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Physical, Chemical, and Biological Data for Selected Streams in Chester County, Pennsylvania, 1995-97

by Andrew G. Reif

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Prepared in cooperation with the

CHESTER COUNTY WATER RESOURCES AUTHORITY

Lemoyne, Pennsylvania
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**U.S. DEPARTMENT OF THE INTERIOR
BRUCE BABBITT, Secretary**

U.S. GEOLOGICAL SURVEY

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CONVERSION FACTORS AND ABBREVIATED WATER-QUALITY UNITS

<u>Multiply</u>	<u>By</u>	<u>To obtain</u>
inch (in.)	2.54	centimeter
square mile (mi ²)	2.590	square kilometer
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second
degree Celsius (°C)	°F=1.8 (°C+32)	degree Fahrenheit

Abbreviated water-quality units used in this report:

grams per kilogram (g/kg)
micrograms per gram (µg/g)
micrograms per kilogram (µg/kg)
microsiemens per centimeter (µS/cm)
milligram per liter (mg/L)
millimeter (mm)

PHYSICAL, CHEMICAL, AND BIOLOGICAL DATA FOR SELECTED STREAMS IN CHESTER COUNTY, PENNSYLVANIA, 1995-97

By Andrew G. Reif

ABSTRACT

Physical, chemical, and biological data were collected at 51 sampling sites in Chester County, Pa., from 1970 through 1997 as part of the Stream Conditions of Chester County Program. This report presents data collected from 43 sites from 1995 through 1997 that constitute a continuation of the program. Physical data include water temperature, instantaneous stream discharge, pH, alkalinity, specific conductance, and dissolved oxygen. Chemical data collected include laboratory determinations of nutrients and major ions in whole water samples and selected metals, pesticides, gross polychlorinated biphenyls (PCB's), gross polychlorinated naphthalenes (PCN's), and total carbon in stream-sediment samples. The biological data include benthic-macroinvertebrate populations. The data are presented without interpretation.

Chester County is undergoing urbanization as agricultural land is converted to residential developments, commercial areas, and industrial and corporate parks. The major goal of the Stream Conditions of Chester County Program is to further the understanding of stream changes in response to urbanization.

INTRODUCTION

Chester County, in the southeast corner of Pennsylvania near Philadelphia (fig. 1), is undergoing urbanization as agricultural land is converted to residential developments, commercial areas, and industrial and corporate parks. The Stream Conditions of Chester County Program was developed by the Chester County Water Resources Authority (CCWRA) and the U.S. Geological Survey (USGS) to evaluate stream-water quality and to further the understanding of stream changes in response to urbanization (Lium, 1977, p. 6). This report presents physical, chemical, and biological data collected at 43 sites from 1995 through 1997 as part of the Stream Conditions of Chester County Program (table 1). Physical, chemical, and biological data for the program from 1970 through 1994 were presented previously in two reports. A report by Moore (1989) contains data from 1970 through 1980 and a report by Reif (1999) contains data from 1981 through 1994.

The streams included in the Stream Conditions of Chester County Program drain nearly 95 percent of the county (fig. 1). Valley Creek, Pickering Creek, Stony Run, Pigeon Creek, and French Creek are tributaries to the Schuylkill River. Darby, Crum, Ridley, and Chester Creeks are tributaries to the Delaware River. Buck Run, Doe Run, Indian Run, and Valley Creek are tributaries to the Brandywine Creek. The Red Clay Creek, White Clay Creek, and Brandywine Creek are tributaries to the Christina River, which is a tributary to the Delaware River. Big Elk Creek flows into the Chesapeake Bay. Octoraro Creek is a tributary to the Susquehanna River. All streams sampled originate within the boundaries of Chester County, except for the headwaters of the West Branch Brandywine, French, and Octoraro Creeks.

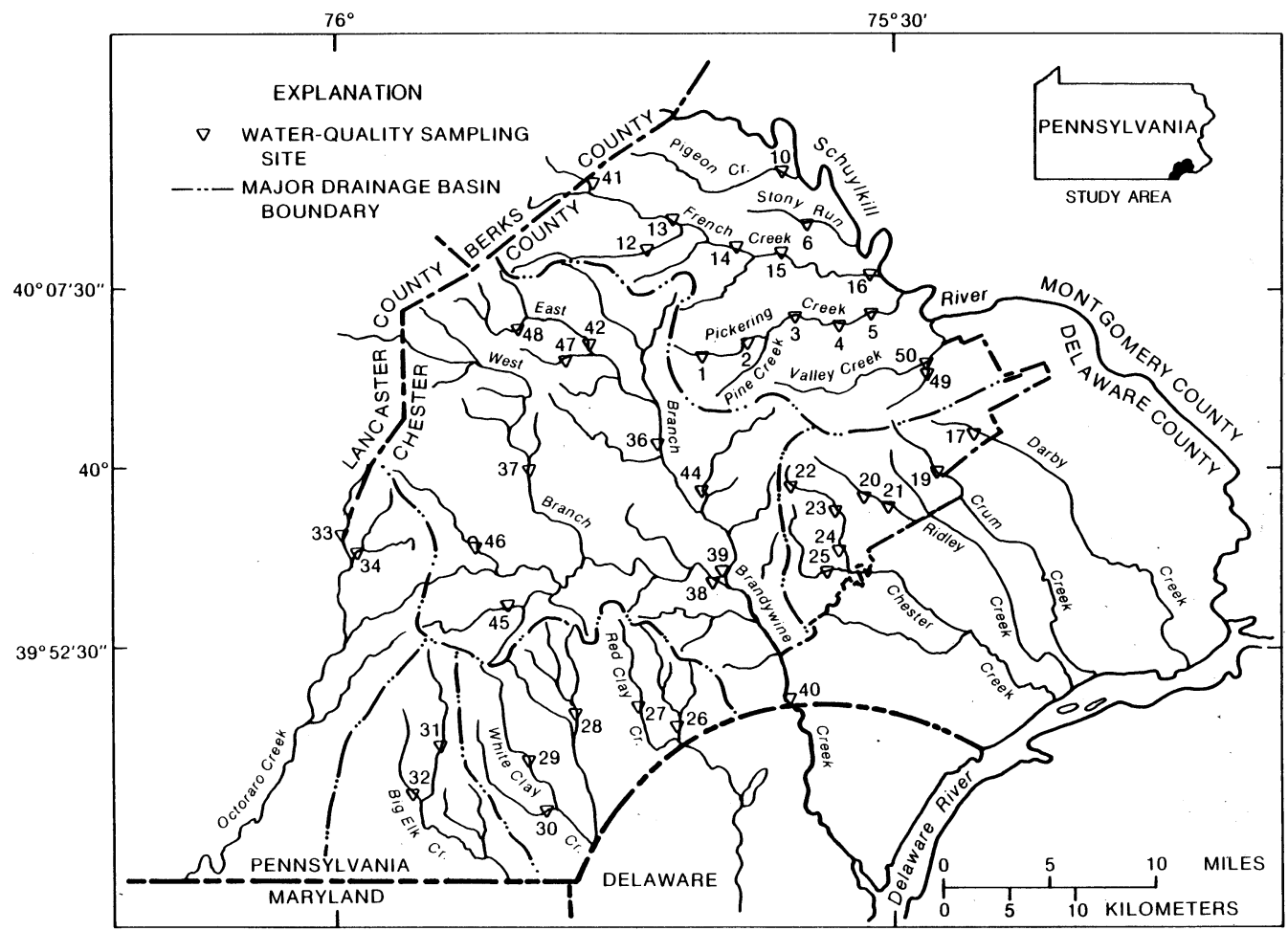


Figure 1. Location of sampling sites in Chester County, Pa.

Table 1. Sampling sites, station numbers, names, drainage areas, and period of record

U.S. Geological Survey station number	Site number	Station name	Drainage area (square miles)	Period of record		
				Biological	Chemical	Bottom sediments
01472080	10	Pigeon Creek near Parker Ford	12.0	1970-97	1969-97	1985,1996
01472109	6	Stony Run near Spring City	2.00	1970-96	1969-96	1985,1996
01472138	13	French Creek near Coventryville	19.9	1970-97	1969-97	1986,1997
01472140	12	South Branch French Creek at Coventryville	12.4	1970-97	1969-97	1985,1997
01472154	14	French Creek near Pughtown	46.1	1970-97	1969-97	1985,1997
01472157	15	French Creek near Phoenixville	59.1	1970-97	1969-97	1994
014721612	16	French Creek at Railroad Bridge at Phoenixville	70.7	1980-97	1970-97	1985,1994
01472170	1	Pickering Creek near Eagle	3.09	1970-96	1969-96	1987,1996
01472174	2	Pickering Creek near Chester Springs	5.98	1970-95	1969-95	1986
014721854	3	Pickering Creek at Merlin	21.2	1970-97	1969-97	1986,1997
014721884	4	Pickering Creek at Charlestown Road at Charlestown	27.5	1972-96	1969-96	1985, 1996
01472190	5	Pickering Creek near Phoenixville	31.4	1970-97	1969-97	1986,1994
01473167	49	Little Valley Creek at Howellville	6.45	1973-96	1970-96	1986,87,93
01473168	50	Valley Creek near Valley Forge	12.7	1973-96	1970-96	1985,1993
01475300	17	Darby Creek at Waterloo Mills near Devon	5.15	1970-96	1969-96	1996
01475840	19	Crum Creek at Whitehorse	10.1	1970-96	1969-96	1986,1996
01476430	20	Ridley Creek at Goshenville	4.22	1970-96	1969-96	1985
01476435	21	Ridley Creek at Dutton Mill near West Chester	9.71	1970-96	1969-96	1986
01476790	22	East Branch Chester Creek at Green Hill	.63	1970-97	1969-97	1986,1997
01476830	23	East Branch Chester Creek at Milltown	5.77	1970-96	1969-96	1986,1996
01476835	24	East Branch Chester Creek at Westtown	10.4	1970-97	1969-97	1985,1994
01476840	25	Goose Creek tributary to East Branch Chester Creek near West Chester	4.28	1975-82 1988-97	1970-82 1988-97	1988,1993
01476848	51	East Branch Chester Creek below Goose Creek near West Chester	19.2	1983-97	1970-97	1986,1994
01478120	28	East Branch White Clay Creek at Avondale	11.3	1970-97	1970-97	1985,1993
01478190	29	Middle Branch White Clay Creek at Wickerton	9.94	1970-97	1970-97	1986,1993
01478220	30	West Branch White Clay Creek near Chesterville	9.92	1970-97	1970-97	1985,1993
01479680	27	West Branch Red Clay Creek at Kennett Square	9.79	1970-97	1970-97	1983,86,93
01479800	26	East Branch Red Clay Creek near Five Point	10.2	1970-97	1970-97	1985,1993
01480434	37	West Branch Brandywine Creek at Rock Run	37.3	1970-96	1970-96	—
01480629	46	Buck Run at Doe Run	22.6	1973-97	1971-97	1985,1995
01480632	45	Doe Run at Springdell	11.8	1973-97	1971-97	1986, 1995
01480640	38	West Branch Brandywine Creek at Wawaset	134	1970-97	1970-97	1985,1993
01480648	48	East Branch Brandywine Creek near Cupola	5.98	1973-95	1971-95	1986, 1995
01480653	42	East Branch Brandywine Creek at Glenmoore	16.5	1973-95	1971-95	1985, 1995
01480656	47	Indian Run near Springton	4.26	1974-95	1971-95	1986,1995
01480700	36	East Branch Brandywine Creek near Downingtown	60.6	1970-96	1970-96	1985
01480903	44	Valley Creek at Mullsteins Meadows near Downingtown	16.1	1973-97	1971-97	1985,1995
01480950	39	East Branch Brandywine Creek at Wawaset	123	1979-97	1970-97	1986,1993
01481030	40	Brandywine Creek near Chadds Ford	291	1972-97	1970-97	1985,1997
01494900	31	East Branch Big Elk Creek at Elkview	11.1	1970-97	1970-97	1986,1994
01494950	32	West Branch Big Elk Creek near Oxford	10.0	1970-96	1970-96	1985,1994
01578340	33	East Branch Octoraro Creek at Christiana	11.8	1970-97	1970-97	1994
01578343	34	Valley Creek near Atglen	10.5	1970-96	1970-96	1985

Study Objectives and History

The major goal of the Stream Conditions of Chester County Program is to assess the water quality of streams in the county and to further the understanding of stream changes in response to urbanization. The physical, chemical, and biological data presented in this report were collected in support of this goal.

The investigation began in the fall of 1969 with a reconnaissance of the county to determine the general conditions of streams and land-use patterns. In 1970, the reconnaissance served as a guide to establish a chemical and biological water-quality network of 40 sites in 13 stream basins. The sites were established on the basis of equal cumulative square miles of drainage area within the basin (Lium, 1977). The sites were established away from any known source of pollution so that the water quality of the overall stream could be assessed. During 1970-72, samples were collected in the spring and fall. In 1971, 10 new stations were added to the chemical sampling program. In 1973, these 10 stations were added to the biological sampling program and sampling was reduced to once a year in the fall. In 1979, qualitative sampling was replaced by quantitative sampling at sites 16 and 39. In 1982, nine stations (sites 7, 8, 9, 11, 18, 25, 35, 41, and 43) were dropped from the network, and in 1983, one station (site 51) was added. In 1988 site 25 was reestablished, bringing the current number of active stations to 43.

Methods

Biological samples consisted of benthic macroinvertebrates collected from a riffle area. During each visit, benthic macroinvertebrates were sampled by collecting 10 rocks (45-90 mm in diameter) at random (Lium, 1974). All invertebrates from the rocks were composited in a container and stored in 70 percent isopropyl alcohol for later identification. A complete description of the sampling technique is described in a report by Moore (1987, p. 7). Benthic-macroinvertebrate samples were analyzed at the USGS office in Malvern, Pa. Benthic macroinvertebrates were identified to the lowest taxonomic level possible. A voucher collection of organisms identified resides at the USGS, Water Resources Division, Malvern, Pa. A list of taxonomic references that the identifications were based on is given in table 2. Brillouin's diversity index, maximum diversity, minimum diversity, and evenness were calculated for each benthic-macroinvertebrate sample (table 6). Mean and median Brillouin's diversity index along with the standard deviation and standard error of the mean were calculated for each site (table 7). Brillouin's diversity index is calculated by the following formula:

$$H = (C/N) \log_{10}(N!/N_1!N_2!\dots N_s!) \quad (1)$$

where H = diversity,

C = 3.3219,

N = total number of individuals,

s = number of taxa, and

N_i (i = 1, 2, ..., s) = number of individuals in the i^{th} taxa

Table 2. List of taxonomic references used to identify macroinvertebrate samples

Taxonomic Group	Reference
Turbellaria	Pennak, 1989
Nemertea	Pennak, 1989
Nematoda	Pennak, 1989
Gastropoda	Harman and Berg, 1971
Bivalvia	Peckarsky and others, 1990
Annelida	Pennak, 1989
Crustacea	Pennak, 1989
Arachnida	Pennak, 1989
Ephemeroptera	Peckarsky and others, 1990, Merritt and Cummins, 1996
Odonata	Peckarsky and others, 1990, Merritt and Cummins, 1996
Plecoptera	Peckarsky and others, 1990, Merritt and Cummins, 1996
Megaloptera	Peckarsky and others, 1990, Merritt and Cummins, 1996
Neuroptera	Peckarsky and others, 1990, Merritt and Cummins, 1996
Lepidoptera	Peckarsky and others, 1990, Merritt and Cummins, 1996
Trichoptera	Wiggins, 1996
Diptera	Peckarsky and others, 1990, Merritt and Cummins, 1996
Hymenoptera	Brigham and others, 1982, Merritt and Cummins, 1996
Coleoptera	Brown, 1976, Peckarsky and others, 1990

Brillouin's diversity index is based on the different kinds of organisms (taxa) present in a community and their relative abundances. Diversity is high if a community has many taxa and their abundances are evenly distributed; diversity is low if the taxa are few and their abundances are unevenly distributed (Moore, 1987). Brillouin's diversity can range from zero to infinity but usually is below 5.0. Brillouin's diversity values below 1.0 are associated with waters receiving heavy levels of organic wastes. Brillouin's diversity values between 1.0 and 3.0 are associated with waters receiving moderate levels of organic wastes, and Brillouin's diversity values between 3.0 and 5.0 are associated with waters receiving little or no organic wastes (Wilhm and Dorris, 1968; Wilhm, 1970). Brillouin's diversity measures the effect of community stress and not pollution directly. Community stress may be the result of many factors, including organic or toxic pollution, physical stress, or lack of suitable habitat.

Other information can be obtained from the number of taxa present in a community and their relative abundances. The maximum diversity (H_{\max}) exists when all individuals are distributed as evenly as possible among the taxa. The minimum diversity (H_{\min}) exists when all individuals are distributed as unevenly as possible among the taxa. Evenness (e) describes the observed degree of uniformity of the distribution of individuals among the taxa in the collection. Evenness values between 0.5 and 1.0 generally indicate a balanced community (Moore, 1987). The maximum diversity (H_{\max}), minimum diversity (H_{\min}), and evenness (e) are calculated by the following formulas:

$$H_{\max} = C/N \{ \log_{10}(N!) - s (\log_{10}) [(N/s)!] \}$$
$$H_{\min} = C/N \left(\log_{10} (N!) - \log_{10} \{ [N - (s - 1)]! \} \right)$$
$$e = H - H_{\min} / H_{\max} - H_{\min}$$

Surface-water samples for chemical analysis were collected in conjunction with the biological samples by use of techniques described by Brown and others (1970, p. 5). Chemical samples were analyzed at the USGS National Water Quality Laboratory in Arvada, Colo. Whole water samples were analyzed for nutrients, and chloride. Nutrients analyzed and reported from whole water samples were nitrite, nitrate, ammonia, and phosphorus.

Stream-bottom sediment samples were collected by hand from the top 6 to 12 in. of sediment with a polyethylene scoop and sieved through a 2-mm polyethylene sieve to remove gravel. The sediment was washed with native water and collected in a polyethylene collection basin. The samples were homogenized and then transferred to clean glass or polyethylene containers and placed on ice for shipment to the USGS National Water Quality Lab. Stream-bottom sediment samples were analyzed for selected metals, pesticides, gross polychlorinated biphenyls (PCB's), gross polychlorinated naphthalenes (PCN's), and total carbon. Selected metals analyzed and reported from stream-bottom sediment samples were arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, and zinc. Selected pesticides analyzed and reported from stream-bottom sediment samples were aldrin, chlordane, DDD, DDE, DDT, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, lindane, methoxychlor, mirex, perthane, and toxaphene.

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Table 3. Water-quality data[μ S/cm, microsiemens per centimeter at 25 degrees Celsius; mg/L, milligrams per liter, <, less than; --, no data]

Date	Agency collecting sample (code number) (00027)	Agency analyzing sample (code number) (00028)	Instantaneous discharge (cubic feet per second) (00061)	Specific conductance (μ S/cm) (00095)	pH, water, whole field (standard units) (00400)	Water temperature (degrees Celsius) (00010)	Dissolved oxygen (mg/L) (00300)
01472080 (site 10) Pigeon Creek near Parker Ford, Pa. (Lat 40 12 03n Long 075 37 10w)							
11/22/95	1028	80020	11	177	6.9	5.5	12.9
11/06/96	1028	80020	13	166	6.3	10.0	12.4
10/30/97	1028	80020	3.2	182	6.9	8.0	11.7
01472109 (site 6) Stony Run near Spring City, Pa. (Lat 40 10 11n Long 075 34 45w)							
11/13/95	1028	80020	2.1	239	7.0	5.5	12.0
11/06/96	1028	80020	2.3	239	6.4	9.5	11.2
01472138 (site 13) French Creek near Coventryville, Pa. (Lat 40 10 14n Long 075 41 50w)							
11/06/95	1028	80020	14	134	7.1	5.5	12.1
10/01/97	1028	80020	5.7	142	6.8	13.5	9.1
01472140 (site 12) South Branch French Creek at Coventryville, Pa. (Lat 40 09 18n Long 075 42 52w)							
11/06/95	1028	80020	8.4	201	7.1	6.0	13.4
10/09/97	1028	80020	3.7	203	7.3	16.0	11.0
01472154 (site 14) French Creek near Pughtown, Pa. (Lat 40 09 17n Long 075 38 25w)							
11/06/95	1028	80020	29	165	7.4	6.5	12.3
10/08/97	1028	80020	9.3	171	6.9	16.5	9.5
01472157 (site 15) French Creek near Phoenixville, Pa. (Lat 40 09 05n Long 075 36 06w)							
10/27/95	1028	80020	45	172	7.4	9.5	11.3
10/28/96	1028	80020	99	148	6.8	14.0	10.1
10/02/97	1028	80020	21	166	7.3	11.5	11.4
014721612 (site 16) French Creek at Railroad Bridge at Phoenixville, Pa. (Lat 40 08 10n Long 075 30 41w)							
11/07/95	1028	80020	47	225	7.6	5.5	12.1
10/02/97	1028	80020	22	231	7.2	11.5	10.2
01472170 (site 1) Pickering Creek near Eagle, Pa. (Lat 40 04 43n Long 075 39 14w)							
10/12/95	1028	80020	.82	250	7.5	17.0	10.2
10/31/96	1028	80020	3.9	218	6.8	11.5	10.6
01472174 (site 2) Pickering Creek near Chester Springs, Pa. (Lat 40 05 22n Long 075 37 50w)							
10/12/95	1028	80020	2.3	228	7.6	15.0	9.6
014721854 (site 3) Pickering Creek at Merlin, Pa. (Lat 40 06 25n Long 075 35 34w)							
10/12/95	1028	80020	7.1	230	7.6	13.0	10.0
10/16/97	1028	80020	9.3	228	6.9	12.5	9.4
014721884 (site 4) Pickering Creek at Charlestown Rd at Charlestown, Pa. (Lat 40 05 57n Long 075 33 20w)							
10/11/95	1028	80020	9.7	250	7.8	16.0	11.6
10/02/96	1028	80020	33	221	6.6	14.5	10.2
01472190 (site 5) Pickering Creek near Phoenixville, Pa. (Lat 40 06 33n Long 075 31 42w)							
10/11/95	1028	80020	11	248	7.7	13.5	10.9
10/31/96	1028	80020	41	228	6.7	10.5	11.4
10/30/97	1028	80020	14	249	7.1	6.0	10.9
01473167 (site 49) Little Valley Creek at Howellville, Pa. (Lat 40 04 00n Long 075 28 22w)							
10/30/95	1028	80020	6.4	613	7.9	9.5	11.4
10/24/96	1028	80020	12	576	7.3	12.5	10.3
01473168 (site 50) Valley Creek near Valley Forge, Pa. (Lat 40 04 11n Long 075 28 25w)							
10/30/95	1028	80020	13	594	8.2	10.0	11.7
10/24/96	1028	80020	27	595	7.6	12.5	10.6
01475300 (site 17) Darby Creek at Waterloo Mills near Devon, Pa. (Lat 40 01 21n Long 075 25 20w)							
10/19/95	1028	80020	3.0	301	7.4	11.5	10.0
10/16/96	1028	80020	5.6	296	6.5	11.5	10.4

