ASSESSMENT FRAMEWORK FOR MID-ATLANTIC COASTAL PLAIN STREAMS USING BENTHIC MACROINVERTEBRATES

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FOREWORD

A cooperative study was initiated in the Mid-Atlantic Coastal Plain region of the United States between the USEPA (Regions II, III, IV) and state water resource agencies (New Jersey DEP, Delaware DNREC, Maryland DNR, Virginia DEQ, North Carolina DEHNR, and South Carolina DHEC) for the purpose of evaluating the usefulness of composited reference conditions for bioassessment. This unique example of interagency collaboration provided the impetus for a rigorous design and testing of standard biological survey protocols and selection of sites for conducting biological surveys throughout the 6-state region of the coastal plains.

The results of this study were prepared as a scientific publication for the *Journal of the North American Benthological Society*. This manuscript has undergone a rigorous peer-review for subsequent publication in JNABS. Presented here is the technical report, which provides the supported data to the published manuscript. An Executive Summary is given that summarizes the findings of this collaborative study. Seven attachments are provided that correspond to the supportive data analyses:

1. Physical and chemical characteristics of sites in the Mid-Atlantic Coastal region
2. Master taxa list, Mid-Atlantic coastal streams
3. Cluster analyses/for (a) genus and (b) family
4. Values of core metrics for each site
5. Rating of sites based on CPMI assignment
6. Taxa abundance of benthic macroinvertebrates, Mid-Atlantic coastal streams
7. Habitat assessment results for sites in the Mid-Atlantic coastal region

Requests for copies of this technical report should be made through Mr. Tom Pheiffer, USEPA, Central Region Lab, 201 Defense Highway, Annapolis, Maryland 21401.

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EXECUTIVE SUMMARY

A collaborative study was completed among 6 states along the Mid-Atlantic seaboard of the U.S. A consistent approach was developed for collecting and interpreting macroinvertebrate data for low gradient nontidal coastal streams. The study had 3 objectives:

1. evaluate the validity of aggregating reference site data into a single region (i.e., "Bioregion")
2. select biological metrics that best discriminate reference sites from sites impaired by habitat disturbance and organic pollution, and
3. develop an index that combines these metrics into an index of biological quality.

Macroinvertebrate, physical habitat, and water quality data were collected in 106 streams during the Fall of 1995; 55 reference, 34 habitat stressed, and 17 water quality stressed sites were sampled. The classification of reference sites divided the coastal plain into 3 Bioregions separated north and south by the Chesapeake Bay and separated east and west by physiographic region (i.e., Ecoregion). Five metrics were found to be effective at discriminating impairment including:

1. the total number of taxa
2. number of EPT taxa
3. % Ephemeroptera (by abundance)
4. the Hilsenhoff Biotic Index
5. % clinger (by abundance).

An aggregated index, the Coastal Plain Macroinvertebrate Index (CPMI), was developed using these metrics that accurately assessed impaired sites 86% of the time. Reference sites in Bioregion 63S (the southern portion of Ecoregion 63) were highly variable and affected the discriminatory ability of the CPMI. This variability was likely due to the abundance of naturally acidic waters in the southern coastal plain and seasonal variability in pH. Further study is recommended for the southern portion of the coastal plain due to a small sample size and a high variability in reference sites. The CPMI was equally accurate at assigning habitat and water quality impairment indicating a similar degree of ecological impact from these 2 stressors. Guidance is provided in applying the CPMI to other macroinvertebrate data sets in the region. The precision of CPMI scores was estimated to be +/- 10% (3 scoring units out of 30) at the 90% confidence level to further support the ability of the index to discriminate between reference and impaired sites.

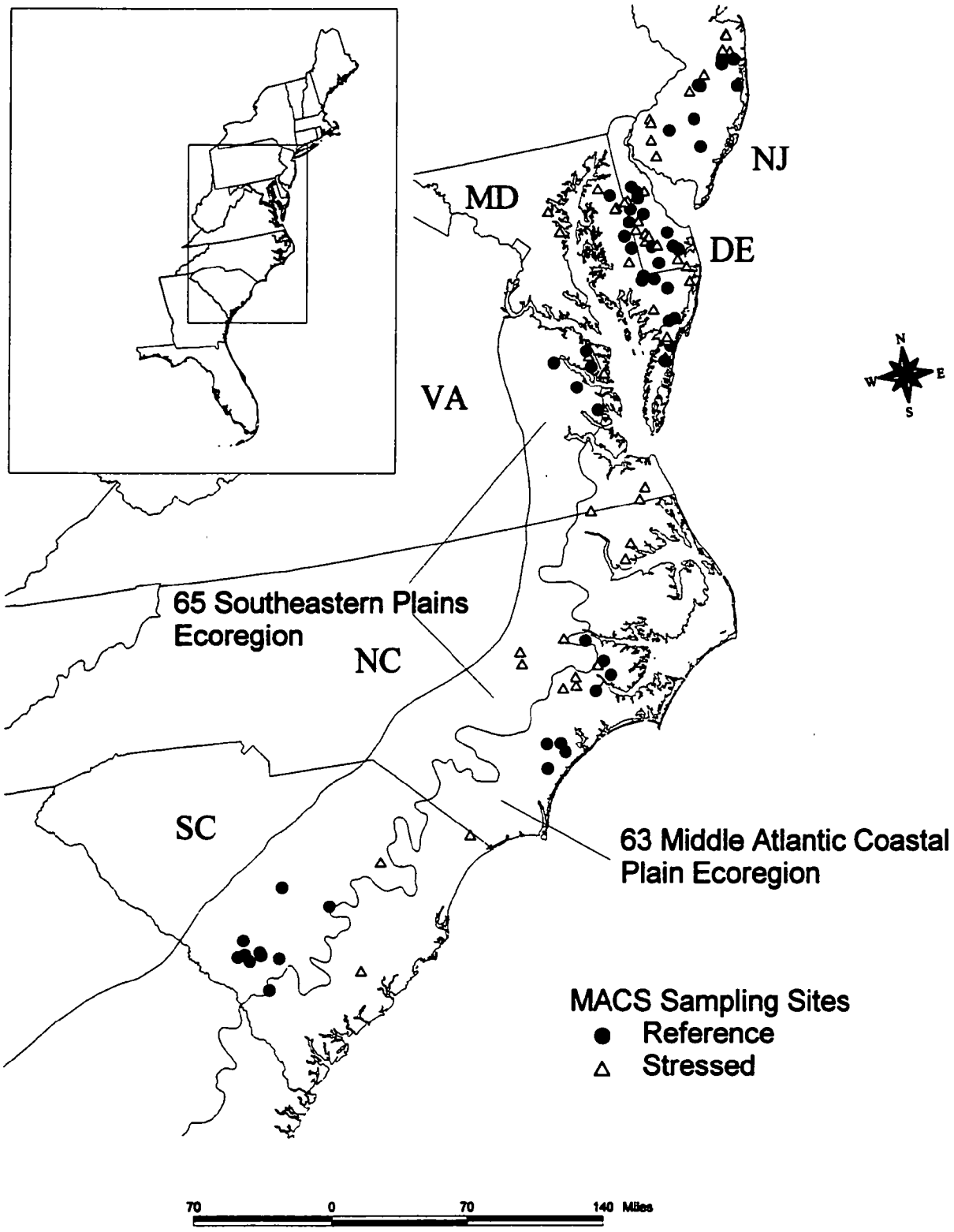
SITE SELECTION AND CLASSIFICATION

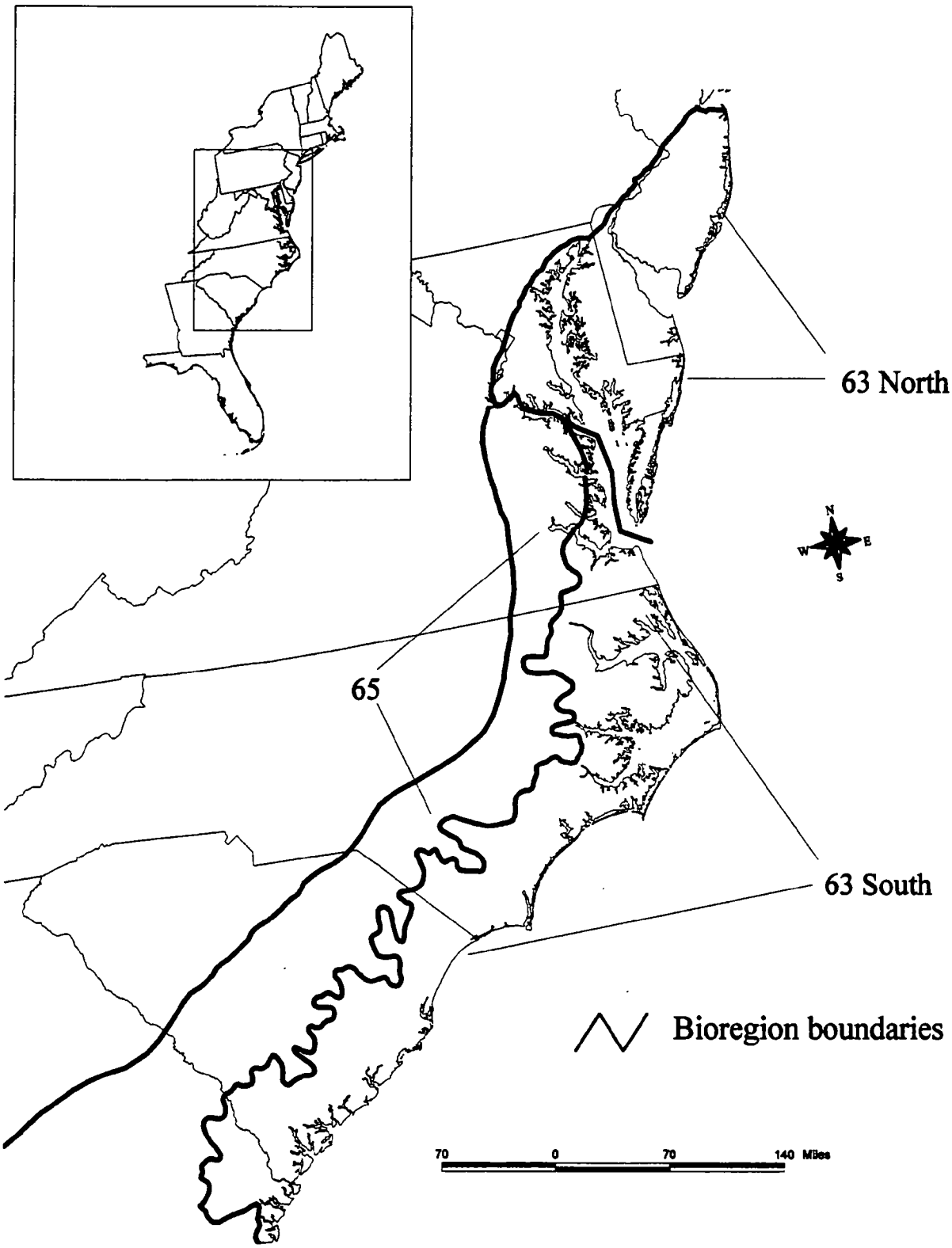
Streams in the Mid-Atlantic Coastal Plain Ecoregion (Ecoregion 63, Omernik 1987) were the primary focus of this study. Some streams were also sampled in the Southeastern Plains Ecoregion (Ecoregion 65, Omernik 1987), and we used this opportunity to evaluate whether low gradient streams there should be classified and evaluated separately or whether the two regions could be combined when evaluating macroinvertebrate data.

Ecoregion 63 is characterized by flat terrain (slope less than 10%) and large areas of wooded wetlands. Ecoregion 65 is a transitional area between the coastal plain and piedmont regions, and thus contains greater topographic relief and more defined floodplains (White 1997). Both areas are dominated by low gradient and slow velocity streams meandering in unconsolidated alluvial sediments, and under natural conditions have riparian corridors consisting of pine and hardwood forests.

A total of 106 sites were sampled during the Fall of 1995 throughout the coastal plain region of 6 states (Figure 1). A sampling site consisted of a 100 meter reach of stream. Sites were selected as either "reference" or "stressed" with the stressed sites classified as either "habitat" or "water quality" impaired. This design was used to evaluate regional differences in reference sites and to determine the discriminatory ability of various biological metrics to detect these 2 common stressors in the coastal plain.

Further separation was observed when the study area was partitioned by Ecoregion. When the ordination was projected using both North/South and Ecoregion divisions, three distinct regions appeared. Results of a cluster analysis supported the ordination analysis and further defined the separation points. The use of 3 regions also helped to aggregate (i.e., eliminate) some of the overlap shown using only a North/South separation (i.e., 2 regions). These analyses supported 3 relatively "Bioregions"; Bioregion 63N (Ecoregion 63 north of the Chesapeake Bay), Bioregion 63S (Ecoregion 63 south of the Chesapeake Bay), and Bioregion 65 (Ecoregion 65) (Figure 2).


NJ
MD
DE
VA
NC
SC
65 Southeastern Plains Ecoregion
63 Middle Atlantic Coastal Plain Ecoregion
MACS Sampling Sites
Reference
Stressed
N
W
E
S
70
0
70
140 Miles


63 North
65
63 South
Bioregion boundaries
N
W
E
S
70
0
70
140 Miles

ATTACHMENT 1

Physical and Chemical Characteristics of Sites in the Mid-atlantic Coastal Region

Sampling sites are identified by state and a unique station identifier, collection date, bioregion, and latitude and longitude coordinates. The *a priori* designation of "reference" or stressed, noted as "habitat" or "water quality" impaired is included for each site. Field-measured parameters include temperature, dissolved oxygen, pH, and specific conductivity; laboratory-measured parameters from water samples include total phosphorus, nitrogen, and total suspended solids. Other physical measures include watershed (or catchment), size, stream flow, width, depth, and velocity. The sites are organized in a hierarchical fashion by bioregion, then by state oriented north to south, and then by reference and the stressor categories (habitat and water quality).

Attachment 1. Physical and chemical characteristics of sites in the Mid-Atlantic Coastal region

				Water Quality							Physical Measures						
				Field Parameters				Total	Nitrate/Nitrite		Watershed	Stream	Mean values				
				Temp.	D O.	pH	Sp. co.	Phosphorous	Nitrogen	TSS	Size	Flow	Width	Depth	Velocity	Latitude	Longitude
Status	BioReg	Site ID	Date	(deg C)	(mg/l)	(su)	(umhos)	(mg/l)	(mg/l)	(mg/l)	(km2)	(cms)	(m)	(m)	(m/sec)	(deg min sec)	
Ref	63 N	NJC99104	10/11/95	14	9.9	6 8	105				55		6.4	0 46	0.46	40 6 25	74 9 51
Ref	63 N	NJC99105	10/11/95	14	9.5	6 6	75				39		5.8	0.76	0 46	40 8 4	74 17 43
Ref	63 N	NJC99106	10/12/95	14 5	9 7	6 4	100				64		5 8	0.76	0.24	40 5 22	74 18 54
Ref	63 N	NJC99107	10/18/95	13 5	8 5	5	90				21		6 1	0.76	0.12	39 41 3	74 45 48
Ref	63 N	NJC99108	10/18/95	11	8.4	4 8	35				199		8 2	0.76	0.27	39 56 53	74 36 32
Ref	63 N	NJC99110	10/18/95	13	9.5	6 1	50				62		8.5	0.76	0.61	39 57 37	74 37 45
Ref	63 N	NJC99111	10/19/95	13	8 3	4.9	105				32		7.3	0.76	0.18	39 38 6	75 4 20
Ref	63 N	NJC99112	10/31/95	11	9.4	4.7	40				54		6.7	0 46	0 37	39 26 25	74 45 20
Ref	63 N	NJC99115	10/18/95	14	9.8	6.5	85				28		5.8	0 46	0 30	40 6 35	74 9 42
Ref	63 N	NJC99116	10/12/95	15.5	8	5	35				122		7 0	0.76	0 37	39 52 45	74 11 27
Ref	63 N	DEC12034	10/31/95	11	8.2	6.8	135	0.187	3.2	2	23	0.13	7 6	0.30	0 05	39 13 56	75 37 59
Ref	63 N	DEC13039	10/20/95	17	8.7	6 7	105	0.081	1 42	2	23	0.01	4 6	0.46	0 01	39 10 37	75 34 54
Ref	63 N	DEC13098	10/20/95	14	8.8	6 4	110	0.028	8.3	3	13	0.07	3 7	0 30	0 08	39 7 25	75 35 19
Ref	63 N	DEC14236	10/20/95	15	8 75	6 4	90	0.031	1 8	5	23	0.03	3 4	0.15	0 06	39 2 22	75 41 52
Ref	63 N	DEC15105	10/25/95	14	8 9	6 9	92	0.045	3 14	8	34	0.07	4 6	0.21	0.08	38 58 34	75 34 0
Ref	63 N	DEC21081	10/27/95	12 8	9.63	6 4	90	0.012	1 42	3	104	0.16	4 6	0.46	0.09	38 41 14	75 32 52
Ref	63 N	DEC22016	11/1/95	13 5	8 1	6.4	65	0 016	2.7	3	21	0 06	4.4	0.29	0.05	38 46 26	75 20 29
Ref	63 N	DEC24039	11/1/95	13 5	6	6.1	50	0.022	1 2	4	23	0.01	4 3	0.37	0.01	38 39 4	75 18 31
Ref	63 N	DEC24079	10/18/95	13 5	9	6.2	60	0.014	4.62	3	15	0 03	2.7	0.30	0.06	38 36 49	75 15 19
Ref	63 N	DEC26117	10/18/95	10.5	8.95	6.2	60	0.017	3.76	5	73	0.06	6.1	0 46		38 32 10	75 30 13
Ref	63 N	MDC99202	10/10/95	15	8.33	7.1	179			3	41	0 10	7.6	0.46	0 03	39 0 52	75 53 56
Ref	63 N	MDC99206	10/10/95	16.4	8.92	6.6	118			1	24	0.02	3.7	0 21	0 04	38 0 53	75 44 35
Ref	63 N	MDC99207	10/16/95	14.5	8 38	7 3	138			5	21	0.05	2.7	0.15	0 08	38 0 3	75 44 4
Ref	63 N	MDC99208	10/16/95	13	7.89	6.8	112			6	17	0.04	4.6	0.37	0.08	38 0 5	75 42 30
Ref	63 N	MDC99210	10/16/95	14 5	9	7.5	209			3	21	0 08	4.6	0.76	0.30	38 0 36	75 46 36
Ref	63 N	MDC99211	10/17/95	10 5	10 07	7.4	151			5	12	0 03	2 3	0.15	0.09	38 0 12	75 49 35
Ref	63 N	MDC99212	10/17/95	12	9.5	7.1	132			8	64	0 25	8.2	0.23	0.14	38 0 24	75 35 42
Ref	63 N	MDC99213	10/17/95	11.9	4.2	6.6	175			7	37	0 00	3.7	0.30	0 00	38 0 26	75 28 7
Ref	63 N	MDC99214	10/19/95	12.7	9.45	7.3	298			4	6	0 01	1.8	0.09	0 09	38 0 48	75 31 42
Ref	63 N	MDC99215	10/19/95	13.4	8.1	6.8	203			3	6	0.01	1 1	0 12	0.05	38 0 30	75 27 36
Ref	63 N	VAC99306	10/25/95	15 6	6 4	7 2	365		2.55		4		1 8	0.15	0.06	37 48 45	75 34 14
Ref	63 S	VAC99311	11/7/95	15 5	7.8	7 4	271		2.6		3		1 1	0.15	0.18	37 41 49	75 40 8
Ref	63 S	NCC99401	10/16/95	15	5.8	7.3	120	0.08		2	23	0.19	4.2	0 61	0 12	35 1 36	77 8 8
Ref	63 S	NCC99402	10/16/95	18 5	7.8	5.7	108	0 04	0.48	9	5	0.05	3.1	0.30	0.10	35 8 8	76 56 30
Ref	63 S	NCC99403	10/16/95	17	4.2	7.3	211	0 28	0.32	10	54	0 00	2.0	0.15	0 05	35 15 54	76 59 21
Ref	63 S	NCC99405	10/17/95	12	7.4	6.3	106	0.07	0.22	1	160	0 33	6.7	0.61	0.12	35 28 15	77 8 36

Attachment 1. Physical and chemical characteristics of sites in the Mid-Atlantic Coastal region

				Field Parameters				Total	Nitrate/Nitrite		Watershed	Stream	Mean values				
				Temp.	D.O.	pH	Sp co	Phosphorous	Nitrogen	TSS	Size	Flow	Width	Depth	Velocity	Latitude	Longitude
Status	BioReg	Site ID	Date	(deg C)	(mg/l)	(su)	(umhos)	(mg/l)	(mg/l)	(mg/l)	(km2)	(cms)	(m)	(m)	(m/sec)	(deg min sec)	
Ref	63 S	NCC99407	11/21/95	10.2	6.8		40	0.05		1	92					34 26 48	77 48 12
Ref	63 S	NCC99408	11/21/95	11	5 8	4.6	65	0.02		1	33	0.60	8.2	0.91	0.07	34 33 29	77 34 55
Ref	63 S	NCC99409	11/21/95	11	6.2	5.6	60	0 1		2	50					34 38 18	77 37 0
Ref	63 S	NCC99410	11/21/95	11	6 2	4 6	70	0.09	0 18	2	89	1.04	10 1	0.91	0.14	34 39 24	77 45 51
Ref	63 S	SCC99503	10/17/95	17	7.8	7	115	0 1	1.12	1.4	12	0.13	3.7	0 15	0.21	32 58 35	81 9 18
Ref	65	VAC99301	10/4/95	18 3	5.6	6 8	176	0.1	0 07	4	21		4 6	0.76	0 00	37 46 48	76 29 42
Ref	65	VAC99303	10/4/95	17.6	7.3	6.8	119	0.2	0.41	85	11		2.1	0.30	0.09	37 55 18	76 30 43
Ref	65	VAC99304	10/2/95	15.7	7.7	7.2	87				280		9.1	2 13	0.06	37 38 4	76 41 48
Ref	65	VAC99305	10/2/95	16.5	5.8	7 1	512				36		3.7	1.07	0.06	37 24 25	76 30 53
Ref	65	VAC99310	10/12/95	16.5	8.7	7.5	87				73		3.7	1.07	0 09	37 52 39	76 54 4
Ref	65	SCC99501	10/11/95	21.5	7	6.6	50	0.02	0.04	2.2	29	0 26	7.6	0.39	0.09	33 26 6	81 20 56
Ref	65	SCC99502	10/16/95	16	7.5	6.05	40	0.04	0.02	4.7	19	0 21	4.3	0 22	0 22	33 17 4	81 11 3
Ref	65	SCC99504	10/12/95	17	8	6.3	50		0.04	1.1	23	0 31	6.1	0.21	0 25	33 18 3	81 25 53
Ref	65	SCC99506	10/25/95	18.5	6.6	6 4	140		0.3	3	102	0 48	6.1	0.47	0.17	33 14 5	81 0 23
Ref	65	SCC99507	10/16/95	16	7 6	6 4	80		0 18	2.6	29	0.57	7 9	0.39	0.18	33 18 40	81 11 35
Ref	65	SCC99508	10/12/95	21	7.7	6.6	40	0.02	0.13	3.6	53	0 66	7.3	0 44	0.21	33 14 56	81 18 51
Ref	65	SCC99509	10/9/95	18	6 3	5.2	30	0.06	0 04	4	60	0.36	4.6	0.41	0.19	33 50 28	80 51 37
Ref	65	SCC99510	10/9/95	22 5	5.3	6.65	90	0.04	0.51	1 1	28	0.10	2.7	0.20	0.17	33 36 36	80 23 23
Ref	65	SCC99515	10/12/95	20	7.5	7	50	0 02	0.28	2.8	27	0 41	4.3	0.45	0.21	33 18 42	81 21 26
Hab	63 N	NJC99101	10/5/95	14	8.6	6.7	225				18		4.3	0.15	0 46	40 20 17	74 11 14
Hab	63 N	NJC99102	10/5/95	18	8 8	6.9	225				22		5.8	0.15	0.37	40 19 32	74 11 18
Hab	63 N	NJC99113	10/26/95	13	8	5.9	120				15		6.1	0.30	0.00	39 26 43	75 16 24
Hab	63 N	NJC99114	10/26/95	12.5	11.3	6 4	190				7		2 4	0.30	0.37	39 35 28	75 17 46
Hab	63 N	NJC99117	10/19/95	11.5	9	6 4	180				7		3.4	0 30	0.12	39 46 18	75 15 51
Hab	63 N	NJC99118	10/19/95	11.5	10.2	7.2	180				22		5 5	0.30	0 37	39 44 10	75 15 21
Hab	63 N	DEC13033	10/20/95	20	8.9	6.7	110	0.032	0.006	3	5	0 00	7.6	0.23	0.00	39 10 40	75 29 52
Hab	63 N	DEC14039	10/20/95	15.5	10 2	6.6	115	0.055	0 231	5	32	0.09	8.5	0.30	0.06	39 7 37	75 42 19
Hab	63 N	DEC16019	10/26/95	13	11.6	6.5	70	0.031	0.052	5	14		5.5	0.30	0.11	38 55 46	75 38 6
Hab	63 N	DEC16084	10/26/95	12	8.95	6	85	0.05	1 02	8	16	0 02	4.6	0.40	0 01	38 51 24	75 41 4
Hab	63 N	DEC18035	10/25/95	16	9	6 3	80	0 028	3.24	6	43	0.14	7.3	0.38	0.05	38 48 20	75 34 53
Hab	63 N	DEC18036	10/25/95	16	8 6	6 1	81	0 075	1.64	7	7	0.01	4.0	0 23	0.01	38 48 19	75 35 31
Hab	63 N	DEC18072	10/25/95	15	7	6 4	92	0 092	3.31	4	24	0 03	3 0	0 52	0.02	38 44 46	75 36 2
Hab	63 N	DEC19041	10/27/95	13.6	8.35	6.1	110	0.066	2.27	4	22	0.04	4.6	0 30	0.30	38 46 34	75 33 12
Hab	63 N	DEC23041	11/1/95	15	9.5	6.2	40	0 015	0.642	4	33	0.04	5 0	0.59	0.02	38 41 32	75 28 43
Hab	63 N	DEC28078	10/18/95	12	8.3	6.3	90	0.152	0.019	29	7	0.00	4 9	0.46	0.00	38 32 27	75 17 3
Hab	63 N	MDC99203	10/10/95	17.2	11.33	7.2	204			2	25	0.04	3.0	0.14	0 09	39 0 13	75 50 54
Hab	63 N	MDC99204	10/10/95	16	7.83	6.9	153			3	33	0 09	5.5	0.61	0 06	39 0 28	75 51 54

Attachment 1. Physical and chemical characteristics of sites in the Mid-Atlantic Coastal region

