i>Ablabesmyia mallochi</i>	+
13561	<i>Maccaffertium pulchellum</i>	42 +	77500	<i>Conchapelopia sp</i>	125 +
16700	<i>Tricorythodes sp</i>	33	77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	36 +
17200	<i>Caenis sp</i>	139 +			
18750	<i>Hexagenia limbata</i>	+	78140	<i>Labrundinia pilosella</i>	8 +
21200	<i>Calopteryx sp</i>	+	78401	<i>Natarsia species A (sensu Roback, 1978)</i>	+
22001	<i>Coenagrionidae</i>	+	78450	<i>Nilotanytus fimbriatus</i>	16
22300	<i>Argia sp</i>	+	78655	<i>Procladius (Holotanytus) sp</i>	+
23909	<i>Boyeria vinosa</i>	+	80360	<i>Corynoneura "celeripes" (sensu Simpson & Bode, 1980)</i>	8
25510	<i>Stylogomphus albistylus</i>	+	80370	<i>Corynoneura lobata</i>	88
27400	<i>Neurocordulia sp</i>	+	80410	<i>Cricotopus (C.) sp</i>	+
34130	<i>Acroneuria frisoni</i>	5 +	81270	<i>Nanocladius (N.) spinipennis</i>	18
45100	<i>Palmacorixa sp</i>	+	81280	<i>Nanocladius (Plecopteracoluthus) downesi</i>	36
45300	<i>Sigara sp</i>	+	82121	<i>Thienemanniella lobapodema</i>	8
45400	<i>Trichocorixa sp</i>	+	82141	<i>Thienemanniella xena</i>	8
47600	<i>Sialis sp</i>	+	83003	<i>Dicrotendipes fumidus</i>	18
48410	<i>Corydalus cornutus</i>	2 +	83040	<i>Dicrotendipes neomodestus</i>	36 +
50301	<i>Chimarra aterrima</i>	+	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	+
50315	<i>Chimarra obscura</i>	+	83900	<i>Nilothauma sp</i>	18
51400	<i>Nyctiophylax sp</i>	+	84060	<i>Parachironomus pectinatellae</i>	18
51600	<i>Polycentropus sp</i>	+	84155	<i>Paralauterborniella nigrohalteralis</i>	+
52200	<i>Cheumatopsyche sp</i>	21 +	84200	<i>Paratendipes sp</i>	+
52430	<i>Ceratopsyche morosa group</i>	4 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	36 +
52540	<i>Hydropsyche dicantha</i>	+	84470	<i>Polypedilum (P.) illinoense</i>	+
53800	<i>Hydroptila sp</i>	4 +	85500	<i>Paratanytarsus sp</i>	+
57900	<i>Pycnopsyche sp</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	36
58505	<i>Helicopsyche borealis</i>	+	85625	<i>Rheotanytarsus sp</i>	481 +
59110	<i>Ceraclea ancylus</i>	+	85720	<i>Stempellinella fimbriata</i>	24
59580	<i>Oecetis persimilis</i>	1	85752	<i>Sublettea coffmani</i>	36
59970	<i>Petrophila sp</i>	1 +	85800	<i>Tanytarsus sp</i>	36 +
60300	<i>Dineutus sp</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	392
63300	<i>Hydroporini</i>	+	85840	<i>Tanytarsus sepp</i>	89 +
65800	<i>Berosus sp</i>	+			

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

Site: Captina Creek
dst. Bend Fork

Collection Date: 08/26/2009 River Code: 06-100 RM: 17.30

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
86100	<i>Chrysops sp</i>	+			
86401	<i>Atherix lantha</i>	+			
87400	<i>Stratiomys sp</i>	+			
95100	<i>Physella sp</i>	+			
96900	<i>Ferrissia sp</i>	13 +			
97601	<i>Corbicula fluminea</i>	+			
98600	<i>Sphaerium sp</i>	+			

No. Quantitative Taxa: 40 Total Taxa: 93

No. Qualitative Taxa: 76 ICI: **48**

Number of Organisms: 1932 Qual EPT: 23

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

Site: Captina Creek

Collection Date: 08/26/2009 River Code: 06-100 RM: 16.20

dst. St. Rt. 148 at new gage

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01320	<i>Hydra sp</i>	16	68130	<i>Helichus sp</i>	+
01801	<i>Turbellaria</i>	+	68601	<i>Ancyronyx variegata</i>	+
03360	<i>Plumatella sp</i>	1 +	68708	<i>Dubiraphia vittata group</i>	+
03600	<i>Oligochaeta</i>	73 +	68901	<i>Macronychus glabratus</i>	1 +
06201	<i>Hyaella azteca</i>	+	69400	<i>Stenelmis sp</i>	6 +
08601	<i>Hydrachnidia</i>	81	70600	<i>Antocha sp</i>	1 +
11119	<i>Plauditus dubius or P. virilis</i>	1	72700	<i>Anopheles sp</i>	+
11120	<i>Baetis flavistriga</i>	16	74100	<i>Simulium sp</i>	8 +
11130	<i>Baetis intercalaris</i>	371 +	74501	<i>Ceratopogonidae</i>	+
11150	<i>Pseudocloeon propinquum</i>	+	77120	<i>Ablabesmyia mallochi</i>	+
11200	<i>Callibaetis sp</i>	+	77500	<i>Conchapelopia sp</i>	74 +
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	78402	<i>Natarsia baltimoreus</i>	+
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+	78450	<i>Nilotanytus fimbriatus</i>	48
12200	<i>Isonychia sp</i>	26 +	80360	<i>Corynoneura "celeripes" (sensu Simpson & Bode, 1980)</i>	16
13000	<i>Leucrocuta sp</i>	4 +	80370	<i>Corynoneura lobata</i>	16
13400	<i>Stenacron sp</i>	5 +	80420	<i>Cricotopus (C.) bicinctus</i>	37
13561	<i>Maccaffertium pulchellum</i>	101	81240	<i>Nanocladius (N.) distinctus</i>	+
13590	<i>Maccaffertium vicarium</i>	1 +	81280	<i>Nanocladius (Plecopteracoluthus) downesi</i>	+
16700	<i>Tricorythodes sp</i>	163 +	81460	<i>Orthocladius (O.) sp</i>	37
17200	<i>Caenis sp</i>	18 +	81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	74
18700	<i>Hexagenia sp</i>	+	82101	<i>Thienemanniella taurocapita</i>	16
21200	<i>Calopteryx sp</i>	+	82141	<i>Thienemanniella xena</i>	16 +
22001	<i>Coenagrionidae</i>	+	82220	<i>Tvetenia discoloripes group</i>	37
22300	<i>Argia sp</i>	+	83040	<i>Dicrotendipes neomodestus</i>	37
23909	<i>Boyeria vinosa</i>	+	84060	<i>Parachironomus pectinatellae</i>	37
26700	<i>Macromia sp</i>	+	84300	<i>Phaenopsectra obediens group</i>	+
27400	<i>Neurocordulia sp</i>	+	84315	<i>Phaenopsectra flavipes</i>	+
34120	<i>Acroneuria carolinensis</i>	1 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	186 +
34130	<i>Acroneuria frisoni</i>	+	84540	<i>Polypedilum (Tripodura) scalaenum group</i>	+
36500	<i>Sweltsa sp</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	111
48410	<i>Corydalus cornutus</i>	23 +	85625	<i>Rheotanytarsus sp</i>	3302 +
50315	<i>Chimarra obscura</i>	23 +	85752	<i>Sublettea coffmani</i>	37 +
51300	<i>Neureclipsis sp</i>	2 +	85802	<i>Tanytarsus curticornis</i>	37
51400	<i>Nyctiophylax sp</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	297 +
51600	<i>Polycentropus sp</i>	+	85840	<i>Tanytarsus sepp</i>	+
52200	<i>Cheumatopsyche sp</i>	34 +	86401	<i>Atherix lantha</i>	+
52430	<i>Ceratopsyche morosa group</i>	26 +	87540	<i>Hemerodromia sp</i>	78
52540	<i>Hydropsyche dicantha</i>	20 +	94400	<i>Fossaria sp</i>	+
53800	<i>Hydroptila sp</i>	45 +	95100	<i>Physella sp</i>	+
58505	<i>Helicopsyche borealis</i>	+	96900	<i>Ferrissia sp</i>	5 +
59110	<i>Ceraclea ancylus</i>	+			
59970	<i>Petrophila sp</i>	+			
60300	<i>Dineutus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			

Collection Date: 08/26/2009 River Code: 06-100 RM: 16.20

Site: Captina Creek
dst. St. Rt. 148 at new gage

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
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No. Quantitative Taxa: 46	Total Taxa: 84
No. Qualitative Taxa: 66	ICI: 52
Number of Organisms: 5565	Qual EPT: 25

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

Site: Captina Creek

Collection Date: 08/25/2009 River Code: 06-100 RM: 11.70

adj. St. Rt. 148 upst. Cravat Coal

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	2 +	68130	<i>Helichus sp</i>	+
03040	<i>Fredericella sp</i>	+	69000	<i>Microcylloepus pusillus</i>	+
03600	<i>Oligochaeta</i>	13 +	69210	<i>Optioservus ampliatus</i>	+
04686	<i>Placobdella papillifera</i>	+	69400	<i>Stenelmis sp</i>	10 +
08230	<i>Orconectes (Crockerinus) obscurus</i>	1 +	71100	<i>Hexatoma sp</i>	+
11130	<i>Baetis intercalaris</i>	+	72700	<i>Anopheles sp</i>	+
11150	<i>Pseudocloeon propinquum</i>	+	77120	<i>Ablabesmyia mallochi</i>	15
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+	77500	<i>Conchapelopia sp</i>	45 +
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	15
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+			
12200	<i>Isonychia sp</i>	1 +	78140	<i>Labrundinia pilosella</i>	5
13000	<i>Leucrocuta sp</i>	2 +	78655	<i>Procladius (Holotanypus) sp</i>	+
13100	<i>Nixe sp</i>	+	80370	<i>Corynoneura lobata</i>	11
13400	<i>Stenacron sp</i>	183 +	80420	<i>Cricotopus (C.) bicinctus</i>	30
13510	<i>Maccaffertium exiguum</i>	2	80430	<i>Cricotopus (C.) tremulus group</i>	+
13550	<i>Maccaffertium mexicanum integrum</i>	6	82101	<i>Thienemanniella taurocapita</i>	4
13561	<i>Maccaffertium pulchellum</i>	194	82121	<i>Thienemanniella lobapodema</i>	4
16700	<i>Tricorythodes sp</i>	165 +	82730	<i>Chironomus (C.) decorus group</i>	+
17200	<i>Caenis sp</i>	105 +	82885	<i>Cryptotendipes pseudotener</i>	+
18100	<i>Anthopotamus sp</i>	+	83040	<i>Dicrotendipes neomodestus</i>	15
18700	<i>Hexagenia sp</i>	+	84155	<i>Paralauterborniella nigrohalteralis</i>	15 +
22001	<i>Coenagrionidae</i>	+	84315	<i>Phaenopsectra flavipes</i>	+
22300	<i>Argia sp</i>	4 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	30
23909	<i>Boyeria vinosa</i>	+	84460	<i>Polypedilum (P.) fallax group</i>	15
26700	<i>Macromia sp</i>	+	84750	<i>Stictochironomus sp</i>	+
34130	<i>Acroneuria frisoni</i>	1	85265	<i>Cladotanytarsus vanderwulpi group Type 5</i>	+
45300	<i>Sigara sp</i>	+	85625	<i>Rheotanytarsus sp</i>	603 +
47600	<i>Sialis sp</i>	+	85800	<i>Tanytarsus sp</i>	30
48410	<i>Corydalus cornutus</i>	4 +	85821	<i>Tanytarsus glabrescens group sp 7</i>	392
50315	<i>Chimarra obscura</i>	+	85840	<i>Tanytarsus sepp</i>	106
51600	<i>Polycentropus sp</i>	+	86200	<i>Tabanus sp</i>	+
52200	<i>Cheumatopsyche sp</i>	32 +	87540	<i>Hemerodromia sp</i>	12
52430	<i>Ceratopsyche morosa group</i>	+	96900	<i>Ferrissia sp</i>	49 +
52540	<i>Hydropsyche dicantha</i>	+	97601	<i>Corbicula fluminea</i>	+
53501	<i>Hydroptilidae</i>	6			
53800	<i>Hydroptila sp</i>	+	No. Quantitative Taxa: 36		Total Taxa: 77
54160	<i>Ochrotrichia sp</i>	+	No. Qualitative Taxa: 58		ICI: 42
59110	<i>Ceraclea ancyclus</i>	+	Number of Organisms: 2129		Qual EPT: 21
59970	<i>Petrophila sp</i>	+			
60300	<i>Dineutus sp</i>	+			
60900	<i>Peltodytes sp</i>	+			
63300	<i>Hydroporini</i>	+			
64800	<i>Uvarus sp</i>	+			
68075	<i>Psephenus herricki</i>	2 +			

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Captina Creek
St. Rt. 148, at Captina

