Appendix A

Water Quality Data for Interstate Streams Crossing the New York-Pennsylvania and Pennsylvania-Maryland Borders

Table A1. Water Quality Data for New York-Pennsylvania Border Streams

Parameter	Units	APAL 6.9	BNTY 0.9	BNTY 0.9	BNTY 0.9	BNTY 0.9	CASC 1.6	CASC 1.6	CASC 1.6
Date	yyyymmdd	20030813	20030731	20031218	20040318	20040504	20030721	20031217	20040318
Time	hhmm	1420	1045	0930	1420	0940	1225	1030	1010
Discharge	cfs	5.349	12.382	25.548	12.471	16.536	0.632	6.025	3.983
Temperature	degree C	21.9	19.4	2.9	2.8	8.8	21.3	2.4	0.2
Conductance	umhos/cm	104	211	123	131	114	75	44	45
Dissolved Oxygen	mg/l	5.91	7.17	7.82	8.43	8.2	6.92	9.21	8.17
pH		7.1	7.6	6.85	6.65	7.1	7	6.4	6.65
Alkalinity	mg/l	30	38	60	34	36	26	14	8
Acidity	mg/l	2	6	8	4	4	4	4	2
Solids, Total	mg/l	62	120	94	68	92	52	48	192
Solids, Dissolved	mg/l	58	120	NA	NA	NA	52	NA	NA
Ammonia, Total	mg/l	0.02	<0.02	<0.02	0.03	<0.02	0.02	<0.02	0.04
Ammonia, Dissolved	mg/l	<0.02	<0.02	NA	NA	NA	0.02	NA	NA
Nitrite, Total	mg/l	<0.01	<0.01	<0.04	<0.04	<0.04	0.01	<0.04	<0.04
Nitrite, Dissolved	mg/l	<0.01	<0.01	NA	NA	NA	0.01	NA	NA
Nitrate, Total	mg/l	0.22	0.35	0.58	0.62	0.17	<0.04	0.1	0.18
Nitrate, Dissolved	mg/l	0.22	0.37	NA	NA	NA	<0.04	NA	NA
Nitrogen, Total	mg/l	0.40	0.55	0.63	0.79	0.36	0.31	0.16	0.3
Nitrogen Dissolved	mg/l	0.42	0.56	NA	NA	NA	0.35	NA	NA
Phosphorus, Total	mg/l	0.02	<0.01	0.02	<0.01	0.05	0.03	0.02	0.01
Phosphorus, Dissolved	mg/l	0.01	<0.01	NA	NA	NA	0.02	NA	NA
Orthophosphate, Total	mg/l	0.016	0.01	0.03	<0.01	0.047	0.024	0.013	<0.01
Orthophosphate, Dissolved	mg/l	0.012	<0.01	NA	NA	NA	0.018	NA	NA
Organic Carbon, Total	mg/l	2.6	2.6	2.8	2	3.2	3.8	2.1	1.4
Calcium	mg/l	9.18	23.2	12.9	14.4	14.8	8.662	4.444	4.44
Magnesium	mg/l	2.84	4.685	2.88	3.17	2.92	2.611	1.467	1.43
Chloride	mg/l	6.3	13.5	8.48	11.3	6.74	2.8	1.54	1.9
Sulfate	mg/l	<20	<20	10.3	10.8	9.25	<20	8.15	8.29
Turbidity	ntu	2.32	<1	14.35	1.68	5.58	5.75	2.04	2.77
Iron, Total	µg/l	350	<20	398	93	257	1496	207	313
Iron, Dissolved	µg/l	203	<20	NA	NA	NA	1020	NA	NA
Manganese, Total	µg/l	58	<10	<10	<10	<10	211	35	40
Manganese, Dissolved	µg/l	40	<10	NA	NA	NA	172	NA	NA
Aluminum, Total	µg/l	<200	<200	309	<200	<200	<200	<200	<200
Aluminum, Dissolved	µg/l	<200	<200	NA	NA	NA	<200	NA	NA
Suspended Sediment	ppm	NA	NA	11	3	6	NA	2	8

Table A1. Water Quality Data for New York-Pennsylvania Border Streams – Continued

Parameter	Units	CASC 1.6	CAYT 1.7	CAYT 1.7	CAYT 1.7	CAYT 1.7	CHEM 12.0	CHEM 12.0	CHEM 12.0
Date	yyyymmdd	20040503	20030814	20031217	20040217	20040503	20030923	20031217	20040218
Time	hhmm	1050	0845	1450	1435	1440	1140	1530	0830
Discharge	cfs	10.92	98.975	79.59	40.32	NA	2140	4940	NA
Temperature	degree C	10.9	20.5	2.2	0.3	12.1	18	2.4	0.0
Conductance	umhos/cm	38	269	210	398	98	326	214	312
Dissolved Oxygen	mg/l	8.58	6.59	8.07	7.89	8.9	6.67	7.6	7.71
pH		6.4	7.6	7.35	7.4	6.6	7.6	7.25	8
Alkalinity	mg/l	18	76	54	62	38	88	68	70
Acidity	mg/l	4	4	8	10	4	4	6	4
Solids, Total	mg/l	60	162	152	286	138	268	190	198
Solids, Dissolved	mg/l	NA	152	NA	NA	NA	218	NA	NA
Ammonia, Total	mg/l	<0.02	<0.02	0.02	<0.02	<0.02	0.03	0.02	0.05
Ammonia, Dissolved	mg/l	NA	<0.02	NA	NA	NA	0.03	NA	NA
Nitrite, Total	mg/l	<0.04	<0.01	<0.04	<0.04	<0.04	0.03	<0.04	<0.04
Nitrite, Dissolved	mg/l	NA	<0.01	NA	NA	NA	0.01	NA	NA
Nitrate, Total	mg/l	0.09	0.38	0.44	1.11	0.22	0.57	0.89	1.33
Nitrate, Dissolved	mg/l	NA	0.38	NA	NA	NA	0.6	NA	NA
Nitrogen, Total	mg/l	0.44	0.67	0.4	1.23	0.82	0.98	0.93	1.52
Nitrogen Dissolved	mg/l	NA	0.61	NA	NA	NA	1.05	NA	NA
Phosphorus, Total	mg/l	0.44	0.06	0.03	0.13	0.11	0.08	0.04	0.04
Phosphorus, Dissolved	mg/l	NA	0.05	NA	NA	NA	0.04	NA	NA
Orthophosphate, Total	mg/l	0.093	0.043	0.03	0.126	0.029	0.109	0.081	0.027
Orthophosphate, Dissolved	mg/l	NA	0.038	NA	NA	NA	0.029	NA	NA
Organic Carbon, Total	mg/l	5	3.5	2.7	1.7	6.1	4.6	3.2	2.1
Calcium	mg/l	3.85	27.941	20	36.9	10.7	34.9	22	41.9
Magnesium	mg/l	1.23	6.146	4.492	7.11	2.82	7.3	5.058	8.46
Chloride	mg/l	1.29	26.7	28.4	54.2	8.67	31.3	20.9	44.4
Sulfate	mg/l	6.27	<20	11.2	16.3	7.73	20.9	15.2	23.5
Turbidity	ntu	6.3	4	5.34	1.45	68.7	55.3	33.83	1.91
Iron, Total	µg/l	497	192	266	147	3720	2510	1450	113
Iron, Dissolved	µg/l	NA	116	NA	NA	NA	63	NA	NA
Manganese, Total	µg/l	43	14	15	<10	89	63	66	39
Manganese, Dissolved	µg/l	NA	<10	NA	NA	NA	<10	NA	NA
Aluminum, Total	µg/l	262	<200	<200	<200	3150	2140	795	<200
Aluminum, Dissolved	µg/l	NA	<200	NA	NA	NA	<200	NA	NA
Suspended Sediment	ppm	11	NA	8	2	106	NA	28	2

Table A1. Water Quality Data for New York-Pennsylvania Border Streams – Continued

Parameter	Units	CHEM 12.0	CHOC 9.1	COWN 1.0	COWN 1.0	COWN 1.0	COWN 1.0	COWN 2.2	COWN 2.2
Date	yyyymmdd	20040504	20030813	20030923	20031218	20040218	20040504	20031218	20040218
Time	hhmm	0810	1300	1440	1335	1315	1345	1405	1445
Discharge	cfs	NA	70204	0950	531	64	490	531	64
Temperature	degree C	11.6	22.2	19.8	2.5	2.1	11.6	2.3	2.3
Conductance	umhos/cm	182	104	178	133	163	131	126	162
Dissolved Oxygen	mg/l	8.42	7.08	6.83	8.08	7.01	7.27	7.57	7
pH		11.6	7.3	7.2	7	7.6	7.35	7.1	7.65
Alkalinity	mg/l	78	26	52	54	56	48	48	58
Acidity	mg/l	4	2	4	6	4	4	6	4
Solids, Total	mg/l	160	98	126	190	130	114	186	114
Solids, Dissolved	mg/l	NA	98	118	NA	NA	NA	NA	NA
Ammonia, Total	mg/l	<0.02	0.02	0.05	0.04	0.06	<0.02	0.04	0.06
Ammonia, Dissolved	mg/l	NA	<0.02	0.05	NA	NA	NA	NA	NA
Nitrite, Total	mg/l	<0.04	<0.01	0.02	<0.04	<0.04	<0.04	<0.04	<0.04
Nitrite, Dissolved	mg/l	NA	<0.01	0.01	NA	NA	NA	NA	NA
Nitrate, Total	mg/l	0.44	0.2	0.32	0.58	0.8	0.53	0.58	0.82
Nitrate, Dissolved	mg/l	NA	0.2	0.32	NA	NA	NA	NA	NA
Nitrogen, Total	mg/l	0.93	0.4	0.70	0.75	1.13	0.75	0.72	1.16
Nitrogen Dissolved	mg/l	NA	0.4	0.74	NA	NA	NA	NA	NA
Phosphorus, Total	mg/l	0.1	0.02	0.03	0.11	0.04	0.07	0.12	0.04
Phosphorus, Dissolved	mg/l	NA	0.01	0.02	NA	NA	NA	NA	NA
Orthophosphate, Total	mg/l	0.09	0.014	0.026	0.261	0.049	0.067	0.256	0.051
Orthophosphate, Dissolved	mg/l	NA	0.01	0.01	NA	NA	NA	NA	NA
Organic Carbon, Total	mg/l	3.9	2.6	5.3	4	3	3.2	3.8	3
Calcium	mg/l	21.4	8.76	20.1	15.2	18.1	16.3	15.3	18.2
Magnesium	mg/l	4.62	2.9	3.92	4.1	3.91	3.32	4.27	3.86
Chloride	mg/l	17.2	9.2	9.3	7.64	10.4	8.12	7.61	10.4
Sulfate	mg/l	16.4	23.9	<20	10.8	13.6	11.8	10.8	13.8
Turbidity	ntu	25.08	1.74	9	142.95	14.64	10.69	141.8	15.09
Iron, Total	µg/l	1650	134	427	5340	655	429	5340	611
Iron, Dissolved	µg/l	NA	55	72	NA	NA	NA	NA	NA
Manganese, Total	µg/l	118	22	87	113	59	68	114	56
Manganese, Dissolved	µg/l	NA	16	11	NA	NA	NA	NA	NA
Aluminum, Total	µg/l	1190	<200	328	6700	606	392	6760	578
Aluminum, Dissolved	µg/l	NA	<200	<200	NA	NA	NA	NA	NA
Suspended Sediment	ppm	45	NA	NA	77	8	9	80	9