				Field Parameters				Total	Nitrate/Nitrite		Watershed	Stream	Mean values				
				Temp	D O.	pH	Sp. co.	Phosphorous	Nitrogen	TSS	Size	Flow	Width	Depth	Velocity	Latitude	Longitude
Status	•BioReg	Site ID	Date	(deg C)	(mg/l)	(su)	(umhos)	(mg/l)	(mg/l)	(mg/l)	(km2)	(cms)	(m)	(m)	(m/sec)	(deg min sec)	
Hab	63 N	MDC99205	10/10/95	17.1	11.2	7.5	397			3	242	0.03	0.9	0.24	0.15	39 0 55	75 44 32
Hab	63 N	MDC99217	10/23/95	11 2	7 1	7.2	263			13	37	0.02	1.1	0.15	0.18	38 0 24	75 39 59
Hab	63 N	VAC99307	10/2/95	12 8	0 5	7.5	358	1.6		74	1		2.1	0.08	0.00	37 52 33	75 35 46
Hab	63 S	VAC99315	10/17/95	12	2 3	6.5	294	0.34	0.25	82	41		3 0	0.61	0.00	36 40 4	76 10 5
Hab	63 S	NCC99412	10/16/95	20	8 2	7.4	312	0.13	1.7	2	28	0.22	11.0	0.61	0.04	35 6 20	77 28 45
Hab	63 S	NCC99413	10/16/95	18	7	6.8	155	0.15	1.8	32	17	0.18	3.7	0.91	0.04	35 6 26	77 19 48
Hab	63 S	NCC99415	10/17/95	13	2.3	6 9	258	0.19	0.92	5.3	28	0 01	6 4	0.61	0.00	36 5 46	76 32 5
Hab	63 S	NCC99416	10/17/95	16	5 6	7	252	0.08	0.07	13	65	0.06	2.7	0.61	0.07		
Hab	63 S	NCC99417	10/16/95	18	7	6.5	120	0 21	1.3	7	19	1.00	8.2	0.91	0.17	35 10 48	77 19 10
Hab	63 S	SCC99513	10/10/95	21	7.1	7.05	200	0.05	0.17	2.8	37	0 43	4 6	0.21	0.21	34 0 28	78 45 31
Hab	63 S	SCC99514	10/17/95	17	5	6.3	50		0 04	8.2	7	0 57	7.3	0.52	0.15	33 0 56	80 9 56
Hab	65	MDC99219	10/24/95	10.7	9.5	7 5	423			8	13	0 06	3 0	0.30	0.06	39 0 12	76 37 48
Hab	65	MDC99220	10/30/95	11.2	6.9	7 1	165			6	1	0.00	0.9	0.06	0.08	38 0 30	76 32 36
Hab	65	NCC99411	10/17/95	15	8	6 7	103	0.22	1.2		30	0.12	4.0	0.30	0.12	35 22 51	77 52 11
Hab	65	NCC99414	10/17/95	17	9	6.9	91	0 06	0.69	2	25	0.04	2.7	0.30	0 08	35 31 39	77 22 9
Hab	65	NCC99418	11/20/95		9 1	6.6	70	0.07	1.6	6	95		7 3			35 29 11	77 51 59
Hab	65	SCC99511	10/10/95	21	6.9	6.2	80	0.08	0.19	9	23	0.18	3.0	0.29	0.20	33 54 49	79 45 58
WQ	63 N	NJC99103	10/11/95	13.5	8.3	6.9	175				89		10.1	0.46	0.30	40 11 5	74 11 4
WQ	63 N	NJC99109	10/12/95	19	7 8	6.8	150				45		7.3	0.61	0.46	40 2 11	74 32 10
WQ	63 N	NJC99119	10/18/95	12	9.7	4.7	60				123		8.2	0.76	0.30	39 55 46	74 44 33
WQ	63 N	NJC99120	10/11/95	14	7.9	6.5	195				19		3 7	0 30	0.15	40 12 32	74 16 7
WQ	63 N	MDC99201	10/10/95	14.7	6.36	7.4	196			2	32	0.06	5 5	0.46	0 08	39 0 47	76 0 55
WQ	63 N	MDC99209	10/16/95	15 4	6.11	6.8	911			38	8	0.06	3.7	0.15	0 12	38 0 5	75 49 54
WQ	63 N	MDC99216	10/19/95	16 4	7.35	7 4	858			3	13	0 02	3 4	0.24	0.03	38 0 42	75 12 18
WQ	63 N	MDC99218	10/23/95	16.1	6.5	7.7	977			10	10	0 03	2.7	0.15	0.08	38 0 54	75 12 6
WQ	63 N	VAC99309	10/26/95	20.3	6 5	7.6	2100	1.6	136.03	898	3		1 5	0.23	0.40	37 43 49	75 38 58
WQ	63 N	VAC99312	10/4/95	14 1	8.9	7.6	2070	22	155.24		4		3.0	0.46	0.09	37 54 8	75 34 64
WQ	63 S	VAC99308	10/26/95	17 1	0 3	6.1	197	0.11		36	43		1 8	0 61	0.00	36 33 34	76 48 35
WQ	63 S	VAC99314	10/17/95	11.8	7 7	7	357	0.9	4.05	7	8		4 3	0.46	0.03	36 34 38	76 15 7
WQ	63 S	NCC99404	10/16/95	17	3 6	7	138	0.03	0.01	4	28	0.01	3 0	0.30	0.02	35 14 40	77 3 41
WQ	63 S	NCC99406	10/17/95	13	1.1	6.5	1900	0.19		9	51	0.04	4.9	0.46	0.06	36 13 17	76 26 42
WQ	65	VAC99302	10/4/95	16.6	1.5	6.4	168	0.2		22	18		4.6	0 76	0.00	37 52 38	76 29 43
WQ	65	VAC99313	10/17/95	21.4	3	7 5	843	2	3 14	12	3		1.5	0.15	0.15	37 42 31	76 21 49

ATTACHMENT 2

Master taxa list, Coastal Plains Macroinvertebrate Index (CPMI)

A list of all taxa collected in this study is presented in phytogenetic order down to the genus level. Designations as to tolerance value, functional feeding group and habit (behavior) are included.

List of abbreviations:

Tolerance Value (TV)

Scale from 0 to 10

0	least tolerant
10	most tolerant

Functional Feeding Group (FFG)

p	predator
cg	collector/gatherer
sh	shredder
sc	scraper
fc	filterer/collector

Habit

cn	clinger
sw	swimmer
dv	diver
cb	climber
sp	sprawler
b	burrower
sk	skater

Attachment 2, Master taxa list, Coastal Plains Macroinvertebrate Index

Phylum	Class	Order	Family	Genus	TV	FFG	Habit
Annelida	Hirudinea	Rhychobdellida	Glossiphoniidae	Alboglossiphonia		p	
				Desserobdella		p	
				Placobdella		p	
	Oligochaeta	Lumbricida	Glossoscolecidae	(unidentified)	10	cg	
		Haplotaxidae	Lumbricidae	(unidentified)	10	cg	
		Lumbriculida	Lumbriculidae	Eclipidrilus	8		
				Lumbriculus	8	cg	
		Tubificida	Enchytraeidae	(unidentified)	10	cg	
			Naididae	Dero	10	cg	
				Haemonais	8	cg	
				Nais	8	cg	
				Stylaria	8	cg	
			Tubificidae	Aulodrilus	8	cg	
				(unidentified)	10	cg	
				Isochaetides		cg	
				Limnodrilus	10	cg	
				Quistadrilus	10	cg	
				Spirosperma	10	cg	
Chelicerata	Arachnoidea	Acariformes	(unidentified)	(unidentified)		p	
			Lebertidae	Lebertia		p	
			Pionidae	Piona		p	
Arthropoda	Crustacea	Amphipoda	Gammaridae	Crangonyx	4	cg	
				Gammarus	6	cg	
				Synurella		cg	
			Talitridae	Hyalella	8	cg	
		Decapoda	Cambaridae	Orconectes	6	sh	
			Cambaridae	Procambarus	9	sh	
			Cambaridae	(unidentified)	6	cg	
			Palaemonidae	Palaemonetes	4		
				Palaemontes	4		
		Isopoda	Asellidae	Caecidotea	6	cg	
				Lirceus	8	cg	
				Oniscus			
	Insecta	Coleoptera	Carabidae	(unidentified)			
			Dryopidae	Helichus	5	sc	cn
			Dytiscidae	Agabus	5	p	sw
				Celina	5	p	sw
				Copelatus	5	p	sw
				Hydroporus	5	p	sw
				Ilybius		p	sw
				Laccophilus	5	p	sw
			Elmidae	Ancyronyx	2	cg	cn
				Dubiraphia	6	sc	cn
				Macronychus	2	sh	cn
				Microcylloepus	2	sc	cn
				Optioservus	4	sc	cn
				Oulimnius		sc	cn
				Promoresia	2	sc	cn

Attachment 2, Master taxa list, Coastal Plains Macroinvertebrate Index

Phylum	Class	Order	Family	Genus	TV	FFG	Habit
				Stenelmis	5	sc	cn
			Gyrinidae	Dineutus	4	p	sw
				Gyrinus	4	p	sw
			Haliplidae	Haliplus	5	sh	cb
				Peltodytes	5	sh	cb
			Hydrophilidae	Sperchopsis		cg	cn
				Tropisternus	10	p	cb
			Psphenidae	Ectopria	5	sc	cn
			Ptilodactylidae	Anchytarsus		sh	cn
				Ptilodactyla		sh	-
			Sciaridae	Cyphon	7	sc	cb
		Collembola	(unidentified)	(unidentified)			sp
		Diptera	(Muscomorpha)	(unidentified)			-
			Athericidae	Atherix	2	p	sp
			Ceratopogonidae	Bezzia	6	p	b
				Ceratopogon	6	p	-
				Culicoides	10	p	b
				Dashyhelea		cg	sp
				Probezzia	6	p	b
				Serromyia		p	b
			Chironomidae	Ablabesmyia	7	cg	sp
				Apectrotanypus	0	p	b
				Brillia	5	sh	b
				Chironomus	10	sh	b
				Cladopelma	9	cg	b
				Cladotanytarsus	7	fc	-
				Clinotanypus	8	p	b
				Conchapelopia	6	p	sp
				Corynoneura	7	cg	sp
				Cricotopus	7	cg	cn
				Cryptochironomus	8	p	sp
				Cryptotendipes	6	cg	sp
				Demicryptochironomu	8	cg	b
				Dicrotendipes	8	cg	b
				Diplocladius	7	cg	sp
				Djalmabatista	3	p	sp
				Endochironomus	10	sh	cn
				Glyptotendipes	10	fc	b
				Goeldichironomus	8	cg	b
				Gymnometriocnemus	7	cg	sp
				Helopelopia	6	p	-
				Hydrobaenus	8	sc	sp
				Kiefferulus	10	cg	b
				Labrundinia	7	p	sp
				Larsia	6	p	sp
				Limnophyes	8	cg	sp
				Meropelopia			-
				Micropsectra	7	cg	cb

Attachment 2, Master taxa list, Coastal Plains Macroinvertebrate Index

Phylum	Class	Order	Family	Genus	TV	FFG	Habit
				Microtendipes	6	fc	cn
				Nanocladius	3	cg	sp
				Natarsia	8	p	sp
				Nilothauma	2		-
				(Orthocladiinae)			-
				Orthocladius	6	cg	sp
				Parachaetocladius	2	cg	sp
				Parachironomus	10	p	sp
				Paracladopelma	7	p	sp
				Parakiefferiella	4	cg	sp
				Paralauterborniella	8	cg	cn
				Paramerina		p	sp
				Parametriocnemus	5	cg	sp
				Paraphaenocladius	4	cg	sp
				Paratanytarsus	6	cg	sp
				Paratendipes	8	cg	b
				Phaenopsectra	7	sc	cn
				Polypedilum	6	sh	cb
				Potthastia	2	cg	sp
				Procladius	9	p	sp
				Psectrocladius	8	sh	sp
				Psectrotanypus	10	p	sp
				Pseudorthocladius	0	cg	sp
				Rheocricotopus	6	cg	sp
				Rheosmittia			-
				Rheotanytarsus	6	fc	cn
				Stelechomyia	7	cg	
				Stempellinella	4	cg	cb
				Stenochironomus	5	sh	b
				Tanypus	10	p	sp
				Tanytarsus	6	fc	cb
				Thienemanniella	6	cg	sp
				Tribelos	5	cg	b
				Tvetenia	5	cg	sp
				Unniella		cg	-
				Xenochironomus	0	p	-
				Xylotopus	2	sh	b
				Zalutschia	7	sh	-
				Zavrelimyia	8	p	sp
				(unidentified)			-
			Culicidae	Aedes	8	fc	sw
				Anopheles	6	fc	sw
				Culex	8	fc	sw
			Dixidae	(unidentified)	1	cg	sw
			Empididae	Hemerodromia	6	p	sp
			Mycetophilidae	Mycetophila			-
				(unidentified)			-
			Platypezidae	Platypeza			-

Attachment 2, Master taxa list, Coastal Plains Macroinvertebrate Index

Phylum	Class	Order	Family	Genus	TV	FFG	Habit
			Psychodidae	Pericoma	4	cg	b
			Simuliidae	Simulium	6	fc	cn
			Stratiomyidae	Calaparyphus	7	cg	sp
				Odontomyia	7	cg	sp
			Tabanidae	Chrysops	7	p	sp
				Tabanus	5	p	sp
			Tipulidae	Geranomyia	3	sh	b
				Helius	4	cg	sp
				Hexatoma	2	p	b
				Oromosia	3	cg	b
				Pilaria	7	p	b
				Pseudolimnophila	2	p	b
				Tipula	4	sh	b
				(unidentified)	3	sh	b
		Ephemeroptera	Baetidae	Acentrella	4	cg	sw
				Acerpenna	4	sh	sw
				Baetis	6	cg	sw
				Barbaetis	4	cg	sw
				Callibaetis	9	cg	sw
				Centroptilum	2	cg	sw
				Labiobaetis		sc	sw
				(unidentified)	4	cg	sw
			Baetiscidae	Baetisca	4	cg	sp
			Caenidae	Caenis	7	cg	sp
			Ephemerellidae	Eurylophella	4	sc	cn
				Serratella	2	sc	cn
			Ephemeridae	Hexagenia	6	cg	b
			Heptageniidae	Stenacron	4	sc	cn
				Stenonema	3	sc	cn
				(unidentified)	4	sc	cn
			Leptophlebiidae	Paraleptophlebia	1	cg	sw
			Metretopodidae	Siphloplectron	2	p	sw
			Oligoneuriidae	Isonychia	2	fc	sw
			Tricorythidae	Tricorythodes	4	cg	sp
		Hemiptera	Belostomatidae	Belostoma		p	cb
			Corixidae	Palmacorixa		p	-
				Sigara		p	sw
				Trichocorixa		p	sw
				(unidentified)	5	p	sw
			Gerridae	Rheumatobates		p	sk
				Trepobates		p	sk
			Mesoveliidae	Mesovelia		p	sk
			Naucoridae	Pelocoris	7	p	cb
			Nepidae	Ranatra		p	cb
			Notonectidae	Notonecta	5	p	sw
			Veliidae	Microvelia	6	p	sk
				Rhagovelia		p	sk
		Lepidoptera		(unidentified)		sc	-

Attachment 2, Master taxa list, Coastal Plains Macroinvertebrate Index

Phylum	Class	Order	Family	Genus	TV	FFG	Habit
			Pyralidae	Paraponyx	5	sh	cb
		Megaloptera	Corydalidae	Chauliodes	4	p	cn
				Corydalus	5	p	cn
				Nigronia	2	p	cn
			Sialidae	Sialis	4	p	b
		Odonata	Aeschnidae	Anax	5	p	cb
				Basiaeschna	2	p	cb
				Boyeria	2	p	cb
				Nasiaeschna	2	p	cb
				(unidentified)	3	p	cb
			Calopterygidae	Calopteryx	6	p	cb
				(unidentified)	5	p	cb
			Coenagrionidae	Argia	6	p	cn
				Enallagma	8	p	cb
				Ischnura	9	p	cb
				(unidentified)	9	p	cb
			Cordulegastridae	Cordulegaster	3	p	b
			Corduliidae	Epitheca	4	p	cb
				Somatochlora	1	p	sp
				(unidentified)	5	p	sp
			Gomphidae	Gomphus	5	p	b
				Hagenius	1	p	sp
				(unidentified)	1	p	b
			Libellulidae	Erythemis	10	p	sp
				Libellula	8	p	sp
				Pachydiplax	10	p	sp
				Perithemis	4	p	sp
				Sympetrum	4	p	sp
				(unidentified)	9	p	sp
			Macromiidae	Didymops	4	p	sp
				Macromia	2	p	sp
				(unidentified)	3	p	sp
		Plecoptera	Capniidae	Allocapnia	3	sh	cn
				(unidentified)	1	sh	sp
			Leuctridae	Leuctra	0	sh	cn
			Perlidae	Acroneuria	0	p	cn
				Agnetina	2	p	cn
				(unidentified)	1	p	cn
			Perlodidae	Isoperla	2	p	cn
				(unidentified)	2	p	cn
			Taeniopterygidae	Taeniopteryx	2	sh	sp
		Trichoptera	Brachycentridae	Brachycentrus	1	fc	cn
				Micrasema	2	sh	cn
			Calamoceratidae	Anisocentropus	2	sh	sp
				Heteroplectron	3	sh	sp
			Dipseudopsidae	Phylocentropus	5	fc	b
			Hydropsychidae	Cheumatopsyche	5	fc	cn
				Diplectrona	0	fc	cn

Attachment 2, Master taxa list, Coastal Plains Macroinvertebrate Index

Phylum	Class	Order	Family	Genus	TV	FFG	Habit
				Hydropsyche	4	fc	cn
				Macrostemum	3	fc	cn
				(unidentified)	4	fc	cn
			Hydroptilidae	Hydroptila	6	p	cn
				Oxythira	3	p	cb
			Lepidostomatidae	Lepidostoma	1	sh	cb
			Leptoceridae	Ceraclea	3	cg	sp
				Mystacides	4	cg	sp
				Nectopsyche	3	sh	cb
				Oecetis	8	p	cn
				Triaenodes	6	sh	sw
			Limnephilidae	Hydatophylax	2	sh	sp
				Pycnopsyche	4	sh	sp
				(unidentified)	4	sh	cb
			Molannidae	Molanna	6	sc	sp
			Odontoceridae	Psilotreta	0	sc	sp
			Philopotamidae	Chimarra	4	fc	cn
				(unidentified)	3	fc	cn
			Phyrgaenidae	Ptilostomis	5	sh	cb
				(unidentified)	4	sh	cb
			Polycentropodidae	Neureclipsis	7	fc	cn
				Nyctiophylax	5	p	cn
				Polycentropus	6	fc	cn
			Psychomyiidae	Lype	2	sc	cn
Mollusca	Gastropoda	Basommatophora	Ancylidae	Ferrissia	7	sc	
				Laevapex	6	sc	
			Lymnaeidae	Pseudosuccinea	6	cg	
				Stagnicola	7	sc	
				(unidentified)	6	sc	
			Physidae	Physella		sc	
			Planorbidae	Gyraulus	7	sc	
				Helisoma	7	sc	
				Menetus		sc	
				(unidentified)	6	sc	
		Stylommatophora	Limacidae	(unidentified)			
		Mesogastropoda	Hydrobiidae	Amnicola	8	sc	
			Pleuroceridae	Elimia	2	sc	
			Viviparidae	Campeloma	6	sc	
		Veneroida	Corbiculidae	Corbicula	4	fc	
			Sphaeriidae	Musculium	5	fc	
				Pisidium	8	fc	
				Sphaerium	8	fc	
				(unidentified)	8	fc	
		Unionoida	Unionidae	Quadrula		fc	
Nemertea	Enopla	Hoplonemertea	Tetrastemmatidae	Prostoma		p	
Platyhelminthes	Turbellaria	Tricladida	Planariidae	Dugesia		cg	

ATTACHMENT 3

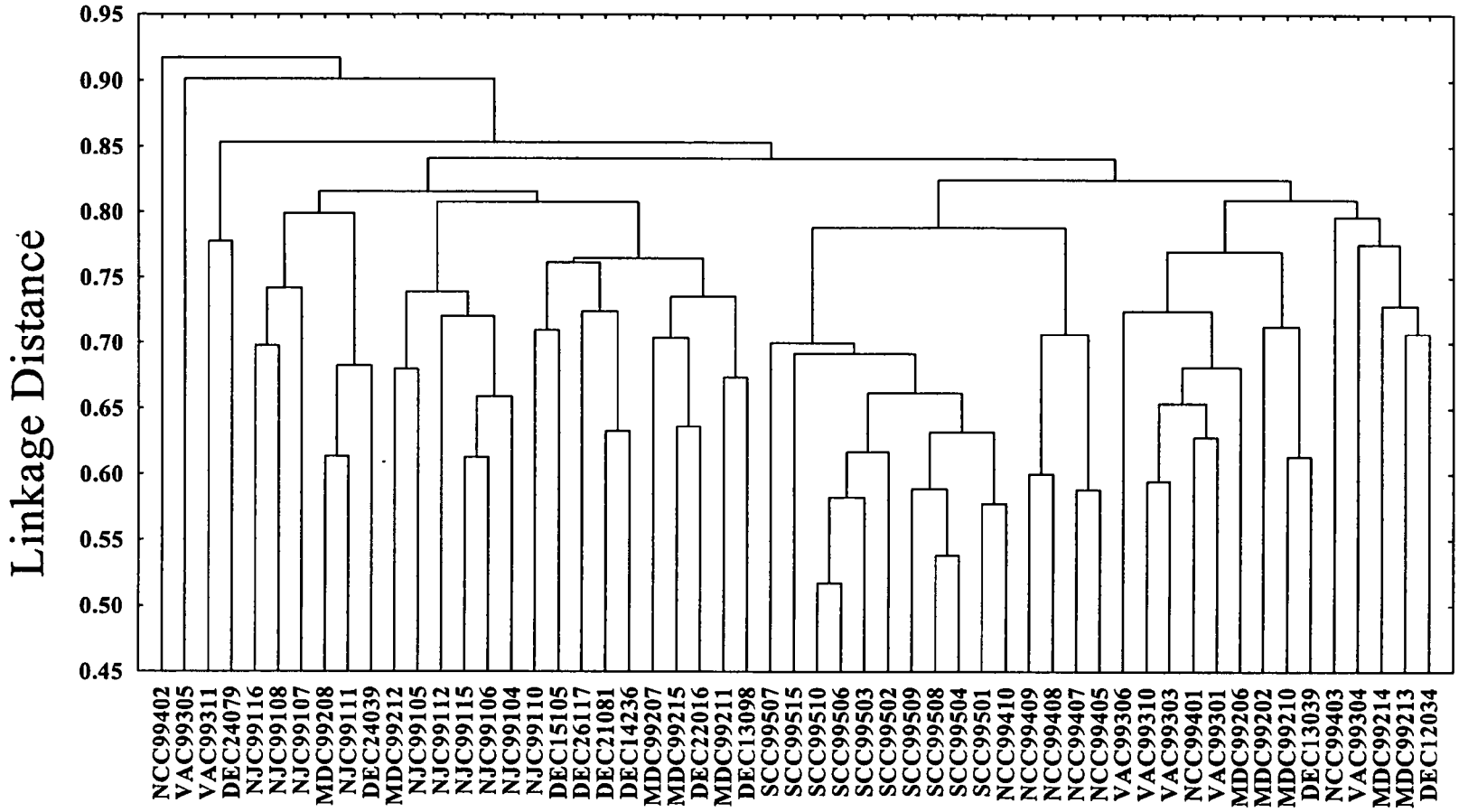
Cluster analyses for (a) genus and (b) family level taxonomy

Cluster analyses were used in conjunction with ordination techniques (i.e., non-metric multi-dimensional scaling) to analyze for site classification. Clustering used Bray-Curtis dissimilarity and the unweighted pair-grouping average algorithm considered the most robust for ecological analyses. Two sets of clusters were performed for both the genus and family level data to determine whether similar results were obtained regarding classification of reference sites.

MACS Reference Stream Sites

Dissimilarities from Jaccard matrix using genus level taxa

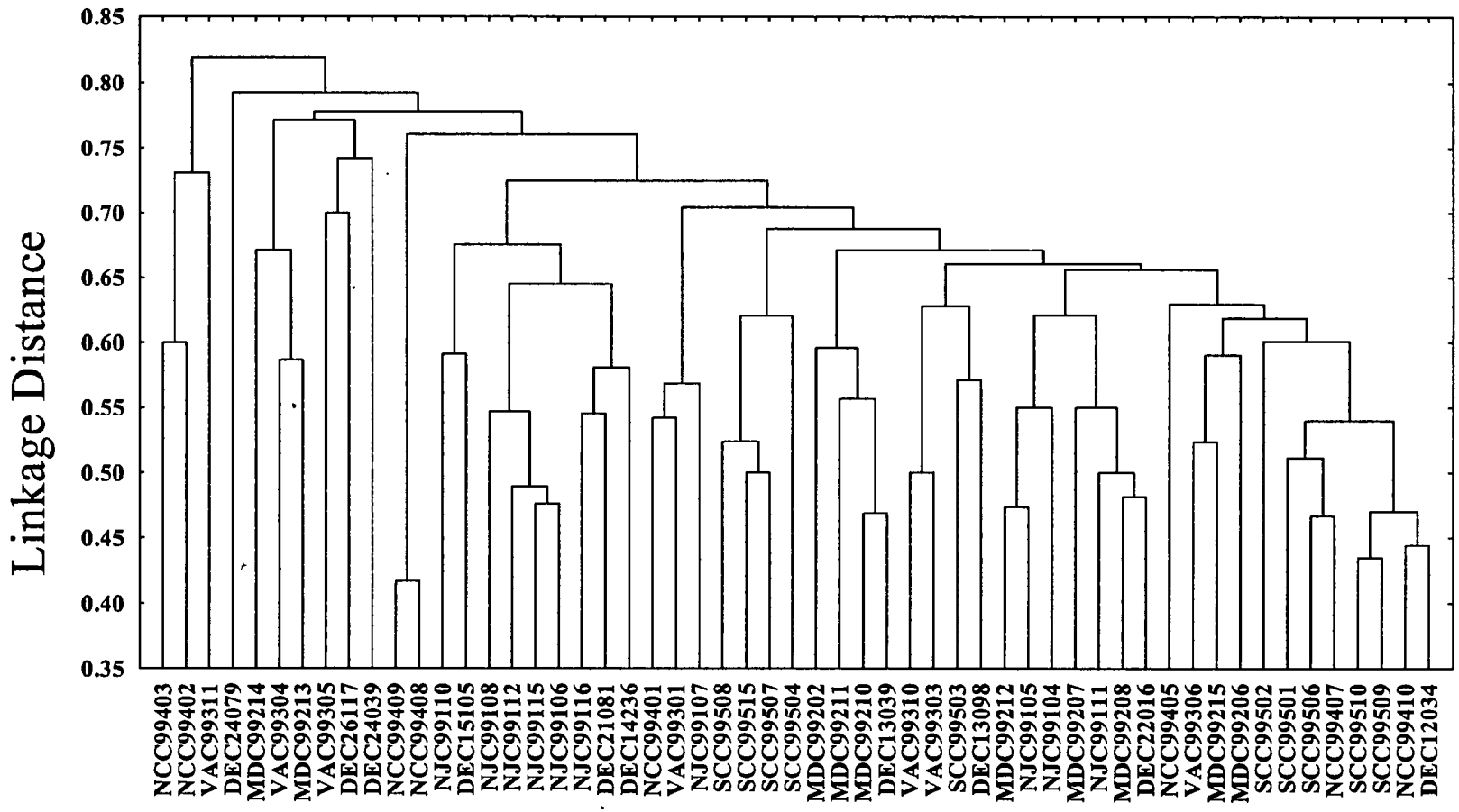
Unweighted pair-group averaging



MACS Reference Stream Sites

Dissimilarities from Jaccard matrix using family level taxa

Unweighted pair-group average



ATTACHMENT 4

Values of core metrics for each site

The values of the core metrics, which were calculated from the benthic macroinvertebrate data, are presented for each site. The sites are organized in a hierarchical fashion by bioregion, then by state oriented north to south, and then by reference and the stressor categories (habitat and water quality).