Collection Date: 08/25/2009 River Code: 06-100 RM: 6.71

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
00401	<i>Spongillidae</i>	+	64700	<i>Thermonectus sp</i>	+
03360	<i>Plumatella sp</i>	1 +	68075	<i>Psephenus herricki</i>	1 +
03600	<i>Oligochaeta</i>	16 +	68130	<i>Helichus sp</i>	+
08601	<i>Hydrachnidia</i>	49	68700	<i>Dubiraphia sp</i>	+
11119	<i>Plauditus dubius or P. virilis</i>	1	68901	<i>Macronychus glabratus</i>	1
11130	<i>Baetis intercalaris</i>	203 +	69000	<i>Microcylloepus pusillus</i>	1
11150	<i>Pseudocloeon propinquum</i>	+	69400	<i>Stenelmis sp</i>	3
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+	69713	<i>Lutrochus laticeps</i>	10
11670	<i>Procloeon viridoculare</i>	+	72700	<i>Anopheles sp</i>	+
12200	<i>Isonychia sp</i>	10 +	74100	<i>Simulium sp</i>	4
13000	<i>Leucrocuta sp</i>	5 +	77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	98
13100	<i>Nixe sp</i>	+			
13400	<i>Stenacron sp</i>	24 +	78450	<i>Nilotanytus fimbriatus</i>	112
13510	<i>Maccaffertium exiguum</i>	12	78655	<i>Procladius (Holotanytus) sp</i>	+
13521	<i>Stenonema femoratum</i>	+	78750	<i>Rheopelopia paramaculipennis</i>	130 +
13550	<i>Maccaffertium mexicanum integrum</i>	4	80351	<i>Corynoneura n.sp 1</i>	16
13561	<i>Maccaffertium pulchellum</i>	132 +	80360	<i>Corynoneura "celeripes" (sensu Simpson & Bode, 1980)</i>	32
13590	<i>Maccaffertium vicarium</i>	1			
16700	<i>Tricorythodes sp</i>	108 +	80370	<i>Corynoneura lobata</i>	32
17200	<i>Caenis sp</i>	74 +	80410	<i>Cricotopus (C.) sp</i>	163
18700	<i>Hexagenia sp</i>	+	80420	<i>Cricotopus (C.) bicinctus</i>	33
22001	<i>Coenagrionidae</i>	+	80430	<i>Cricotopus (C.) tremulus group</i>	98
22300	<i>Argia sp</i>	+	81270	<i>Nanocladius (N.) spiniplenus</i>	33
23804	<i>Basiaeschna janata</i>	+	81280	<i>Nanocladius (Plecopteracoluthus) downesi</i>	+
23909	<i>Boyeria vinosa</i>	+	82101	<i>Thienemanniella taurocapita</i>	80
27400	<i>Neurocordulia sp</i>	+	82220	<i>Tvetenia discoloripes group</i>	+
34120	<i>Acroneuria carolinensis</i>	+	82730	<i>Chironomus (C.) decorus group</i>	+
45100	<i>Palmarcorixa sp</i>	+	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	33 +
45400	<i>Trichocorixa sp</i>	+			
47600	<i>Sialis sp</i>	+	84155	<i>Paralauterborniella nigrohalteralis</i>	+
48410	<i>Corydalus cornutus</i>	8 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	554 +
50315	<i>Chimarra obscura</i>	161 +	84470	<i>Polypedilum (P.) illinoense</i>	+
51300	<i>Neureclipsis sp</i>	8 +	85615	<i>Rheotanytarsus pellucidus</i>	98
51400	<i>Nyctiophylax sp</i>	+	85625	<i>Rheotanytarsus sp</i>	1498 +
51600	<i>Polycentropus sp</i>	+	85752	<i>Sublettea coffmani</i>	228
52200	<i>Cheumatopsyche sp</i>	116 +	85821	<i>Tanytarsus glabrescens group sp 7</i>	586 +
52430	<i>Ceratopsyche morosa group</i>	46 +	85840	<i>Tanytarsus sepp</i>	65
52540	<i>Hydropsyche dicantha</i>	55 +	87540	<i>Hemerodromia sp</i>	4
53800	<i>Hydroptila sp</i>	17 +	95100	<i>Physella sp</i>	+
57900	<i>Pycnopsyche sp</i>	+	96900	<i>Ferrissia sp</i>	23 +
58505	<i>Helicopsyche borealis</i>	1	97601	<i>Corbicula fluminea</i>	+
59110	<i>Ceraclea ancyclus</i>	+	98200	<i>Pisidium sp</i>	+
59970	<i>Petrophila sp</i>	+	98600	<i>Sphaerium sp</i>	+
60900	<i>Peltodytes sp</i>	+			

Collection Date: 08/25/2009 River Code: 06-100 RM: 6.71

Site: Captina Creek
St. Rt. 148, at Captina

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
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No. Quantitative Taxa: 48	Total Taxa: 84
No. Qualitative Taxa: 59	ICI: 50
Number of Organisms: 4988	Qual EPT: 24

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Captina Creek

Collection Date: 08/25/2009 River Code: 06-100 RM: 3.33

St. Rt. 148, upst. Steinersville

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	3	69713	<i>Lutrochus laticeps</i>	1
03360	<i>Plumatella sp</i>	2	72700	<i>Anopheles sp</i>	+
03600	<i>Oligochaeta</i>	41 +	74100	<i>Simulium sp</i>	+
08601	<i>Hydrachnidia</i>	1	77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	153
11130	<i>Baetis intercalaris</i>	221 +	78450	<i>Nilotanypus fimbriatus</i>	76
11150	<i>Pseudocloeon propinquum</i>	22	78655	<i>Procladius (Holotanypus) sp</i>	+
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	78750	<i>Rheopelopia paramaculipennis</i>	76 +
11670	<i>Procloeon viridoculare</i>	+	80430	<i>Cricotopus (C.) tremulus group</i>	153
12200	<i>Isonychia sp</i>	25 +	81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	25
13000	<i>Leucrocuta sp</i>	15 +	82101	<i>Thienemanniella taurocapita</i>	51
13400	<i>Stenacron sp</i>	85 +	82220	<i>Tvetenia discoloripes group</i>	25
13500	<i>Maccaffertium sp</i>	+	82730	<i>Chironomus (C.) decorus group</i>	+
13510	<i>Maccaffertium exiguum</i>	69	82820	<i>Cryptochironomus sp</i>	+
13561	<i>Maccaffertium pulchellum</i>	462	83840	<i>Microtendipes pedellus group</i>	+
13590	<i>Maccaffertium vicarium</i>	31	84450	<i>Polypedilum (Uresipedilum) flavum</i>	127
16700	<i>Tricorythodes sp</i>	48 +	84470	<i>Polypedilum (P.) illinoense</i>	+
17200	<i>Caenis sp</i>	13 +	84750	<i>Stictochironomus sp</i>	+
18700	<i>Hexagenia sp</i>	+	85500	<i>Paratanytarsus sp</i>	+
22001	<i>Coenagrionidae</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	102
22300	<i>Argia sp</i>	+	85625	<i>Rheotanytarsus sp</i>	1475 +
24501	<i>Gomphidae</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	356
27406	<i>Neurocordulia obsoleta</i>	1 +	85840	<i>Tanytarsus sepp</i>	76
34120	<i>Acroneuria carolinensis</i>	1	87540	<i>Hemerodromia sp</i>	11
34300	<i>Neoperla clymene complex</i>	+	95100	<i>Physella sp</i>	+
47600	<i>Sialis sp</i>	+	96900	<i>Ferrissia sp</i>	2
48410	<i>Corydalus cornutus</i>	7 +	98001	<i>Sphaeriidae</i>	1
50315	<i>Chimarra obscura</i>	201 +	No. Quantitative Taxa: 43 Total Taxa: 70		
51300	<i>Neureclipsis sp</i>	6 +	No. Qualitative Taxa: 46 ICI: 52		
51400	<i>Nyctiophylax sp</i>	+	Number of Organisms: 4173 Qual EPT: 20		
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	118 +			
52430	<i>Ceratopsyche morosa group</i>	17 +			
52540	<i>Hydropsyche dicantha</i>	28			
53800	<i>Hydroptila sp</i>	18 +			
58505	<i>Helicopsyche borealis</i>	8			
59110	<i>Ceraclea anelylus</i>	+			
59580	<i>Oecetis persimilis</i>	18 +			
59970	<i>Petrophila sp</i>	1 +			
60400	<i>Gyrinus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
68901	<i>Macronychus glabratus</i>	1 +			
69400	<i>Stenelmis sp</i>	+			

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Captina Creek

Collection Date: 09/09/2008 River Code: 06-100 RM: 25.30

dst. North and South Forks

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
00653	<i>Eunapius fragilis</i>	+	69400	<i>Stenelmis sp</i>	+
01320	<i>Hydra sp</i>	9	70600	<i>Antocha sp</i>	8
01801	<i>Turbellaria</i>	20 +	71100	<i>Hexatoma sp</i>	+
03360	<i>Plumatella sp</i>	+	77120	<i>Ablabesmyia mallochi</i>	+
03600	<i>Oligochaeta</i>	+	77500	<i>Conchapelopia sp</i>	95
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	77800	<i>Helopelopia sp</i>	14
08601	<i>Hydrachnidia</i>	1 +	78450	<i>Nilotanypus fimbriatus</i>	54
11014	<i>Acentrella turbida</i>	+	78750	<i>Rheopelopia paramaculipennis</i>	14
11120	<i>Baetis flavistriga</i>	1	80351	<i>Corynoneura n.sp 1</i>	8
11130	<i>Baetis intercalaris</i>	151 +	80370	<i>Corynoneura lobata</i>	90
11650	<i>Procloeon sp (w/ hindwing pads)</i>	1	80430	<i>Cricotopus (C.) tremulus group</i>	54
11651	<i>Procloeon sp (w/o hindwing pads)</i>	13	81200	<i>Nanocladius sp</i>	14
12200	<i>Isonychia sp</i>	22 +	81270	<i>Nanocladius (N.) spiniplenus</i>	27
13000	<i>Leucrocuta sp</i>	14 +	82101	<i>Thienemanniella taurocapita</i>	18
13100	<i>Nixe sp</i>	+	82121	<i>Thienemanniella lobapodema</i>	10
13400	<i>Stenacron sp</i>	64 +	82141	<i>Thienemanniella xena</i>	10
13561	<i>Maccaffertium pulchellum</i>	612 +	83040	<i>Dicrotendipes neomodestus</i>	14
13590	<i>Maccaffertium vicarium</i>	108 +	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	+
15501	<i>Ephemerellidae</i>	8	83840	<i>Microtendipes pedellus group</i>	14
16700	<i>Tricorythodes sp</i>	7	84450	<i>Polypedilum (Uresipedilum) flavum</i>	81 +
17200	<i>Caenis sp</i>	104 +	84460	<i>Polypedilum (P.) fallax group</i>	27
21300	<i>Hetaerina sp</i>	2	84470	<i>Polypedilum (P.) illinoense</i>	14
22001	<i>Coenagrionidae</i>	+	84540	<i>Polypedilum (Tripodura) scalaenum group</i>	+
22300	<i>Argia sp</i>	+	84700	<i>Stenochironomus sp</i>	14
23909	<i>Boyeria vinosa</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	54
25510	<i>Stylogomphus albistylus</i>	+	85625	<i>Rheotanytarsus sp</i>	757 +
34130	<i>Acroneuria frisoni</i>	1 +	85752	<i>Sublettea coffmani</i>	257
47600	<i>Sialis sp</i>	+	85800	<i>Tanytarsus sp</i>	68
48410	<i>Corydalus cornutus</i>	1	85821	<i>Tanytarsus glabrescens group sp 7</i>	135
50315	<i>Chimarra obscura</i>	+	86401	<i>Atherix lantha</i>	+
52200	<i>Cheumatopsyche sp</i>	111 +	87540	<i>Hemerodromia sp</i>	76
52430	<i>Ceratopsyche morosa group</i>	23 +	96900	<i>Ferrissia sp</i>	3
52510	<i>Hydropsyche aerata</i>	2	98200	<i>Pisidium sp</i>	+
52530	<i>Hydropsyche depravata group</i>	+	98600	<i>Sphaerium sp</i>	+
52540	<i>Hydropsyche dicantha</i>	4 +			
58505	<i>Helicopsyche borealis</i>	+			
59120	<i>Ceraclea flava complex</i>	+	No. Quantitative Taxa: 51		Total Taxa: 78
59500	<i>Oecetis sp</i>	8	No. Qualitative Taxa: 44		ICI: 56
59970	<i>Petrophila sp</i>	3 +	Number of Organisms: 3227		Qual EPT: 17
60400	<i>Gyrinus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68601	<i>Ancyronyx variegata</i>	+			
68901	<i>Macronychus glabratus</i>	7 +			

