

Table C1. Taxonomy				Symbiosis Environmental Bioassessment Report										Sample Date: December 8-9, 2018										Sample ID									
Taxon	Class	Order	Family	Genus	Functional Group	Hilsenhoff Rating	BCG Attributes	KNKQ1	KNJQ1	KNQ1	Resub KN-comp	SCKQ1	SCJQ1	SCQ1	Resub SC-Comp	duplicate SC-Comp	BRKQ1	BRJQ1	BRQ1	Resub BR-Comp	RBKQ1	RBJQ1	RBQ1	Resub RB-Comp	SLKQ1	SLJQ1	SLQ1	Resub SL-Comp	duplicate SL-Comp				
Oligochaeta					Deposit Feeder	10	5			3	11	3	14	1	1	28	7	35	4	8			10	2	17	1	18	9	3				
Insecta	Trichoptera	Hydropsychidae	<i>Chaumatopsyche</i>		filterer	6	5	15	3	18	11	12	3	15	2	12	4	2	6	1	10			10	2	17	1	18	9	3			
			<i>Dipterona</i>		filterer	0	2																										
			<i>Hydropsyche</i>		filterer	5	5	9	8	17	9	8	4	12	4	3	8	4	12	2	23	1	24	2	12		12	4	3				
		Lepidostomatidae	<i>Lepidostoma</i>		shredder	1	2	1	7	8	3					11	4	3	7	3		2	2	2	1		1	2					
		Limnephilidae	<i>Pycnopsyche</i>		shredder	4	3				1					1												1					
			<i>Apalania</i>		scraper	3	2									1		1		1	1												
			<i>Pseudostenophylax</i>		shredder	0	3					1	1	2	1																		
			<i>Hydatophylax</i>		shredder	2	2		1	1		127	127	44	51			5	5			1	1	2	1	13	14	7	2				
		Molannidae	<i>Molana</i>		scraper	6	2				1	1	1																				
		Philopotamidae	<i>Chimarra</i>		filterer	4	4	69		69	29	1	1			1	15	4	19	6	7	1	8	3	11		11	3	1				
			<i>Dolophilodes</i>		filterer	0	2					9	7	16	7	3									5	1	6	3	2				
		Hydrophilidae	<i>Leucotrichia</i>		scraper	6	4	2		2	1																						
		Glossosomatidae	<i>Glossosoma</i>		scraper	0	3																										
		Rhyacophilidae	<i>Rhyacophila</i>		predator	1	2					1	1	2			1	1		1							4	4	4				
		Goeridae	<i>Goera</i>		scraper	0	1					1	1	1																			
		Uenoidae	<i>Neophylax</i>		scraper	3	3				6	3	2	6	3	2	6			6	2							1	1				
		Polycentropodidae	<i>Polycentropus</i>		filterer	6	4		1	1	1		2	2		2	2	2	2	4	1						1	1	1				
		Odontoceridae	<i>Pistotena</i>		shredder	0	1															3	2	5									
		Brachycentridae	<i>Micrasema</i>		shredder	2	3	2	2	1			3	3		1																	
		Psychomyiidae	<i>Lype</i>		collector-gatherer	2	2								1																		
	Plecoptera	Nemouridae	<i>Amphinemura</i>		shredder	3	3											1	1														
		Perlidae	<i>Agretina</i>		predator	2	3	1		1	1	1	1	2	1					4	2	6	3										
			<i>Atanura</i>		predator	2	3						1	1	1																		
			<i>Acronemura</i>		predator	0	3														2		2		3		3	3					
			<i>Eccoptura</i>		predator	2	2																		2	2	4	1					
		Taeniopterygidae	<i>Taeniopteryx</i>		shredder	2	3	3	11	14	9	2	2	1	3	5	8	13	3	1	4	5		25	9	34	9	13					
		Capniidae	<i>Allocapnia</i>		shredder	3	3	4		4	1	1	1	1	8	21	29	4	1	1	1	1	1	23	9	32	10	7					
			<i>Panacapnia</i>		shredder	1	2	48	4	52	14	1	8	9	3	1	114	7	121	35	160	6	166	26	233	18	251	60	71				
			<i>Capnia</i>		shredder	1	3																										
		Chloroperlidae	<i>Sweitsa</i>		predator	0	3																		10	1	11	5					
		Perlidae	<i>imm</i>		predator	2	2																		10		10		1				
		Peltoperlidae	<i>Talperla</i>		shredder	0	1																										
	Emphemeroptera	Heptageniidae	<i>Stenonema</i>		Scraper	4	4	14	11	25	6	6	1	7	2	2	34	15	49	21	26	8	34	9	21	13	34	7	11				
			<i>Stenonema</i>		Scraper	4	4														2		2										
			<i>Epeorus</i>		Scraper	0	2	8		8	7						3		3	2	8		8		15		15	2	5				
		Leptophlebiidae	<i>Habrophlebioides</i>		collector-gatherer	4	2																		1		1	1	1				
			<i>Ephemera</i>		collector-gatherer	6	2										2	2	1														
		Ephemerellidae	<i>Ephemera</i>		collector-gatherer	1	3	42	82	124	21	21	28	49	15	17	99	54	153	57	350	226	576	104	51	1	52	10	12				
			<i>Statalia</i>		collector-gatherer	2	3	29	13	42	15					2	14	14	17	12	4	16	4	1									
			<i>Eurylophella</i>		collector-gatherer	4	3	7	22	29	3	1	7	8	3	4	15	52	67	15	6	6	2	24	141	165	49	49					
		Oligoneuridae	<i>Isocyba</i>		collector-gatherer	3	3	26	8	34	12					4	5	9	1	14	24	38	5										
		Baetidae	<i>Baetis</i>		collector-gatherer	6	4		1	1	1	5	7	12	6	8				1	8	1	9	2	6		6	1					
			<i>Acoperina</i>		collector-gatherer	6	3				8	5	13		3	1	2	3	1	1	6												
		Neophemeridae	<i>Neophemerina</i>		collector-gatherer	3	3																										
		Caenidae	<i>Caenis</i>		collector-gatherer	7	5		1	1										1	1												
		Siphonuridae	<i>Ameletus</i>		collector-gatherer	0	2																		1	6	7	3	2				
	Diptera	Chironomidae			Collector-gatherer	6	5	11	1	12	1	36	8	44	10	10	14	10	24	9	21	3	24	3	36	2	38	7	10				
		Tipulidae	<i>Antocha</i>		Collector-gatherer	3	4					1	1	1				1		1													
			<i>Tipula</i>		Shredder	4	5	1	1	2			1	1	1			1	1	1						1	1	1					
			<i>Hexatoma</i>		predator	2	3																										
		Simuliidae	<i>Simulium</i>		filterer	6	5	1	3	4		2	2		1	3	2	5	2	5	1	6											
			<i>Prosimulium</i>		filterer	2	3					5	1	6		3	7	1	8	2	2	1	11			11	2	4					
		Empididae	<i>Hemerodromia</i>		predator	6	4	2		2																							
		Athericidae	<i>Atherix</i>		predator	2	3																										
	Coleoptera	Dryopidae	<i>Helichus</i>		scraper	5	4												2		2												
		Hydrophilidae	<i>Tropisternus</i>		Predator	5	5					2	2	2						0	2												
		Elmidae	<i>Stenelmis</i>		scraper	5	5	3	3	6	4									7	2	3	3	6	1								