Table 3. Water-quality data—Continued

Date	Alkalinity whole water total, field (mg/L as CaCO ₃) (00419)	Dissolved chloride (mg/L as Cl) (00940)	Dissolved nitrite nitrogen (mg/L as N) (00613)	Dissolved NO ₂ + NO ₃ nitrogen (mg/L as N) (00631)	Dissolved ammonia nitrogen (mg/L as N) (00608)	Dissolved orthophosphorus (mg/L as P) (00671)
01472080 (site 10) Pigeon Creek near Parker Ford, Pa. (Lat 40 12 03n Long 075 37 10w)						
11/22/95	30	12	0.020	2.80	<0.015	0.020
11/06/96	38	12	.030	3.00	<.015	<.010
10/30/97	43	11	<.010	1.81	<.015	.045
01472109 (site 6) Stony Run near Spring City, Pa. (Lat 40 10 11n Long 075 34 45w)						
11/13/95	33	17	.030	5.20	.030	.070
11/06/96	35	20	.030	6.50	<.015	.020
01472138 (site 13) French Creek near Coventryville, Pa. (Lat 40 10 14n Long 075 41 50w)						
11/06/95	29	8.4	<.010	.660	<.015	<.010
10/01/97	39	8.4	<.010	.595	<.015	.010
01472140 (site 12) South Branch French Creek at Coventryville, Pa. (Lat 40 09 18n Long 075 42 52w)						
11/06/95	59	14	.010	2.70	<.015	<.010
10/09/97	96	14	.010	1.97	<.015	<.010
01472154 (site 14) French Creek near Pughtown, Pa. (Lat 40 09 17n Long 075 38 25w)						
11/06/95	41	11	.020	1.20	<.015	<.010
10/08/97	75	11	<.010	.919	<.015	<.010
01472157 (site 15) French Creek near Phoenixville, Pa. (Lat 40 09 05n Long 075 36 06w)						
10/27/95	34	11	<.010	1.20	<.015	.020
10/28/96	82	10	.010	1.60	<.015	<.010
10/02/97	43	11	.012	1.12	<.015	<.010
014721612 (site 16) French Br Creek at Railroad Bridge at Phoenixville, Pa. (Lat 40 08 10n Long 075 30 41w)						
11/07/95	50	16	.010	1.60	<.015	<.010
10/02/97	59	15	.019	1.13	<.015	<.010
01472170 (site 1) Pickering Creek near Eagle, Pa. (Lat 40 04 43n Long 075 39 14w)						
10/12/95	44	25	<.010	1.80	<.015	.010
10/31/96	36	23	.010	2.40	<.015	<.010
01472174 (site 2) Pickering Creek near Chester Springs, Pa. (Lat 40 05 22n Long 075 37 50w)						
10/12/95	46	17	<.010	1.80	<.015	.010
014721854 (site 3) Pickering Creek at Merlin, Pa. (Lat 40 06 25n Long 075 35 34w)						
10/12/95	46	21	<.010	1.30	<.015	.020
10/16/97	75	21	<.010	1.18	<.015	.015
014721884 (site 4) Pickering Creek at Charlestown Rd Br at Charlestown, Pa. (Lat 40 05 57n Long 075 33 20w)						
10/11/95	55	22	<.010	1.20	<.015	.010
10/02/96	39	22	<.010	1.90	.020	.010
01472190 (site 5) Pickering Creek near Phoenixville, Pa. (Lat 40 06 33n Long 075 31 42w)						
10/11/95	28	22	<.010	1.10	.015	.020
10/31/96	55	22	.010	1.80	<.015	<.010
10/30/97	79	24	<.010	1.14	<.020	<.010
01473167(site 49) Little Valley Creek at Howellville, Pa. (Lat 40 04 00n Long 075 28 22w)						
10/30/95	154	58	<.010	1.80	<.015	.020
10/24/96	170	63	.010	2.60	.030	.020
01473168 (site 50) Valley Creek near Valley Forge, Pa. (Lat 40 04 11n Long 075 28 25w)						
10/30/95	184	41	<.010	2.10	.020	.020
10/24/96	221	44	.030	2.50	.100	.030
01475300 (site 17) Darby Creek at Waterloo Mills near Devon, Pa. (Lat 40 01 21n Long 075 25 20w)						
10/19/95	63	27	.010	1.30	<.015	.020
10/16/96	68	29	.020	2.20	.070	.010

Table 3. Water-quality data—Continued[μ S/cm, microsiemens per centimeter at 25 degrees Celsius; mg/L, milligrams per liter, <, less than; --, no data]

Date	Agency collecting sample (code number) (00027)	Agency analyzing sample (code number) (00028)	Instantaneous discharge (cubic feet per second) (00061)	Specific conductance (μ S/cm) (00095)	pH, water, whole field (standard units) (00400)	Water temperature (degrees Celsius) (00010)	Dissolved oxygen (mg/L) (00300)
01475840 (site 19) Crum Creek at Whitehorse, Pa. (Lat 39 59 54n Long 075 27 38w)							
10/19/95	1028	80020	4.5	204	7.5	11.0	11.5
10/16/96	1028	80020	11	206	6.8	10.5	11.5
01476430 (site 20) Ridley Creek at Goshenville, Pa. (Lat 39 59 28n Long 075 32 40w)							
10/25/95	1028	80020	3.5	248	7.3	13.5	10.8
10/28/96	1028	80020	7.6	265	6.8	14.5	9.5
01476435 (site 21) Ridley Creek at Dutton Mill near West Chester, Pa. (Lat 39 58 52n Long 075 31 02w)							
10/23/95	1028	80020	10	237	7.3	10.5	10.4
10/23/96	1028	80020	22	235	6.5	12.5	10.4
01476790 (site 22) East Branch Chester Creek at Green Hill, Pa. (Lat 39 59 49n Long 075 35 40w)							
10/23/95	1028	80020	1.2	384	7.0	13.5	9.8
10/03/97	1028	80020	.37	371	6.8	13.5	9.5
01476830 (site 23) East Branch Chester Creek at Milltown, Pa. (Lat 39 58 21n Long 075 32 57w)							
10/24/95	1028	80020	4.7	327	7.4	12.5	10.1
10/07/96	1028	80020	12	332	6.5	13.5	10.2
01476835 (site 24) East Branch Chester Creek at Westtown, Pa. (Lat 39 56 26n Long 075 32 30w)							
10/24/95	1028	80020	8.6	334	7.3	13.5	9.7
10/07/96	1028	80020	16	338	6.7	12.0	9.9
10/06/97	1028	80020	3.2	395	7.1	17.5	8.6
01476840 (site 25) Goose Creek trib to E Br Chester Creek nr W Chester, Pa. (Lat 39 56 04n Long 075 33 31w)							
10/25/95	1028	80020	11	698	7.3	15.0	8.5
10/04/96	1028	80020	14	626	7.1	13.5	10.0
10/03/97	1028	80020	11	766	7.2	15.0	9.8
01476848 (site 51) East Br Chester Creek below Goose Creek nr West Chester, Pa. (Lat 39 55 45n Long 075 32 00w)							
10/24/95	1028	80020	24	502	7.3	15.5	9.6
10/06/97	1028	80020	12	581	7.0	16.0	8.6
01478120 (site 28) East Branch White Clay Creek at Avondale, Pa. (Lat 39 49 42n Long 075 46 52w)							
11/09/95	1028	80020	8.3	347	7.4	5.5	12.3
11/12/97	1028	80020	7.5	356	7.7	7.0	10.8
01478190 (site 29) Middle Branch White Clay Creek at Wickerton, Pa. (Lat 39 47 44n Long 075 49 27w)							
11/09/95	1028	80020	6.4	241	7.1	5.5	12.8
11/12/97	1028	80020	5.5	253	7.6	8.0	11.9
01478220 (site 30) West Branch White Clay Creek near Chesterville, Pa. (Lat 39 45 56n Long 075 47 47w)							
11/09/95	1028	80020	5.7	194	7.0	5.5	12.5
11/12/97	1028	80020	4.6	202	7.6	8.0	12.4
01479680 (site 27) West Branch Red Clay Creek at Kennett Square, Pa. (Lat 39 50 13n Long 075 43 33w)							
10/18/95	1028	80020	4.8	361	7.5	10.5	10.9
11/05/96	1028	80020	12	301	6.7	8.0	12.1
10/14/97	1028	80020	3.6	374	7.1	15.0	8.7
01479800 (site 26) East Branch Red Clay Creek near Five Point, Pa. (Lat 39 49 10n Long 075 41 29w)							
10/18/95	1028	80020	4.9	399	7.7	11.0	11.8
11/05/96	1028	80020	12	342	6.9	8.5	13.7
10/14/97	1028	80020	2.7	378	7.2	16.0	9.7
01480434 (site 37) West Branch Brandywine Creek at Rock Run, Pa. (Lat 39 59 36n Long 075 49 41w)							
10/17/95	1028	80020	15	252	7.4	8.5	11.0
10/29/96	1028	80020	74	212	6.5	12.0	10.8

Table 3. Water-quality data—Continued

Date	Alkalinity whole water total, field (mg/L as CaCO ₃) (00419)	Dissolved chloride (mg/L as Cl) (00940)	Dissolved nitrite nitrogen (mg/L as N) (00613)	Dissolved NO ₂ + NO ₃ nitrogen (mg/L as N) (00631)	Dissolved ammonia nitrogen (mg/L as N) (00608)	Dissolved orthophosphorus (mg/L as P) (00671)
01475840 (site 19) Crum Creek at Whitehorse, Pa. (Lat 39 59 54n Long 075 27 38w)						
10/19/95	48	16	0.010	1.40	<0.015	0.010
10/16/96	50	20	--	--	--	--
01476430 (site 20) Ridley Creek at Goshenville, Pa. (Lat 39 59 28n Long 075 32 40w)						
10/25/95	51	25	.010	2.20	<.015	.040
10/28/96	42	35	.020	3.20	<.015	<.010
01476435 (site 21) Ridley Creek at Dutton Mill near West Chester, Pa. (Lat 39 58 52n Long 075 31 02w)						
10/23/95	45	21	<.010	2.40	.020	.170
10/23/96	53	26	.020	3.40	.030	.080
01476790 (site 22) East Branch Chester Creek at Green Hill, Pa. (Lat 39 59 49n Long 075 35 40w)						
10/23/95	56	55	<.010	4.20	<.015	.020
10/03/97	51	55	.016	4.32	<.015	<.010
01476830 (site 23) East Branch Chester Creek at Milltown, Pa. (Lat 39 58 21n Long 075 32 57w)						
10/24/95	66	37	.040	1.80	.030	.030
10/07/96	57	47	.060	1.80	.130	<.010
01476835 (site 24) East Branch Chester Creek at Westtown, Pa. (Lat 39 56 26n Long 075 32 30w)						
10/24/95	46	38	.030	2.40	.060	.130
10/07/96	55	47	.090	2.40	.220	.100
10/06/97	69	50	.083	3.93	<.015	.272
01476840 (site 25) Goose Creek trib to E Br Chester Creek nr W Chester, Pa. (Lat 39 56 04n Long 075 33 31w)						
10/25/95	72	86	.690	12.0	.320	2.00
10/04/96	45	89	.220	14.0	.330	1.10
10/03/97	61	110	.108	16.9	.018	3.13
01476848 (site 51) East Br Chester Creek below Goose Creek nr West Chester, Pa. (Lat 39 55 45n Long 075 32 00w)						
10/24/95	70	58	.370	6.80	.470	1.00
10/06/97	69	78	.078	9.69	<.015	1.54
01478120 (site 28) East Branch White Clay Creek at Avondale, Pa. (Lat 39 49 42n Long 075 46 52w)						
11/09/95	100	17	.010	3.90	<.015	.020
11/12/97	85	20	.024	4.73	<.020	.053
01478190 (site 29) Middle Branch White Clay Creek at Wickerton, Pa. (Lat 39 47 44n Long 075 49 27w)						
11/09/95	43	16	.030	4.90	<.015	.170
11/12/97	41	20	.026	4.97	<.020	.230
01478220 (site 30) West Branch White Clay Creek near Chesterville, Pa. (Lat 39 45 56n Long 075 47 47w)						
11/09/95	30	15	.020	2.80	<.015	<.010
11/12/97	26	17	.028	3.27	<.020	.039
01479680 (site 27) West Branch Red Clay Creek at Kennett Square, Pa. (Lat 39 50 13n Long 075 43 33w)						
10/18/95	89	18	.010	4.80	.040	.050
11/05/96	75	18	.020	5.40	.020	<.010
10/14/97	97	26	.023	4.77	.039	.021
01479800 (site 26) East Branch Red Clay Creek near Five Point, Pa. (Lat 39 49 10n Long 075 41 29w)						
10/18/95	68	26	<.010	3.70	<.015	.060
11/05/96	72	27	.040	4.50	.020	.020
10/14/97	123	29	.019	2.92	.026	.066
01480434 (site 37) West Branch Brandywine Creek at Rock Run, Pa. (Lat 39 59 36n Long 075 49 41w)						
10/17/95	47	16	<.010	2.80	<.015	.190
10/29/96	43	15	.020	3.60	<.015	.020

Table 3. Water-quality data—Continued[μ S/cm, microsiemens per centimeter at 25 degrees Celsius; mg/L, milligrams per liter, <, less than; --, no data]

Date	Agency collecting sample (code number) (00027)	Agency analyzing sample (code number) (00028)	Instantaneous discharge (cubic feet per second) (00061)	Specific conductance (μ S/cm) (00095)	pH, water, whole field (standard units) (00400)	Water temperature (degrees Celsius) (00010)	Dissolved oxygen (mg/L) (00300)
01480629 (site 46) Buck Run at Doe Run, Pa. (Lat 39 55 46n Long 075 49 24w)							
11/28/95	1028	80020	21	240	7.7	8.5	12.9
11/06/97	1028	80020	8.8	238	7.7	7.5	12.3
01480632 (site 45) Doe Run at Springdell, Pa. (Lat 39 54 25n Long 075 49 42w)							
11/28/95	1028	80020	10	156	7.2	8.5	12.1
11/06/97	1028	80020	5.9	153	7.3	6.5	12.2
01480640 (site 38) West Branch Brandywine Creek at Wawaset, Pa. (Lat 39 55 34n Long 075 39 47w)							
11/20/95	1028	80020	181	253	7.2	6.5	12.1
10/15/96	1028	80020	168	238	6.4	12.0	10.3
10/10/97	1028	80020	43	285	7.0	18.0	8.2
01480648 (site 48) East Branch Brandywine Creek near Cupola, Pa. (Lat 40 05 41n Long 075 51 14w)							
11/27/95	1028	80020	5.4	207	7.0	4.5	12.7
01480653 (site 42) East Branch Brandywine Creek at Glenmoore, Pa. (Lat 40 05 48n Long 075 46 44w)							
12/01/95	1028	80020	13	196	7.3	4.0	13.1
01480656 (site 47) Indian Run near Springton, Pa. (Lat 40 04 33n Long 075 46 52w)							
11/27/95	1028	80020	2.5	182	7.2	6.5	13.0
01480700 (site 36) East Branch Brandywine Creek near Downingtown, Pa. (Lat 40 02 05n Long 075 42 32w)							
10/17/95	1028	80020	19	222	7.5	11.0	11.4
10/29/96	1028	80020	85	191	6.4	11.0	10.5
01480903 (site 44) Valley Creek at Mullsteins Meadows nr Downingtown, Pa. (Lat 39 58 31n Long 075 39 48w)							
11/21/95	1028	80020	21	415	7.9	8.5	13.2
11/04/97	1028	80020	7.2	421	8.0	9.5	11.0
01480950 (site 39) East Branch Brandywine Creek at Wawaset, Pa. (Lat 39 55 35n Long 075 38 54w)							
11/20/95	1028	80020	138	271	7.3	8.0	12.3
10/15/96	1028	80020	144	293	6.6	12.5	11.2
10/29/97	1028	80020	50	350	7.3	8.0	11.2
01481030 (site 40) Brandywine Creek near Chadds Ford, Pa. (Lat 39 51 15n Long 075 35 58w)							
10/13/95	1028	80020	159	345	7.6	16.0	9.2
11/13/97	1028	80020	125	299	7.4	6.5	11.1
01494900 (site 31) East Branch Big Elk Creek at Elkview, Pa. (Lat 39 48 48n Long 075 54 04w)							
11/30/95	1028	80020	8.7	180	7.4	3.5	14.3
10/25/96	1028	80020	15	172	6.0	11.0	11.0
10/31/97	1028	80020	3.6	184	6.7	9.5	12.0
01494950 (site 32) West Branch Big Elk Creek near Oxford, Pa. (Lat 39 46 47n Long 075 55 27w)							
11/30/95	1028	80020	8.2	237	7.0	4.5	14.9
10/25/96	1028	80020	14	201	6.2	11.0	11.4
01578340 (site 33) East Branch Octoraro Creek at Christiana, Pa. (Lat 39 56 57n Long 075 59 38w)							
10/26/95	1028	80020	6.8	321	7.3	9.0	12.0
10/30/96	1028	80020	15	304	6.7	12.0	11.5
10/31/97	1028	80020	4.5	320	6.7	7.0	10.6
01578343 (site 34) Valley Creek near Atglen, Pa. (Lat 39 56 23n Long 075 59 06w)							
10/26/95	1028	80020	5.3	341	7.4	10.5	10.9
10/30/96	1028	80020	15	298	6.4	11.0	9.9

Table 3. Water-quality data—Continued

Date	Alkalinity whole water total, field (mg/L as CaCO ₃) (00419)	Dissolved chloride (mg/L as Cl) (00940)	Dissolved nitrite nitrogen (mg/L as N) (00613)	Dissolved NO ₂ + NO ₃ nitrogen (mg/L as N) (00631)	Dissolved ammonia nitrogen (mg/L as N) (00608)	Dissolved orthophosphorus (mg/L as P) (00671)
01480629 (site 46) Buck Run at Doe Run, Pa. (Lat 39 55 46n Long 075 49 24w)						
11/28/95	42	18	0.020	5.50	<0.015	0.020
11/06/97	47	17	.024	4.26	<.020	.026
01480632 (site 45) Doe Run at Springdell, Pa. (Lat 39 54 25n Long 075 49 42w)						
11/28/95	24	11	<.010	5.00	<.015	<.010
11/06/97	23	11	.030	4.81	<.020	.026
01480640 (site 38) West Branch Brandywine Creek at Wawaset, Pa. (Lat 39 55 34n Long 075 39 47w)						
11/20/95	46	18	.010	3.70	<.015	.040
10/15/96	70	18	.020	3.90	.040	.040
10/10/97	67	24	.053	2.80	<.015	<.010
01480648 (site 48) East Branch Brandywine Creek near Cupola, Pa. (Lat 40 05 41n Long 075 51 14w)						
11/27/95	57	13	.020	3.30	.110	.010
01480653 (site 42) East Branch Brandywine Creek at Glenmoore, Pa. (Lat 40 05 48n Long 075 46 44w)						
12/01/95	49	13	.010	3.70	.070	.010
01480656 (site 47) Indian Run near Springton, Pa. (Lat 40 04 33n Long 075 46 52w)						
11/27/95	46	11	.010	3.80	<.015	.060
01480700 (site 36) East Branch Brandywine Creek near Downingtown, Pa. (Lat 40 02 05n Long 075 42 32w)						
10/17/95	47	17	<.010	1.40	.020	.030
10/29/96	44	17	.010	2.20	<.020	.020
01480903 (site 44) Valley Creek at Mullsteins Meadows nr Downingtown, Pa. (Lat 39 58 31n Long 075 39 48w)						
11/21/95	118	29	.010	2.10	<.015	<.010
11/04/97	119	29	.031	2.23	<.020	.027
01480950 (site 39) East Branch Brandywine Creek at Wawaset, Pa. (Lat 39 55 35n Long 075 38 54w)						
11/20/95	60	22	.020	2.10	.090	.090
10/15/96	95	27	.020	2.90	.050	.050
10/29/97	63	33	.015	3.41	<.015	.168
01481030 (site 40) Brandywine Creek near Chadds Ford, Pa. (Lat 39 51 15n Long 075 35 58w)						
10/13/95	77	31	<.010	3.00	<.015	.100
11/13/97	68	26	.025	2.91	<.020	.169
01494900 (site 31) East Branch Big Elk Creek at Elkview, Pa. (Lat 39 48 48n Long 075 54 04w)						
11/30/95	24	16	<.010	5.10	<.015	.080
10/25/96	31	15	.010	4.00	<.015	.020
10/31/97	39	16	<.010	6.30	<.020	.094
01494950 (site 32) West Branch Big Elk Creek near Oxford, Pa. (Lat 39 46 47n Long 075 55 27w)						
11/30/95	32	28	.010	5.30	<.015	.030
10/25/96	28	21	.010	5.80	<.015	.020
01578340 (site 33) East Branch Octoraro Creek at Christiana, Pa. (Lat 39 56 57n Long 075 59 38w)						
10/26/95	50	19	.020	8.70	<.015	.040
10/30/96	46	19	.020	10.0	<.015	.010
10/31/97	83	21	.045	8.98	<.020	.024
01578343 (site 34) Valley Creek near Atglen, Pa. (Lat 39 56 23n Long 075 59 06w)						
10/26/95	62	21	.040	7.10	.280	.080
10/30/96	53	19	.030	8.70	.160	.030

Table 4. Results of stream-bottom sediment sampling

[µg/g; microgram per gram; g/kg, gram per kilogram; µg/kg, microgram per kilogram; PCB, Polychlorinated biphenyls; PCN, Polychlorinated naphthalenes; <, less than; E, estimated; --, no data]

Date	Arsenic, total in bottom material (µg/g as As)	Cadmium, recoverable from bottom material (µg/g as Cd)	Chromium, recoverable from bottom material (µg/g as Cr)	Copper, recoverable from bottom material (µg/g as Cu)	Iron, recoverable from bottom material (µg/g as Fe)	Lead, recoverable from bottom material (µg/g as Pb)	Manganese, recoverable from bottom material (µg/g as Mn)	Mercury, recoverable from bottom material (µg/g as Hg)	Zinc, recoverable from bottom material (µg/g as Zn)
		01472080 (site10) Pigeon Creek near Parker Ford, Pa. (Lat 40 12 03n Long 075 37 10w)							
11/06/96	2	<1	1	0	1,700	<10	53	<0.01	7
		01472109 (site 6) Stony Run near Spring City, Pa. (Lat 40 10 11n Long 075 34 45w)							
11/06/96	3	<1	7	10	7,400	<10	220	.02	30
		01472138 (site 13) French Creek near Coventryville, Pa. (Lat 40 10 14n Long 075 41 50w)							
10/01/97	--	<1	42	29	22,000	30	440	.04	100
		01472140 (site 12) South Branch French Creek at Coventryville, Pa. (Lat 40 09 18n Long 075 42 52w)							
10/09/97	2	<1	18	26	23,000	20	350	.02	60
		01472154 (site 14) French Creek near Pughtown, Pa. (Lat 40 09 17n Long 075 38 25w)							
10/08/97	3	<1	32	27	28,000	40	860	.04	110
		01472170 (site 1) Pickering Creek near Eagle, Pa. (Lat 40 04 43n Long 075 39 14w)							
10/31/96	3	<1	50	20	27,000	20	350	.01	90
		014721854 (site 3) Pickering Creek at Merlin, Pa. (Lat 40 06 25n Long 075 35 34w)							
10/16/97	2	<1	30	16	22,000	20	240	.04	100
		014721884 (site 4) Pickering Creek at Charlestown Rd at Charlestown, Pa. (Lat 40 05 57n Long 075 33 20w)							
10/02/96	2	<1	20	12	16,000	20	220	.03	70
		01475300 (site 17) Darby Creek at Waterloo Mills near Devon, Pa. (Lat 40 01 21n Long 075 25 20w)							
10/16/96	2	<1	30	12	15,000	20	170	.02	60
		01475840 (site 19) Crum Creek at Whitehorse, Pa. (Lat 39 59 54n Long 075 27 38w)							
10/16/96	3	<1	20	10	4,400	20	230	.04	40
		01476790 (site 22) East Branch Chester Creek at Green Hill, Pa. (Lat 39 59 49n Long 075 35 40w)							
10/09/97	4	<1	29	31	40,000	40	1100	.04	130
		01476830 (site 23) East Branch Chester Creek at Milltown, Pa. (Lat 39 58 21n Long 075 32 57w)							
10/07/96	2	<1	20	10	17,000	20	440	.02	50
		01480629 (site 46) Buck Run at Doe Run, Pa. (Lat 39 55 46n Long 075 49 24w)							
11/28/95	3	<1	6	11	1,800	20	350	.26	40
		01480632 (site 45) Doe Run at Springdell, Pa. (Lat 39 54 25n Long 075 49 42w)							
11/28/95	2	<1	5	10	1,600	10	250	.02	30
		01480648 (site 48) East Branch Brandywine Creek near Cupola, Pa. (lat 40 05 41n long 075 51 14w)							
11/27/95	1	<1	2	0	1,400	<10	220	.02	20
		01480653 (site 42) East Branch Brandywine Creek at Glenmoore, Pa. (Lat 40 05 48n Long 075 46 44w)							
12/01/95	2	<1	3	0	2,700	<10	110	.02	30
		01480656 (site 47) Indian Run near Springton, Pa. (Lat 40 04 33n Long 075 46 52w)							
11/27/95	2	<1	4	0	1,600	<10	120	.02	20
		01480903 (site 44) Valley Creek at Mullsteins Meadows near Downingtown, Pa. (Lat 39 58 31n Long 075 39 48w)							
11/21/95	2	<1	10	14	1,400	20	260	.03	80
		01481030 (site 40) Brandywine Creek near Chadds Ford, Pa. (Lat 39 51 15n Long 075 35 58w)							
11/13/97	3	<1	34	27	25,000	70	720	<.10	120