Attachment 4. Values for core metrics for each site

Status	Bioregion	Site ID	State	Sample Date	Total No. Taxa	No. EPT Taxa	% Ephem-eroptera	HBI	Percent Clingers
Ref	63 N	NJC99104	NJ	10/11/95	21	13	80.0	3.7	81.4
Ref	63 N	NJC99105	NJ	10/11/95	21	9	60.0	3.4	44.0
Ref	63 N	NJC99106	NJ	10/12/95	26	12	77.6	2.6	34.1
Ref	63 N	NJC99107	NJ	10/18/95	26	9	31.1	4.1	31.1
Ref	63 N	NJC99108	NJ	10/18/95	27	13	71.0	3.4	48.5
Ref	63 N	NJC99110	NJ	10/18/95	28	9	28.0	5.8	51.0
Ref	63 N	NJC99111	NJ	10/19/95	26	9	45.8	3.9	64.5
Ref	63 N	NJC99112	NJ	10/31/95	34	22	78.2	3.4	75.0
Ref	63 N	NJC99115	NJ	10/18/95	19	12	79.0	3.5	78.5
Ref	63 N	NJC99116	NJ	10/12/95	33	13	55.9	4.3	59.6
Ref	63 N	DEC12034	DE	10/31/95	32	9	29.4	4.5	33.7
Ref	63 N	DEC13039	DE	10/20/95	34	10	46.6	4.9	56.4
Ref	63 N	DEC13098	DE	10/20/95	32	7	20.2	4.9	34.0
Ref	63 N	DEC14236	DE	10/20/95	34	6	42.6	4.7	58.9
Ref	63 N	DEC15105	DE	10/25/95	17	4	73.8	2.9	17.0
Ref	63 N	DEC21081	DE	10/27/95	33	12	49.5	3.9	57.1
Ref	63 N	DEC22016	DE	11/1/95	26	6	18.1	3.8	24.5
Ref	63 N	DEC24039	DE	11/1/95	21	4	20.8	5.2	72.0
Ref	63 N	DEC24079	DE	10/18/95	25	9	42.6	4.2	44.2
Ref	63 N	DEC26117	DE	10/18/95	33	4	7.1	5.0	16.5
Ref	63 N	MDC99202	MD	10/10/95	31	9	21.8	5.5	29.6
Ref	63 N	MDC99206	MD	10/10/95	30	8	18.9	5.4	21.2
Ref	63 N	MDC99207	MD	10/16/95	21	6	32.0	4.8	35.0
Ref	63 N	MDC99208	MD	10/16/95	35	12	48.5	4.2	55.9
Ref	63 N	MDC99210	MD	10/16/95	28	11	20.6	5.1	36.4
Ref	63 N	MDC99211	MD	10/17/95	33	10	22.4	4.4	43.2
Ref	63 N	MDC99212	MD	10/17/95	14	7	27.0	5.4	29.0
Ref	63 N	MDC99213	MD	10/17/95	28	3	14.3	5.4	12.9
Ref	63 N	MDC99214	MD	10/19/95	35	1	2.7	6.2	9.0
Ref	63 N	MDC99215	MD	10/19/95	21	7	9.4	5.6	10.9
Ref	63 N	VAC99306	VA	10/25/95	20	5	23.9	5.4	20.5
Ref	63 S	VAC99311	VA	11/7/95	11	1	1.0	6.2	2.4
Ref	63 S	NCC99401	NC	10/16/95	33	5	9.5	5.3	23.3
Ref	63 S	NCC99402	NC	10/16/95	16	0	0.0	6.9	0.0
Ref	63 S	NCC99403	NC	10/16/95	17	0	0.0	6.2	3.9
Ref	63 S	NCC99405	NC	10/17/95	33	5	5.7	6.1	5.9
Ref	63 S	NCC99407	NC	11/21/95	20	5	58.0	3.7	21.0
Ref	63 S	NCC99408	NC	11/21/95	11	2	55.1	2.2	3.1
Ref	63 S	NCC99409	NC	11/21/95	19	2	3.0	5.6	5.0
Ref	63 S	NCC99410	NC	11/21/95	38	11	22.3	5.3	33.7
Ref	63 S	SCC99503	SC	10/17/95	22	4	25.0	5.1	34.3
Ref	65	VAC99301	VA	10/4/95	34	7	8.9	6.0	37.4
Ref	65	VAC99303	VA	10/4/95	32	11	30.1	4.8	16.5
Ref	65	VAC99304	VA	10/2/95	34	2	4.8	5.2	3.1
Ref	65	VAC99305	VA	10/2/95	11	0	0.0	5.3	4.0
Ref	65	VAC99310	VA	10/12/95	27	7	22.0	5.2	29.8

Attachment 4. Values for core metrics for each site

Status	Bioregion	Site ID	State	Sample Date	Total No. Taxa	No. EPT Taxa	% Ephem-eroptera	HBI	Percent Clingers
Ref	65	SCC99501	SC	10/11/95	31	8	30.8	4.6	45.7
Ref	65	SCC99502	SC	10/16/95	18	9	49.0	4.6	55.6
Ref	65	SCC99504	SC	10/12/95	35	11	39.0	4.8	44.8
Ref	65	SCC99506	SC	10/25/95	17	5	31.5	5.4	47.7
Ref	65	SCC99507	SC	10/16/95	20	5	25.0	5.2	24.2
Ref	65	SCC99508	SC	10/12/95	30	13	40.2	4.3	38.5
Ref	65	SCC99509	SC	10/9/95	32	10	29.3	5.1	47.8
Ref	65	SCC99510	SC	10/9/95	29	5	26.9	5.0	48.6
Ref	65	SCC99515	SC	10/12/95	25	9	31.0	5.2	33.7
Hab	63 N	NJC99101	NJ	10/5/95	22	2	7.4	5.0	17.2
Hab	63 N	NJC99102	NJ	10/5/95	22	3	45.2	5.2	51.5
Hab	63 N	NJC99113	NJ	10/26/95	15	1	1.9	5.4	47.1
Hab	63 N	NJC99114	NJ	10/26/95	25	7	22.0	5.4	58.3
Hab	63 N	NJC99117	NJ	10/19/95	16	1	0.9	6.4	13.7
Hab	63 N	NJC99118	NJ	10/19/95	23	7	59.2	3.8	41.9
Hab	63 N	DEC13033	DE	10/20/95	23	3	53.0	6.9	3.4
Hab	63 N	DEC14039	DE	10/20/95	28	6	12.3	5.4	21.2
Hab	63 N	DEC16019	DE	10/26/95	17	4	5.9	5.8	15.0
Hab	63 N	DEC16084	DE	10/26/95	16	2	33.0	7.6	2.1
Hab	63 N	DEC18035	DE	10/25/95	20	1	12.0	6.9	15.2
Hab	63 N	DEC18036	DE	10/25/95	20	2	21.0	6.7	22.7
Hab	63 N	DEC18072	DE	10/25/95	29	3	9.3	6.1	29.0
Hab	63 N	DEC19041	DE	10/27/95	26	5	10.0	5.9	9.6
Hab	63 N	DEC23041	DE	11/1/95	30	9	15.0	6.9	8.1
Hab	63 N	DEC28078	DE	10/18/95	16	2	8.6	4.7	1.1
Hab	63 N	MDC99203	MD	10/10/95	20	2	3.0	6.4	12.1
Hab	63 N	MDC99204	MD	10/10/95	3	0	0.0	8.0	1.0
Hab	63 N	MDC99205	MD	10/10/95	28	4	36.8	6.6	30.4
Hab	63 N	MDC99217	MD	10/23/95	30	3	28.0	4.5	23.0
Hab	63 N	VAC99307	VA	10/2/95	7	0	0.0	6.0	0.0
Hab	63 S	VAC99315	VA	10/17/95	17	0	0.0	4.6	4.8
Hab	63 S	NCC99412	NC	10/16/95	15	1	4.1	7.0	0.0
Hab	63 S	NCC99413	NC	10/16/95	17	1	2.0	6.8	8.7
Hab	63 S	NCC99415	NC	10/17/95	17	0	0.0	7.5	0.0
Hab	63 S	NCC99416	NC	10/17/95	23	2	4.0	7.5	4.6
Hab	63 S	NCC99417	NC	10/16/95	27	4	4.6	7.1	4.1
Hab	63 S	SCC99513	SC	10/10/95	20	6	51.0	4.3	42.3
Hab	63 S	SCC99514	SC	10/17/95	20	3	39.0	6.1	7.7
Hab	65	MDC99219	MD	10/24/95	8	3	5.3	5.9	2.1
Hab	65	MDC99220	MD	10/30/95	11	0	0.0	6.1	0.0
Hab	65	NCC99411	NC	10/17/95	11	0	0.0	7.7	0.0
Hab	65	NCC99414	NC	10/17/95	22	0	0.0	6.5	29.1
Hab	65	SCC99511	SC	10/10/95	18	3	33.9	5.4	6.8
WQ	63 N	NJC99103	NJ	10/11/95	18	4	19.2	5.1	20.6
WQ	63 N	NJC99109	NJ	10/12/95	18	5	45.3	5.3	67.1
WQ	63 N	NJC99119	NJ	10/18/95	12	5	55.3	3.9	49.4

Attachment 4. Values for core metrics for each site

Status	Bioregion	Site ID	State	Sample Date	Total No. Taxa	No. EPT Taxa	% Ephem-eroptera	HBI	Percent Clingers
WQ	63 N	NJC99120	NJ	10/11/95	18	3	27.1	5.1	61.5
WQ	63 N	MDC99201	MD	10/10/95	29	3	6.1	6.7	29.9
WQ	63 N	MDC99209	MD	10/16/95	25	6	40.6	4.3	44.1
WQ	63 N	MDC99216	MD	10/19/95	25	2	4.2	5.9	36.2
WQ	63 N	MDC99218	MD	10/23/95	18	1	2.0	8.2	0.0
WQ	63 N	VAC99309	VA	10/26/95	6	0	0.0	7.1	0.0
WQ	63 N	VAC99312	VA	10/4/95	27	3	8.2	6.0	23.2
WQ	63 S	VAC99308	VA	10/26/95	22	0	0.0	6.2	1.3
WQ	63 S	VAC99314	VA	10/17/95	21	1	1.0	5.8	44.1
WQ	63 S	NCC99404	NC	10/16/95	22	3	6.0	6.5	4.0
WQ	63 S	NCC99406	NC	10/17/95	8	0	0.0	7.1	0.0
WQ	65	VAC99302	VA	10/4/95	27	3	2.9	5.9	18.3
WQ	65	VAC99313	VA	10/17/95	9	0	0.0	8.4	1.0
WQ	65	NCC99418	NC	11/20/95	24	2	2.1	7.2	3.3

ATTACHMENT 5

Rating of sites based on CPMI assignment

Using the CPMI calculated for each site, an ordinal rating of very good, good, poor, or very poor, was assigned to each site, regardless of the *a priori* designation of reference or stressed. Discrepencies in the final assessment from the *a priori* designation allow for site-specific evaluations of the status. The sites are organized in a hierarchical fashion by bioregion, then by state oriented north to south, and then by reference and the stressor categories (habitat and water quality).

Attachment 5. Rating of sites based on CPMI assignment (State designations are abbreviated in the site ID, index score is out of a possible 30, VG = very good, G = good, p = poor, and vp = very poor).

Bioregion	Site ID	Index Score	Site Rating	Bioregion	Site ID	Index Score	Site Rating
Reference Sites							
63 N	NJC99104	28	VG	63 N	MDC99214	8	p
63 N	NJC99105	20	G	63 N	MDC99215	12	p
63 N	NJC99106	20	G	63 N	VAC99306	14	p
63 N	NJC99107	16	G	63 S	VAC99311	4	vp
63 N	NJC99108	26	VG	63 S	NCC99401	20	G
63 N	NJC99110	16	G	63 S	NCC99402	4	vp
63 N	NJC99111	26	VG	63 S	NCC99403	4	vp
63 N	NJC99112	28	VG	63 S	NCC99405	14	p
63 N	NJC99115	28	VG	63 S	NCC99407	24	VG
63 N	NJC99116	26	VG	63 S	NCC99408	16	G
63 N	DEC12034	18	G	63 S	NCC99409	10	p
63 N	DEC13039	28	VG	63 S	NCC99410	24	VG
63 N	DEC13098	16	G	63 S	SCC99503	20	G
63 N	DEC14236	20	G	65	VAC99301	20	G
63 N	DEC15105	12	p	65	VAC99303	24	VG
63 N	DEC21081	24	VG	65	VAC99304	10	p
63 N	DEC22016	14	p	65	VAC99305	8	p
63 N	DEC24039	18	G	65	VAC99310	22	G
63 N	DEC24079	20	G	65	SCC99501	28	VG
63 N	DEC26117	12	p	65	SCC99502	28	VG
63 N	MDC99202	18	G	65	SCC99504	30	VG
63 N	MDC99206	18	G	65	SCC99506	22	G
63 N	MDC99207	16	G	65	SCC99507	18	G
63 N	MDC99208	30	VG	65	SCC99508	30	VG
63 N	MDC99210	20	G	65	SCC99509	28	VG
63 N	MDC99211	22	G	65	SCC99510	24	VG
63 N	MDC99212	14	p	65	SCC99515	24	VG
63 N	MDC99213	10	p				
Habitat Stressed Sites							
63 N	NJC99101	8	p	63 N	MDC99204	0	vp
63 N	NJC99102	12	p	63 N	MDC99205	18	G
63 N	NJC99113	8	p	63 N	MDC99217	14	p
63 N	NJC99114	18	G	63 N	VAC99307	0	vp
63 N	NJC99117	2	vp	63 S	VAC99315	4	vp
63 N	NJC99118	22	G	63 S	NCC99412	2	vp
63 N	DEC13033	10	p	63 S	NCC99413	6	vp
63 N	DEC14039	12	p	63 S	NCC99415	4	vp
63 N	DEC16019	8	p	63 S	NCC99416	6	vp
63 N	DEC16084	8	p	63 S	NCC99417	10	p
63 N	DEC18035	8	p	63 S	SCC99513	26	VG
63 N	DEC18036	12	p	63 S	SCC99514	16	G
63 N	DEC18072	10	p	65	MDC99219	6	vp
63 N	DEC19041	10	p	65	MDC99220	6	vp
63 N	DEC23041	12	p	65	NCC99411	2	vp
63 N	DEC28078	6	vp	65	NCC99414	10	p
63 N	MDC99203	6	vp	65	SCC99511	14	p
Water Quality Stressed Sites							
63 N	NJC99103	12	p	63 N	VAC99312	10	p
63 N	NJC99109	16	G	63 S	VAC99308	4	vp
63 N	NJC99119	20	G	63 S	VAC99314	14	p
63 N	NJC99120	14	p	63 S	NCC99404	10	p
63 N	MDC99201	10	p	63 S	NCC99406	2	vp
63 N	MDC99209	14	p	65	VAC99302	14	p
63 N	MDC99216	12	p	65	VAC99313	2	vp
63 N	MDC99218	4	vp	65	NCC99418	6	vp
63 N	VAC99309	2	vp				

ATTACHMENT 6

Taxa abundance of benthic macroinvertebrates, Mid-Atlantic coastal stream

Abundance data for each taxon by site based on 100-organism subsampling. Where required, rarefraction was applied to samples with an excess of 100 ± 20% organisms to adjust to similar sample densities. Data from sites within a state are presented as individual state tables.

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NJC99104	NJC99105	NJC99106	NJC99107	NJC99108	NJC99110	NJC99111	NJC99112	NJC99115	NJC99116	DEC12034	DEC13039	DEC13098
Station	C99104	C99105	C99106	C99107	C99108	C99110	C99111	C99112	C99115	C99116	C12034	C13039	C13098
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Alboglossiphonia heteroclita													
Desserobdella phalera													
Placobdella multilineata													
Placobdella papillifera													
Unid. Glossoscolecidae													
Unid. Lumbricidae													
Eclipidrilus sp.													
Lumbriculus variegatus						1							
Unid. Enchytraeidae													
Dero digitata													
Dero spp.													
Haemonais waldvogeli													
Nais variabilis													
Stylaria fossularis						4							
Stylaria lacustris													
Aulodrilus limnobius													
Aulodrilus pigueti													
Aulodrilus pluriseta													1
unid. Tubificidae													
Isochaetides curvisetosus											1		
Limnodrilus hoffmeisteri													
Limnodrilus udekemianus													
Quistadrilus multisetosus													
Spirosperma carolinensis													
Spirosperma ferox												1	
Unid. Acariformes													
Lebertia sp.													
Piona sp.													
Crangonyx serratus													
Crangonyx sp.													
Gammarus fasciatus	3	8	3								9	1	28
Synurella chamberlaini													
Hyalella azteca												2	
Orconectes limosus													
Procambarus acutus							1						
Unid. Cambaridae											1		
Palaemonetes paludosus													
Palaemontes kadiakensis												1	
Caecidotea sp.								1			10	2	2
Caecidotea attenuatus													
Caecidotea communis											4		1
Caecidotea forbesi													
Caecidotea racovitzai													
Lirceus sp.													
Oniscus asellus													
unid. Carabidae													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NJC99104	NJC99105	NJC99106	NJC99107	NJC99108	NJC99110	NJC99111	NJC99112	NJC99115	NJC99116	DEC12034	DEC13039	DEC13098
Station	C99104	C99105	C99106	C99107	C99108	C99110	C99111	C99112	C99115	C99116	C12034	C13039	C13098
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Helichus sp.													1
Agabus sp.													
Celina sp.													
Copelatus sp.													
Hydroporus sp.										1			
Ilybius sp.													
Laccophilus sp.													
Ancyronyx variegata						1		1			2		2
Dubiraphia sp.											7	12	
Macronychus glabratus	2		2				1						2
Microcylloepus pusillus		1							4				1
Optioservus fastiditus													
Optioservus sp.	4		3						1		1		
Oulimnius latiusculus		1	1					3					
Promoresia sp.									1				
Promoresia tardella	2		1						1				
Stenelmis	1	2			4	3				5	2		1
Stenelmis antennalis						1							
Stenelmis crenata											1		
Stenelmis decorata						8							
Stenelmis humerosus			2										1
Stenelmis markeli		1			1				1	2			
Dineutus discolor			1		2		1				1		
Dineutus nigrior													
Dineutus sp.													
Gyrinus aeneolus													
Gyrinus sp.													
Haliplus fasciatus												1	
Peltodytes duodecimpunctatus													
Peltodytes lengi													
Peltodytes sexmaculata													
Peltodytes sp.													
Sperchopsis sp.													
Tropisternus sp.													
Ectopria sp.													
Anchytarsus bicolor		4						2					
Ptilodactyla sp.													
Cyphon sp.													
Unid. Collembola spp.													
Unid. (Muscomorpha)													
Atherix sp.			1										
Bezzia sp.				8	5					3			
Ceratopogon sp.					1								
Culicoides sp.													
Dashyhelea sp.				4									
Probezzia sp.										1	1		1

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NJC99104	NJC99105	NJC99106	NJC99107	NJC99108	NJC99110	NJC99111	NJC99112	NJC99115	NJC99116	DEC12034	DEC13039	DEC13098
Station	C99104	C99105	C99106	C99107	C99108	C99110	C99111	C99112	C99115	C99116	C12034	C13039	C13098
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Serromyia sp.													
Ablabesmyia janta													
Ablabesmyia mallochi													
Ablabesmyia peleensis													
Ablabesmyia sp.													
Apectrotanypus johnsoni				2			2						
Brillia flavifrons													1
Brillia sp.													
Chironomus sp.													
Cladopelma sp.													
Cladotanytarsus sp.													
Clinotanypus sp.										2		2	3
Conchapelopia sp.				1			3	1		2	1		
Corynoneura sp.													
Cricotopus bicinctus													
Cricotopus sp.				19						1			
Cricotopus tremulus													
Cryptochironomus sp.					1								
Cryptotendipes sp.													
Demicryptochironomus sp.													
Dicrotendipes modestus													
Dicrotendipes nervosus													
Dicrotendipes simpsoni													
Dicrotendipes sp.											1		
Diplocladius cultriger													
Djalmabatista pulcher										1			
Endochironomus sp.													
Glyptotendipes barbipes													
Glyptotendipes sp.													
Goeldichironomus sp.													
Goeldichironomus holopracinus													
Gymnometriocnemus sp.													
Helopelopia sp.					1			1		1			
Hydrobaenus sp.													
Kiefferulus sp.													
Labrundinia neopilosella													
Labrundinia pilosella						1							1
Larsia sp.				1									
Limnophyes sp.													
Meropelopia sp.				2		1	1			1	4		4
Micropsectra sp.													
Microtendipes pedellus-gr.			1				30				6	2	2
Microtendipes rydalensis-gr.													
Nanocladius crassicornus						1							1
Nanocladius sp.													
Natarsia sp.								2				1	

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NJC99104	NJC99105	NJC99106	NJC99107	NJC99108	NJC99110	NJC99111	NJC99112	NJC99115	NJC99116	DEC12034	DEC13039	DEC13098
Station	C99104	C99105	C99106	C99107	C99108	C99110	C99111	C99112	C99115	C99116	C12034	C13039	C13098
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Nilothauma sp.													
Orthocladiinae sp.			1										
Orthocladius sp.													1
Parachaetocladius sp.			1					2					
Parachironomus carinatus													
Parachironomus monochromus													
Paracladopelma undine													
Parakiefferiella sp.									1			1	
Paralauterborniella sp.													
Paramerina anomala													
Paramerina sp.													
Parametriocnemus sp.							1	1					
Paraphaenocladius sp.													
Paratanytarsus inopterus													
Paratanytarsus sp.											1		
Paratendipes sp.													
Phaenopsectra													
Phaenopsectra punctipes				2			1						
Polypedilum aviceps													1
Polypedilum bergi													
Polypedilum convictum													
Polypedilum fallax													
Polypedilum halterale													
Polypedilum illinoense													4
Polypedilum scalaenum													
Polypedilum sp.													
Polypedilum tritum											2		
Potthastia longimana											1		
Procladius sp.							1						
Psectrocladius sp.													
Psectrotanypus sp.													
Pseudorthocladius sp.													
Rheocricotopus pauciseta													
Rheocricotopus robacki		1											10
Rheocricotopus sp.													
Rheosmittia sp.													
Rheotanytarsus sp.			2		1	3	3	5	9				
Stelechomyia sp.										1			
Stempellinella sp.													
Stenochironomus sp.										2			
Tanypus neopunctipennis													
Tanypus sp.													
Tanytarsus sp.										1		1	
Thienemanniella sp.						1							
Tribelos atrum													
Tribelos fuscicorne													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NJC99104	NJC99105	NJC99106	NJC99107	NJC99108	NJC99110	NJC99111	NJC99112	NJC99115	NJC99116	DEC12034	DEC13039	DEC13098
Station	C99104	C99105	C99106	C99107	C99108	C99110	C99111	C99112	C99115	C99116	C12034	C13039	C13098
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Tribelos jucundum				9	1		2			1	1	1	
Tribelos sp.				1									
Tvetenia sp.													
Tvetenia bavarica									2				
Tvetenia discoloripes					1	2				5			
Unid. Tanypodinae											1		
Unid. chironomini													
Unniella sp.				15	1	2							
Xenochironomus xenolabis													
Xylotopus par				1	1			1					
Zalutschia sp.													
Zavrelimyia sp.													
unid. Tanytarsini													
Aedes sp.													
Anopheles spp.													
Culex sp.													
Unid. Dixidae													
Hemerodromia sp.													
Mycetophila sp.													
Unid. Mycetophilidae													
Platypeza sp.													
Pericoma sp.													
Simulium jenningsi													
Simulium jonesi													
Simulium rivuli													
Simulium spp.	3					3							
Simulium tuberosum		9			2		1		1	4			
Simulium venustum		5				5							6
Simulium vittatum													
Calaparyphus sp.													
Odontomyia sp.													
Chrysops sp.													
Tabanus sp.				1									
Geranomyia sp.													
Helius sp.													
Hexatoma sp.		2								1			
Oromosia sp.													
Pilaria sp.													
Pseudolimnophila sp.													
Tipula sp.	1												2
Unid. Tipulide													
Acentrella sp.	2	1											
Acerpenna macdunnoughi													
Acerpenna sp.													
Baetis intercalaris													
Baetis sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NJC99104	NJC99105	NJC99106	NJC99107	NJC99108	NJC99110	NJC99111	NJC99112	NJC99115	NJC99116	DEC12034	DEC13039	DEC13098
Station	C99104	C99105	C99106	C99107	C99108	C99110	C99111	C99112	C99115	C99116	C12034	C13039	C13098
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Barbaetis cestum													
Callibaetis sp.													
Centroptilum sp.											3		
Labiobaetis frondalis													3
Labiobaetis propinquus												1	
Unid. Baetidae	1												
Baetisca sp.								1					
Caenis diminuta													
Caenis macafferti													
Caenis punctata													
Caenis sp.													
Eurylophella sp.	24			4		1	1	9	1	13	5	36	1
Serratella deficiens													
Serratella sp.											1		
Hexagenia limbata													
Hexagenia sp.													
Stenacron sp.													
Stenonema modestum	26	9	7		6		12	9	15	4	3		
Stenonema sp.	13	6	2		6		4	1	16			1	2
Unid.Heptageniidae													
Paraleptophlebia sp.			1	2	16		11	2			6	2	
Siphloplectron sp.													
Isonychia sp.													
Tricorythodes sp.													
Belostoma fluminea													
Palmacorixa sp.											1		
Sigara sp.													
Trichocorixa sp.													
Unid. Corixidae											1		
Rheumatobates sp.													
Trepobates pictus													
Mesovelia sp.													
Pelocoris sp.													
Ranatra kirkaldyi													
Notonecta irrorata													
Notonecta uhleri													
Microvelia sp.								1					
Rhagovelia sp.													1
Unid. Lepidoptera													
Paraponyx sp.													
Chauliodes rasticornis													
Corydalus cornutus													
Nigronia serricornis					3		1						2
Sialis sp.	1			1	3		5			5		1	
Anax sp.													
Basiaeschna janata													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NJC99104	NJC99105	NJC99106	NJC99107	NJC99108	NJC99110	NJC99111	NJC99112	NJC99115	NJC99116	DEC12034	DEC13039	DEC13098
Station	C99104	C99105	C99106	C99107	C99108	C99110	C99111	C99112	C99115	C99116	C12034	C13039	C13098
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Boyeria vinosa		1					1			1			
Nasiaeschna pentacantha													
Unid. Aeschnidae													
Calopteryx sp.		1		1			3	1		2	3	2	1
Unid. Calopterygidae											1		
Argia sedula													
Argia sp.				1	1								
Argia tibialis													
Argia violacea													
Enallagma antennuatum													
Enallagma sp.				1		2					2	3	
Ischnura sp.													
Unid. Coenagrionidae						2						1	
Cordulegaster maculata		1											
Cordulegaster sp.													
Epitheca sp.													
Somatochlora sp.													
unid. Corduliidae										1			
Gomphus lividus												1	
Gomphus sp.													
Hagenius brevistyus													
Unid. Gomphidae										1			1
Erythemis simplicicollis													
Libellula sp.													
Pachydiplax longipennis													
Perithemis sp.													
Sympetrum sp.													
Unid. Libellulidae													
Didymops transversa													
Macromia sp.													
unid. Macromiidae													
Allocapnia sp.													
Unid. Capniidae	1		15					7	6				
Leuctra sp.				2						3			
Acroneuria lycorias		1						1					
Acroneuria mela													
Acroneuria sp.										2			
Agnetina annulipes			1										
Agnetina sp.													
Unid. Perlidae													
Isoperla sp.								1					
Unid. Perlodidae			1		2								
Taeniopteryx sp.	6	34	26		15	2		1	11	4			
Brachycentrus numerosus		1	1		2	3		6	1	7			2
Micrasema sp.	1							3					
Anisocentropus pyraloides													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NJC99104	NJC99105	NJC99106	NJC99107	NJC99108	NJC99110	NJC99111	NJC99112	NJC99115	NJC99116	DEC12034	DEC13039	DEC13098
Station	C99104	C99105	C99106	C99107	C99108	C99110	C99111	C99112	C99115	C99116	C12034	C13039	C13098
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Heteroplectron americanum								1					
Phylocentropus sp.													
Cheumatopsyche sp.	3	2	4		7	6	1	15	11		2		11
Diplectrona modesta		2					1				1		
Hydropsyche betteni								1					
Hydropsyche sp.	2				1	3		1		9			1
Hydropsyche sparna						3							
Macrostemum sp.													
Unid. Hydropsychidae	1												
Hydroptila sp.					2					1		1	
Oxythira sp.													
Lepidostoma sp.		2	12		2			2	3				
Ceraclea sp.								1					
Mystacides sp.									1			1	
Nectopsyche sp.	1												
Oecetis georgia													
Oecetis inconspicua							1			1		1	
Oecetis persimilis											2		
Oecetis sp.			1			3		2		4			
Triaenodes marginatus													
Triaenodes sp.	2			1	2			2	2	3			
Triaenodes tardus		2			1					2			
Hydatophylax argus			9				5	1					
Pycnopsyche sp.			1	18							7		
Unid. Limnephilidae								2	1	1		1	
Molanna sp.													1
Psilotreta frontalis							1	1					
Psilotreta sp.													
Chimarra sp.			2		5	1			9	2			
Unid. Philopotamidae					1								
Ptilostomis sp.				1									
Unid. Phrygaenidae													
Neureclipsis sp.				1	3	5							
Nyctiophylax moestus				1									
Polycentropus sp.	1			2		1		2	2	1		2	
Lype diversa							12	7				2	
Ferrissia sp.												2	
Ferrissia walkeri													
Laevapex fuscus													
Pseudosuccinea columella												1	
Stagnicola sp.													
Unid. Lymnaeidae													
Physella sp.						1					3	4	
Gyraulus circumstriatus													
Gyraulus parvus													
Helisoma anceps													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NJC99104	NJC99105	NJC99106	NJC99107	NJC99108	NJC99110	NJC99111	NJC99112	NJC99115	NJC99116	DEC12034	DEC13039	DEC13098
Station	C99104	C99105	C99106	C99107	C99108	C99110	C99111	C99112	C99115	C99116	C12034	C13039	C13098
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Menetus dilatatus						1						2	
Unid. Planoribae													
Unid. Limacidae													
Amnicola grana												4	
Amnicola limosa	2												
Elimia sp.													
Campeloma decisum						1							
Corbicula fluminea													
Musculium lacustris													
Musculium securis													
Musculium sp.													
Pisidium casertanum	1		4								1		
Pisidium compressum											1		
Pisidium fallax													
Pisidium lillejborgi						5							
Pisidium punctatum													
Pisidium sp.	1			1		13					1	4	1
Pisidium walkeri		3				9						1	
Sphaerium striatinum													
Unid. Sphaeriidae													
Quadrula cylindrica												1	
Prostoma graecense													
Dugesia tigrina			1			1							
Total Benthos	105	100	107	103	100	100	107	101	100	102	102	103	104

