

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK**

Water-quality and benthic macroinvertebrate samples were collected from selected streams in Chester County in October and November 2001 as part of the Stream Conditions of Chester County Biological Monitoring Network. The biological monitoring program was initiated in 1969 with the goals of evaluating stream quality and long-term changes in stream quality of selected streams in Chester County. Benthic macroinvertebrates are macroscopic animals that inhabit the bottoms of aquatic habitats. Freshwater forms include aquatic insects, clams, crustaceans, snails, and worms. Samples are collected annually from similar habitats of the selected streams. Benthic macroinvertebrate sampling was conducted following a single habitat approach. A cobble riffle habitat was used because macroinvertebrate diversity and abundance is usually highest there. Samples were collected using a Hess sampler with a mesh size of 500 mm. Four samples were collected from areas of various velocities from within the riffle. Samples were composited and the entire sample was sorted and identified. Identification were made to the lowest practical level (family or genus) by a U.S. Geological Survey biologist.

TABLE 5.--Stream conditions of Chester County biological monitoring network station list.

STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	DRAINAGE AREA (mi ²)
01472080	PIGEON CREEK NEAR SLONAKER, PA	40°12'03"	75°37'10"	12.0
^a 01472157	FRENCH CREEK NEAR PHOENIXVILLE, PA	40°09'05"	75°36'06"	59.1
01472190	PICKERING CREEK NEAR PHOENIXVILLE, PA	40°06'33"	75°31'42"	31.4
^a 01473169	VALLEY CREEK AT PA TURNPIKE BRIDGE NEAR VALLEY FORGE, PA	40°04'45"	75°27'40"	20.8
^a 01475850	CRUM CREEK NEAR NEWTOWN SQUARE, PA	39°58'35"	75°26'13"	15.8
01476450	RIDLEY CREEK AT PA ROUTE 3 NEAR WILLISTOWN, PA	39°58'01"	75°28'58"	13.9
01476835	EAST BRANCH CHESTER CREEK AT WESTTOWN, PA	39°56'26"	75°32'30"	10.4
01478120	EAST BRANCH WHITE CLAY CREEK AT AVONDALE, PA	39°49'42"	75°46'52"	11.3
01478230	MIDDLE BRANCH WHITE CLAY CREEK NEAR AVONDALE, PA	39°45'02"	75°46'19"	25.5
01479700	WEST BRANCH RED CLAY CR NR KENNETT SQUARE, PA	39°48'39"	75°42'18"	16.9
01479800	EAST BRANCH RED CLAY CREEK NEAR FIVE POINTS, PA	39°49'10"	75°41'29"	10.2
^a 01480300	WEST BRANCH BRANDYWINE CR NR HONEY BROOK, PA	40°04'22"	75°55'40"	18.7
^a 01480617	WEST BRANCH BRANDYWINE CREEK AT MODENA, PA	39°57'42"	75°48'06"	55.0
01480629	BUCK RUN AT DOE RUN, PA	39°55'46"	75°49'24"	22.6
01480636	BROAD RUN AT ROMANSVILLE, PA	39°57'06"	75°43'33"	2.86
0148063750	BROAD RUN AT MARSHALLTON, PA	39°56'48"	75°42'11"	5.45
01480638	BROAD RUN AT NORTHBROOK, PA	39°55'49"	75°41'06"	6.39
01480653	EAST BRANCH BRANDYWINE CR AT GLENMOORE, PA	40°05'48"	75°46'44"	16.5
01480743	BEAVER CREEK AT REECEVILLE, PA	40°01'59"	75°47'22"	2.63
01480745	BEAVER CREEK AT GUTHRIESVILLE, PA	40°01'45"	75°46'49"	3.19
01480750	BEAVER CREEK AT BONDSVILLE, PA	40°01'14"	75°46'03"	4.70
^a 01480870	EAST BRANCH BRANDYWINE CR BL DOWNINGTOWN, PA	39°58'07"	75°40'25"	89.9
01494953	BIG ELK CREEK AT MAPLE GROVE, PA	39°45'44"	75°55'16"	26.6

^a Other data for this station can be found in the continuous station records section of this report.

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
 STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