Table 4. Results of stream-bottom sediment sampling—Continued

Date	Carbon, total inorganic and organic in bottom material (g/kg as C)	Aldrin, total in bottom material (µg/kg)	Chlordane, total in bottom material (µg/kg)	p,p'-DDD, recoverable in bottom material (µg/kg)	p,p'-DDE, recoverable in bottom material (µg/kg)	p,p'-DDT, recoverable in bottom material (µg/kg)	Dieldrin, total in bottom material (µg/kg)	Endosulfan, total in bottom material (µg/kg)
01472080 (site 10) Pigeon Creek near Parker Ford, Pa. (Lat 40 12 03n Long 075 37 10w)								
11/06/96	5.5	<0.100	<1.00	<0.100	<0.100	<0.100	<0.100	<0.100
01472109 (site 6) Stony Run near Spring City, Pa. (Lat 40 10 11n Long 075 34 45w)								
11/06/96	4.1	<.100	10.0	E1.30	<1.00	<1.00	1.60	<2.00
01472138 (site 13) French Creek near Coventryville, Pa. (Lat 40 10 14n Long 075 41 50w)								
10/01/97	44	<.200	12.0	<.500	1.10	E.540	.580	.200
01472140 (site 12) South Branch French Creek at Coventryville, Pa. (Lat 40 09 18n Long 075 42 52w)								
10/09/97	8.9	<.200	<3.00	<.500	.260	<.500	<.200	<.200
01472154 (site 14) French Creek near Pughtown, Pa. (Lat 40 09 17n Long 075 38 25w)								
10/08/97	16	<.200	<3.00	<.500	.430	<.500	.240	<.200
01472170 (site 1) Pickering Creek near Eagle, Pa. (Lat 40 04 43n Long 075 39 14w)								
10/31/96	28	.100	2.00	.200	.300	.100	<.400	<.100
014721854 (site 3) Pickering Creek at Merlin, Pa. (Lat 40 06 25n Long 075 35 34w)								
10/16/97	16	<.200	<3.00	<.500	.600	<.500	.300	<.200
014721884 (site 4) Pickering Creek at Charlestown Rd at Charlestown, Pa. (Lat 40 05 57n Long 075 33 20w)								
10/02/96	22	<.100	2.00	E.300	.400	E.200	.300	<.100
01475300 (site 17) Darby Creek at Waterloo Mills near Devon, Pa. (Lat 40 01 21n Long 075 25 20w)								
10/16/96	11	.200	14.0	E1.70	1.40	E1.40	2.00	<.100
01475840 (site 19) Crum Creek at Whitehorse, Pa. (Lat 39 59 54n Long 075 27 38w)								
10/16/96	10	<.100	6.00	E.900	.700	E.600	.300	<.100
01476790 (site 22) East Branch Chester Creek at Green Hill, Pa. (Lat 39 59 49n Long 075 35 40w)								
10/09/97	32	<.300	32.0	1.10	3.10	E1.70	3.90	<.200
01476830 (site 23) East Branch Chester Creek at Milltown, Pa. (Lat 39 58 21n Long 075 32 57w)								
10/07/96	6.6	<.100	7.00	E.400	.300	E.200	.300	<.100
01480629 (site 46) Buck Run at Doe Run, Pa. (Lat 39 55 46n Long 075 49 24w)								
11/28/95	14	<.100	9.00	1.00	.700	.300	.200	<.100
01480632 (site 45) Doe Run at Springdell, Pa. (Lat 39 54 25n Long 075 49 42w)								
11/28/95	20	<.100	1.00	.300	.800	.200	<.100	<.100
01480648 (site 48) East Branch Brandywine Creek near Cupola, Pa. (Lat 40 05 41n long 075 51 14w)								
11/27/95	19	<.100	1.00	.400	.700	.200	.200	<.100
01480653 (site 42) East Branch Brandywine Creek at Glenmoore, Pa. (Lat 40 05 48n Long 075 46 44w)								
12/01/95	5.9	<.100	<1.00	<.100	<.100	<.100	<.100	<.100
01480656 (site 47) Indian Run near Springton, Pa. (Lat 40 04 33n Long 075 46 52w)								
11/27/95	27	<.100	<1.00	.200	.400	<.100	.100	<.100
01480903 (site 44) Valley Creek at Mullsteins Meadows near Downingtown, Pa. (Lat 39 58 31n Long 075 39 48w)								
11/21/95	21	<.100	5.00	.300	.900	.400	.600	<.100
01481030 (site 40) Brandywine Creek near Chadds Ford, Pa. (Lat 39 51 15n Long 075 35 58w)								
11/13/97	20	<.200	5.40	.600	1.30	E1.10	.820	<.200

Table 4. Results of stream-bottom sediment sampling—Continued

Date	Endrin, total in bottom material (µg/kg)	Heptachlor, total in bottom material (µg/kg)	Heptachlor epoxide, total in bottom material (µg/kg)	Lindane, total in bottom material (µg/kg)	Methoxychlor, total in bottom material (µg/kg)	Mirex, total in bottom material (µg/kg)	Perthane, in bottom material (µg/kg)	Toxaphene, total in bottom material (µg/kg)	PCB, total in bottom material (µg/kg)	PCN, total in bottom material (µg/kg)
	01472080 (site 10) Pigeon Creek near Parker Ford, Pa. (Lat 40 12 03n Long 075 37 10w)									
11/06/96	<0.100	<0.100	<0.100	<0.100	<0.800	<0.100	<1.00	<10.0	<1.00	<1.00
	01472109 (site 6) Stony Run near Spring City, Pa. (Lat 40 10 11n Long 075 34 45w)									
11/06/96	<1.00	<.100	<1.00	<1.00	<1.00	<.100	<10.0	<100	2.00	<1.00
	01472138 (site 13) French Creek near Coventryville, Pa. (Lat 40 10 14n Long 075 41 50w)									
10/01/97	<.200	<.200	<.200	<.200	<2.50	<.200	--	<50.0	10.0	--
	01472140 (site 12) South Branch French Creek at Coventryville, Pa. (Lat 40 09 18n Long 075 42 52w)									
10/09/97	<.200	<.200	<.200	<.200	<2.50	<.200	--	<50.0	<5.00	--
	01472154 (site 14) French Creek near Pughtown, Pa. (Lat 40 09 17n Long 075 38 25w)									
10/08/97	<.200	<.200	<.200	<.200	<2.50	<.200	--	<50.0	<5.00	--
	01472170 (site 1) Pickering Creek near Eagle, Pa. (Lat 40 04 43n Long 075 39 14w)									
10/31/96	<.100	<.100	<.100	<.100	<.800	<.100	<1.00	<10.0	5.00	<1.00
	014721854 (site 3) Pickering Creek at Merlin, Pa. (Lat 40 06 25n Long 075 35 34w)									
10/16/97	<.200	<.200	<.200	<.200	<2.50	<.200	--	<50.0	9.10	--
	014721884 (site 4) Pickering Creek at Charlestown Rd at Charlestown, Pa. (Lat 40 05 57n Long 075 33 20w)									
10/02/96	<.100	<.100	<.200	<.100	<3.00	<.100	<1.00	<10.0	4.00	<1.00
	01475300 (site 17) Darby Creek at Waterloo Mills near Devon, Pa. (Lat 40 01 21n Long 075 25 20w)									
10/16/96	<.100	<.100	.300	<.100	<22.0	<.100	<1.00	<10.0	22.0	<1.00
	01475840 (site 19) Crum Creek at Whitehorse, Pa. (Lat 39 59 54n Long 075 27 38w)									
10/16/96	<.100	<.100	<.200	<.200	<4.00	<.200	<1.00	<10.0	13.0	<1.00
	01476790 (site 22) East Branch Chester Creek at Green Hill, Pa. (Lat 39 59 49n Long 075 35 40w)									
10/09/97	<.400	<.200	.850	<.200	<2.50	<.200	--	<50.0	9.40	--
	01476830 (site 23) East Branch Chester Creek at Milltown, Pa. (Lat 39 58 21n Long 075 32 57w)									
10/07/96	<.100	<.300	.400	<.200	<8.00	<.100	<1.00	<10.0	7.00	<1.00
	01480629 (site 46) Buck Run at Doe Run, Pa. (Lat 39 55 46n Long 075 49 24w)									
11/28/95	<.100	<.100	<.100	<.100	<.800	<.100	<1.00	<10.0	3.00	<1.00
	01480632 (site 45) Doe Run at Springdell, Pa. (Lat 39 54 25n Long 075 49 42w)									
11/28/95	<.100	<.100	<.100	<.100	<.800	<.100	<1.00	<10.0	5.00	<1.00
	01480648 (site 48) East Branch Brandywine Creek near Cupola, Pa. (lat 40 05 41n long 075 51 14w)									
11/27/95	<.100	<.100	<.100	<.100	<1.90	<.100	<1.00	<10.0	4.00	<1.00
	01480653 (site 42) East Branch Brandywine Creek at Glenmoore, Pa. (Lat 40 05 48n Long 075 46 44w)									
12/01/95	<.100	<.100	<.100	<.100	<.800	<.100	<1.00	<10.0	<1.00	<1.00
	01480656 (site 47) Indian Run near Springton, Pa. (Lat 40 04 33n Long 075 46 52w)									
11/27/95	<.100	<.100	<.100	<.100	<4.70	<.100	<1.00	<10.0	10.0	<1.00
	01480903 (site 44) Valley Creek at Mullsteins Meadows near Downingtown, Pa. (Lat 39 58 31n Long 075 39 48w)									
11/21/95	<.100	<.100	<.200	<.100	<13.0	<.100	<1.00	<10.0	30.0	<1.00
	01481030 (site 40) Brandywine Creek near Chadds Ford, Pa. (Lat 39 51 15n Long 075 35 58w)									
11/13/97	<.200	<.200	.210	<.200	<2.50	<.200	--	<50.0	13.0	--

Table 5. Benthic-macroinvertebrate data

[—, not found]

01472080 (Site 10) - Pigeon Creek near Parker Ford, Pa.

Date	11/22/95		11/06/96		10/30/97	
	Total count		Total count		Total count	
Total number of taxa	39		40		36	
Organism	Count	Percent	Count	Percent	Count	Percent
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	7	0.75%	1	0.06%	2	0.10%
Nemertea (PROBOSCIS WORMS)						
Enopla						
Hoplonemertea						
Tetrastemmatidae						
<i>Prostoma</i>	1	.11%	1	.06%	—	
Annelida (SEGMENTED WORMS)						
Oligochaeta						
Tubificida						
Naididae	20	2.15%	12	.71%	—	
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	24	2.58%	24	1.42%	116	6.04%
Crustacea						
Amphipoda (SCUDS)						
Gammaridae						
<i>Gammarus</i>	—		—		3	.16%
Decapoda (CRAYFISH)						
Cambaridae	—		1	.06%	—	
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
<i>Baetis</i>	3	.32%	4	.24%	6	.31%
Ephemerellidae						
<i>Ephemerella</i>	270	29.03%	100	5.93%	482	25.12%
Heptageniidae						
<i>Epeorus</i>	1	.11%	5	.30%	—	
<i>Stenacron</i>	—		—		5	.26%
<i>Stenonema</i>	14	1.51%	38	2.26%	42	2.19%
Isonychiidae						
<i>Isonychia</i>	1	.11%	2	.12%	5	.26%
Leptophlebiidae						
<i>Paraleptophlebia</i>	2	.22%	2	.12%	—	
Leptohyphidae						
<i>Tricorythodes</i>	—		—		2	.10%
Plecoptera (STONEFLIES)						
Capniidae						
<i>Allocapnia</i>	4	.43%	79	4.69%	5	.26%
Chloroperlidae						
—	—		2	.12%	—	
Nemouridae						
—	—		1	.06%	—	
<i>Paranemoura</i>	—		—		1	.05%
Perlidae						
<i>Acroneuria</i>	6	.65%	2	.12%	3	.16%
<i>Agnetina</i>	2	.22%	—		—	
<i>Paragnetina</i>	1	.11%	—		2	.10%
Taeniopterygidae						
<i>Strophopteryx</i>	6	.65%	15	.89%	—	
<i>Taeniopteryx</i>	—		—		25	1.30%

Table 5. Benthic-macroinvertebrate data—Continued

01472080 (Site 10) - Pigeon Creek near Parker Ford, Pa.—Continued

Date	11/22/95		11/06/96		10/30/97	
Total count	930		1,685		1,918	
Total number of taxa	39		40		36	
Organism	Count	Percent	Count	Percent	Count	Percent
Megaloptera						
Corydalidae (FISHFLIES AND DOBSONFLIES)						
<i>Corydalus</i>	—		1	0.06%	—	
Trichoptera (CADDISFLIES)						
Apataniidae						
<i>Apatania</i>	5	0.54%	—		8	0.42%
Brachycentridae						
<i>Micrasema</i>	19	2.04%	10	.59%	55	2.87%
Glossosomatidae						
<i>Glossosoma</i>	2	.22%	8	.47%	14	.73%
Goeridae						
<i>Goera</i>	5	.54%	—		4	.21%
Hydropsychidae						
<i>Ceratopsyche</i>	110	11.83%	41	2.43%	151	7.87%
<i>Cheumatopsyche</i>	32	3.44%	27	1.60%	80	4.17%
<i>Hydropsyche</i>	12	1.29%	5	.30%	74	3.86%
Hydroptilidae						
<i>Hydroptila</i>	5	.54%	2	.12%	91	4.74%
<i>Leucotrichia</i>	2	.22%	2	.12%	3	.16%
Philopotamidae						
<i>Chimarra</i>	32	3.44%	10	.59%	14	.73%
Polycentropodidae						
<i>Nyctiophylax</i>	—		—		1	.05%
<i>Polycentropus</i>	—		1	.06%	1	.05%
Psychomyiidae						
<i>Psychomyia</i>	2	.22%	12	.71%	18	.94%
Rhyacophilidae						
<i>Rhyacophila</i>	1	.11%	1	.06%	18	.94%
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
<i>Ancyronyx</i>	1	.11%	—		—	
<i>Dubiraphia</i>	1	.11%	1	.06%	—	
<i>Macronychus</i>	—		4	.24%	—	
<i>Optioservus</i>	34	3.66%	11	.65%	45	2.34%
<i>Oulimnius</i>	2	.22%	10	.59%	—	
<i>Promoresia</i>	1	.11%	—		1	.05%
<i>Stenelmis</i>	2	.22%	1	.06%	3	.16%
Psephenidae (WATER PENNIES)						
<i>Ectopria</i>	2	.22%	1	.06%	—	
<i>Psephenus</i>	2	.22%	1	.06%	5	.26%
Diptera (TRUE FLIES)						
Chironomidae (MIDGES)						
	223	23.98%	1200	71.22%	380	19.80%
Empididae (DANCE FLIES)						
<i>Hemerodromia</i>	18	1.94%	6	.36%	7	.36%
Simuliidae (BLACK FLIES)						
<i>Simulium</i>	4	.43%	6	.36%	3	.16%
Tipulidae (CRANE FLIES)						
<i>Antocha</i>	51	5.48%	32	1.90%	243	12.66%

Table 5. Benthic-macroinvertebrate data—Continued

01472109 (Site 6) - Stony Run near Spring City, Pa.

Date	11/13/95		11/06/96	
	Total count	744	1,860	
Total number of taxa		39	34	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	5	0.67%	4	0.22%
Nematoda (NEMATODES)	—		1	.05%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	—		3	.16%
Mollusca				
Bivalvia (CLAMS)				
Veneroidea				
Sphaeriidae	2	.27%	2	.11%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	19	2.55%	—	
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	23	3.09%	207	11.13%
Crustacea				
Cyclopoida				
Cyclopidae	1	.13%	—	
Podocopa (SEED SHRIMP)	—		1	.05%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	51	6.85%	143	7.69%
Caenidae				
<i>Caenis</i>	31	4.17%	4	.22%
Ephemerellidae				
<i>Ephemerella</i>	32	4.30%	36	1.94%
Ephemeridae				
<i>Ephemera</i>	1	.13%	—	
Heptageniidae				
<i>Stenacron</i>	3	.40%	—	
<i>Stenonema</i>	69	9.27%	46	2.47%
Isonychiidae				
<i>Isonychia</i>	1	.13%	—	
Leptophlebiidae				
<i>Paraleptophlebia</i>	103	13.84%	44	2.37%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	24	3.23%	81	4.35%
Chloroperlidae	13	1.75%	4	.22%
Nemouridae	—		12	.65%
Taeniopterygidae				
<i>Taeniopteryx</i>	1	.13%	9	.48%

Table 5. Benthic-macroinvertebrate data—Continued

01472109 (Site 6) - Stony Run near Spring City, Pa. —Continued

Date	11/13/95		11/06/96	
	Total count		744	1,860
Total number of taxa	39		34	
Organism	Count	Percent	Count	Percent
Megaloptera				
Sialidae (ALDERFLIES)				
<i>Sialis</i>	1	0.13%	—	
Trichoptera (CADDISFLIES)				
Glossosomatidae				
<i>Glossosoma</i>	—		3	0.16%
Hydropsychidae				
<i>Ceratopsyche</i>	10	1.34%	43	2.31%
<i>Cheumatopsyche</i>	62	8.33%	71	3.82%
<i>Hydropsyche</i>	23	3.09%	111	5.97%
Hydroptilidae				
<i>Hydroptila</i>	5	.67%	15	.81%
Philopotamidae				
<i>Chimarra</i>	61	8.20%	56	3.01%
Polycentropodidae				
<i>Nyctiophylax</i>	5	.67%	28	1.51%
<i>Polycentropus</i>	8	1.08%	—	
Psychomyiidae				
<i>Psychomyia</i>	—		8	.43%
Uenoidae				
<i>Neophylax</i>	5	.67%	11	.59%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Ancyronyx</i>	1	.13%	—	
<i>Dubiraphia</i>	7	.94%	2	.11%
<i>Macronychus</i>	1	.13%	—	
<i>Optioservus</i>	20	2.69%	71	3.82%
<i>Stenelmis</i>	9	1.21%	5	.27%
Psephenidae (WATER PENNIES)				
<i>Ectopria</i>	2	.27%	—	
<i>Psephenus</i>	3	.40%	2	.11%
Diptera (TRUE FLIES)				
Athericidae				
<i>Atherix</i>	1	.13%	1	.05%
Chironomidae (MIDGES)				
	125	16.80%	610	32.80%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	1	.13%	11	.59%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	1	.13%	109	5.86%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	6	.81%	99	5.32%
<i>Dicranota</i>	4	.54%	7	.38%

Table 5. Benthic-macroinvertebrate data—Continued

01472138 (Site 13) - French Creek near Coventryville, Pa.

Date	11/06/95		10/01/97	
Total count	414		1,080	
Total number of taxa	34		32	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	1	0.24%	1	0.09%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	1	.24%	—	
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	7	1.69%	22	2.04%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	7	1.69%	—	
Tubificidae	1	.24%	—	
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	80	19.32%	83	7.69%
Crustacea				
Podocopa (SEED SHRIMP)	1	.24%	—	
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	—		6	.56%
<i>Pseudocloeon</i>	—		8	.74%
Caenidae				
<i>Caenis</i>	1	.24%	1	.09%
Ephemerellidae				
<i>Ephemerella</i>	6	1.45%	—	
Heptageniidae				
<i>Stenonema</i>	13	3.14%	33	3.06%
Isonychiidae				
<i>Isonychia</i>	11	2.66%	20	1.85%
Odonata (DRAGONFLIES AND DAMSELFLIES)				
Coenagrionidae				
<i>Argia</i>	1	.24%	—	
Gomphidae	1	.24%	—	
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	2	.48%	—	
Perlidae				
<i>Acroneuria</i>	—		7	.65%
Taeniopterygidae				
<i>Strophopteryx</i>	20	4.83%	2	.19%
<i>Taeniopteryx</i>	11	2.66%	—	
Hemiptera (TRUE BUGS)				
Veliidae				
<i>Rhagovelia</i>	—		2	.19%

Table 5. Benthic-macroinvertebrate data—Continued

01472138 (Site 13) - French Creek near Coventryville, Pa.—Continued

Date	11/06/95		10/01/97	
Total count	414		1,080	
Total number of taxa	34		32	
Organism	Count	Percent	Count	Percent
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Corydalus</i>	1	0.24%	—	
Trichoptera (CADDISFLIES)				
Apataniidae				
<i>Apatania</i>	9	2.17%	10	0.93%
Brachycentridae				
<i>Brachycentrus</i>	—		1	.09%
<i>Micrasema</i>	9	2.17%	82	7.59%
Glossosomatidae				
<i>Glossosoma</i>	—		10	.93%
Hydropsychidae				
<i>Ceratopsyche</i>	13	3.14%	178	16.48%
<i>Cheumatopsyche</i>	21	5.07%	33	3.06%
<i>Hydropsyche</i>	1	.24%	18	1.67%
Hydroptilidae				
<i>Hydroptila</i>	10	2.42%	6	.56%
<i>Leucotrichia</i>	21	5.07%	124	11.48%
Lepidostomatidae				
<i>Lepidostoma</i>	1	.24%	—	
Leptoceridae				
<i>Mystacides</i>	1	.24%	—	
Philopotamidae				
<i>Chimarra</i>	2	.48%	12	1.11%
Psychomyiidae				
<i>Psychomyia</i>	31	7.49%	21	1.94%
Rhyacophilidae				
<i>Rhyacophila</i>	—		3	.28%
Lepidoptera				
Pyrilidae (MOTHS)				
<i>Petrophila</i>	1	.24%	28	2.59%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Optioservus</i>	10	2.42%	7	.65%
<i>Oulimnius</i>	—		2	.19%
<i>Stenelmis</i>	—		4	.37%
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	2	.48%	4	.37%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	7	1.69%	4	.37%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	—		42	3.89%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	38	9.18%	66	6.11%

Table 5. Benthic-macroinvertebrate data—Continued

01472140 (Site 12) - South Branch French Creek at Coventryville, Pa.

Date	11/06/95		10/09/97	
	Total count	585	1,527	
Total number of taxa		32	32	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
	Planariidae	10	1.71%	—
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
	Tetrastemmatidae			
	<i>Prostoma</i>	5	.85%	—
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
	Ancyliidae			
	<i>Ferrissia</i>	3	.51%	1 0.07%
	Planorbidae			
	<i>Gyraulus</i>	—		1 .07%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Lumbriculida				
	Lumbriculidae	1	.17%	—
Tubificida				
	Naididae	6	1.03%	—
Arthropoda				
Acariformes				
	Hydrachnidia (WATER MITES)	32	5.47%	12 .79%
Crustacea				
	Cyclopoida	3	.51%	—
Isopoda (SOW BUGS)				
	Asellidae			
	<i>Caecidotea</i>	1	.17%	—
	Podocopa (SEED SHRIMP)	—		1 .07%
Insecta				
Ephemeroptera (MAYFLIES)				
	Baetidae			
	<i>Baetis</i>	—		5 .33%
	<i>Pseudocloeon</i>	—		27 1.77%
	Ephemerellidae			
	<i>Ephemerella</i>	45	7.69%	17 1.11%
	Heptageniidae			
	<i>Epeorus</i>	6	1.03%	19 1.24%
	<i>Stenonema</i>	8	1.37%	45 2.95%
	Isonychiidae			
	<i>Isonychia</i>	15	2.56%	16 1.05%
Plecoptera (STONEFLIES)				
	Capniidae			
	<i>Allocapnia</i>	1	.17%	—
	Chloroperlidae	—		3 .20%
	Taeniopterygidae			
	<i>Strophopteryx</i>	70	11.97%	—
	<i>Taeniopteryx</i>	5	.85%	20 1.31%

Table 5. Benthic-macroinvertebrate data—Continued

01472140 (Site 12) - South Branch French Creek at Coventryville, Pa.—Continued

Date	11/06/95		10/09/97	
	Total count		585	1,527
Total number of taxa				
32				
Organism	Count	Percent	Count	Percent
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Corydalis</i>	—		3	0.20%
Trichoptera (CADDISFLIES)				
Apataniidae				
<i>Apatania</i>	3	0.51%	6	.39%
Brachycentridae				
<i>Micrasema</i>	21	3.59%	5	.33%
Glossosomatidae				
<i>Glossosoma</i>	—		17	1.11%
Hydropsychidae				
<i>Ceratopsyche</i>	15	2.56%	409	26.78%
<i>Cheumatopsyche</i>	80	13.68%	44	2.88%
<i>Hydropsyche</i>	13	2.22%	74	4.85%
Hydroptilidae				
<i>Leucotrichia</i>	7	1.20%	408	26.72%
Philopotamidae				
<i>Chimarra</i>	—		18	1.18%
Polycentropodidae				
<i>Neureclipsis</i>	—		1	.07%
<i>Nyctiophylax</i>	1	.17%	—	
Psychomyiidae				
<i>Psychomyia</i>	8	1.37%	14	.92%
Rhyacophilidae				
<i>Rhyacophila</i>	1	.17%	—	
Lepidoptera				
Pyrilidae (MOTHS)				
<i>Petrophila</i>	5	.85%	12	.79%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Ancyronyx</i>	—		2	.13%
<i>Optioservus</i>	15	2.56%	17	1.11%
<i>Oulimnius</i>	—		2	.13%
<i>Promoresia</i>	1	.17%	—	
<i>Stenelmis</i>	7	1.20%	10	.65%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	110	18.80%	204	13.36%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	6	1.03%	2	.13%
Simuliidae (BLACKFLIES)				
<i>Simulium</i>	36	6.15%	64	4.19%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	45	7.69%	48	3.14%

Table 5. Benthic-macroinvertebrate data—Continued

01472154 (Site 14) - French Creek near Pughtown, Pa.