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Captina Creek

Collection Date: 09/09/2008 River Code: 06-100 RM: 23.12

St. Rt. 148, dst. Casey Run

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01320	<i>Hydra sp</i>	1	68075	<i>Psephenus herricki</i>	9 +
01801	<i>Turbellaria</i>	+	68130	<i>Helichus sp</i>	+
03360	<i>Plumatella sp</i>	1 +	68601	<i>Ancyronyx variegata</i>	1 +
03600	<i>Oligochaeta</i>	+	68901	<i>Macronychus glabratus</i>	1
04964	<i>Mooreobdella microstoma</i>	+	69400	<i>Stenelmis sp</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	70600	<i>Antocha sp</i>	17
11119	<i>Plauditus dubius or P. virilis</i>	2	71100	<i>Hexatoma sp</i>	+
11130	<i>Baetis intercalaris</i>	2 +	72700	<i>Anopheles sp</i>	+
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+	74100	<i>Simulium sp</i>	+
11650	<i>Procloeon sp (w/ hindwing pads)</i>	2 +	77120	<i>Ablabesmyia mallochi</i>	+
11651	<i>Procloeon sp (w/o hindwing pads)</i>	7 +	77500	<i>Conchapelopia sp</i>	50
12200	<i>Isonychia sp</i>	7 +	77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	25
13000	<i>Leucrocota sp</i>	15 +			
13400	<i>Stenacron sp</i>	30 +	77800	<i>Helopelopia sp</i>	+
13521	<i>Stenonema femoratum</i>	5 +	78450	<i>Nilotanytus fimbriatus</i>	125
13561	<i>Maccaffertium pulchellum</i>	350 +	80370	<i>Corynoneura lobata</i>	16
13590	<i>Maccaffertium vicarium</i>	61 +	80410	<i>Cricotopus (C.) sp</i>	25
14950	<i>Leptophlebia sp or Paraleptophlebia sp</i>	+	80420	<i>Cricotopus (C.) bicinctus</i>	25
16700	<i>Tricorythodes sp</i>	10 +	81231	<i>Nanocladius (N.) crassicornus or N. (N.) "rectinervis"</i>	25
17200	<i>Caenis sp</i>	69 +			
18600	<i>Ephemera sp</i>	+	82101	<i>Thienemanniella taurocapita</i>	35
22001	<i>Coenagrionidae</i>	+	82121	<i>Thienemanniella lobapodema</i>	16
22300	<i>Argia sp</i>	+	83040	<i>Dicrotendipes neomodestus</i>	100 +
23909	<i>Boyeria vinosa</i>	+	83840	<i>Microtendipes pedellus group</i>	25 +
25510	<i>Stylogomphus albistylus</i>	+	84210	<i>Paratendipes albimanus or P. duplicatus</i>	+
27500	<i>Somatochlora sp</i>	+	84300	<i>Phaenopsectra obediens group</i>	+
33100	<i>Leuctra sp</i>	+	84315	<i>Phaenopsectra flavipes</i>	+
34130	<i>Acroneuria frisoni</i>	2 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	25 +
43300	<i>Ranatra sp</i>	+	84540	<i>Polypedilum (Tripodura) scalaenum group</i>	25
47600	<i>Sialis sp</i>	+	84750	<i>Stictochironomus sp</i>	+
48410	<i>Corydalus cornutus</i>	1	85615	<i>Rheotanytarsus pellucidus</i>	25
50315	<i>Chimarra obscura</i>	+	85625	<i>Rheotanytarsus sp</i>	175
51600	<i>Polycentropus sp</i>	8 +	85752	<i>Sublettea coffmani</i>	375 +
52200	<i>Cheumatopsyche sp</i>	19 +	85800	<i>Tanytarsus sp</i>	25
52430	<i>Ceratopsyche morosa group</i>	3 +	85821	<i>Tanytarsus glabrescens group sp 7</i>	1301 +
52530	<i>Hydropsyche depravata group</i>	1	85840	<i>Tanytarsus sepp</i>	325 +
52540	<i>Hydropsyche dicantha</i>	+	86401	<i>Atherix lantha</i>	+
53800	<i>Hydroptila sp</i>	8	87540	<i>Hemerodromia sp</i>	98
58505	<i>Helicopsyche borealis</i>	+	96900	<i>Ferrissia sp</i>	20 +
59110	<i>Ceraclea ancylus</i>	+	98200	<i>Pisidium sp</i>	1
59500	<i>Oecetis sp</i>	12	98600	<i>Sphaerium sp</i>	+
59970	<i>Petrophila sp</i>	3 +			
60300	<i>Dineutus sp</i>	+			
68025	<i>Ectopria sp</i>	1			

Collection Date: 09/09/2008 River Code: 06-100 RM: 23.12

Site: Captina Creek
St. Rt. 148, dst. Casey Run

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
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No. Quantitative Taxa: 50 Total Taxa: 83

No. Qualitative Taxa: 59 ICI: **54**

Number of Organisms: 3510 Qual EPT: 23

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Captina Creek
 dst. Perkins Run

Collection Date: 09/09/2008 River Code: 06-100 RM: 22.40

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01320	<i>Hydra sp</i>	67	65800	<i>Berosus sp</i>	+
01801	<i>Turbellaria</i>	9 +	68025	<i>Ectopria sp</i>	+
03600	<i>Oligochaeta</i>	1 +	68075	<i>Psephenus herricki</i>	8 +
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	68130	<i>Helichus sp</i>	+
08601	<i>Hydrachnidia</i>	16	68708	<i>Dubiraphia vittata group</i>	+
11130	<i>Baetis intercalaris</i>	1 +	68901	<i>Macronychus glabratus</i>	26
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	69400	<i>Stenelmis sp</i>	17 +
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+	70600	<i>Antocha sp</i>	16
11670	<i>Procloeon viridoculare</i>	+	71100	<i>Hexatoma sp</i>	+
12200	<i>Isonychia sp</i>	3 +	71910	<i>Tipula abdominalis</i>	1
13000	<i>Leucrocota sp</i>	13 +	72700	<i>Anopheles sp</i>	+
13400	<i>Stenacron sp</i>	43 +	74100	<i>Simulium sp</i>	+
13521	<i>Stenonema femoratum</i>	+	74501	<i>Ceratopogonidae</i>	+
13561	<i>Maccaffertium pulchellum</i>	120 +	74650	<i>Atrichopogon sp</i>	8
13590	<i>Maccaffertium vicarium</i>	22	77120	<i>Ablabesmyia mallochi</i>	+
16200	<i>Eurylophella sp</i>	8	77500	<i>Conchapelopia sp</i>	+
16700	<i>Tricorythodes sp</i>	48 +	77800	<i>Helopelopia sp</i>	+
17200	<i>Caenis sp</i>	40 +	78350	<i>Meropelopia sp</i>	99
18600	<i>Ephemera sp</i>	+	78402	<i>Natarsia baltimoreus</i>	+
21300	<i>Hetaerina sp</i>	1 +	78450	<i>Nilotanytus fimbriatus</i>	445 +
22001	<i>Coenagrionidae</i>	+	78655	<i>Procladius (Holotanytus) sp</i>	+
22300	<i>Argia sp</i>	3 +	80351	<i>Corynoneura n.sp 1</i>	16
23804	<i>Basiaeschna janata</i>	+	80370	<i>Corynoneura lobata</i>	52
23909	<i>Boyeria vinosa</i>	1 +	80410	<i>Cricotopus (C.) sp</i>	+
25510	<i>Stylogomphus albistylus</i>	+	80420	<i>Cricotopus (C.) bicinctus</i>	99 +
26700	<i>Macromia sp</i>	+	81650	<i>Parametriocnemus sp</i>	99
27406	<i>Neurocordulia obsoleta</i>	+	82730	<i>Chironomus (C.) decorus group</i>	+
34130	<i>Acroneuria frisoni</i>	2 +	82820	<i>Cryptochironomus sp</i>	+
47600	<i>Sialis sp</i>	+	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	+
48410	<i>Corydalus cornutus</i>	6 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	544 +
48620	<i>Nigronia serricornis</i>	1	85230	<i>Cladotanytarsus mancus group</i>	+
50315	<i>Chimarra obscura</i>	211 +	85615	<i>Rheotanytarsus pellucidus</i>	99
51600	<i>Polycentropus sp</i>	+	85625	<i>Rheotanytarsus sp</i>	2227 +
52200	<i>Cheumatopsyche sp</i>	516 +	85752	<i>Sublettea coffmani</i>	891
52430	<i>Ceratopsyche morosa group</i>	59 +	85800	<i>Tanytarsus sp</i>	99 +
52540	<i>Hydropsyche dicantha</i>	52	85821	<i>Tanytarsus glabrescens group sp 7</i>	940
52570	<i>Hydropsyche simulans</i>	7	85840	<i>Tanytarsus sepp</i>	148 +
53800	<i>Hydroptila sp</i>	16	86100	<i>Chrysops sp</i>	+
54160	<i>Ochrotrichia sp</i>	3	86401	<i>Atherix lantha</i>	+
58505	<i>Helicopsyche borealis</i>	8	87540	<i>Hemerodromia sp</i>	143 +
59500	<i>Oecetis sp</i>	8	96900	<i>Ferrissia sp</i>	80 +
59970	<i>Petrophila sp</i>	1 +	97601	<i>Corbicula fluminea</i>	+
60300	<i>Dineutus sp</i>	+	98200	<i>Pisidium sp</i>	1
60900	<i>Peltodytes sp</i>	+	98600	<i>Sphaerium sp</i>	+

Collection Date: 09/09/2008 River Code: 06-100 RM: 22.40

Site: Captina Creek
dst. Perkins Run

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
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No. Quantitative Taxa: 51 Total Taxa: 88

No. Qualitative Taxa: 65 ICI: **52**

Number of Organisms: 7344 Qual EPT: 17

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Captina Creek
 adj. St. Rt. 148, dst. OVC

Collection Date: 09/09/2008 River Code: 06-100 RM: 20.90

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01320	<i>Hydra sp</i>	79 +	68708	<i>Dubiraphia vittata group</i>	1 +
03040	<i>Fredericella sp</i>	+	68901	<i>Macronychus glabratus</i>	+
03600	<i>Oligochaeta</i>	1 +	69400	<i>Stenelmis sp</i>	+
06201	<i>Hyalella azteca</i>	+	70600	<i>Antocha sp</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	71100	<i>Hexatoma sp</i>	+
08601	<i>Hydrachnidia</i>	+	72700	<i>Anopheles sp</i>	+
11130	<i>Baetis intercalaris</i>	+	77120	<i>Ablabesmyia mallochii</i>	90 +
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+	77800	<i>Helopelopia sp</i>	+
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	78401	<i>Natarsia species A (sensu Roback, 1978)</i>	+
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+	78402	<i>Natarsia baltimoreus</i>	+
12200	<i>Isonychia sp</i>	+	80370	<i>Corynoneura lobata</i>	26
13000	<i>Leucrocuta sp</i>	+	80410	<i>Cricotopus (C.) sp</i>	15
13400	<i>Stenacron sp</i>	46 +	80420	<i>Cricotopus (C.) bicinctus</i>	+
13521	<i>Stenonema femoratum</i>	1	81632	<i>Parakiefferiella n.sp 2</i>	15
13561	<i>Maccaffertium pulchellum</i>	15	81825	<i>Rheocricotopus (Psilocricotopus) robacki</i>	+
13590	<i>Maccaffertium vicarium</i>	5	82730	<i>Chironomus (C.) decorus group</i>	+
16700	<i>Tricorythodes sp</i>	20 +	82820	<i>Cryptochironomus sp</i>	+
17200	<i>Caenis sp</i>	268 +	83040	<i>Dicrotendipes neomodestus</i>	287 +
18100	<i>Anthopotamus sp</i>	+	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	+
18600	<i>Ephemera sp</i>	+	84155	<i>Paralauterborniella nigrohalteralis</i>	+
18750	<i>Hexagenia limbata</i>	4 +	84210	<i>Paratendipes albimanus or P. duplicatus</i>	15
22001	<i>Coenagrionidae</i>	+	84302	<i>Phaenopsectra punctipes</i>	+
22300	<i>Argia sp</i>	+	84450	<i>Polypedilum (Uresipedilum) flavum</i>	+
23804	<i>Basiaeschna janata</i>	+	84460	<i>Polypedilum (P.) fallax group</i>	+
23909	<i>Boyeria vinosa</i>	+	84750	<i>Stictochironomus sp</i>	+
24900	<i>Gomphus sp</i>	+	85625	<i>Rheotanytarsus sp</i>	30
25510	<i>Stylogomphus albistylus</i>	+	85752	<i>Sublettea coffmani</i>	106 +
27001	<i>Corduliidae</i>	+	85800	<i>Tanytarsus sp</i>	30
34130	<i>Acroneuria frisoni</i>	1 +	85821	<i>Tanytarsus glabrescens group sp 7</i>	694 +
44501	<i>Corixidae</i>	+	85840	<i>Tanytarsus sepp</i>	226 +
47600	<i>Sialis sp</i>	1 +	87540	<i>Hemerodromia sp</i>	38
48410	<i>Corydalus cornutus</i>	+	95100	<i>Physella sp</i>	1 +
50315	<i>Chimarra obscura</i>	+	96900	<i>Ferrissia sp</i>	252 +
51600	<i>Polycentropus sp</i>	1	97601	<i>Corbicula fluminea</i>	2 +
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
53800	<i>Hydroptila sp</i>	57	No. Quantitative Taxa: 30		Total Taxa: 78
54200	<i>Orthotrichia sp</i>	+	No. Qualitative Taxa: 65		ICI: 38
57900	<i>Pycnopsyche sp</i>	+	Number of Organisms: 2328		Qual EPT: 18
59500	<i>Oecetis sp</i>	1			
59970	<i>Petrophila sp</i>	+			
60300	<i>Dineutus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Bend Fork