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC14236	DEC15105	DEC21081	DEC22016	DEC24039	DEC24079	DEC26117	MDC99202	MDC99206	MDC99207	MDC99208	MDC99210	MDC99211
Station	C14236	C15105	C21081	C22016	C24039	C24079	C26117	C99202	C99206	C99207	C99208	C99210	C99211
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Alboglossiphonia heteroclita							1						
Desserobdella phalera													
Placobdella multilineata													
Placobdella papillifera													
Unid. Glossoscolecidae													
Unid. Lumbricidae													
Eclipidrilus sp.													
Lumbriculus variegatus								1					
Unid. Enchytraeidae													
Dero digitata													
Dero spp.													
Haemonais waldvogeli													
Nais variabilis													
Stylaria fossularis													
Stylaria lacustris													
Aulodrilus limnobius													
Aulodrilus pigueti													
Aulodrilus pluriseta													
unid. Tubificidae													
Isochaetides curvisetosus													
Limnodrilus hoffmeisteri													
Limnodrilus udekemianus													
Quistadrilus multisetosus													
Spirosperma carolinensis													
Spirosperma ferox								7					
Unid. Acariformes								1					
Lebertia sp.								1					
Piona sp.													
Crangonyx serratus													
Crangonyx sp.				2		1	3			1			
Gammarus fasciatus		7		7		17	30	3	42	43	4	30	5
Synurella chamberlaini				2									4
Hyalella azteca								5					
Orconectes limosus													1
Procambarus acutus													
Unid. Cambaridae													
Palaemonetes paludosus													
Palaemontes kadiakensis					3		1						
Caecidotea sp.							1	1	1				
Caecidotea attenuatus													
Caecidotea communis													
Caecidotea forbesi													
Caecidotea racovitzai													
Lirceus sp.													
Oniscus asellus													
unid. Carabidae													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC14236	DEC15105	DEC21081	DEC22016	DEC24039	DEC24079	DEC26117	MDC99202	MDC99206	MDC99207	MDC99208	MDC99210	MDC99211
Station	C14236	C15105	C21081	C22016	C24039	C24079	C26117	C99202	C99206	C99207	C99208	C99210	C99211
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Helichus sp.													
Agabus sp.													
Celina sp.													
Copelatus sp.													
Hydroporus sp.			1						1		1	1	1
Ilybius sp.													
Laccophilus sp.													
Ancyronyx variegata		1	7	1	2		2				1	4	1
Dubiraphia sp.	11				1			11	4		1	7	
Macronychus glabratus	1	1	3	1	1		3	1			2		
Microcylloepus pusillus										1			
Optioservus fastiditus													
Optioservus sp.												9	
Oulimnius latiusculus			3						1				
Promoresia sp.											1		
Promoresia tardella													
Stenelmis	1		6							3			
Stenelmis antennalis													
Stenelmis crenata	1												
Stenelmis decorata													
Stenelmis humerosus			2										
Stenelmis markeli													
Dineutus discolor				2		1							
Dineutus nigrior				1		1							
Dineutus sp.													
Gyrinus aeneolus													
Gyrinus sp.			1										
Haliplus fasciatus									2				1
Peltodytes duodecimpunctatus													
Peltodytes lengi													
Peltodytes sexmaculata													
Peltodytes sp.													1
Sperchopsis sp.							1						
Tropisternus sp.													
Ectopria sp.													
Anchytarsus bicolor			1			1							
Ptilodactyla sp.						1							
Cyphon sp.													
Unid. Collembola spp.								1					1
Unid. (Muscomorpha)													
Atherix sp.													
Bezzia sp.													
Ceratopogon sp.													
Culicoides sp.							1						
Dashyhelea sp.													
Probezzia sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC14236	DEC15105	DEC21081	DEC22016	DEC24039	DEC24079	DEC26117	MDC99202	MDC99206	MDC99207	MDC99208	MDC99210	MDC99211
Station	C14236	C15105	C21081	C22016	C24039	C24079	C26117	C99202	C99206	C99207	C99208	C99210	C99211
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Serromyia sp.													
Ablabesmyia janta													
Ablabesmyia mallochi													
Ablabesmyia peleensis													
Ablabesmyia sp.									1				
Apectrotanypus johnsoni						4					1		
Brillia flavifrons													
Brillia sp.													
Chironomus sp.	1												
Cladopelma sp.													
Cladotanytarsus sp.													
Clinotanypus sp.							5		1				
Conchapelopia sp.	1				1	2							
Corynoneura sp.													
Cricotopus bicinctus							2						1
Cricotopus sp.								1					2
Cricotopus tremulus													
Cryptochironomus sp.													
Cryptotendipes sp.													
Demicryptochironomus sp.													
Dicrotendipes modestus													
Dicrotendipes nervosus													
Dicrotendipes simpsoni													
Dicrotendipes sp.								1					
Diplocladius cultriger													
Djalmabatista pulcher													1
Endochironomus sp.													
Glyptotendipes barbipes													
Glyptotendipes sp.													
Goeldichironomus sp.													
Goeldichironomus holopracinus													
Gymnometriocnemus sp.													
Helopelopia sp.													
Hydrobaenus sp.													
Kiefferulus sp.													
Labrundinia neopilosella													
Labrundinia pilosella									2		1		1
Larsia sp.													
Limnophyes sp.													
Meropelopia sp.	1		1	13			2			1	1		5
Micropsectra sp.						1							
Microtendipes pedellus-gr.	3				51	1					9		
Microtendipes rydalensis-gr.													
Nanocladius crassicornus	2						1	3					1
Nanocladius sp.								1					
Natarsia sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC14236	DEC15105	DEC21081	DEC22016	DEC24039	DEC24079	DEC26117	MDC99202	MDC99206	MDC99207	MDC99208	MDC99210	MDC99211
Station	C14236	C15105	C21081	C22016	C24039	C24079	C26117	C99202	C99206	C99207	C99208	C99210	C99211
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Nilothauma sp.													
Orthocladiinae sp.													
Orthocladius sp.	1											1	
Parachaetocladius sp.													
Parachironomus carinatus													
Parachironomus monochromus													
Paracladopelma undine									2				
Parakiefferiella sp.				1				5			2		
Paralauterborniella sp.													
Paramerina anomala													
Paramerina sp.													1
Parametriocnemus sp.						1	1						
Paraphaenocladius sp.													
Paratanytarsus inopterus					1								
Paratanytarsus sp.													
Paratendipes sp.											1		
Phaenopsectra													
Phaenopsectra punctipes					1				7		1		
Polypedilum aviceps	10					13					2		
Polypedilum bergi													
Polypedilum convictum	1												
Polypedilum fallax					1								
Polypedilum halterale													
Polypedilum illinoense						1		1	4		1		
Polypedilum scalaenum													
Polypedilum sp.							1						
Polypedilum tritum													
Potthastia longimana													
Procladius sp.	1						1	1	3		1		
Psectrocladius sp.													
Psectrotanypus sp.													
Pseudorthocladius sp.													
Rheocricotopus pauciseta													
Rheocricotopus robacki							1						
Rheocricotopus sp.	1		1										
Rheosmittia sp.													
Rheotanytarsus sp.			1	3		1					2		
Stelechomyia sp.													
Stempellinella sp.								12	2	4			
Stenochironomus sp.							1			4			
Tanypus neopunctipennis													
Tanypus sp.													
Tanytarsus sp.	1		1		2			7			1	1	
Thienemanniella sp.			1										
Tribelos atrum													
Tribelos fuscicorne													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC14236	DEC15105	DEC21081	DEC22016	DEC24039	DEC24079	DEC26117	MDC99202	MDC99206	MDC99207	MDC99208	MDC99210	MDC99211
Station	C14236	C15105	C21081	C22016	C24039	C24079	C26117	C99202	C99206	C99207	C99208	C99210	C99211
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Tribelos jucundum					3		2	3			5	8	
Tribelos sp.													
Tvetenia sp.													
Tvetenia bavarica						3							
Tvetenia discoloripes													
Unid. Tanypodinae						1		1	2				
Unid. chironomini													
Unniella sp.			1	8	1								
Xenochironomus xenolabis													
Xylotopus par										1			
Zalutschia sp.													
Zavrelimyia sp.													
unid. Tanytarsini													
Aedes sp.													
Anopheles spp.	1												
Culex sp.													
Unid. Dixidae						1							
Hemerodromia sp.				1									
Mycetophila sp.		1											
Unid. Mycetophilidae		1											
Platypeza sp.													
Pericoma sp.													
Simulium jenningsi													
Simulium jonesi													
Simulium rivuli													
Simulium spp.	1	3											
Simulium tuberosum				6									13
Simulium venustum		1											
Simulium vittatum													
Calaparyphus sp.													
Odontomyia sp.													
Chrysops sp.									1				
Tabanus sp.													
Geranomyia sp.													
Helius sp.													1
Hexatoma sp.	1		3								2		
Oromosia sp.													
Pilaria sp.													
Pseudolimnophila sp.													
Tipula sp.	1			1									3
Unid. Tipulide													1
Acentrella sp.													
Acerpenna macdunnoughi													
Acerpenna sp.												1	
Baetis intercalaris													
Baetis sp.								2					

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC14236	DEC15105	DEC21081	DEC22016	DEC24039	DEC24079	DEC26117	MDC99202	MDC99206	MDC99207	MDC99208	MDC99210	MDC99211
Station	C14236	C15105	C21081	C22016	C24039	C24079	C26117	C99202	C99206	C99207	C99208	C99210	C99211
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Barbaetis cestum													
Callibaetis sp.													
Centroptilum sp.								1				1	
Labiobaetis frondalis				2						1	1		2
Labiobaetis propinquus													2
Unid. Baetidae													
Baetisca sp.													
Caenis diminuta													
Caenis macafferti													
Caenis punctata													
Caenis sp.								3					
Eurylophella sp.	10				2			5	6		23		5
Serratella deficiens													1
Serratella sp.													
Hexagenia limbata													
Hexagenia sp.													
Stenacron sp.													
Stenonema modestum	4		4			7	3		3	19	6		
Stenonema sp.				1		7	1			3	1	2	1
Unid.Heptageniidae													
Paraleptophlebia sp.					8				3		1		
Siphloplectron sp.									1				
Isonychia sp.													
Tricorythodes sp.													
Belostoma fluminea													
Palmacorixa sp.													
Sigara sp.													
Trichocorixa sp.													
Unid. Corixidae					1								
Rheumatobates sp.													
Trepobates pictus													
Mesovelia sp.													
Pelocoris sp.													
Ranatra kirkaldyi													
Notonecta irrorata									1				
Notonecta uhleri													
Microvelia sp.									2				
Rhagovelia sp.													
Unid. Lepidoptera						1					1		2
Paraponyx sp.				1									1
Chauliodes rasticornis													
Corydalus cornutus													
Nigronia serricornis	1	1		1	1	1				1	1		1
Sialis sp.	2			1	5			4		1	3	1	1
Anax sp.													
Basiaeschna janata													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC14236	DEC15105	DEC21081	DEC22016	DEC24039	DEC24079	DEC26117	MDC99202	MDC99206	MDC99207	MDC99208	MDC99210	MDC99211
Station	C14236	C15105	C21081	C22016	C24039	C24079	C26117	C99202	C99206	C99207	C99208	C99210	C99211
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Boyeria vinosa	1	1	1	1									
Nasiaeschna pentacantha													
Unid. Aeschnidae													
Calopteryx sp.		2	2	12		3			4	1	2	1	
Unid. Calopterygidae			1			1						1	3
Argia sedula													
Argia sp.	1		2		2		3	4			1		
Argia tibialis													
Argia violacea													
Enallagma antennuatum												2	
Enallagma sp.	2	1					2					3	1
Ischnura sp.													
Unid. Coenagrionidae							1				1		
Cordulegaster maculata													
Cordulegaster sp.													
Epitheca sp.												1	
Somatochlora sp.													
unid. Corduliidae							1						
Gomphus lividus							1						
Gomphus sp.	2		1					1	1			1	
Hagenius brevistyus							1						
Unid. Gomphidae													1
Erythemis simplicicollis													
Libellula sp.													
Pachydiplax longipennis													
Perithemis sp.													
Sympetrum sp.													
Unid. Libellulidae													
Didymops transversa													
Macromia sp.			2							1			
unid. Macromiidae	1												
Allocapnia sp.			3										
Unid. Capniidae													
Leuctra sp.						2							
Acroneuria lycorias													
Acroneuria mela													
Acroneuria sp.													
Agnetina annulipes													
Agnetina sp.													
Unid. Perlidae													
Isoperla sp.			2										
Unid. Perlodidae						2							
Taeniopteryx sp.	2	68	1				1						
Brachycentrus numerosus		5	6			1							
Micrasema sp.													
Anisocentropus pyraloides													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC14236	DEC15105	DEC21081	DEC22016	DEC24039	DEC24079	DEC26117	MDC99202	MDC99206	MDC99207	MDC99208	MDC99210	MDC99211
Station	C14236	C15105	C21081	C22016	C24039	C24079	C26117	C99202	C99206	C99207	C99208	C99210	C99211
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Heteroplectron americanum													
Phylocentropus sp.													
Cheumatopsyche sp.	20	5	12	9		14			1	6	1	4	5
Diplectrona modesta						4							
Hydropsyche betteni	6									1		6	
Hydropsyche sp.	3		1	1								1	
Hydropsyche sparna													
Macrostemum sp.													
Unid. Hydropsychidae													1
Hydroptila sp.								1				1	
Oxythira sp.													1
Lepidostoma sp.													
Ceraclea sp.													
Mystacides sp.								3	1		1	1	
Nectopsyche sp.												1	
Oecetis georgia													
Oecetis inconspicua													
Oecetis persimilis													
Oecetis sp.								1					
Triaenodes marginatus								1					
Triaenodes sp.			2						1	1			
Triaenodes tardus				1									
Hydatophylax argus													1
Pycnopsyche sp.	1		15	3		2	1		4		4		
Unid. Limnephilidae											2		
Molanna sp.						3					1		
Psilotreta frontalis													
Psilotreta sp.											5		
Chimarra sp.			2			1							1
Unid. Philopotamidae													
Ptilostomis sp.													1
Unid. Phrygaenidae			1									1	1
Neureclipsis sp.													
Nyctiophylax moestus													
Polycentropus sp.		1	1		10			5			1	1	
Lype diversa					1		1			1	1	1	
Ferrissia sp.												1	
Ferrissia walkeri													
Laevapex fuscus													
Pseudosuccinea columella		1					2		1			1	4
Stagnicola sp.													
Unid. Lymnaeidae													1
Physella sp.	5	2	1	3		1	4		1				2
Gyraulus circumstriatus													
Gyraulus parvus													
Helisoma anceps													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC14236	DEC15105	DEC21081	DEC22016	DEC24039	DEC24079	DEC26117	MDC99202	MDC99206	MDC99207	MDC99208	MDC99210	MDC99211
Station	C14236	C15105	C21081	C22016	C24039	C24079	C26117	C99202	C99206	C99207	C99208	C99210	C99211
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Menetus dilatatus	1									1		1	
Unid. Planoribae													
Unid. Limacidae													
Amnicola grana	1		1		3		1			1			
Amnicola limosa			6										
Elimia sp.													
Campeloma decisum													
Corbicula fluminea							12					6	
Musculium lacustris													
Musculium securis													
Musculium sp.													
Pisidium casertanum													
Pisidium compressum	1												
Pisidium fallax													
Pisidium lillejborgi													
Pisidium punctatum													
Pisidium sp.	2	5		2			4	2		4			1
Pisidium walkeri	1			7									
Sphaerium striatinum													
Unid. Sphaeriidae			1								2	1	13
Quadrula cylindrica													
Prostoma graecense													
Dugesia tigrina													
Total Benthos	108	107	101	94	101	101	99	101	106	100	99	102	98

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	MDC99212	MDC99213	MDC99214	MDC99215	VAC99306	VAC99311	NCC99401	NCC99402	NCC99403	NCC99405	NCC99407	NCC99408	NCC99409
Station	C99212	C99213	C99214	C99215	C99306	C99311	C99401	C99402	C99403	C99405	C99407	C99408	C99409
BioReg	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	63 S	63 S	63 S	63 S
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Alboglossiphonia heteroclita													
Desserobdella phalera													
Placobdella multilineata													
Placobdella papillifera													
Unid. Glossoscolecidae							1						
Unid. Lumbricidae													
Eclipidrilus sp.				2						1			
Lumbriculus variegatus			1										
Unid. Enchytraeidae													
Dero digitata		3											
Dero spp.													
Haemonais waldvogeli													
Nais variabilis													
Stylaria fossularis													
Stylaria lacustris													
Aulodrilus limnobius													
Aulodrilus pigueti													
Aulodrilus pluriseta													
unid. Tubificidae		3	2						8	2			
Isochaetides curvisetosus			2					2					
Limnodrilus hoffmeisteri										2			
Limnodrilus udekemianus			2										
Quistadrilus multisetosus													
Spirosperma carolinensis								43					
Spirosperma ferox				4									
Unid. Acariformes													
Lebertia sp.													
Piona sp.													
Crangonyx serratus							11	27		2	6		5
Crangonyx sp.	1			2				4	1			3	4
Gammarus fasciatus	64			62	24	61	23						
Synurella chamberlaini											1	15	6
Hyalella azteca		5											
Orconectes limosus	1												
Procambarus acutus			1										
Unid. Cambaridae		1						2		1			
Palaemonetes paludosus													
Palaemontes kadiakensis		2											
Caecidotea sp.							4	2			6		44
Caecidotea attenuatus												4	4
Caecidotea communis		3					3					12	
Caecidotea forbesi											1		
Caecidotea racovitzai													
Lirceus sp.										19	6		5
Oniscus asellus													
unid. Carabidae										1			

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	MDC99212	MDC99213	MDC99214	MDC99215	VAC99306	VAC99311	NCC99401	NCC99402	NCC99403	NCC99405	NCC99407	NCC99408	NCC99409
Station	C99212	C99213	C99214	C99215	C99306	C99311	C99401	C99402	C99403	C99405	C99407	C99408	C99409
BioReg	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	63 S	63 S	63 S	63 S
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Helichus sp.							1						
Agabus sp.			3										
Celina sp.													
Copelatus sp.													
Hydroporus sp.										1	2	2	1
Ilybius sp.													
Laccophilus sp.													
Ancyronyx variegata													
Dubiraphia sp.		7	1				10			2	3		
Macronychus glabratus				2	1		3			1			
Microcylloepus pusillus													
Optioservus fastiditus													
Optioservus sp.													
Oulimnius latiusculus													
Promoresia sp.													
Promoresia tardella													
Stenelmis		2					4						1
Stenelmis antennalis													
Stenelmis crenata													
Stenelmis decorata													
Stenelmis humerosus												1	
Stenelmis markeli													
Dineutus discolor		1											
Dineutus nigrior													
Dineutus sp.													
Gyrinus aeneolus		1											
Gyrinus sp.													
Haliplus fasciatus													
Peltodytes duodecimpunctatus													
Peltodytes lengi													
Peltodytes sexmaculata													
Peltodytes sp.		2	1										
Sperchopsis sp.													
Tropisternus sp.													
Ectopria sp.													
Anchytarsus bicolor					3								
Ptilodactyla sp.										1			
Cyphon sp.		1	2										
Unid. Collembola spp.													
Unid. (Muscomorpha)													
Atherix sp.													
Bezzia sp.													
Ceratopogon sp.							1						
Culicoides sp.													
Dashyhelea sp.													
Probezzia sp.							1						

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	MDC99212	MDC99213	MDC99214	MDC99215	VAC99306	VAC99311	NCC99401	NCC99402	NCC99403	NCC99405	NCC99407	NCC99408	NCC99409
Station	C99212	C99213	C99214	C99215	C99306	C99311	C99401	C99402	C99403	C99405	C99407	C99408	C99409
BioReg	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	63 S	63 S	63 S	63 S
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Serromyia sp.													
Ablabesmyia janta													
Ablabesmyia mallochi										4	1		
Ablabesmyia peleensis													
Ablabesmyia sp.													
Apectrotanypus johnsoni													
Brillia flavifrons													
Brillia sp.													
Chironomus sp.		2	1							1			1
Cladopelma sp.													
Cladotanytarsus sp.													
Clinotanypus sp.			2		2		1		3				
Conchapelopia sp.			1					1	1				
Corynoneura sp.			1										1
Cricotopus bicinctus													
Cricotopus sp.													
Cricotopus tremulus													
Cryptochironomus sp.									1	1			
Cryptotendipes sp.													
Demicryptochironomus sp.													
Dicrotendipes modestus													
Dicrotendipes nervosus													
Dicrotendipes simpsoni			1										
Dicrotendipes sp.			5						6	2			1
Diplocladius cultriger													
Djalmabatista pulcher													
Endochironomus sp.													
Glyptotendipes barbipes													
Glyptotendipes sp.		1											1
Goeldichironomus sp.													
Goeldichironomus holopracinus								1					
Gymnometriocnemus sp.													
Helopelopia sp.													
Hydrobaenus sp.													
Kiefferulus sp.		2											
Labrundinia neopilosella													
Labrundinia pilosella			2		1		1						
Larsia sp.													
Limnophyes sp.													
Meropelopia sp.				2			2						
Micropsectra sp.													
Microtendipes pedellus-gr.			1			1							
Microtendipes rydalensis-gr.													
Nanocladius crassicornus													
Nanocladius sp.													
Natarsia sp.					5			1					