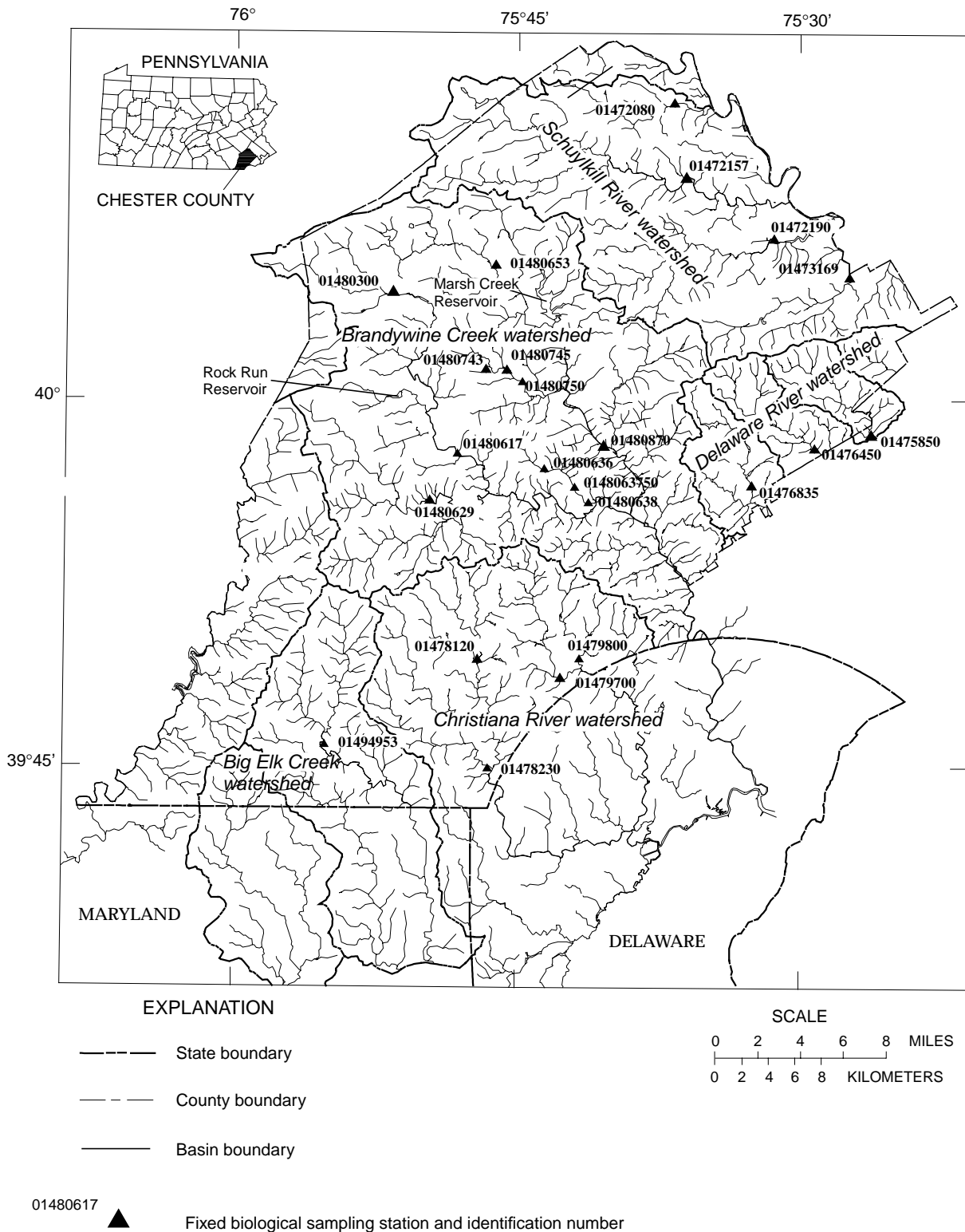


Figure 11.--Biological sampling locations and major drainage basin divides in Chester County.

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)
		01472080 Pigeon Creek near Slonaker, PA (LAT 40 12 03N LONG 075 37 10W)											
OCT 2001	12...	80020	1028	3.0	10.0	7.3	169	13.1	15.5	5.01	1.94	8.47	49
		01472190 Pickering Creek near Phoenixville, PA (LAT 40 06 33N LONG 075 31 42W)											
OCT 2001	19...	80020	1028	11	8.7	7.6	272	7.9	26.5	8.06	2.62	11.5	69
		01476450 Ridley Creek at Rt 3 near Willistown, PA (LAT 39 58 01N LONG 075 28 58W)											
OCT 2001	11...	80020	1028	4.7	10.8	7.6	325	12.2	22.8	12.0	2.91	20.8	55
		01476835 East Branch Chester Creek at Westtown, PA (LAT 39 56 26N LONG 075 32 30W)											
OCT 2001	11...	80020	1028	2.3	8.7	7.2	426	10.5	32.4	14.4	3.69	22.9	68
		01478120 East Branch White Clay Creek at Avondale, PA (LAT 39 49 42N LONG 075 46 52W)											
OCT 2001	05...	80020	1028	5.4	9.6	7.9	394	14.0	41.3	17.6	2.75	8.88	113
		01478230 Middle Branch White Clay Creek near Avondale, PA (LAT 39 45 02N LONG 075 46 19W)											
OCT 2001	05...	80020	1028	12	10.9	7.6	225	15.5	19.1	7.70	3.34	10.1	42
		01479700 West Branch Red Clay Creek near Kennett Square, PA (LAT 39 48 39N LONG 075 42 18W)											
OCT 2001	23...	80020	1028	7.9	9.3	7.8	467	14.5	40.5	16.9	8.75	20.4	118
		01479800 East Branch Red Clay Creek near Five Points, PA (LAT 39 49 10N LONG 075 41 29W)											
OCT 2001	23...	80020	1028	3.4	8.8	7.5	394	13.0	38.5	14.7	4.32	13.0	95
		01480629 Buck Run at Doe Run, PA (LAT 39 55 46N LONG 075 49 24W)											
OCT 2001	04...	80020	1028	8.5	9.8	7.3	249	15.0	24.3	8.43	2.35	9.35	42
		01480636 Broad Run at Romansville, PA (LAT 39 57 06N LONG 075 43 33W)											
OCT 2001	29...	80020	1028	.55	10.5	7.4	193	10.0	15.1	7.93	1.40	8.05	34
		0148063750 Broad Run near Marshallton, PA (LAT 39 56 48N LONG 075 42 11W)											
OCT 2001	29...	80020	1028	1.4	12.0	7.3	229	7.0	18.7	8.45	1.79	9.89	50
		01480638 Broad Run at Northbrook, PA (LAT 39 55 49N LONG 075 41 06W)											
OCT 2001	29...	80020	1028	1.7	10.5	7.2	213	5.5	17.2	7.82	1.96	9.33	42
		01480653 East Branch Brandywine Creek at Glenmoore, PA (LAT 40 05 48N LONG 075 46 44W)											
OCT 2001	03...	80020	1028	5.4	9.8	7.6	217	12.5	21.7	6.73	2.19	9.01	55