Table C2. Community Metrics December 2018

Metric	Sample ID																				Resub	duplicate
	KNKQ1	KNLQ1	KNQ1	Resub KN-comp	SCKQ1	SCJQ1	SCQ1	Resub SC-Comp	duplicate SC-Comp	BRKQ1	BRJQ1	BRO1	Resub BR-comp	RBKQ1	RBJQ1	RBO1	Resub RB-comp	SLKQ1	SLJQ1	SLQ1		
Total Number of Organisms	337	260	597	207	243	354	597	203	229	420	248	666	213	704	329	1033	186	552	225	777	217	211
Number of Taxa	31	30	40	32	25	28	37	25	28	35	30	44	34	28	26	38	21	36	16	37	32	24
Functional Feeding Groups																						
Scraper	45	29	74	34	106	24	130	53	45	57	19	74	31	62	15	77	14	50	15	65	21	16
Filterer	94	15	109	50	35	19	54	13	25	39	15	54	14	47	5	52	8	58	2	60	22	13
Predator	5	7	12	6	11	6	17	5	2	4	7	11	4	9	6	15	6	38	5	43	13	10
EPT Abundance	278	175	453	146	83	209	292	95	128	342	187	529	175	637	291	928	167	485	215	700	189	193
Chironomid Abundance	11	1	12	1	36	8	44	10	10	14	10	24	9	21	3	24	3	36	2	38	7	10
EPT.Chironomid	25.27	175.00	37.75	146.00	2.31	26.13	6.64	9.50	12.80	24.43	18.70	22.04	19.44	30.33	97.00	38.67	55.67	13.47	107.50	18.42	27.00	19.30
Intolerant taxa richness (HBI 0-4)	19	17	23	19	18	15	23	17	18	24	19	30	21	18	18	25	15	29	12	29	23	19
% Contribution Dominant Taxon	20.47	31.54	20.77	14.01	37.45	35.88	21.27	22.66	22.27	27.14	21.77	22.97	26.76	49.72	68.69	55.76	55.91	42.21	62.67	32.30	27.65	33.65
EPT Index	15	15	20	19	16	18	23	15	20	21	16	24	20	17	23	14	26	12	26	20	19	19
H Diversity	2.70	2.49	2.87	2.98	2.29	2.05	2.50	2.28	2.50	2.56	2.71	2.60	2.60	1.82	1.43	1.82	1.82	1.79	2.38	1.51	2.43	2.43
BCG 1,2,3 Individuals	169	151	320	88	56	193	249	81	103	285	162	447	144	566	283	849	152	431	201	632	173	180
BCG 4,5,6 Individuals	168	109	277	119	187	161	348	122	126	134	86	218	68	138	45	183	34	121	24	145	44	31
Ratio 1,2,3/4,5,6 Individuals	1.00595	1.38532	1.15523	0.73959	0.29947	1.19878	0.71552	0.66393	0.81746	2.12687	1.88372	2.05046	2.11765	4.10145	6.28889	4.63934	4.47059	3.56198	8.37500	4.35862	3.93182	5.80645
BCG 1,2,3 taxa	10	10	13	12	12	14	18	11	15	16	13	20	14	14	14	21	11	23	10	23	19	17
BCG 4,5,6 taxa	21	20	27	20	13	14	19	14	13	18	17	23	19	14	11	16	10	13	6	14	13	7
Ratio 1,2,3/4,5,6 taxa	0.47619	0.50000	0.48148	0.60000	0.92308	1.00000	0.94737	0.78571	1.15385	0.88889	0.76471	0.86957	0.73684	1.00000	1.27273	1.31250	1.10000	1.76923	1.66667	1.64286	1.46154	2.42857
Hilsenhoff's Biotic Index	3.2	3.1	3.2	3.5	4.4	3.1	3.6	3.3	2.9	2.9	3.4	3.0	2.7	2.7	1.9	1.7	1.9	1.9	1.8	2.2	3.5	2.6

Table C3. Pennsylvania Index of Biotic Integrity December 2018

Metric	Sample ID																				Resub	duplicate
	KNKQ1	KNLQ1	KNQ1	Resub KN-comp	SCKQ1	SCJQ1	SCQ1	Resub SC Comp	duplicate SC Comp	BRKQ1	BRJQ1	BRO1	Resub BR-Comp	RBKQ1	RBJQ1	RBO1	Resub RB-Comp	SLKQ1	SLJQ1	SLQ1		
Taxa Richness	31	30	40	32	25	28	37	25	28	35	30	44	34	28	26	38	21	36	16	37	32	24
Modified EPT	12	10	14	14	12	12	17	12	15	16	11	18	14	13	14	18	11	22	11	22	17	16
Beck's version 3	13	12	17	14	17	17	23	15	20	18	12	22	15	18	18	26	11	37	16	37	27	27
Shannon's	2.70	2.49	2.87	2.98	2.29	2.05	2.50	2.28	2.46	2.50	2.56	2.71	2.60	1.82	1.43	1.82	1.79	2.38	1.51	2.43	2.59	2.24
Hilsenhoff	3.2	3.1	3.2	3.5	4.4	3.1	3.6	3.3	3.4	2.9	3.4	3.0	2.7	1.9	1.7	1.9	1.8	2.2	3.5	2.6	2.8	2.5
Percent Sensitive Organisms	49	50	49	41	20	51	38	39	41	65	44	57	62	79	84	81	81	74	27	60	54	62
IBI Score	71	68	77	73	59	68	77	64	72	81	67	83	78	76	75	87	68	94	52	91	83	79
Aquatic Life Use for Dec sampling period	Attaining	Attaining	Attaining	Attaining	Impaired	Attaining	Attaining	Attaining	Attaining	Attaining	Attaining	Attaining	Attaining	Attaining	Attaining	Attaining	Attaining	Attaining	Impaired	Attaining	Attaining	Attaining