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	MDC99212	MDC99213	MDC99214	MDC99215	VAC99306	VAC99311	NCC99401	NCC99402	NCC99403	NCC99405	NCC99407	NCC99408	NCC99409
Station	C99212	C99213	C99214	C99215	C99306	C99311	C99401	C99402	C99403	C99405	C99407	C99408	C99409
BioReg	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	63 S	63 S	63 S	63 S
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Nilothauma sp.													
Orthocladiinae sp.													
Orthocladius sp.													
Parachaetocladius sp.													
Parachironomus carinatus													
Parachironomus monochromus		1											
Paracladopelma undine													
Parakiefferiella sp.													
Paralauterborniella sp.													
Paramerina anomala							1						
Paramerina sp.					1								
Parametriocnemus sp.					1			1					
Paraphaenocladius sp.								1					
Paratanytarsus inopterus			1										
Paratanytarsus sp.			3										
Paratendipes sp.													
Phaenopsectra													
Phaenopsectra punctipes			1	1									
Polypedilum aviceps					1		1						
Polypedilum bergi													
Polypedilum convictum													
Polypedilum fallax													
Polypedilum halterale											1		
Polypedilum illinoense			6			1			1	2			
Polypedilum scalaenum			3										
Polypedilum sp.													
Polypedilum tritum													3
Potthastia longimana													
Procladius sp.													
Psectrocladius sp.													
Psectrotanypus sp.													
Pseudorthocladius sp.													
Rheocricotopus pauciseta													
Rheocricotopus robacki											1		
Rheocricotopus sp.													
Rheosmittia sp.													
Rheotanytarsus sp.	1		3	1					3		4		
Stelechomyia sp.													
Stempellinella sp.						7	1						
Stenochironomus sp.			1				1			2	1	1	
Tanypus neopunctipennis													
Tanypus sp.													
Tanytarsus sp.		3	18				1	3		4	1	2	7
Thienemanniella sp.			1										
Tribelos atrum												2	
Tribelos fuscicorne													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	MDC99212	MDC99213	MDC99214	MDC99215	VAC99306	VAC99311	NCC99401	NCC99402	NCC99403	NCC99405	NCC99407	NCC99408	NCC99409
Station	C99212	C99213	C99214	C99215	C99306	C99311	C99401	C99402	C99403	C99405	C99407	C99408	C99409
BioReg	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	63 S	63 S	63 S	63 S
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Tribelos jucundum		1	12				7			2			
Tribelos sp.													
Tvetenia sp.													
Tvetenia bavarica						1							
Tvetenia discoloripes													
Unid. Tanypodinae										1			
Unid. chironomini													
Unniella sp.													
Xenochironomus xenolabis													
Xylotopus par													
Zalutschia sp.													5
Zavrelimyia sp.			1										
unid. Tanytarsini				1									
Aedes sp.													
Anopheles spp.			1						1				
Culex sp.													
Unid. Dixidae													
Hemerodromia sp.													
Mycetophila sp.													
Unid. Mycetophilidae													
Platypeza sp.													
Pericoma sp.													
Simulium jenningsi													
Simulium jonesi													
Simulium rivuli												2	
Simulium spp.										2			
Simulium tuberosum	4												
Simulium venustum													
Simulium vittatum											6		4
Calaparyphus sp.													
Odontomyia sp.													
Chrysops sp.					1		1		1	1	1		
Tabanus sp.								1					
Geranomyia sp.													
Helius sp.													
Hexatoma sp.													
Oromosia sp.													
Pilaria sp.							2	2					
Pseudolimnophila sp.													
Tipula sp.										3			
Unid. Tipulide													
Acentrella sp.	2												
Acerpenna macdunnoughi													
Acerpenna sp.													
Baetis intercalaris													
Baetis sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	MDC99212	MDC99213	MDC99214	MDC99215	VAC99306	VAC99311	NCC99401	NCC99402	NCC99403	NCC99405	NCC99407	NCC99408	NCC99409
Station	C99212	C99213	C99214	C99215	C99306	C99311	C99401	C99402	C99403	C99405	C99407	C99408	C99409
BioReg	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	63 S	63 S	63 S	63 S
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Barbaetis cestum													
Callibaetis sp.										1			
Centroptilum sp.													
Labiobaetis frondalis				1									1
Labiobaetis propinquus													
Unid. Baetidae													
Baetisca sp.													
Caenis diminuta													
Caenis macafferti													
Caenis punctata													
Caenis sp.													
Eurylophella sp.	3			1						1	2		
Serratella deficiens													
Serratella sp.													
Hexagenia limbata													
Hexagenia sp.													
Stenacron sp.													
Stenonema modestum	7			2	7						3		
Stenonema sp.	1	1			5		5				3		
Unid.Heptageniidae													
Paraleptophlebia sp.		12		1	1		2			1	36	53	2
Siphloplectron sp.													
Isonychia sp.													
Tricorythodes sp.													
Belostoma fluminea													
Palmacorixa sp.													
Sigara sp.		8	2										
Trichocorixa sp.		3											
Unid. Corixidae		1	1										
Rheumatobates sp.													
Trepobates pictus													
Mesovelia sp.													
Pelocoris sp.													
Ranatra kirkaldyi													
Notonecta irrorata													
Notonecta uhleri													
Microvelia sp.			3										
Rhagovelia sp.													
Unid. Lepidoptera													
Paraponyx sp.													
Chauliodes rasticornis													
Corydalus cornutus													
Nigronia serricornis				1									
Sialis sp.		1					1		1				
Anax sp.										1			
Basiaeschna janata	1		1										

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	MDC99212	MDC99213	MDC99214	MDC99215	VAC99306	VAC99311	NCC99401	NCC99402	NCC99403	NCC99405	NCC99407	NCC99408	NCC99409
Station	C99212	C99213	C99214	C99215	C99306	C99311	C99401	C99402	C99403	C99405	C99407	C99408	C99409
BioReg	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	63 S	63 S	63 S	63 S
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Boyeria vinosa													
Nasiaeschna pentacantha													1
Unid. Aeschnidae													
Calopteryx sp.	1		1	1	4	3	2						
Unid. Calopterygidae					1								
Argia sedula													
Argia sp.													
Argia tibialis													
Argia violacea													
Enallagma antennuatum											1		
Enallagma sp.		3					2		1	1			
Ischnura sp.													2
Unid. Coenagrionidae			1										
Cordulegaster maculata					1								
Cordulegaster sp.						1							
Epitheca sp.									2				
Somatochlora sp.				1				3					
unid. Corduliidae													
Gomphus lividus													
Gomphus sp.							1						
Hagenius brevistyus													
Unid. Gomphidae													
Erythemis simplicicollis													
Libellula sp.													
Pachydiplax longipennis													
Perithemis sp.		1											
Sympetrum sp.													
Unid. Libellulidae		2											
Didymops transversa													
Macromia sp.													
unid. Macromiidae													
Allocapnia sp.													
Unid. Capniidae													
Leuctra sp.													
Acroneuria lycorias													
Acroneuria mela													
Acroneuria sp.													
Agnetina annulipes													
Agnetina sp.													
Unid. Perlidae													
Isoperla sp.													
Unid. Perlodidae													
Taeniopteryx sp.										1			
Brachycentrus numerosus	6												
Micrasema sp.													
Anisocentropus pyraloides													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	MDC99212	MDC99213	MDC99214	MDC99215	VAC99306	VAC99311	NCC99401	NCC99402	NCC99403	NCC99405	NCC99407	NCC99408	NCC99409
Station	C99212	C99213	C99214	C99215	C99306	C99311	C99401	C99402	C99403	C99405	C99407	C99408	C99409
BioReg	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	63 S	63 S	63 S	63 S
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Heteroplectron americanum													
Phylocentropus sp.													
Cheumatopsyche sp.	3		3			1							
Diplectrona modesta													
Hydropsyche betteni													
Hydropsyche sp.													
Hydropsyche sparna													
Macrostemum sp.													
Unid. Hydropsychidae													
Hydroptila sp.													
Oxythira sp.													
Lepidostoma sp.													
Ceraclea sp.													
Mystacides sp.													
Nectopsyche sp.													
Oecetis georgia													
Oecetis inconspicua													
Oecetis persimilis							1						
Oecetis sp.	4	1		1	1								
Triaenodes marginatus													
Triaenodes sp.	1						1				1		
Triaenodes tardus										2			
Hydatophylax argus													
Pycnopsyche sp.					7						13		
Unid. Limnephilidae				2									
Molanna sp.							1						
Psilotreta frontalis													
Psilotreta sp.													
Chimarra sp.													
Unid. Philopotamidae													
Ptilostomis sp.												1	
Unid. Phrygaenidae					1								
Neureclipsis sp.													
Nyctiophylax moestus													
Polycentropus sp.				1									
Lype diversa													
Ferrissia sp.													
Ferrissia walkeri										1			1
Laevapex fuscus													
Pseudosuccinea columella			1							2			
Stagnicola sp.										1			
Unid. Lymnaeidae													
Physella sp.		2	2	1	4		1		18	12			
Gyraulus circumstriatus													
Gyraulus parvus													
Helisoma anceps													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	MDC99212	MDC99213	MDC99214	MDC99215	VAC99306	VAC99311	NCC99401	NCC99402	NCC99403	NCC99405	NCC99407	NCC99408	NCC99409
Station	C99212	C99213	C99214	C99215	C99306	C99311	C99401	C99402	C99403	C99405	C99407	C99408	C99409
BioReg	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	63 S	63 S	63 S	63 S
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Menetus dilatatus								1					
Unid. Planoribae													
Unid. Limacidae													
Amnicola grana					2	1			21	4			
Amnicola limosa													
Elimia sp.													
Campeloma decisum							2						
Corbicula fluminea													
Musculium lacustris													
Musculium securis		4							7				
Musculium sp.		1	1	2									
Pisidium casertanum		8	1	1		1			6				
Pisidium compressum													
Pisidium fallax													
Pisidium lillejborgi													
Pisidium punctatum						1	2						
Pisidium sp.		3	7	2	6	6	1	4	2	13			
Pisidium walkeri					5		1	6		7			
Sphaerium striatinum													
Unid. Sphaeriidae		6	6	1	7	12	1		17				
Quadrula cylindrica													
Prostoma graecense													
Dugesia tigrina													
Total Benthos	100	98	110	96	92	97	105	105	101	106	100	98	100

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99410	SCC99503	VAC99301	VAC99303	VAC99304	VAC99305	VAC99310	SCC99501	SCC99502	SCC99504	SCC99506	SCC99507	SCC99508
Station	C99410	C99503	C99301	C99303	C99304	C99305	C99310	C99501	C99502	C99504	C99506	C99507	C99508
BioReg	63 S	63 S	65	65	65	65	65	65	65	65	65	65	65
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Alboglossiphonia heteroclita													
Desserobdella phalera													
Placobdella multilineata													
Placobdella papillifera													
Unid. Glossoscolecidae													
Unid. Lumbricidae													
Eclipidrilus sp.													
Lumbriculus variegatus													
Unid. Enchytraeidae													
Dero digitata													
Dero spp.													
Haemonais waldvogeli													
Nais variabilis													
Stylaria fossularis													
Stylaria lacustris													
Aulodrilus limnobius													
Aulodrilus pigueti													
Aulodrilus pluriseta													
unid. Tubificidae	1												
Isochaetides curvisetosus	1												
Limnodrilus hoffmeisteri													
Limnodrilus udekemianus													
Quistadrilus multisetosus													
Spirosperma carolinensis													
Spirosperma ferox													
Unid. Acariformes													
Lebertia sp.													
Piona sp.													
Crangonyx serratus							4						3
Crangonyx sp.	7						2	3			5	1	
Gammarus fasciatus		2	6	8		8	3				30		
Synurella chamberlaini				1									
Hyalella azteca					8								
Orconectes limosus													
Procambarus acutus													
Unid. Cambaridae													4
Palaemonetes paludosus													
Palaemontes kadiakensis	1	6			20	59		2	2	3		1	5
Caecidotea sp.	2	2		1	3			1			7		
Caecidotea attenuatus													
Caecidotea communis		1											
Caecidotea forbesi													
Caecidotea racovitzai				1									
Lirceus sp.	3												
Oniscus asellus													
unid. Carabidae													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99410	SCC99503	VAC99301	VAC99303	VAC99304	VAC99305	VAC99310	SCC99501	SCC99502	SCC99504	SCC99506	SCC99507	SCC99508
Station	C99410	C99503	C99301	C99303	C99304	C99305	C99310	C99501	C99502	C99504	C99506	C99507	C99508
BioReg	63 S	63 S	65	65	65	65	65	65	65	65	65	65	65
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Helichus sp.				1								2	
Agabus sp.													
Celina sp.													
Copelatus sp.													
Hydroporus sp.	1				1		1						
Ilybius sp.													
Laccophilus sp.													
Ancyronyx variegata					1			5					
Dubiraphia sp.	9	1	28	2		4				1			
Macronychus glabratus	1	1	3				2	6	1	4		2	2
Microcylloepus pusillus													
Optioservus fastiditus													
Optioservus sp.													
Oulimnius latiusculus			1				1	1		2			
Promoresia sp.													
Promoresia tardella													
Stenelmis	1	1						2	4		2		
Stenelmis antennalis													
Stenelmis crenata													
Stenelmis decorata													
Stenelmis humerosus		1						1					
Stenelmis markeli													
Dineutus discolor					3								
Dineutus nigrior													
Dineutus sp.													
Gyrinus aeneolus							1						
Gyrinus sp.													
Haliplus fasciatus					1								
Peltodytes duodecimpunctatus													
Peltodytes lengi													
Peltodytes sexmaculata													
Peltodytes sp.					7								
Sperchopsis sp.													
Tropisternus sp.													
Ectopria sp.								1			1		2
Anchytarsus bicolor													1
Ptilodactyla sp.													
Cyphon sp.	1							1					
Unid. Collembola spp.													
Unid. (Muscomorpha)													
Atherix sp.													
Bezzia sp.						1							
Ceratopogon sp.													
Culicoides sp.					3								
Dashyhelea sp.													
Probezzia sp.			3										

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99410	SCC99503	VAC99301	VAC99303	VAC99304	VAC99305	VAC99310	SCC99501	SCC99502	SCC99504	SCC99506	SCC99507	SCC99508
Station	C99410	C99503	C99301	C99303	C99304	C99305	C99310	C99501	C99502	C99504	C99506	C99507	C99508
BioReg	63 S	63 S	65	65	65	65	65	65	65	65	65	65	65
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Serromyia sp.					3								
Ablabesmyia janta													
Ablabesmyia mallochi	1	2	1				2	6		1	1	3	1
Ablabesmyia peleensis													
Ablabesmyia sp.													
Apectrotanypus johnsoni													
Brillia flavifrons												1	
Brillia sp.													
Chironomus sp.			1		1	2							
Cladopelma sp.													
Cladotanytarsus sp.													
Clinotanypus sp.			11		5								
Conchapelopia sp.	1	2								1			4
Corynoneura sp.	1									1			
Cricotopus bicinctus													
Cricotopus sp.													
Cricotopus tremulus													
Cryptochironomus sp.													
Cryptotendipes sp.													
Demicryptochironomus sp.										1			
Dicrotendipes modestus													
Dicrotendipes nervosus													
Dicrotendipes simpsoni													
Dicrotendipes sp.					2	11							
Diplocladius cultriger													
Djalmabatista pulcher													
Endochironomus sp.													
Glyptotendipes barbipes													
Glyptotendipes sp.													
Goeldichironomus sp.													
Goeldichironomus holopracinus			1										
Gymnometriocnemus sp.													
Helopelopia sp.													2
Hydrobaenus sp.													
Kiefferulus sp.													
Labrundinia neopilosella													
Labrundinia pilosella	2												
Larsia sp.													
Limnophyes sp.													
Meropelopia sp.								1					
Micropsectra sp.		1					1	8	9	15	1	2	4
Microtendipes pedellus-gr.			1	1	1		1			1			3
Microtendipes rydalensis-gr.							10	1					
Nanocladius crassicornus					1								
Nanocladius sp.													
Natarsia sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99410	SCC99503	VAC99301	VAC99303	VAC99304	VAC99305	VAC99310	SCC99501	SCC99502	SCC99504	SCC99506	SCC99507	SCC99508
Station	C99410	C99503	C99301	C99303	C99304	C99305	C99310	C99501	C99502	C99504	C99506	C99507	C99508
BioReg	63 S	63 S	65	65	65	65	65	65	65	65	65	65	65
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Nilothauma sp.													
Orthocladiinae sp.													
Orthocladius sp.													
Parachaetocladius sp.													
Parachironomus carinatus													
Parachironomus monochromus													
Paracladopelma undine			1				1						
Parakiefferiella sp.													
Paralauterborniella sp.					1		2						
Paramerina anomala													
Paramerina sp.				1									
Parametriocnemus sp.													
Paraphaenocladius sp.													
Paratanytarsus inopterus										1			
Paratanytarsus sp.			2								1		
Paratendipes sp.													
Phaenopsectra													
Phaenopsectra punctipes				1									
Polypedilum aviceps		13		1					11			43	1
Polypedilum bergi													
Polypedilum convictum									1	5	2	2	5
Polypedilum fallax								1	1			1	
Polypedilum halterale							1						
Polypedilum illinoense		2	6	8	1	1		6	3	1		6	5
Polypedilum scalaenum	1												
Polypedilum sp.				1			1	1			1	1	
Polypedilum tritum	1												
Potthastia longimana													
Procladius sp.													
Psectrocladius sp.													
Psectrotanypus sp.													
Pseudorthocladius sp.													
Rheocricotopus pauciseta										1			
Rheocricotopus robacki		2							2				
Rheocricotopus sp.													
Rheosmittia sp.									1				
Rheotanytarsus sp.	7	15		1				9	10	6	20	1	3
Stelechomyia sp.													
Stempellinella sp.	1	1	1	4	1		9	1					
Stenochironomus sp.	1							2		1		1	
Tanypus neopunctipennis													
Tanypus sp.													
Tanytarsus sp.	26	14	3	2	4	4	21	8	6	6	4		9
Thienemanniella sp.													
Tribelos atrum													
Tribelos fuscicorne							1						

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99410	SCC99503	VAC99301	VAC99303	VAC99304	VAC99305	VAC99310	SCC99501	SCC99502	SCC99504	SCC99506	SCC99507	SCC99508
Station	C99410	C99503	C99301	C99303	C99304	C99305	C99310	C99501	C99502	C99504	C99506	C99507	C99508
BioReg	63 S	63 S	65	65	65	65	65	65	65	65	65	65	65
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Tribelos jucundum	2			13									
Tribelos sp.													
Tvetenia sp.													
Tvetenia bavarica													
Tvetenia discoloripes													
Unid. Tanypodinae		1	2	1			2					1	
Unid. chironomini													1
Unniella sp.	1												
Xenochironomus xenolabis								1					
Xylotopus par								1					
Zalutschia sp.													
Zavrelimyia sp.													
unid. Tanytarsini													
Aedes sp.													
Anopheles spp.					1								
Culex sp.													
Unid. Dixidae													
Hemerodromia sp.												1	
Mycetophila sp.													
Unid. Mycetophilidae													
Platypeza sp.													
Pericoma sp.													
Simulium jenningsi													1
Simulium jonesi													
Simulium rivuli													
Simulium spp.													
Simulium tuberosum				1								1	
Simulium venustum													
Simulium vittatum													
Calaparyphus sp.													
Odontomyia sp.													
Chrysops sp.			2	2	1								
Tabanus sp.													
Geranomyia sp.													
Helius sp.													
Hexatoma sp.													
Oromosia sp.													
Pilaria sp.													
Pseudolimnophila sp.													
Tipula sp.		3		1	1		2			1		2	
Unid. Tipulide													
Acentrella sp.													
Acerpenna macdunnoughi													
Acerpenna sp.													
Baetis intercalaris		4						3			4		6
Baetis sp.										1			

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99410	SCC99503	VAC99301	VAC99303	VAC99304	VAC99305	VAC99310	SCC99501	SCC99502	SCC99504	SCC99506	SCC99507	SCC99508
Station	C99410	C99503	C99301	C99303	C99304	C99305	C99310	C99501	C99502	C99504	C99506	C99507	C99508
BioReg	63 S	63 S	65	65	65	65	65	65	65	65	65	65	65
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Barbaetis cestum													
Callibaetis sp.													
Centroptilum sp.							1						
Labiobaetis frondalis	1	6						4					1
Labiobaetis propinquus				2				1		2		1	1
Unid. Baetidae								1	1				
Baetisca sp.													
Caenis diminuta													
Caenis macafferti										3		5	1
Caenis punctata													
Caenis sp.													
Eurylophella sp.	6		1					1	2		6		
Serratella deficiens													
Serratella sp.													
Hexagenia limbata								2					
Hexagenia sp.				5			4						
Stenacron sp.	4												
Stenonema modestum		10		5				7	19	11	2	8	9
Stenonema sp.	1	1		1			2	10	10	12	5	9	5
Unid.Heptageniidae										1			
Paraleptophlebia sp.	1				3				1	2	2	1	5
Siphloplectron sp.			1	4			5						
Isonychia sp.													4
Tricorythodes sp.										1			1
Belostoma fluminea													
Palmacorixa sp.			1		2								
Sigara sp.													
Trichocorixa sp.													
Unid. Corixidae					7								
Rheumatobates sp.													
Trepobates pictus				1									
Mesovelia sp.													
Pelocoris sp.													
Ranatra kirkaldyi					1								
Notonecta irrorata					1								
Notonecta uhleri					1								
Microvelia sp.				2									
Rhagovelia sp.				2									
Unid. Lepidoptera													
Paraponyx sp.													
Chauliodes rasticornis													
Corydalus cornutus													
Nigronia serricornis								1		1			1
Sialis sp.			1										
Anax sp.			1										
Basiaeschna janata													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99410	SCC99503	VAC99301	VAC99303	VAC99304	VAC99305	VAC99310	SCC99501	SCC99502	SCC99504	SCC99506	SCC99507	SCC99508
Station	C99410	C99503	C99301	C99303	C99304	C99305	C99310	C99501	C99502	C99504	C99506	C99507	C99508
BioReg	63 S	63 S	65	65	65	65	65	65	65	65	65	65	65
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Boyeria vinosa										1			1
Nasiaeschna pentacantha													
Unid. Aeschnidae													
Calopteryx sp.	1		2	5						2			
Unid. Calopterygidae							1						
Argia sedula													
Argia sp.	1		1				2	1		1	1		3
Argia tibialis								1		3			
Argia violacea													
Enallagma antennuatum													
Enallagma sp.	1		3		1	8		1					
Ischnura sp.			1			1							
Unid. Coenagrionidae					1	1	1						
Cordulegaster maculata													
Cordulegaster sp.													
Epitheca sp.													
Somatochlora sp.					1								
unid. Corduliidae													
Gomphus lividus					1								
Gomphus sp.		1	1	2									
Hagenius brevistyus													
Unid. Gomphidae				1			2						
Erythemis simplicicollis													
Libellula sp.													
Pachydiplax longipennis													
Perithemis sp.													
Sympetrum sp.													
Unid. Libellulidae													
Didymops transversa													
Macromia sp.							2			2			
unid. Macromiidae	1			2									
Allocapnia sp.													
Unid. Capniidae													
Leuctra sp.				1									2
Acroneuria lycorias													
Acroneuria mela												1	2
Acroneuria sp.													
Agnetina annulipes													
Agnetina sp.													1
Unid. Perlidae													
Isoperla sp.									4				
Unid. Perlodidae				1									1
Taeniopteryx sp.	2						1		3				
Brachycentrus numerosus			1										
Micrasema sp.													
Anisocentropus pyraloides													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99410	SCC99503	VAC99301	VAC99303	VAC99304	VAC99305	VAC99310	SCC99501	SCC99502	SCC99504	SCC99506	SCC99507	SCC99508
Station	C99410	C99503	C99301	C99303	C99304	C99305	C99310	C99501	C99502	C99504	C99506	C99507	C99508
BioReg	63 S	63 S	65	65	65	65	65	65	65	65	65	65	65
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Heteroplectron americanum													
Phylocentropus sp.			3							1			
Cheumatopsyche sp.		4							5		16		1
Diplectrona modesta													
Hydropsyche betteni													
Hydropsyche sp.	1												
Hydropsyche sparna													
Macrostemum sp.													
Unid. Hydropsychidae													
Hydroptila sp.													
Oxythira sp.													
Lepidostoma sp.													
Ceraclea sp.	1								1				
Mystacides sp.													
Nectopsyche sp.													
Oecetis georgia										3			
Oecetis inconspicua							1						
Oecetis persimilis			1				7						
Oecetis sp.	1			1				1					
Triaenodes marginatus													
Triaenodes sp.					2			3	3	3			1
Triaenodes tardus			1	5			1						
Hydatophylax argus													
Pycnopsyche sp.	3		1	3									
Unid. Limnephilidae													
Molanna sp.													
Psilotreta frontalis													
Psilotreta sp.													
Chimarra sp.													
Unid. Philopotamidae													
Ptilostomis sp.				2									
Unid. Phrygaenidae				1									
Neureclipsis sp.													
Nyctiophylax moestus													
Polycentropus sp.	2									1			
Lype diversa													
Ferrissia sp.										1			
Ferrissia walkeri													
Laevapex fuscus													
Pseudosuccinea columella					1								
Stagnicola sp.													
Unid. Lymnaeidae													
Physella sp.					4								
Gyraulus circumstriatus													
Gyraulus parvus													
Helisoma anceps													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99410	SCC99503	VAC99301	VAC99303	VAC99304	VAC99305	VAC99310	SCC99501	SCC99502	SCC99504	SCC99506	SCC99507	SCC99508
Station	C99410	C99503	C99301	C99303	C99304	C99305	C99310	C99501	C99502	C99504	C99506	C99507	C99508
BioReg	63 S	63 S	65	65	65	65	65	65	65	65	65	65	65
Type	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Genus/species													
Menetus dilatatus													
Unid. Planoribae													
Unid. Limacidae													
Amnicola grana	1		1		1								
Amnicola limosa	1	3			7								
Elimia sp.													
Campeloma decisum												3	
Corbicula fluminea										1			
Musculium lacustris													
Musculium securis													
Musculium sp.													
Pisidium casertanum				1									
Pisidium compressum													
Pisidium fallax													
Pisidium lillejborgi													
Pisidium punctatum			4										
Pisidium sp.			3	4			2						
Pisidium walkeri	1												
Sphaerium striatinum													
Unid. Sphaeriidae								1					
Quadrula cylindrica													
Prostoma graecense													
Dugesia tigrina													
Total Benthos	103	100	101	103	104	100	100	107	100	105	111	100	102

