APPENDIX C

Traits Gap Analysis

Maine—Traits Gap Analysis

The Maine traits table contains information for 548 operational taxonomic units (OTUs). The majority of the OTUs were at the genera-, genera-group level (94%), or 4% family-level, and the remaining were order-level or higher. One hundred thirty-nine families and 39 higher taxonomic groups (generally order-level) are represented in the Maine data set. The source of most of the nontemperature traits information was the Traits Matrix (Poff et al., 2006) (see Table C-1). This was mainly supplemented by the U.S. Geological Survey (USGS) traits database (Vieira et al., 2006). Most of the temperature traits information was derived from weighted-average calculations that were performed on a subset of the Maine data. Gaps in temperature traits information were mainly filled using the Poff et al. (2006) Traits Matrix, the USGS traits database (Vieira et al., 2006), and the U.S. Environmental Protection Agency's (EPAs) 1970s publications. EPA's 1970s publications were also an important supplemental source of information for rheophily. Most of the habit and functional feeding group (FFG) information was taken from the Traits Matrix (Poff et al., 2006) and was supplemented mostly by data from the Wadeable Streams Assessment (WSA; U.S. EPA, 2006), Rapid Bioassessment Protocol (RBP2; Barbour et al., 1999), and the USGS traits database (Vieira et al., 2006).

Traits information was available for approximately 35−50% of the OTUs (see Table C-2). Exceptions were the habit and functional feeding group traits, for which 83 and 92% of the OTUs had information, respectively. Numerical temperature traits information was available for about 30% of the taxa, and categorical temperature traits information (based on rankings and literature) was available for 58% of the taxa.

Ephemeroptera, Plecoptera, and Trichoptera (EPT) taxa generally had more traits information than other taxa (see Table C-3). Habit and FFG is available for over 90% of the EPT taxa, categorical temperature traits information is available for 89−94% of the EPT taxa, and other traits information is available for about 70−80% of the EPT taxa. A large number of taxa in the Maine data set are EPT taxa: 72 are Trichopterans, 45 are Ephemeropterans, and 34 are Plecopterans. Dipterans (193 taxa), Odonates (35 taxa), and Coleopterans (53 taxa) are also well-represented in the data set. For the Dipterans and Coleopterans, habit and FFG information is available for 87−96% of the taxa and temperature traits information for 40−45%. Other traits information is available for 23% of the Dipterans and 38% of the Coleopterans. Habit and FFG information is available for 89−97% of the Odonates, while other traits information is available

for 71−74% of the taxa. There are a number of orders (or higher level OTUs) that only have FFG information (i.e., Pharyngobdellida, Tubificida, Acariformes, Collembola, Copepoda); most of these OTUs occur in low abundances and are represented by few taxa. In terms of overall abundance in the Maine database, the largest number of individuals in the Maine database are Trichopterans (overall abundance equals 42%), Dipterans (34%), and then Ephemeropterans (12%). Amphipods, Plecopterans, Isopods, Coleopterans, and Haplotaxida have overall abundances of 1−2%. The remaining 540 OTUs have overall abundances of less than 1%.

Table C-1. Summary of the sources that were used to derive traits information for the Maine traits table. The values equal the number of taxa that the source provided information on. NA equals the number of taxa for which no traits information was available

Traits	Sources								
Life History	Poff et al., 2006	Vieira et al., 2006	U.S. EPA (ME), 2011	EPA 1970s[a]	VT DEC, 2008	U.S. EPA, 2006	Barbour et al., 1999	U.S. EPA, 1990	NA
Voltinism	190	80							278
Development	200	9							339
Synchronization of emergence	200								348
Adult life span	198	27							323
Adult ability to exit	200								348
Ability to survive desiccation	200								348
Mobility									
Dispersal (adult)	194	27							327
Adult flying strength	200								348
Occurrence in drift	200								348
Maximum crawling rate	200								348
Swimming ability	200								348
Morphology									
Attachment	200								348
Armoring	192	80							276
Shape	200								348
Respiration	200								348
Size at maturity	192	92							264
Resource acquisition/preference									
Rheophily	194	54		67	4				229
Habit	154	166				127	5		96
Functional feeding group	161	145				159	24	13	46
Temperature									
Temperature optimum			161						387
Temperature tolerance			161						387
Rank of temperature optimum	95	17	161	45					230
Rank of temperature tolerance	95	17	161	45					230
Rank of temperature optimum-tolerance	95	17	161	45					230
Tolerance						390	8	27	123