Table C4. Taxonomy				Symbiosis Environmental Bioassessment Report		Sample Date: Oct 13-20, 2019														
				Functional Group	Hilsenhoff Rating	BCG Attribute	Sample ID													
Taxon	Class	Order	Family	Genus	Rating	small stream	KN-Comp	Resubsample	SC-Comp	Resubsample	BR Comp	BR-Comp	Resubsample	Duplicate	RB Comp	Resubsample	Duplicate	SL Comp	Resubsample	
Oligochaeta				Deposit Feeder	10	5			8	3	8				1			1	2	3
Insecta	Trichoptera	Hydropsychidae	Cheumatopsyche	filterer	6	5	75	13	47	25	86	23	35	16	8	9	56	21		
			Hydropsyche	filterer	5	5	81	19	137	48	65	17	19	40	20	19	58	21		
		Lepidostomatidae	Lepidostoma	shredder	1	2	4		7	3	3	3	1	9	5	3	2	2		
		Limnephilidae	Pycnopsyche	shredder	4	3														
			Hydatophylax	shredder	2	2			1	1										
		Philopotamidae	Chimarra	filterer	4	4	151	50	30	15	98	27	28	67	27	37	127	58		
			Dolophodes	filterer	0	2			13	4					1	1	9			
		Hydroptilidae	Leuctrichia	scraper	6	4	6	3												
			Hydroptila	scraper	6	5	4	1			4	3								
		Glossosomatidae	Glossosoma	scraper	0	3	1	1			20	4	7	8	4	4	8	4		
			Protophila	scraper	1	2					2		1							
			Agapetus	scraper	0	3					1		1							
		Rhyacophilidae	Rhyacophila	predator	1	2	5	2	12	5	7	2	3	6	1	6	12	5		
		Polycentropodidae	Polycentropus	filterer	6	4	4	2	1	15	7	4	4	4	2	2	9	5		
			Neuroclipsis	filterer	7	3	7	1	1	1	5	1	5							
		Helicopsychidae	Helicopsyche	scraper	3	3	1				6	1	4	1	1	2				
		Leptocentridae	Oecetis	predator	8	3	1				1	1	1							
			Mytacidus	collector-gatherer	4	3	3		1		3		2				1	1	1	1
		Brachycentridae	Micrasema	shredder	2	3											1			
Plecoptera	Nemouridae	Amphinemura	shredder	3	3															
	Perlidae	Agnetina	predator	2	3	3	1	4	1				2	2						
		Acronetina	predator	0	3								1	1			5	2		
		Paragnetina	predator	1	2	1							7	1						
		Attaneuria	predator	3	2								4	1				6		
	Taeniopterygidae	Taeniopteryx	shredder	2	3	1						1	1			1	15	3		
	Capniidae	Allocapnia	shredder	3	3						1		3	1			2	3		
		Paracapnia	shredder	1	2								1			1	4	2		
	Chloroperlidae	Sweltsa	predator	0	3											1	6			
Emphemeroptera	Heptageniidae	Stenonema	Scraper	4	4	25	8	7	2	28	12	5	13	6	6	42	15			
		Epeorus	Scraper	0	2	1					3	1	15	5	11	2				
	Leptophlebiidae	Leptophlebia	collector-gatherer	4	2	1							1	1						
	Ephemerellidae	Ephemerella	collector-gatherer	1	3	60	13	35	10	21	2	1	157	66	81	3				
		Serratella	collector-gatherer	2	3	30	12			5	4	6	6	8	7					
		Eurylophella	collector-gatherer	4	3	9	3	2	1	8	3	3	2	2	42	11				
	Oligoneuridae	Isopygia	collector-gatherer	3	3	17	6			23	7	7	12	9	4					
	Baetidae	Baetis	collector-gatherer	6	4			5	10	7	1	3	4	2	2					
		Acerpenna	collector-gatherer	6	3	2	2	28	8	2	1	1	9	3	6	1				
	Caenidae	Caenis	collector-gatherer	7	5	2						1	1			1				
	Siphonuridae	Amelietus	collector-gatherer	0	2	4	2					1	1			3	1			
Diptera	Chironomidae	Chironomus	Collector-gatherer	6	5	39	17	18	8	93	30	29	27	6	21	32	11			
	Tipulidae	Antocha	Collector-gatherer	3	4	4	2			6	1	3								
		Tipula	Shredder	4	5	1		1		1	1	2	1	1	6	3				
		Hexatoma	predator	2	3											3	1			
		Pseudimnophila	predator	2	4											1				
	Simuliidae	Simulium	filterer	6	5	10	3	15	1	15	6	6	2		1	1				
		Prosimulium	filterer	2	3				4						1					
	Empididae	Hemerodromia	predator	6	4	2														
	Dixidae	Dixella	Collector-gatherer	1	2	1														
	Chabocoridae	Chabocoria	predator	8						1		1								
Coleoptera	Dryopidae	Helichus	scraper	5	4	1														
	Elmidae	Stenelmis	scraper	5	5	6	4	2	2	6	1	2	8	4	4	2				
		Optoservus	scraper	4	4	18	4	107	41	78	6	4	22	6	12	5	5			
		Dubirapha	scraper	6	4	9	2	1	1	1	1	5	2	3						
		Microcyloopus	scraper	2	4	6	2	1		1	2	3	1	1						
		Oulimnius	scraper	5	3					2	1	1								
		Promoresia	scraper	2	3			2												
	Psephenidae	Psephenus	scraper	4	4	21	4			9	1	3	1		1	9	2			
	Helipidae	Peltodytes	shredder	5						1	1									
Odonata	Aeshnidae	Boyeria	Predator	2	3			1	1				1	1						
	Gomphidae	Ophiogomphus	Predator	1	3												2	1		
	Coenagrionidae	Argia	Predator	6	4	3			1	3	1	1								
		Erallagma	Predator	8	4	4	1													
		Chromagrion	Predator	4	4	1														
	Calopterygidae	Hetaerina	Predator	6	4	2		4	2			2	1		2	1				
		Calopteryx	Predator	6	4		1													
Megaloptera	Corydalidae	Nigronia	Predator	2	3													1	1	
		Corydalus	Predator	4	4	1				2	1	1	1	1						
Hemiptera	Velidae	Rhagovelia	predator	9			1													
Lepidoptera	Pyralidae	Petrophila	scraper	5	5					1	1									
Collembola	Isotomidae	Isotoma	collector-gatherer	9														1	1	
Crustacea	Amphipoda	Gammaridae	Gammarus	Collector-gatherer	4	4	80	25	28	8		3	6	18	8	10	2			
	Isopoda	Asellidae	Caveadotia	Collector-gatherer	6	5	9						1			1				
	Decapoda	Cambaridae	Cambarus	Collector-gatherer	6	4														
Platyhelminthes	Tricladida	Planariidae	Planaria	omnivore	9	5	2				2		1							
Nematomorpha				collector-gatherer	9		1	1			1		1							
Acari	Acariformes	Hydrachnidia	predator	7	4	4	1	2			1	3	2	1						
Mollusca	Gastropoda	Planorbidae	Planorbis	Scraper	6	5	1													
		Viviparidae	Planorbis	collector-gatherer	7	4	1	1												
		Valvatidae	Valvata	Scraper	2	4	1													
		Physidae	Physa	Scraper	8	5												1	1	