Table A1. Water Quality Data for New York-Pennsylvania Border Streams – Continued

Parameter	Units	COWN 2.2	HLDN 3.5	LSNK 7.6	LSNK 7.6	LSNK 7.6	LSNK 7.6	NFCR 7.6	SEEL 10.3
Date	yyyymmdd	20040505	20030730	20030813	20031217	20040318	20040503	20030730	20030731
Time	hhmm	0830	1420	1145	1225	1245	1325	1115	0800
Discharge	cfs	414	1.634	1.956	14.167	4.239	11.527	4.178	32.169
Temperature	degree C	11.3	21.9	22.3	0.6	0.3	10.8	16.3	16.4
Conductance	umhos/cm	127	214	148	102	103	89	160	250
Dissolved Oxygen	mg/l	7.01	5.9	5.52	9.33	8.35	8.59	7.26	7.27
pH		7.3	7.6	7.5	6.7	6.7	6.5	7.1	7.05
Alkalinity	mg/l	56	78	22	14	16	12	34	84
Acidity	mg/l	4	4	2	4	4	4	4	16
Solids, Total	mg/l	120	138	110	54	54	110	146	182
Solids, Dissolved	mg/l	NA	138	102	NA	NA	NA	146	182
Ammonia, Total	mg/l	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02
Ammonia, Dissolved	mg/l	NA	<0.02	<0.02	NA	NA	NA	<0.02	<0.02
Nitrite, Total	mg/l	<0.04	0.01	<0.01	<0.04	<0.04	<0.04	0.01	<0.01
Nitrite, Dissolved	mg/l	NA	0.01	<0.01	NA	NA	NA	0.01	<0.01
Nitrate, Total	mg/l	0.55	<0.04	0.06	0.14	0.22	0.09	3.06	0.33
Nitrate, Dissolved	mg/l	NA	<0.04	0.05	NA	NA	NA	3.08	0.33
Nitrogen, Total	mg/l	0.73	0.80	0.28	0.18	0.4	0.510	3.46	0.46
Nitrogen Dissolved	mg/l	NA	0.30	0.25	NA	NA	NA	3.43	0.44
Phosphorus, Total	mg/l	0.06	0.03	0.03	0.02	0.02	0.03	0.08	0.01
Phosphorus, Dissolved	mg/l	NA	0.02	0.02	NA	NA	NA	0.06	<0.01
Orthophosphate, Total	mg/l	0.057	0.019	0.022	0.013	0.011	0.036	0.065	<0.01
Orthophosphate, Dissolved	mg/l	NA	0.014	0.016	NA	NA	NA	0.048	<0.01
Organic Carbon, Total	mg/l	3.1	4.8	4	2.5	1.9	4.9	4.7	3.1
Calcium	mg/l	16.3	24.3	11.528	7.185	7.85	6.45	16	29.9
Magnesium	mg/l	3.41	5.19	3.255	20.22	2.11	1.84	4.75	5.499
Chloride	mg/l	7.99	14.2	20.1	13.6	17	12.5	9.8	15.4
Sulfate	mg/l	11.6	<20	25.2	8.26	7.87	7.17	21.4	20.9
Turbidity	ntu	10.73	3.2	4.53	2.22	2.6	16.05	4.93	<1
Iron, Total	µg/l	353	227	1067	163	189	846	430	24
Iron, Dissolved	µg/l	NA	40	722	NA	NA	NA	67	<20
Manganese, Total	µg/l	70	16	58	28	31	51	42	<10
Manganese, Dissolved	µg/l	NA	<10	28	NA	NA	NA	<10	<10
Aluminum, Total	µg/l	290	<200	<200	<200	<200	512	<200	<200
Aluminum, Dissolved	µg/l	NA	<200	<200	NA	NA	NA	<200	<200
Suspended Sediment	ppm	7	NA	NA	5	3	14	NA	NA

Table A1. Water Quality Data for New York-Pennsylvania Border Streams – Continued

Parameter	Units	SEEL 10.3	SEEL 10.3	SEEL 10.3	SNAK 2.3	SOUT 7.8	SUSQ 289.1	SUSQ 289.1
Date	yyyymmdd	20031218	20040218	20040504	20030813	20030731	20030923	20031217
Time	hhmm	1115	1105	1055	1030	0910	1010	1335
Discharge	cfs	39.116	16.278	25.91	26.684	4.576	3730	16300
Temperature	degree C	2	0.3	9.2	21.4	20.1	18.9	0.8
Conductance	umhos/cm	160	239	146	116	178	239	166
Dissolved Oxygen	mg/l	8.75	8.02	8.67	6.93	6.73	7.28	9.11
pH		7.1	7.4	7.3	7.4	6.8	7.7	7
Alkalinity	mg/l	64	70	100	32	52	64	46
Acidity	mg/l	10	10	6	2	8	2	6
Solids, Total	mg/l	108	160	102	98	138	188	134
Solids, Dissolved	mg/l	NA	NA	NA	96	136	136	NA
Ammonia, Total	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.03
Ammonia, Dissolved	mg/l	NA	NA	NA	<0.02	<0.02	0.03	NA
Nitrite, Total	mg/l	<0.04	<0.04	<0.04	<0.01	<0.01	0.01	<0.04
Nitrite, Dissolved	mg/l	NA	NA	NA	<0.01	<0.01	<0.01	NA
Nitrate, Total	mg/l	0.6	0.64	0.33	0.28	0.11	0.6	0.74
Nitrate, Dissolved	mg/l	NA	NA	NA	0.18	0.11	0.58	NA
Nitrogen, Total	mg/l	0.55	0.73	0.53	0.50	0.37	0.98	0.8
Nitrogen Dissolved	mg/l	NA	NA	NA	0.52	0.66	0.98	NA
Phosphorus, Total	mg/l	0.02	0.02	0.07	0.16	0.03	0.06	0.03
Phosphorus, Dissolved	mg/l	NA	NA	NA	0.14	0.02	0.03	NA
Orthophosphate, Total	mg/l	0.022	<0.01	0.076	0.142	0.027	0.043	0.027
Orthophosphate, Dissolved	mg/l	NA	NA	NA	0.129	0.012	0.026	NA
Organic Carbon, Total	mg/l	3	1.6	3.6	3.4	4.7	4.2	2.7
Calcium	mg/l	15.8	29.9	19.3	9.724	17.1	25.9	21
Magnesium	mg/l	3.08	4.63	3.14	3.206	3.59	4.24	3.548
Chloride	mg/l	17.4	20.3	12.2	9.6	17	22.5	15.6
Sulfate	mg/l	10.6	13	9.29	29.6	<20	<20	8.8
Turbidity	ntu	8.16	<1	4.62	1.46	5.7	12.51	6
Iron, Total	µg/l	305	25	235	103	720	583	517
Iron, Dissolved	µg/l	NA	NA	NA	57	335	64	NA
Manganese, Total	µg/l	<10	<10	<10	<10	53	44	24
Manganese, Dissolved	µg/l	NA	NA	NA	<10	34	<10	NA
Aluminum, Total	µg/l	229	<200	<200	<200	<200	367	257
Aluminum, Dissolved	µg/l	NA	NA	NA	<200	<200	<200	NA
Suspended Sediment	ppm	9	1	5	NA	NA	NA	12

Table A1. Water Quality Data for New York-Pennsylvania Border Streams – Continued