Date	11/06/95		10/08/97	
	Total count		388	800
Total number of taxa		34		33
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	3	0.77%	2	0.25%
Mollusca				
Bivalvia (CLAMS)				
Veneroida				
Sphaeriidae	—		41	5.13%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Lumbriculida				
Lumbriculidae	1	.26%	1	.13%
Tubificida				
Naididae	2	.52%	—	
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)				
	19	4.90%	7	.88%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	2	.52%	16	2.00%
<i>Pseudocloeon</i>	2	.52%	3	.38%
Caenidae				
<i>Caenis</i>	4	1.03%	—	
Ephemerellidae				
<i>Ephemerella</i>	28	7.22%	6	.75%
Heptageniidae				
<i>Epeorus</i>	4	1.03%	—	
<i>Stenonema</i>	26	6.70%	24	3.00%
Isonychiidae				
<i>Isonychia</i>	12	3.09%	6	.75%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	15	3.87%	2	.25%
Chloroperlidae				
Nemouridae	1	.26%	—	
Perlidae				
<i>Acrionuria</i>	—		1	.13%
<i>Agnatina</i>	1	.26%	—	
<i>Paragnetina</i>	—		1	.13%
Taeniopterygidae				
<i>Strophopteryx</i>	35	9.02%	—	
<i>Taeniopteryx</i>	15	3.87%	2	.25%
Hemiptera (TRUE BUGS)				
Veliidae				
<i>Rhagovelia</i>	—		1	.13%
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Corydalus</i>	1	.26%	3	.38%
<i>Nigronia</i>	—		1	.13%

Table 5. Benthic-macroinvertebrate data—Continued

01472154 (Site 14) - French Creek near Pughtown, Pa.—Continued

Date	11/06/95		10/08/97	
Total count	388		800	
Total number of taxa	34		33	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Apataniidae				
<i>Apatania</i>	3	0.77%	—	
Brachycentridae				
<i>Micrasema</i>	6	1.55%	58	7.25%
Glossosomatidae				
<i>Glossosoma</i>	—		8	1.00%
Helicopsychidae				
<i>Helicopsyche</i>	3	.77%	—	
Hydropsychidae				
<i>Ceratopsyche</i>	13	3.35%	260	32.50%
<i>Cheumatopsyche</i>	22	5.67%	28	3.50%
<i>Hydropsyche</i>	1	.26%	57	7.13%
<i>Macrostemum</i>	—		1	.13%
Hydroptilidae				
<i>Hydroptila</i>	—		1	.13%
<i>Leucotrichia</i>	55	14.18%	26	3.25%
Philopotamidae				
<i>Chimarra</i>	6	1.55%	37	4.63%
Polycentropodidae				
<i>Neureclipsis</i>	1	.26%	2	.25%
Psychomyiidae				
<i>Psychomyia</i>	7	1.80%	90	11.25%
Lepidoptera				
Pyralidae (MOTHS)				
<i>Petrophila</i>	3	.77%	5	.63%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Optioservus</i>	7	1.80%	5	.63%
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	—		3	.38%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	82	21.13%	82	1.25%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	1	.26%	—	
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	2	.52%	2	.25%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	4	1.03%	18	2.25%

Table 5. Benthic-macroinvertebrate data—Continued

01472157 (Site 15) - French Creek near Phoenixville, Pa.

Date	10/27/95		10/28/96		10/02/97	
	Total count					
Total number of taxa	35		21		37	
Organism	Count	Percent	Count	Percent	Count	Percent
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	2	0.71%	—	—	—	—
Nematoda (NEMATODES)	—	—	—	—	2	0.12%
Mollusca						
Gastropoda (SNAILS)						
Mesogastropoda						
Hydrobiidae						
<i>Annicola</i>	1	.36%	—	—	1	.06%
Basommatophora						
Ancyliidae						
<i>Ferrissia</i>	2	.71%	2	1.01%	16	.95%
<i>Gyraulus</i>	3	1.07%	—	—	—	—
Bivalvia (CLAMS)						
Veneroidea						
Sphaeriidae	—	—	—	—	1	.06%
Annelida (SEGMENTED WORMS)						
Oligochaeta						
Tubificida						
Naididae	—	—	3	1.52%	—	—
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	15	5.34%	7	3.54%	11	.66%
Crustacea						
Cyclopoida	1	.36%	—	—	—	—
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
<i>Baetis</i>	1	.36%	1	.51%	47	2.80%
<i>Pseudocloeon</i>	1	.36%	—	—	13	.78%
Caenidae						
<i>Caenis</i>	2	.71%	—	—	—	—
Ephemerellidae						
<i>Ephemerella</i>	60	21.35%	9	4.55%	12	.72%
Heptageniidae						
<i>Epeorus</i>	30	10.68%	1	.51%	20	1.19%
<i>Stenonema</i>	40	14.23%	7	3.54%	101	6.02%
Isonychiidae						
<i>Isonychia</i>	5	1.78%	—	—	409	24.39%
Odonata (DRAGONFLIES AND DAMSELFLIES)						
Coenagrionidae						
<i>Argia</i>	—	—	—	—	1	.06%
Plecoptera (STONEFLIES)						
Capniidae						
<i>Allocapnia</i>	2	.71%	8	4.04%	—	—
Chloroperlidae	5	1.78%	1	.51%	—	—
Perlidae						
<i>Acroneuria</i>	2	.71%	—	—	5	.30%
<i>Agnatina</i>	2	.71%	—	—	2	.12%
<i>Paragnetina</i>	—	—	—	—	45	2.68%
Taeniopterygidae						
<i>Strophopteryx</i>	—	—	10	5.05%	—	—
<i>Taeniopteryx</i>	5	1.78%	2	1.01%	—	—

Table 5. Benthic-macroinvertebrate data—Continued

01472157 (Site 15) - French Creek near Phoenixville, Pa.—Continued

Date	10/27/95		10/28/96		10/02/97	
	Total count					
Total number of taxa	35		21		37	
Organism	Count	Percent	Count	Percent	Count	Percent
Megaloptera						
Corydalidae (FISHFLIES AND DOBSONFLIES)						
<i>Corydalis</i>	—		—		1	0.06%
Trichoptera (CADDISFLIES)						
Apataniidae						
<i>Apatania</i>	4	1.42%	—		16	.95%
Brachycentridae						
<i>Micrasema</i>	2	.71%	4	2.02%	87	5.19%
Glossosomatidae						
<i>Glossosoma</i>	1	.36%	6	3.03%	47	2.80%
<i>Protoptila</i>	4	1.42%	—		26	1.55%
Helicopsychidae						
<i>Helicopsyche</i>	2	.71%	—		6	.36%
Hydropsychidae						
<i>Ceratopsyche</i>	14	4.98%	15	7.58%	155	9.24%
<i>Cheumatopsyche</i>	5	1.78%	6	3.03%	59	3.52%
<i>Hydropsyche</i>	—		5	2.53%	131	7.81%
Hydroptilidae						
<i>Leucotrichia</i>	1	.36%	—		166	9.90%
Lepidostomatidae						
<i>Lepidostoma</i>	4	1.42%	—		5	.30%
Leptoceridae						
<i>Oecetis</i>	—		—		1	.06%
Philopotamidae						
<i>Chimarra</i>	16	5.69%	—		85	5.07%
<i>Wormaldia</i>	1	.36%	—		—	
Polycentropodidae						
<i>Neureclipsis</i>	—		—		1	.06%
Psychomyiidae						
<i>Psychomyia</i>	—		5	2.53%	14	.83%
Lepidoptera						
Pyralidae (MOTHS)						
<i>Petrophila</i>	—		1	.51%	1	.06%
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
<i>Optioservus</i>	—		—		6	.36%
<i>Stenelmis</i>	—		—		1	.06%
Psephenidae (WATER PENNIES)						
<i>Ectopria</i>	1	.36%	—		—	
<i>Psephenus</i>	1	.36%	—		1	.06%
Diptera (TRUE FLIES)						
Chironomidae (MIDGES)						
	40	14.23%	94	47.47%	140	8.35%
Empididae (DANCE FLIES)						
<i>Hemerodromia</i>	1	.36%	—		—	
Simuliidae (BLACK FLIES)						
<i>Simulium</i>	4	1.42%	7	3.54%	21	1.25%
Tipulidae (CRANE FLIES)						
<i>Antocha</i>	1	.36%	4	2.02%	21	1.25%

Table 5. Benthic-macroinvertebrate data—Continued

014721612 (Site 16) - French Creek at Railroad Bridge at Phoenixville, Pa.

Date	11/07/95		10/02/97	
	Total count		90	1,234
Total number of taxa		19	26	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	2	2.22%	10	0.81%
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	—		15	1.22%
Lymnaeidae				
<i>Lymnaea</i>	—		1	.08%
Physidae				
<i>Physa</i>	1	1.11%	—	
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	1	1.11%	—	
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	1	1.11%	10	.81%
Crustacea				
Amphipoda (SCUDS)				
Gammaridae				
<i>Gammarus</i>	—		8	.65%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	—		27	2.19%
<i>Pseudocloeon</i>	—		24	1.94%
Caenidae				
<i>Caenis</i>	6	6.67%	—	
Ephemerellidae				
<i>Ephemerella</i>	4	4.44%	—	
Heptageniidae				
<i>Stenonema</i>	4	4.44%	2	.16%
Isonychiidae				
<i>Isonychia</i>	—		5	.41%
Odonata (DRAGONFLIES AND DAMSELFLIES)				
Coenagrionidae				
<i>Argia</i>	1	1.11%	—	
Plecoptera (STONEFLIES)				
Capniidae	1	1.11%	—	
Perlidae				
<i>Acroneuria</i>	—		4	.32%
Taeniopterygidae				
<i>Taeniopteryx</i>	2	2.22%	—	

Table 5. Benthic-macroinvertebrate data—Continued

014721612 (Site 16) - French Creek at Railroad Bridge at Phoenixville, Pa.—Continued

Date	11/07/95		10/02/97	
	Total count		90	1,234
Total number of taxa		19	26	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Apataniidae				
<i>Apatania</i>	—		2	0.16%
Brachycentridae				
<i>Micrasema</i>	—		3	.24%
Helicopsychidae				
<i>Helicopsyche</i>	—		2	.16%
Hydropsychidae				
<i>Ceratopsyche</i>	14	15.56%	183	14.83%
<i>Cheumatopsyche</i>	6	6.67%	130	10.53%
<i>Hydropsyche</i>	8	8.89%	186	15.07%
Hydroptilidae				
<i>Leucotrichia</i>	—		12	.97%
Philopotamidae				
<i>Chimarra</i>	1	1.11%	—	
Psychomyiidae				
<i>Psychomyia</i>	—		2	.16%
Lepidoptera				
Pyrilidae (MOTHS)				
<i>Petrophila</i>	3	3.33%	31	2.51%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Optioservus</i>	2	2.22%	4	.32%
<i>Oulimnius</i>	1	1.11%	—	
<i>Promoresia</i>	—		2	.16%
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	—		4	.32%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	31	34.44%	525	42.54%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	1	1.11%	1	.08%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	—		20	1.62%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	—		21	1.70%

Table 5. Benthic-macroinvertebrate data—Continued

01472170 (Site 1) - Pickering Creek near Eagle, Pa.

Date	10/12/95		10/31/96	
	Total count	533	Total count	757
Total number of taxa		23	28	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	4	0.75%	1	0.13%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	—		1	.13%
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	2	.38%	—	
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Lumbriculida				
Lumbriculidae	—		4	.53%
Tubificida				
Naididae	3	.56%	—	
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	20	3.75%	40	5.28%
Crustacea				
Cyclopoida	—		1	.13%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Pseudocloeon</i>	—		4	.53%
Ephemerellidae				
<i>Ephemerella</i>	2	.38%	8	1.06%
Heptageniidae				
<i>Epeorus</i>	—		1	.13%
<i>Stenonema</i>	11	2.06%	9	1.19%
Isonychiidae				
<i>Isonychia</i>	2	.38%	—	
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	—		3	.40%
Taeniopterygidae				
<i>Taeniopteryx</i>	8	1.50%	18	2.38%
Trichoptera (CADDISFLIES)				
Glossosomatidae				
<i>Glossosoma</i>	1	.19%	21	2.77%
Hydropsychidae				
<i>Ceratopsyche</i>	12	2.25%	99	13.08%
<i>Cheumatopsyche</i>	5	.94%	27	3.57%
<i>Hydropsyche</i>	10	1.88%	51	6.74%

Table 5. Benthic-macroinvertebrate data—Continued

01472170 (Site 1) - Pickering Creek near Eagle, Pa.—Continued

Date	10/12/95		10/31/96	
	Total count		533	757
Total number of taxa		23		28
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Hydroptilidae				
<i>Hydroptila</i>	12	2.25%	12	1.59%
<i>Leucotrichia</i>	122	22.89%	90	11.89%
Philopotamidae				
<i>Chimarra</i>	19	3.56%	1	.13%
<i>Dolophilodes</i>	—		2	.26%
Polycentropodidae				
<i>Neureclipsis</i>	—		1	.13%
Psychomyiidae				
<i>Psychomyia</i>	10	1.88%	32	4.23%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Optioservus</i>	22	4.13%	30	3.96%
<i>Oulimnius</i>	1	.19%	—	
<i>Stenelmis</i>	—		2	.26%
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	11	2.06%	2	.26%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	212	39.77%	135	17.83%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	1	.19%	4	.53%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	8	1.50%	3	.40%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	35	6.57%	155	20.48%

Table 5. Benthic-macroinvertebrate data—Continued

01472174 (Site 2) - Pickering Creek near Chester Springs, Pa.

Date	10/12/95	
Total count	223	
Total number of taxa	26	
Organism	Count	Percent
Platyhelminthes		
Turbellaria (FLATWORMS)		
Tricladida		
Planariidae	1	0.45%
Mollusca		
Gastropoda (SNAILS)		
Basommatophora		
Ancyliidae		
<i>Ferrissia</i>	7	3.14%
Annelida (SEGMENTED WORMS)		
Oligochaeta		
Tubificida		
Naididae	2	.90%
Arthropoda		
Acariformes		
Hydrachnidia (WATER MITES)	39	17.49%
Insecta		
Ephemeroptera (MAYFLIES)		
Baetidae		
<i>Pseudocloeon</i>	1	.45%
Ephemerellidae		
<i>Ephemerella</i>	2	.90%
Heptageniidae		
<i>Stenonema</i>	20	8.97%
Isonychiidae		
<i>Isonychia</i>	4	1.79%
Odonata (DRAGONFLIES AND DAMSELFLIES)		
Coenagrionidae		
<i>Argia</i>	1	.45%
Gomphidae	1	.45%
Plecoptera (STONEFLIES)		
Capniidae		
<i>Allocapnia</i>	6	2.69%
Taeniopterygidae		
<i>Taeniopteryx</i>	8	3.59%
Trichoptera (CADDISFLIES)		
Apataniidae		
<i>Apatania</i>	2	.90%
Glossosomatidae		
<i>Glossosoma</i>	1	.45%
Hydropsychidae		
<i>Ceratopsyche</i>	14	6.28%
<i>Cheumatopsyche</i>	19	8.52%
<i>Hydropsyche</i>	1	.45%
Hydroptilidae		
<i>Leucotrichia</i>	6	2.69%

Table 5. Benthic-macroinvertebrate data—Continued

01472174 (Site 2) - Pickering Creek near Chester Springs, Pa.—Continued

Date	10/12/95	
Total count	223	
Total number of taxa	26	
Organism	Count	Percent
Trichoptera (CADDISFLIES)		
Philopotamidae		
<i>Chimarra</i>	5	2.24%
Psychomyiidae		
<i>Psychomyia</i>	4	1.79%
Coleoptera (BEETLES)		
Elmidae (RIFFLE BEETLES)		
<i>Optioservus</i>	46	20.63%
<i>Stenelmis</i>	4	1.79%
Psephenidae (WATER PENNIES)		
<i>Psephenus</i>	1	.45%
Diptera (TRUE FLIES)		
Chironomidae (MIDGES)		
Empididae (DANCE FLIES)		
<i>Hemerodromia</i>	3	1.35%
Tipulidae (CRANE FLIES)		
<i>Antocha</i>	5	2.24%

Table 5. Benthic-macroinvertebrate data—Continued

014721854 (Site 3) - Pickering Creek at Merlin, Pa

Date	10/12/95	10/16/97		
Total count	457	1,463		
Total number of taxa	30	41		
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	—		4	0.27%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	—		2	.14%
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	14	3.06%	17	1.16%
Lymnaeidae				
<i>Lymnaea</i>	—		2	.14%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	2	.44%	7	.48%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	29	6.35%	178	12.17%
Crustacea				
Cyclopoida	—		1	.07%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Pseudocloeon</i>	—		2	.14%
Ephemerellidae				
<i>Ephemerella</i>	3	.66%	7	.48%
Heptageniidae				
<i>Stenonema</i>	14	3.06%	46	3.14%
Isonychiidae				
<i>Isonychia</i>	21	4.60%	1	.07%
Leptohyphidae	—		1	.07%
Odonata (DRAGONFLIES AND DAMSELFLIES)				
Gomphidae				
<i>Lanthus</i>	—		1	.07%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	—		17	1.16%
Chloroperlidae	—		2	.14%
Perlidae				
<i>Acroneuria</i>	—		2	.14%
Taeniopterygidae				
<i>Taeniopteryx</i>	11	2.41%	80	5.47%
Hemiptera (TRUE FLIES)				
Veliidae				
<i>Rhagovelia</i>	—		3	.21%

Table 5. Benthic-macroinvertebrate data—Continued

014721854 (Site 3) - Pickering Creek at Merlin, Pa —Continued

Date	10/12/95		10/16/97	
	Total count		457	1,463
Total number of taxa		30	41	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Apataniidae				
<i>Apatania</i>	16	3.50%	53	3.62%
Brachycentridae				
<i>Micrasema</i>	38	8.32%	84	5.74%
Glossosomatidae				
<i>Glossosoma</i>	—		3	.21%
Goeridae				
<i>Goera</i>	2	.44%	—	
Hydropsychidae				
<i>Ceratopsyche</i>	96	21.01%	82	5.60%
<i>Cheumatopsyche</i>	31	6.78%	52	3.55%
<i>Hydropsyche</i>	7	1.53%	8	.55%
Hydroptilidae				
<i>Hydroptila</i>	1	.22%	20	1.37%
<i>Leucotrichia</i>	1	.22%	1	.07%
Leptoceridae				
<i>Mystacides</i>	—		3	.21%
<i>Oecetis</i>	1	.22%	6	.41%
Philopotamidae				
<i>Dolophilodes</i>	—		1	.07%
Polycentropodidae				
<i>Nyctiophylax</i>	1	.22%	—	
<i>Polycentropus</i>	—		2	.14%
Psychomyiidae				
<i>Psychomyia</i>	6	1.31%	8	.55%
Lepidoptera				
Pyrilidae (MOTHS)				
<i>Petrophila</i>	1	.22%	1	.07%
Coleoptera (BEETLES)				
Dytiscidae				
	1	.22%	—	
Elmidae (RIFLE BEETLES)				
<i>Ancyronyx</i>	—		1	.07%
<i>Dubiraphia</i>	15	3.28%	1	.07%
<i>Macronychus</i>	1	.22%	—	
<i>Optioservus</i>	13	2.84%	17	1.16%
<i>Oulimnius</i>	—		5	.34%
<i>Promoresia</i>	1	.22%	—	
<i>Stenelmis</i>	1	.22%	3	.21%
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	3	.66%	—	
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	68	14.88%	560	38.28%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	2	.44%	12	.82%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	7	1.53%	7	.48%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	50	1.94%	160	10.94%

Table 5. Benthic-macroinvertebrate data—Continued

014721884 (Site 4) - Pickering Creek at Charlestown Road at Charlestown, Pa.

Date	10/11/95		10/02/96	
Total count	811		1,340	
Total number of taxa	42		37	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	5	0.62%	5	0.37%
Nematoda (NEMATODES)	3	.37%	1	.07%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	1	.12%	2	.15%
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	15	1.85%	3	.22%
Planorbidae				
<i>Gyraulus</i>	5	.62%	—	
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Lumbriculida				
Lumbriculidae	—		1	.07%
Tubificida				
Naididae	5	.62%	2	.15%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	74	9.12%	38	2.84%
Crustacea				
Cyclopoida	5	.62%	—	
Isopoda (SOW BUGS)				
Asellidae	1	.12%	—	
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	—		44	3.28%
<i>Pseudocloeon</i>	—		24	1.79%
Caenidae				
<i>Caenis</i>	26	3.21%	—	
Ephemerellidae				
<i>Ephemerella</i>	21	2.59%	11	.82%
Heptageniidae				
<i>Epeorus</i>	—		1	.07%
<i>Stenonema</i>	17	2.10%	22	1.64%
Isonychiidae				
<i>Isonychia</i>	4	.49%	27	2.01%
Odonata (DRAGONFLIES AND DAMSELFLIES)				
Coenagrionidae	1	.12%	—	
Plecoptera (STONEFLIES)				
Nemouridae	—		1	.07%
Perlidae				
<i>Acroneuria</i>	—		4	.30%
Taeniopterygidae				
<i>Taeniopteryx</i>	2	.25%	7	.52%
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Nigronia</i>	—		3	.22%

Table 5. Benthic-macroinvertebrate data—Continued

014721884 (Site 4) - Pickering Creek at Charlestown Road at Charlestown, Pa.—Continued

Date	10/11/95		10/02/96	
Total count	811		1,340	
Total number of taxa	42		37	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Apataniidae				
<i>Apatania</i>	31	3.82%	30	2.24%
Brachycentridae				
<i>Micrasema</i>	5	.62%	37	2.76%
Glossosomatidae				
<i>Glossosoma</i>	—		2	.15%
Goeridae				
<i>Goera</i>	1	.12%	1	.07%
Helicopsychidae				
<i>Helicopsyche</i>	20	2.47%	—	
Hydropsychidae				
<i>Ceratopsyche</i>	65	8.01%	304	22.69%
<i>Cheumatopsyche</i>	44	5.43%	275	20.52%
<i>Hydropsyche</i>	7	.86%	71	5.30%
<i>Macrostemum</i>	—		2	.15%
Hydroptilidae				
<i>Hydroptila</i>	8	.99%	—	
<i>Leucotrichia</i>	41	5.06%	94	7.01%
Leptoceridae				
<i>Mystacides</i>	12	1.48%	—	
<i>Oecetis</i>	2	.25%	—	
Philopotamidae				
<i>Chimarra</i>	1	.12%	14	1.04%
Polycentropodidae				
<i>Neureclipsis</i>	1	.12%	—	
<i>Nyctiophylax</i>	1	.12%	2	.15%
<i>Polycentropus</i>	6	.74%	—	
Psychomyiidae				
<i>Psychomyia</i>	117	14.43%	23	1.72%
Lepidoptera				
Pyrilidae (MOTHS)				
<i>Petrophila</i>	6	.74%	3	.22%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Ancyronyx</i>	1	.12%	—	
<i>Dubiraphia</i>	5	.62%	—	
<i>Oulimnius</i>	15	1.85%	7	.52%
<i>Promoresia</i>	2	.25%	—	
<i>Stenelmis</i>	3	.37%	5	.37%
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	1	.12%	6	.45%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	7	.86%	4	.30%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	—		55	4.10%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	25	3.08%	29	2.16%

Table 5. Benthic-macroinvertebrate data—Continued

01472190 (Site 5) - Pickering Creek near Phoenixville, Pa.