**Table C5. Community Metrics October 2019**

Metric	Sample ID													
	KN-comp		SC-comp		BR-Comp		Resubsample		RB-Comp		Resubsample		SL-Comp	
	KN-Comp	Resubsample	SC-Comp	Resubsample	BR-Comp	Resubsample	Duplicate	RB-Comp	Resubsample	Duplicate	SL-Comp	Resubsample		
Total Number of Organisms	719	207	521	205	646	177	199	481	212	263	497	189		
Number of Taxa	51	31	29	24	42	34	34	41	34	33	36	28		
Functional Feeding Groups														
Scraper	101	29	120	45	162	33	32	74	29	44	69	27		
Filterer	328	88	244	98	284	81	97	130	59	68	259	106		
Predator	27	6	23	10	15	5	6	23	15	8	32	17		
EPT Abundance	494	139	331	134	414	121	137	385	178	205	427	158		
Chironomid Abundance	39	17	18	8	93	30	29	27	6	21	32	11		
EPT:Chironomid	12.67	8.18	18.39	16.75	4.45	4.03	4.72	14.26	29.67	9.76	13.34	14.36		
Intolerant taxa richness (HBI 0-4)	26	15	16	13	21	19	19	26	24	20	24	18		
% Contribution Dominant Taxon	21.00	24.15	26.30	23.41	15.17	16.95	17.59	32.64	31.13	30.80	25.55	30.69		
EPT Index	25	17	16	14	23	20	20	25	22	20	21	16		
H' Diversity	2.83	2.72	2.43	2.47	2.77	2.81	2.85	2.61	2.67	2.59	2.64	2.53		
BCG 1,2,3 Individuals	147	43	107	38	113	32	44	241	115	130	140	40		
BCG 4,5,6 Individuals	570	163	414	167	530	144	154	239	97	132	356	148		
Ratio 1,2,3/4,5,6 Individuals	0.257895	0.26380368	0.2584541	0.22754491	0.213208	0.222222222	0.285714286	1.008368	1.18556701	0.98484848	0.393258	0.27027027		
BCG 1,2,3 taxa	18	10	12	10	17	14	15	19	18	14	18	13		
BCG 4,5,6 taxa	31	20	17	14	22	19	18	21	16	18	17	14		
Ratio 1,2,3/4,5,6 taxa	0.580645	0.5	0.7058824	0.714285714	0.772727	0.736842105	0.833333333	0.904762	1.125	0.77777778	1.058824	0.92857143		
Hillsenhoff's Biotic Index	4.2	4.2	4.4	4.5	4.6	4.6	4.6	3.0	2.9	3.1	4.0	4.3		