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 MISCELLANEOUS STATION ANALYSES

Date	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO- GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	ORTHO- PHOS- PHATE, DIS-SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS-SOLVED (µG/L AS AL) (01106)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)
	01472080 Pigeon Creek near Slonaker, PA (LAT 40 12 03N LONG 075 37 10W)												
OCT 2001 12...	10.4	17.9	16.2	<.04	1.81	<.008	.02	--	--	20	--	--	--
	01472190 Pickering Creek near Phoenixville, PA (LAT 40 06 33N LONG 075 31 42W)												
OCT 2001 19...	27.9	18.1	19.0	<.04	.89	<.008	<.02	--	--	20	--	--	--
	01476450 Ridley Creek at Rt 3 near Willistown, PA (LAT 39 58 01N LONG 075 28 58W)												
OCT 2001 11...	38.4	14.9	21.0	<.04	3.75	E.007	.23	--	--	60	--	--	--
	01476835 East Branch Chester Creek at Westtown, PA (LAT 39 56 26N LONG 075 32 30W)												
OCT 2001 11...	58.9	15.3	27.2	<.04	4.09	.010	.37	--	--	60	--	--	--
	01478120 East Branch White Clay Creek at Avondale, PA (LAT 39 49 42N LONG 075 46 52W)												
OCT 2001 05...	22.9	14.0	26.8	E.02	4.77	.016	<.02	--	--	20	--	--	--
	01478230 Middle Branch White Clay Creek near Avondale, PA (LAT 39 45 02N LONG 075 46 19W)												
OCT 2001 05...	18.6	12.3	16.9	<.04	4.21	E.004	.06	--	--	30	--	--	--
	01479700 West Branch Red Clay Creek near Kennett Square, PA (LAT 39 48 39N LONG 075 42 18W)												
OCT 2001 23...	41.6	12.3	42.7	<.04	4.65	.046	.80	20	<2	50	<.1	E.6	E1.3
	01479800 East Branch Red Clay Creek near Five Points, PA (LAT 39 49 10N LONG 075 41 29W)												
OCT 2001 23...	35.8	14.3	36.1	<.04	2.75	.013	E.01	M	<2	20	<.1	<.8	1.7
	01480629 Buck Run at Doe Run, PA (LAT 39 55 46N LONG 075 49 24W)												
OCT 2001 04...	20.4	9.2	15.9	E.03	4.50	.011	<.02	--	--	20	--	--	--
	01480636 Broad Run at Romansville, PA (LAT 39 57 06N LONG 075 43 33W)												
OCT 2001 29...	18.9	9.3	13.8	<.04	2.73	E.005	<.02	--	--	30	--	--	--
	0148063750 Broad Run near Marshallton, PA (LAT 39 56 48N LONG 075 42 11W)												
OCT 2001 29...	22.6	11.8	17.2	<.04	2.50	<.008	<.02	--	--	30	--	--	--
	01480638 Broad Run at Northbrook, PA (LAT 39 55 49N LONG 075 41 06W)												
OCT 2001 29...	20.5	11.4	18.6	<.04	2.08	E.005	<.02	--	--	30	--	--	--
	01480653 East Branch Brandywine Creek at Glenmoore, PA (LAT 40 05 48N LONG 075 46 44W)												
OCT 2001 03...	14.8	20.3	16.0	<.04	3.33	E.004	E.01	--	--	20	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 MISCELLANEOUS STATION ANALYSES

Date	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	MERCURY DIS- SOLVED (µG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (µG/L AS MO) (01060)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
01472080 Pigeon Creek near Slonaker, PA (LAT 40 12 03N LONG 075 37 10W)							
OCT 2001 12...	24	--	--	--	--	--	--
01472190 Pickering Creek near Phoenixville, PA (LAT 40 06 33N LONG 075 31 42W)							
OCT 2001 19...	24	--	--	--	--	--	--
01476450 Ridley Creek at Rt 3 near Willistown, PA (LAT 39 58 01N LONG 075 28 58W)							
OCT 2001 11...	28	--	--	--	--	--	--
01476835 East Branch Chester Creek at Westtown, PA (LAT 39 56 26N LONG 075 32 30W)							
OCT 2001 11...	26	--	--	--	--	--	--
01478120 East Branch White Clay Creek at Avondale, PA (LAT 39 49 42N LONG 075 46 52W)							
OCT 2001 05...	34	--	--	--	--	--	--
01478230 Middle Branch White Clay Creek near Avondale, PA (LAT 39 45 02N LONG 075 46 19W)							
OCT 2001 05...	16	--	--	--	--	--	--
01479700 West Branch Red Clay Creek near Kennett Square, PA (LAT 39 48 39N LONG 075 42 18W)							
OCT 2001 23...	30	<1	13.9	<.01	2.2	<2.0	<24
01479800 East Branch Red Clay Creek near Five Points, PA (LAT 39 49 10N LONG 075 41 29W)							
OCT 2001 23...	20	<1	11.9	<.01	1.9	<2.0	<24
01480629 Buck Run at Doe Run, PA (LAT 39 55 46N LONG 075 49 24W)							
OCT 2001 04...	73	--	--	--	--	--	--
01480636 Broad Run at Romansville, PA (LAT 39 57 06N LONG 075 43 33W)							
OCT 2001 29...	15	--	--	--	--	--	--
0148063750 Broad Run near Marshallton, PA (LAT 39 56 48N LONG 075 42 11W)							
OCT 2001 29...	23	--	--	--	--	--	--
01480638 Broad Run at Northbrook, PA (LAT 39 55 49N LONG 075 41 06W)							
OCT 2001 29...	27	--	--	--	--	--	--
01480653 East Branch Brandywine Creek at Glenmoore, PA (LAT 40 05 48N LONG 075 46 44W)							
OCT 2001 03...	40	--	--	--	--	--	--