Parameter	Units	SUSQ 289.1	SUSQ 289.1	SUSQ 340.0	SUSQ 340.0	SUSQ 340.0	SUSQ 340.0	SUSQ 365.0
Date	yyyymmdd	20040217	20040503	20030721	20031217	20040318	20040503	20030721
Time	hhmm	1310	1410	1520	1115	1120	1200	1115
Discharge	cfs	NA	NA	1000	6310	NA	NA	600
Temperature	degree C	0.0	14.8	23.7	0.9	1.1	13.8	23.2
Conductance	umhos/cm	268	113	235	145	167	151	244
Dissolved Oxygen	mg/l	7.99	8.14	6.15	8.18	7.99	7.71	7.41
pH		7.3	7.4	7.6	7.05	7	7.1	7.7
Alkalinity	mg/l	52	42	72	44	48	52	72
Acidity	mg/l	6	2	4	6	4	6	4
Solids, Total	mg/l	228	158	148	120	128	110	140
Solids, Dissolved	mg/l	NA	NA	138	NA	NA	NA	136
Ammonia, Total	mg/l	0.08	0.03	<0.02	<0.02	0.05	<0.02	0.02
Ammonia, Dissolved	mg/l	NA	NA	<0.02	NA	NA	NA	0.02
Nitrite, Total	mg/l	<0.04	<0.04	0.02	<0.04	<0.04	<0.04	0.02
Nitrite, Dissolved	mg/l	NA	NA	0.01	NA	NA	NA	0.02
Nitrate, Total	mg/l	1.34	0.47	0.36	0.6	0.77	0.32	0.46
Nitrate, Dissolved	mg/l	NA	NA	0.36	NA	NA	NA	0.5
Nitrogen, Total	mg/l	1.57	0.93	0.61	0.61	1.05	0.7	0.71
Nitrogen Dissolved	mg/l	NA	NA	0.49	NA	NA	NA	0.72
Phosphorus, Total	mg/l	0.03	0.05	0.03	0.02	0.02	0.03	0.03
Phosphorus, Dissolved	mg/l	NA	NA	<0.01	NA	NA	NA	0.01
Orthophosphate, Total	mg/l	0.028	0.012	0.018	0.022	0.019	0.025	0.016
Orthophosphate, Dissolved	mg/l	NA	NA	<0.01	NA	NA	NA	<0.01
Organic Carbon, Total	mg/l	1.7	3.7	2.6	2.4	2	3.1	2.9
Calcium	mg/l	33.1	21.1	26.4	18	21.1	19.1	28.8
Magnesium	mg/l	5.62	3.48	4.332	2.281	2.61	2.42	4.286
Chloride	mg/l	33.6	17	21	11.6	17.2	15.6	21.3
Sulfate	mg/l	12.9	8.6	<20	8.37	8.96	8.14	20.6
Turbidity	ntu	2.03	28.47	3.86	5.48	7.73	11.97	2.65
Iron, Total	µg/l	219	1420	41	356	477	624	164
Iron, Dissolved	µg/l	NA	NA	42	NA	NA	NA	43
Manganese, Total	µg/l	18	59	15	23	26	45	40
Manganese, Dissolved	µg/l	NA	NA	12	NA	NA	NA	14
Aluminum, Total	µg/l	<200	1020	<200	<200	263	373	<200
Aluminum, Dissolved	µg/l	NA	NA	<200	NA	NA	NA	<200
Suspended Sediment	ppm	27	43	NA	10	12	16	NA

Table A1. Water Quality Data for New York-Pennsylvania Border Streams – Continued

Parameter	Units	SUSQ 365.0	SUSQ 365.0	SUSQ 365.0	TIOG 10.8	TIOG 10.8	TIOG 10.8	TIOG 10.8	TRUP 4.5
Date	yyyymmdd	20031217	20040217	20040503	20030923	20031218	20040218	20040504	20030730
Time	hhmm	0930	0940	0950	1330	1305	1240	1225	1245
Discharge	cfs	5580	NA	NA	3608	1596	NA	NA	34.649
Temperature	degree C	1.3	0.1	13.3	19.3	2.3	0.3	11.7	21.2
Conductance	umhos/cm	155	229	159	178	126	186	129	222
Dissolved Oxygen	mg/l	9.73	7.83	8.8	6.87	7.36	7.94	7.97	6.14
pH		7	7.2	7	7.15	6.7	7.3	6.8	7.7
Alkalinity	mg/l	52	38	46	52	30	42	28	74
Acidity	mg/l	8	6	8	2	8	6	6	6
Solids, Total	mg/l	118	176	154	164	148	164	102	182
Solids, Dissolved	mg/l	NA	NA	NA	144	NA	NA	NA	150
Ammonia, Total	mg/l	0.02	0.02	<0.02	0.04	0.03	0.06	<0.02	<0.02
Ammonia, Dissolved	mg/l	NA	NA	NA	0.04	NA	NA	NA	<0.02
Nitrite, Total	mg/l	<0.04	<0.04	<0.04	0.01	<0.04	<0.04	<0.04	0.01
Nitrite, Dissolved	mg/l	NA	NA	NA	0.01	NA	NA	NA	0.01
Nitrate, Total	mg/l	0.66	1.06	0.37	0.35	0.59	0.8	0.39	0.85
Nitrate, Dissolved	mg/l	NA	NA	NA	0.35	NA	NA	NA	0.83
Nitrogen, Total	mg/l	0.7	1.22	0.7	0.72	0.68	1.03	0.62	1.23
Nitrogen Dissolved	mg/l	NA	NA	NA	0.76	NA	NA	NA	1.08
Phosphorus, Total	mg/l	0.03	0.02	0.02	0.04	0.07	0.02	0.06	0.05
Phosphorus, Dissolved	mg/l	NA	NA	NA	0.02	NA	NA	NA	0.02
Orthophosphate, Total	mg/l	0.022	0.016	0.021	0.034	0.155	0.021	0.058	0.161
Orthophosphate, Dissolved	mg/l	NA	NA	NA	0.012	NA	NA	NA	0.015
Organic Carbon, Total	mg/l	2.6	1.7	3.4	5.2	3.4	1.9	2.9	3.9
Calcium	mg/l	19	28.7	20.3	19.5	13.7	20.8	15.7	25.4
Magnesium	mg/l	2.35	3.51	2.47	4.04	3.6	5.16	3.38	5.17
Chloride	mg/l	11.4	22.3	16.7	9.2	7.09	10.4	7.01	13.5
Sulfate	mg/l	8.47	10.7	7.97	<20	16.4	35.8	20.8	<20
Turbidity	ntu	4.79	1.56	10.87	14.39	81.68	6.14	13.28	87
Iron, Total	µg/l	307	219	647	723	3380	274	443	1320
Iron, Dissolved	µg/l	NA	NA	NA	76	NA	NA	NA	21
Manganese, Total	µg/l	22	19	45	148	208	446	263	31
Manganese, Dissolved	µg/l	NA	NA	NA	17	NA	NA	NA	<10
Aluminum, Total	µg/l	<200	<200	375	500	3920	223	375	1350
Aluminum, Dissolved	µg/l	NA	NA	NA	<200	NA	NA	NA	<200
Suspended Sediment	ppm	13	8	19	NA	51	3	20	NA

Table A1. Water Quality Data for New York-Pennsylvania Border Streams – Continued

Parameter	Units	TRUP 4.5	TRUP 4.5	TRUP 4.5	TROW 1.8	WAPP 2.6
Date	yyyymmdd	20031218	20040318	20040505	20030721	20030721
Time	hhmm	1515	1630	1035	1335	1245
Discharge	cfs	29.276	16.476	21.82	0.841	11.242
Temperature	degree C	0.6	3.7	9.1	20	22.4
Conductance	umhos/cm	162	174	169	84	121
Dissolved Oxygen	mg/l	8.33	7.4	8.19	6.86	6.52
pH		6.4	7.3	7.8	7	7.8
Alkalinity	mg/l	82	48	72	16	30
Acidity	mg/l	12	2	8	4	2
Solids, Total	mg/l	168	154	146	60	52
Solids, Dissolved	mg/l	NA	NA	NA	58	52
Ammonia, Total	mg/l	<0.02	0.02	<0.02	<0.02	<0.02
Ammonia, Dissolved	mg/l	NA	NA	NA	<0.02	<0.02
Nitrite, Total	mg/l	<0.04	<0.04	<0.04	0.01	<0.01
Nitrite, Dissolved	mg/l	NA	NA	NA	<0.01	<0.01
Nitrate, Total	mg/l	0.62	0.72	0.16	0.11	0.63
Nitrate, Dissolved	mg/l	NA	NA	NA	0.12	0.63
Nitrogen, Total	mg/l	0.64	1.44	0.27	0.19	0.8
Nitrogen Dissolved	mg/l	NA	NA	NA	0.19	0.8
Phosphorus, Total	mg/l	0.05	0.02	0.045	0.013	0.012
Phosphorus, Dissolved	mg/l	NA	NA	NA	<0.01	0.011
Orthophosphate, Total	mg/l	0.099	0.057	0.048	<0.01	<0.01
Orthophosphate, Dissolved	mg/l	NA	NA	NA	<0.01	<0.01
Organic Carbon, Total	mg/l	2.8	2.1	3.2	2	2.2
Calcium	mg/l	17.8	19.1	23	6.948	9.776
Magnesium	mg/l	4.52	4.49	4.61	2.442	3.478
Chloride	mg/l	13.2	16.8	10.1	6	8.2
Sulfate	mg/l	12.2	12.5	10.6	<20	<20
Turbidity	ntu	71.92	31.71	10.07	<1	<1
Iron, Total	µg/l	2690	1380	335	46	39
Iron, Dissolved	µg/l	NA	NA	NA	<20	<20
Manganese, Total	µg/l	48	21	11	<10	<10
Manganese, Dissolved	µg/l	NA	NA	NA	<10	<10
Aluminum, Total	µg/l	1490	1210	201	<200	<200
Aluminum, Dissolved	µg/l	NA	NA	NA	<200	<200
Suspended Sediment	ppm	48	26	10	NA	NA