[a]Beck ,1977; Harris and Lawrence, 1978; Hubbard and Peters, 1978; Surdick and Gaufin, 1978.

Table C-2. Numbers and percentages of the 548 total taxa (at the established OTU level) in the Maine database that have traits information

Traits	Number of Taxa With Traits information	Percentage of Taxa With Traits information
Life history		
Voltinism	270	49.3
Development	209	38.1
Synchronization of emergence	200	36.5
Adult life span	225	41.1
Adult ability to exit	200	36.5
Ability to survive desiccation	200	36.5
Mobility		
Dispersal (adult)	221	40.3
Adult flying strength	200	36.5
Occurrence in drift	200	36.5
Maximum crawling rate	200	36.5
Swimming ability	200	36.5
Morphology		
Attachment	200	36.5
Armoring	272	49.6
Shape	200	36.5
Respiration	200	36.5
Size at maturity	284	51.8
Resource acquisition/preference		
Rheophily	319	58.2
Habit	452	82.5
Functional feeding group	502	91.6
Temperature		
Temperature optimum	161	29.4
Temperature tolerance	161	29.4
Rank of temperature optimum	318	58
Rank of temperature tolerance	318	58
Rank of temperature optimum-tolerance	318	58
Tolerance	425	77.6

Table C-3. Percentage of taxa within each order (or, in some cases, higher taxonomic level) that have life history traits information in the Maine traits table contained within the Freshwater Species Traits Database

Order	Number of Taxa Within Each Order	Abundance (Percentage of Total)	Other Traits (Average)	Temperature	Habit	FFG	Tolerance
Trichoptera	72	42.3	71.8	90.3	93.1	97.2	83.3
Diptera	193	34.2	23.4	45.1	87	91.7	82.9
Ephemeroptera	45	12.4	80.1	88.9	93.3	95.6	84.4
Amphipoda	4	1.9	26.5	100	100	100	100
Plecoptera	34	1.7	80.1	94.1	91.2	91.2	70.6
Isopoda	1	1.6	29.4	100	100	100	100
Coleoptera	53	1.4	37.5	39.6	96.2	90.6	73.6
Haplotaxida	20	1.1	0	30	40	90	80
Basommatophora	15	0.8	2.7	33.3	73.3	86.7	86.7
Odonata	35	0.5	74.3	71.4	88.6	97.1	82.9
Mesogastropoda	7	0.5	1.7	14.3	42.9	57.1	57.1
Rhynchobdellida	7	0.3	14.3	57.1	28.6	85.7	28.6
Veneroida	4	0.3	10.3	75	75	100	100
Tricladida	4	0.3	0	75	50	50	50
Megaloptera	5	0.2	82.4	80	100	100	80
Trombidiformes	1	0.1	0	100	0	0	0
Lumbriculida	3	0.1	0	66.7	0	33.3	66.7
Hydroida	1	0.1	17.6	100	0	100	100
Arhynchobdellida	3	0	15.7	66.7	66.7	100	33.3
Heterostropha	1	0	0	100	0	100	0
Decapoda	3	0	29.4	33.3	100	100	100
Pharyngobdellida	1	0	0	0	0	100	0
Hoplonemertea	1	0	0	100	0	100	100
Cladocera	1	0	0	0	0	100	100
Tubificida	3	0	0	0	0	66.7	0
Nemata (phylum)	1	0	0	0	0	100	100
Hemiptera	14	0	52.5	42.9	100	100	64.3