Collection Date: 09/01/2009 River Code: 06-106 RM: 8.35

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
03600	<i>Oligochaeta</i>	+	82730	<i>Chironomus (C.) decorus group</i>	+
06201	<i>Hyalella azteca</i>	+	83040	<i>Dicrotendipes neomodestus</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	+
11120	<i>Baetis flavistriga</i>	+	84210	<i>Paratendipes albimanus or P. duplicatus</i>	+
11130	<i>Baetis intercalaris</i>	+	84300	<i>Phaenopsectra obediens group</i>	+
11150	<i>Pseudocloeon propinquum</i>	+	84450	<i>Polypedilum (Uresipedilum) flavum</i>	+
11650	<i>Proclloeon sp (w/ hindwing pads)</i>	+	84460	<i>Polypedilum (P.) fallax group</i>	+
12200	<i>Isonychia sp</i>	+	84750	<i>Stictochironomus sp</i>	+
13000	<i>Leucrocuta sp</i>	+	86401	<i>Atherix lantha</i>	+
13400	<i>Stenacron sp</i>	+	94400	<i>Fossaria sp</i>	+
13561	<i>Maccaffertium pulchellum</i>	+	95100	<i>Physella sp</i>	+
15000	<i>Paraleptophlebia sp</i>	+	96900	<i>Ferrissia sp</i>	+
17200	<i>Caenis sp</i>	+	98600	<i>Sphaerium sp</i>	+
18600	<i>Ephemera sp</i>	+			
21200	<i>Calopteryx sp</i>	+			
22300	<i>Argia sp</i>	+	No. Quantitative Taxa: 0		Total Taxa: 57
23905	<i>Boyeria grafiana</i>	+	No. Qualitative Taxa: 57		ICI:
23909	<i>Boyeria vinosa</i>	+	Number of Organisms: 0		Qual EPT: 21
25510	<i>Stylogomphus albistylus</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
50301	<i>Chimarra aterrima</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>	+			
57900	<i>Pycnopsyche sp</i>	+			
58505	<i>Helicopsyche borealis</i>	+			
59110	<i>Ceraclea ancylus</i>	+			
63300	<i>Hydroporini</i>	+			
68025	<i>Ectopria sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</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>	+			
74501	<i>Ceratopogonidae</i>	+			
74673	<i>Atrichopogon websteri</i>	+			
77120	<i>Ablabesmyia mallochi</i>	+			
77500	<i>Conchapelopia sp</i>	+			
78401	<i>Natarsia species A (sensu Roback, 1978)</i>	+			

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Bend Fork

Collection Date: 09/01/2009 River Code: 06-106 RM: 3.59

Twp. Rd. 101

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+	72700	<i>Anopheles sp</i>	+
03360	<i>Plumatella sp</i>	+	74501	<i>Ceratopogonidae</i>	+
03600	<i>Oligochaeta</i>	+	77500	<i>Conchapelopia sp</i>	167 +
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	+
11120	<i>Baetis flavistriga</i>	2 +	78450	<i>Nilotanypus fimbriatus</i>	42
11125	<i>Pseudocloeon frondale</i>	+	78655	<i>Procladius (Holotanypus) sp</i>	+
11130	<i>Baetis intercalaris</i>	+	80370	<i>Corynoneura lobata</i>	196
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	80430	<i>Cricotopus (C.) tremulus group</i>	42
11651	<i>Procloeon sp (w/o hindwing pads)</i>	1 +	81650	<i>Parametriocnemus sp</i>	42
12200	<i>Isonychia sp</i>	+	81690	<i>Paratrichocladius sp</i>	42
13000	<i>Leucrocuta sp</i>	25 +	82101	<i>Thienemanniella taurocapita</i>	16
13400	<i>Stenacron sp</i>	10 +	82820	<i>Cryptochironomus sp</i>	+
13521	<i>Stenonema femoratum</i>	+	82885	<i>Cryptotendipes pseudotener</i>	+
13561	<i>Maccaffertium pulchellum</i>	116	83040	<i>Dicrotendipes neomodestus</i>	84 +
13590	<i>Maccaffertium vicarium</i>	31 +	83840	<i>Microtendipes pedellus group</i>	84
15000	<i>Paraleptophlebia sp</i>	+	83900	<i>Nilothauma sp</i>	42
15501	<i>Ephemerellidae</i>	8	84155	<i>Paralauterborniella nigrohalteralis</i>	+
17200	<i>Caenis sp</i>	91 +	84300	<i>Phaenopsectra obediens group</i>	+
18600	<i>Ephemera sp</i>	8 +	84315	<i>Phaenopsectra flavipes</i>	+
21200	<i>Calopteryx sp</i>	+	84450	<i>Polypedilum (Uresipedilum) flavum</i>	167 +
22300	<i>Argia sp</i>	1	84460	<i>Polypedilum (P.) fallax group</i>	+
23905	<i>Boyeria grafiana</i>	+	84470	<i>Polypedilum (P.) illinoense</i>	+
25510	<i>Stylogomphus albistylus</i>	+	84750	<i>Stictochironomus sp</i>	+
34130	<i>Acroneuria frisoni</i>	9 +	85261	<i>Cladotanytarsus vanderwulpi group Type 1</i>	42
48410	<i>Corydalus cornutus</i>	+	85500	<i>Paratanytarsus sp</i>	84
48620	<i>Nigronia serricornis</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	125
50301	<i>Chimarra aterrima</i>	+	85625	<i>Rheotanytarsus sp</i>	1839 +
51400	<i>Nyctiophylax sp</i>	+	85752	<i>Sublettea coffmani</i>	84
51600	<i>Polycentropus sp</i>	1 +	85821	<i>Tanytarsus glabrescens group sp 7</i>	1421
52200	<i>Cheumatopsyche sp</i>	32 +	86100	<i>Chrysops sp</i>	+
52430	<i>Ceratopsyche morosa group</i>	24 +	86401	<i>Atherix lantha</i>	+
57900	<i>Pycnopsyche sp</i>	+	87540	<i>Hemerodromia sp</i>	52
58020	<i>Lepidostoma sp</i>	+	95100	<i>Physella sp</i>	8 +
58505	<i>Helicopsyche borealis</i>	+	96900	<i>Ferrissia sp</i>	11 +
59110	<i>Ceraclea ancylus</i>	+			
63300	<i>Hydroporini</i>	+			
68025	<i>Ectopria sp</i>	+	No. Quantitative Taxa: 38		Total Taxa: 78
68075	<i>Psephenus herricki</i>	1 +	No. Qualitative Taxa: 60		ICI: 50
68708	<i>Dubiraphia vittata group</i>	1	Number of Organisms: 5069		Qual EPT: 23
69400	<i>Stenelmis sp</i>	1 +			
70600	<i>Antocha sp</i>	117 +			
71100	<i>Hexatoma sp</i>	+			
71900	<i>Tipula sp</i>	+			
72340	<i>Dixella sp</i>	+			

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Bend Fork

Collection Date: 08/26/2009 River Code: 06-106 RM: 0.26

first ford near mouth

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	4 +	69400	<i>Stenelmis sp</i>	5 +
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	70600	<i>Antocha sp</i>	37
11014	<i>Acentrella turbida</i>	5	72700	<i>Anopheles sp</i>	+
11120	<i>Baetis flavistriga</i>	86	74100	<i>Simulium sp</i>	+
11130	<i>Baetis intercalaris</i>	127 +	74501	<i>Ceratopogonidae</i>	8
11430	<i>Dipheter hageni</i>	9	77500	<i>Conchapelopia sp</i>	18
12200	<i>Isonychia sp</i>	22 +	77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	54
13000	<i>Leucrocuta sp</i>	14 +			
13400	<i>Stenacron sp</i>	+	78450	<i>Nilotanytus fimbriatus</i>	36
13561	<i>Maccaffertium pulchellum</i>	76 +	78750	<i>Rheopelopia paramaculipennis</i>	18
13590	<i>Maccaffertium vicarium</i>	8 +	80370	<i>Corynoneura lobata</i>	196
15501	<i>Ephemerellidae</i>	16 +	80420	<i>Cricotopus (C.) bicinctus</i>	36
17200	<i>Caenis sp</i>	55 +	81280	<i>Nanocladius (Plecopteracoluthus) downesi</i>	18
18600	<i>Ephemera sp</i>	+	81650	<i>Parametriocnemus sp</i>	145
21200	<i>Calopteryx sp</i>	+	82101	<i>Thienemanniella taurocapita</i>	42
22300	<i>Argia sp</i>	+	82141	<i>Thienemanniella xena</i>	32 +
23909	<i>Boyeria vinosa</i>	+	83040	<i>Dicrotendipes neomodestus</i>	18
25510	<i>Stylogomphus albistylus</i>	+	84155	<i>Paralauterborniella nigrohalteralis</i>	+
33100	<i>Leuctra sp</i>	+	84210	<i>Paratendipes albimanus or P. duplicatus</i>	+
34120	<i>Acroneuria carolinensis</i>	2	84440	<i>Polypedilum (Uresipedilum) aviceps</i>	18
34130	<i>Acroneuria frisoni</i>	5 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	18 +
47600	<i>Sialis sp</i>	+	84460	<i>Polypedilum (P.) fallax group</i>	18
48410	<i>Corydalus cornutus</i>	3 +	85615	<i>Rheotanytarsus pellucidus</i>	235
50301	<i>Chimarra aterrima</i>	+	85625	<i>Rheotanytarsus sp</i>	1537 +
50315	<i>Chimarra obscura</i>	1 +	85720	<i>Stempellinella fimbriata</i>	18
51400	<i>Nyctiophylax sp</i>	+	85752	<i>Sublettea coffmani</i>	18
51600	<i>Polycentropus sp</i>	+	85800	<i>Tanytarsus sp</i>	54
52200	<i>Cheumatopsyche sp</i>	69 +	85821	<i>Tanytarsus glabrescens group sp 7</i>	54
52430	<i>Ceratopsyche morosa group</i>	17 +	86100	<i>Chrysops sp</i>	+
52540	<i>Hydropsyche dicantha</i>	5 +	86200	<i>Tabanus sp</i>	+
53800	<i>Hydroptila sp</i>	+	86401	<i>Atherix lantha</i>	+
57900	<i>Pycnopsyche sp</i>	+	87540	<i>Hemerodromia sp</i>	16
58505	<i>Helicopsyche borealis</i>	+	96900	<i>Ferrissia sp</i>	+
59110	<i>Ceraclaea ancylus</i>	+	98200	<i>Pisidium sp</i>	+
59970	<i>Petrophila sp</i>	+			
60300	<i>Dineutus sp</i>	+	No. Quantitative Taxa: 43		Total Taxa: 77
60900	<i>Peltodytes sp</i>	+	No. Qualitative Taxa: 53		ICI: 52
63300	<i>Hydroporini</i>	+	Number of Organisms: 3174		Qual EPT: 22
63900	<i>Laccophilus sp</i>	+			
68075	<i>Psephenus herricki</i>	1 +			
68130	<i>Helichus sp</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
68901	<i>Macronychus glabratus</i>	+			
69210	<i>Optioservus ampliatus</i>	+			

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Joy Fork

Collection Date: 08/06/2009 River Code: 06-108 RM: 0.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
07800	<i>Cambarus sp</i>	+	85261	<i>Cladotanytarsus vanderwulpi group Type 1</i>	+
11120	<i>Baetis flavistriga</i>	+	85501	<i>Paratanytarsus n.sp 1</i>	+
11130	<i>Baetis intercalaris</i>	+	85625	<i>Rheotanytarsus sp</i>	+
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+	95100	<i>Physella sp</i>	+
12200	<i>Isonychia sp</i>	+			
13000	<i>Leucrocuta sp</i>	+	No. Quantitative Taxa: 0		Total Taxa: 48
13400	<i>Stenacron sp</i>	+	No. Qualitative Taxa: 48		ICI:
13530	<i>Maccaffertium ithaca</i>	+	Number of Organisms: 0		Qual EPT: 25
13590	<i>Maccaffertium vicarium</i>	+			
15000	<i>Paraleptophlebia sp</i>	+			
17200	<i>Caenis sp</i>	+			
18600	<i>Ephemera sp</i>	+			
21200	<i>Calopteryx sp</i>	+			
23909	<i>Boyeria vinosa</i>	+			
25510	<i>Stylogomphus albistylus</i>	+			
33100	<i>Leuctra sp</i>	+			
34120	<i>Acroneuria carolinensis</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
36500	<i>Sweltsa sp</i>	+			
48620	<i>Nigronia serricornis</i>	+			
50301	<i>Chimarra aterrima</i>	+			
51400	<i>Nyctiophylax sp</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52440	<i>Ceratopsyche slossonae</i>	+			
57400	<i>Neophylax sp</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
58020	<i>Lepidostoma sp</i>	+			
58505	<i>Helicopsyche borealis</i>	+			
63300	<i>Hydroporini</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
69400	<i>Stenelmis sp</i>	+			
71100	<i>Hexatoma sp</i>	+			
72340	<i>Dixella sp</i>	+			
74100	<i>Simulium sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
78140	<i>Labrundinia pilosella</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
84300	<i>Phaenopsectra obediens group</i>	+			
84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+			