Table A2. Water Quality Data for Pennsylvania-Maryland Border Streams

Parameter	Units	BBDC 4.1	CNWG 4.4	CNWG 4.4	CNWG 4.4	CNWG 4.4	DEER 44.2	DEER 44.2	DEER 44.2
Date	yyyymmdd	20030728	20030729	20031107	20040211	20040506	20030728	20031106	20040210
Time	hhmm	1400	1340	1000	0845	1015	1130	0950	1050
Discharge	cfs	2.637	30.788	77.74	33.81	33.92	16.742	32.737	20.584
Temperature	degree C	18.2	23.3	15.6	1.4	11.8	20.9	14.6	3.8
Conductance	umhos/cm	140	245	232	189	227	222	214	216
Dissolved Oxygen	mg/l	7.47	7.34	6.53	8.17	8.81	6.95	6.56	7.67
pH		6.9	7.6	6.8	6.85	609	7.3	7.3	6.9
Alkalinity	mg/l	16	32	38	36	26	34	36	24
Acidity	mg/l	4	2	18	4	2	2	8	4
Solids, Total	mg/l	124	202	276	206	218	154	120	162
Solids, Dissolved	mg/l	120	196	NA	NA	NA	154	NA	NA
Ammonia, Total	mg/l	<0.02	<0.02	0.36	1.63	0.04	<0.02	<0.02	0.03
Ammonia, Dissolved	mg/l	<0.02	<0.02	NA	NA	NA	<0.02	NA	NA
Nitrite, Total	mg/l	<0.01	0.05	0.07	0.04	0.05	<0.01	<0.04	<0.04
Nitrite, Dissolved	mg/l	<0.01	0.06	NA	NA	NA	<0.01	NA	NA
Nitrate, Total	mg/l	5.66	9.84	8.12	4.66	10.6	5.49	5.36	5.46
Nitrate, Dissolved	mg/l	5.6	9.77	NA	NA	NA	5.33	NA	NA
Nitrogen, Total	mg/l	6.15	10.63	9.84	7.9	10.82	5.69	5.73	5.68
Nitrogen Dissolved	mg/l	6.06	10.54	NA	NA	NA	5.72	NA	NA
Phosphorus, Total	mg/l	0.017	0.043	0.631	0.904	0.19	0.013	0.011	0.02
Phosphorus, Dissolved	mg/l	0.011	0.034	NA	NA	NA	0.011	NA	NA
Orthophosphate, Total	mg/l	0.01	0.032	0.369	0.729	0.148	0.014	<0.01	0.019
Orthophosphate, Dissolved	mg/l	<0.01	0.024	NA	NA	NA	<0.01	NA	NA
Organic Carbon, Total	mg/l	1.2	2	9.7	14.4	2	1.5	1.8	1.3
Calcium	mg/l	9.5	18	15.6	11.1	19.2	17.9	17.4	15.9
Magnesium	mg/l	5.55	10.4	9.2	6.8	10.4	6.35	5.98	5.41
Chloride	mg/l	13.2	19.8	17.9	13.7	19	26.8	24.4	33.4
Sulfate	mg/l	<20	<20	<20	9.59	13.8	<20	6.19	6.4
Turbidity	ntu	2.91	5.4	204.3	62.54	6.6	1.06	1.31	4.11
Iron, Total	µg/l	342	253	6530	2950	271	93	112	348
Iron, Dissolved	µg/l	37	40	NA	NA	NA	48	NA	NA
Manganese, Total	µg/l	30	19	122	103	42	17	18	39
Manganese, Dissolved	µg/l	<10	10	NA	NA	NA	13	NA	NA
Aluminum, Total	µg/l	<200	<200	6040	2090	<200	<200	<200	<200
Aluminum, Dissolved	µg/l	<200	<200	NA	NA	NA	<200	NA	NA
Suspended Sediment	ppm	NA	NA	102	59	11	NA	4	11

Table A2. Water Quality Data for Pennsylvania-Maryland Border Streams – Continued

Parameter	Units	DEER 44.2	EBAU 1.5	EBAU 1.5	EBAU 1.5	EBAU 1.5	FBDC 4.1	LNGA 2.5	LNGA 2.5
Date	yyyymmdd	20040427	20030728	20031106	20040210	20040427	20030729	20030728	20031106
Time	hhmm	1100	1230	1100	1200	1220	0930	0845	0815
Discharge	cfs	24.59	10.535	11.972	21.104	13.617	1.462	2.01	3.025
Temperature	degree C	11.5	20.4	14.3	4.5	11.4	17.5	18.9	14.6
Conductance	umhos/cm	198	188	191	196	182	120	188	194
Dissolved Oxygen	mg/l	7.64	6.45	6.59	8.04	8.37	7.46	7.04	6.34
pH		7.2	7.2	7.1	6.9	7.35	6.7	6.7	7
Alkalinity	mg/l	38	32	28	24	34	16	28	32
Acidity	mg/l	2	4	6	4	2	4	6	12
Solids, Total	mg/l	84	130	136	152	152	122	150	150
Solids, Dissolved	mg/l	NA	130	NA	NA	NA	120	138	NA
Ammonia, Total	mg/l	0.03	<0.02	0.03	0.02	0.37	<0.02	0.03	0.04
Ammonia, Dissolved	mg/l	NA	<0.02	NA	NA	NA	0.04	0.03	NA
Nitrite, Total	mg/l	<0.04	0.01	0.07	<0.04	0.17	0.03	<0.01	<0.04
Nitrite, Dissolved	mg/l	NA	0.01	NA	NA	NA	0.03	<0.01	NA
Nitrate, Total	mg/l	4.48	5.66	6.04	5.91	4.67	4.53	5.55	6.48
Nitrate, Dissolved	mg/l	NA	5.64	NA	NA	NA	4.53	5.76	NA
Nitrogen, Total	mg/l	4.89	5.98	6.1	6.27	5.54	6.08	6.38	6.94
Nitrogen Dissolved	mg/l	NA	5.96	NA	NA	NA	5.28	6.39	NA
Phosphorus, Total	mg/l	0.116	0.037	0.013	0.035	0.186	0.011	0.037	0.022
Phosphorus, Dissolved	mg/l	NA	0.026	NA	NA	NA	0.011	0.013	NA
Orthophosphate, Total	mg/l	0.092	0.023	0.01	0.027	0.153	0.011	0.035	0.014
Orthophosphate, Dissolved	mg/l	NA	0.026	NA	NA	NA	0.011	0.011	NA
Organic Carbon, Total	mg/l	2.2	1.6	1.6	1.6	2.6	1.6	2.2	2.3
Calcium	mg/l	16.5	14.1	14.9	14.5	14.4	7.88	16.2	16.5
Magnesium	mg/l	5.641	5.71	5.5	5.11	5.224	4.47	5.95	6.11
Chloride	mg/l	26.3	18.9	18.9	26.1	20.7	11.2	17.6	15.8
Sulfate	mg/l	6.98	<20	6.1	6.94	7.28	<20	<20	7.72
Turbidity	ntu	4.07	1.81	1.23	2.99	3.27	2.05	21.88	4.37
Iron, Total	µg/l	286	790	123	313	267	325	796	331
Iron, Dissolved	µg/l	NA	330	NA	NA	NA	157	50	NA
Manganese, Total	µg/l	38	111	35	36	41	50	69	62
Manganese, Dissolved	µg/l	NA	91	NA	NA	NA	39	33	NA
Aluminum, Total	µg/l	<200	<200	<200	<200	<200	<200	519	<200
Aluminum, Dissolved	µg/l	NA	<200	NA	NA	NA	<200	<200	NA
Suspended Sediment	ppm	9	NA	3	9	9	NA	NA	15

Table A2. Water Quality Data for Pennsylvania-Maryland Border Streams – Continued

Parameter	Units	LNGA 2.5	LNGA 2.5	OCTO 6.6	OCTO 6.6	OCTO 6.6	OCTO 6.6	SCTT 3.0	SCTT 3.0
Date	yyyymmdd	20040210	20040427	20030729	20031107	20040211	20040506	20030729	20031106
Time	hhmm	0925	0840	1245	0835	0945	0900	1040	1230
Discharge	cfs	2.342	3.151	117.39	NA	NA	176.49	0.315	1.548
Temperature	degree C	1.7	10.2	25.2	14.8	1.5	14	19.2	15
Conductance	umhos/cm	172	168	248	227	152	227	278	356
Dissolved Oxygen	mg/l	7.93	9.68	6.68	6.83	7.9	8.67	6.49	6.77
pH		6.5	6.85	8	3.95	6.9	7.2	7.4	7.3
Alkalinity	mg/l	22	26	44	40	28	24	60	64
Acidity	mg/l	4	4	2	18	2	4	4	12
Solids, Total	mg/l	154	184	204	188	154	208	196	230
Solids, Dissolved	mg/l	NA	NA	200	NA	NA	NA	190	NA
Ammonia, Total	mg/l	0.08	0.04	<0.02	0.04	1.01	<0.02	<0.02	<0.02
Ammonia, Dissolved	mg/l	NA	NA	<0.02	NA	NA	NA	<0.02	NA
Nitrite, Total	mg/l	<0.04	<0.04	0.05	<0.04	<0.04	0.04	0.03	<0.04
Nitrite, Dissolved	mg/l	NA	NA	0.04	NA	NA	NA	0.03	NA
Nitrate, Total	mg/l	6.28	5.88	6.54	6.63	3.11	7.36	1.19	2.21
Nitrate, Dissolved	mg/l	NA	NA	6.56	NA	NA	NA	1.16	NA
Nitrogen, Total	mg/l	6.61	6.30	7.32	7.38	5.66	7.48	1.37	2.46
Nitrogen Dissolved	mg/l	NA	NA	7.72	NA	NA	NA	1.31	NA
Phosphorus, Total	mg/l	0.032	0.178	0.048	0.199	0.581	0.061	0.037	0.025
Phosphorus, Dissolved	mg/l	NA	NA	0.036	NA	NA	NA	0.038	NA
Orthophosphate, Total	mg/l	0.027	0.153	0.027	0.129	0.454	0.032	0.033	0.018
Orthophosphate, Dissolved	mg/l	NA	NA	0.021	NA	NA	NA	0.029	NA
Organic Carbon, Total	mg/l	1.8	2.6	3	4.6	9.8	2.9	2	3.5
Calcium	mg/l	14.7	14.4	20.5	17.6	9.07	21.3	18.5	24.8
Magnesium	mg/l	5.24	5.224	9.47	8.52	4.6	9.58	12.1	16.7
Chloride	mg/l	18.7	20.7	18.1	14	13	17.5	33.7	44.4
Sulfate	mg/l	7.32	7.28	22.1	16	8.65	19	<20	32
Turbidity	ntu	7.75	3.27	3.34	19.1	34.46	6.24	2.19	1.76
Iron, Total	µg/l	281	267	115	949	1880	130	153	178
Iron, Dissolved	µg/l	NA	NA	20	NA	NA	NA	52	NA
Manganese, Total	µg/l	58	41	23	60	81	54	16	26
Manganese, Dissolved	µg/l	NA	NA	<10	NA	NA	NA	12	NA
Aluminum, Total	µg/l	<200	<200	<200	422	1770	<200	<200	<200
Aluminum, Dissolved	µg/l	NA	NA	<200	NA	NA	NA	<200	NA
Suspended Sediment	ppm	16	9	NA	21	35	11	NA	2