Date	10/11/95		10/31/96		10/30/97	
	Total count					
	872		418		1,530	
Total number of taxa	35		26		36	
Organism	Count	Percent	Count	Percent	Count	Percent
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	—		—		2	0.13%
Nematoda (NEMATODES)	—		1	0.24%	—	
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancyliidae						
<i>Ferrissia</i>	3	0.34%	—		16	1.05%
Planorbidae						
<i>Gyraulus</i>	1	.11%	—		—	
Annelida (SEGMENTED WORMS)						
Oligochaeta						
Lumbriculida						
Lumbriculidae	—		1	.24%	1	.07%
Tubificida						
Naididae	1	.11%	12	2.87%	—	
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	20	2.29%	26	6.22%	50	3.27%
Crustacea						
Cyclopoida	—		—		1	.07%
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
<i>Baetis</i>	—		1	.24%	1	.07%
<i>Pseudocloeon</i>	2	.23%	2	.48%	—	
Ephemerellidae						
<i>Ephemerella</i>	47	5.39%	23	5.50%	75	4.90%
Heptageniidae						
<i>Epeorus</i>	3	.34%	—		—	
<i>Stenonema</i>	23	2.64%	4	.96%	76	4.97%
Isonychiidae						
<i>Isonychia</i>	5	.57%	3	.72%	6	.39%
Plecoptera (STONEFLIES)						
Capniidae						
<i>Allocapnia</i>	5	.57%	25	5.98%	2	.13%
Chloroperlidae	2	.23%	1	.24%	—	
Perlidae						
<i>Acroneuria</i>	5	.57%	1	.24%	12	.78%
<i>Agnatina</i>	1	.11%	—		1	.07%
<i>Paragnetina</i>	4	.46%	1	.24%	2	.13%
Taeniopterygidae						
<i>Strophopteryx</i>	—		17	4.07%	—	
<i>Taeniopteryx</i>	9	1.03%	10	2.39%	15	.98%

Table 5. Benthic-macroinvertebrate data—Continued

01472190 (Site 5) - Pickering Creek near Phoenixville, Pa.—Continued

Date	10/11/95		10/31/96		10/30/97	
Total count	872		418		1,530	
Total number of taxa	35		26		36	
Organism	Count	Percent	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)						
Apataniidae						
<i>Apatania</i>	4	0.46%	—	—	29	1.90%
Brachycentridae						
<i>Micrasema</i>	12	1.38%	—	—	74	4.84%
Glossosomatidae						
<i>Glossosoma</i>	2	.23%	4	0.96%	51	3.33%
<i>Protoptila</i>	5	.57%	—	—	4	.26%
Helicopsychidae						
<i>Helicopsyche</i>	—	—	—	—	6	.39%
Hydropsychidae						
<i>Ceratopsyche</i>	140	16.06%	72	17.22%	283	18.50%
<i>Cheumatopsyche</i>	37	4.24%	9	2.15%	63	4.12%
<i>Hydropsyche</i>	2	.23%	—	—	13	.85%
<i>Macrostemum</i>	5	.57%	—	—	8	.52%
Hydroptilidae						
<i>Leucotrichia</i>	211	24.20%	2	.48%	372	24.31%
Lepidostomatidae						
<i>Lepidostoma</i>	—	—	—	—	2	.13%
Philopotamidae						
<i>Chimarra</i>	5	.57%	1	.24%	18	1.18%
Polycentropodidae						
<i>Nyctiophylax</i>	1	.11%	—	—	—	—
<i>Polycentropus</i>	1	.11%	—	—	—	—
Psychomyiidae						
<i>Psychomyia</i>	20	2.29%	1	.24%	80	5.23%
Uenoidae						
<i>Neophylax</i>	—	—	—	—	6	.39%
Lepidoptera						
Pyrilidae (MOTHS)						
<i>Petrophila</i>	—	—	1	.24%	1	.07%
Coleoptera (BEETLES)						
Elmidae (RIFFLER BEETLES)						
<i>Optioservus</i>	2	.23%	3	.72%	19	1.24%
<i>Oulimnius</i>	—	—	—	—	2	.13%
<i>Promoresia</i>	1	.11%	—	—	—	—
<i>Stenelmis</i>	2	.23%	—	—	7	.46%
Psephenidae						
<i>Psephenus</i>	—	—	—	—	3	.20%
Diptera (TRUE FLIES)						
Chironomidae (MIDGES)						
	236	27.06%	167	39.95%	140	9.15%
Empididae (DANCE FLIES)						
<i>Hemerodromia</i>	1	.11%	—	—	9	.59%
Simuliidae (BLACK FLIES)						
<i>Simulium</i>	4	.46%	15	3.59%	—	—
Tipulidae (CRANE FLIES)						
<i>Antocha</i>	50	5.73%	15	3.59%	80	5.23%

Table 5. Benthic-macroinvertebrate data—Continued

01473167 (Site 49) - Little Valley Creek at Howellville, Pa.

Date	10/30/95		10/24/96		
	Total count				
		395		113	
	Total number of taxa	22		16	
Organism	Count	Percent	Count	Percent	
Platyhelminthes					
Turbellaria (FLATWORMS)					
Tricladida					
	Planariidae	20	5.06%	1	0.88%
Annelida (SEGMENTED WORMS)					
Polychaeta					
Sabellida					
	Sabellidae				
	<i>Manayunkia speciosa</i>	48	12.15%	—	
Oligochaeta					
Tubificida					
	Naididae	1	.25%	—	
Arthropoda					
Acariformes					
	Hydrachnidia (WATER MITES)	2	.51%	5	4.42%
Crustacea					
Amphipoda (SCUDS)					
	Gammaridae				
	<i>Gammarus</i>	—		2	1.77%
Isopoda (SOW BUGS)					
	Asellidae				
	<i>Caecidotea</i>	—		1	.88%
Insecta					
Ephemeroptera (MAYFLIES)					
Baetidae					
	<i>Baetis</i>	2	.51%	13	11.50%
	<i>Pseudocloeon</i>	6	1.52%	1	.88%
Ephemerellidae					
	<i>Ephemerella</i>	71	17.97%	10	8.85%
Heptageniidae					
	<i>Stenonema</i>	—		1	.88%
Plecoptera (STONEFLIES)					
Capniidae					
	<i>Allocapnia</i>	4	1.01%	5	4.42%
Taeniopterygidae					
	<i>Taeniopteryx</i>	1	.25%	—	
Trichoptera (CADDISFLIES)					
Glossosomatidae					
	<i>Glossosoma</i>	3	.76%	—	
Hydropsychidae					
	<i>Ceratopsyche</i>	42	10.63%	11	9.73%
	<i>Cheumatopsyche</i>	5	1.27%	1	.88%
	<i>Hydropsyche</i>	17	4.30%	—	
Philopotamidae					
	<i>Dolophilodes</i>	—		1	.88%
Psychomyiidae					
	<i>Psychomyia</i>	1	.25%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01473167 (Site 49) - Little Valley Creek at Howellville, Pa.—Continued

Date	10/30/95		10/24/96	
Total count	395		113	
Total number of taxa	22		16	
Organism	Count	Percent	Count	Percent
Coleoptera (BEETLES)				
Chrysomelidae	1	0.25%	—	
Elmidae (RIFFLE BEETLES)				
<i>Optioservus</i>	74	18.73%	28	24.78%
<i>Oulimnius</i>	4	1.01%	—	
Psephenidae (WATER PENNIES)				
<i>Ectopria</i>	1	.25%	—	
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)	62	15.70%	20	17.70%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	1	.25%	—	
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	—		6	5.31%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	28	7.09%	7	6.19%

Table 5. Benthic-macroinvertebrate data—Continued

01473168 (Site 50) - Valley Creek near Valley Forge, Pa.

Date	10/30/95		10/24/96	
Total count	1,032		870	
Total number of taxa	18		23	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	60	5.81%	104	11.95%
Nematoda (NEMATODES)	1	.10%	—	
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida	—		2	.23%
Naididae	5	.48%	5	.57%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	1	.10%	9	1.03%
Crustacea				
Amphipoda (SCUDS)				
Gammaridae				
<i>Gammarus</i>	21	2.03%	9	1.03%
Isopoda (SOW BUGS)				
Asellidae				
<i>Lirceus</i>	—		1	.11%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	—		2	.23%
<i>Pseudocloeon</i>	—		1	.11%
Ephemerellidae				
<i>Ephemerella</i>	6	.58%	13	1.49%
Plecoptera (STONEFLIES)				
Taeniopterygidae				
<i>Taeniopteryx</i>	—		1	.11%
Trichoptera (CADDISFLIES)				
Glossosomatidae				
<i>Glossosoma</i>	—		2	.23%
Hydropsychidae				
<i>Ceratopsyche</i>	184	17.83%	62	7.13%
<i>Cheumatopsyche</i>	24	2.33%	—	
<i>Hydropsyche</i>	230	22.29%	44	5.06%
Philopotamidae				
<i>Chimarra</i>	30	2.91%	2	.23%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Dubiraphia</i>	1	.10%	—	
<i>Optioservus</i>	162	15.70%	249	28.62%
<i>Oulimnius</i>	—		14	1.61%
<i>Stenelmis</i>	12	1.16%	20	2.30%
Psephenidae (WATER PENNIES)				
<i>Ectopria</i>	1	.10%	—	
<i>Psephenus</i>	—		3	.34%

Table 5. Benthic-macroinvertebrate data—Continued

01473168 (Site 50) - Valley Creek near Valley Forge, Pa.—Continued

Date	10/30/95		10/24/96	
Total count	1,032		870	
Total number of taxa	18		23	
Organism	Count	Percent	Count	Percent
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)	217	21.03%	211	24.25%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	4	.39%	2	.23%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	11	1.07%	11	1.26%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	62	6.01%	101	11.61%
<i>Tipula</i>	—		2	.23%

Table 5. Benthic-macroinvertebrate data—Continued

01475300 (Site 17) - Darby Creek at Waterloo Mills near Devon, Pa.

Date	10/19/95		10/16/96	
	Total count		463	256
Total number of taxa		25	20	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	3	0.65%	15	5.86%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	1	.22%	—	
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	2	.43%	1	.39%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	28	6.05%	6	2.34%
Crustacea				
Cladocera				
Cyclopoida	322	69.55%	—	
Amphipoda (SCUDS)				
Gammaridae				
<i>Gammarus</i>	8	1.73%	1	.39%
Insecta				
Ephemeroptera (MAYFLIES)				
Caenidae				
<i>Caenis</i>	2	.43%	—	
Ephemerellidae				
<i>Ephemerella</i>	3	.65%	1	.39%
Heptageniidae				
<i>Stenonema</i>	1	.22%	6	2.34%
Odonata (DRAGONFLIES AND DAMSELFLIES)				
Coenagrionidae				
<i>Argia</i>	1	.22%	—	
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	—		1	.39%
Trichoptera (CADDISFLIES)				
Glossosomatidae				
<i>Glossosoma</i>	—		2	.78%
Hydropsychidae				
<i>Ceratopsyche</i>	7	1.51%	11	4.30%
<i>Cheumatopsyche</i>	6	1.30%	6	2.34%
<i>Hydropsyche</i>	4	.86%	13	5.08%
Hydroptilidae				
<i>Hydroptila</i>	1	.22%	4	1.56%
Leptoceridae				
<i>Oecetis</i>	—		1	.39%
Philopotamidae				
<i>Chimarra</i>	1	.22%	10	3.91%
Psychomyiidae				
<i>Psychomyia</i>	1	.22%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01475300 (Site 17) - Darby Creek at Waterloo Mills near Devon, Pa.—Continued

Date	10/19/95		10/16/96	
Total count	463		256	
Total number of taxa	25		20	
Organism	Count	Percent	Count	Percent
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Optioservus</i>	5	1.08%	9	3.52%
<i>Oulimnius</i>	1	.22%	—	
<i>Stenelmis</i>	5	1.08%	11	4.30%
Psephenidae (WATER PENNIES)				
<i>Ectopria</i>	1	.22%	—	
<i>Psephenus</i>	16	3.46%	10	3.91%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	1	.22%	4	1.56%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	8	1.73%	64	25.00%

Table 5. Benthic-macroinvertebrate data—Continued

01475840 (Site 19) - Crum Creek at Whitehorse, Pa.

Date	10/19/95		10/16/96	
Total count	603		886	
Total number of taxa	33		29	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	12	1.99%	12	1.35%
Nematoda (NEMATODES)	3	.50%	—	
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	—		4	.45%
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	1	.17%	1	.11%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	50	8.29%	8	.90%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	43	7.13%	42	4.74%
Crustacea				
Cyclopoida	10	1.66%	—	
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	—		6	.68%
<i>Pseudocloeon</i>	1	.17%	4	.45%
Caenidae				
<i>Caenis</i>	2	.33%	—	
Ephemerellidae				
<i>Ephemerella</i>	14	2.32%	4	.45%
Heptageniidae				
<i>Stenonema</i>	5	.83%	18	2.03%
Isonychiidae				
<i>Isonychia</i>	1	.17%	8	.90%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	2	.33%	1	.11%
Perlidae				
<i>Acroneuria</i>	1	.17%	—	
Taeniopterygidae				
<i>Taeniopteryx</i>	9	1.49%	11	1.24%
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Corydalis</i>	1	.17%	1	.11%

Table 5. Benthic-macroinvertebrate data—Continued

01475840 (Site 19) - Crum Creek at Whitehorse, Pa.—Continued

Date	10/19/95		10/16/96	
Total count	603		886	
Total number of taxa	33		29	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Glossosomatidae				
<i>Glossosoma</i>	1	0.17%	1	0.11%
Hydropsychidae				
<i>Ceratopsyche</i>	60	9.95%	54	6.09%
<i>Cheumatopsyche</i>	14	2.32%	66	7.45%
<i>Hydropsyche</i>	5	.83%	5	.56%
Hydroptilidae				
<i>Hydroptila</i>	3	.50%	7	.79%
<i>Leucotrichia</i>	4	.66%	1	.11%
Philopotamidae				
<i>Wormaldia</i>	—		1	.11%
Psychomyiidae				
<i>Psychomyia</i>	1	.17%	—	
Lepidoptera				
Pyralidae (MOTHS)				
<i>Petrophila</i>	14	2.32%	2	.23%
Coleoptera (BEETLES)				
Curculionidae				
	1	.17%	—	
Elmidae (RIFLE BEETLES)				
<i>Optioservus</i>	12	1.99%	5	.56%
<i>Oulimnius</i>	4	.66%	—	
<i>Stenelmis</i>	3	.50%	3	.34%
Hydrophilidae				
<i>Berosus</i>	—		1	.11%
Psephenidae (WATER PENNIES)				
<i>Ectopria</i>	1	.17%	—	
<i>Psephenus</i>	4	.66%	3	.34%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	300	49.75%	430	48.53%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	9	1.49%	19	2.14%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	6	1.00%	58	6.55%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	6	1.00%	110	12.42%

Table 5. Benthic-macroinvertebrate data—Continued

01476430 (Site 20) - Ridley Creek at Goshenville, Pa.

Date	10/25/95		10/28/96		
	Total count				
		412		201	
	Total number of taxa	25		19	
Organism	Count	Percent	Count	Percent	
Platyhelminthes					
Turbellaria (FLATWORMS)					
Tricladida					
	Planariidae	15	3.64%	2	1.00%
Mollusca					
Gastropoda (SNAILS)					
Basommatophora					
	Ancylidae				
	<i>Ferrissia</i>	6	1.46%	3	1.49%
	Planorbidae				
	<i>Gyraulus</i>	2	.49%	—	
Bivalvia (CLAMS)					
Veneroida					
	Sphaeriidae	—		1	.50%
Annelida (SEGMENTED WORMS)					
Oligochaeta					
Tubificida					
	Naididae	2	.49%	3	1.49%
Arthropoda (ARTHROPODS)					
Acariformes					
	Hydrachnidia (WATER MITES)	39	9.47%	4	1.99%
Crustacea					
Isopoda (SOW BUGS)					
	Asellidae	—		1	.50%
Insecta					
Ephemeroptera (MAYFLIES)					
Caenidae					
	<i>Caenis</i>	1	.24%	—	
Ephemerellidae					
	<i>Ephemerella</i>	30	7.28%	9	4.48%
Heptageniidae					
	<i>Stenonema</i>	35	8.50%	5	2.49%
Isonychiidae					
	<i>Isonychia</i>	1	.24%	—	
Leptohyphidae					
	<i>Tricorythodes</i>	1	.24%	—	
Plecoptera (STONEFLIES)					
Capniidae					
	<i>Allocapnia</i>	—		1	.50%
Trichoptera (CADDISFLIES)					
Hydropsychidae					
	<i>Ceratopsyche</i>	4	.97%	23	11.44%
	<i>Cheumatopsyche</i>	17	4.13%	8	3.98%
	<i>Hydropsyche</i>	20	4.85%	13	6.47%
Hydroptilidae					
	<i>Hydroptila</i>	6	1.46%	2	1.00%
	<i>Leucotrichia</i>	1	.24%	—	
Leptoceridae					
	<i>Mystacides</i>	4	.97%	—	
Philopotamidae					
	<i>Chimarra</i>	11	2.67%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01476430 (Site 20) - Ridley Creek at Goshenville, Pa.—Continued

Date	10/25/95		10/28/96	
Total count	412		201	
Total number of taxa	25		19	
Organism	Count	Percent	Count	Percent
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Ancyronyx</i>	2	0.49%	—	
<i>Optioservus</i>	53	12.86%	13	6.47%
<i>Oulimnius</i>	3	.73%	—	
<i>Stenelmis</i>	30	7.28%	2	1.00%
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	4	.97%	7	3.48%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	1	.24%	—	
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	—		58	28.86%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	81	19.66%	17	8.46%

Table 5. Benthic-macroinvertebrate data—Continued

01476435 (Site 21) - Ridley Creek at Dutton Mill near West Chester, Pa.

Date	10/23/95		10/23/96	
Total count	915		633	
Total number of taxa	36		34	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	6	0.66%	4	0.63%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	—		4	.63%
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	—		5	.79%
Bivalvia (CLAMS)				
Veneroidea				
Sphaeriidae	2	.22%	—	
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	1	.11%	—	
Tubificidae	1	.11%	—	
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	25	2.73%	43	6.79%
Crustacea				
Isopoda (SOW BUGS)				
Asellidae				
<i>Caecidotea</i>	1	.11%	—	
Decapoda				
Cambaridae (CRAYFISH)	1	.11%	1	.16%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	3	.33%	1	.16%
Caenidae				
<i>Caenis</i>	1	.11%	—	
Ephemerellidae				
<i>Ephemerella</i>	30	3.28%	21	3.32%
Heptageniidae				
<i>Stenonema</i>	61	6.67%	24	3.79%
Isonychiidae				
<i>Isonychia</i>	11	1.20%	1	.16%
Leptohyphidae				
<i>Tricorythodes</i>	2	.22%	1	.16%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	4	.44%	3	.47%
Taeniopterygidae				
<i>Taeniopteryx</i>	13	1.42%	10	1.58%
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Corydalis</i>	1	.11%	1	.16%
Trichoptera (CADDISFLIES)				

Table 5. Benthic-macroinvertebrate data—Continued

01476435 (Site 21) - Ridley Creek at Dutton Mill near West Chester, Pa.—Continued

Date	10/23/95		10/23/96	
Total count	915		633	
Total number of taxa	36		34	
Organism	Count	Percent	Count	Percent
Brachycentridae				
<i>Micrasema</i>	3	0.33%	—	
Glossosomatidae				
<i>Glossosoma</i>	—		1	0.16%
Hydropsychidae				
<i>Ceratopsyche</i>	135	14.75%	108	17.06%
<i>Cheumatopsyche</i>	163	17.81%	89	14.06%
<i>Hydropsyche</i>	5	.55%	10	1.58%
Hydroptilidae				
<i>Hydroptila</i>	26	2.84%	7	1.11%
<i>Leucotrichia</i>	40	4.37%	45	7.11%
Leptoceridae				
<i>Mystacides</i>	—		1	.16%
Philopotamidae				
<i>Chimarra</i>	26	2.84%	—	
<i>Dolophilodes</i>	4	.44%	1	.16%
Uenoidae				
<i>Neophylax</i>	—		1	.16%
Lepidoptera				
Pyralidae (MOTHS)				
<i>Petrophila</i>	7	.77%	2	.32%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Ancyronyx</i>	2	.22%	—	
<i>Dubiraphia</i>	1	.11%	—	
<i>Macronychus</i>	2	.22%	2	.32%
<i>Optioservus</i>	21	2.30%	7	1.11%
<i>Oulimnius</i>	1	.11%	1	.16%
<i>Stenelmis</i>	5	.55%	1	.16%
Psephenidae (WATER PENNIES)				
<i>Ectopria</i>	—		1	.16%
<i>Psephenus</i>	16	1.75%	10	1.58%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)	220	24.04%	134	21.17%
Empididae (DANCE FLIES)				
<i>Chelifera</i>	—		1	.16%
<i>Hemerodromia</i>	1	.11%	2	.32%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	10	1.09%	15	2.37%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	64	6.99%	75	11.85%

Table 5. Benthic-macroinvertebrate data—Continued

01476790 (Site 22) - East Branch Chester Creek at Green Hill, Pa.

Date	10/23/95		10/03/97	
	Total count	331	250	
Total number of taxa		22	17	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	1	0.30%	1	0.40%
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	1	.30%	—	
Physidae				
<i>Physa</i>	6	1.81%	—	
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	3	.91%	—	
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	8	2.42%	17	6.80%
Crustacea				
Isopoda (SOW BUGS)				
Asellidae				
<i>Caecidotea</i>	—		1	.40%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	—		14	5.60%
<i>Pseudocloeon</i>	2	.60%	20	8.00%
Ephemerellidae				
<i>Ephemerella</i>	2	.60%	2	.80%
Heptageniidae				
<i>Stenonema</i>	6	1.81%	9	3.60%
Odonata (DRAGONFLIES AND DAMSELFLIES)				
Coenagrionidae				
<i>Argia</i>	—		1	.40%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	1	.30%	—	
Hemiptera (TRUE BUGS)				
Veliidae				
<i>Rhagovelia</i>	—		1	.40%

Table 5. Benthic-macroinvertebrate data—Continued

01476790 (Site 22) - East Branch Chester Creek at Green Hill, Pa.—Continued

Date	10/23/95		10/03/97	
Total count	331		250	
Total number of taxa	22		17	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Glossosomatidae				
<i>Glossosoma</i>	36	10.88%	19	7.60%
Hydropsychidae				
<i>Ceratopsyche</i>	88	26.59%	59	23.60%
<i>Cheumatopsyche</i>	19	5.74%	15	6.00%
<i>Hydropsyche</i>	97	29.31%	34	13.60%
Leptoceridae				
<i>Mystacides</i>	2	.60%	—	
Philopotamidae				
<i>Wormaldia</i>	1	.30%	8	3.20%
Psychomyiidae				
<i>Psychomyia</i>	1	.30%	—	
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Optioservus</i>	2	.60%	2	.80%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	44	13.29%	40	16.00%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	2	.60%	—	
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	1	.30%	—	
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	7	2.11%	7	2.80%
<i>Dicranota</i>	1	.30%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01476830 (Site 23) - East Branch Chester Creek at Milltown, Pa.