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: South Fork Captina Creek

Collection Date: 08/05/2009 River Code: 06-117 RM: 9.48

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+	85711	<i>Stempellinella leptocelloides</i>	+
03600	<i>Oligochaeta</i>	+	85800	<i>Tanytarsus sp</i>	+
06201	<i>Hyaella azteca</i>	+	86100	<i>Chrysops sp</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	86200	<i>Tabanus sp</i>	+
11130	<i>Baetis intercalaris</i>	+	87540	<i>Hemerodromia sp</i>	+
12200	<i>Isonychia sp</i>	+	95100	<i>Physella sp</i>	+
13400	<i>Stenacron sp</i>	+	96900	<i>Ferrissia sp</i>	+
13521	<i>Stenonema femoratum</i>	+	98200	<i>Pisidium sp</i>	+
13570	<i>Maccaffertium terminatum</i>	+	98600	<i>Sphaerium sp</i>	+
13590	<i>Maccaffertium vicarium</i>	+			
15000	<i>Paraleptophlebia sp</i>	+	No. Quantitative Taxa: 0		Total Taxa: 52
17200	<i>Caenis sp</i>	+	No. Qualitative Taxa: 52		ICI:
18750	<i>Hexagenia limbata</i>	+	Number of Organisms: 0		Qual EPT: 17
22001	<i>Coenagrionidae</i>	+			
22300	<i>Argia sp</i>	+			
23804	<i>Basiaeschna janata</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
45100	<i>Palmacorixa sp</i>	+			
45300	<i>Sigara sp</i>	+			
47600	<i>Sialis 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>	+			
57900	<i>Pycnopsyche sp</i>	+			
58505	<i>Helicopsyche borealis</i>	+			
60300	<i>Dineutus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
69400	<i>Stenelmis sp</i>	+			
71100	<i>Hexatoma sp</i>	+			
72340	<i>Dixella sp</i>	+			
74501	<i>Ceratopogonidae</i>	+			
77500	<i>Conchapelopia sp</i>	+			
78400	<i>Natarsia sp</i>	+			
81231	<i>Nanocladius (N.) crassicornus or N. (N.) "rectinervis"</i>	+			
83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84520	<i>Polypedilum (Tripodura) halterale group</i>	+			
84540	<i>Polypedilum (Tripodura) scalaenum group</i>	+			
85201	<i>Cladotanytarsus species group A</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: South Fork Captina Creek
St. Rt. 26

Collection Date: 08/31/2009 River Code: 06-117 RM: 2.97

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+	68075	<i>Psephenus herricki</i>	+
03360	<i>Plumatella sp</i>	3 +	68130	<i>Helichus sp</i>	1 +
03600	<i>Oligochaeta</i>	+	68601	<i>Ancyronyx variegata</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	68708	<i>Dubiraphia vittata group</i>	1 +
08601	<i>Hydrachnidia</i>	16	68901	<i>Macronychus glabratus</i>	+
11014	<i>Acentrella turbida</i>	+	69200	<i>Optioservus sp</i>	+
11120	<i>Baetis flavistriga</i>	42 +	69400	<i>Stenelmis sp</i>	2 +
11130	<i>Baetis intercalaris</i>	173 +	70600	<i>Antocha sp</i>	74 +
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	71100	<i>Hexatoma sp</i>	+
12200	<i>Isonychia sp</i>	2 +	71900	<i>Tipula sp</i>	+
13000	<i>Leucrocuta sp</i>	+	72340	<i>Dixella sp</i>	+
13400	<i>Stenacron sp</i>	+	72700	<i>Anopheles sp</i>	+
13521	<i>Stenonema femoratum</i>	+	74100	<i>Simulium sp</i>	+
13590	<i>Maccaffertium vicarium</i>	225 +	77500	<i>Conchapelopia sp</i>	113 +
15501	<i>Ephemerellidae</i>	16	77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	151
17200	<i>Caenis sp</i>	195 +	78450	<i>Nilotanypus fimbriatus</i>	38
18600	<i>Ephemera sp</i>	+	78655	<i>Procladius (Holotanypus) sp</i>	+
21200	<i>Calopteryx sp</i>	+	78750	<i>Rheopelopia paramaculipennis</i>	75
23909	<i>Boyeria vinosa</i>	+	80370	<i>Corynoneura lobata</i>	96
24900	<i>Gomphus sp</i>	+	80410	<i>Cricotopus (C.) sp</i>	226
26700	<i>Macromia sp</i>	+	81200	<i>Nanocladius sp</i>	38
27400	<i>Neurocordulia sp</i>	+	81280	<i>Nanocladius (Plecoptera coluthus) downesi</i>	+
34120	<i>Acroneuria carolinensis</i>	1 +	81630	<i>Parakiefferiella sp</i>	+
45100	<i>Palmacorixa sp</i>	+	81650	<i>Parametriocnemus sp</i>	75
45300	<i>Sigara sp</i>	+	81690	<i>Paratrichocladius sp</i>	75
45400	<i>Trichocorixa sp</i>	+	82070	<i>Synorthocladius semivirens</i>	75
48410	<i>Corydalus cornutus</i>	10 +	82100	<i>Thienemanniella sp</i>	16
50301	<i>Chimarra aterrima</i>	+	82220	<i>Tvetenia discoloripes group</i>	38
51400	<i>Nyctiophylax sp</i>	+	82730	<i>Chironomus (C.) decorus group</i>	+
51600	<i>Polycentropus sp</i>	+	82880	<i>Cryptotendipes sp</i>	+
52200	<i>Cheumatopsyche sp</i>	31 +	83040	<i>Dicrotendipes neomodestus</i>	+
52430	<i>Ceratopsyche morosa group</i>	160	83840	<i>Microtendipes pedellus group</i>	38
52530	<i>Hydropsyche depravata group</i>	3 +	83900	<i>Nilothauma sp</i>	+
52540	<i>Hydropsyche dicantha</i>	+	84155	<i>Paralauterborniella nigrohalteralis</i>	+
53501	<i>Hydroptilidae</i>	3 +	84300	<i>Phaenopsectra obediens group</i>	38 +
57900	<i>Pycnopsyche sp</i>	1 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	75
58505	<i>Helicopsyche borealis</i>	2 +	84540	<i>Polypedilum (Tripodura) scalaenum group</i>	+
59110	<i>Ceraclaea ancylus</i>	+	84960	<i>Pseudochironomus sp</i>	+
59310	<i>Mystacides sepulchralis</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	113
59580	<i>Oecetis persimilis</i>	1 +	85625	<i>Rheotanytarsus sp</i>	867 +
59970	<i>Petrophila sp</i>	16 +	85752	<i>Sublettea coffmani</i>	188
60300	<i>Dineutus sp</i>	+	85800	<i>Tanytarsus sp</i>	151 +
65800	<i>Berosus sp</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	1545 +
68025	<i>Ectopria sp</i>	+	89501	<i>Ephydriidae</i>	+

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

Site: South Fork Captina Creek
St. Rt. 26

Collection Date: 08/31/2009 River Code: 06-117 RM: 2.97

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
94400	<i>Fossaria sp</i>	+			
96900	<i>Ferrissia sp</i>	1 +			

No. Quantitative Taxa: 43 Total Taxa: 90
No. Qualitative Taxa: 72 ICI: **50**
Number of Organisms: 5010 Qual EPT: 24

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: South Fork Captina Creek

Collection Date: 09/01/2009 River Code: 06-117 RM: 0.10

Co. Rd. 92, at mouth

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
00401	<i>Spongillidae</i>	+	68901	<i>Macronychus glabratus</i>	+
01801	<i>Turbellaria</i>	1 +	69400	<i>Stenelmis sp</i>	25 +
03360	<i>Plumatella sp</i>	1	70600	<i>Antocha sp</i>	4
03600	<i>Oligochaeta</i>	+	72700	<i>Anopheles sp</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	74100	<i>Simulium sp</i>	+
11120	<i>Baetis flavistriga</i>	17	74501	<i>Ceratopogonidae</i>	+
11125	<i>Pseudocloeon frondale</i>	+	77750	<i>Hayesomyia senata or Thienemannimyia norena</i>	91
11130	<i>Baetis intercalaris</i>	12 +	77800	<i>Helopelopia sp</i>	36 +
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	78140	<i>Labrundinia pilosella</i>	+
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+	78450	<i>Nilotanypus fimbriatus</i>	18
12200	<i>Isonychia sp</i>	4 +	78655	<i>Procladius (Holotanypus) sp</i>	+
13000	<i>Leucrocuta sp</i>	+	78750	<i>Rheopelopia paramaculipennis</i>	+
13400	<i>Stenacron sp</i>	10 +	80370	<i>Corynoneura lobata</i>	48
13521	<i>Stenonema femoratum</i>	+	80410	<i>Cricotopus (C.) sp</i>	18
13561	<i>Maccaffertium pulchellum</i>	38 +	81650	<i>Parametriocnemus sp</i>	18
13590	<i>Maccaffertium vicarium</i>	13 +	82101	<i>Thienemanniella taurocapita</i>	23
16700	<i>Tricorythodes sp</i>	2	82141	<i>Thienemanniella xena</i>	+
17200	<i>Caenis sp</i>	88 +	82820	<i>Cryptochironomus sp</i>	18 +
18600	<i>Ephemera sp</i>	+	82885	<i>Cryptotendipes pseudotener</i>	+
18750	<i>Hexagenia limbata</i>	+	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	55
22001	<i>Coenagrionidae</i>	+	83900	<i>Nilothauma sp</i>	18
22300	<i>Argia sp</i>	1 +	84210	<i>Paratendipes albimanus or P. duplicatus</i>	+
23804	<i>Basiaeschna janata</i>	+	84450	<i>Polypedilum (Uresipedilum) flavum</i>	91
23909	<i>Boyeria vinosa</i>	+	84460	<i>Polypedilum (P.) fallax group</i>	18
26700	<i>Macromia sp</i>	+	84470	<i>Polypedilum (P.) illinoense</i>	+
34130	<i>Acroneuria frisoni</i>	14 +	84700	<i>Stenochironomus sp</i>	+
47600	<i>Sialis sp</i>	+	85615	<i>Rheotanytarsus pellucidus</i>	36
48410	<i>Corydalus cornutus</i>	9 +	85625	<i>Rheotanytarsus sp</i>	219 +
50301	<i>Chimarra aterrima</i>	+	85720	<i>Stempellinella fimbriata</i>	36
50315	<i>Chimarra obscura</i>	1 +	85752	<i>Sublettea coffmani</i>	328
51400	<i>Nyctiophylax sp</i>	+	85800	<i>Tanytarsus sp</i>	36
51600	<i>Polycentropus sp</i>	+	85802	<i>Tanytarsus curticornis</i>	18
52200	<i>Cheumatopsyche sp</i>	20 +	85821	<i>Tanytarsus glabrescens group sp 7</i>	638
52430	<i>Ceratopsyche morosa group</i>	12 +	85840	<i>Tanytarsus sepp</i>	73 +
57900	<i>Pycnopsyche sp</i>	+	86100	<i>Chrysops sp</i>	+
58505	<i>Helicopsyche borealis</i>	1 +	87540	<i>Hemerodromia sp</i>	34
59110	<i>Ceraclea ancylus</i>	+	95100	<i>Physella sp</i>	+
59500	<i>Oecetis sp</i>	9	96900	<i>Ferrissia sp</i>	19 +
59970	<i>Petrophila sp</i>	1 +	97601	<i>Corbicula fluminea</i>	+
60300	<i>Dineutus sp</i>	+	98001	<i>Sphaeriidae</i>	2
60400	<i>Gyrinus sp</i>	+	98600	<i>Sphaerium sp</i>	+
68025	<i>Ectopria sp</i>	+			
68075	<i>Psephenus herricki</i>	2 +			
68130	<i>Helichus sp</i>	+			

Collection Date: 09/01/2009 River Code: 06-117 RM: 0.10

Site: South Fork Captina Creek
Co. Rd. 92, at mouth

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
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No. Quantitative Taxa: 45	Total Taxa: 85
No. Qualitative Taxa: 62	ICI: 52
Number of Organisms: 2176	Qual EPT: 23