Table C-3. continued…

Order	Number of Taxa Within Each Order	Abundance (Percentage of Total)	Other Traits (Avg)	Temp Rank	Habit	FFG	Tolerance
Lepidoptera	1	0	0	0	100	100	100
Veneroidea	1	0	0	0	0	100	100
Acariformes	1	0	0	0	0	100	0
Collembola	4	0	0	0	0	100	0
Aeolosomatida	1	0	23.5	100	0	0	0
Branchiobdellida	2	0	0	0	50	50	50
Neuroptera	1	0	100	100	100	100	100
Copepoda	1	0	0	0	0	100	0
Nematomorpha (phylum)	1	0	0	0	100	100	100
Neotaenioglossa	1	0	0	0	0	100	100
Unionoida	1	0	0	0	100	100	100
Ectoprocta (phylum)	1	0	0	0	0	0	0

North Carolina—Traits Gap Analysis

The North Carolina traits table contains information for 797 OTUs. The majority of the OTUs were at the genera-, genera-group level (97%), or 2% family-level, and the remaining were order-level or higher. Two hundred sixty-three families and 72 higher taxonomic groups (generally order-level) are represented in the North Carolina data set. The source of the majority of nontemperature traits information was the Poff et al. (2006) Traits Matrix (see Table C-4). This was mainly supplemented by the USGS traits database (Vieira et al., 2006). Most of the temperature traits information was derived from the maximum likelihood calculations on a subset of North Carolina data. Gaps in temperature traits information were mainly filled using the Traits Matrix (Poff et al., 2006), the USGS traits database (Vieira et al., 2006), and the EPA's 1970s publications. EPA's 1970s publications were also an important supplemental source of information for rheophily. Most of the habit and functional feeding group information was taken from the Poff et al. (2006) Traits Matrix and was supplemented mostly by WSA (U.S. EPA, 2006), RBP2 (Barbour et al., 1999), and the USGS traits database (Vieira et al., 2006).

Traits information was available for approximately 25−40% of the OTUs (see Table C-5). Exceptions were the habit and functional feeding group traits, for which 61 and 68% of the OTUs had information, respectively. Numerical temperature optima information was available for about 30% of the taxa, and categorical temperature optima information (based on rankings and literature) was available for 44% of the taxa. Because of the type of data that was available for the maximum likelihood analysis (categorical abundance data), less temperature tolerance information could be generated. Accordingly, there were fewer numerical temperature tolerance values, and 36% of the taxa had categorical temperature tolerance (ranking) information.

EPT taxa generally had more traits information than other taxa (see Table C-6). Habit and FFG is available for over 90% of the EPT taxa, categorical temperature traits information is available for about 93% of the EPT taxa, and other traits information is available for 79−88% of the EPT taxa. A large number of taxa in the North Carolina data set are EPT taxa: 62 are Trichopterans, 57 are Ephemeropterans, and 41 are Plecopterans. Dipterans (197 taxa), Odonates (46 taxa), and Coleopterans (67 taxa) are also well represented in the data set. For the Dipterans, habit and FFG information is available for 80−85% of the taxa, temperature traits information, 43%, and other traits information, 20%. For the Coleopterans, habit and FFG information is available for 91−94% of the taxa, temperature traits information, 49%, and other

traits information, 29%. Habit and FFG information is available for 89−96% of the Odonates, while other traits information is available for 65−72% of the taxa. No traits information is available for 37 taxa; most of these OTUs occur in low abundances and are represented by few taxa. In terms of overall abundance in the North Carolina database, the largest number of individuals are Dipterans (overall abundance equals 29%), followed by Ephemeropterans (20%), then Trichopterans (16%), then Coleopterans (8%), then Odonates, (7%) and then Plecopterans (6%). Bassomatophora, Megaloptera, Haplotaxida, Veneroida, Lumbriculida, Amphipoda, and Decapoda have overall abundances of 1−2%. The remaining 784 OTUs have overall abundances of less than 1%.