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)
		01480743 Beaver Creek at Reeceville, PA (LAT 40 01 58N LONG 075 47 22W)											
NOV 2001 01...	1245	80020	1028	.49	10.2	7.1	272	11.0	23.6	8.90	3.65	10.2	34
		01480745 Beaver Creek at Guthriesville, PA (LAT 40 01 44N LONG 075 46 48W)											
NOV 2001 01...	1115	80020	1028	.81	11.6	7.5	257	11.0	22.8	8.75	3.96	9.81	48
		01480750 Beaver Creek at Bondsville, PA (LAT 40 01 14N LONG 075 46 03W)											
NOV 2001 01...	0915	80020	1028	.92	10.0	7.1	243	7.5	21.4	8.28	3.80	9.50	40
		01494953 Big Elk Creek at Maple Grove, PA (LAT 39 45 44N LONG 075 55 16W)											
OCT 2001 24...	1230	80020	1028	9.4	10.1	7.3	195	16.0	13.5	6.85	3.19	9.62	27

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MISCELLANEOUS STATION ANALYSES

Date	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (µG/L AS B) (01020)	IRON, DIS- SOLVED (µG/L AS FE) (01046)
	01480743 Beaver Creek at Reeceville, PA (LAT 40 01 58N LONG 075 47 22W)								
NOV 2001 01...	20.1	17.9	25.6	<.04	9.03	.017	<.02	20	E10
	01480745 Beaver Creek at Guthriesville, PA (LAT 40 01 44N LONG 075 46 48W)								
NOV 2001 01...	20.2	10.6	26.4	<.04	4.16	.067	<.02	20	75
	01480750 Beaver Creek at Bondsville, PA (LAT 40 01 14N LONG 075 46 03W)								
NOV 2001 01...	19.1	12.3	25.4	<.04	4.14	E.007	<.02	20	22
	01494953 Big Elk Creek at Maple Grove, PA (LAT 39 45 44N LONG 075 55 16W)								
OCT 2001 24...	20.1	8.1	8.9	<.04	4.91	.012	.02	20	20

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 μm . Each sample covered a total area of 3.2 m². A dash (--) indicates there were no observations of the organism in the sample.

Station Number	01472080	01472190	01476450	01476835	01478120	01478230
Date	10/12/01	10/19/01	10/11/01	10/11/01	10/05/01	10/05/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	--	29	13	16	76	6
Nematoda (NEMATODES)	60	26	134	33	20	39
Nemertea (PROBOSAS WORMS)						
Enopla						
Hoplonemertea						
Tetrastemmatidae						
<u>Prostoma</u> sp	9	14	3	3	7	11
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancyliidae						
<u>Ferrissia</u> sp	--	2	28	1	--	1
Lymnaeidae						
<u>Fossaria</u> sp	--	--	3	--	--	--
Planorbidae						
<u>Gyraulus</u> sp	--	--	--	--	--	--
Bivalvia (CLAMS)						
Veneroida						
Sphaeriidae	--	1	--	4	--	1
Annelida						
Oligochaeta (AQUATIC EARTHWORMS)						
Tubificida						
Naididae	--	--	--	--	--	2
Tubificidae	--	--	--	--	--	--
Hirudinea (LEECHES)						
Arhynchobdellida						
Erpobdellidae	--	--	--	--	--	--
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	135	153	67	4	32	122
Crustacea						
Amphipoda (SCUDS)						
Crangonyctidae						
<u>Crangonyx</u> sp	--	--	2	4	--	--
<u>Stygonectes</u> sp	--	--	--	--	--	1
Gammaridae						
<u>Gammarus</u> sp	--	2	--	--	--	--
Isopoda (AQUATIC SOWBUGS)						
Asellidae						
<u>Caecidotea</u> sp	--	--	--	--	--	--
Decapoda						
Cambaridae (CRAYFISH)	2	--	2	--	--	1