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: North Fork Captina Creek

Collection Date: 07/22/2009 River Code: 06-123 RM: 6.65

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+	85625	<i>Rheotanytarsus sp</i>	+
03040	<i>Fredericella sp</i>	+	85800	<i>Tanytarsus sp</i>	+
03600	<i>Oligochaeta</i>	+	95100	<i>Physella sp</i>	+
04664	<i>Helobdella stagnalis</i>	+	96900	<i>Ferrissia sp</i>	+
04935	<i>Erpobdella punctata punctata</i>	+	96930	<i>Laevapex fuscus</i>	+
04964	<i>Mooreobdella microstoma</i>	+			
08200	<i>Orconectes sp</i>	+	No. Quantitative Taxa: 0		Total Taxa: 49
11120	<i>Baetis flavistriga</i>	+	No. Qualitative Taxa: 49		ICI:
11130	<i>Baetis intercalaris</i>	+	Number of Organisms: 0		Qual EPT: 12
11150	<i>Pseudocloeon propinquum</i>	+			
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+			
12200	<i>Isonychia sp</i>	+			
13000	<i>Leucrocuta sp</i>	+			
13400	<i>Stenacron sp</i>	+			
15000	<i>Paraleptophlebia sp</i>	+			
21200	<i>Calopteryx sp</i>	+			
23909	<i>Boyeria vinosa</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
53501	<i>Hydroptilidae</i>	+			
63300	<i>Hydroporini</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
68901	<i>Macronychus glabratus</i>	+			
69400	<i>Stenelmis sp</i>	+			
71300	<i>Limonia sp</i>	+			
71900	<i>Tipula sp</i>	+			
74100	<i>Simulium sp</i>	+			
74501	<i>Ceratopogonidae</i>	+			
77500	<i>Conchapelopia sp</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
82730	<i>Chironomus (C.) decorus group</i>	+			
82820	<i>Cryptochironomus sp</i>	+			
83840	<i>Microtendipes pedellus group</i>	+			
84300	<i>Phaenopsectra obediens group</i>	+			
84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84475	<i>Polypedilum (P.) ophioides</i>	+			
84540	<i>Polypedilum (Tripodura) scalaenum group</i>	+			
84750	<i>Stictochironomus sp</i>	+			
85500	<i>Paratanytarsus sp</i>	+			

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: North Fork Captina Creek

Collection Date: 09/01/2009 River Code: 06-123 RM: 3.94

Co. Rd. 26 dst. Long Run

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	139 +	60300	<i>Dineutus sp</i>	+
03040	<i>Fredericella sp</i>	+	60900	<i>Peltodytes sp</i>	+
03600	<i>Oligochaeta</i>	+	68025	<i>Ectopria sp</i>	+
04964	<i>Mooreobdella microstoma</i>	+	68075	<i>Psephenus herricki</i>	1 +
06201	<i>Hyaella azteca</i>	+	68601	<i>Ancyronyx variegata</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	68708	<i>Dubiraphia vittata group</i>	1 +
11120	<i>Baetis flavistriga</i>	37 +	68901	<i>Macronychus glabratus</i>	16 +
11130	<i>Baetis intercalaris</i>	93 +	69400	<i>Stenelmis sp</i>	11 +
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	71100	<i>Hexatoma sp</i>	+
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+	71900	<i>Tipula sp</i>	+
11670	<i>Procloeon viridoculare</i>	+	72700	<i>Anopheles sp</i>	2 +
12200	<i>Isonychia sp</i>	14 +	74100	<i>Simulium sp</i>	+
13000	<i>Leucrocota sp</i>	14 +	77500	<i>Conchapelopia sp</i>	63
13400	<i>Stenacron sp</i>	183 +	78450	<i>Nilotanytus fimbriatus</i>	102 +
13521	<i>Stenonema femoratum</i>	+	78655	<i>Procladius (Holotanytus) sp</i>	+
13561	<i>Maccaffertium pulchellum</i>	169 +	80370	<i>Corynoneura lobata</i>	243
13590	<i>Maccaffertium vicarium</i>	9	80410	<i>Cricotopus (C.) sp</i>	34
16700	<i>Tricorythodes sp</i>	9	81270	<i>Nanocladius (N.) spinipennis</i>	68
17200	<i>Caenis sp</i>	3 +	81650	<i>Parametriocnemus sp</i>	+
18600	<i>Ephemera sp</i>	+	82121	<i>Thienemanniella lobapodema</i>	64
18700	<i>Hexagenia sp</i>	+	82141	<i>Thienemanniella xena</i>	34
21200	<i>Calopteryx sp</i>	+	82220	<i>Tvetenia discoloripes group</i>	34 +
22001	<i>Coenagrionidae</i>	+	82730	<i>Chironomus (C.) decorus group</i>	+
22300	<i>Argia sp</i>	5 +	82820	<i>Cryptochironomus sp</i>	34
23909	<i>Boyeria vinosa</i>	+	82885	<i>Cryptotendipes pseudotener</i>	+
26100	<i>Cordulegaster sp</i>	+	83040	<i>Dicrotendipes neomodestus</i>	+
34120	<i>Acroneuria carolinensis</i>	+	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	68 +
34130	<i>Acroneuria frisoni</i>	1			
44501	<i>Corixidae</i>	+	84450	<i>Polypedilum (Uresipedilum) flavum</i>	581 +
48610	<i>Nigronia fasciatus</i>	+	84460	<i>Polypedilum (P.) fallax group</i>	102 +
50315	<i>Chimarra obscura</i>	+	84470	<i>Polypedilum (P.) illinoense</i>	+
51400	<i>Nyctiophylax sp</i>	1 +	84540	<i>Polypedilum (Tripodura) scalaenum group</i>	68 +
52200	<i>Cheumatopsyche sp</i>	163 +	85500	<i>Paratanytarsus sp</i>	+
52430	<i>Ceratopsyche morosa group</i>	19 +	85615	<i>Rheotanytarsus pellucidus</i>	68
52440	<i>Ceratopsyche slossonae</i>	3	85625	<i>Rheotanytarsus sp</i>	2357 +
52530	<i>Hydropsyche depravata group</i>	1 +	85720	<i>Stempellinella fimbriata</i>	34
52540	<i>Hydropsyche dicantha</i>	+	85800	<i>Tanytarsus sp</i>	102
53800	<i>Hydroptila sp</i>	+	85802	<i>Tanytarsus curticornis</i>	34
57900	<i>Pycnopsyche sp</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	137
58505	<i>Helicopsyche borealis</i>	3 +	85840	<i>Tanytarsus sepp</i>	102
59110	<i>Ceraclea ancylus</i>	+	86100	<i>Chrysops sp</i>	+
59300	<i>Mystacides sp</i>	+	86401	<i>Atherix lantha</i>	+
59500	<i>Oecetis sp</i>	3	87400	<i>Stratiomys sp</i>	+
59970	<i>Petrophila sp</i>	+	87540	<i>Hemerodromia sp</i>	26 +
			95100	<i>Physella sp</i>	+

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

Site: North Fork Captina Creek
Co. Rd. 26 dst. Long Run

Collection Date: 09/01/2009 River Code: 06-123 RM: 3.94

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
96900	<i>Ferrissia sp</i>	+			
98001	<i>Sphaeriidae</i>	5			
98600	<i>Sphaerium sp</i>	+			

No. Quantitative Taxa: 46 Total Taxa: 91
No. Qualitative Taxa: 72 ICI: **52**
Number of Organisms: 5260 Qual EPT: 25

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

Site: North Fork Captina Creek

Collection Date: 08/27/2009 River Code: 06-123 RM: 0.43

Co. Rd. 92

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
00401	<i>Spongillidae</i>	+	60300	<i>Dineutus sp</i>	+
01801	<i>Turbellaria</i>	2 +	65800	<i>Berosus sp</i>	+
03360	<i>Plumatella sp</i>	1 +	68025	<i>Ectopria sp</i>	+
03600	<i>Oligochaeta</i>	4 +	68075	<i>Psephenus herricki</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	68130	<i>Helichus sp</i>	+
11014	<i>Acentrella turbida</i>	+	68601	<i>Ancyronyx variegata</i>	+
11120	<i>Baetis flavistriga</i>	11	68708	<i>Dubiraphia vittata group</i>	+
11130	<i>Baetis intercalaris</i>	144 +	68901	<i>Macronychus glabratus</i>	1 +
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+	69210	<i>Optioservus ampliatus</i>	+
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	69400	<i>Stenelmis sp</i>	12 +
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+	70600	<i>Antocha sp</i>	27
11670	<i>Procloeon viridoculare</i>	+	71700	<i>Pilaria sp</i>	+
12200	<i>Isonychia sp</i>	46 +	72340	<i>Dixella sp</i>	+
13000	<i>Leucrocuta sp</i>	+	72700	<i>Anopheles sp</i>	+
13400	<i>Stenacron sp</i>	26 +	74100	<i>Simulium sp</i>	+
13521	<i>Stenonema femoratum</i>	1	77120	<i>Ablabesmyia mallochi</i>	+
13561	<i>Maccaffertium pulchellum</i>	47 +	77500	<i>Conchapelopia sp</i>	37 +
13590	<i>Maccaffertium vicarium</i>	6	78450	<i>Nilotanytus fimbriatus</i>	128 +
16700	<i>Tricorythodes sp</i>	8	80351	<i>Corynoneura n.sp 1</i>	64
17200	<i>Caenis sp</i>	62 +	80370	<i>Corynoneura lobata</i>	112
21200	<i>Calopteryx sp</i>	1 +	80420	<i>Cricotopus (C.) bicinctus</i>	+
22300	<i>Argia sp</i>	24 +	80430	<i>Cricotopus (C.) tremulus group</i>	150
23909	<i>Boyeria vinosa</i>	+	81650	<i>Parametriocnemus sp</i>	75 +
27400	<i>Neurocordulia sp</i>	+	82101	<i>Thienemanniella taurocapita</i>	32
34120	<i>Acroneuria carolinensis</i>	+	82141	<i>Thienemanniella xena</i>	128
34130	<i>Acroneuria frisoni</i>	1	82730	<i>Chironomus (C.) decorus group</i>	+
43300	<i>Ranatra sp</i>	+	84155	<i>Paralauterborniella nigrohalteralis</i>	+
44501	<i>Corixidae</i>	+	84210	<i>Paratendipes albimanus or P. duplicatus</i>	+
48410	<i>Corydalus cornutus</i>	3 +	84450	<i>Polypedilum (Uresipedilum) flavum</i>	37 +
48620	<i>Nigronia serricornis</i>	+	85625	<i>Rheotanytarsus sp</i>	2771 +
50315	<i>Chimarra obscura</i>	+	85752	<i>Sublettea coffmani</i>	112
51400	<i>Nyctiophylax sp</i>	+	85800	<i>Tanytarsus sp</i>	37
51600	<i>Polycentropus sp</i>	+	85821	<i>Tanytarsus glabrescens group sp 7</i>	524 +
52200	<i>Cheumatopsyche sp</i>	326 +	85840	<i>Tanytarsus sepp</i>	+
52430	<i>Ceratopsyche morosa group</i>	146 +	86100	<i>Chrysops sp</i>	+
52530	<i>Hydropsyche depravata group</i>	10 +	86401	<i>Atherix lantha</i>	+
52540	<i>Hydropsyche dicantha</i>	1 +	87540	<i>Hemerodromia sp</i>	75
57900	<i>Pycnopsyche sp</i>	+	95100	<i>Physella sp</i>	+
58505	<i>Helicopsyche borealis</i>	1 +	96900	<i>Ferrissia sp</i>	17 +
59110	<i>Ceraclea ancylus</i>	8 +	98600	<i>Sphaerium sp</i>	+
59150	<i>Ceraclea resurgens group</i>	+			
59300	<i>Mystacides sp</i>	+	No. Quantitative Taxa: 40		Total Taxa: 84
59700	<i>Triaenodes sp</i>	+	No. Qualitative Taxa: 70		ICI: 54
59970	<i>Petrophila sp</i>	+	Number of Organisms: 5218		Qual EPT: 25

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

Site: Jakes Run
at mouth

Collection Date: 08/05/2009 River Code: 06-124 RM: 0.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
08200	<i>Orconectes sp</i>	+	<hr/> No. Quantitative Taxa: 0 Total Taxa: 40 No. Qualitative Taxa: 40 ICI: Number of Organisms: 0 Qual EPT: 19		
12200	<i>Isonychia sp</i>	+			
13400	<i>Stenacron sp</i>	+			
13561	<i>Maccaffertium pulchellum</i>	+			
13590	<i>Maccaffertium vicarium</i>	+			
15000	<i>Paraleptophlebia sp</i>	+			
17200	<i>Caenis sp</i>	+			
23905	<i>Boyeria grafiana</i>	+			
25510	<i>Stylogomphus albistylus</i>	+			
33100	<i>Leuctra sp</i>	+			
34120	<i>Acroneuria carolinensis</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
36500	<i>Sweltsa sp</i>	+			
45300	<i>Sigara sp</i>	+			
48620	<i>Nigronia serratocornis</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52440	<i>Ceratopsyche slossonae</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
57400	<i>Neophylax sp</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
58505	<i>Helicopsyche borealis</i>	+			
59310	<i>Mystacides sepulchralis</i>	+			
63300	<i>Hydroporini</i>	+			
67500	<i>Laccobius sp</i>	+			
68025	<i>Ectopria sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
69200	<i>Optioservus sp</i>	+			
69400	<i>Stenelmis sp</i>	+			
70600	<i>Antocha sp</i>	+			
74100	<i>Simulium sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
81690	<i>Paratrichocladius sp</i>	+			
83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	+			
85625	<i>Rheotanytarsus sp</i>	+			
94400	<i>Fossaria sp</i>	+			
95100	<i>Physella sp</i>	+			