Table C-4. Summary of the sources that were used to derive traits information for the North Carolina traits table. The values equal the number of taxa that the source provided information on. NA equals the number of taxa for which no traits information was available

Traits	Sources								
Life History	Poff et al., 2006	Vieira et al., 2006	U.S. EPA (NC), 2011	EPA 1970s[a]	VT DEC, 2008	U.S. EPA, 2006	Barbour et al., 1999	U.S. EPA, 1990	NA
Voltinism	205	85							507
Development	214	11							572
Synchronization of emergence	214								583
Adult life span	212	36							549
Adult ability to exit	214								583
Ability to survive desiccation	214								583
Mobility									
Dispersal (adult)	208	28							561
Adult flying strength	214								583
Occurrence in drift	214								583
Maximum crawling rate	214								583
Swimming ability	214								583
Morphology									
Attachment	214								583
Armoring	203	104							490
Shape	214								583
Respiration	214								583
Size at maturity	203	114							480
Resource acquisition/preference									
Rheophily	208	63		65	4				457
Habit	179	173				127	4		314
Functional feeding group	184	169				151	23	15	255
Temperature									
Temperature optimum			233						564
Temperature tolerance			0						797
Rank of temperature optimum	93	20	233	8					443
Rank of temperature tolerance	93	20	166	8					510
Rank of temp optimum-tolerance	93	20	166	8					510
Tolerance						410	9	18	360

[a]Beck ,1977; Harris and Lawrence, 1978; Hubbard and Peters, 1978; Surdick and Gaufin, 1978.

Table C-5. Numbers and percentages of the 797 total taxa (at the established OTU level) in the North Carolina database that have traits information

Traits	Number of Taxa With Traits information	Percentage of Taxa With Traits information
Life history		
Voltinism	290	36.4
Development	225	28.2
Synchronization of emergence	214	26.9
Adult life span	248	31.1
Adult ability to exit	214	26.9
Ability to survive desiccation	214	26.9
Mobility		
Dispersal (adult)	236	29.6
Adult flying strength	214	26.9
Occurrence in drift	214	26.9
Maximum crawling rate	214	26.9
Swimming ability	214	26.9
Morphology		
Attachment	214	26.9
Armoring	307	38.5
Shape	214	26.9
Respiration	214	26.9
Size at maturity	317	39.8
Resource acquisition/preference		
Rheophily	340	42.7
Habit	483	60.6
Functional feeding group	542	68
Temperature		
Temperature optimum	233	29.2
Temperature tolerance	0	0
Rank of temperature optimum	354	44.4
Rank of temperature tolerance	287	36
Rank of temperature optimum-tolerance	287	36
Tolerance	437	54.8

Table C-6. Percentage of taxa within each order (or, in some cases, higher taxonomic level) that have life history traits information in the North Carolina traits table

Order	Number of Taxa Within Each Order	Abundance (Percentage of Total)	Other Traits (Average)	Temp Optima Rank	Habit	FFG	Tolerance
Diptera	197	28.68	20.08	43.1	79.7	85.3	76.1
Ephemeroptera	57	19.75	79.17	93	91.2	93	78.9
Trichoptera	62	15.46	78.53	93.5	96.8	96.8	88.7
Plecoptera	41	5.67	87.96	92.7	90.2	92.7	70.7
Coleoptera	67	7.71	29.1	49.3	91	94	68.7
Odonata	46	7.09	64.81	71.7	89.1	95.7	69.6
Basommatophora	13	2.31	2.4	23.1	84.6	92.3	84.6
Megaloptera	5	2.11	81.25	100	100	100	80
Haplotaxida	34	1.73	0.37	20.6	29.4	70.6	58.8
Veneroida	20	1.75	2.5	10	25	35	25
Lumbriculida	1	1.32	0	100	100	100	100
Amphipoda	25	1.01	3.5	16	16	24	20
Decapoda	24	1.04	3.13	16.7	20.8	16.7	16.7
Neotaenioglossa	11	0.97	0	18.2	9.1	27.3	27.3
Isopoda	13	0.51	5.77	15.4	15.4	46.2	23.1
Mesogastropoda	7	0.5	6.25	14.3	57.1	71.4	42.9
Trombidiformes	1	0.58	0	100	100	100	100
Tricladida	4	0.49	0	0	50	50	25
Rhynchobdellida	7	0.25	8.93	42.9	42.9	100	28.6
Hemiptera	11	0.22	44.89	54.5	100	100	63.6
Unionoida	11	0.2	0	9.1	0	36.4	18.2
Branchiobdellida	2	0.14	3.13	50	0	0	0
Arhynchobdellida	6	0.13	19.79	100	83.3	83.3	16.7
Opisthopora	1	0.11	0	100	0	0	0
Hoplonemertea	2	0.07	0	0	0	50	50
Lepidoptera	2	0.06	50	50	100	100	100