Table A2. Water Quality Data for Pennsylvania-Maryland Border Streams – Continued

Parameter	Units	SCTT 3.0	SCTT 3.0	SBCC 20.4	SUSQ 10.0	SUSQ 10.0	SUSQ 10.0	SUSQ 10.0
Date	yyyymmdd	20040210	20040427	20030728	20030729	20031106	20040211	20040427
Time	hhmm	1350	1350	0940	1130	1320	1030	1445
Discharge	cfs	1.716	1.821	1.653	NA	NA	NA	NA
Temperature	degree C	4.5	12.4	18.6	26.7	14.3	1.3	16.5
Conductance	umhos/cm	337	237	121	293	173	287	198
Dissolved Oxygen	mg/l	7.43	7.52	6.85	5.73	6.65	7.19	5.91
pH		7.2	7.15	7.1	7.5	7.3	7.3	7.5
Alkalinity	mg/l	32	44	36	62	40	54	44
Acidity	mg/l	4	2	4	6	18	4	2
Solids, Total	mg/l	254	178	112	200	188	212	166
Solids, Dissolved	mg/l	NA	NA	108	192	NA	NA	NA
Ammonia, Total	mg/l	0.06	0.07	<0.02	0.05	0.03	0.33	0.04
Ammonia, Dissolved	mg/l	NA	NA	<0.02	0.05	NA	NA	NA
Nitrite, Total	mg/l	<0.04	<0.04	<0.01	0.06	<0.04	<0.04	<0.04
Nitrite, Dissolved	mg/l	NA	NA	<0.01	0.05	NA	NA	NA
Nitrate, Total	mg/l	2.94	2.13	1.79	1.12	1.16	2.15	1.17
Nitrate, Dissolved	mg/l	NA	NA	1.82	1.13	NA	NA	NA
Nitrogen, Total	mg/l	3.32	2.66	1.94	1.6	1.44	3.09	1.7
Nitrogen Dissolved	mg/l	NA	NA	1.86	1.62	NA	NA	NA
Phosphorus, Total	mg/l	0.019	0.08	0.016	0.039	0.033	0.168	0.049
Phosphorus, Dissolved	mg/l	NA	NA	<0.01	0.021	NA	NA	NA
Orthophosphate, Total	mg/l	0.022	0.075	0.013	0.024	0.025	0.14	0.029
Orthophosphate, Dissolved	mg/l	NA	NA	<0.01	0.012	NA	NA	NA
Organic Carbon, Total	mg/l	1.7	3.2	1.4	3.1	3.2	3.9	2.4
Calcium	mg/l	18.3	15	13.1	28.3	17.7	26.4	20
Magnesium	mg/l	12.3	9.82	3.46	8.11	4.57	7.16	5.571
Chloride	mg/l	58	30.7	7.6	22.9	9.83	29.7	14.2
Sulfate	mg/l	26	22.3	<20	38.1	19.6	33.5	26.9
Turbidity	ntu	2.21	4.17	3.58	11.22	10.49	18.31	14.62
Iron, Total	µg/l	192	296	200	365	346	777	336
Iron, Dissolved	µg/l	NA	NA	68	28	NA	NA	NA
Manganese, Total	µg/l	102	66	20	143	68	98	124
Manganese, Dissolved	µg/l	NA	NA	12	20	NA	NA	NA
Aluminum, Total	µg/l	<200	<200	<200	208	<200	606	<200
Aluminum, Dissolved	µg/l	NA	NA	<200	<200	NA	NA	NA
Suspended Sediment	ppm	3	6	NA	NA	10	12	21

Table A2. Water Quality Data for Pennsylvania-Maryland Border Streams – Continued

Parameter	Units	SUSQ 44.5	SUSQ 44.5	SUSQ 44.5	SUSQ 44.5
Date	yyyymmdd	20030929	20031107	20040303	20040506
Time	hhmm	1330	1145	1400	1140
Discharge	cfs	60900	52200	39900	73600
Temperature	degree C	18.3	13.8	2.9	15.4
Conductance	umhos/cm	249	224	300	222
Dissolved Oxygen	mg/l	6.76	6.16	6.16	8.74
pH		7.2	7	7.4	7.2
Alkalinity	mg/l	40	48	66	70
Acidity	mg/l	24	16	4	4
Solids, Total	mg/l	112	174	214	218
Solids, Dissolved	mg/l	112	NA	NA	NA
Ammonia, Total	mg/l	<0.02	0.06	0.1	0.03
Ammonia, Dissolved	mg/l	<0.02	NA	NA	NA
Nitrite, Total	mg/l	<0.01	<0.04	<0.04	<0.04
Nitrite, Dissolved	mg/l	<0.01	NA	NA	NA
Nitrate, Total	mg/l	2.09	2.14	2.32	2.22
Nitrate, Dissolved	mg/l	2.17	NA	NA	NA
Nitrogen, Total	mg/l	2.20	2.5	2.74	2.48
Nitrogen Dissolved	mg/l	2.21	NA	NA	NA
Phosphorus, Total	mg/l	0.052	0.053	0.039	0.19
Phosphorus, Dissolved	mg/l	0.022	NA	NA	NA
Orthophosphate, Total	mg/l	0.024	0.015	0.026	0.129
Orthophosphate, Dissolved	mg/l	0.019	NA	NA	NA
Organic Carbon, Total	mg/l	3.4	3.6	2	3.2
Calcium	mg/l	25.6	22.4	29.6	27.1
Magnesium	mg/l	6.35	6.41	8.38	6.21
Chloride	mg/l	19.1	14.1	30.7	16.1
Sulfate	mg/l	32.9	24.9	38	20.2
Turbidity	ntu	13.48	9.77	5.06	23.09
Iron, Total	µg/l	1000	946	701	412
Iron, Dissolved	µg/l	95	NA	NA	NA
Manganese, Total	µg/l	116	108	129	72
Manganese, Dissolved	µg/l	24	NA	NA	NA
Aluminum, Total	µg/l	438	520	224	341
Aluminum, Dissolved	µg/l	<200	NA	NA	NA
Suspended Sediment	ppm	NA	19	10	37

Table A3. Water Quality Data for Group 3 Streams

Parameter	Units	Babcock Run	Beagle Hollow Run	Bill Hess Creek	Bird Creek	Biscuit Hollow Run	Briggs Hollow Run
Date	yyyymmdd	20040510	20040512	20040512	20040511	20040512	20040510
Time	hhmm	1530	1230	1400	1300	1100	NA
Temperature	degree C	17.5	16.7	18.5	16.3	17.3	18.4
pH		7.25	6.65	7.65	7.05	6.85	7.80
Dissolved Oxygen	mg/l	8.88	7.27	7.49	7.32	6.49	7.32
Conductivity	umhos/cm	102	67	190	100	106	140
Alkalinity	mg/l	30.0	24.0	64.0	28.0	40.0	44.0
Acidity	mg/l	2.0	4.0	4.0	2.0	4.0	4.0

Parameter	Units	Bukley Brook	Camp Brook	Cook Hollow Run	Deep Hollow Brook	Denton Creek	Dry Brook
Date	yyyymmdd	20040512	20040512	20040512	20040510	20040510	20040511
Time	hhmm	1200	1315	1000	1130	1245	1030
Temperature	degree C	19.3	18.1	15.4	12.4	15.8	17.0
pH		6.80	7.55	7.20	6.25	6.35	7.20
Dissolved Oxygen	mg/l	5.77	7.28	9.58	9.12	8.28	7.98
Conductivity	umhos/cm	82	158	144	38	46	113
Alkalinity	mg/l	28.0	52.0	56.0	10.0	8.0	36.0
Acidity	mg/l	4.0	2.0	2.0	4.0	4.0	2.0

Parameter	Units	Little Wappasenning Creek	Parks Creek	Prince Hollow Run	Russell Run	Sackett Creek	Smith Creek
Date	yyyymmdd	20040511	20040511	20040510	20040510	20040511	20040511
Time	hhmm	0745	NA	1445	1630	0840	NA
Temperature	degree C	14.2	14.3	17.8	18.0	14.1	16.6
pH		6.90	6.95	7.70	7.20	7.45	6.80
Dissolved Oxygen	mg/l	7.84	6.22	7.15	8.91	8.03	5.81
Conductivity	umhos/cm	70	78	83	115	93	96
Alkalinity	mg/l	24.0	24.0	18.0	30.0	32.0	30.0
Acidity	mg/l	2.0	4.0	2.0	2.0	2.0	4.0

Table A3. Water Quality Data for Group 3 Streams -- Continued

Parameter	Units	Strait Creek	White Branch Cowanesque River	White Hollow
Date	yyyymmdd	20040511	20040512	20040511
Time	hhmm	1530	NA	1145
Temperature	degree C	16.6	15.0	14.1
pH		7.25	6.90	6.90
Dissolved Oxygen	mg/l	7.44	8.86	8.51
Conductivity	umhos/cm	116	122	85
Alkalinity	mg/l	44.0	28.0	24.0
Acidity	mg/l	4.0	2.0	2.0