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

Site: Cat Run
ust. T 203

Collection Date: 08/06/2009 River Code: 06-101 RM: 3.30

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
08230	<i>Orconectes (Crockerinus) obscurus</i>	+			
08601	<i>Hydrachnidia</i>	+			
11014	<i>Acentrella turbida</i>	+			
11120	<i>Baetis flavistriga</i>	+			
11130	<i>Baetis intercalaris</i>	+			
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+			
13521	<i>Stenonema femoratum</i>	+			
13590	<i>Maccaffertium vicarium</i>	+			
15000	<i>Paraleptophlebia sp</i>	+			
17200	<i>Caenis sp</i>	+			
21200	<i>Calopteryx sp</i>	+			
22300	<i>Argia sp</i>	+			
23905	<i>Boyeria grafiana</i>	+			
33100	<i>Leuctra sp</i>	+			
34120	<i>Acroneuria carolinensis</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
51600	<i>Polycentropus sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52440	<i>Ceratopsyche slossonae</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
58505	<i>Helicopsyche borealis</i>	+			
59310	<i>Mystacides sepulchralis</i>	+			
59730	<i>Triaenodes melaca</i>	+			
63300	<i>Hydroporini</i>	+			
67800	<i>Tropisternus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
69225	<i>Optioservus fastiditus</i>	+			
69400	<i>Stenelmis sp</i>	+			
71100	<i>Hexatoma sp</i>	+			
72340	<i>Dixella sp</i>	+			
72700	<i>Anopheles sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
79400	<i>Zavreliomyia sp</i>	+			
82820	<i>Cryptochironomus sp</i>	+			
83040	<i>Dicrotendipes neomodestus</i>	+			
84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+			
85800	<i>Tanytarsus sp</i>	+			
87540	<i>Hemerodromia sp</i>	+			
95100	<i>Physella sp</i>	+			

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Cat Run

Collection Date: 08/06/2009 River Code: 06-101 RM: 0.25

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+	94400	<i>Fossaria sp</i>	+
03040	<i>Fredericella sp</i>	+	95100	<i>Physella sp</i>	+
06810	<i>Gammarus fasciatus</i>	+	96900	<i>Ferrissia sp</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+			
11120	<i>Baetis flavistriga</i>	+	No. Quantitative Taxa: 0		Total Taxa: 47
11130	<i>Baetis intercalaris</i>	+	No. Qualitative Taxa: 47		ICI:
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+	Number of Organisms: 0		Qual EPT: 20
12200	<i>Isonychia sp</i>	+			
13400	<i>Stenacron sp</i>	+			
13521	<i>Stenonema femoratum</i>	+			
13590	<i>Maccaffertium vicarium</i>	+			
14950	<i>Leptophlebia sp or Paraleptophlebia sp</i>	+			
17200	<i>Caenis sp</i>	+			
23804	<i>Basiaeschna janata</i>	+			
23905	<i>Boyeria grafiana</i>	+			
24900	<i>Gomphus sp</i>	+			
33100	<i>Leuctra sp</i>	+			
34120	<i>Acroneuria carolinensis</i>	+			
43570	<i>Neoptera sp</i>	+			
50315	<i>Chimarra obscura</i>	+			
50552	<i>Wormaldia moesta</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52440	<i>Ceratopsyche slossonae</i>	+			
53501	<i>Hydroptilidae</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
58505	<i>Helicopsyche borealis</i>	+			
60900	<i>Peltodytes sp</i>	+			
63300	<i>Hydroporini</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68707	<i>Dubiraphia quadrinotata</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
69225	<i>Optioservus fastiditus</i>	+			
69400	<i>Stenelmis sp</i>	+			
74100	<i>Simulium sp</i>	+			
74501	<i>Ceratopogonidae</i>	+			
77500	<i>Conchapelopia sp</i>	+			
82141	<i>Thienemanniella xena</i>	+			
83003	<i>Dicrotendipes fumidus</i>	+			
83040	<i>Dicrotendipes neomodestus</i>	+			
83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	+			
86401	<i>Atherix lantha</i>	+			

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Peavine Creek

Collection Date: 08/06/2009 River Code: 06-103 RM: 0.15

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+	77120	<i>Ablabesmyia mallochi</i>	+
03600	<i>Oligochaeta</i>	+	77500	<i>Conchapelopia sp</i>	+
07860	<i>Cambarus (Puncticambarus) robustus</i>	+	78140	<i>Labrundinia pilosella</i>	+
11120	<i>Baetis flavistriga</i>	+	83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	+
11121	<i>Pseudocloeon sp</i>	+			
11130	<i>Baetis intercalaris</i>	+	84210	<i>Paratendipes albimanus or P. duplicatus</i>	+
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+	84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+	85625	<i>Rheotanytarsus sp</i>	+
12200	<i>Isonychia sp</i>	+	86200	<i>Tabanus sp</i>	+
13000	<i>Leucrocuta sp</i>	+	86401	<i>Atherix lantha</i>	+
13400	<i>Stenacron sp</i>	+	95100	<i>Physella sp</i>	+
13521	<i>Stenonema femoratum</i>	+	96900	<i>Ferrissia sp</i>	+
13530	<i>Maccaffertium ithaca</i>	+			
13590	<i>Maccaffertium vicarium</i>	+	No. Quantitative Taxa: 0		Total Taxa: 55
15000	<i>Paraleptophlebia sp</i>	+	No. Qualitative Taxa: 55		ICI:
17200	<i>Caenis sp</i>	+	Number of Organisms: 0		Qual EPT: 26
23909	<i>Boyeria vinosa</i>	+			
33100	<i>Leuctra sp</i>	+			
34120	<i>Acroneuria carolinensis</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
36500	<i>Sweltsa sp</i>	+			
45300	<i>Sigara sp</i>	+			
48410	<i>Corydalus cornutus</i>	+			
50301	<i>Chimarra aterrima</i>	+			
50315	<i>Chimarra obscura</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
53122	<i>Rhyacophila invaria complex</i>	+			
53800	<i>Hydroptila sp</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
58505	<i>Helicopsyche borealis</i>	+			
59970	<i>Petrophila sp</i>	+			
60300	<i>Dineutus sp</i>	+			
63300	<i>Hydroporini</i>	+			
65700	<i>Anacaena sp</i>	+			
68075	<i>Psephenus herricki</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>	+			
72340	<i>Dixella sp</i>	+			
72700	<i>Anopheles sp</i>	+			

Ohio EPA/DW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Crabapple Creek

Collection Date: 08/06/2009 River Code: 06-110 RM: 0.46

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	85625	<i>Rheotanytarsus sp</i>	+
11120	<i>Baetis flavistriga</i>	+	85840	<i>Tanytarsus sepp</i>	+
11130	<i>Baetis intercalaris</i>	+	86401	<i>Atherix lantha</i>	+
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+	95100	<i>Physella sp</i>	+
11651	<i>Procloeon sp (w/o hindwing pads)</i>	+			
12200	<i>Isonychia sp</i>	+	No. Quantitative Taxa: 0		Total Taxa: 48
13000	<i>Leucrocuta sp</i>	+	No. Qualitative Taxa: 48		ICI:
13400	<i>Stenacron sp</i>	+	Number of Organisms: 0		Qual EPT: 20
13590	<i>Maccaffertium vicarium</i>	+			
14950	<i>Leptophlebia sp or Paraleptophlebia sp</i>	+			
17200	<i>Caenis sp</i>	+			
18600	<i>Ephemera sp</i>	+			
21200	<i>Calopteryx sp</i>	+			
22300	<i>Argia sp</i>	+			
23909	<i>Boyeria vinosa</i>	+			
33100	<i>Leuctra sp</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
45300	<i>Sigara sp</i>	+			
47600	<i>Sialis sp</i>	+			
48410	<i>Corydalus cornutus</i>	+			
50301	<i>Chimarra aterrima</i>	+			
50315	<i>Chimarra obscura</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
58505	<i>Helicopsyche borealis</i>	+			
59970	<i>Petrophila sp</i>	+			
63300	<i>Hydroporini</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
69210	<i>Optioservus ampliatus</i>	+			
69400	<i>Stenelmis sp</i>	+			
70600	<i>Antocha sp</i>	+			
71900	<i>Tipula sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
78400	<i>Natarsia sp</i>	+			
79761	<i>Pagastia orthogonia</i>	+			
80420	<i>Cricotopus (C.) bicinctus</i>	+			
82885	<i>Cryptotendipes pseudotener</i>	+			
83820	<i>Microtendipes "caelum" (sensu Simpson & Bode, 1980)</i>	+			
84210	<i>Paratendipes albimanus or P. duplicatus</i>	+			
84540	<i>Polypedilum (Tripodura) scalaenum group</i>	+			

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

Site: Piney Creek

Collection Date: 08/06/2009 River Code: 06-111 RM: 0.02

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
06201	<i>Hyalella azteca</i>	+			
08230	<i>Orconectes (Crockerinus) obscurus</i>	+			
17200	<i>Caenis sp</i>	+			
21200	<i>Calopteryx sp</i>	+			
22300	<i>Argia sp</i>	+			
23909	<i>Boyeria vinosa</i>	+			
25510	<i>Stylogomphus albistylus</i>	+			
33100	<i>Leuctra sp</i>	+			
34130	<i>Acroneuria frisoni</i>	+			
47600	<i>Sialis sp</i>	+			
50301	<i>Chimarra aterrima</i>	+			
50315	<i>Chimarra obscura</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52440	<i>Ceratopsyche slossonae</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
52540	<i>Hydropsyche dicantha</i>	+			
55300	<i>Ptilostomis sp</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
58505	<i>Helicopsyche borealis</i>	+			
59720	<i>Triaenodes ignitus</i>	+			
59724	<i>Triaenodes injustus</i>	+			
59970	<i>Petrophila sp</i>	+			
60300	<i>Dineutus sp</i>	+			
63300	<i>Hydroporini</i>	+			
68075	<i>Psephenus herricki</i>	+			
68130	<i>Helichus sp</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
71100	<i>Hexatoma sp</i>	+			
71900	<i>Tipula sp</i>	+			
77120	<i>Ablabesmyia mallochii</i>	+			
79720	<i>Diamesa sp</i>	+			
80430	<i>Cricotopus (C.) tremulus group</i>	+			
81650	<i>Parametriocnemus sp</i>	+			
84540	<i>Polypedilum (Tripodura) scalaenum group</i>	+			
87540	<i>Hemerodromia sp</i>	+			
95100	<i>Physella sp</i>	+			

No. Quantitative Taxa: 0 Total Taxa: 37

No. Qualitative Taxa: 37 ICI:

Number of Organisms: 0 Qual EPT: 15

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Casey Run
 at mouth

Collection Date: 07/16/2009 River Code: 06-113 RM: 0.10

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+			
03600	<i>Oligochaeta</i>	+			
07810	<i>Cambarus (Cambarus) carinirostris</i>	+			
11115	<i>Baetis tricaudatus</i>	+			
11120	<i>Baetis flavistriga</i>	+			
11125	<i>Pseudocloeon frondale</i>	+			
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+			
11650	<i>Procloeon sp (w/ hindwing pads)</i>	+			
13000	<i>Leucrocuta sp</i>	+			
13400	<i>Stenacron sp</i>	+			
13590	<i>Maccaffertium vicarium</i>	+			
15000	<i>Paraleptophlebia sp</i>	+			
33100	<i>Leuctra sp</i>	+			
34001	<i>Perlidae</i>	+			
36500	<i>Sweltsa sp</i>	+			
45300	<i>Sigara sp</i>	+			
48610	<i>Nigronia fasciatus</i>	+			
51600	<i>Polycentropus sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52315	<i>Diplectrona modesta</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
53800	<i>Hydroptila sp</i>	+			
56650	<i>Goera stylata</i>	+			
57400	<i>Neophylax sp</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
71800	<i>Pseudolimnophila sp</i>	+			
72330	<i>Dixa sp</i>	+			
72700	<i>Anopheles sp</i>	+			
74100	<i>Simulium sp</i>	+			
77500	<i>Conchapelopia sp</i>	+			
80410	<i>Cricotopus (C.) sp</i>	+			
80430	<i>Cricotopus (C.) tremulus group</i>	+			
82820	<i>Cryptochironomus sp</i>	+			
84440	<i>Polypedilum (Uresipedilum) aviceps</i>	+			
84450	<i>Polypedilum (Uresipedilum) flavum</i>	+			
84475	<i>Polypedilum (P.) ophioides</i>	+			
84540	<i>Polypedilum (Tripodura) scalaenum group</i>	+			
85500	<i>Paratanytarsus sp</i>	+			
85800	<i>Tanytarsus sp</i>	+			
87540	<i>Hemerodromia sp</i>	+			