Table C-6. continued…

Order	Number of Taxa Within Each Order	Abundance (Percentage of Total)	Other Traits (Average)	Temp Optima Rank	Habit	FFG	Tolerance
Polychaeta (class)	17	0.01	0	0	0	0	0
Neuroptera	1	0.03	100	100	100	100	100
Aciculata	21	0.02	0	0	0	0	0
Sessilia	2	0.02	0	0	0	50	0
Mytiloida	4	0.01	0	0	0	0	0
Mysida	2	0.01	0	0	0	0	0
Canalipalpata	11	0	0	0	0	0	0
Neogastropoda	8	0	0	0	0	0	0
Proseriata	1	0	0	0	0	0	0
Tanaidacea	2	0	0	0	0	50	0
Nematoda (phylum)	1	0	0	0	0	100	100
Porifera (phylum)	1	0	0	0	0	100	100
Ostreoida	3	0	0	0	0	0	0
Cheilostomata	3	0	0	0	0	0	0
Hydrobiidae	2	0	0	0	0	0	0
Heteronemertea	1	0	0	0	0	0	0
Heterostropha	5	0	0	0	0	20	0
Myoida	3	0	0	0	0	**0**	0
Ophiurida	2	0	0	0	0	0	0
Polycladida	2	0	0	0	0	0	0
Hydroida	2	0	9.38	0	0	50	50
Leptothecatae	3	0	0	0	0	0	0
Pleurogona	2	0	0	0	0	0	0
Cumacea	1	0	0	0	0	0	0
Gordiida	1	0	0	0	0	0	0
Heteroptera	3	0	35.42	66.7	66.7	100	0
Nudibranchia	2	0	0	0	0	0	0
Ctenostomata	2	0	0	0	0	0	0

Table C6. continued…

Order	Number of Taxa Within Each Order	Abundance (Percentage of Total)	Other Traits (Average)	Temp Optima Rank	Habit	FFG	Tolerance
Pantopoda	1	0	0	0	0	0	0
Paleonemertea	2	0	0	0	0	0	0
Arcoida	2	0	0	0	0	0	0
Hymenoptera	1	0	0	0	0	0	0
Anthoathecatae	1	0	0	0	0	0	0
Cephalaspidea	1	0	0	0	0	0	0
Actiniaria	1	0	0	0	0	0	0
Apodida	1	0	0	0	0	0	0
Arbacioida	1	0	0	0	0	0	0
Cidaroida	1	0	0	0	0	0	0
Dendrochirotida	1	0	0	0	0	0	0
Echiurida (phylum)	1	0	0	0	0	0	0
Enteropneusta (class)	1	0	0	0	0	0	0
Neoloricata	1	0	0	0	0	0	0
Pholadomyoida	1	0	0	0	0	0	0
Pterioida	1	0	0	0	0	0	0
Temnopleuroida	1	0	0	0	0	0	0