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	SCC99509	SCC99510	SCC99515	NJC99101	NJC99102	NJC99113	NJC99114	NJC99117	NJC99118	DEC13033	DEC14039	DEC16019	DEC16084
Station	C99509	C99510	C99515	C99101	C99102	C99113	C99114	C99117	C99118	C13033	C14039	C16019	C16084
BioReg	65	65	65	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Alboglossiphonia heteroclita													
Desserobdella phalera													
Placobdella multilineata													
Placobdella papillifera													
Unid. Glossoscolecidae													
Unid. Lumbricidae			1										
Eclipidrilus sp.													
Lumbriculus variegatus													
Unid. Enchytraeidae					1		1						
Dero digitata													
Dero spp.													
Haemonais waldvogeli													
Nais variabilis													
Stylaria fossularis													
Stylaria lacustris						1							
Aulodrilus limnobius							1						
Aulodrilus pigueti													
Aulodrilus pluriseta													
unid. Tubificidae							3				1		
Isochaetides curvisetosus													
Limnodrilus hoffmeisteri													
Limnodrilus udekemianus													
Quistadrilus multisetosus													
Spirosperma carolinensis													
Spirosperma ferox													
Unid. Acariformes												1	
Lebertia sp.											1		
Piona sp.													
Crangonyx serratus	7	2											
Crangonyx sp.		1											
Gammarus fasciatus		15	2		1				16	3	27		
Synurella chamberlaini													
Hyalella azteca								1					
Orconectes limosus													
Procambarus acutus		1											
Unid. Cambaridae	3	2	3										
Palaemonetes paludosus											1		
Palaemontes kadiakensis	1	1									1		
Caecidotea sp.		3											
Caecidotea attenuatus													
Caecidotea communis		2			1								
Caecidotea forbesi													
Caecidotea racovitzai													
Lirceus sp.													
Oniscus asellus					2								
unid. Carabidae													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	SCC99509	SCC99510	SCC99515	NJC99101	NJC99102	NJC99113	NJC99114	NJC99117	NJC99118	DEC13033	DEC14039	DEC16019	DEC16084
Station	C99509	C99510	C99515	C99101	C99102	C99113	C99114	C99117	C99118	C13033	C14039	C16019	C16084
BioReg	65	65	65	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Helichus sp.													
Agabus sp.				2									
Celina sp.													
Copelatus sp.													
Hydroporus sp.	1												1
Ilybius sp.										2			
Laccophilus sp.													
Ancyronyx variegata		1											
Dubiraphia sp.	4		2					1	4	1	12	7	1
Macronychus glabratus		1			1				1				
Microcylloepus pusillus													
Optioservus fastiditus													
Optioservus sp.													
Oulimnius latiusculus			1										
Promoresia sp.													
Promoresia tardella													
Stenelmis		5	4										
Stenelmis antennalis													
Stenelmis crenata					1								
Stenelmis decorata		1											
Stenelmis humerosus	1												
Stenelmis markeli													
Dineutus discolor											1		
Dineutus nigrior													
Dineutus sp.													
Gyrinus aeneolus													
Gyrinus sp.													
Haliplus fasciatus													1
Peltodytes duodecimpunctatus											1		
Peltodytes lengi													
Peltodytes sexmaculata								1					
Peltodytes sp.						6					1		1
Sperchopsis sp.			1	1									
Tropisternus sp.													
Ectopria sp.			4										
Anchytarsus bicolor													
Ptilodactyla sp.													
Cyphon sp.													
Unid. Collembola spp.				1									
Unid. (Muscomorpha)											1		
Atherix sp.													
Bezzia sp.										1			
Ceratopogon sp.													
Culicoides sp.										1			
Dashyhelea sp.												1	
Probezzia sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	SCC99509	SCC99510	SCC99515	NJC99101	NJC99102	NJC99113	NJC99114	NJC99117	NJC99118	DEC13033	DEC14039	DEC16019	DEC16084
Station	C99509	C99510	C99515	C99101	C99102	C99113	C99114	C99117	C99118	C13033	C14039	C16019	C16084
BioReg	65	65	65	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Serromyia sp.											3		
Ablabesmyia janta									1				
Ablabesmyia mallochi	1			1						1			
Ablabesmyia peleensis													
Ablabesmyia sp.													
Apectrotanypus johnsoni	1												
Brillia flavifrons													
Brillia sp.			1	1	2								
Chironomus sp.				6			1						1
Cladopelma sp.													
Cladotanytarsus sp.													
Clinotanypus sp.	1									4			
Conchapelopia sp.	2			1									
Corynoneura sp.							1						1
Cricotopus bicinctus					1	1	7					3	
Cricotopus sp.						2	2						
Cricotopus tremulus							1						
Cryptochironomus sp.													
Cryptotendipes sp.													
Demicryptochironomus sp.													
Dicrotendipes modestus													
Dicrotendipes nervosus													
Dicrotendipes simpsoni													
Dicrotendipes sp.										4	3	5	44
Diplocladius cultriger													
Djalmabatista pulcher													
Endochironomus sp.													
Glyptotendipes barbipes													
Glyptotendipes sp.													
Goeldichironomus sp.										1			
Goeldichironomus holopracinus													
Gymnometriocnemus sp.													
Helopelopia sp.													
Hydrobaenus sp.													
Kiefferulus sp.													
Labrundinia neopilosella													
Labrundinia pilosella												1	
Larsia sp.													
Limnophyes sp.				3	1						1		
Meropelopia sp.				7			4						
Micropsectra sp.		1					2						
Microtendipes pedellus-gr.	6		1				30			1	1		
Microtendipes rydalensis-gr.			2										
Nanocladius crassicornus												3	1
Nanocladius sp.													
Natarsia sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	SCC99509	SCC99510	SCC99515	NJC99101	NJC99102	NJC99113	NJC99114	NJC99117	NJC99118	DEC13033	DEC14039	DEC16019	DEC16084
Station	C99509	C99510	C99515	C99101	C99102	C99113	C99114	C99117	C99118	C13033	C14039	C16019	C16084
BioReg	65	65	65	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Nilothauma sp.			1										
Orthocladiinae sp.													
Orthocladius sp.							1						
Parachaetocladius sp.													
Parachironomus carinatus													
Parachironomus monochromus													
Paracladopelma undine													
Parakiefferiella sp.					1								
Paralauterborniella sp.													
Paramerina anomala													
Paramerina sp.													
Parametriocnemus sp.													
Paraphaenocladius sp.													
Paratanytarsus inopterus													
Paratanytarsus sp.		1			1					1			
Paratendipes sp.													
Phaenopsectra													
Phaenopsectra punctipes			1		1								
Polypedilum aviceps		3	25	1	2		1						
Polypedilum bergi													
Polypedilum convictum	3	2	7				2						
Polypedilum fallax		1											
Polypedilum halterale													
Polypedilum illinoense		4	1	18	5			1		1			
Polypedilum scalaenum				3									
Polypedilum sp.				2	1								1
Polypedilum tritum				1						1			
Potthastia longimana													
Procladius sp.									1	1	1		
Psectrocladius sp.						1							1
Psectrotanypus sp.													
Pseudorthocladius sp.				1					1				
Rheocricotopus pauciseta													
Rheocricotopus robacki	1	3	1	4	22								
Rheocricotopus sp.													
Rheosmittia sp.				1									
Rheotanytarsus sp.	3	11	5	9	2		5		1		1		
Stelechomyia sp.													
Stempellinella sp.	1												
Stenochironomus sp.	1	4		4					3				
Tanypus neopunctipennis										1			
Tanypus sp.										2			
Tanytarsus sp.	1	1	1	1			3						
Thienemanniella sp.							1						
Tribelos atrum													
Tribelos fuscicorne													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	SCC99509	SCC99510	SCC99515	NJC99101	NJC99102	NJC99113	NJC99114	NJC99117	NJC99118	DEC13033	DEC14039	DEC16019	DEC16084
Station	C99509	C99510	C99515	C99101	C99102	C99113	C99114	C99117	C99118	C13033	C14039	C16019	C16084
BioReg	65	65	65	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Tribelos jucundum													
Tribelos sp.													
Tvetenia sp.													
Tvetenia bavarica													
Tvetenia discoloripes													
Unid. Tanypodinae													
Unid. chironomini				1						1			
Unniella sp.													
Xenochironomus xenolabis		1											
Xylotopus par													
Zalutschia sp.													
Zavrelimyia sp.													
unid. Tanytarsini													
Aedes sp.													
Anopheles spp.													
Culex sp.													
Unid. Dixidae													
Hemerodromia sp.					2								
Mycetophila sp.													
Unid. Mycetophilidae													
Platypeza sp.													
Pericoma sp.													
Simulium jenningsi	2												
Simulium jonesi	16	4	1										
Simulium rivuli													
Simulium spp.	1						2		1				
Simulium tuberosum													
Simulium venustum						1							
Simulium vittatum	3					43					3		
Calaparyphus sp.													
Odontomyia sp.													
Chrysops sp.													
Tabanus sp.													
Geranomyia sp.											1		
Helius sp.													
Hexatoma sp.													
Oromosia sp.										1			
Pilaria sp.													
Pseudolimnophila sp.													
Tipula sp.			4	8	3	1							
Unid. Tipulide													
Acentrella sp.													
Acerpenna macdunnoughi							5						
Acerpenna sp.	3												
Baetis intercalaris	1		6										
Baetis sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	SCC99509	SCC99510	SCC99515	NJC99101	NJC99102	NJC99113	NJC99114	NJC99117	NJC99118	DEC13033	DEC14039	DEC16019	DEC16084
Station	C99509	C99510	C99515	C99101	C99102	C99113	C99114	C99117	C99118	C13033	C14039	C16019	C16084
BioReg	65	65	65	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Barbaetis cestum							1						
Callibaetis sp.										3	2		1
Centroptilum sp.													
Labiobaetis frondalis	3	2	1				6					1	
Labiobaetis propinquus			2						2		4		
Unid. Baetidae			1							1	1		
Baetisca sp.													
Caenis diminuta													
Caenis macafferti			2										
Caenis punctata													32
Caenis sp.			3							49			
Eurylophella sp.		3					6		5				
Serratella deficiens													
Serratella sp.													
Hexagenia limbata													
Hexagenia sp.													
Stenacron sp.													
Stenonema modestum		10	4		3				8				
Stenonema sp.	3	4	1		5				9				
Unid.Heptageniidae			3						1				
Paraleptophlebia sp.	7	1											
Siphloplectron sp.													
Isonychia sp.													
Tricorythodes sp.													
Belostoma fluminea													
Palmacorixa sp.										1			
Sigara sp.													
Trichocorixa sp.							1			2	1	1	
Unid. Corixidae										1			
Rheumatobates sp.													
Trepobates pictus													
Mesovelia sp.													
Pelocoris sp.													
Ranatra kirkaldyi													
Notonecta irrorata						1							
Notonecta uhleri													
Microvelia sp.													
Rhagovelia sp.													
Unid. Lepidoptera													
Paraponyx sp.											1		
Chauliodes rasticornis													
Corydalus cornutus		1											
Nigronia serricornis									1				
Sialis sp.								4	1			2	
Anax sp.										1			
Basiaeschna janata											1		

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	SCC99509	SCC99510	SCC99515	NJC99101	NJC99102	NJC99113	NJC99114	NJC99117	NJC99118	DEC13033	DEC14039	DEC16019	DEC16084
Station	C99509	C99510	C99515	C99101	C99102	C99113	C99114	C99117	C99118	C13033	C14039	C16019	C16084
BioReg	65	65	65	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Boyeria vinosa		1		5	1								
Nasiaeschna pentacantha													
Unid. Aeschnidae													
Calopteryx sp.	1	1		5	5			3	1			2	
Unid. Calopterygidae	2								4				
Argia sedula													
Argia sp.	2	1						12		1			1
Argia tibialis													
Argia violacea													
Enallagma antennuatum													
Enallagma sp.	2					2		2			1		7
Ischnura sp.								5		5			3
Unid. Coenagrionidae	2							5		8	3		3
Cordulegaster maculata													
Cordulegaster sp.													
Epitheca sp.													
Somatochlora sp.													
unid. Corduliidae													
Gomphus lividus													
Gomphus sp.													
Hagenius brevistyus													
Unid. Gomphidae									1				
Erythemis simplicicollis													
Libellula sp.													
Pachydiplax longipennis													
Perithemis sp.													
Sympetrum sp.													
Unid. Libellulidae													
Didymops transversa													
Macromia sp.													
unid. Macromiidae													
Allocapnia sp.													
Unid. Capniidae													
Leuctra sp.													
Acroneuria lycorias													
Acroneuria mela													
Acroneuria sp.													
Agnetina annulipes													
Agnetina sp.													
Unid. Perlidae													
Isoperla sp.													
Unid. Perlodidae													
Taeniopteryx sp.							1	1	25				
Brachycentrus numerosus													
Micrasema sp.													
Anisocentropus pyraloides	1												

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	SCC99509	SCC99510	SCC99515	NJC99101	NJC99102	NJC99113	NJC99114	NJC99117	NJC99118	DEC13033	DEC14039	DEC16019	DEC16084
Station	C99509	C99510	C99515	C99101	C99102	C99113	C99114	C99117	C99118	C13033	C14039	C16019	C16084
BioReg	65	65	65	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Heteroplectron americanum													
Phylocentropus sp.													
Cheumatopsyche sp.	1	9	2	6	38	2	2		6		4	1	
Diplectrona modesta													
Hydropsyche betteni													
Hydropsyche sp.					1		1						
Hydropsyche sparna													
Macrostemum sp.													
Unid. Hydropsychidae													
Hydroptila sp.												2	
Oxythira sp.											1		
Lepidostoma sp.													
Ceraclea sp.			4										
Mystacides sp.													
Nectopsyche sp.													
Oecetis georgia													
Oecetis inconspicua													
Oecetis persimilis													
Oecetis sp.													
Triaenodes marginatus													
Triaenodes sp.	8		2										
Triaenodes tardus													
Hydatophylax argus													
Pycnopsyche sp.													
Unid. Limnephilidae											1		
Molanna sp.													
Psilotreta frontalis													
Psilotreta sp.													
Chimarra sp.	1												
Unid. Philopotamidae													
Ptilostomis sp.				1									
Unid. Phrygaenidae													
Neureclipsis sp.													
Nyctiophylax moestus	1												
Polycentropus sp.									2			2	
Lype diversa													
Ferrissia sp.													
Ferrissia walkeri												17	
Laevapex fuscus													
Pseudosuccinea columella						5	2				18	50	
Stagnicola sp.						1							
Unid. Lymnaeidae													
Physella sp.		1		1		15	2	15	1		1		
Gyraulus circumstriatus						1							
Gyraulus parvus						1							
Helisoma anceps						15		2					

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	SCC99509	SCC99510	SCC99515	NJC99101	NJC99102	NJC99113	NJC99114	NJC99117	NJC99118	DEC13033	DEC14039	DEC16019	DEC16084
Station	C99509	C99510	C99515	C99101	C99102	C99113	C99114	C99117	C99118	C13033	C14039	C16019	C16084
BioReg	65	65	65	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N
Type	Ref	Ref	Ref	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Menetus dilatatus								1	1			2	
Unid. Planoribae													
Unid. Limacidae													
Amnicola grana													
Amnicola limosa		2						7					
Elimia sp.													
Campeloma decisum													
Corbicula fluminea									1				
Musculium lacustris													
Musculium securis													
Musculium sp.													
Pisidium casertanum	1							7					
Pisidium compressum								4			3		
Pisidium fallax							1						
Pisidium lillejborgi													
Pisidium punctatum								8					
Pisidium sp.						5	1	12			1		
Pisidium walkeri							3	8					
Sphaerium striatinum													
Unid. Sphaeriidae		1						10					
Quadrula cylindrica													
Prostoma graecense													
Dugesia tigrina											2		
Total Benthos	99	108	100	95	104	104	100	110	98	100	106	101	100

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18035	DEC19041	DEC23041	DEC28078	MDC99201	MDC99203	MDC99204	MDC99205	MDC99217	VAC99307	VAC99315	NCC99412	NCC99413
Station	C18035	C19041	C23041	C28078	C99201	C99203	C99204	C99205	C99217	C99307	C99315	C99412	C99413
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Alboglossiphonia heteroclita													
Desserobdella phalera													
Placobdella multilineata		1											
Placobdella papillifera													
Unid. Glossoscolecidae													
Unid. Lumbricidae													1
Eclipidrilus sp.													
Lumbriculus variegatus													
Unid. Enchytraeidae													
Dero digitata								1					
Dero spp.				1						2			
Haemonais waldvogeli													
Nais variabilis	1												
Stylaria fossularis													
Stylaria lacustris													
Aulodrilus limnobius				1									
Aulodrilus pigueti				3									
Aulodrilus pluriseta													
unid. Tubificidae					1			1				1	
Isochaetides curvisetosus													
Limnodrilus hoffmeisteri													
Limnodrilus udekemianus													
Quistadrilus multisetosus								1					
Spirosperma carolinensis													
Spirosperma ferox													
Unid. Acariformes													
Lebertia sp.													
Piona sp.													
Crangonyx serratus													
Crangonyx sp.													
Gammarus fasciatus	1	22	7	1	14	60	1	3					
Synurella chamberlaini													
Hyalella azteca						8		1					
Orconectes limosus													
Procambarus acutus						2							
Unid. Cambaridae	1										5		
Palaemonetes paludosus													
Palaemontes kadiakensis	1			56									
Caecidotea sp.					3	1							
Caecidotea attenuatus													
Caecidotea communis													
Caecidotea forbesi													
Caecidotea racovitzai													
Lirceus sp.													
Oniscus asellus													
unid. Carabidae													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18035	DEC19041	DEC23041	DEC28078	MDC99201	MDC99203	MDC99204	MDC99205	MDC99217	VAC99307	VAC99315	NCC99412	NCC99413
Station	C18035	C19041	C23041	C28078	C99201	C99203	C99204	C99205	C99217	C99307	C99315	C99412	C99413
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Helichus sp.													
Agabus sp.									1	1			
Celina sp.													
Copelatus sp.													
Hydroporus sp.									1		2		
Ilybius sp.													
Laccophilus sp.													
Ancyronyx variegata									1				
Dubiraphia sp.	9	2		1	24	5	1	11	2				
Macronychus glabratus													
Microcylloepus pusillus													
Optioservus fastiditus													
Optioservus sp.													
Oulimnius latiusculus													
Promoresia sp.													
Promoresia tardella													
Stenelmis						1							
Stenelmis antennalis													
Stenelmis crenata													
Stenelmis decorata													
Stenelmis humerosus													
Stenelmis markeli													
Dineutus discolor													
Dineutus nigrior													
Dineutus sp.													
Gyrinus aeneolus													
Gyrinus sp.													
Haliplus fasciatus													
Peltodytes duodecimpunctatus	1												
Peltodytes lengi					1								
Peltodytes sexmaculata													
Peltodytes sp.	1			3									
Sperchopsis sp.													
Tropisternus sp.													
Ectopria sp.													
Anchytarsus bicolor													
Ptilodactyla sp.													
Cyphon sp.					1						2	4	
Unid. Collembola spp.												1	
Unid. (Muscomorpha)													1
Atherix sp.													
Bezzia sp.					1				1				
Ceratopogon sp.													
Culicoides sp.						1							
Dashyhelea sp.				1									2
Probezzia sp.					2								

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18035	DEC19041	DEC23041	DEC28078	MDC99201	MDC99203	MDC99204	MDC99205	MDC99217	VAC99307	VAC99315	NCC99412	NCC99413
Station	C18035	C19041	C23041	C28078	C99201	C99203	C99204	C99205	C99217	C99307	C99315	C99412	C99413
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Serromyia sp.					1			2			4		
Ablabesmyia janta													
Ablabesmyia mallochi	1											1	
Ablabesmyia peleensis											1	1	
Ablabesmyia sp.					1							1	
Apectrotanypus johnsoni													
Brillia flavifrons													
Brillia sp.													
Chironomus sp.					8			1				1	
Cladopelma sp.				1				1			1		
Cladotanytarsus sp.								1					
Clinotanypus sp.	1		1	2	2	2		1			2		
Conchapelopia sp.			1					2	5				
Corynoneura sp.													
Cricotopus bicinctus	2		1			4		1					3
Cricotopus sp.	3	1	1					1					2
Cricotopus tremulus													
Cryptochironomus sp.													
Cryptotendipes sp.								1					
Demicryptochironomus sp.													
Dicrotendipes modestus													25
Dicrotendipes nervosus													
Dicrotendipes simpsoni													
Dicrotendipes sp.	24	20	4		1			5	2		1	1	9
Diplocladius cultriger													
Djalmabatista pulcher													
Endochironomus sp.											4		
Glyptotendipes barbipes													
Glyptotendipes sp.													
Goeldichironomus sp.											3	1	
Goeldichironomus holopracinus											1	1	
Gymnometriocnemus sp.													1
Helopelopia sp.													
Hydrobaenus sp.													
Kiefferulus sp.													
Labrundinia neopilosella												1	
Labrundinia pilosella		6			1								
Larsia sp.													
Limnophyes sp.													1
Meropelopia sp.									8				
Micropsectra sp.													
Microtendipes pedellus-gr.					1			2	6				
Microtendipes rydalensis-gr.													
Nanocladius crassicornus												1	5
Nanocladius sp.													1
Natarsia sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18035	DEC19041	DEC23041	DEC28078	MDC99201	MDC99203	MDC99204	MDC99205	MDC99217	VAC99307	VAC99315	NCC99412	NCC99413
Station	C18035	C19041	C23041	C28078	C99201	C99203	C99204	C99205	C99217	C99307	C99315	C99412	C99413
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Nilothauma sp.													
Orthocladiinae sp.													
Orthocladius sp.	10	1	1										
Parachaetocladius sp.													
Parachironomus carinatus													
Parachironomus monochromus													
Paracladopelma undine													
Parakiefferiella sp.			4										
Paralauterborniella sp.													
Paramerina anomala													
Paramerina sp.		1											
Parametriocnemus sp.													
Paraphaenocladius sp.													
Paratanytarsus inopterus													
Paratanytarsus sp.		2						7					
Paratendipes sp.													
Phaenopsectra					1								
Phaenopsectra punctipes		1			1			1					1
Polypedilum aviceps													
Polypedilum bergi													
Polypedilum convictum													
Polypedilum fallax													
Polypedilum halterale				1									
Polypedilum illinoense		1		2	3							1	4
Polypedilum scalaenum									1				
Polypedilum sp.		1	3			1							
Polypedilum tritum					1								
Potthastia longimana								1					
Procladius sp.	2		10					1	1				
Psectrocladius sp.													
Psectrotanypus sp.													
Pseudorthocladius sp.													
Rheocricotopus pauciseta													
Rheocricotopus robacki			1										
Rheocricotopus sp.													
Rheosmittia sp.													
Rheotanytarsus sp.		2						12	1				
Stelechomyia sp.													
Stempellinella sp.													
Stenochironomus sp.									2				
Tanypus neopunctipennis													
Tanypus sp.								1					
Tanytarsus sp.		5	8		2			4	3				18
Thienemanniella sp.		1											
Tribelos atrum													
Tribelos fuscicorne													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18035	DEC19041	DEC23041	DEC28078	MDC99201	MDC99203	MDC99204	MDC99205	MDC99217	VAC99307	VAC99315	NCC99412	NCC99413
Station	C18035	C19041	C23041	C28078	C99201	C99203	C99204	C99205	C99217	C99307	C99315	C99412	C99413
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Tribelos jucundum	2	2	3		1				5				
Tribelos sp.													
Tvetenia sp.													
Tvetenia bavarica													
Tvetenia discoloripes													
Unid. Tanypodinae		4											
Unid. chironomini													
Unniella sp.													
Xenochironomus xenolabis													
Xylotopus par													
Zalutschia sp.													
Zavrelimyia sp.									3				
unid. Tanytarsini											1		
Aedes sp.										35			
Anopheles spp.													1
Culex sp.										39			
Unid. Dixidae													
Hemerodromia sp.													
Mycetophila sp.													
Unid. Mycetophilidae													
Platypeza sp.													
Pericoma sp.													
Simulium jenningsi													
Simulium jonesi													
Simulium rivuli													
Simulium spp.													
Simulium tuberosum													
Simulium venustum													
Simulium vittatum													
Calaparyphus sp.													
Odontomyia sp.													
Chrysops sp.									1				
Tabanus sp.													
Geranomyia sp.													
Helius sp.													
Hexatoma sp.													
Oromosia sp.													
Pilaria sp.									1				
Pseudolimnophila sp.									1				
Tipula sp.													
Unid. Tipulide													
Acentrella sp.													
Acerpenna macdunnoughi													
Acerpenna sp.													
Baetis intercalaris													
Baetis sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18035	DEC19041	DEC23041	DEC28078	MDC99201	MDC99203	MDC99204	MDC99205	MDC99217	VAC99307	VAC99315	NCC99412	NCC99413
Station	C18035	C19041	C23041	C28078	C99201	C99203	C99204	C99205	C99217	C99307	C99315	C99412	C99413
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Barbaetis cestum													
Callibaetis sp.			4	7								4	
Centroptilum sp.			1										
Labiobaetis frondalis		4											
Labiobaetis propinquus													
Unid. Baetidae			1										
Baetisca sp.													
Caenis diminuta			1										
Caenis macafferti													
Caenis punctata	12							36					
Caenis sp.		3		1	2								
Eurylophella sp.		1				1							
Serratella deficiens													
Serratella sp.													
Hexagenia limbata													
Hexagenia sp.													
Stenacron sp.													
Stenonema modestum			1										
Stenonema sp.			1										
Unid.Heptageniidae													
Paraleptophlebia sp.									16				
Siphloplectron sp.													
Isonychia sp.													
Tricorythodes sp.													
Belostoma fluminea													
Palmacorixa sp.													
Sigara sp.									2				1
Trichocorixa sp.	2		1						1		4		
Unid. Corixidae	4							1			3		
Rheumatobates sp.													
Trepobates pictus									1				
Mesovelia sp.													
Pelocoris sp.													
Ranatra kirkaldyi	1												
Notonecta irrorata													
Notonecta uhleri													
Microvelia sp.													
Rhagovelia sp.													
Unid. Lepidoptera				3									
Paraponyx sp.													
Chauliodes rasticornis													
Corydalus cornutus													
Nigronia serricornis									1				
Sialis sp.			1		2								
Anax sp.													
Basiaeschna janata	1												

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18035	DEC19041	DEC23041	DEC28078	MDC99201	MDC99203	MDC99204	MDC99205	MDC99217	VAC99307	VAC99315	NCC99412	NCC99413
Station	C18035	C19041	C23041	C28078	C99201	C99203	C99204	C99205	C99217	C99307	C99315	C99412	C99413
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Boyeria vinosa										1			
Nasiaeschna pentacantha													
Unid. Aeschnidae													
Calopteryx sp.		2	2			2			4				
Unid. Calopterygidae													
Argia sedula													
Argia sp.			2			1							
Argia tibialis													
Argia violacea		1											
Enallagma antennuatum	4		4										
Enallagma sp.	9	2	12		13	4							
Ischnura sp.	3		7	1	2						17		2
Unid. Coenagrionidae	3		7	1	1	1		1			5	1	5
Cordulegaster maculata													
Cordulegaster sp.													
Epitheca sp.			1	3									
Somatochlora sp.													
unid. Corduliidae				1									
Gomphus lividus													
Gomphus sp.						1							
Hagenius brevistyus													
Unid. Gomphidae													
Erythemis simplicicollis											1	4	
Libellula sp.						1							
Pachydiplax longipennis													
Perithemis sp.													
Sympetrum sp.												1	
Unid. Libellulidae											1	1	
Didymops transversa													
Macromia sp.													
unid. Macromiidae													
Allocapnia sp.													
Unid. Capniidae													
Leuctra sp.													
Acroneuria lycorias													
Acroneuria mela													
Acroneuria sp.													
Agnetina annulipes													
Agnetina sp.													
Unid. Perlidae													
Isoperla sp.													
Unid. Perlodidae													
Taeniopteryx sp.													
Brachycentrus numerosus													
Micrasema sp.													
Anisocentropus pyraloides													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18035	DEC19041	DEC23041	DEC28078	MDC99201	MDC99203	MDC99204	MDC99205	MDC99217	VAC99307	VAC99315	NCC99412	NCC99413
Station	C18035	C19041	C23041	C28078	C99201	C99203	C99204	C99205	C99217	C99307	C99315	C99412	C99413
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Heteroplectron americanum													
Phylocentropus sp.					2								
Cheumatopsyche sp.		1						1	11				2
Diplectrona modesta													
Hydropsyche betteni													
Hydropsyche sp.			1										
Hydropsyche sparna													
Macrostemum sp.													
Unid. Hydropsychidae								1					
Hydroptila sp.			1										
Oxythira sp.			4										
Lepidostoma sp.													
Ceraclea sp.													
Mystacides sp.													
Nectopsyche sp.													
Oecetis georgia													
Oecetis inconspicua													
Oecetis persimilis													
Oecetis sp.								1	1				
Triaenodes marginatus						1							
Triaenodes sp.						1							
Triaenodes tardus													
Hydatophylax argus													
Pycnopsyche sp.			1										
Unid. Limnephilidae													
Molanna sp.													
Psilotreta frontalis													
Psilotreta sp.													
Chimarra sp.													
Unid. Philopotamidae													
Ptilostomis sp.													
Unid. Phrygaenidae		1											
Neureclipsis sp.													
Nyctiophylax moestus													
Polycentropus sp.					2								
Lype diversa													
Ferrissia sp.													
Ferrissia walkeri		8											
Laevapex fuscus													
Pseudosuccinea columella		2	2						3	5			1
Stagnicola sp.													
Unid. Lymnaeidae													
Physella sp.		1		3		1				25	34	1	1
Gyraulus circumstriatus												40	
Gyraulus parvus											1		
Helisoma anceps													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18035	DEC19041	DEC23041	DEC28078	MDC99201	MDC99203	MDC99204	MDC99205	MDC99217	VAC99307	VAC99315	NCC99412	NCC99413
Station	C18035	C19041	C23041	C28078	C99201	C99203	C99204	C99205	C99217	C99307	C99315	C99412	C99413
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab
Genus/species													
Menetus dilatatus									1				
Unid. Planoribae													
Unid. Limacidae													
Amnicola grana													
Amnicola limosa			7		1		98						
Elimia sp.					1								
Campeloma decisum													
Corbicula fluminea					1								
Musculium lacustris													
Musculium securis											2		
Musculium sp.													
Pisidium casertanum	1								2			13	
Pisidium compressum					1			1				11	
Pisidium fallax													
Pisidium lillejborgi													
Pisidium punctatum													
Pisidium sp.									11			5	2
Pisidium walkeri											4		10
Sphaerium striatinum						1							
Unid. Sphaeriidae		1									1		1
Quadrula cylindrica													
Prostoma graecense													
Dugesia tigrina								1					
Total Benthos	100	100	107	93	99	100	100	106	100	108	100	97	100