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

01479700	01479800	01480629	01480636	0148063750	Station Number
10/23/01	10/23/01	10/04/01	10/29/01	10/29/01	Date
Count	Count	Count	Count	Count	Benthic Macroinvertebrate
					Platyhelminthes
					Turbellaria (FLATWORMS)
					Tricladida
34	1	40	--	26	Planariidae
28	8	50	1	61	Nematoda (NEMATODES)
					Nemertea (PROBOSAS WORMS)
					Enopla
					Hoplonemertea
					Tetrastemmatidae
--	9	--	1	10	<u>Prostoma</u> sp
					Mollusca
					Gastropoda (SNAILS)
					Basommatophora
					Ancyliidae
1	5	18	--	--	<u>Ferrissia</u> sp
					Lymnaeidae
--	--	--	--	--	<u>Fossaria</u> sp
					Planorbidae
1	--	1	--	--	<u>Gyraulus</u> sp
					Bivalvia (CLAMS)
					Veneroida
--	8	19	--	--	Sphaeriidae
					Annelida
4	5	7	9	9	Oligochaeta (AQUATIC EARTHWORMS)
					Tubificida
42	--	--	--	--	Naididae
35	--	--	--	--	Tubificidae
					Hirudinea (LEECHES)
					Arhynchobdellida
2	--	--	--	--	Erpobdellidae
					Arthropoda
					Acariformes
111	22	17	30	104	Hydrachnidia (WATER MITES)
					Crustacea
					Amphipoda (SCUDS)
					Crangonyctidae
--	--	--	--	--	<u>Crangonyx</u> sp
--	5	--	--	--	<u>Stygonectes</u> sp
					Gammaridae
--	7	--	--	--	<u>Gammarus</u> sp
					Isopoda (AQUATIC SOWBUGS)
					Asellidae
89	--	--	--	1	<u>Caecidotea</u> sp
					Decapoda
--	--	--	--	--	Cambaridae (CRAYFISH)

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01472080	01472190	01476450	01476835	01478120	01478230
Date	10/12/01	10/19/01	10/11/01	10/11/01	10/05/01	10/05/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
<u>Baetis</u> sp	16	6	36	46	17	20
<u>Pseudocloeon</u> sp	10	32	--	3	5	25
Caenidae						
<u>Caenis</u> sp	--	--	10	--	--	1
Ephemerellidae						
<u>Eurylophella</u> sp	--	--	6	--	--	--
<u>Serratella</u> sp	171	207	86	--	210	34
Heptageniidae						
<u>Epeorus</u> sp	19	5	--	--	--	--
<u>Stenonema</u> sp	338	148	128	39	57	64
Isonychiidae						
<u>Isonychia</u> sp	128	28	23	--	--	73
Leptohyphidae						
<u>Tricorythodes</u> sp	--	--	19	--	2	2
Leptophlebiidae						
<u>Paraleptophlebia</u> sp	4	--	--	--	--	--
Odonata (DRAGONFLIES AND DAMSELFLIES)						
Coenagrionidae						
<u>Argia</u> sp	--	--	25	1	--	--
Gomphidae						
<u>Stylogomphus</u> sp	2	--	--	--	--	--
Plecoptera (STONEFLIES)						
Chloroperlidae						
Leuctridae	--	5	12	--	--	--
Perlidae						
<u>Acroneuria</u> sp	15	31	3	--	--	2
<u>Agnetina</u> sp	6	7	--	--	--	--
<u>Beloneuria</u> sp	--	--	--	--	--	--
<u>Paragnetina</u> sp	18	10	--	--	--	--
Taeniopterygidae						
<u>Strophopteryx</u> sp	--	--	--	--	--	--
<u>Taeniopteryx</u> sp	--	120	1	2	1	4
Hemiptera (TRUE BUGS)						
Velidae						
<u>Rhagovelia</u> sp	--	--	--	--	3	2
Megaloptera						
Corydalidae (FISHFLIES AND DOBSONFLIES)						
<u>Corydalus</u> sp	--	1	--	--	--	4
<u>Nigrinia</u> sp	--	--	--	--	--	--
Sialidae (ALDERFLIES)						
<u>Sialis</u> sp	5	--	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

01479700	01479800	01480629	01480636	0148063750	Station Number
10/23/01	10/23/01	10/04/01	10/29/01	10/29/01	Date
Count	Count	Count	Count	Count	Benthic Macroinvertebrate
					Insecta
					Ephemeroptera (MAYFLIES)
					Baetidae
7	2	9	77	12	<u>Baetis</u> sp
--	--	--	--	--	<u>Pseudocloeon</u> sp
					Caenidae
--	--	1	--	--	<u>Caenis</u> sp
					Ephemerellidae
3	2	--	41	13	<u>Eurylophella</u> sp
--	9	183	665	137	<u>Serratella</u> sp
					Heptageniidae
--	--	5	--	2	<u>Epeorus</u> sp
1	163	84	168	85	<u>Stenonema</u> sp
					Isonychiidae
--	2	59	--	16	<u>Isonychia</u> sp
					Leptohyphidae
--	--	--	--	5	<u>Tricorythodes</u> sp
					Leptophlebiidae
--	--	--	9	--	<u>Paraleptophlebia</u> sp
					Odonata (DRAGONFLIES AND DAMSELFLIES)
					Coenagrionidae
--	--	7	--	--	<u>Argia</u> sp
					Gomphidae
--	--	--	11	--	<u>Stylogomphus</u> sp
					Plecoptera (STONEFLIES)
--	--	--	20	5	Chloroperlidae
--	4	--	--	--	Leuctridae
					Perlidae
--	--	1	--	5	<u>Acroneuria</u> sp
--	--	--	99	30	<u>Agneta</u> sp
--	1	--	--	--	<u>Beloneuria</u> sp
--	--	--	--	--	<u>Paragnetina</u> sp
					Taeniopterygidae
--	--	--	21	--	<u>Strophopteryx</u> sp
--	--	--	23	9	<u>Taeniopteryx</u> sp
					Hemiptera (TRUE BUGS)
					Velidae
--	--	--	1	--	<u>Rhagovelia</u> sp
					Megaloptera
					Corydalidae (FISHFLIES AND DOBSONFLIES)
--	2	14	--	1	<u>Corydalus</u> sp
1	2	--	5	6	<u>Nigronia</u> sp
					Sialidae (ALDERFLIES)
--	--	--	5	--	<u>Sialis</u> sp