APPENDIX B

ORGANIC POLLUTION–TOLERANCE AND FUNCTIONAL FEEDING GROUP DESIGNATIONS OF BENTHIC MACROINVERTEBRATE TAXA

Class: Order	Family	Family/Genus	Organic Pollution Tolerance Value	Functional Feeding Group Designation
Coleoptera	**Dytiscidae**	*Agabus*	*5*	*P*
	Elmidae	*Optioservus*	*4*	*SC*
		Oulimnius	*5*	*SC*
		Promoresia	*2*	*SC*
		Stenelmis	*5*	*SC*
	Gyrinidae	*Dinetus*	*4*	*P*
	Hydrophilidae	*Berosus*	*5*	*CG*
		Enochrus	*9*	*CG*
	Psephenidae	*Ectopria*	*5*	*SC*
		Psephenus	*4*	*SC*
	Ptilodactylidae	*Anchytarsus*	*5*	*SH*
Diptera	**Athericidae**	*Atherix*	*2*	*P*
	Ceratopogonidae	*Bezzia*	*6*	*P*
		Stilobezzia	*6*	*P*
	Chironomidae		*6*	*CG*
	Empididae	*Chelifera*	*6*	*P*
		Clinocera	*6*	*P*
		Hemerodromia	*6*	*P*
	Similiidae	*Prosimulium*	*2*	*FC*
	Simulidae	*Simulium*	*6*	*FC*
	Tipulidae	*Antocha*	*3*	*CG*
		Dicranota	*3*	*P*
		Hexatoma	*2*	*P*
		Pseudolimnophila	*2*	*P*
		Tipula	*4*	*SH*
Ephemeroptera	**Ameletidae**	*Ameletus*	*0*	*CG*
	Baetidae	*Acentrella*	*4*	*CG*
		Baetis	*6*	*CG*
		Centroptilum	*2*	*CG*
	Caenidae	*Caenis*	*7*	*CG*
	Ephemerellidae	*Attenella*	*2*	*CG*
		Drunella	*1*	*SC*
		Ephemerella	*1*	*SC*
		Serratella	*2*	*CG*
	Ephemeridae	*Ephemera*	*3*	*CG*
		Litobrancha	*5*	*CG*
	Heptagenidae	*Cinygmula*	*1*	*SC*
		Epeorus	*0*	*CG*
		Heptagenia	*4*	*SC*
		Leucrocuta	*1*	*SC*
		Stenacron	*4*	*CG*
		Stenonema	*3*	*SC*
	Isonychiidae	*Isonychia*	*3*	*FC*
	Leptophlebiidae	*Paraleptophlebia*	*1*	*CG*
	Polymitarcyidae	*Ephoron*	*2*	*CG*
	Potamanthidae	*Anthopotamus*	*4*	*FC*
	Tricorythidae	*Tricorythodes*	*4*	*CG*
Megaloptera	**Corydalidae**	*Corydalus*	*4*	*P*
		Nigronia	*2*	*P*
	Sialidae	*Sialis*	*6*	*P*

Class: Order	Family	Family/Genus	Organic Pollution Tolerance Value	Functional Feeding Group Designation
Odonata	**Aeshnidae**	*Boyeria*	*2*	*P*
	Coenagrionidae	*Argia*	*6*	*P*
	Gomphidae	*Lanthus*	*3*	*P*
		Ophiogomphus	*1*	*P*
		Stylogomphus	*4*	*P*
Plecoptera	**Choloroperlidae**	*Alloperla*	*0*	*CG*
		Haploperla	*0*	*P*
		Sweltsa	*0*	*P*
	Leuctridae	*Leuctra*	*0*	*SH*
	Nemouridae	*Amphinemura*	*3*	*SH*
		Nemoura	*2*	*SH*
	Peltoperlidae	*Peltoperla*	*2*	*SH*
		Tallaperla	*0*	*SH*
	Perlidae	*Acroneuria*	*0*	*P*
		Agnetina	*2*	*P*
		Neoperla	*3*	*P*
		Paragnetina	*1*	*P*
		Perlesta	*4*	*P*
	Perlodidae	*Cultus*	*2*	*P*
		Diploperla	*2*	*P*
		Isoperla	*2*	*P*
		Yugus	*2*	*P*
	Pteronarcyidae	*Pteronarcys*	*0*	*SH*
Trichoptera	**Brachycentridae**	*Brachycentrus*	*1*	*FC*
	Glossomatidae	*Glossosoma*	*0*	*SC*
	Hydropsychidae	*Ceratopsyche*	*5*	*FC*
		Cheumatopsyche	*6*	*FC*
		Diplectrona	*0*	*FC*
		Hydropsyche	*5*	*FC*
		Macrostemum	*3*	*FC*
	Hydroptilidae	*Dibusa*	*3*	*SC*
		Leucotrichia	*6*	*SC*
	Odontoceridae	*Psilotreta*	*0*	*SC*
	Philopotamidae	*Chimarra*	*4*	*FC*
		Dolophilodes	*0*	*FC*
	Polycentropodidae	*Polycentropus*	*6*	*P*
	Psychomyiidae	*Lype*	*3*	*SC*
	Rhyacophilidae	*Rhyacophila*	*1*	*P*
	Uenoidae	*Neophylax*	*3*	*SC*
Amphipoda	**Gammaridae**	*Gammarus*	*6*	*SH*
Decapoda	**Cambaridae**	*Cambarus*	*6*	*SH*
		Orconectes	*6*	*SH*
Gastopoda	**Pleuroceridae**	*Leptoxis*	*7*	*SC*
Gnathobdellida	**Hirudinidae**	*Helobdella*	*6*	*P*
Isopopoda	**Asellidae**	*Caecidotea*	*6*	*SH*
Haplotaxida	**Lumbriculidae**		*8*	*CG*
Pelecypoda	**Corbiculidae**	*Corbicula*	*4*	*FC*

Appendix C

Macroinvertebrate Data for Interstate Streams Crossing the New York-Pennsylvania and Pennsylvania-Maryland Borders

Table C1. Macroinvertebrate Data for New York-Pennsylvania Border Streams

Class: Order	Family	Family/*Genus*	APAL 6.9	BNTY 0.9	CASC 1.6	CAYT 1.7	CHOC 9.1
Coleoptera	**Elmidae**	*Optioservus*	8	2	6	2	24
		Stenelmis	34	15		45	12
	Psephenidae	*Ectopria*			1		
		Psephenus	20	1	13	81	47
Diptera	**Athericidae**	*Atherix*		2		11	8
	Ceratopogonidae	*Stilobezzia*			5		
	Chironomidae		23	48	52	28	28
	Empididae	*Hemerodromia*		16		1	
	Similiidae	*Prosimulium*			1		
	Simulidae	*Simulium*	1	4	4		
	Tipulidae	*Antocha*				2	1
		Dicranota	1		30	1	
		Hexatoma	3	16	1	8	1
Ephemeroptera	**Baetidae**	*Acentrella*		15		3	1
		Baetis		14	2	44	8
	Caenidae	*Caenis*		2			
	Ephemerellidae	*Attenella*	1				
		Ephemerella		1			
		Serratella				1	
	Heptagenidae	*Epeorus*	2	3		1	3
		Heptagenia			4		
		Leucrocuta		2		4	
		Stenonema	6	3		1	
	Isonychiidae	*Isonychia*	12	3	9	5	25
	Leptophlebiidae	*Paraleptophlebia*					1
Megaloptera	**Corydalidae**	*Corydalus*	1			3	2
		Nigronia	12		13	1	
	Sialidae	*Sialis*				1	
Odonata	**Aeshnidae**	*Boyeria*			3		
	Gomphidae	*Ophiogomphus*				3	3
		Stylogomphus		2	14		
Plecoptera	**Choloroperlidae**	*Haploperla*		1			
	Leuctridae	*Leuctra*	2		14		
	Perlidae	*Acroneuria*	9	4	9	11	8
		Agnetina	2			5	

Table C1. Macroinvertebrate Data for New York-Pennsylvania Border Streams—Continued

Class: Order	Family	Family/*Genus*	APAL 6.9	BNTY 0.9	CAYT 1.7	CHOC 9.1	HLDN 3.5
Plecoptera	**Perlidae**	*Neoperla*		1			
		Paragnetina			1		
		Perlesta					1
	Perlodidae	*Yugus*	1				
Trichoptera	**Brachycentridae**	*Brachycentrus*				3	
	Hydropsychidae	*Ceratopsyche*	7	14	9	16	56
		Cheumatopsyche	27	5	7	5	7
		Hydropsyche	36	5	32	3	2
	Hydroptilidae	*Dibusa*				2	
		Leucotrichia				1	
	Odontoceridae	*Psilotreta*				2	
	Philopotamidae	*Chimarra*	55		31	17	31
		Dolophilodes		2			
	Polycentropodidae	*Polycentropus*		1	1		
	Uenoidae	*Neophylax*					1
Decapoda	**Cambaridae**	*Cambarus*			1		

Table C1. Macroinvertebrate Data for New York-Pennsylvania Border Streams—Continued

Class: Order	Family	Family/*Genus*	HLDN 3.5	LSNK 7.6	NFCR 7.6	SEEL 10.3	SNAK 2.3
Coleoptera	**Dytiscidae**	*Agabus*				1	
	Elmidae	*Optioservus*	10	11	1	3	5
		Stenelmis	1	14	2	2	9
	Hydrophilidae	*Enochrus*	5				
	Psephenidae	*Psephenus*	54	17	21	7	16
Diptera	**Athericidae**	*Atherix*		6		6	11
	Chironomidae		51	79	14	53	70
	Empididae	*Hemerodromia*	1			5	
	Simulidae	*Simulium*	2		3		
	Tipulidae	*Antocha*	1			6	
		Dicranota	1		25		
		Hexatoma	7	6	6	1	1
		Tipula		1		1	
Ephemeroptera	**Baetidae**	*Acentrella*	2	2	1	6	3
		Baetis	18	25	1	24	34
	Caenidae	*Caenis*	2			3	
	Heptagenidae	*Epeorus*			2		26
		Heptagenia			5		
		Leucrocuta	7			3	8
		Stenonema	1	1			20
	Isonychiidae	*Isonychia*	1	12		3	46
	Leptophlebiidae	*Paraleptophlebia*	2	3	1		7
	Tricorythidae	*Tricorythodes*	1			44	
Megaloptera	**Corydalidae**	*Nigronia*	1	4	3	2	1
Odonata	**Aeshnidae**	*Boyeria*	1	1	1		
	Gomphidae	*Ophiogomphus*	6			1	
		Stylogomphus					
Plecoptera	**Choloroperlidae**	*Alloperla*				2	
	Leuctridae	*Leuctra*	2		42		
	Perlidae	*Acroneuria*	1	16			6
		Agnetina	10		8		
		Paragnetina					5
Trichoptera	**Hydropsychidae**	*Ceratopsyche*	11	13	56	21	47
		Cheumatopsyche	11	10	22	5	21
		Hydropsyche		17	5	3	
	Hydroptilidae	*Leucotrichia*					1
	Philopotamidae	*Chimarra*	9	73			22
Trichoptera	**Philopotamidae**	*Dolophilodes*		11	3		15
	Polycentropodidae	*Polycentropus*	1			1	2
	Rhyacophilidae	*Rhyacophila*					1
Haplotaxida	**Lumbriculidae**					1	