Date	10/24/95		10/07/96	
Total count	281		1,594	
Total number of taxa	25		29	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	2	0.71%	26	1.63%
Nematoda (NEMATODES)	—		13	.82%
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	1	.36%	9	.56%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	7	2.49%	200	12.55%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	26	9.25%	34	2.13%
Crustacea				
Cladocera	5	1.78%	—	
Cyclopoida	19	6.76%	—	
Podocopa (SEED SHRIMP)	—		1	.06%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	—		2	.13%
Caenidae				
<i>Caenis</i>	1	.36%	—	
Ephemerellidae				
<i>Ephemerella</i>	1	.36%	4	.25%
Heptageniidae				
<i>Stenonema</i>	1	.36%	110	6.90%
Leptohyphidae				
<i>Tricorythodes</i>	1	.36%	3	.19%
Odonata (DRAGONFLIES AND DAMSELFLIES)				
Coenagrionidae				
<i>Argia</i>	—		1	.06%
Hemiptera (TRUE BUGS)				
Corixidae	1	.36%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01476830 (Site 23) - East Branch Chester Creek at Milltown, Pa.—Continued

Date	10/24/95		10/07/96	
	Total count		281	1,594
Total number of taxa	25		29	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Hydropsychidae				
<i>Ceratopsyche</i>	—		43	2.70%
<i>Cheumatopsyche</i>	2	0.71%	59	3.70%
<i>Hydropsyche</i>	1	.36%	83	5.21%
Hydroptilidae				
<i>Hydroptila</i>	75	26.69%	135	8.47%
Leptoceridae				
<i>Oecetis</i>	2	.71%	42	2.63%
Philopotamidae				
<i>Chimarra</i>	1	.36%	1	.06%
Rhyacophilidae				
<i>Rhyacophila</i>	1	.36%	—	
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Ancyronyx</i>	—		1	.06%
<i>Dubiraphia</i>	—		3	.19%
<i>Microcylloepus</i>	—		11	.69%
<i>Optioservus</i>	8	2.85%	83	5.21%
<i>Oulimnius</i>	2	.71%	2	.13%
<i>Stenelmis</i>	30	1.68%	159	9.97%
Psephenidae (WATER PENNIES)				
<i>Ectopria</i>	—		1	.06%
<i>Psephenus</i>	26	9.25%	44	2.76%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	4	1.42%	110	6.90%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	7	2.49%	35	2.20%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	1	.36%	4	.25%

Table 5. Benthic-macroinvertebrate data—Continued

01476835 (Site 24) - East Branch Chester Creek at Westtown, Pa.

Date	10/24/95		10/07/96		10/06/97	
Total count	464		1,386		1,291	
Total number of taxa	26		30		26	
Organism	Count	Percent	Count	Percent	Count	Percent
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	14	3.02%	15	1.08%	26	2.01%
Nemertea (PROBOSCIS WORMS)						
Enopla						
Hoploneurata						
Tetrastemmatidae						
<i>Prostoma</i>	—		3	.22%	—	
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancyliidae						
<i>Ferrissia</i>	—		2	.14%	—	
Annelida (SEGMENTED WORMS)						
Oligochaeta						
Tubificida						
Naididae	18	3.88%	44	3.17%	—	
Tubificidae	—		—		2	.15%
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	12	2.59%	31	2.24%	20	1.55%
Crustacea						
Cyclopoida	11	2.37%	—		—	
Amphipoda (SCUDS)						
Crangonyctidae						
<i>Crangonyx</i>	—		—		3	.23%
Gammaridae						
<i>Gammarus</i>	—		6	.43%	—	
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
<i>Baetis</i>	—		35	2.53%	27	2.09%
<i>Pseudocloeon</i>	—		—		25	1.94%
Ephemerellidae						
<i>Ephemerella</i>	2	.43%	7	.51%	—	
Heptageniidae						
<i>Stenonema</i>	4	.86%	76	5.48%	14	1.08%
Odonata (DRAGONFLIES AND DAMSELFLIES)						
Coenagrionidae						
<i>Argia</i>	1	.22%	—		—	
Plecoptera (STONEFLIES)						
Taeniopterygidae						
<i>Taeniopteryx</i>	—		1	.07%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01476835 (Site 24) - East Branch Chester Creek at Westtown, Pa.—Continued

Date	10/24/95		10/07/96		10/06/97	
Total count	464		1,386		1,291	
Total number of taxa	26		30		26	
Organism	Count	Percent	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)						
Glossosomatidae						
<i>Glossosoma</i>	—		2	0.14%	3	0.23%
Hydropsychidae						
<i>Ceratopsyche</i>	3	0.65%	77	5.56%	178	13.79%
<i>Cheumatopsyche</i>	27	5.82%	169	12.19%	53	4.11%
<i>Hydropsyche</i>	32	6.90%	369	26.62%	280	21.69%
<i>Parapsyche</i>	1	.22%	—		—	
Hydroptilidae						
<i>Hydroptila</i>	35	7.54%	2	.14%	6	.46%
<i>Leucotrichia</i>	2	.43%	9	.65%	8	.62%
Leptoceridae						
<i>Oecetis</i>	2	.43%	—		1	.08%
<i>Mystacides</i>	—		2	.14%	—	
Philopotamidae						
<i>Chimarra</i>	2	.43%	5	.36%	115	8.91%
Psychomyiidae						
<i>Psychomyia</i>	—		1	.07%	1	.08%
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
<i>Ancyronyx</i>	2	.43%	3	.22%	—	
<i>Dubiraphia</i>	—		1	.07%	—	
<i>Optioservus</i>	34	7.33%	30	2.16%	16	1.24%
<i>Oulimnius</i>	4	.86%	11	.79%	—	
<i>Stenelmis</i>	75	16.16%	164	11.83%	36	2.79%
Hydrophilidae						
<i>Berosus</i>	1	.22%	—		—	
Psephenidae (WATER PENNIES)						
<i>Psephenus</i>	17	3.66%	3	.22%	18	1.39%
Diptera (TRUE FLIES)						
Chironomidae (MIDGES)						
	130	28.02%	121	8.73%	230	17.82%
Empididae (DANCE FLIES)						
<i>Hemerodromia</i>	1	.22%	12	.87%	2	.15%
Simuliidae (BLACK FLIES)						
<i>Prosimulium</i>	—		—		10	.77%
<i>Simulium</i>	19	4.09%	138	9.96%	172	13.32%
Tipulidae (CRANE FLIES)						
<i>Antocha</i>	14	3.02%	46	3.32%	43	3.33%
<i>Dicranota</i>	1	.22%	1	.07%	—	
<i>Linnophila</i>	—		—		1	.08%

Table 5. Benthic-macroinvertebrate data—Continued

01476840 (Site 25) - Goose Creek tributary to East Branch Chester Creek near West Chester, Pa.

Date	10/25/95		10/04/96		10/03/97	
Total count	1,868		1,298		1,320	
Total number of taxa	18		19		12	
Organism	Count	Percent	Count	Percent	Count	Percent
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	48	2.57%	25	1.93%	58	4.39%
Nematoda (NEMATODES)	3	.16%	—	—	—	—
Nemertea (PROBOSCIS WORMS)						
Enopla						
Hoplonemertea						
Tetrastemmatidae						
<i>Prostoma</i>	1	.05%	3	.23%	—	—
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancyliidae						
<i>Ferrissia</i>	5	.27%	1	.08%	1	.08%
Annelida (SEGMENTED WORMS)						
Oligochaeta						
Tubificida						
Naididae	52	2.78%	15	1.16%	—	—
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	13	.70%	23	1.77%	4	.30%
Crustacea						
Cyclopoida						
Isopoda (SOW BUGS)	—	—	1	.08%	—	—
Asellidae						
<i>Caecidotea</i>	3	.16%	1	.08%	—	—
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
<i>Baetis</i>	—	—	6	.46%	17	1.29%
Ephemerellidae						
<i>Ephemerella</i>	—	—	1	.08%	—	—
Heptageniidae						
<i>Stenonema</i>	1	.05%	—	—	1	.08%
Trichoptera (CADDISFLIES)						
Hydropsychidae						
<i>Ceratopsyche</i>	41	2.19%	30	2.31%	201	15.23%
<i>Cheumatopsyche</i>	132	7.07%	400	3.82%	311	23.56%
<i>Hydropsyche</i>	210	11.24%	315	24.27%	380	28.79%
Hydroptilidae						
<i>Hydroptila</i>	4	.21%	—	—	—	—
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
<i>Optioservus</i>	—	—	1	.08%	—	—
<i>Stenelmis</i>	11	.59%	3	.23%	1	.08%

Table 5. Benthic-macroinvertebrate data—Continued

01476840 (Site 25) - Goose Creek tributary to East Branch Chester Creek near West Chester, Pa.—Continued

Date	10/25/95		10/04/96		10/03/97	
Total count	1,868		1,298		1,320	
Total number of taxa	18		19		12	
Organism	Count	Percent	Count	Percent	Count	Percent
Diptera (TRUE FLIES)						
Chironomidae (MIDGES)	1,070	57.28%	310	23.88%	310	23.48%
Empididae (DANCE FLIES)						
<i>Hemerodromia</i>	4	.21%	24	1.85%	—	
Simuliidae (BLACK FLIES)						
<i>Simulium</i>	250	13.38%	71	5.47%	13	.98%
Tipulidae (CRANE FLIES)						
<i>Antocha</i>	14	.75%	64	4.93%	23	1.74%
<i>Tipula</i>	—		4	.31%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01476848 (Site 51) - East Branch Chester Creek below Goose Creek near West Chester, Pa.

Date	10/24/95		10/06/97	
Total count	589		2,219	
Total number of taxa	22		18	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	24	4.07%	80	3.61%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	1	.17%	—	
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	2	.34%	—	
Planorbidae				
<i>Gyraulus</i>	—		1	.05%
Annelida (SEGMENTED WORMS)				
Hirudinea (LEECHES)				
Rhynchobdellida				
Glossiphoniidae				
<i>Helobdella</i>	1	.17%	—	
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)				
—	—		7	.32%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	—		28	1.26%
<i>Pseudocloeon</i>	—		1	.05%
Heptageniidae				
<i>Stenonema</i>	1	.17%	—	
Leptohyphidae				
<i>Tricorythodes</i>	1	.17%	—	
Trichoptera (CADDISFLIES)				
Helicopsychidae				
<i>Helicopsyche</i>	3	.51%	1	.05%
Hydropsychidae				
<i>Ceratopsyche</i>	80	13.58%	670	30.19%
<i>Cheumatopsyche</i>	18	3.06%	172	7.75%
<i>Hydropsyche</i>	71	12.05%	634	28.57%
Hydroptilidae				
<i>Hydroptila</i>	19	3.23%	5	.23%
<i>Leucotrichia</i>	6	1.02%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01476848 (Site 51) - East Branch Chester Creek below Goose Creek near West Chester, Pa.—Continued

Date	10/24/95		10/06/97	
Total count	589		2,219	
Total number of taxa	22		18	
Organism	Count	Percent	Count	Percent
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Ancyronyx</i>	—		5	0.23%
<i>Dubiraphia</i>	2	0.34%	—	
<i>Optioservus</i>	9	1.53%	5	.23%
<i>Oulimnius</i>	1	.17%	4	.18%
<i>Stenelmis</i>	156	26.49%	164	7.39%
Hydrophilidae				
<i>Berosus</i>	1	.17%	—	
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	3	.51%	—	
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	75	12.73%	351	15.82%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	—		4	.18%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	16	2.72%	52	2.34%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	97	16.47%	35	1.58%
<i>Tipula</i>	2	.34%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01478120 (Site 28) - East Branch White Clay Creek at Avondale, Pa.

Date	11/09/95		11/12/97	
	Total count	1,543	1,717	
Total number of taxa		28	24	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	16	1.04%	62	3.61%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	2	.13%	—	
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	1	.06%	—	
Planorbidae				
<i>Gyraulus</i>	—		1	.06%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Lumbriculida				
Lumbriculidae	1	.06%	—	
Tubificida				
Naididae	120	7.78%	2	.12%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	18	1.17%	21	1.22%
Crustacea				
Cyclopoida	1	.06%	—	
Amphipoda (SCUDS)				
Crangonyctidae				
<i>Crangonyx</i>	—		1	.06%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	—		1	.06%
Ephemerellidae				
<i>Ephemerella</i>	15	.97%	23	1.34%
Heptageniidae				
<i>Stenonema</i>	39	2.53%	26	1.51%
Isonychiidae				
<i>Isonychia</i>	1	.06%	1	.06%
Leptohyphidae				
<i>Tricorythodes</i>	3	.19%	1	.06%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	1	.06%	—	
Hemiptera (TRUE BUGS)				
Veliidae				
<i>Rhagovelia</i>	—		1	.06%
Megaloptera				
Sialidae (ALDERFLIES)				
<i>Sialis</i>	1	.06%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01478120 (Site 28) - East Branch White Clay Creek at Avondale, Pa.—Continued

Date	11/09/95		11/12/97	
Total count	1,543		1,717	
Total number of taxa	28		24	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Hydropsychidae				
<i>Ceratopsyche</i>	99	6.42%	229	13.34%
<i>Cheumatopsyche</i>	63	4.08%	45	2.62%
<i>Hydropsyche</i>	53	3.43%	202	11.76%
Hydroptilidae				
<i>Hydroptila</i>	45	2.92%	87	5.07%
<i>Leucotrichia</i>	2	.13%	—	
Philopotamidae				
<i>Chimarra</i>	—		1	.06%
Psychomyiidae				
<i>Psychomyia</i>	2	.13%	—	
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Microcylloepus</i>	1	.06%	—	
<i>Optioservus</i>	31	2.01%	46	2.68%
<i>Oulimnius</i>	—		1	.06%
<i>Stenelmis</i>	14	.91%	15	.87%
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	4	.26%	6	.35%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	633	41.02%	460	26.79%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	6	.39%	8	.47%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	2	.13%	6	.35%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	368	23.85%	471	27.43%
<i>Dicranota</i>	1	.06%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01478190 (Site 29) - Middle Branch White Clay Creek at Wickerton, Pa.

Date	11/09/95		11/12/97	
Total count	1,841		1,371	
Total number of taxa	28		29	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	154	8.37%	70	5.11%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida	3	.16%	—	
Naididae	11	.60%	1	.07%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	29	1.58%	46	3.36%
Crustacea				
Amphipoda (SCUDS)				
Gammaridae				
<i>Gammarus</i>	1	.05%	—	
Isopoda (SOW BUGS)				
Asellidae				
<i>Caecidotea</i>	—		2	.15%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	1	.05%	17	1.24%
<i>Pseudocloeon</i>	—		6	.44%
Ephemerellidae				
<i>Ephemerella</i>	28	1.52%	10	.73%
Heptageniidae				
<i>Stenonema</i>	5	.27%	6	.44%
Isonychiidae				
<i>Isonychia</i>	2	.11%	1	.07%
Leptophlebiidae				
<i>Paraleptophlebia</i>	3	.16%	—	
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	2	.11%	1	.07%
Perlidae				
<i>Acroneuria</i>	—		1	.07%
Taeniopterygidae				
<i>Taeniopteryx</i>	1	.05%	1	.07%
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Nigronia</i>	—		2	.15%
Trichoptera (CADDISFLIES)				
Hydropsychidae				
<i>Ceratopsyche</i>	106	5.76%	402	29.32%
<i>Cheumatopsyche</i>	65	3.53%	21	1.53%
<i>Hydropsyche</i>	89	4.83%	72	5.25%
Hydroptilidae				
<i>Hydroptila</i>	25	1.36%	75	5.47%
<i>Leucotrichia</i>	187	10.16%	125	9.12%

Table 5. Benthic-macroinvertebrate data—Continued

01478190 (Site 29) - Middle Branch White Clay Creek at Wickerton, Pa.—Continued

Date	11/09/95		11/12/97	
Total count	1,841		1,371	
Total number of taxa	28		29	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Limnephilidae				
<i>Hydatophlax</i>	—		2	0.15%
Philopotamidae				
<i>Chimarra</i>	188	10.21%	4	.29%
Polycentropodidae				
<i>Cyrnellus</i>	—		1	.07%
<i>Polycentropus</i>	—		1	.07%
Psychomyiidae				
<i>Psychomyia</i>	4	.22%	—	
Coleoptera (BEETLES)				
Elmidae (RIFFLER BEETLES)				
<i>Ancyronyx</i>	1	.05%	—	
<i>Optioservus</i>	59	3.20%	15	1.09%
<i>Stenelmis</i>	18	.98%	5	.36%
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	4	.22%	2	.15%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	13	.71%	9	.66%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	1	.05%	15	1.09%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	220	11.95%	158	11.52%
<i>Tipula</i>	1	.05%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01478220 (Site 30) - West Branch White Clay Creek near Chesterville, Pa.

Date	11/09/95		11/12/97	
	Total count		637	1,470
Total number of taxa		30	27	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	17	2.67%	4	0.27%
Nematoda (NEMATODES)	—		1	.07%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	1	.16%	—	
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	—		1	.07%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Lumbriculida				
Lumbriculidae	1	.16%	—	
Tubificida				
Naididae	8	1.26%	—	
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	31	4.87%	79	5.37%
Crustacea				
Cyclopoida	1	.16%	—	
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Pseudocloeon</i>	2	.31%	2	.14%
Ephemerellidae				
<i>Ephemerella</i>	21	3.30%	—	
Heptageniidae				
<i>Epeorus</i>	1	.16%	—	
<i>Stenonema</i>	32	5.02%	28	1.90%
Isonychiidae				
<i>Isonychia</i>	12	1.88%	26	1.77%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	7	1.10%	—	
Leuctridae				
<i>Paraleuctra</i>	—		2	.14%
Perlidae				
<i>Acroneuria</i>	1	.16%	3	.20%
Taeniopterygidae				
<i>Strophopteryx</i>	—		3	.20%
<i>Taeniopteryx</i>	12	1.88%	—	
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Corydalus</i>	—		1	.07%

Table 5. Benthic-macroinvertebrate data—Continued

01478220 (Site 30) - West Branch White Clay Creek near Chesterville, Pa.—Continued

Date	11/09/95		11/12/97	
Total count	637		1,470	
Total number of taxa	30		27	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Glossosomatidae				
<i>Glossosoma</i>	2	0.31%	8	0.54%
Hydropsychidae				
<i>Ceratopsyche</i>	47	7.38%	426	28.98%
<i>Cheumatopsyche</i>	71	11.15%	54	3.67%
<i>Hydropsyche</i>	5	.78%	170	11.56%
Hydroptilidae				
<i>Hydroptila</i>	9	1.41%	55	3.74%
<i>Leucotrichia</i>	2	.31%	4	.27%
Philopotamidae				
<i>Chimarra</i>	17	2.67%	1	.07%
<i>Dolophilodes</i>	—		1	.07%
Polycentropodidae				
<i>Neureclipsis</i>	1	.16%	1	.07%
Psychomyiidae				
<i>Psychomyia</i>	3	.47%	—	
Uenoidae				
<i>Neophylax</i>	2	.31%	—	
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Optioservus</i>	6	.94%	7	.48%
<i>Oulimnius</i>	—		1	.07%
<i>Stenelmis</i>	2	.31%	—	
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	—		2	.14%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
Empididae (DANCE FLIES)	230	36.11%	303	20.61%
<i>Hemerodromia</i>	15	2.35%	27	1.84%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	2	.31%	3	.20%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	76	11.93%	257	17.48%

Table 5. Benthic-macroinvertebrate data—Continued

01479680 (Site 27) - West Branch Red Clay Creek at Kennett Square, Pa.

Date	10/18/95		11/05/96		10/14/97		
	Total count						
Total number of taxa	22		15		26		
Organism	Count	Percent	Count	Percent	Count	Percent	
Platyhelminthes							
Turbellaria (FLATWORMS)							
Tricladida							
	Planariidae	9	2.79%	—	2	0.25%	
Nemertea (PROBOSCIS WORMS)							
Enopla							
Hoplonemertea							
	Tetrastemmatidae						
	<i>Prostoma</i>	3	.93%	—	5	.63%	
Mollusca							
Gastropoda (SNAILS)							
Basommatophora							
	Ancyliidae						
	<i>Ferrissia</i>	6	1.86%	1	0.56%	.63%	
	Planorbidae						
	<i>Gyraulus</i>	2	.62%	—	3	.38%	
Annelida (SEGMENTED WORMS)							
Oligochaeta							
	Tubificida	—	—	—	2	.25%	
	Naididae	15	4.64%	25	14.04%	150	18.99%
Arthropoda							
Acariformes							
	Hydrachnidia (WATER MITES)	52	16.10%	6	3.37%	105	13.29%
Crustacea							
	Cyclopoida	—	—	1	.56%	1	.13%
Amphipoda (SCUDS)							
	Crangonyctidae						
	<i>Crangonyx</i>	—	—	—	1	.13%	
	Gammaridae						
	<i>Gammarus</i>	1	.31%	—	—	—	
Isopoda (SOW BUGS)							
	Asellidae						
	<i>Caecidotea</i>	2	.62%	—	—	—	
	<i>Lirceus</i>	—	—	—	2	.25%	
Insecta							
Ephemeroptera (MAYFLIES)							
	Baetidae						
	<i>Baetis</i>	—	—	—	1	.13%	
	<i>Pseudocloeon</i>	—	—	—	1	.13%	
	Ephemerellidae						
	<i>Ephemerella</i>	3	.93%	1	.56%	1	.13%
	Heptageniidae	—	—	1	.56%	—	
	<i>Stenacron</i>	1	.31%	—	—	—	
	<i>Stenonema</i>	—	—	—	2	.25%	
	Leptohiphidae						
	<i>Tricorythodes</i>	—	—	1	.56%	—	
Plecoptera (STONEFLIES)							
	Taeniopterygidae						
	<i>Taeniopteryx</i>	—	—	—	1	.13%	

Table 5. Benthic-macroinvertebrate data—Continued

01479680 (Site 27) - West Branch Red Clay Creek at Kennett Square, Pa.—Continued

Date	10/18/95		11/05/96		10/14/97	
Total count	323		178		790	
Total number of taxa	22		15		26	
Organism	Count	Percent	Count	Percent	Count	Percent
Megaloptera						
Corydalidae (FISHFLIES AND DOBSONFLIES)						
<i>Nigronia</i>	—		—		3	0.38%
Trichoptera (CADDISFLIES)						
Hydropsychidae						
<i>Ceratopsyche</i>	8	2.48%	15	8.43%	43	5.44%
<i>Cheumatopsyche</i>	18	5.57%	8	4.49%	48	6.08%
<i>Hydropsyche</i>	15	4.64%	1	.56%	19	2.41%
Hydroptilidae						
<i>Leucotrichia</i>	—		—		1	.13%
Leptoceridae						
<i>Mystacides</i>	1	.31%	—		—	
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
<i>Ancyronyx</i>	1	.31%	—		—	
<i>Dubiraphia</i>	—		1	.56%	—	
<i>Optioservus</i>	11	3.41%	1	.56%	—	
<i>Oulimnius</i>	1	.31%	—		5	.63%
<i>Stenelmis</i>	9	2.79%	—		11	1.39%
Psephenidae (WATER PENNIES)						
<i>Psephenus</i>	2	.62%	—		—	
Diptera (TRUE FLIES)						
Chironomidae (MIDGES)	103	31.89%	91	51.12%	260	32.91%
Empididae (DANCE FLIES)						
<i>Hemerodromia</i>	16	4.95%	1	.56%	18	2.28%
Simuliidae (BLACK FLIES)						
<i>Simulium</i>	—		—		1	.13%
Tipulidae (CRANE FLIES)						
<i>Antocha</i>	44	13.62%	24	13.48%	99	12.53%

Table 5. Benthic-macroinvertebrate data—Continued

01479800 (Site 26) - East Branch Red Clay Creek near Five Point, Pa.