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01472080	01472190	01476450	01476835	01478120	01478230
Date	10/12/01	10/19/01	10/11/01	10/11/01	10/05/01	10/05/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Trichoptera (CADDISFLIES)						
Apataniidae						
<u>Apatania</u> sp	18	12	--	--	--	--
Brachycentridae						
<u>Micrasema</u> sp	--	80	28	--	--	5
Glossosomatidae						
<u>Glossosoma</u> sp	--	15	--	--	--	3
Goeridae						
<u>Goera</u> sp	--	--	--	--	--	--
Hydropsychidae						
<u>Cheumatopsyche</u> sp	828	882	303	89	85	371
<u>Hydropsyche</u> sp	460	1673	307	335	323	685
Hydroptilidae						
<u>Hydroptila</u> sp	5	--	78	2	1	--
<u>Leucotrichia</u> sp	5	103	96	--	6	16
Lepidostomatidae						
<u>Lepidostoma</u> sp	--	--	--	--	--	--
Leptoceridae						
<u>Oecetis</u> sp	--	--	24	--	--	--
Philopotamidae						
<u>Chimarra</u> sp	493	173	76	296	251	66
<u>Dolophilodes</u> sp	42	--	--	--	--	--
Polycentropodidae						
<u>Polycentropus</u> sp	5	--	12	--	--	--
Psychomyiidae						
<u>Psychomyia</u> sp	7	--	34	1	--	8
Rhyacophilidae						
<u>Rhyacophila</u> sp	63	--	--	--	--	--
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
<u>Dubiraphia</u> sp	--	--	--	5	--	--
<u>Macronychus</u> sp	--	--	--	--	--	--
<u>Optioservus</u> sp	387	318	126	233	126	81
<u>Oulimnius</u> sp	119	64	48	24	48	48
<u>Promoresia</u> sp	26	1	--	--	--	--
<u>Stenelmis</u> sp	304	20	233	693	595	16
Hydrophilidae						
<u>Berosus</u> sp	--	--	3	2	--	--
<u>Helophorus</u> sp	--	--	--	--	--	--
Psephenidae (WATER PENNIES)						
<u>Ectopria</u> sp	3	--	--	--	--	--
<u>Psephenus</u> sp	50	37	40	59	51	1
Ptilodactylidae						
<u>Anchytarsus</u> sp	--	--	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

01479700	01479800	01480629	01480636	0148063750	Station Number
10/23/01	10/23/01	10/04/01	10/29/01	10/29/01	Date
Count	Count	Count	Count	Count	Benthic Macroinvertebrate
					Trichoptera (CADDISFLIES)
					Apataniidae
--	--	--	--	--	<u>Apatania</u> sp
			42	31	Brachycentridae
--	--	--			<u>Micrasema</u> sp
	5	--	69	35	Glossosomatidae
--					<u>Glossosoma</u> sp
			2	--	Goeridae
--	--	--			<u>Goera</u> sp
					Hydropsychidae
975	570	23	631	192	<u>Cheumatopsyche</u> sp
502	1100	213	537	551	<u>Hydropsyche</u> sp
					Hydroptilidae
6	--	4	--	87	<u>Hydroptila</u> sp
--	1	23	--	10	<u>Leucotrichia</u> sp
			5	7	Lepidostomatidae
--	--	--			<u>Lepidostoma</u> sp
		2	--	--	Leptoceridae
--	--				<u>Oecetis</u> sp
	35	329	81	47	Philopotamidae
--	1	--	92	3	<u>Chimarra</u> sp
--					<u>Dolophilodes</u> sp
	2	34	43	--	Polycentropodidae
--					<u>Polycentropus</u> sp
				9	Psychomyiidae
--	--	--	--		<u>Psychomyia</u> sp
			23	--	Rhyacophilidae
--	--	--			<u>Rhyacophila</u> sp
					Coleoptera (BEETLES)
					Elmidae (RIFFLE BEETLES)
--	1	--	6	--	<u>Dubiraphia</u> sp
1	--	--	1	--	<u>Macronychus</u> sp
18	247	53	660	477	<u>Optioservus</u> sp
3	25	27	133	59	<u>Oulimnius</u> sp
--	--	--	3	13	<u>Promoresia</u> sp
9	217	104	30	62	<u>Stenelmis</u> sp
					Hydrophilidae
1	--	--	--	--	<u>Berosus</u> sp
--	--	--	1	--	<u>Helophorus</u> sp
					Psephenidae (WATER PENNIES)
--	--	--	--	--	<u>Ectopria</u> sp
1	48	20	117	121	<u>Psephenus</u> sp
					Ptilodactylidae
--	1	--	23	--	<u>Anchytarsus</u> sp