Table C1. Macroinvertebrate Data for New York-Pennsylvania Border Streams—Continued

Class: Order	Family	Family/*Genus*	SOUT 7.8	TROW 1.6	TRUP 4.5	WAPP 2.6
Coleoptera	**Elmidae**	*Optioservus*	1	2	1	
		Stenelmis	35	32	7	4
	Gyrinidae	*Dinetus*	3			
	Psephenidae	*Psephenus*	10	8	3	3
Diptera	**Athericidae**	*Atherix*		2	4	2
	Ceratopogonidae	*Bezzia*	1			
	Chironomidae		69	119	13	86
	Empididae	*Hemerodromia*	3			2
	Simulidae	*Simulium*	9			17
	Tipulidae	*Antocha*		2		
		Dicranota	3	1		
		Hexatoma		22	3	8
Ephemeroptera	**Baetidae**	*Acentrella*				5
		Baetis	3	25	39	62
	Ephemerellidae	*Drunella*		6		
	Heptagenidae	*Epeorus*		1		
		Heptagenia			9	
		Leucrocuta		1	11	1
		Stenonema	6	1	7	1
	Isonychiidae	*Isonychia*	6		12	5
	Leptophlebiidae	*Paraleptophlebia*		5	1	
	Tricorythidae	*Tricorythodes*			5	
Megaloptera	**Corydalidae**	*Corydalus*	1			
		Nigronia		1		2
	Sialidae	*Sialis*	1			
Odonata	**Gomphidae**	*Ophiogomphus*			2	
		Stylogomphus				
Plecoptera	**Choloroperlidae**	*Alloperla*		4		
	Perlidae	*Acroneuria*	2	3		
		Agnetina		14		
		Neoperla			35	
		Paragnetina				2
	Pteronarcyidae	*Pteronarcys*		1		
Trichoptera	**Hydropsychidae**	*Ceratopsyche*	2	17	27	19
		Cheumatopsyche	82	14	16	
		Hydropsyche	4	3		1
	Philopotamidae	*Chimarra*	17	1		2
		Dolophilodes		1		
	Polycentropodidae	*Polycentropus*		2		1
	Uenoidae	*Neophylax*				1

Table C2. Macroinvertebrate Data for Pennsylvania-Maryland Border Streams

Class: Order	Family	Family/*Genus*	BBDC 4.1	CNWG 4.4	DEER 44.5	EBAU 1.5	FBDC 4.1
Coleoptera	**Elmidae**	*Optioservus*	34	4	35	31	12
		Oulimnius					2
		Stenelmis	2	82	50	3	4
	Psephenidae	*Ectopria*	3				
		Psephenus	1	12	29	3	
	Ptilodactylidae	*Anchytarsus*	11				
Diptera	**Athericidae**	*Atherix*			1		
	Chironomidae		110	32	33	100	49
	Empididae	*Chelifera*				1	
		Hemerodromia			2		
	Simulidae	*Simulium*	1	15	3		
	Tipulidae	*Antocha*	8		4	1	1
		Dicranota			1		
		Tipula		1			1
Ephemeroptera		*Baetis*	22	47	4	16	5
	Ephemerellidae	*Serratella*			3		
	Heptagenidae	*Epeorus*	2				
		Leucrocuta	4				
		Stenonema	1			1	
	Isonychiidae	*Isonychia*	1	4	15	2	
Megaloptera	**Corydalidae**	*Corydalus*		5	5		
		Nigronia	10		5		23
Odonata	**Gomphidae**	*Ophiogomphus*	3		3		1
Plecoptera	**Leuctridae**	*Leuctra*	11		2		9
	Peltoperlidae	*Tallaperla*			1		
	Perlidae	*Acroneuria*	19		3		39
		Agnetina			1		
		Paragnetina			3		
		Perlesta					1
Trichoptera	**Hydropsychidae**	*Ceratopsyche*	3	8	30	25	3
		Cheumatopsyche	24	31	28	26	70
		Diplectrona	2				
		Hydropsyche		26			22
	Philopotamidae	*Chimarra*					1
		Dolophilodes	33		1	3	22
	Rhyacophilidae	*Rhyacophila*	1				4
Isopopoda	**Asellidae**	*Caecidotea*				1	
Haplotaxida	**Lumbriculidae**				1		

Table C2. Macroinvertebrate Data for Pennsylvania-Maryland Border Streams—Continued

Class: Order	Family	Family/*Genus*	LNGA 2.5	OCTO 6.6	SBCC 20.4	SCTT 3.0
Coleoptera	**Dytiscidae**	*Agabus*	1			
	Elmidae	*Optioservus*	4		49	
		Oulimnius			1	
		Stenelmis	4	67		
	Psephenidae	*Psephenus*		12		
Diptera	**Chironomidae**		26	47	72	212
	Empididae	*Chelifera*				1
		Clinocera				1
		Hemerodromia		2		
	Simulidae	*Simulium*	3	4	2	
	Tipulidae	*Antocha*			2	
		Dicranota	2		32	
		Hexatoma	2			
		Tipula		1	1	9
Ephemeroptera	**Baetidae**	*Baetis*	7	49	10	4
	Heptagenidae	*Stenonema*		5		
	Isonychiidae	*Isonychia*	1			
	Leptophlebiidae	*Paraleptophlebia*			1	
Megaloptera	**Corydalidae**	*Corydalus*		1		
		Nigronia			3	1
	Sialidae	*Sialis*	1		1	
Odonata	**Gomphidae**	*Lanthus*	1			
Plecoptera	**Leuctridae**	*Leuctra*			13	
	Peltoperlidae	*Peltoperla*			5	
	Perlidae	*Acroneuria*			2	
		Perlesta			1	
Trichoptera	**Brachycentridae**	*Brachycentrus*		2		
	Hydropsychidae	*Ceratopsyche*		22	5	
		Cheumatopsyche	6	35	22	2
		Diplectrona				1
		Hydropsyche	7	6	9	5
	Philopotamidae	*Chimarra*		2		
		Dolophilodes			23	2
Amphipoda	**Gammaridae**	*Gammarus*		17		
Haplotaxida	**Hirudinidae**	*Helobdella*		1		

Table C3. Macroinvertebrate Data for River Sites

Class: Order	Family	Family/*Genus*	SUSQ 340.0	SUSQ 365.0
Coleoptera	**Elmidae**	*Optioservus*	13	23
		Promoresia	1	
		Stenelmis	89	103
	Gyrinidae	*Dinetus*		3
	Hydrophilidae	*Berosus*	1	1
	Psephenidae	*Psephenus*	22	16
Diptera	**Chironomidae**		5	21
	Simulidae	*Simulium*		1
	Tipulidae	*Antocha*		1
Ephemeroptera	**Baetidae**	*Baetis*		7
		Centroptilum		1
	Caenidae	*Caenis*		1
	Ephemerellidae	*Serratella*		1
	Ephemeridae	*Litobrancha*	25	6
	Heptagenidae	*Heptagenia*		2
		Leucrocuta	3	1
		Stenonema	5	
	Isonychiidae	*Isonychia*	3	12
	Potamanthidae	*Anthopotamus*	10	1
Megaloptera	**Corydalidae**	*Corydalus*		6
	Sialidae	*Sialis*	1	
Odonata	**Coenagrionidae**	*Argia*	1	
	Gomphidae	*Stylogomphus*		1
Plecoptera	**Perlidae**	*Acroneuria*		7
		Agnetina	4	24
		Neoperla	2	
		Paragnetina		3
Trichoptera	**Hydropsychidae**	*Ceratopsyche*	5	10
		Cheumatopsyche	32	2
		Hydropsyche	3	8
		Macrostemum	2	
	Philopotamidae	*Chimarra*	2	32
Amphipoda	**Gammaridae**	*Gammarus*	1	
Decapoda	**Cambaridae**	*Orconectes*	3	
Gastropoda	**Pleuroceridae**	*Leptoxis*		5

Table C4. Macroinvertebrate Data for Group 3 Sites

Class: Order	Family	Family/*Genus*	BABC	BEAG	BILL	BIRD	BISC
Coleoptera	**Elmidae**	*Optioservus*			1		
		Oulimnius		1			
	Psephenidae	*Psephenus*			7	1	2
Diptera	**Chironomidae**		60	49	36	41	38
	Empididae	*Hemerodromia*			2		18
	Simulidae	*Simulium*	3	2	5	1	7
	Tipulidae	*Antocha*			1		
		Hexatoma	6		9	3	
		Tipula	1	2		1	
Ephemeroptera	**Ameletidae**	*Ameletus*	2			10	
	Baetidae	*Acentrella*	12		11		1
		Baetis	19	3	9	4	19
	Ephemerellidae	*Drunella*		4		2	
		Ephemerella	2	6	3	3	2
	Heptagenidae	*Epeorus*	3	33	56	79	30
		Heptagenia					5
		Stenacron	2		2		5
	Isonychiidae	*Isonychia*				1	
	Leptophlebiidae	*Paraleptophlebia*	4		30	1	6
	Tricorythidae	*Tricorythodes*			1		
Megaloptera	**Corydalidae**	*Nigronia*	1				
Plecoptera	**Choloroperlidae**	*Alloperla*			6		
		Haploperla	72		9		
		Sweltsa	3	16		4	
	Leuctridae	*Leuctra*	18	37	20	18	4
	Nemouridae	*Amphinemura*	21	26	17	17	42
	Perlidae	*Acroneuria*	1		2	3	
		Agnetina			5		1
	Perlodidae	*Cultus*		6			
		Isoperla	11			8	6
		Yugus		13		4	
Trichoptera	**Hydropsychidae**	*Ceratopsyche*		2	10	2	4
		Cheumatopsyche		1	3		13
		Diplectrona		13		5	
		Hydropsyche					5
	Philopotamidae	*Chimarra*					15
		Dolophilodes		3			
	Polycentropodidae	*Polycentropus*	2	1	1	3	1
	Rhyacophilidae	*Rhyacophila*		3			
	Uenoidae	*Neophylax*				4	
Decapoda	**Cambaridae**	*Cambarus*				1	
Haplotaxida	**Lumbriculidae**					2	1