Ohio EPA/DSW Ecological Assessment Section
 Macroinvertebrate Collection

Site: Long Run

Collection Date: 07/22/2009 River Code: 06-125 RM: 0.04

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	<i>Turbellaria</i>	+	71900	<i>Tipula sp</i>	+
03600	<i>Oligochaeta</i>	+	72340	<i>Dixella sp</i>	+
06201	<i>Hyaella azteca</i>	+	72700	<i>Anopheles sp</i>	+
08230	<i>Orconectes (Crockerinus) obscurus</i>	+	74100	<i>Simulium sp</i>	+
08601	<i>Hydrachnidia</i>	+	77500	<i>Conchapelopia sp</i>	+
11120	<i>Baetis flavistriga</i>	+	79761	<i>Pagastia orthogonia</i>	+
11130	<i>Baetis intercalaris</i>	+	80420	<i>Cricotopus (C.) bicinctus</i>	+
11150	<i>Pseudocloeon propinquum</i>	+	80430	<i>Cricotopus (C.) tremulus group</i>	+
11250	<i>Centroptilum sp (w/o hindwing pads)</i>	+	82220	<i>Tvetenia discoloripes group</i>	+
12200	<i>Isonychia sp</i>	+	82820	<i>Cryptochironomus sp</i>	+
13400	<i>Stenacron sp</i>	+	84315	<i>Phaenopsectra flavipes</i>	+
13561	<i>Maccaffertium pulchellum</i>	+	84450	<i>Polypedilum (Uresipedilum) flavum</i>	+
13590	<i>Maccaffertium vicarium</i>	+	85625	<i>Rheotanytarsus sp</i>	+
16700	<i>Tricorythodes sp</i>	+	85818	<i>Tanytarsus glabrescens group sp 4</i>	+
17200	<i>Caenis sp</i>	+	87540	<i>Hemerodromia sp</i>	+
21200	<i>Calopteryx sp</i>	+	94400	<i>Fossaria sp</i>	+
21300	<i>Hetaerina sp</i>	+	95100	<i>Physella sp</i>	+
22001	<i>Coenagrionidae</i>	+	98200	<i>Pisidium sp</i>	+
22300	<i>Argia sp</i>	+	98600	<i>Sphaerium sp</i>	+
23804	<i>Basiaeschna janata</i>	+			
23909	<i>Boyeria vinosa</i>	+	No. Quantitative Taxa: 0		Total Taxa: 63
34130	<i>Acroneuria frisoni</i>	+	No. Qualitative Taxa: 63		ICI:
42700	<i>Belostoma sp</i>	+	Number of Organisms: 0		Qual EPT: 19
43300	<i>Ranatra sp</i>	+			
47600	<i>Sialis sp</i>	+			
48410	<i>Corydalus cornutus</i>	+			
50315	<i>Chimarra obscura</i>	+			
51400	<i>Nyctiophylax sp</i>	+			
52200	<i>Cheumatopsyche sp</i>	+			
52430	<i>Ceratopsyche morosa group</i>	+			
52530	<i>Hydropsyche depravata group</i>	+			
52540	<i>Hydropsyche dicantha</i>	+			
57900	<i>Pycnopsyche sp</i>	+			
59580	<i>Oecetis persimilis</i>	+			
59970	<i>Petrophila sp</i>	+			
60300	<i>Dineutus sp</i>	+			
60900	<i>Peltodytes sp</i>	+			
67000	<i>Helophorus sp</i>	+			
67800	<i>Tropisternus sp</i>	+			
68075	<i>Psephenus herricki</i>	+			
68201	<i>Scirtidae</i>	+			
68708	<i>Dubiraphia vittata group</i>	+			
68901	<i>Macronychus glabratus</i>	+			
69400	<i>Stenelmis sp</i>	+			

Appendix Table 10. Invertebrate Community Index (ICI) scores and metrics for the Captina Creek watershed, 2008 and 2009. page A149

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			
Captina Creek (06-100)													
Year: 2009													
23.12	75.4	52(6)	8(4)	4(6)	25(6)	29.4(4)	7.6(4)	39.6(6)	21.6(6)	1.5(6)	30(6)	4	54
22.10	87.0	40(6)	3(2)	2(4)	23(6)	14.5(2)	0.9(2)	39.9(6)	43.1(4)	11.3(2)	25(6)	4	40
20.90	87.9	46(6)	5(2)	5(6)	20(6)	9.4(2)	3.9(2)	72.4(6)	13.6(6)	1.6(6)	26(6)	4	48
17.30	126.0	40(6)	6(4)	4(4)	23(6)	15.0(2)	1.6(2)	56.6(6)	26.4(6)	1.5(6)	23(6)	4	48
16.20	127.0	46(6)	10(6)	6(6)	21(6)	12.7(2)	2.7(2)	68.0(6)	16.1(6)	2.1(6)	25(6)	4	52
11.70	141.0	36(4)	8(4)	2(2)	17(4)	30.9(4)	1.8(2)	53.1(6)	13.2(6)	5.0(4)	21(6)	4	42
6.71	157.0	48(6)	11(6)	7(6)	20(6)	11.5(2)	8.1(2)	49.6(6)	30.3(4)	1.4(6)	24(6)	4	50
3.33	163.0	43(6)	10(6)	8(6)	13(4)	23.7(4)	9.9(2)	48.1(6)	17.9(6)	1.0(6)	20(6)	4	52
Year: 2008													
25.30	68.8	51(6)	12(6)	5(6)	25(6)	34.2(6)	4.6(2)	39.4(6)	21.4(6)	1.4(6)	17(6)	4	56
23.12	75.4	50(6)	12(6)	6(6)	21(6)	16.0(4)	1.5(2)	63.4(6)	18.7(6)	1.3(6)	23(6)	4	54
22.40	86.5	51(6)	9(6)	9(6)	17(4)	4.1(2)	12.0(4)	60.0(6)	23.1(6)	2.5(6)	17(6)	4	52
20.90	87.9	30(4)	7(4)	3(4)	12(2)	15.4(2)	2.5(2)	46.6(6)	35.3(4)	10.9(4)	18(6)	4	38
Bend Fork (06-106)													
Year: 2009													
3.59	19.6	38(6)	9(6)	3(6)	19(4)	5.8(2)	1.1(2)	70.9(6)	21.9(6)	0.4(6)	23(6)	4	50
0.26	27.0	43(6)	10(6)	4(6)	23(6)	13.2(2)	2.9(2)	60.4(6)	23.1(6)	1.7(6)	22(6)	4	52
South Fork Captina Creek (06-117)													
Year: 2009													
2.97	33.7	43(6)	6(4)	7(6)	21(6)	13.0(2)	4.0(2)	57.2(6)	25.2(6)	0.0(6)	24(6)	4	50
0.10	36.1	45(6)	8(6)	5(6)	22(6)	8.5(2)	2.0(2)	63.6(6)	23.6(6)	1.7(6)	23(6)	4	52
North Fork Captina Creek (06-123)													
Year: 2009													
3.94	24.3	46(6)	9(6)	7(6)	22(6)	10.1(2)	3.7(4)	53.9(6)	31.7(4)	1.9(6)	25(6)	4	52
0.43	32.6	40(6)	9(6)	6(6)	15(4)	6.7(2)	9.4(6)	66.0(6)	17.0(6)	0.4(6)	25(6)	4	54

APPENDIX 11 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 2009), 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) including the 2008 updates, Qualitative Habitat Evaluation Index (QHEI); Rationale, Methods, and Application (Rankin 1989) for habitat assessment, and Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI) (Ohio Environmental Protection Agency 2006).

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 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; Ohio EPA 2006). 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 sediments were collected in the upper four inches of bottom material at each sediment sampling location using decontaminated stainless steel scoops. Sediment samples were mixed in stainless steel pans, transferred into glass jars with teflon lined lids, placed on ice (to maintain 4°C) in a cooler, and shipped to the Ohio EPA lab. Sediment data are reported on a dry weight basis. Decontamination of sediment sampling equipment followed the procedures outlined in the Ohio EPA sediment sampling guidance manual (Ohio EPA 2001). Sediment evaluations were conducted using guidelines established in MacDonald *et al.* (2000), and *Ohio Sediment Reference Values (SRVs)* (Ohio EPA 2003). Surface water samples were collected 1-22 times from each location from the upper 12 inches of water over 2008 and 2009. Collected water was preserved using appropriate methods, as outlined in the Manual of Ohio EPA Surveillance Methods and Quality Assurance Practices (Ohio EPA 2009). Bacteriological samples were collected four to nine times at each location. Bacteriological samples were collected directly from the stream 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 *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.

Macroinvertebrate Community Assessment

Macroinvertebrates were collected from artificial substrates and/ or from the natural habitats at the Captina Creek watershed sites. 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). At some locations, only a qualitative multihabitat sample was collected. 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, 2008b).

Fish Community Assessment

Fish were sampled once or twice at each site using pulsed DC electrofishing wading or headwater methods. Electrofishing sampling distances ranged between 120 and 220 meters. Fish were processed in the field, and included identifying each individual to species, counting, weighing (wading sites only), 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, 2008b).

Recreation Use Assessment

Recreation use attainment was determined using newly adopted criteria that became effective on March 15, 2010. The newly adopted criteria (OAC 3745-1-07) resulted in several changes, which are noted below:

- 1) *E. coli* will be the only indicator organism used to evaluate recreation. The use of fecal coliform will be discontinued.
- 2) The recreation season will be May 1 – October 31 instead of ending on October 15.
- 3) Geometric mean content will be computed on a seasonal basis instead of monthly.
- 4) Geometric mean content will be the sole basis of use attainment status when two or more samples are taken.
- 5) Primary Contact Recreation (PCR) will be divided into three separate categories each with specific numerical criteria: Class A – high use paddling streams, Class B – most typical streams and Class C - historically channelized streams that drain less than 3.1 square miles.

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 (2009) 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 logbooks 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 nonattainment). 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.

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. 2008a. 2008 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. 2008b. 2008 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. 2006. 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 Riskbased 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
(614) 836-8786

or

http://www.epa.ohio.gov/dsw/document_index/psdindx.aspx

BACKGROUND

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

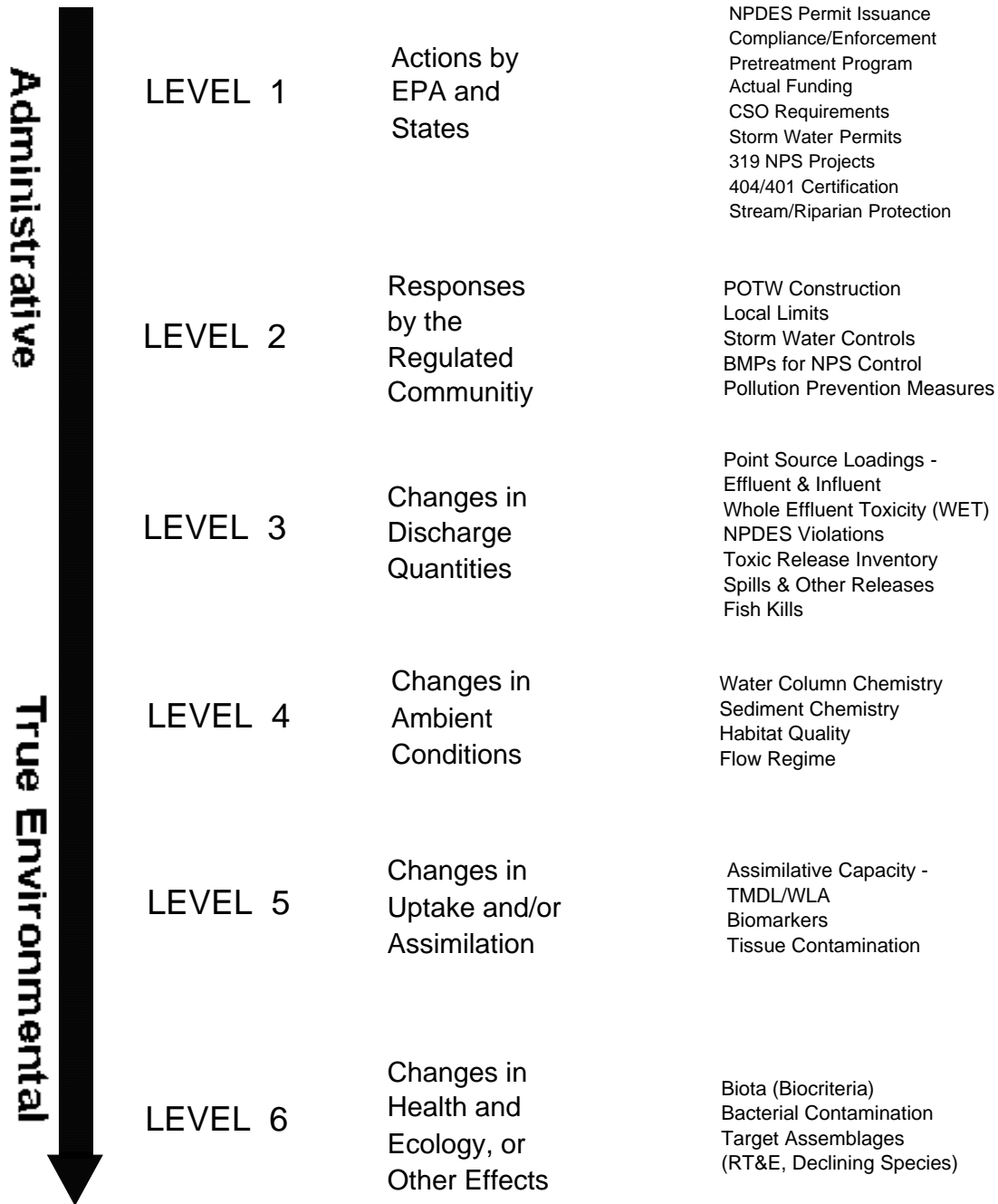


Figure 1. Hierarchy of administrative and environmental indicators which can be used for water quality management activities such as monitoring and assessment, reporting, and the evaluation of overall program effectiveness. This is patterned after a model developed by the U.S. EPA.

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.

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) *Cold-water 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 mi² 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.