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01472080	01472190	01476450	01476835	01478120	01478230
Date	10/12/01	10/19/01	10/11/01	10/11/01	10/05/01	10/05/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Diptera (TRUE FLIES)						
Athericidae						
<u>Atherix</u> sp	5	--	--	--	--	1
Ceratopogonidae	--	--	--	--	--	--
Chironomidae (MIDGES)	406	522	692	82	137	120
Empididae (DANCE FLIES)						
<u>Hemerodromia</u> sp	12	3	19	1	16	18
Simuliidae (BLACK FLIES)						
<u>Simulium</u> sp	10	4	3	25	19	1
Tipulidae (CRANE FLIES)						
<u>Antocha</u> sp	63	44	43	15	41	68
<u>Dicranota</u> sp	7	--	--	--	--	--
<u>Hexatoma</u> sp	--	--	--	1	--	--
<u>Tipula</u> sp	1	--	--	1	1	1
Total organisms	4257	4786	2769	2021	2131	1925
Total number of taxa	39	36	38	30	26	38

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

01479700	01479800	01480629	01480636	0148063750	Station Number
10/23/01	10/23/01	10/04/01	10/29/01	10/29/01	Date
Count	Count	Count	Count	Count	Benthic Macroinvertebrate
					Diptera (TRUE FLIES)
					Athericidae
--	12	--	--	--	<u>Atherix</u> sp
1	--	--	1	--	Ceratopogonidae
995	265	55	240	329	Chironomidae (MIDGES)
					Empididae (DANCE FLIES)
31	6	2	1	1	<u>Hemerodromia</u> sp
					Simuliidae (BLACK FLIES)
9	--	8	7	5	<u>Simulium</u> sp
					Tipulidae (CRANE FLIES)
9	32	6	39	71	<u>Antocha</u> sp
--	--	--	4	1	<u>Dicranota</u> sp
--	--	--	--	--	<u>Hexatoma</u> sp
2	3	--	3	--	<u>Tipula</u> sp
2922	2828	1482	3970	2647	Total organisms
29	36	32	43	39	Total number of taxa