Table C4. Macroinvertebrate Data for Group 3 Sites—Continued

Class: Order	Family	Family/*Genus*	BRIG	BULK	CAMP	COOK	DEEP
Coleoptera	**Elmidae**	*Optioservus*				6	3
		Stenelmis	2			2	
	Psephenidae	*Ectopria*				3	4
		Psephenus				9	1
Diptera	**Chironomidae**		31	64	46	50	61
	Empididae	*Hemerodromia*	1			1	
	Similiidae	*Prosimulium*		2			
		Simulium	2	3	1	3	2
	Tipulidae	*Antocha*					3
		Dicranota					9
		Hexatoma	2	1	2	1	4
Ephemeroptera	**Ameletidae**	*Ameletus*	11		1		
	Baetidae	*Acentrella*	2		15	12	4
		Baetis	1	33	15	29	13
	Ephemerellidae	*Drunella*		2			
		Ephemerella			1		2
	Heptagenidae	*Epeorus*	94	19	54	11	9
		Heptagenia	17			2	4
		Stenacron				7	1
		Stenonema		1			11
	Leptophlebiidae	*Paraleptophlebia*	2	1	5	6	15
Megaloptera	**Corydalidae**	*Nigronia*		4	1	1	5
Odonata	**Gomphidae**	*Stylogomphus*				1	
Plecoptera	**Choloroperlidae**	*Alloperla*			56		
		Haploperla	28				1
		Sweltsa	6		4		1
	Leuctridae	*Leuctra*	4	31	5	40	6
	Nemouridae	*Amphinemura*	2	25	6	20	31
	Perlidae	*Acroneuria*		12		12	3
		Agnetina				2	
		Paragnetina			2		
	Perlodidae	*Cultus*					
		Diploperla					
		Isoperla	3				1
		Yugus		1			
Trichoptera	**Hydropsychidae**	*Ceratopsyche*	1		1	14	3
		Cheumatopsyche		1			
		Diplectrona		15		7	1
		Hydropsyche		3			12
	Philopotamidae	*Chimarra*					21
		Dolophilodes		1		1	
	Polycentropodidae	*Polycentropus*	1	1	2	2	
	Rhyacophilidae	*Rhyacophila*		21		2	9
Decapoda	**Cambaridae**	*Cambarus*		2		1	

Table C4. Macroinvertebrate Data for Group 3 Sites—Continued

Class: Order	Family	Family/*Genus*	DENT	DRYB	LWAP	PARK	PRIN
Coleoptera	**Dytiscidae**	*Agabus*		11			
	Elmidae	*Stenelmis*	3	1			
		Ectopria					
	Psephenidae	*Psephenus*		11	9		2
Diptera	**Chironomidae**		115	135	14	3	18
	Empididae	*Hemerodromia*	2	1			
	Similiidae	*Prosimulium*		1		1	
	Simulidae	*Simulium*	3		3		
	Tipulidae	*Hexatoma*			1		1
		Tipula		1			1
Ephemeroptera	**Ameletidae**	*Ameletus*		1	2	1	1
	Baetidae	*Acentrella*		4	2		5
		Baetis		19	16	6	8
	Ephemerellidae	*Drunella*					2
		Ephemerella			2	5	2
	Heptagenidae	*Cinygmula*			28		
		Epeorus			48	104	9
		Heptagenia				17	15
		Stenacron		2			
		Stenonema	43		9		
	Leptophlebiidae	*Paraleptophlebia*		1	4		7
Odonata	**Gomphidae**	*Lanthus*					1
		Stylogomphus	1				
Plecoptera	**Choloroperlidae**	*Haploperla*			36	17	28
		Sweltsa			10	10	2
	Leuctridae	*Leuctra*	1	1	1	3	
	Nemouridae	*Amphinemura*	1	2	10	18	
	Perlidae	*Acroneuria*	3			1	
	Perlodidae	*Isoperla*		1	6	2	1
Trichoptera	**Hydropsychidae**	*Ceratopsyche*			7		1
		Cheumatopsyche	43	2		2	
		Diplectrona				1	
		Hydropsyche	13	5			
	Philopotamidae	*Chimarra*	3				
	Polycentropodidae	*Polycentropus*			2	1	
	Psychomyiidae	*Lype*			1		
	Uenoidae	*Neophylax*			4		
Decapoda	**Cambaridae**	*Cambarus*	1			1	
Isopopoda	**Asellidae**	*Caecidotea*		1			
Haplotaxida	**Lumbriculidae**			2			

Table C4. Macroinvertebrate Data for Group 3 Sites—Continued

Class: Order	Family	Family/*Genus*	RUSS	SACK	SMIT	STRA	WBCO	WHIT
Coleoptera	**Elmidae**	*Optioservus*			7			
		Stenelmis				1		
	Psephenidae	*Ectopria*			3			
		Psephenus				4		
Diptera	**Chironomidae**		42	7	30	57	26	11
		Chelifera			7			
	Empididae	*Hemerodromia*					4	
	Simulidae	*Simulium*	2	1				
	Tipulidae	*Antocha*			1		2	
		Hexatoma	10	1		4		2
		Pseudolimnophila				1		
		Tipula	1		1			
Ephemeroptera	**Ameletidae**	*Ameletus*	1			2		3
	Baetidae	*Acentrella*				25		
		Baetis	5	5	28	17		8
	Ephemerellidae	*Ephemerella*			4	4		1
	Ephemeridae	*Ephemera*			1			
	Heptagenidae	*Cinygmula*	3	49		9		
		Epeorus	97	88	7	31		70
		Stenacron		4		5		
		Stenonema			3	3	2	
	Leptophlebiidae	*Paraleptophlebia*	2	7	1	35		1
Megaloptera	**Corydalidae**	*Nigronia*			1	1		
Odonata	**Aeshnidae**	*Boyeria*			1			
	Gomphidae	*Lanthus*			3			
Plecoptera	**Choloroperlidae**	*Alloperla*				16		
		Haploperla	49	44				
		Sweltsa	17		1	4		68
	Leuctridae	*Leuctra*		1	37			15
	Nemouridae	*Amphinemura*	16	4	43	2		9
		Nemoura						8
	Perlidae	*Acroneuria*		1	4	7		
		Agnetina						1
	Perlodidae	*Diploperla*						4
		Isoperla	2	2		1		
		Yugus						6
Trichoptera	**Hydropsychidae**	*Ceratopsyche*	2		1	2		
		Cheumatopsyche			4		113	
		Diplectrona			48			
		Hydropsyche					54	
	Philopotamidae	*Chimarra*					1	
		Dolophilodes		1	3			
	Polycentropodidae	*Polycentropus*	1	1	2	2		
	Rhyacophilidae	*Rhyacophila*			9			4
	Uenoidae	*Neophylax*			2			
Decapoda	**Cambaridae**	*Cambarus*			1			1
Haplotaxida	**Lumbriculidae**						2	

Appendix D

Water Classification and Best Usage Relationships

New York:

The New York State water quality classifications are summarized from Water Quality Regulations for Surface Waters and Groundwaters, 6NYCRR Parts 700-705, effective September 1, 1991, New York State Department of Environmental Conservation, Division of Water, Albany, New York. Only classifications that are used in this report will be described in this section. The classes are as follows:

Class A:

(a) The best usages of Class A waters are: a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The waters shall be suitable for fish propagation and survival.

(b) This classification may be given to those waters that, if subjected to approved treatment equal to coagulation, sedimentation, filtration and disinfection, with additional treatment if necessary to reduce naturally present impurities, meet or will meet New York State Department of Health drinking water standards and are or will be considered safe and satisfactory for drinking water purposes.

Class B: The best usages of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.

Class C: The best usage of Class C waters is fishing. These waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

Class D: The best usage of these waters is fishing. Due to such natural conditions as intermittence of flow, water conditions not conducive to propagation of game fishery, or streambed conditions, the waters will not support fish propagation. These waters shall be suitable for fish survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

(T): Suffix added to classes where trout survival is an additional best use to the use classification.

Pennsylvania:

The Pennsylvania state water quality classifications are summarized from Water Quality Standards of the Department's Rules and Regulations, 25 Pa. Code, Chapter 93.3-5, effective November 2000, PADEP, Division of Water Quality Assessment and Standards, Harrisburg, Pennsylvania. All surface waters must meet protected water uses for aquatic life (warm water fishes), water supply (potable, industrial, livestock, and wildlife), and recreation (boating, fishing, water contact sports, and aesthetics). Only classifications that are used in this report will be described in this section. The use classifications are as follows:

CWF – Cold Water Fishes: Maintenance and/or propagation of fish species including the family Salmonidae and additional flora and fauna, which are indigenous to a cold water habitat.

WWF – Warm Water Fishes: Maintenance and propagation of fish species and additional flora and fauna that are indigenous to a warm water habitat.

TSF – Trout Stocked Fishery: Maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna that are indigenous to a warm water habitat.

MF – Migratory Fishes: Passage, maintenance and propagation of anadromous and catadromous fishes and other fishes that ascend to flowing waters to complete their life cycle. The MF designation is in addition to other designations when appropriate.

Maryland:

The Maryland State water quality classifications are summarized from Water Quality Regulations for Designated Uses, COMAR 26.08.02, Effective August 2000, Maryland Department of the Environment, Annapolis, Maryland. All surface waters must protect public health or welfare; enhance the quality of water; protect aquatic resources; and serve the purposes of the Federal Act. Only classifications that are used in this report will be described in this section. The designated use classifications are as follows:

I-P – Protection of fish and aquatic life and contact recreation (fishable/swimmable), and Use I-P, which includes drinking water supply.

III-P – Natural trout waters and Use III-P, which includes a drinking water supply.

IV-P – Recreational trout waters and Use IV-P, which includes drinking water.