**Table C6. Pennsylvania Index of Biotic Integrity October 2019**

Metric	Sample ID													
	KN-comp		SC-comp		BR-Comp		Resubsample		RB-Comp		Resubsample		SL-Comp	
	KN-Comp	Resubsample	SC-Comp	Resubsample	BR-Comp	Resubsample	Duplicate	RB-Comp	Resubsample	Duplicate	SL-Comp	Resubsample		
Taxa Richness	51	31	29	24	42	34	34	41	34	33	36	28		
Modified EPT	16	10	10	9	15	12	14	19	17	15	16	12		
Beck's version 3	22	13	14	13	19	16	19	28	28	18	32	19		
Shannon's	2.83	2.72	2.43	2.47	2.77	2.81	2.85	2.61	2.67	2.59	2.64	2.53		
Hilsenhoff	4.2	4.2	4.4	4.5	4.6	4.6	4.6	3.0	2.9	3.1	4.0	4.3		
Percent Sensitive Organisms	19.33	19.81	14.59	14.15	15.33	15.82	19.10	47.82	52.83	46.77	19.52	14.81		
IBI Score	73	62	58	54	68	65	69	85	84	76	76	62		
Aquatic Life Use for Oct sampling period	marginally attaining	marginally impaired	marginally impaired	marginally impaired	marginally attaining	attaining	attaining	attaining	attaining	attaining	attaining	marginally attaining		