Date	10/18/95		11/05/96		10/14/97		
	Total count						
Total number of taxa	22		22		17		
Organism	Count	Percent	Count	Percent	Count	Percent	
Platyhelminthes							
Turbellaria (FLATWORMS)							
Tricladida							
	Planariidae	31	6.03%	35	2.82%	28	2.31%
Nemertea (PROBOSCIS WORMS)							
Enopla							
Hoplonemertea							
	Tetrastemmatidae						
	<i>Prostoma</i>	1	.19%	2	.16%	—	
Mollusca							
Gastropoda (SNAILS)							
Basommatophora							
	Ancylidae						
	<i>Ferrissia</i>	3	.58%	8	.65%	—	
	Planorbidae						
	<i>Gyraulus</i>	1	.19%	—	—	—	
Annelida (SEGMENTED WORMS)							
Oligochaeta							
Tubificida							
	Naididae	2	.39%	18	1.45%	—	
Arthropoda							
Acariformes							
	Hydrachnidia (WATER MITES)	8	1.56%	22	1.77%	14	1.15%
Insecta							
Ephemeroptera (MAYFLIES)							
	Baetidae						
	<i>Baetis</i>	—	—	—	7	.58%	
	Ephemerellidae						
	<i>Ephemerella</i>	12	2.33%	—	2	.16%	
	Heptageniidae						
	<i>Epeorus</i>	—	—	—	1	.08%	
	<i>Stenonema</i>	11	2.14%	1	.08%	—	
Plecoptera (STONEFLIES)							
	Capniidae						
	<i>Allocapnia</i>	—	—	1	.08%	—	
	Taeniopterygidae						
	<i>Taeniopteryx</i>	—	—	1	.08%	—	
Megaloptera							
	Corydalidae (FISHFLIES AND DOBSONFLIES)						
	<i>Corydalus</i>	—	—	1	.08%	1	.08%
Trichoptera (CADDISFLIES)							
	Hydropsychidae						
	<i>Ceratopsyche</i>	74	14.40%	316	25.48%	466	38.42%
	<i>Cheumatopsyche</i>	74	14.40%	33	2.66%	2	.16%
	<i>Hydropsyche</i>	75	14.59%	8	.65%	2	.16%
	Hydroptilidae						
	<i>Hydroptila</i>	1	.19%	—	—	—	
	<i>Leucotrichia</i>	2	.39%	—	—	1	.08%
	Philopotamidae						
	<i>Chimarra</i>	1	.19%	1	.08%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01479800 (Site 26) - East Branch Red Clay Creek near Five Point, Pa.—Continued

Date	10/18/95		11/05/96		10/14/97	
Total count	514		1,240		1,213	
Total number of taxa	22		22		17	
Organism	Count	Percent	Count	Percent	Count	Percent
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
<i>Ancyronyx</i>	—		2	0.16%	—	
<i>Optioservus</i>	50	9.73%	55	4.44%	120	9.89%
<i>Oulimnius</i>	1	.19%	2	.16%	7	.58%
<i>Stenelmis</i>	13	2.53%	12	.97%	25	2.06%
Psephenidae (WATER PENNIES)						
<i>Psephenus</i>	3	.58%	—		—	
Diptera (TRUE FLIES)						
Chironomidae (MIDGES)						
Empididae (DANCE FLIES)	—		4	.32%	—	
<i>Hemerodromia</i>	10	1.95%	20	1.61%	7	.58%
Simuliidae (BLACK FLIES)						
<i>Simulium</i>	3	.58%	176	14.19%	21	1.73%
Tipulidae (CRANE FLIES)						
<i>Antocha</i>	54	10.51%	110	8.87%	152	12.53%

Table 5. Benthic-macroinvertebrate data—Continued

01480434 (Site 37) - West Branch Brandywine Creek at Rock Run, Pa.

Date	10/17/95		10/29/96	
Total count	440		511	
Total number of taxa	36		27	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	4	0.91%	5	0.98%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	2	.45%	—	
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	12	2.73%	—	
Bivalvia (CLAMS)				
Veneroidea				
Sphaeriidae	4	.91%	—	
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	5	1.14%	4	.78%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	17	3.86%	16	3.13%
Crustacea				
Podocopa (SEED SHRIMP)	2	.45%	—	
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	1	.23%	—	
<i>Pseudocloeon</i>	—		4	.78%
Ephemerellidae				
<i>Ephemerella</i>	34	7.73%	23	4.50%
Heptageniidae				
<i>Epeorus</i>	—		4	.78%
<i>Stenonema</i>	35	7.95%	11	2.15%
Isonychiidae				
<i>Isonychia</i>	7	1.59%	9	1.76%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	3	.68%	130	25.44%
Chloroperlidae	1	.23%	—	
Perlidae				
<i>Acroneuria</i>	1	.23%	—	
<i>Agnatina</i>	1	.23%	—	
Taeniopterygidae				
<i>Taeniopteryx</i>	4	.91%	10	1.96%

Table 5. Benthic-macroinvertebrate data—Continued

01480434 (Site 37) - West Branch Brandywine Creek at Rock Run, Pa. —Continued

Date	10/17/95		10/29/96	
Total count	440		511	
Total number of taxa	36		27	
Organism	Count	Percent	Count	Percent
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Corydalus</i>	2	0.45%	—	
Trichoptera (CADDISFLIES)				
Apataniidae				
<i>Apatania</i>	3	.68%	1	0.20%
Brachycentridae				
<i>Micrasema</i>	1	.23%	4	.78%
Glossosomatidae				
<i>Glossosoma</i>	—		1	.20%
Hydropsychidae				
<i>Ceratopsyche</i>	20	4.55%	77	15.07%
<i>Cheumatopsyche</i>	48	10.91%	62	12.13%
<i>Hydropsyche</i>	3	.68%	13	2.54%
Hydroptilidae				
<i>Hydroptila</i>	1	.23%	—	
<i>Leucotrichia</i>	11	2.50%	5	.98%
Limnephilidae				
<i>Hydatophylax</i>	—		1	.20%
Philopotamidae				
<i>Chimarra</i>	20	4.55%	10	1.96%
Polycentropodidae				
<i>Cyrnellus</i>	10	2.27%	12	2.35%
Lepidoptera				
Pyralidae (MOTHS)				
<i>Petrophila</i>	1	.23%	1	.20%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Ancyronyx</i>	1	.23%	—	
<i>Optioservus</i>	23	5.23%	6	1.17%
<i>Promoesia</i>	2	.45%	—	
<i>Stenelmis</i>	6	1.36%	1	.20%
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	13	2.95%	—	
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	125	28.41%	73	14.29%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	6	1.36%	3	.59%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	2	.45%	9	1.76%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	9	2.05%	16	3.13%

Table 5. Benthic-macroinvertebrate data—Continued

01480629 (Site 46) - Buck Run at Doe Run, Pa.

Date	11/28/95		11/06/97	
Total count	674		1,405	
Total number of taxa	27		31	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	54	8.01%	83	5.91%
Nematoda (NEMATODES)	1	.15%	—	
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	1	.15%	2	.14%
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	2	.30%	4	.28%
Physidae				
<i>Physa</i>	1	.15%	—	
Planorbidae				
<i>Gyraulus</i>	—		2	.14%
Bivalvia (CLAMS)				
Veneroidea				
Sphaeriidae	2	.30%	1	.07%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	1	.15%	5	.36%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	6	.89%	38	2.70%
Crustacea				
Isopoda (SOW BUGS)				
Asellidae				
<i>Lirceus</i>	—		2	.14%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Pseudocloeon</i>	—		1	.07%
Caenidae				
<i>Caenis</i>	1	.15%	—	
Ephemerellidae				
<i>Ephemerella</i>	62	9.20%	100	7.12%
Heptageniidae				
<i>Epeorus</i>	—		5	.36%
<i>Stenonema</i>	12	1.78%	35	2.49%
Isonychiidae				
<i>Isonychia</i>	26	3.86%	9	.64%
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Corydalus</i>	1	.15%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01480629 (Site 46) - Buck Run at Doe Run, Pa.—Continued

Date	11/28/95		11/06/97	
Total count	674		1,405	
Total number of taxa	27		31	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Glossosomatidae				
<i>Glossosoma</i>	—		6	0.43%
Hydropsychidae				
<i>Ceratopsyche</i>	64	9.50%	122	8.68%
<i>Cheumatopsyche</i>	3	.45%	9	.64%
<i>Hydropsyche</i>	83	12.31%	31	2.21%
Hydroptilidae				
<i>Hydroptila</i>	4	.59%	18	1.28%
<i>Leucotrichia</i>	24	3.56%	255	18.15%
Leptoceridae				
<i>Oecetis</i>	—		2	.14%
Philopotamidae				
<i>Chimarra</i>	23	3.41%	140	9.96%
Polycentropodidae				
<i>Neureclipsis</i>	—		7	.50%
<i>Polycentropus</i>	—		1	.07%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Optioservus</i>	13	1.93%	6	.43%
<i>Stenelmis</i>	3	.45%	3	.21%
Hydrophilidae				
<i>Helophorus</i>	2	.30%	—	
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	1	.15%	—	
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	162	24.04%	290	20.64%
Empididae (DANCE FLIES)				
<i>Clinocera</i>	—		2	.14%
<i>Hemerodromia</i>	—		3	.21%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	31	4.60%	107	7.62%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	90	13.35%	115	8.19%
<i>Tipula</i>	1	.15%	1	.07%

Table 5. Benthic-macroinvertebrate data—Continued

01480632 (Site 45) - Doe Run at Springdell, Pa.

Date	11/28/95		11/06/97	
	Total count	820	1,078	
Total number of taxa		32	26	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	12	1.46%	10	0.93%
Nematoda (NEMATODES)	1	.12%	—	
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	18	2.20%	183	16.98%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	4	.49%	—	
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	6	.73%	19	1.76%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	1	.12%	—	
<i>Pseudocloeon</i>	1	.12%	—	
Ephemerellidae				
<i>Ephemerella</i>	52	6.34%	10	.93%
Heptageniidae				
<i>Epeorus</i>	41	5.00%	44	4.08%
<i>Stenonema</i>	58	7.07%	57	5.29%
Isonychiidae				
<i>Isonychia</i>	27	3.29%	40	3.71%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	1	.12%	1	.09%
Chloroperlidae				
Taeniopterygidae	1	.12%	—	
<i>Taeniopteryx</i>	9	1.10%	—	
Trichoptera (CADDISFLIES)				
Brachycentridae				
<i>Micrasema</i>	1	.12%	—	
Glossosomatidae				
<i>Glossosoma</i>	2	.24%	25	2.32%
Hydropsychidae				
<i>Ceratopsyche</i>	76	9.27%	152	14.10%
<i>Cheumatopsyche</i>	6	.73%	17	1.58%
<i>Hydropsyche</i>	15	1.83%	58	5.38%
Hydroptilidae				
<i>Hydroptila</i>	1	.12%	19	1.76%
<i>Leucotrichia</i>	76	9.27%	63	5.84%
Philopotamidae				
<i>Chimarra</i>	12	1.46%	5	.46%

Table 5. Benthic-macroinvertebrate data—Continued

01480632 (Site 45) - Doe Run at Springdell, Pa.—Continued

Date	11/28/95		11/06/97	
	Total count		820	1,078
Total number of taxa	32		26	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Polycentropodidae				
<i>Neureclipsis</i>	1	0.12%	4	0.37%
<i>Polycentropus</i>	—		2	.19%
Psychomyiidae				
<i>Psychomyia</i>	10	1.22%	63	5.84%
Uenoidae				
<i>Neophylax</i>	10	1.22%	1	.09%
Lepidoptera				
Pyrilidae (MOTHS)				
<i>Petrophila</i>	3	.37%	24	2.23%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Optioservus</i>	10	1.22%	6	.56%
<i>Oulimnius</i>	—		3	.28%
<i>Stenelmis</i>	1	.12%	—	
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	—		1	.09%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	207	25.24%	125	11.60%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	8	.98%	—	
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	39	4.76%	8	.74%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	110	13.41%	138	12.80%

Table 5. Benthic-macroinvertebrate data—Continued

01480640 (Site 38) - West Branch Brandywine Creek at Wawaset, Pa.

Date	11/20/95		10/15/96		10/10/97	
Total count	547		861		1,476	
Total number of taxa	43		30		38	
Organism	Count	Percent	Count	Percent	Count	Percent
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	28	5.12%	14	1.63%	65	4.40%
Nematoda (NEMATODES)	—		1	.12%	5	.34%
Nemertea (PROBOSCIS WORMS)						
Enopla						
Hoplonemertea						
Tetrastemmatidae						
<i>Prostoma</i>	2	.37%	1	.12%	1	.07%
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancyliidae						
<i>Ferrissia</i>	5	.91%	26	3.02%	30	2.03%
Physidae						
<i>Physa</i>	2	.37%	—		—	
Bivalvia (CLAMS)						
Veneroidea						
Sphaeriidae	8	1.46%	3	.35%	1	.07%
Annelida (SEGMENTED WORMS)						
Oligochaeta						
Tubificida						
Naididae	2	.37%	1	.12%	—	
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	27	4.94%	15	1.74%	28	1.90%
Crustacea						
Cyclopoida						
Cyclopidae	1	.18%	—		—	
Amphipoda (SCUDS)						
Gammaridae						
<i>Gammarus</i>	5	.91%	—		3	.20%
Isopoda (SOW BUGS)						
Asellidae	1	.18%	—		—	
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
<i>Baetis</i>	1	.18%	—		45	3.05%
<i>Pseudocloeon</i>	—		7	.81%	23	1.56%
Caenidae						
<i>Caenis</i>	21	3.84%	2	.23%	1	.07%
Ephemerellidae						
<i>Ephemerella</i>	43	7.86%	55	6.39%	109	7.38%
Heptageniidae						
<i>Epeorus</i>	—		2	.23%	1	.07%
<i>Stenonema</i>	41	7.50%	43	4.99%	58	3.93%
Isonychiidae						
<i>Isonychia</i>	4	.73%	8	.93%	4	.27%
Leptohyphidae						
<i>Paraleptophlebia</i>	2	.37%	—		—	
<i>Tricorythodes</i>	8	1.46%	—		4	.27%

Table 5. Benthic-macroinvertebrate data—Continued

01480640 (Site 38) - West Branch Brandywine Creek at Wawaset, Pa.—Continued

Date	11/20/95		10/15/96		10/10/97	
	Total count		Total count		Total count	
	547		861		1,476	
Total number of taxa	43		30		38	
Organism	Count	Percent	Count	Percent	Count	Percent
Plecoptera (STONEFLIES)						
Chloroperlidae	1	0.18%	—		1	0.07%
Taeniopterygidae						
<i>Strophopteryx</i>	1	.18%	—		—	
<i>Taeniopteryx</i>	3	.55%	1	0.12%	2	.14%
Hemiptera (TRUE BUGS)						
Gerridae						
<i>Metrobates</i>	—		—		2	.14%
Trichoptera (CADDISFLIES)						
Glossosomatidae						
<i>Glossosoma</i>	—		—		4	.27%
<i>Protophila</i>	5	.91%	—		3	.20%
Helicopsychidae						
<i>Helicopsyche</i>	137	25.05%	—		172	11.65%
Hydropsychidae						
<i>Ceratopsyche</i>	23	4.20%	164	19.05%	168	11.38%
<i>Cheumatopsyche</i>	4	.73%	40	4.65%	73	4.95%
<i>Hydropsyche</i>	1	.18%	31	3.60%	59	4.00%
Hydroptilidae						
<i>Hydroptila</i>	4	.73%	—		4	.27%
<i>Leucotrichia</i>	26	4.75%	80	9.29%	75	5.08%
Lepidostomatidae						
<i>Lepidostoma</i>	11	2.01%	1	.12%	8	.54%
Leptoceridae						
<i>Oecetis</i>	3	.55%	—		—	
Philopotamidae						
<i>Chimarra</i>	2	.37%	24	2.79%	14	.95%
Polycentropodidae						
<i>Neureclipsis</i>	1	.18%	—		—	
Psychomyiidae						
<i>Psychomyia</i>	1	.18%	5	.58%	1	.07%
Lepidoptera						
Pyrilidae (MOTHS)						
<i>Petrophila</i>	—		12	1.39%	34	2.30%
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
<i>Dubiraphia</i>	1	.18%	1	.12%	—	
<i>Macronychus</i>	1	.18%	—		—	
<i>Optioservus</i>	26	4.75%	11	1.28%	11	.75%
<i>Oulimnius</i>	—		2	.23%	—	
<i>Stenelmis</i>	3	.55%	4	.46%	1	.07%
Hydrophilidae						
<i>Berosus</i>	1	.18%	—		—	
Psephenidae (WATER PENNIES)						
<i>Psephenus</i>	25	4.57%	—		1	.07%
Diptera (TRUE FLIES)						
Chironomidae (MIDGES)	37	6.76%	250	29.04%	388	26.29%
Empididae (DANCE FLIES)						
<i>Hemerodromia</i>	2	.37%	3	.35%	4	.27%
Ephydriidae	1	.18%	—		3	.20%
Simuliidae (BLACK FLIES)						
<i>Simulium</i>	2	.37%	41	4.76%	38	2.57%
Tipulidae (CRANE FLIES)						
<i>Antocha</i>	24	4.39%	13	1.51%	32	2.17%

Table 5. Benthic-macroinvertebrate data—Continued

01480648 (Site 48) - East Branch Brandywine Creek near Cupola, Pa.

Date	11/27/95	
Total count	648	
Total number of taxa	35	
Organism	Count	Percent
Platyhelminthes		
Turbellaria (FLATWORMS)		
Tricladida		
Planariidae	35	5.40%
Nemertea (PROBOSCIS WORMS)		
Enopla		
Hoploneurata		
Tetrastemmatidae		
<i>Prostoma</i>	1	.15%
Mollusca		
Gastropoda (SNAILS)		
Basommatophora		
Physidae		
<i>Physa</i>	1	.15%
Annelida (SEGMENTED WORMS)		
Oligochaeta		
Tubificida		
Naididae	3	.46%
Arthropoda		
Acariformes		
Hydrachnidia (WATER MITES)	4	.62%
Insecta		
Ephemeroptera (MAYFLIES)		
Baetidae		
<i>Baetis</i>	3	.46%
Ephemerellidae		
<i>Ephemerella</i>	42	6.48%
Heptageniidae		
<i>Epeorus</i>	3	.46%
<i>Stenonema</i>	13	2.01%
Leptophlebiidae		
<i>Paraleptophlebia</i>	2	.31%
Plecoptera (STONEFLIES)		
Capniidae		
<i>Allocapnia</i>	16	2.47%
Chloroperlidae	1	.15%
Megaloptera		
Corydalidae (FISHFLIES AND DOBSONFLIES)		
<i>Nigronia</i>	2	.31%
Sialidae (ALDERFLIES)		
<i>Sialis</i>	1	.15%
Trichoptera (CADDISFLIES)		
Glossosomatidae		
<i>Glossosoma</i>	2	.31%
Goeridae		
<i>Goera</i>	1	.15%
Hydropsychidae		
<i>Ceratopsyche</i>	3	.46%
<i>Cheumatopsyche</i>	6	.93%
<i>Hydropsyche</i>	8	1.23%

Table 5. Benthic-macroinvertebrate data—Continued

01480648 (Site 48) - East Branch Brandywine Creek near Cupola, Pa.—Continued

Date	11/27/95	
Total count	648	
Total number of taxa	35	
Organism	Count	Percent
Trichoptera (CADDISFLIES)		
Hydroptilidae		
<i>Hydroptila</i>	1	0.15%
Lepidostomatidae		
<i>Lepidostoma</i>	1	.15%
Leptoceridae		
<i>Mystacides</i>	1	.15%
<i>Oecetis</i>	1	.15%
Odontoceridae		
<i>Psilotreta</i>	3	.46%
Philopotamidae		
<i>Chimarra</i>	64	9.88%
Polycentropodidae		
<i>Polycentropus</i>	1	.15%
Uenoidae		
<i>Neophylax</i>	15	2.31%
Coleoptera (BEETLES)		
Elmidae (RIFFLE BEETLES)		
<i>Dubiraphia</i>	1	.15%
<i>Optioservus</i>	96	14.81%
<i>Oulimnius</i>	7	1.08%
<i>Stenelmis</i>	67	10.34%
Psephenidae (WATER PENNIES)		
<i>Psephenus</i>	49	7.56%
Diptera (TRUE FLIES)		
Chironomidae (MIDGES)		
	63	9.72%
Simuliidae (BLACK FLIES)		
<i>Simulium</i>	114	17.59%
Tipulidae (CRANE FLIES)		
<i>Antocha</i>	17	2.62%

Table 5. Benthic-macroinvertebrate data—Continued

01480653 (Site 42) - East Branch Brandywine Creek at Glenmoore, Pa.

Date	12/01/95	
Total count	625	
Total number of taxa	34	
Organism	Count	Percent
Platyhelminthes		
Turbellaria (FLATWORMS)		
Tricladida		
Planariidae	7	1.12%
Nemertea (PROBOSCIS WORMS)		
Enopla		
Hoplonemertea		
Tetrastemmatidae		
<i>Prostoma</i>	2	.32%
Mollusca		
Gastropoda (SNAILS)		
Basommatophora		
Ancyliidae		
<i>Ferrissia</i>	3	.48%
Arthropoda		
Acariformes		
Hydrachnidia (WATER MITES)	127	2.32%
Insecta		
Ephemeroptera (MAYFLIES)		
Baetidae		
<i>Pseudocloeon</i>	1	.16%
Ephemerellidae		
<i>Ephemerella</i>	44	7.04%
Heptageniidae		
<i>Epeorus</i>	3	.48%
<i>Stenonema</i>	8	1.28%
Isonychiidae		
<i>Isonychia</i>	1	.16%
Plecoptera (STONEFLIES)		
Capniidae		
<i>Allocapnia</i>	2	.32%
Taeniopterygidae		
<i>Strophopteryx</i>	34	5.44%
<i>Taeniopteryx</i>	1	.16%
Trichoptera (CADDISFLIES)		
Apataniidae		
<i>Apatania</i>	5	.80%
Brachycentridae		
<i>Micrasema</i>	21	3.36%
Glossosomatidae		
<i>Glossosoma</i>	3	.48%
Goeridae		
<i>Goera</i>	3	.48%
Hydropsychidae		
<i>Ceratopsyche</i>	11	1.76%
<i>Cheumatopsyche</i>	29	4.64%
<i>Hydropsyche</i>	12	1.92%
Hydroptilidae		
<i>Hydroptila</i>	1	.16%
Leptoceridae		
<i>Oecetis</i>	2	.32%

Table 5. Benthic-macroinvertebrate data—Continued

01480653 (Site 42) - East Branch Brandywine Creek at Glenmoore, Pa.—Continued

Date	12/01/95	
Total count	625	
Total number of taxa	34	
Organism	Count	Percent
Trichoptera (CADDISFLIES)		
Philopotamidae		
<i>Chimarra</i>	9	1.44%
Coleoptera (BEETLES)		
Elmidae (RIFFLE BEETLES)		
<i>Ancyronyx</i>	2	.32%
<i>Dubiraphia</i>	2	.32%
<i>Optioservus</i>	18	2.88%
<i>Promoresia</i>	3	.48%
<i>Stenelmis</i>	9	1.44%
Psephenidae (WATER PENNIES)		
<i>Ectopria</i>	1	.16%
<i>Psephenus</i>	6	.96%
Diptera (TRUE FLIES)		
Chironomidae (MIDGES)		
140	22.40%	
Empididae (DANCE FLIES)		
<i>Chelifera</i>	3	.48%
<i>Hemerodromia</i>	1	.16%
Simuliidae (BLACK FLIES)		
<i>Simulium</i>	97	15.52%
Tipulidae (CRANE FLIES)		
<i>Antocha</i>	14	2.24%

Table 5. Benthic-macroinvertebrate data—Continued

01480656 (Site 47) - Indian Run near Springton, Pa.

Date	11/27/95	
Total count	647	
Total number of taxa	33	
Organism	Count	Percent
Mollusca		
Gastropoda (SNAILS)		
Basommatophora		
Ancylidae		
<i>Ferrissia</i>	6	0.93%
Annelida (SEGMENTED WORMS)		
Oligochaeta		
Lumbriculida		
Lumbriculidae	1	.15%
Tubificida		
Naididae	11	1.70%
Arthropoda		
Acariformes		
Hydrachnidia (WATER MITES)	14	2.16%
Insecta		
Ephemeroptera (MAYFLIES)		
Ephemerellidae		
<i>Ephemerella</i>	71	10.97%
Heptageniidae		
<i>Epeorus</i>	1	.15%
<i>Stenonema</i>	2	.31%
Odonata (DRAGONFLIES AND DAMSELFLIES)		
Gomphidae	1	.15%
Plecoptera (STONEFLIES)		
Capniidae		
<i>Allocapnia</i>	5	.77%
Chloroperlidae	1	.15%
Taeniopterygidae		
<i>Strophopteryx</i>	87	13.45%
<i>Taeniopteryx</i>	1	.15%
Megaloptera		
Corydalidae (FISHFLIES AND DOBSONFLIES)		
<i>Nigronia</i>	1	.15%
Trichoptera (CADDISFLIES)		
Apataniidae		
<i>Apatania</i>	20	3.09%
Glossosomatidae		
<i>Glossosoma</i>	19	2.94%
Goeridae		
<i>Goera</i>	2	.31%
Hydropsychidae		
<i>Ceratopsyche</i>	29	4.48%
<i>Cheumatopsyche</i>	19	2.94%
<i>Diplectrona</i>	5	.77%
<i>Hydropsyche</i>	4	.62%
Leptoceridae		
<i>Mystacides</i>	2	.31%
Philopotamidae		
<i>Chimarra</i>	2	.31%
Psychomyiidae		
<i>Psychomyia</i>	5	.77%

Trichoptera (CADDISFLIES)

Table 5. Benthic-macroinvertebrate data—Continued

01480656 (Site 47) - Indian Run near Springton, Pa.—Continued

Date	11/27/95	
Total count	647	
Total number of taxa	33	
Organism	Count	Percent
Rhyacophilidae		
<i>Rhyacophila</i>	5	0.77%
Uenoidae		
<i>Neophylax</i>	10	1.55%
Coleoptera (BEETLES)		
Elmidae (RIFFLE BEETLES)		
<i>Optioservus</i>	3	.46%
<i>Promoresia</i>	1	.15%
<i>Stenelmis</i>	1	.15%
Psephenidae (WATER PENNIES)		
<i>Ectopria</i>	5	.77%
<i>Psephenus</i>	2	.31%
Diptera (TRUE FLIES)		
Chironomidae (MIDGES)	98	15.15%
Simuliidae (BLACK FLIES)		
<i>Simulium</i>	185	28.59%
Tipulidae (CRANE FLIES)		
<i>Antocha</i>	28	4.33%

Table 5. Benthic-macroinvertebrate data—Continued

01480700 (Site 36) - East Branch Brandywine Creek near Downingtown, Pa.