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99415	NCC99416	NCC99417	SCC99513	SCC99514	NCC99411	NCC99414	SCC99511	NJC99103	NJC99109	NJC99119	NJC99120	DEC18036
Station	C99415	C99416	C99417	C99513	C99514	C99411	C99414	C99511	C99103	C99109	C99119	C99120	C18036
BioReg	63 S	63 S	63 S	63 S	63 S	65	65	65	63 N	63 N	63 N	63 N	63 N
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	WQ	WQ	WQ	WQ	WQ
Genus/species													
Alboglossiphonia heteroclita													
Desserobdella phalera	3												1
Placobdella multilineata													
Placobdella papillifera		1											
Unid. Glossoscolecidae													
Unid. Lumbricidae													
Eclipidrilus sp.		3					1						
Lumbriculus variegatus						1	1						
Unid. Enchytraeidae													
Dero digitata													
Dero spp.	1												
Haemonais waldvogeli						1							
Nais variabilis													
Stylaria fossularis													
Stylaria lacustris													
Aulodrilus limnobius						1							
Aulodrilus pigueti						2		1					
Aulodrilus pluriseta													
unid. Tubificidae	1	7		3	3	4	4	1	1				1
Isochaetides curvisetosus													
Limnodrilus hoffmeisteri			1				1						
Limnodrilus udekemianus							1						
Quistadrilus multisetosus		15											
Spirosperma carolinensis													
Spirosperma ferox													
Unid. Acariformes													
Lebertia sp.			1										
Piona sp.			1										
Crangonyx serratus													
Crangonyx sp.		2											
Gammarus fasciatus									58				
Synurella chamberlaini													
Hyalella azteca					1								
Orconectes limosus													
Procambarus acutus													
Unid. Cambaridae							1	1					
Palaemonetes paludosus													
Palaemontes kadiakensis													
Caecidotea sp.	2										5		
Caecidotea attenuatus													
Caecidotea communis											9		
Caecidotea forbesi													
Caecidotea racovitzai													
Lirceus sp.													
Oniscus asellus													
unid. Carabidae													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99415	NCC99416	NCC99417	SCC99513	SCC99514	NCC99411	NCC99414	SCC99511	NJC99103	NJC99109	NJC99119	NJC99120	DEC18036
Station	C99415	C99416	C99417	C99513	C99514	C99411	C99414	C99511	C99103	C99109	C99119	C99120	C18036
BioReg	63 S	63 S	63 S	63 S	63 S	65	65	65	63 N	63 N	63 N	63 N	63 N
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	WQ	WQ	WQ	WQ	WQ
Genus/species													
Helichus sp.													
Agabus sp.													1
Celina sp.													
Copelatus sp.													
Hydroporus sp.													
Ilybius sp.													
Laccophilus sp.													
Ancyronyx variegata							2		1	6	5	5	
Dubiraphia sp.		3		15			2					2	8
Macronychus glabratus												1	
Microcylloepus pusillus					1								
Optioservus fastiditus													
Optioservus sp.													
Oulimnius latiusculus													
Promoresia sp.													
Promoresia tardella													
Stenelmis				1	1						10		
Stenelmis antennalis													
Stenelmis crenata													
Stenelmis decorata													
Stenelmis humerosus											1		
Stenelmis markeli													
Dineutus discolor													
Dineutus nigrior													
Dineutus sp.			1										
Gyrinus aeneolus													
Gyrinus sp.													
Haliplus fasciatus													3
Peltodytes duodecimpunctatus													
Peltodytes lengi													
Peltodytes sexmaculata													
Peltodytes sp.		1										1	4
Sperchopsis sp.													
Tropisternus sp.		2											
Ectopria sp.													
Anchytarsus bicolor													
Ptilodactyla sp.													
Cyphon sp.							1						
Unid. Collembola spp.			1										
Unid. (Muscomorpha)												4	
Atherix sp.													
Bezzia sp.		1				1							
Ceratopogon sp.													
Culicoides sp.													
Dashyhelea sp.		3											
Probezzia sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99415	NCC99416	NCC99417	SCC99513	SCC99514	NCC99411	NCC99414	SCC99511	NJC99103	NJC99109	NJC99119	NJC99120	DEC18036
Station	C99415	C99416	C99417	C99513	C99514	C99411	C99414	C99511	C99103	C99109	C99119	C99120	C18036
BioReg	63 S	63 S	63 S	63 S	63 S	65	65	65	63 N	63 N	63 N	63 N	63 N
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	WQ	WQ	WQ	WQ	WQ
Genus/species													
Serromyia sp.		2											
Ablabesmyia janta													
Ablabesmyia mallochi				5	2			1					
Ablabesmyia peleensis	1												
Ablabesmyia sp.			1										
Apectrotanypus johnsoni													
Brillia flavifrons													
Brillia sp.													
Chironomus sp.	2	6											
Cladopelma sp.													
Cladotanytarsus sp.													
Clinotanypus sp.		1				1							3
Conchapelopia sp.				1	1			3					
Corynoneura sp.							1						1
Cricotopus bicinctus					1		1	1				3	12
Cricotopus sp.					1						1		1
Cricotopus tremulus													
Cryptochironomus sp.													
Cryptotendipes sp.													
Demicryptochironomus sp.													
Dicrotendipes modestus													
Dicrotendipes nervosus			33										
Dicrotendipes simpsoni													
Dicrotendipes sp.							2						24
Diplocladius cultriger													
Djalmabatista pulcher													
Endochironomus sp.			1										
Glyptotendipes barbipes													
Glyptotendipes sp.													
Goeldichironomus sp.	13												
Goeldichironomus holopracinus	1	26	3										
Gymnometriocnemus sp.													
Helopelopia sp.													
Hydrobaenus sp.													
Kiefferulus sp.	1												
Labrundinia neopilosella													
Labrundinia pilosella													
Larsia sp.													
Limnophyes sp.													
Meropelopia sp.										3			2
Micropsectra sp.													
Microtendipes pedellus-gr.													
Microtendipes rydalensis-gr.													
Nanocladius crassicornus												1	1
Nanocladius sp.													
Natarsia sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99415	NCC99416	NCC99417	SCC99513	SCC99514	NCC99411	NCC99414	SCC99511	NJC99103	NJC99109	NJC99119	NJC99120	DEC18036
Station	C99415	C99416	C99417	C99513	C99514	C99411	C99414	C99511	C99103	C99109	C99119	C99120	C18036
BioReg	63 S	63 S	63 S	63 S	63 S	65	65	65	63 N	63 N	63 N	63 N	63 N
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	WQ	WQ	WQ	WQ	WQ
Genus/species													
Nilothauma sp.													
Orthocladiinae sp.													
Orthocladius sp.													
Parachaetocladius sp.													
Parachironomus carinatus				1									
Parachironomus monochromus													
Paracladopelma undine													
Parakiefferiella sp.													1
Paralauterborniella sp.													
Paramerina anomala													
Paramerina sp.													
Parametriocnemus sp.													
Paraphaenocladius sp.													
Paratanytarsus inopterus													1
Paratanytarsus sp.													4
Paratendipes sp.													
Phaenopsectra													1
Phaenopsectra punctipes			1										
Polypedilum aviceps													
Polypedilum bergi	1												
Polypedilum convictum													
Polypedilum fallax													
Polypedilum halterale													
Polypedilum illinoense	1	1	4		23			27					
Polypedilum scalaenum										1			
Polypedilum sp.								2				2	
Polypedilum tritum			2										
Potthastia longimana													
Procladius sp.									1	1		1	
Psectrocladius sp.													
Psectrotanypus sp.													
Pseudorthocladius sp.									1				
Rheocricotopus pauciseta													
Rheocricotopus robacki					2					1			
Rheocricotopus sp.													
Rheosmittia sp.													
Rheotanytarsus sp.				3	1		1	3	1			1	
Stelechomyia sp.													
Stempellinella sp.													
Stenochironomus sp.								1					
Tanypus neopunctipennis													
Tanypus sp.													
Tanytarsus sp.		3	2	2			2	5					
Thienemanniella sp.											1		
Tribelos atrum													
Tribelos fuscicorne													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99415	NCC99416	NCC99417	SCC99513	SCC99514	NCC99411	NCC99414	SCC99511	NJC99103	NJC99109	NJC99119	NJC99120	DEC18036
Station	C99415	C99416	C99417	C99513	C99514	C99411	C99414	C99511	C99103	C99109	C99119	C99120	C18036
BioReg	63 S	63 S	63 S	63 S	63 S	65	65	65	63 N	63 N	63 N	63 N	63 N
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	WQ	WQ	WQ	WQ	WQ
Genus/species													
Tribelos jucundum							1		1				3
Tribelos sp.													
Tvetenia sp.													
Tvetenia bavarica													
Tvetenia discoloripes													
Unid. Tanypodinae		1		3	3			1					
Unid. chironomini								1					
Unniella sp.													
Xenochironomus xenolabis													
Xylotopus par													
Zalutschia sp.													
Zavrelimyia sp.													
unid. Tanytarsini			1										
Aedes sp.													
Anopheles spp.			1										
Culex sp.													
Unid. Dixidae													
Hemerodromia sp.										3		1	
Mycetophila sp.													
Unid. Mycetophilidae											1		
Platypeza sp.													
Pericoma sp.													
Simulium jenningsi								1			2		
Simulium jonesi													
Simulium rivuli													
Simulium spp.											3	1	
Simulium tuberosum				7									
Simulium venustum												1	
Simulium vittatum													
Calaparyphus sp.													
Odontomyia sp.	1												
Chrysops sp.	1												
Tabanus sp.													
Geranomyia sp.													
Helius sp.													
Hexatoma sp.													
Oromosia sp.													
Pilaria sp.													
Pseudolimnophila sp.													
Tipula sp.									1	1			
Unid. Tipulide	3												
Acentrella sp.				8									
Acerpenna macdunnoughi													
Acerpenna sp.													
Baetis intercalaris													
Baetis sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99415	NCC99416	NCC99417	SCC99513	SCC99514	NCC99411	NCC99414	SCC99511	NJC99103	NJC99109	NJC99119	NJC99120	DEC18036
Station	C99415	C99416	C99417	C99513	C99514	C99411	C99414	C99511	C99103	C99109	C99119	C99120	C18036
BioReg	63 S	63 S	63 S	63 S	63 S	65	65	65	63 N	63 N	63 N	63 N	63 N
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	WQ	WQ	WQ	WQ	WQ
Genus/species													
Barbaetis cestum													
Callibaetis sp.		2	2										1
Centroptilum sp.													
Labiobaetis frondalis					6			9					
Labiobaetis propinquus				20									
Unid. Baetidae													
Baetisca sp.													
Caenis diminuta		2			7								
Caenis macafferti													
Caenis punctata					24								20
Caenis sp.			1	10				26					
Eurylophella sp.													
Serratella deficiens													
Serratella sp.													
Hexagenia limbata													
Hexagenia sp.													
Stenacron sp.													
Stenonema modestum				6						1	12		
Stenonema sp.				5							5		
Unid.Heptageniidae													
Paraleptophlebia sp.				1							25		
Siphloplectron sp.													
Isonychia sp.													
Tricorythodes sp.													
Belostoma fluminea													
Palmacorixa sp.													
Sigara sp.									1				1
Trichocorixa sp.													
Unid. Corixidae													
Rheumatobates sp.													
Trepobates pictus													
Mesovelia sp.													
Pelocoris sp.							1						
Ranatra kirkaldyi													
Notonecta irrorata													
Notonecta uhleri													
Microvelia sp.													
Rhagovelia sp.													
Unid. Lepidoptera			1										
Paraponyx sp.													
Chauliodes rasticornis		1											
Corydalus cornutus													
Nigronia serricornis													
Sialis sp.							1						
Anax sp.													
Basiaeschna janata							2						

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99415	NCC99416	NCC99417	SCC99513	SCC99514	NCC99411	NCC99414	SCC99511	NJC99103	NJC99109	NJC99119	NJC99120	DEC18036
Station	C99415	C99416	C99417	C99513	C99514	C99411	C99414	C99511	C99103	C99109	C99119	C99120	C18036
BioReg	63 S	63 S	63 S	63 S	63 S	65	65	65	63 N	63 N	63 N	63 N	63 N
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	WQ	WQ	WQ	WQ	WQ
Genus/species													
Boyeria vinosa									1			2	
Nasiaeschna pentacantha													
Unid. Aeschnidae					1								
Calopteryx sp.							2		3	1		14	
Unid. Calopterygidae									1			22	
Argia sedula				1			5						
Argia sp.							11			4			
Argia tibialis							1						
Argia violacea													
Enallagma antennuatum							3						
Enallagma sp.			4		8		12	6		4		3	
Ischnura sp.	14		12		3	2	9	3		1			4
Unid. Coenagrionidae	7	4	3		2	2	14	2		1	4	4	2
Cordulegaster maculata													
Cordulegaster sp.													
Epitheca sp.								1					
Somatochlora sp.													
unid. Corduliidae													
Gomphus lividus													
Gomphus sp.				1									
Hagenius brevistyus													
Unid. Gomphidae													
Erythemis simplicicollis	16		9		1								
Libellula sp.		2											
Pachydiplax longipennis													
Perithemis sp.													
Sympetrum sp.	12												
Unid. Libellulidae		1								1			
Didymops transversa													
Macromia sp.										5			
unid. Macromiidae				1									
Allocapnia sp.													
Unid. Capniidae													
Leuctra sp.									1				
Acroneuria lycorias													
Acroneuria mela													
Acroneuria sp.													
Agnetina annulipes													
Agnetina sp.													
Unid. Perlidae													
Isoperla sp.													
Unid. Perlodidae													
Taeniopteryx sp.									1		2		
Brachycentrus numerosus													
Micrasema sp.													
Anisocentropus pyraloides													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99415	NCC99416	NCC99417	SCC99513	SCC99514	NCC99411	NCC99414	SCC99511	NJC99103	NJC99109	NJC99119	NJC99120	DEC18036
Station	C99415	C99416	C99417	C99513	C99514	C99411	C99414	C99511	C99103	C99109	C99119	C99120	C18036
BioReg	63 S	63 S	63 S	63 S	63 S	65	65	65	63 N	63 N	63 N	63 N	63 N
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	WQ	WQ	WQ	WQ	WQ
Genus/species													
Heteroplectron americanum													
Phylocentropus sp.											3		
Cheumatopsyche sp.				3	2			2	11	39		17	
Diplectrona modesta													
Hydropsyche betteni									6	6		6	
Hydropsyche sp.												2	
Hydropsyche sparna													
Macrostemum sp.													
Unid. Hydropsychidae												1	
Hydroptila sp.			1							1			
Oxythira sp.													
Lepidostoma sp.													
Ceraclea sp.													
Mystacides sp.													
Nectopsyche sp.													
Oecetis georgia													
Oecetis inconspicua													
Oecetis persimilis													
Oecetis sp.			1								5		
Triaenodes marginatus													
Triaenodes sp.													
Triaenodes tardus													
Hydatophylax argus													
Pycnopsyche sp.													
Unid. Limnephilidae										1			
Molanna sp.													
Psilotreta frontalis													
Psilotreta sp.													
Chimarra sp.													
Unid. Philopotamidae													
Ptilostomis sp.													
Unid. Phrygaenidae													
Neureclipsis sp.													
Nyctiophylax moestus													
Polycentropus sp.													
Lype diversa													
Ferrissia sp.													
Ferrissia walkeri													
Laevapex fuscus			1		1								
Pseudosuccinea columella		5	2										
Stagnicola sp.													
Unid. Lymnaeidae													
Physella sp.		2	3	3	2		12	10	3				
Gyraulus circumstriatus			2										
Gyraulus parvus													
Helisoma anceps													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	NCC99415	NCC99416	NCC99417	SCC99513	SCC99514	NCC99411	NCC99414	SCC99511	NJC99103	NJC99109	NJC99119	NJC99120	DEC18036
Station	C99415	C99416	C99417	C99513	C99514	C99411	C99414	C99511	C99103	C99109	C99119	C99120	C18036
BioReg	63 S	63 S	63 S	63 S	63 S	65	65	65	63 N	63 N	63 N	63 N	63 N
Type	Hab	Hab	Hab	Hab	Hab	Hab	Hab	Hab	WQ	WQ	WQ	WQ	WQ
Genus/species													
Menetus dilatatus			2						4				
Unid. Planoribae	3		4										
Unid. Limacidae													
Amnicola grana	1												
Amnicola limosa													
Elimia sp.													
Campeloma decisum													
Corbicula fluminea				2	2	1							
Musculium lacustris													
Musculium securis	3					4				7			
Musculium sp.						2							
Pisidium casertanum		2				33		1					
Pisidium compressum												1	
Pisidium fallax													
Pisidium lillejborgi													
Pisidium punctatum													
Pisidium sp.	2	1	5	2	1	43	2		2				
Pisidium walkeri							1						
Sphaerium striatinum													
Unid. Sphaeriidae	3									18			
Quadrula cylindrica													
Prostoma graecense													
Dugesia tigrina			1			2							
Total Benthos	93	100	108	104	100	100	98	109	99	106	94	96	100

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18072	MDC99209	MDC99216	MDC99218	VAC99309	VAC99312	VAC99308	VAC99314	NCC99404	NCC99406	MDC99219	MDC99220	VAC99302
Station	C18072	C99209	C99216	C99218	C99309	C99312	C99308	C99314	C99404	C99406	C99219	C99220	C99302
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	65	65	65
Type	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ
Genus/species													
Alboglossiphonia heteroclita													
Desserobdella phalera									1				
Placobdella multilineata													
Placobdella papillifera													
Unid. Glossoscolecidae													
Unid. Lumbricidae													
Eclipidrilus sp.													
Lumbriculus variegatus	1												
Unid. Enchytraeidae												1	
Dero digitata													
Dero spp.													
Haemonais waldvogeli													
Nais variabilis													
Stylaria fossularis													
Stylaria lacustris													
Aulodrilus limnobius													
Aulodrilus pigueti													
Aulodrilus pluriseta													
unid. Tubificidae			1						1			2	2
Isochaetides curvisetosus													
Limnodrilus hoffmeisteri													
Limnodrilus udekemianus													
Quistadrilus multisetosus													
Spirosperma carolinensis													
Spirosperma ferox													
Unid. Acariformes													
Lebertia sp.													
Piona sp.													
Crangonyx serratus							1						
Crangonyx sp.	2							1					
Gammarus fasciatus		1	7							1	85	63	
Synurella chamberlaini													
Hyalella azteca											1		15
Orconectes limosus													
Procambarus acutus													
Unid. Cambaridae							1	1					
Palaemonetes paludosus													
Palaemontes kadiakensis							1		1				
Caecidotea sp.		1	1				1	4	2	2		11	1
Caecidotea attenuatus													
Caecidotea communis			1									3	
Caecidotea forbesi													
Caecidotea racovitzai												1	
Lirceus sp.									1				
Oniscus asellus						1							
unid. Carabidae													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18072	MDC99209	MDC99216	MDC99218	VAC99309	VAC99312	VAC99308	VAC99314	NCC99404	NCC99406	MDC99219	MDC99220	VAC99302
Station	C18072	C99209	C99216	C99218	C99309	C99312	C99308	C99314	C99404	C99406	C99219	C99220	C99302
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	65	65	65
Type	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ
Genus/species													
Helichus sp.													
Agabus sp.													3
Celina sp.													
Copelatus sp.					1								
Hydroporus sp.		1		1	2	4	5	7					
Ilybius sp.													
Laccophilus sp.						1							
Ancyronyx variegata			4					13					6
Dubiraphia sp.	4		18					14			1		7
Macronychus glabratus													1
Microcylloepus pusillus													
Optioservus fastiditus													
Optioservus sp.													
Oulimnius latiusculus		1											
Promoresia sp.			1										
Promoresia tardella													
Stenelmis						13							
Stenelmis antennalis													
Stenelmis crenata													
Stenelmis decorata													
Stenelmis humerosus													
Stenelmis markeli													
Dineutus discolor													
Dineutus nigrior													
Dineutus sp.													
Gyrinus aeneolus													
Gyrinus sp.													
Haliplus fasciatus													
Peltodytes duodecimpunctatus	2												
Peltodytes lengi													
Peltodytes sexmaculata													
Peltodytes sp.	1					1					1	1	
Sperchopsis sp.													
Tropisternus sp.				1									
Ectopria sp.													
Anchytarsus bicolor													
Ptilodactyla sp.													
Cyphon sp.						10	2						
Unid. Collembola spp.													
Unid. (Muscomorpha)													
Atherix sp.													
Bezzia sp.									1				
Ceratopogon sp.													
Culicoides sp.													
Dashyhelea sp.													
Probezzia sp.		1		2									

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18072	MDC99209	MDC99216	MDC99218	VAC99309	VAC99312	VAC99308	VAC99314	NCC99404	NCC99406	MDC99219	MDC99220	VAC99302
Station	C18072	C99209	C99216	C99218	C99309	C99312	C99308	C99314	C99404	C99406	C99219	C99220	C99302
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	65	65	65
Type	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ
Genus/species													
Serromyia sp.													
Ablabesmyia janta													
Ablabesmyia mallochi						1			1				
Ablabesmyia peleensis													
Ablabesmyia sp.							1						
Apectrotanypus johnsoni													
Brillia flavifrons													
Brillia sp.													
Chironomus sp.				14			7	1		1	1		2
Cladopelma sp.													
Cladotanytarsus sp.													
Clinotanypus sp.	3												
Conchapelopia sp.		3	4	3		7			1				
Corynoneura sp.		1				5							
Cricotopus bicinctus	16												
Cricotopus sp.	1												
Cricotopus tremulus													
Cryptochironomus sp.													
Cryptotendipes sp.													
Demicryptochironomus sp.													
Dicrotendipes modestus													
Dicrotendipes nervosus													
Dicrotendipes simpsoni													
Dicrotendipes sp.	3						3	1					
Diplocladius cultriger													
Djalmabatista pulcher													
Endochironomus sp.													
Glyptotendipes barbipes				4									
Glyptotendipes sp.													1
Goeldichironomus sp.				7									
Goeldichironomus holopracinus				4	60								1
Gymnometriocnemus sp.													
Helopelopia sp.													
Hydrobaenus sp.													
Kiefferulus sp.							16			1			
Labrundinia neopilosella													
Labrundinia pilosella			1			3							
Larsia sp.													
Limnophyes sp.													
Meropelopia sp.		19											
Micropsectra sp.													
Microtendipes pedellus-gr.	1							13					
Microtendipes rydalensis-gr.													
Nanocladius crassicornus			1										
Nanocladius sp.													
Natarsia sp.												2	

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18072	MDC99209	MDC99216	MDC99218	VAC99309	VAC99312	VAC99308	VAC99314	NCC99404	NCC99406	MDC99219	MDC99220	VAC99302
Station	C18072	C99209	C99216	C99218	C99309	C99312	C99308	C99314	C99404	C99406	C99219	C99220	C99302
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	65	65	65
Type	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ
Genus/species													
Nilothauma sp.													
Orthocladiinae sp.													
Orthocladius sp.													
Parachaetocladius sp.													
Parachironomus carinatus							1						1
Parachironomus monochromus													
Paracladopelma undine													
Parakiefferiella sp.		2				2							2
Paralauterborniella sp.													
Paramerina anomala													
Paramerina sp.			1										
Parametriocnemus sp.													
Paraphaenocladius sp.													
Paratanytarsus inopterus													
Paratanytarsus sp.			14										1
Paratendipes sp.							11						
Phaenopsectra		1											
Phaenopsectra punctipes	3		1										
Polypedilum aviceps													
Polypedilum bergi													
Polypedilum convictum													
Polypedilum fallax													
Polypedilum halterale													
Polypedilum illinoense	2		1		36	2	3	2					2
Polypedilum scalaenum		2	1										
Polypedilum sp.	1			6	1								2
Polypedilum tritum							5		1				
Potthastia longimana			1										
Procladius sp.	1		1	1		8							
Psectrocladius sp.													
Psectrotanypus sp.				30									
Pseudorthocladius sp.													
Rheocricotopus pauciseta													
Rheocricotopus robacki													
Rheocricotopus sp.													
Rheosmittia sp.													
Rheotanytarsus sp.		5	5						1				1
Stelechomyia sp.													
Stempellinella sp.									3				
Stenochironomus sp.													
Tanypus neopunctipennis													
Tanypus sp.													
Tanytarsus sp.	6		6	9				5	12				3
Thienemanniella sp.	3	4				2	2						
Tribelos atrum													
Tribelos fuscicorne													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18072	MDC99209	MDC99216	MDC99218	VAC99309	VAC99312	VAC99308	VAC99314	NCC99404	NCC99406	MDC99219	MDC99220	VAC99302
Station	C18072	C99209	C99216	C99218	C99309	C99312	C99308	C99314	C99404	C99406	C99219	C99220	C99302
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	65	65	65
Type	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ
Genus/species													
Tribelos jucundum	3		10	1				3	21				1
Tribelos sp.													1
Tvetenia sp.													
Tvetenia bavarica													
Tvetenia discoloripes													
Unid. Tanypodinae													
Unid. chironomini				1			1						
Unniella sp.													
Xenochironomus xenolabis													
Xylotopus par													
Zalutschia sp.													
Zavrelimyia sp.													
unid. Tanytarsini							18						
Aedes sp.													
Anopheles spp.						9		1					2
Culex sp.													
Unid. Dixidae													
Hemerodromia sp.		3											
Mycetophila sp.													
Unid. Mycetophilidae													
Platypeza sp.		1											
Pericoma sp.						1							
Simulium jenningsi													
Simulium jonesi													
Simulium rivuli													
Simulium spp.		1											
Simulium tuberosum													
Simulium venustum		3				1							
Simulium vittatum													
Calaparyphus sp.						2							
Odontomyia sp.													
Chrysops sp.						1							
Tabanus sp.													
Geranomyia sp.													
Helius sp.													
Hexatoma sp.													
Oromosia sp.													
Pilaria sp.												5	
Pseudolimnophila sp.												1	
Tipula sp.													
Unid. Tipulide													1
Acentrella sp.													
Acerpenna macdunnoughi													
Acerpenna sp.													
Baetis intercalaris													
Baetis sp.													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18072	MDC99209	MDC99216	MDC99218	VAC99309	VAC99312	VAC99308	VAC99314	NCC99404	NCC99406	MDC99219	MDC99220	VAC99302
Station	C18072	C99209	C99216	C99218	C99309	C99312	C99308	C99314	C99404	C99406	C99219	C99220	C99302
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	65	65	65
Type	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ
Genus/species													
Barbaetis cestum													
Callibaetis sp.				2									
Centroptilum sp.													
Labiobaetis frondalis													
Labiobaetis propinquus													
Unid. Baetidae													
Baetisca sp.													
Caenis diminuta									3				
Caenis macafferti													
Caenis punctata	7												
Caenis sp.													
Eurylophella sp.											1		
Serratella deficiens													
Serratella sp.													
Hexagenia limbata													
Hexagenia sp.													
Stenacron sp.													
Stenonema modestum													
Stenonema sp.													
Unid.Heptageniidae													
Paraleptophlebia sp.													1
Siphloplectron sp.													
Isonychia sp.													
Tricorythodes sp.													
Belostoma fluminea	1												
Palmacorixa sp.													4
Sigara sp.	1												
Trichocorixa sp.								1					1
Unid. Corixidae	1			4				2					11
Rheumatobates sp.													1
Trepobates pictus													
Mesovelia sp.													
Pelocoris sp.							1						
Ranatra kirkaldyi													
Notonecta irrorata													
Notonecta uhleri													
Microvelia sp.													
Rhagovelia sp.													
Unid. Lepidoptera													
Paraponyx sp.													
Chauliodes rasticornis							1						
Corydalus cornutus													
Nigronia serricornis													
Sialis sp.	1	2					1						1
Anax sp.				1									
Basiaeschna janata													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18072	MDC99209	MDC99216	MDC99218	VAC99309	VAC99312	VAC99308	VAC99314	NCC99404	NCC99406	MDC99219	MDC99220	VAC99302
Station	C18072	C99209	C99216	C99218	C99309	C99312	C99308	C99314	C99404	C99406	C99219	C99220	C99302
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	65	65	65
Type	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ
Genus/species													
Boyeria vinosa						1							
Nasiaeschna pentacantha							1						
Unid. Aeschnidae													
Calopteryx sp.	6	3	2			1		1				1	
Unid. Calopterygidae		1											
Argia sedula													
Argia sp.	1	1	1										
Argia tibialis													
Argia violacea													
Enallagma antennuatum													
Enallagma sp.	5		5	2				3	1				10
Ischnura sp.	2		1	1	1	5	5	1				1	
Unid. Coenagrionidae	2			4		2							6
Cordulegaster maculata													
Cordulegaster sp.													
Epitheca sp.													
Somatochlora sp.													
unid. Corduliidae													
Gomphus lividus													
Gomphus sp.													
Hagenius brevistyus													
Unid. Gomphidae													
Erythemis simplicicollis													
Libellula sp.													
Pachydiplax longipennis													
Perithemis sp.													
Sympetrum sp.							1						
Unid. Libellulidae													
Didymops transversa													
Macromia sp.													
unid. Macromiidae								1					
Allocapnia sp.													
Unid. Capniidae													
Leuctra sp.													
Acroneuria lycorias													
Acroneuria mela													
Acroneuria sp.													
Agnetina annulipes													
Agnetina sp.													
Unid. Perlidae													
Isoperla sp.													
Unid. Perlodidae													
Taeniopteryx sp.											3		
Brachycentrus numerosus													
Micrasema sp.													
Anisocentropus pyraloides													