Table C10. Taxonomy				Symbiosis Environmental Bioassessment Report			Sample Date: July 31 - August 1, 2020									
Taxon	Class	Order	Family	Genus	Functional Group	Hilsenhoff Rating	BCG Attribute	Sample ID								
								KN-Comp	split dup KN-Comp	SC-Comp	BR Comp	RB Comp	SL Comp	resub dup SL Comp		
Oligochaeta					Deposit Feeder	10	5				6				1	1
Insecta	Trichoptera	Hydropsychidae	<i>Cheumatopsyche</i>	filterer		6	5	21	18		5	44		9	20	9
			<i>Hydropsyche</i>	filterer		5	5	12	18		20	26		11	14	10
		Lepidostomatidae	<i>Lepidostoma</i>	shredder		1	2		3		2	1		5	2	
		Limnephilidae	<i>Pycnopsyche</i>	shredder		4	3		1		3					
			<i>Pseudostenophylax</i>	shredder		0	3				1					
		Philopotamidae	<i>Chimarra</i>	filterer		4	4	15	11		3	10		4	20	21
			<i>Dolophloides</i>	filterer		0	2				3				19	16
		Glossosomatidae	<i>Glossosoma</i>	scraper		0	3					3			6	6
			<i>Culoptila</i>	scraper		1	3									
			<i>Agapetus</i>	scraper		0	3									
		Rhyacophilidae	<i>Rhyacophila</i>	predator		1	2				4			6		
		Polycentropodidae	<i>Polycentropus</i>	filterer		6	4							2	2	2
			<i>Neureclipsis</i>	filterer		7	3							1		
		Helicopsychidae	<i>Helicopsyche</i>	scraper		3	3	14	5			9		1		
		Leptoceridae	<i>Oecitis</i>	predator		8	3					3			1	
			<i>Triaenodes</i>	shredder		6	3	1	1						1	
			<i>Setodes</i>	collector-gatherer		2	2									
			<i>Mystacides</i>	collector-gatherer		4	3		1					1		
		Uenoidae	<i>Neophylax</i>	scraper		3	3					5				
		Hydroptilidae	<i>Agraylea</i>	collector-gatherer		8	4	1	3			1				
			<i>Hydroptila</i>	scraper		6	5		2							
		Brachycentridae	<i>Micrasema</i>	shredder		2	3	2	1		1					
		Odontoceridae	<i>Psilotreta</i>	shredder		0	1							54	1	1
Plecoptera	Nemouridae		<i>Amphinemura</i>	shredder		3	3									
			<i>Paranemoura</i>	shredder		2	3									
		Perlidae	<i>Acroneuria</i>	predator		2	3				6			2		
			<i>Paragnetina</i>	predator		0	3							1	1	1
			<i>Attaneuria</i>	predator		1	2							1		
			<i>Capnia</i>	predator		3	2							1		
		Capniidae	<i>Paracapnia</i>	shredder		1	2					1			27	8
			<i>Allocapnia</i>	shredder		3	3				1			1		
			<i>Capnia</i>	shredder		1	3								1	4
		Chloroperidae	<i>Sweltsa</i>	predator		0	3								1	
			<i>Haploperla</i>	predator		0	3								4	
		Perlodidae	<i>Isoperla</i>	predator		2	2									
			<i>Diura</i>	predator		2	2									
Ephemeroptera	Heptageniidae		<i>Stenonema</i>	Scraper		4	4	3	4		1	7		6	22	23
			<i>Epeorus</i>	Scraper		0	2	1	1			8		8	2	1
		Leptophlebiidae	<i>Parleptophlebia</i>	collector-gatherer		4	2				6					
		Ephemerellidae	<i>Ephemerella</i>	collector-gatherer		1	3	18	19			5		9	1	1
			<i>Seratella</i>	collector-gatherer		2	3	25	18			27		4		
			<i>Euryophella</i>	collector-gatherer		4	3					1				
		Oligoneuridae	<i>Isonychia</i>	collector-gatherer		3	3	1				9				
		Baetidae	<i>Baetis</i>	collector-gatherer		6	4	10	11		13	6		1	1	6