Utah—Traits Gap Analysis

The Utah traits table contains information for 272 OTUs. The majority of the OTUs were at the genera-, genera-group level (85%), or 12% family-level, and the remaining were order-level or higher. One hundred seventeen families and 32 higher taxonomic groups (generally order-level) are represented in the Utah data set. The source of the majority of nontemperature traits information was the Poff et al. (2006) Traits Matrix (see Table C-7). This was mainly supplemented by the USGS traits database (Vieira et al., 2006). Most of the temperature traits information was derived from the weighted-average calculations that were performed on a subset of the Utah data. Gaps in temperature traits information were mainly filled using the Traits Matrix (i.e., Poff et al., 2006), the USGS traits database (Vieira et al., 2006), and data from Brandt's (2001) and Yuan's (2006) weighted-average calculations. Most of the habit and functional feeding group information was taken from the Poff et al. (2006) Traits Matrix and was supplemented mainly by WSA (U.S. EPA, 2006), RBP2 (Barbour et al., 1999), and the USGS traits database (Vieira et al., 2006).

Traits information was available for approximately 50−65% of the OTUs (see Table C-8). Exceptions were the habit and functional feeding group traits, for which 85 and 92% of the OTUs had information, respectively. Numerical temperature traits information was available for about 50% of the taxa, and categorical temperature traits information (based on rankings and literature) was available for 68% of the taxa.

EPT taxa generally had more traits information than other taxa (see Table C-9). When tolerance values are excluded, about 80−100% of the EPT taxa have traits information. A large number of taxa in the Utah data set are EPT taxa: 60 are Trichopterans, 26 are Ephemeropterans, and 31 are Plecopterans. Dipterans (58 taxa), Odonates (17 taxa), and Coleopterans (30 taxa) are also well represented in the data set. For the Dipterans and Coleopterans, habit and FFG information is available for approximately 90% of the taxa, temperature traits information, 50%, and other traits information is available for about 35−45% of the taxa. Habit and FFG information is available for about 80−90% of the Odonates, while other traits information is available for about 65% of the taxa. Some of the remaining orders (or higher levels) have traits information for all taxa (i.e., Megaloptera, Isopoda, Amphipoda, Hirudinea), but these generally have only one or two taxa in the data set. On the opposite end of the spectrum, no traits information is available for some OTUs (i.e., Archaeogastropoda, Amphineura, Sepiolida,

Unionoida), but these taxa are rare (they comprise less than 0.1% of the total number of individuals in the data set), and each are only represented by one taxa in the data set. In terms of overall abundance in the Utah database, the largest number of individuals are Dipterans (overall abundance equals 36%), followed by Ephemeropterans (24%), then Trichopterans (12%), and then Coleopterans (8%). Only 11 of the OTUs have overall abundances greater than 1%.

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Table C-7. Summary of the sources that were used to derive traits information for the Utah traits table. The values equal the number of taxa that the source provided information on. NA equals the number of taxa for which no traits information was available

Traits	Sources										
Life History	**Poff et al., 2006**	**Vieira et al., 2006**	**U.S. EPA (UT), 2011**	**Brandt (ID), 2001**	**Yuan, 2006**	**EPA 1970s[a]**	**VT DEC, 2008**	**U.S. EPA, 2006**	**Barbour et al., 1999**	**U.S. EPA, 1990**	**NA**
Voltinism	141	21									110
Development	146	3									123
Synchronization of emergence	146										126
Adult life span	144	11									117
Adult ability to exit	146										126
Ability to survive desiccation	146										126
Mobility											272
Dispersal (adult)	142	9									121
Adult flying strength	146										126
Occurrence in drift	146										126
Maximum crawling rate	146										126
Swimming ability	146										126
Morphology											272
Attachment	146										126
Armoring	142	32									98
Shape	146										126
Respiration	146										126
Size at maturity	142	28									102
Resource acquisition/preference											272
Rheophily	144	14				1	4				109
Habit	125	38						64	4		41
Functional feeding group	128	26						70	20	6	22

Table C-7. continued…

Temperature											272
Temperature optimum			104	19	10						139
Temperature tolerance			104	19							139
Rank of temperature optimum	48	2	104	19	10	3					86
Rank of temperature tolerance	48	2	104	19	10	3					86
Rank of temperature optimum-tolerance	48	2	104	19	10	3					86
Tolerance								173	2	5	92

[a]Beck ,1977; Harris and Lawrence, 1978; Hubbard and Peters, 1978; Surdick and Gaufin, 1978.