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18072	MDC99209	MDC99216	MDC99218	VAC99309	VAC99312	VAC99308	VAC99314	NCC99404	NCC99406	MDC99219	MDC99220	VAC99302
Station	C18072	C99209	C99216	C99218	C99309	C99312	C99308	C99314	C99404	C99406	C99219	C99220	C99302
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	65	65	65
Type	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ
Genus/species													
Heteroplectron americanum													
Phylocentropus sp.													
Cheumatopsyche sp.		25	1			5			1				
Diplectrona modesta													
Hydropsyche betteni													
Hydropsyche sp.	1												
Hydropsyche sparna													
Macrostemum sp.													
Unid. Hydropsychidae		2											
Hydroptila sp.													
Oxythira sp.													
Lepidostoma sp.													
Ceraclea sp.													
Mystacides sp.		4											
Nectopsyche sp.													
Oecetis georgia													
Oecetis inconspicua		2	3						2				
Oecetis persimilis													
Oecetis sp.						2		1					
Triaenodes marginatus													
Triaenodes sp.		5											1
Triaenodes tardus													
Hydatophylax argus													
Pycnopsyche sp.													
Unid. Limnephilidae	1												1
Molanna sp.		1											
Psilotreta frontalis													
Psilotreta sp.													
Chimarra sp.													
Unid. Philopotamidae													
Ptilostomis sp.											1		
Unid. Phrygaenidae													
Neureclipsis sp.													
Nyctiophylax moestus													
Polycentropus sp.						1							
Lype diversa													
Ferrissia sp.	2												
Ferrissia walkeri							7						
Laevapex fuscus									3				
Pseudosuccinea columella	1												
Stagnicola sp.													
Unid. Lymnaeidae													
Physella sp.	7			2	1	6			1			2	3
Gyraulus circumstriatus													
Gyraulus parvus													
Helisoma anceps	2												

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	DEC18072	MDC99209	MDC99216	MDC99218	VAC99309	VAC99312	VAC99308	VAC99314	NCC99404	NCC99406	MDC99219	MDC99220	VAC99302
Station	C18072	C99209	C99216	C99218	C99309	C99312	C99308	C99314	C99404	C99406	C99219	C99220	C99302
BioReg	63 N	63 N	63 N	63 N	63 N	63 N	63 S	63 S	63 S	63 S	65	65	65
Type	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ	WQ
Genus/species													
Menetus dilatatus								1	1				
Unid. Planoribae													
Unid. Limacidae													
Amnicola grana								9	26	28			
Amnicola limosa								7	6	9			
Elimia sp.													
Campeloma decisum													
Corbicula fluminea													
Musculium lacustris							1						
Musculium securis										29			
Musculium sp.							2						
Pisidium casertanum								1	5	8			
Pisidium compressum													1
Pisidium fallax													
Pisidium lillejborgi													
Pisidium punctatum													
Pisidium sp.	3		2					3	4			2	6
Pisidium walkeri													
Sphaerium striatinum													
Unid. Sphaeriidae										21		1	
Quadrula cylindrica													
Prostoma graecense													
Dugesia tigrina													
Total Benthos	97	96	95	100	102	97	99	97	100	100	94	97	103

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	VAC99313	NCC99418
Station	C99313	C99418
BioReg	65	65
Type	WQ	WQ
Genus/species		
Alboglossiphonia heteroclita		
Desserobdella phalera		
Placobdella multilineata		
Placobdella papillifera		
Unid. Glossoscolecidae		
Unid. Lumbricidae		1
Eclipidrilus sp.		
Lumbriculus variegatus		
Unid. Enchytraeidae		
Dero digitata		
Dero spp.		
Haemonais waldvogeli		
Nais variabilis		
Stylaria fossularis		
Stylaria lacustris		
Aulodrilus limnobius		
Aulodrilus pigueti		
Aulodrilus pluriseta		
unid. Tubificidae	4	
Isochaetides curvisetosus		
Limnodrilus hoffmeisteri		
Limnodrilus udekemianus		
Quistadrilus multisetosus		
Spirosperma carolinensis		
Spirosperma ferox		
Unid. Acariformes		
Lebertia sp.		
Piona sp.		
Crangonyx serratus		
Crangonyx sp.		1
Gammarus fasciatus		
Synurella chamberlaini		
Hyalella azteca		
Orconectes limosus		
Procambarus acutus		
Unid. Cambaridae		
Palaemonetes paludosus		
Palaemontes kadiakensis		
Caecidotea sp.		
Caecidotea attenuatus		
Caecidotea communis		
Caecidotea forbesi		
Caecidotea racovitzai		
Lirceus sp.		
Oniscus asellus		
unid. Carabidae		

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	VAC99313	NCC99418
Station	C99313	C99418
BioReg	65	65
Type	WQ	WQ
Genus/species		
Helichus sp.		
Agabus sp.	2	
Celina sp.		
Copelatus sp.		
Hydroporus sp.		
Ilybius sp.		
Laccophilus sp.		
Ancyronyx variegata		1
Dubiraphia sp.		
Macronychus glabratus		
Microcylloepus pusillus		
Optioservus fastiditus		
Optioservus sp.		
Oulimnius latiusculus		
Promoresia sp.		
Promoresia tardella		
Stenelmis		
Stenelmis antennalis		
Stenelmis crenata		
Stenelmis decorata		
Stenelmis humerosus		
Stenelmis markeli		
Dineutus discolor		
Dineutus nigrior		
Dineutus sp.		
Gyrinus aeneolus		
Gyrinus sp.		
Haliplus fasciatus		
Peltodytes duodecimpunctatus		
Peltodytes lengi		
Peltodytes sexmaculata		
Peltodytes sp.		
Sperchopsis sp.		
Tropisternus sp.		
Ectopria sp.		
Anchytarsus bicolor		
Ptilodactyla sp.		
Cyphon sp.		
Unid. Collembola spp.		
Unid. (Muscomorpha)		
Atherix sp.		
Bezzia sp.		
Ceratopogon sp.	1	
Culicoides sp.		
Dashyhelea sp.		
Probezzia sp.		

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	VAC99313	NCC99418
Station	C99313	C99418
BioReg	65	65
Type	WQ	WQ
Genus/species		
Serromyia sp.		
Ablabesmyia janta		
Ablabesmyia mallochi		
Ablabesmyia peleensis		
Ablabesmyia sp.		
Apectrotanypus johnsoni		
Brillia flavifrons		
Brillia sp.		
Chironomus sp.	18	
Cladopelma sp.		
Cladotanytarsus sp.		
Clinotanypus sp.		6
Conchapelopia sp.	1	
Corynoneura sp.		
Cricotopus bicinctus		1
Cricotopus sp.		
Cricotopus tremulus		
Cryptochironomus sp.		1
Cryptotendipes sp.		
Demicryptochironomus sp.		
Dicrotendipes modestus		
Dicrotendipes nervosus		
Dicrotendipes simpsoni		
Dicrotendipes sp.		
Diplocladius cultriger		1
Djalmabatista pulcher		
Endochironomus sp.		
Glyptotendipes barbipes		
Glyptotendipes sp.		
Goeldichironomus sp.	1	
Goeldichironomus holopracinus	69	
Gymnometriocnemus sp.		
Helopelopia sp.		
Hydrobaenus sp.		1
Kiefferulus sp.		
Labrundinia neopilosella		
Labrundinia pilosella		
Larsia sp.		
Limnophyes sp.		
Meropelopia sp.		
Micropsectra sp.		
Microtendipes pedellus-gr.		
Microtendipes rydalensis-gr.		
Nanocladius crassicornus		1
Nanocladius sp.		
Natarsia sp.		

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	VAC99313	NCC99418
Station	C99313	C99418
BioReg	65	65
Type	WQ	WQ
Genus/species		
Nilothauma sp.		
Orthocladiinae sp.		
Orthocladius sp.		
Parachaetocladius sp.		
Parachironomus carinatus		
Parachironomus monochromus		
Paracladopelma undine		
Parakiefferiella sp.		
Paralauterborniella sp.		
Paramerina anomala		
Paramerina sp.		
Parametriocnemus sp.		
Paraphaenocladius sp.		
Paratanytarsus inopterus		
Paratanytarsus sp.		
Paratendipes sp.		
Phaenopsectra		
Phaenopsectra punctipes		
Polypedilum aviceps		
Polypedilum bergi		
Polypedilum convictum		1
Polypedilum fallax		
Polypedilum halterale		
Polypedilum illinoense		
Polypedilum scalaenum		
Polypedilum sp.		
Polypedilum tritum		
Potthastia longimana		
Procladius sp.		
Psectrocladius sp.		
Psectrotanypus sp.	2	
Pseudorthocladius sp.		
Rheocricotopus pauciseta		
Rheocricotopus robacki		8
Rheocricotopus sp.		
Rheosmittia sp.		
Rheotanytarsus sp.		
Stelechomyia sp.		
Stempellinella sp.		
Stenochironomus sp.		
Tanypus neopunctipennis		
Tanypus sp.		
Tanytarsus sp.		1
Thienemanniella sp.		
Tribelos atrum		
Tribelos fuscicorne		

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	VAC99313	NCC99418
Station	C99313	C99418
BioReg	65	65
Type	WQ	WQ
Genus/species		
Tribelos jucundum		1
Tribelos sp.		
Tvetenia sp.		
Tvetenia bavarica		
Tvetenia discoloripes		
Unid. Tanypodinae		
Unid. chironomini		
Unniella sp.		
Xenochironomus xenolabis		
Xylotopus par		
Zalutschia sp.		
Zavrelimyia sp.		
unid. Tanytarsini		
Aedes sp.		
Anopheles spp.		
Culex sp.		
Unid. Dixidae		
Hemerodromia sp.		
Mycetophila sp.		
Unid. Mycetophilidae		
Platypeza sp.		
Pericoma sp.		
Simulium jenningsi		
Simulium jonesi		
Simulium rivuli		
Simulium spp.		
Simulium tuberosum		
Simulium venustum		
Simulium vittatum		1
Calaparyphus sp.		
Odontomyia sp.		
Chrysops sp.		
Tabanus sp.		
Geranomyia sp.		
Helius sp.		
Hexatoma sp.		
Oromosia sp.		
Pilaria sp.		
Pseudolimnophila sp.		
Tipula sp.		
Unid. Tipulide		
Acentrella sp.		
Acerpenna macdunnoughi		
Acerpenna sp.		
Baetis intercalaris		
Baetis sp.		

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	VAC99313	NCC99418
Station	C99313	C99418
BioReg	65	65
Type	WQ	WQ
Genus/species		
Barbaetis cestum		
Callibaetis sp.		
Centroptilum sp.		
Labiobaetis frondalis		
Labiobaetis propinquus		1
Unid. Baetidae		
Baetisca sp.		
Caenis diminuta		
Caenis macafferti		
Caenis punctata		
Caenis sp.		
Eurylophella sp.		
Serratella deficiens		
Serratella sp.		
Hexagenia limbata		
Hexagenia sp.		
Stenacron sp.		
Stenonema modestum		
Stenonema sp.		
Unid.Heptageniidae		
Paraleptophlebia sp.		1
Siphloplectron sp.		
Isonychia sp.		
Tricorythodes sp.		
Belostoma fluminea		
Palmacorixa sp.		
Sigara sp.		
Trichocorixa sp.		
Unid. Corixidae		
Rheumatobates sp.		
Trepobates pictus		
Mesovelia sp.		
Pelocoris sp.		
Ranatra kirkaldyi		
Notonecta irrorata		
Notonecta uhleri		
Microvelia sp.		
Rhagovelia sp.		
Unid. Lepidoptera		
Paraponyx sp.		
Chauliodes rasticornis	1	
Corydalus cornutus		
Nigronia serricornis		
Sialis sp.		1
Anax sp.		
Basiaeschna janata		

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	VAC99313	NCC99418
Station	C99313	C99418
BioReg	65	65
Type	WQ	WQ
Genus/species		
Boyeria vinosa		
Nasiaeschna pentacantha		
Unid. Aeschnidae		
Calopteryx sp.		1
Unid. Calopterygidae		
Argia sedula		
Argia sp.		
Argia tibialis		
Argia violacea		
Enallagma antennuatum		
Enallagma sp.		3
Ischnura sp.		
Unid. Coenagrionidae		
Cordulegaster maculata		
Cordulegaster sp.		
Epitheca sp.		
Somatochlora sp.		
unid. Corduliidae		
Gomphus lividus		
Gomphus sp.		
Hagenius brevistyus		
Unid. Gomphidae		1
Erythemis simplicicollis		1
Libellula sp.		
Pachydiplax longipennis	1	
Perithemis sp.		
Sympetrum sp.		
Unid. Libellulidae		1
Didymops transversa		1
Macromia sp.		
unid. Macromiidae		
Allocapnia sp.		
Unid. Capniidae		
Leuctra sp.		
Acroneuria lycorias		
Acroneuria mela		
Acroneuria sp.		
Agnetina annulipes		
Agnetina sp.		
Unid. Perlidae		
Isoperla sp.		
Unid. Perlodidae		
Taeniopteryx sp.		
Brachycentrus numerosus		
Micrasema sp.		
Anisocentropus pyraloides		

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	VAC99313	NCC99418
Station	C99313	C99418
BioReg	65	65
Type	WQ	WQ
Genus/species		
Heteroplectron americanum		
Phylocentropus sp.		
Cheumatopsyche sp.		
Diplectrona modesta		
Hydropsyche betteni		
Hydropsyche sp.		
Hydropsyche sparna		
Macrostemum sp.		
Unid. Hydropsychidae		
Hydroptila sp.		
Oxythira sp.		
Lepidostoma sp.		
Ceraclea sp.		
Mystacides sp.		
Nectopsyche sp.		
Oecetis georgia		
Oecetis inconspicua		
Oecetis persimilis		
Oecetis sp.		
Triaenodes marginatus		
Triaenodes sp.		
Triaenodes tardus		
Hydatophylax argus		
Pycnopsyche sp.		
Unid. Limnephilidae		
Molanna sp.		
Psilotreta frontalis		
Psilotreta sp.		
Chimarra sp.		
Unid. Philopotamidae		
Ptilostomis sp.		
Unid. Phrygaenidae		
Neureclipsis sp.		
Nyctiophylax moestus		
Polycentropus sp.		
Lype diversa		
Ferrissia sp.		
Ferrissia walkeri		
Laevapex fuscus		
Pseudosuccinea columella		
Stagnicola sp.		
Unid. Lymnaeidae		
Physella sp.		
Gyraulus circumstriatus		
Gyraulus parvus		
Helisoma anceps		

Attachment 6. Taxa Abundance of Benthic Macroinvertebrates, Mid-Atlantic Coastal Streams

Site ID	VAC99313	NCC99418
Station	C99313	C99418
BioReg	65	65
Type	WQ	WQ
Genus/species		
Menetus dilatatus		
Unid. Planoribae		
Unid. Limacidae		
Amnicola grana		10
Amnicola limosa		27
Elimia sp.		
Campeloma decisum		2
Corbicula fluminea		
Musculium lacustris		
Musculium securis		
Musculium sp.		
Pisidium casertanum		1
Pisidium compressum		
Pisidium fallax		
Pisidium lillejborgi		
Pisidium punctatum		
Pisidium sp.		15
Pisidium walkeri		2
Sphaerium striatinum		
Unid. Sphaeriidae		
Quadrula cylindrica		
Prostoma graecense		
Dugesia tigrina		
Total Benthos	100	94

ATTACHMENT 7

Habitat assessment results for sites in the Mid-Atlantic coastal region

A visual-based assessment approach was used to measure habitat quality. A total of seven habitat parameters were used to score each site; channel modification, instream habitat availability, pool depth and variety, bank stability, bank vegetative type, shade, and riparian zone width. Each metric was rated using a numerical scoring system of 0 (poorest) to 20 (best) points. For the bank vegetation and riparian zone metrics, each bank was rated separately (0-10 points) and aggregated to provide a single score for each metric. Habitat scores were determined by summing metric values for each site; total possible points were 140. These results are presented for each site.

Attachment 7. Habitat assessment scores. The best possible score is 20 for each parameter and 140 for the total score

			Habitat assessment							
Status	Bioregion	Site ID	CM	IH	P	BS	BVT	S	RZW	Total
Ref	63 N	NJC99104	18	16	16	15	16	17	18	116
Ref	63 N	NJC99105	17	17	16	15	16	17	18	116
Ref	63 N	NJC99106	16	16	16	15	16	17	18	114
Ref	63 N	NJC99107	15	16	16	16	16	17	18	114
Ref	63 N	NJC99108	16	16	14	16	16	17	18	113
Ref	63 N	NJC99110	16	16	16	14	14	17	14	107
Ref	63 N	NJC99111	15	16	16	17	16	16	18	114
Ref	63 N	NJC99112	18	17	13	20	16	18	20	122
Ref	63 N	NJC99115	18	18	18	13	16	18	18	119
Ref	63 N	NJC99116	17	16	16	17	14	18	18	116
Ref	63 N	DEC12034	17	15	15	11	12	19	20	109
Ref	63 N	DEC13039	17	17	17	20	18	17	20	126
Ref	63 N	DEC13098	19	16	15	18	18	16	18	120
Ref	63 N	DEC14236	17	16	18	13	10	17	20	111
Ref	63 N	DEC15105	18	19	16	18	16	18	20	125
Ref	63 N	DEC21081	19	18	20	20	18	20	20	135
Ref	63 N	DEC22016	17	10	16	20	18	19	20	120
Ref	63 N	DEC24039	16	10	13	20	18	19	20	116
Ref	63 N	DEC24079	12	6	9	20	14	15	20	96
Ref	63 N	DEC26117	19	10	17	20	12	20	20	118
Ref	63 N	MDC99202	10	15	15	18	16	15	20	109
Ref	63 N	MDC99206	5	10	11	20	16	15	18	95
Ref	63 N	MDC99207	19	15	15	18	20	19	20	126
Ref	63 N	MDC99208	18	19	18	18	20	19	11	123
Ref	63 N	MDC99210	16	16	16	12	16	18	18	112
Ref	63 N	MDC99211	16	18	18	18	18	16	16	120
Ref	63 N	MDC99212	16	18	18	18	20	18	12	120
Ref	63 N	MDC99213	18	16	16	20	16	20	18	124
Ref	63 N	MDC99214	5	11	15	12	16	19	20	98
Ref	63 N	MDC99215	13	11	13	16	16	18	13	100
Ref	63 N	VAC99306	17	18	5	16	16	18	18	108
Ref	63 S	VAC99311	17	18	5	19	19	16	11	105
Ref	63 S	NCC99401	20	16	18	20	16	15	20	125
Ref	63 S	NCC99402	18	15	18	18	16	15	20	120
Ref	63 S	NCC99403	7	13	16	12	10	17	20	95
Ref	63 S	NCC99405	20	17	20	11	14	16	19	117
Ref	63 S	NCC99407	17	15	16	20	16	15	20	119
Ref	63 S	NCC99408	11	18	18	20	16	15	20	118
Ref	63 S	NCC99409	14	14	12	20	16	16	18	110
Ref	63 S	NCC99410	17	16	15	18	16	15	20	117
Ref	63 S	SCC99503	20	7	18	20	14	18	20	117
Ref	65	VAC99301	20	17	17	16	19	19	20	128
Ref	65	VAC99303	20	18	6	12	16	18	18	108
Ref	65	VAC99304	19	16	16	10	10	18	20	109
Ref	65	VAC99305	20	18	17	17	10	16	20	118
Ref	65	VAC99310	17	15	17	10	10	17	12	98
Ref	65	SCC99501	20	8	20	18	16	18	19	119
Ref	65	SCC99502	20	9	20	18	14	17	20	118
Ref	65	SCC99504	20	10	18	16	16	19	20	119
Ref	65	SCC99506	19	8	20	16	16	16	20	115
Ref	65	SCC99507	20	9	19	20	14	19	19	120
Ref	65	SCC99508	20	10	18	18	16	19	20	121
Ref	65	SCC99509	13	12	16	18	16	17	20	112
Ref	65	SCC99510	18	16	9	18	14	17	20	112

Attachment 7. Habitat assessment scores. The best possible score is 20 for each parameter and 140 for the total score

			Habitat assessment							
Status	Bioregion	Site ID	CM	IH	P	BS	BVT	S	RZW	Total
Ref	65	SCC99515	20	10	18	16	16	18	18	116
Hab	63 N	NJC99101	6	5	5	6	16	17	18	73
Hab	63 N	NJC99102	7	5	4	6	14	17	10	63
Hab	63 N	NJC99113	4	4	3	15	9	4	12	51
Hab	63 N	NJC99114	7	3	3	6	8	3	4	34
Hab	63 N	NJC99117	4	5	4	13	8	18	4	56
Hab	63 N	NJC99118	4	4	4	6	13	18	10	59
Hab	63 N	DEC13033	2	10	1	18	10	0	0	41
Hab	63 N	DEC14039	8	10	15	18	6	0	4	61
Hab	63 N	DEC16019	6	10	2	16	10	1	2	47
Hab	63 N	DEC16084	1	9	11	18	10	1	2	52
Hab	63 N	DEC18035	0	2	0	12	6	0	0	20
Hab	63 N	DEC18036	2	6	4	14	18	5	0	49
Hab	63 N	DEC18072	8	15	16	20	10	4	9	82
Hab	63 N	DEC19041	3	10	11	12	10	1	0	47
Hab	63 N	DEC23041	1	5	11	10	6	0	0	33
Hab	63 N	DEC28078	3	10	0	18	10	0	0	41
Hab	63 N	MDC99203	6	10	11	12	10	0	4	53
Hab	63 N	MDC99204	0	2	2	16	10	0	2	32
Hab	63 N	MDC99205	6	6	11	18	18	0	2	61
Hab	63 N	MDC99217	6	10	10	12	16	18	9	81
Hab	63 N	VAC99307	11	18	2	12	18	0	0	61
Hab	63 S	VAC99315	3	15	5	5	10	0	0	38
Hab	63 S	NCC99412	6	8	8	18	10	4	7	61
Hab	63 S	NCC99413	7	7	11	16	12	1	10	64
Hab	63 S	NCC99415	8	7	11	14	20	1	4	65
Hab	63 S	NCC99416	7	6	3	20	18	5	2	61
Hab	63 S	NCC99417	3	8	11	14	18	2	8	64
Hab	63 S	SCC99513	4	7	2	16	10	0	0	39
Hab	63 S	SCC99514	2	6	18	10	10	0	4	50
Hab	65	MDC99219	10	15	16	4	16	16	0	77
Hab	65	MDC99220	11	10	6	4	6	16	0	53
Hab	65	NCC99411	4	11	2	15	10	1	3	46
Hab	65	NCC99414	8	16	4	10	18	3	2	61
Hab	65	SCC99511	0	6	2	12	8	3	2	33
WQ	63 N	NJC99103	11	11	11	10	16	18	18	95
WQ	63 N	NJC99109	15	14	13	9	13	17	18	99
WQ	63 N	NJC99119	14	14	16	15	14	18	18	109
WQ	63 N	NJC99120	16	16	16	15	10	16	18	107
WQ	63 N	MDC99201	15	16	12	18	12	16	15	104
WQ	63 N	MDC99209	15	11	11	16	18	16	20	107
WQ	63 N	MDC99216	18	16	19	18	16	18	20	125
WQ	63 N	MDC99218	6	8	6	4	6	2	4	36
WQ	63 N	VAC99309	16	16	5	17	18	16	6	94
WQ	63 N	VAC99312	5	6	5	12	14	15	15	72
WQ	63 S	VAC99308	20	11	12	12	12	15	20	102
WQ	63 S	VAC99314	17	10	17	16	14	17	18	109
WQ	63 S	NCC99404	20	11	10	20	16	16	20	113
WQ	63 S	NCC99406	18	4	12	20	16	18	20	108
WQ	65	VAC99302	18	10	15	16	17	17	19	112
WQ	65	VAC99313	17	15	10	15	17	18	18	110
WQ	65	NCC99418	12	12	15	12	16	16	15	98