			<i>Acaepertina</i>	collector-gatherer		6	3	2	4		1	6			1	1
		Caenidae	<i>Caenis</i>	collector-gatherer		7	5	1								
		Siphonuridae	<i>Ameletus</i>	collector-gatherer		0	2									
Diptera	Chironomidae			Collector-gatherer		6	5	10	9		22	5		6	10	13
		Tipulidae	<i>Antocha</i>	Collector-gatherer		3	4				1				1	
			<i>Tipula</i>	Shredder		4	5				1	1				
			<i>Hexatoma</i>	predator		2	3								5	3
		Simuliidae	<i>Simulium</i>	filterer		6	5	4			5	3		1		
			<i>Prosimulium</i>	filterer		2	3									
		Empididae	<i>Hemerodromia</i>	predator		6	4					1				1
			<i>Clinocera</i>	predator		6	4									
			<i>Chelifera</i>	predator		6	4									
		Tabanidae	<i>Hybomitra</i>	predator		6	5	1								
			<i>Chrysops</i>	piercer		7	5									1
		Athericidae	<i>Atherix</i>	predator		2	3					1				
		Blephariceridae	<i>Blepharicera</i>	scraper		0	1							1		
Coleoptera	Drypidae		<i>Helichus</i>	scraper		5	4					1				
		Elmidae	<i>Stenelmis</i>	scraper		5	5	6	4		2	4		10	2	1
			<i>Optioservus</i>	scraper		4	4	1	2		29	8		10	4	
			<i>Dubiraphia</i>	scraper		6	4	10	14		5	3		1	3	2
			<i>Microcyloopus</i>	scraper		2	4	3	6		1			2		
			<i>Macronychus</i>	scraper		2	4									
			<i>Promoresia</i>	scraper		2	3									
			<i>Acronyx</i>	Collector-gatherer		2	4	1	2							
		Psephenidae	<i>Psephenus</i>	scraper		4	4	3	6			4		2	30	38
		Halplidae	<i>Peltodytes</i>	shredder		5		1								
		Hydrophilidae	<i>Laccobius</i>	predator		5			1							
			<i>Tropisternus</i>	predator		5					1					
Odonata	Aeshnidae		<i>Boyeria</i>	Predator		2	3		2			2		3		
		Gomphidae	<i>Ophiogomphus</i>	Predator		1	3				1					
			<i>Gomphus</i>	predator		5	4								1	1
			<i>Lanthus</i>	predator		5	2									
		Coenagrionidae	<i>Argia</i>	Predator		6	4									
			<i>Nehalennia</i>	Predator		7	4									
			<i>Enallagma</i>	Predator		8	4	1	1							
		Calopterygidae	<i>Hetaerina</i>	Predator		6	4									
			<i>Calopteryx</i>	Predator		6	4		1		2					
Megaloptera	Corydalidae		<i>Nigronia</i>	Predator		2	3							1	1	2
			<i>Corydalus</i>	Predator		4	4	1	1			1		1	1	
			<i>Sialis</i>	Predator		6	5								1	
Hemiptera	Velidae		<i>Microvelia</i>	predator		9		1						1		
		Gerridae	<i>Gerris</i>	predator		9										
Lepidoptera	Pyralidae		<i>Petrophila</i>	shredder		5	5	1								
Collembola	Isotomatidae		<i>Agrenia</i>	collector-gatherer		9										
Crustacea	Amphipoda	Gammaridae	<i>Gammarus</i>	Collector-gatherer		4	4	24	19		94	8		14	1	
		Isopoda	<i>Caecidotea</i>	Collector-gatherer		6	5				1			3		
Nematomorpha				collector-gatherer		9										
Acari	Acariformes	Hydrachnidia		predator		7	4	1	1						1	1
Mollusca	Gastropoda	Planorbidae		Scraper		6	5									
		Physidae		Scraper		8	5	3	2							1
		Valvatidae		Scraper		2	4	1								
	Bivalvia	Sphaeriidae	<i>Musculum</i>	filterer		8						1				