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01480638	01480653	01480743	01480745	01480750	01494953
Date	10/29/01	10/03/01	11/01/01	11/01/01	11/01/01	10/24/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	12	22	3	7	--	1
Nematoda (NEMATODES)	46	6	2	257	12	60
Nemertea (PROBOSAS WORMS)						
Enopla						
Hoploneurata						
Tetrastemmatidae						
<u>Prostoma</u> sp	3	15	--	9	27	47
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancyliidae						
<u>Ferrissia</u> sp	--	14	--	2	56	13
Lymnaeidae	--	--	--	--	--	3
Physidae						
<u>Physa</u> sp	--	--	2	11	--	--
Planorbidae						
<u>Gyraulus</u> sp	--	--	--	4	--	--
<u>Helisoma</u> sp	--	--	--	--	--	2
Bivalvia (CLAMS)						
Veneroidea						
Sphaeriidae	2	--	3	--	4	--
Unionidae	--	--	--	1	--	--
Annelida						
Oligochaeta (AQUATIC EARTHWORMS)						
Tubificida						
Tubificidae	--	--	--	153	--	--
Naididae	--	--	--	--	5	--
Hirudinea (LEECHES)						
Arhynchobdellida						
Erpobdellidae	--	--	1	2	--	--
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	58	177	15	19	10	18
Crustacea						
Amphipoda (SCUDS)						
Gammaridae						
<u>Hyalolella</u> sp	--	--	--	8	--	--
Decapoda						
Cambaridae (CRAYFISH)	--	--	--	--	1	--
Podocopa (SEED SHRIMP)	--	--	2	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01480638	01480653	01480743	01480745	01480750	01494953
Date	10/29/01	10/03/01	11/01/01	11/01/01	11/01/01	10/24/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
<u>Baetis</u> sp	5	6	40	--	6	--
<u>Pseudocloeon</u> sp	2	5	--	--	--	1
Caenidae						
<u>Caenis</u> sp	--	19	--	19	--	--
Ephemerellidae						
<u>Dannella</u> sp	29	--	--	--	--	--
<u>Eurylophella</u> sp	--	13	13	3	42	1
<u>Serratella</u> sp	16	51	183	2	176	--
Heptageniidae						
<u>Epeorus</u> sp	1	4	--	--	19	--
<u>Stenacron</u> sp	--	--	--	--	2	--
<u>Stenonema</u> sp	3	247	111	--	203	13
Isonychiidae sp						
<u>Isonychia</u> sp	--	210	6	--	20	17
Leptohyphidae						
<u>Tricorythodes</u> sp	--	8	--	--	--	--
Leptophlebiidae						
<u>Paraleptophlebia</u> sp	--	4	19	--	--	--
Odonata (DRAGONFLIES AND DAMSELFLIES)						
Aeshnidae						
<u>Boyeria</u> sp	--	1	--	--	--	--
Calopterygidae						
<u>Calopteryx</u> sp	--	--	--	1	--	--
Coenagrionidae						
<u>Argia</u> sp	--	1	--	1	--	7
Gomphidae						
<u>Stylogomphus</u> sp	2	--	--	--	--	--
Plecoptera (STONEFLIES)						
Capniidae						
<u>Allocapnia</u> sp	2	--	--	--	5	--
Leuctridae						
<u>Paraleuctra</u> sp	--	--	13	--	--	--
Perlidae						
<u>Acroneuria</u> sp	11	9	--	--	13	--
<u>Agnetina</u> sp	3	--	--	--	--	--
<u>Beloneuria</u> sp	--	--	5	--	--	--
<u>Ecoperla</u> sp	--	--	2	--	--	--
<u>Paragnetina</u> sp	9	--	--	--	--	--
Taeniopterygidae						
<u>Strophopteryx</u> sp	5	--	--	--	15	--
<u>Taeniopteryx</u> sp	11	6	2	--	8	--
Hemiptera (TRUE BUGS)						
Velidae						
<u>Rhagovelia</u> sp	--	--	4	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01480638	01480653	01480743	01480745	01480750	01494953
Date	10/29/01	10/03/01	11/01/01	11/01/01	11/01/01	10/24/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Megaloptera						
Corydalidae (FISHFLIES AND DOBSONFLIES)						
<u>Corydalus</u> sp	--	2	--	--	2	2
<u>Nigronia</u> sp	2	7	1	--	--	4
Sialidae (ALDERFLIES)						
<u>Sialis</u> sp	2	5	2	--	7	--
Trichoptera (CADDISFLIES)						
Apataniidae						
<u>Apatania</u> sp	--	17	2	--	--	--
Brachycentridae						
<u>Micrasema</u> sp	108	22	--	--	2	--
Glossosomatidae						
<u>Glossosoma</u> sp	5	--	21	--	20	--
Goeridae						
<u>Goera</u> sp	--	1	--	--	--	--
Hydropsychidae						
<u>Cheumatopsyche</u> sp	248	140	176	639	103	98
<u>Hydropsyche</u> sp	136	210	120	441	149	128
<u>Potamyia</u> sp	--	--	--	--	4	--
Hydroptilidae						
<u>Hydroptila</u> sp	--	--	2	3	2	7
<u>Leucotrichia</u> sp	--	6	--	--	--	47
Limnephilidae						
<u>Hydatophylax</u> sp	--	--	2	--	--	--
Lepidostomatidae						
<u>Lepidostoma</u> sp	2	--	--	--	--	--
Leptoceridae						
<u>Mystacides</u> sp	--	1	--	2	2	--
<u>Oecetis</u> sp	--	1	--	3	1	1
Philopotamidae						
<u>Chimarra</u> sp	56	51	--	--	3	--
<u>Dolophilodes</u> sp	4	--	19	--	--	--
Polycentropodidae						
<u>Neureclipsis</u> sp	--	--	--	--	--	1
<u>Polycentropus</u> sp	5	6	10	--	4	--
Psychomyiidae						
<u>Psychomyia</u> sp	--	5	--	1	60	--
Rhyacophilidae						
<u>Rhyacophila</u> sp	--	1	3	1	--	--
Uenoidae						
<u>Neophylax</u> sp	--	--	4	--	1	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01480638	01480653	01480743	01480745	01480750	01494953
Date	10/29/01	10/03/01	11/01/01	11/01/01	11/01/01	10/24/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Coleoptera (BEETLES)						
Dryopidae						
<u>Helichus</u> sp	1	--	--	--	--	--
Elmidae (RIFFLE BEETLES)						
<u>Ancyronyx</u> sp	--	--	--	7	--	1
<u>Dubiraphia</u> sp	1	1	--	115	1	--
<u>Microcyllloepus</u> sp	--	--	--	--	3	--
<u>Optioservus</u> sp	222	126	279	46	173	6
<u>Oulimnius</u> sp	118	44	31	30	22	3
<u>Promoresia</u> sp	62	30	9	--	19	--
<u>Stenelmis</u> sp	127	70	41	1185	34	1
Hydrophilidae						
<u>Berosus</u> sp	--	2	--	--	--	--
Psephenidae (WATER PENNIES)						
<u>Ectopria</u> sp	--	--	1	--	1	--
<u>Psephenus</u> sp	15	6	26	4	173	--
Ptilodactylidae						
<u>Anchytarsus</u> sp	--	--	1	--	--	--
Diptera (TRUE FLIES)						
Athericidae						
<u>Atherix</u> sp	--	1	--	--	--	--
Ceratopogonidae						
Chironomidae (MIDGES)	320	124	135	1571	311	160
Empididae (DANCE FLIES)						
<u>Hemerodromia</u> sp	2	25	--	57	5	2
Simuliidae (BLACK FLIES)						
<u>Simulium</u> sp	1	--	--	13	1	--
Tabanidae						
Tipulidae (CRANE FLIES)	--	--	--	4	--	--
<u>Antocha</u> sp	19	17	24	7	89	45
<u>Dicranota</u> sp	--	--	86	--	--	--
<u>Hexatoma</u> sp	--	--	4	--	--	--
<u>Pedicia</u> sp	--	--	5	--	--	--
<u>Tipula</u> sp	1	--	--	4	--	1
Total organisms	1687	1761	1438	4637	1819	692
Total number of taxa	41	48	44	36	46	29