Table C-8. Numbers and percentages of the 272 taxa (at the established OTU level) in the Utah database that have traits information

Traits	Number of Taxa With Traits information	Percentage of Taxa With Traits information
Life history		
Voltinism	162	59.6
Development	149	54.8
Synchronization of emergence	146	53.7
Adult life span	155	57
Adult ability to exit	146	53.7
Ability to survive desiccation	146	53.7
Mobility		
Dispersal (adult)	151	55.5
Adult flying strength	146	53.7
Occurrence in drift	146	53.7
Maximum crawling rate	146	53.7
Swimming ability	146	53.7
Morphology		
Attachment	146	53.7
Armoring	174	64
Shape	146	53.7
Respiration	146	53.7
Size at maturity	170	62.5
Resource acquisition/preference		
Rheophily	163	59.9
Habit	231	84.6
Functional feeding group	250	91.9
Temperature		
Temperature optimum	133	48.9
Temperature tolerance	133	48.9
Rank of temperature optimum	186	68.4
Rank of temperature tolerance	186	68.4
Rank of temperature optimum-tolerance	186	68.4
Tolerance	180	66.2

Table C-9. Percentage of taxa within each order (or, in some cases, higher taxonomic level) that have life history traits information in the Utah traits table

Order	Number of Taxa Within Each Order	Abundance (Percentage of Total)	Other Traits (Average)	Temp Rank	Habit	FFG	Tolerance
Diptera	58	35.7	45.6	50	87.9	91.4	69
Ephemeroptera	26	24.2	88.5	88.5	92.3	96.2	69.2
Trichoptera	60	12.4	78.7	91.7	88.3	90	56.7
Coleoptera	30	7.7	34.5	50	93.3	90	73.3
Isopoda	1	3.1	0	100	100	100	100
Trombidiformes	1	3	0	100	0	100	100
Haplotaxida	3	3	0	33.3	66.7	100	100
Plecoptera	31	2.5	87.3	100	96.8	100	54.8
Neotaenioglossa	5	2.2	16.5	0	60	100	20
Podocopida	1	1.8	0	100	0	100	0
Amphipoda	2	1.4	29.4	100	100	100	100
Tricladida	2	0.7	0	50	50	50	50
Basommatophora	9	0.6	4.6	44.4	77.8	100	100
Diplostraca	1	0.5	0	0	0	100	0
Copepoda (subclass)	1	0.3	0	100	0	100	0
Dorylaimida	1	0.3	0	100	0	100	100
Hirudinea (subclass)	1	0.2	0	100	100	100	100
Pelecypoda (class)	1	0.2	0	100	0	100	0
Odonata	17	0.1	67.5	64.7	82.4	88.2	76.5
Hemiptera	5	0.1	20	40	100	100	100
Lepidoptera	2	0	50	50	100	100	100
Veneroida	3	0	13.7	33.3	66.7	100	100
Megaloptera	2	0	100	100	100	100	100
Archaeogastropoda	1	0	0	0	0	0	0
Hydroida	1	0	17.6	0	0	100	100
Amphineura (class)	1	0	0	0	0	0	0

Table C-9. continued…

Order	Number of Taxa Within Each Order	Abundance (Percentage of Total)	Other Traits (Average)	Temp Rank	Habit	FFG	Tolerance
Heterostropha	1	0	0	0	0	100	0
Decapoda	1	0	0	100	0	100	100
Sepiolida	1	0	0	0	0	0	0
Nematomorpha (phylum)	1	0	0	0	100	100	100
Lumbriculida	1	0	0	0	100	100	100
Unionoida	1	0	0	0	0	0	0