**Table C11. Community Metrics August 2020**

Metric	Sample ID						
	KN-Comp	duplicate KN-Comp	SC-Comp	BR Comp	RB Comp	SL-Comp	duplicate SL Comp
Total Number of Organisms	203	191	242	211	181	206	179
Number of Taxa	35	31	30	32	32	34	28
Functional Feeding Groups							
Scraper	45	46	38	52	41	65	76
Filterer	52	47	37	86	25	75	58
Predator	5	7	14	8	17	18	9
EPT Abundance	130	120	70	169	125	147	110
Chironomid Abundance	10	9	22	5	6	10	13
EPT:Chironomid	13.00	13.33	3.18	33.80	20.83	14.70	8.46
Intolerant taxa richness (HBI 0-4)	17	16	18	19	23	19	14
% Contribution Dominant Taxon	12.32	9.95	38.84	20.85	29.83	14.56	21.23
EPT Index	17	16	15	19	18	20	15
H' Diversity	2.93	2.96	2.34	2.85	2.75	2.76	2.67
BCG 1,2,3 Individuals	67	55	29	77	99	75	44
BCG 4,5,6 Individuals	134	135	205	134	81	130	134
Ratio 1,2,3/4,5,6 Individuals	0.5	0.407407	0.1414634	0.574627	1.222222	0.576923	0.328358
BCG 1,2,3 taxa	10	10	11	14	16	17	11
BCG 4,5,6 taxa	23	20	17	18	15	17	17
Ratio 1,2,3/4,5,6 taxa	0.434783	0.5	0.6470588	0.777778	1.066667	1	0.647059
Hillsenhoff's Biotic Index	4.1	4.2	4.4	4.1	2.5	3.4	3.7

**Table C12. Pennsylvania Index of Biotic Integrity August 2020**

Metric	Sample ID						
	KN-Comp	duplicate KN-comp	SC-Comp	BR Comp	RB Comp	SL-Comp	duplicate SL Comp
Taxa Richness	35	31	30	32	32	34	28
Modified EPT	10	9	11	12	15	13	10
Beck's version 3	12	12	16	15	25	31	23
Shannon's	2.93	2.96	2.34	2.85	2.75	2.76	2.67
Hilsenhoff	4.1	4.2	4.4	4.1	2.5	3.4	3.7
Percent Sensitive Organisms	33.50	29.84	10.74	33.65	55.25	34.95	24.02
IBI Score	66	63	59	69	83	78	66
Aquatic Life Use for August sampling period	marginally impaired	Attaining	marginally impaired	marginally attaining	Attaining	Attaining	marginally attaining