Date	10/17/95		10/29/96	
Total count	1,508		1,347	
Total number of taxa	41		49	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	5	0.33%	18	1.34%
Nematoda (NEMATODES)	—		1	.07%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	—		1	.07%
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	6	.40%	3	.22%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	16	1.06%	9	.67%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	66	4.38%	104	7.72%
Crustacea				
Cladocera	—		121	8.98%
Cyclopoida	—		5	.37%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Pseudocloeon</i>	9	.60%	1	.07%
Caenidae				
<i>Caenis</i>	2	.13%	1	.07%
Ephemerellidae				
<i>Ephemerella</i>	43	2.85%	60	4.45%
Heptageniidae				
<i>Epeorus</i>	3	.20%	8	.59%
<i>Stenonema</i>	34	2.25%	6	.45%
Isonychiidae				
<i>Isonychia</i>	12	.80%	5	.37%
Odonata (DRAGONFLIES AND DAMSELFLIES)				
Coenagrionidae				
<i>Argia</i>	—		1	.07%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	—		13	.97%
Chloroperlidae	2	.13%	11	.82%
Perlidae				
<i>Acroneuria</i>	2	.13%	1	.07%
<i>Agetina</i>	3	.20%	5	.37%
Taeniopterygidae				
<i>Taeniopteryx</i>	3	.20%	45	3.34%
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Corydalis</i>	1	.07%	1	.07%

Table 5. Benthic-macroinvertebrate data—Continued

01480700 (Site 36) - East Branch Brandywine Creek near Downingtown, Pa.—Continued

Date	10/17/95		10/29/96	
Total count	1,508		1,347	
Total number of taxa	41		49	
Organism	Count	Percent	Count	Percent
Trichoptera (CADDISFLIES)				
Apataniidae				
<i>Apatania</i>	10	0.66%	23	1.71%
Brachycentridae				
<i>Micrasema</i>	84	5.57%	80	5.94%
Glossosomatidae				
<i>Glossosoma</i>	5	.33%	14	1.04%
Goeridae				
<i>Goera</i>	—		2	.15%
Helicopsychidae				
<i>Helicopsyche</i>	9	.60%	3	.22%
Hydropsychidae				
<i>Ceratopsyche</i>	476	31.56%	261	19.38%
<i>Cheumatopsyche</i>	79	5.24%	49	3.64%
<i>Hydropsyche</i>	76	5.04%	25	1.86%
Hydroptilidae				
<i>Hydroptila</i>	1	.07%	—	
<i>Leucotrichia</i>	101	6.70%	3	.22%
Lepidostomatidae				
<i>Lepidostoma</i>	1	.07%	11	.82%
Leptoceridae				
<i>Oecetis</i>	2	.13%	2	.15%
Philopotamidae				
<i>Chimarra</i>	7	.46%	1	.07%
<i>Dolophilodes</i>	—		1	.07%
Polycentropodidae				
<i>Neureclipsis</i>	2	.13%	—	
<i>Nyctiophylax</i>	3	.20%	—	
<i>Polycentropus</i>	—		1	.07%
Psychomyiidae				
<i>Psychomyia</i>	20	1.33%	22	1.63%
Rhyacophilidae				
<i>Rhyacophila</i>	3	.20%	7	.52%
Lepidoptera				
Pyrilidae (MOTHS)				
<i>Petrophila</i>	12	.80%	8	.59%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Dubiraphia</i>	—		5	.37%
<i>Optioservus</i>	21	1.39%	63	4.68%
<i>Oulimnius</i>	1	.07%	—	
<i>Promoresia</i>	65	4.31%	41	3.04%
<i>Stenelmis</i>	5	.33%	3	.22%
Psephenidae (WATER PENNIES)				
<i>Psephenus</i>	6	.40%	4	.30%
Diptera (TRUE FLIES)				
Ceratopogonidae				
	—		1	.07%
Chironomidae (MIDGES)				
	257	17.04%	230	17.07%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	7	.46%	17	1.26%
Ephydriidae				
	—		1	.07%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	2	.13%	24	1.78%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	46	3.05%	25	1.86%

Table 5. Benthic-macroinvertebrate data—Continued

01480903 (Site 44) - Valley Creek at Mullsteins Meadows near Downingtown, Pa.

Date	11/21/95		11/04/97	
	Total count		1,327	3,137
Total number of taxa		34	36	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	63	4.75%	146	4.65%
Nematoda (NEMATODES)	—		1	.03%
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Planorbidae				
<i>Gyraulus</i>	—		2	.06%
Bivalvia (CLAMS)				
Veneroida				
Sphaeriidae				
<i>Pisidium</i>	1	.08%	—	
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	8	.60%	1	.03%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	54	4.07%	110	3.51%
Crustacea				
Amphipoda (SCUDS)				
Gammaridae				
<i>Gammarus</i>	2	.15%	5	.16%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	1	.08%	1	.03%
<i>Pseudocloeon</i>	—		1	.03%
Ephemerellidae				
<i>Ephemerella</i>	196	14.77%	220	7.01%
Heptageniidae				
<i>Stenonema</i>	8	.60%	21	.67%
Isonychiidae				
<i>Isonychia</i>	3	.23%	24	.77%
Leptohyphidae				
<i>Tricorythodes</i>	13	.98%	15	.48%
Odonata (DRAGONFLIES AND DAMSELFLIES)				
Coenagrionidae				
<i>Argia</i>	—		1	.03%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	5	.38%	3	.10%
Chloroperlidae	7	.53%	—	
Perlidae				
<i>Agnatina</i>	—		4	.13%
Taeniopterygidae				
<i>Taeniopteryx</i>	3	.23%	5	.16%

Hemiptera (TRUE BUGS)

Table 5. Benthic-macroinvertebrate data—Continued

01480903 (Site 44) - Valley Creek at Mullsteins Meadows near Downingtown, Pa.—Continued

Date	11/21/95		11/04/97		
	Total count		1,327	3,137	
Total number of taxa		34		36	
Organism	Count	Percent	Count	Percent	
Corixidae					
<i>Sigara</i>	—		1	0.03%	
Trichoptera (CADDISFLIES)					
Brachycentridae					
<i>Micrasema</i>	2	0.15%	3	.10%	
Glossosomatidae					
<i>Glossosoma</i>	—		2	.06%	
Helicopsychidae					
<i>Helicopsyche</i>	67	5.05%	58	1.85%	
Hydropsychidae					
<i>Ceratopsyche</i>	241	18.16%	638	20.34%	
<i>Cheumatopsyche</i>	15	1.13%	314	10.01%	
<i>Hydropsyche</i>	18	1.36%	61	1.94%	
Hydroptilidae					
<i>Hydroptila</i>	11	.83%	36	1.15%	
<i>Leucotrichia</i>	15	1.13%	4	.13%	
Lepidostomatidae					
<i>Lepidostoma</i>	2	.15%	—		
Leptoceridae					
<i>Mystacides</i>	—		1	.03%	
<i>Oecetis</i>	1	.08%	—		
Philopotamidae					
<i>Chimarra</i>	7	.53%	114	3.63%	
Psychomyiidae					
<i>Psychomyia</i>	6	.45%	1	.03%	
Lepidoptera					
Pyrilidae (MOTHS)					
<i>Petrophila</i>	1	.08%	—		
Coleoptera (BEETLES)					
Elmidae (RIFFLE BEETLES)					
<i>Dubiraphia</i>	3	.23%	—		
<i>Optioservus</i>	110	8.29%	99	3.16%	
<i>Oulimnius</i>	—		4	.13%	
<i>Stenelmis</i>	41	3.09%	60	1.91%	
Psephenidae (WATER PENNIES)					
<i>Ectopria</i>	1	.08%	—		
<i>Psephenus</i>	5	.38%	3	.10%	
Diptera (TRUE FLIES)					
Chironomidae (MIDGES)	244	18.39%	950	30.28%	
Empididae (DANCE FLIES)					
<i>Hemerodromia</i>	8	.60%	21	.67%	
Simuliidae (BLACK FLIES)					
<i>Simulium</i>	6	.45%	57	1.82%	
Tipulidae (CRANE FLIES)					
<i>Antocha</i>	159	11.98%	150	4.78%	

Table 5. Benthic-macroinvertebrate data—Continued

01480950 (Site 39) - East Branch Brandywine Creek at Wawaset, Pa.

Date	11/20/95		10/15/96		10/29/97	
	Total count		307	880	2,123	
Total number of taxa	33		32		30	
Organism	Count	Percent	Count	Percent	Count	Percent
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	4	1.30%	2	0.23%	28	1.32%
Nemertea (PROBOSCIS WORMS)						
Enopla						
Hoploneurata						
Tetrastemmatidae						
<i>Prostoma</i>	1	.33%	2	.23%	—	
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancyliidae						
<i>Ferrissia</i>	2	.65%	4	.45%	—	
Physidae						
<i>Physa</i>	3	.98%	—	—	—	
Planorbidae						
<i>Gyraulus</i>	1	.33%	—	—	1	.05%
Bivalvia (CLAMS)						
Veneroidea						
Sphaeriidae	2	.65%	1	.11%	—	
Annelida (SEGMENTED WORMS)						
Oligochaeta						
Tubificida						
Naididae	2	.65%	51	5.80%	—	
Tubificidae	1	.33%	—	—	—	
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)						
	4	1.30%	32	3.64%	104	4.90%
Crustacea						
Cladocera						
	—	—	—	—	2	.09%
Amphipoda (SCUDS)						
Gammaridae						
<i>Gammarus</i>	—	—	1	.11%	—	
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
<i>Baetis</i>	—	—	—	—	5	.24%
Caenidae						
<i>Caenis</i>	30	9.77%	1	.11%	—	
Ephemerellidae						
<i>Ephemerella</i>	11	3.58%	6	.68%	167	7.87%
Heptageniidae						
<i>Stenonema</i>	8	2.61%	5	.57%	69	3.25%
Isonychiidae						
<i>Isonychia</i>	2	.65%	—	—	3	.14%
Leptohyphidae						
<i>Tricorythodes</i>	5	1.63%	—	—	—	
Potamanthidae						
<i>Anthopotamus</i>	2	.65%	—	—	—	
Odonata (DRAGONFLIES AND DAMSELFLIES)						
Coenagrionidae						
<i>Argia</i>	1	.33%	—	—	1	.05%

Table 5. Benthic-macroinvertebrate data—Continued

01480950 (Site 39) - East Branch Brandywine Creek at Wawaset, Pa.—Continued

Date	11/20/95		10/15/96		10/29/97	
	Total count					
Total number of taxa						
Organism	Count	Percent	Count	Percent	Count	Percent
Plecoptera (STONEFLIES)						
Taeniopterygidae						
<i>Taeniopteryx</i>	—		3	0.34%	—	
Hemiptera (TRUE FLIES)						
Veliidae						
<i>Rhagovelia</i>	—		1	.11%	—	
Megaloptera						
Corydalidae (FISHFLIES AND DOBSONFLIES)						
<i>Corydalis</i>	—		—		1	0.05%
Trichoptera (CADDISFLIES)						
Apataniidae						
<i>Apatania</i>	—		2	.23%	—	
Brachycentridae						
<i>Micrasema</i>	—		—		1	.05%
Glossosomatidae						
<i>Protophila</i>	3	0.98%	17	1.93%	7	.33%
Helicopsychidae						
<i>Helicopsyche</i>	64	20.85%	87	9.89%	632	29.77%
Hydropsychidae						
<i>Ceratopsyche</i>	9	2.93%	115	13.07%	258	12.15%
<i>Cheumatopsyche</i>	7	2.28%	23	2.61%	187	8.81%
<i>Hydropsyche</i>	22	7.17%	15	1.70%	73	3.44%
Hydroptilidae						
<i>Hydroptila</i>	2	.65%	2	.23%	7	.33%
<i>Leucotrichia</i>	4	1.30%	4	.45%	26	1.22%
Lepidostomatidae						
<i>Lepidostoma</i>	—		1	.11%	3	.14%
Leptoceridae						
<i>Mystacides</i>	—		—		2	.09%
<i>Oecetis</i>	11	3.58%	15	1.70%	15	.71%
Psychomyiidae						
<i>Psychomyia</i>	—		2	.23%	1	.05%
Lepidoptera						
Pyrilidae (MOTHS)						
<i>Petrophila</i>	2	.65%	15	1.70%	32	1.51%
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
<i>Ancyronyx</i>	—		1	.11%	1	.05%
<i>Dubiraphia</i>	3	.98%	—		—	
<i>Optioservus</i>	8	2.61%	12	1.36%	18	.85%
<i>Stenelmis</i>	5	1.63%	64	7.27%	11	.52%
Hydrophilidae						
<i>Berosus</i>	2	.65%	—		—	
Psephenidae (WATER PENNIES)						
<i>Psephenus</i>	2	.65%	4	.45%	—	
Diptera (TRUE FLIES)						
Chironomidae (MIDGES)						
Empididae (DANCE FLIES)						
<i>Hemerodromia</i>	—		27	3.07%	3	.14%
Simuliidae (BLACK FLIES)						
<i>Simulium</i>	1	.33%	6	.68%	45	2.12%
Tipulidae (CRANE FLIES)						
<i>Antocha</i>	12	3.91%	52	5.91%	31	1.46%

Table 5. Benthic-macroinvertebrate data—Continued

01481030 (Site 40) - Brandywine Creek near Chadds Ford, Pa.

Date	10/13/95		11/13/97	
	Total count		1,208	3,000
Total number of taxa		33	41	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	62	5.13%	66	2.20%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	1	.08%	—	
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	11	.91%	11	.37%
Physidae				
<i>Physa</i>	2	.17%	—	
Planorbidae				
<i>Gyraulus</i>	—		1	.03%
Mesogastropoda				
Hydrobiidae				
<i>Ammicola</i>	—		1	.03%
Bivalvia (CLAMS)				
Veneroida				
Sphaeriidae				
<i>Musculium</i>	—		6	.20%
<i>Sphaerium</i>	10	.83%	—	
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida	3	.25%	—	
Naididae	4	.33%	2	.07%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	37	3.06%	94	3.13%
Crustacea				
Amphipoda (SCUDS)				
Gammaridae				
<i>Gammarus</i>	—		6	.20%
Podocopa (SEED SHRIMP)	—		2	.07%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	7	.58%	—	
<i>Pseudocloeon</i>	13	1.08%	6	.20%
Caenidae				
<i>Caenis</i>	4	.33%	2	.07%
Ephemerellidae				
<i>Ephemerella</i>	274	22.68%	750	25.00%
Heptageniidae				
<i>Stenonema</i>	71	5.88%	135	4.50%
Isonychiidae				
<i>Isonychia</i>	16	1.32%	16	.53%
Leptohyphidae				
<i>Tricorythodes</i>	—		27	.90%

Table 5. Benthic-macroinvertebrate data—Continued

01481030 (Site 40) - Brandywine Creek near Chadds Ford, Pa.—Continued

Date	10/13/95		11/13/97	
	Total count		1,208	3,000
Total number of taxa		33	41	
Organism	Count	Percent	Count	Percent
Ephemeroptera (MAYFLIES)				
Potamanthidae				
<i>Anthopotamus</i>	—		1	0.03%
Odonata (DRAGONFLIES AND DAMSELFLIES)				
Coenagrionidae				
<i>Argia</i>	1	0.08%	1	.03%
Plecoptera (STONEFLIES)				
Chloroperlidae				
	5	.41%	—	
Perlidae				
<i>Acroneuria</i>	—		18	.60%
<i>Paragnetina</i>	—		1	.03%
Taeniopterygidae				
<i>Strophopteryx</i>	—		39	1.30%
<i>Taeniopteryx</i>	2	.17%	7	.23%
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Corydalus</i>	—		2	.07%
Trichoptera (CADDISFLIES)				
Glossosomatidae				
<i>Proptila</i>	11	.91%	9	.30%
Helicopsychidae				
<i>Helicopsyche</i>	6	.50%	57	1.90%
Hydropsychidae				
<i>Ceratopsyche</i>	62	5.13%	264	8.80%
<i>Cheumatopsyche</i>	153	12.67%	240	8.00%
<i>Hydropsyche</i>	90	7.45%	95	3.17%
Hydroptilidae				
<i>Hydroptila</i>	—		10	.33%
<i>Leucotrichia</i>	84	6.95%	17	.57%
Lepidostomatidae				
<i>Lepidostoma</i>	13	1.08%	28	.93%
Philopotamidae				
<i>Chimarra</i>	1	.08%	12	.40%
Polycentropodidae				
<i>Neureclipsis</i>	—		3	.10%
Psychomyiidae				
<i>Psychomyia</i>	—		1	.03%
Lepidoptera				
Pyralidae (MOTHS)				
<i>Petrophila</i>	65	5.38%	10	.33%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Optioservus</i>	82	6.79%	85	2.83%
<i>Oulimnius</i>	1	.08%	8	.27%
<i>Stenelmis</i>	13	1.08%	44	1.47%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
	79	6.54%	836	27.87%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	2	.17%	6	.20%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	20	1.66%	21	.70%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	3	.25%	60	2.00%

Table 5. Benthic-macroinvertebrate data—Continued

01494900 (Site 31) - East Branch Big Elk Creek at Elkview, Pa.

Date	11/30/95		10/25/96		10/31/97	
	Total count					
	124		71		529	
Total number of taxa	14		11		13	
Organism	Count	Percent	Count	Percent	Count	Percent
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	3	2.42%	1	1.41%	1	0.19%
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancylidae						
<i>Ferrissia</i>	—		1	1.41%	1	.19%
Physidae						
<i>Physa</i>	—		1	1.41%	—	
Planorbidae						
<i>Gyraulus</i>	—		—		4	.76%
Annelida (SEGMENTED WORMS)						
Oligochaeta						
Tubificida	1	.81%	—		—	
Naididae	40	32.26%	—		2	.38%
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	4	3.23%	6	8.45%	8	1.51%
Crustacea						
Cyclopoida	1	.81%	—		—	
Insecta						
Ephemeroptera (MAYFLIES)						
Ephemerellidae						
<i>Ephemerella</i>	1	.81%	—		—	
Heptageniidae						
<i>Stenonema</i>	—		—		1	.19%
Isonychiidae						
<i>Isonychia</i>	1	.81%	—		—	
Trichoptera (CADDISFLIES)						
Hydropsychidae						
<i>Ceratopsyche</i>	2	1.61%	5	7.04%	5	.95%
<i>Cheumatopsyche</i>	12	9.68%	8	11.27%	6	1.13%
<i>Hydropsyche</i>	—		—		1	.19%
Philopotamidae						
<i>Chimarra</i>	—		1	1.41%	—	
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
<i>Ancyronyx</i>	1	.81%	—		—	
<i>Microcylloepus</i>	1	.81%	—		—	
<i>Optioservus</i>	—		2	2.82%	—	
<i>Stenelmis</i>	4	3.23%	—		—	
Diptera (TRUE FLIES)						
Chironomidae (MIDGES)						
Chironomidae (MIDGES)	33	26.61%	28	39.44%	280	52.93%
Empididae (DANCE FLIES)						
<i>Hemerodromia</i>	—		—		2	.38%
Simuliidae (BLACK FLIES)						
<i>Simulium</i>	—		2	2.82%	1	.19%
Tipulidae (CRANE FLIES)						
<i>Antocha</i>	20	16.13%	16	22.54%	217	41.02%

Table 5. Benthic-macroinvertebrate data—Continued

01494950 (Site 32) - West Branch Big Elk Creek near Oxford, Pa.

Date	11/30/95		10/25/96	
	Total count	85	Total count	290
Total number of taxa	15		20	
Organism	Count	Percent	Count	Percent
Platyhelminthes				
Turbellaria (FLATWORMS)				
Tricladida				
Planariidae	—		1	0.34%
Mollusca				
Gastropoda (SNAILS)				
Basommatophora				
Ancyliidae				
<i>Ferrissia</i>	1	1.18%	—	
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	1	1.18%	—	
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	—		19	6.55%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Pseudocloeon</i>	—		2	.69%
Caenidae				
<i>Caenis</i>	3	3.53%	—	
Ephemerellidae				
<i>Ephemerella</i>	3	3.53%	6	2.07%
Heptageniidae				
<i>Stenacron</i>	—		1	.34%
<i>Stenonema</i>	6	7.06%	5	1.72%
Isonychiidae				
<i>Isonychia</i>	1	1.18%	—	
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	—		5	1.72%
Trichoptera (CADDISFLIES)				
Brachycentridae				
<i>Brachycentrus</i>	1	1.18%	—	
Hydropsychidae				
<i>Ceratopsyche</i>	—		52	17.93%
<i>Cheumatopsyche</i>	—		25	8.62%
<i>Hydropsyche</i>	—		6	2.07%
Hydroptilidae				
<i>Leucotrichia</i>	1	1.18%	1	.34%
Philopotamidae				
<i>Chimarra</i>	—		1	.34%
Uenoidae				
<i>Neophylax</i>	1	1.18%	1	.34%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Ancyronyx</i>	1	1.18%	—	
<i>Optioservus</i>	2	2.35%	6	2.07%
<i>Oulimnius</i>	—		2	.69%
<i>Stenelmis</i>	1	1.18%	3	1.03%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)				
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	1	1.18%	8	2.76%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	—		9	3.10%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	46	54.12%	54	18.62%

Table 5. Benthic-macroinvertebrate data—Continued

01578340 (Site 33) - East Branch Octoraro Creek at Christiana, Pa.

Date	10/26/95		10/30/96		10/31/97	
	Total count					
Total number of taxa	26		25		29	
Organism	Count	Percent	Count	Percent	Count	Percent
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	44	6.12%	—		56	3.79%
Nematoda (NEMATODES)	—		—		3	.20%
Nemertea (PROBOSCIS WORMS)						
Enopla						
Hoplonemertea						
Tetrastemmatidae						
<i>Prostoma</i>	1	.14%	33	3.90%	—	
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancyliidae						
<i>Ferrissia</i>	—		—		4	.27%
Planorbidae						
<i>Gyraulus</i>	—		1	.12%	—	
Bivalvia (CLAMS)						
Veneroidea						
Sphaeriidae						
	—		2	.24%	1	.07%
Annelida (SEGMENTED WORMS)						
Oligochaeta						
Tubificida						
Naididae	3	.42%	30	3.54%	1	.07%
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	15	2.09%	10	1.18%	16	1.08%
Crustacea						
Amphipoda (SCUDS)						
Gammaridae						
<i>Gammarus</i>	—		1	.12%	2	.14%
Cyclopoida						
	—		1	.12%	—	
Isopoda (SOW BUGS)						
Asellidae						
<i>Caecidotea</i>	4	.56%	5	.59%	—	
<i>Lirceus</i>	—		—		5	.34%
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
<i>Baetis</i>	1	.14%	—		1	.07%
Ephemerellidae						
<i>Ephemerella</i>	260	36.16%	170	20.07%	350	23.68%
Heptageniidae						
<i>Stenonema</i>	17	2.36%	5	.59%	23	1.56%
Isonychiidae						
<i>Isonychia</i>	1	.14%	—		1	.07%
Leptohyphidae						
<i>Tricorythodes</i>	—		—		1	.07%

Table 5. Benthic-macroinvertebrate data—Continued

01578340 (Site 33) - East Branch Octoraro Creek at Christiana, Pa.—Continued

Date	10/26/95		10/30/96		10/31/97	
Total count	719		847		1,478	
Total number of taxa	26		25		29	
Organism	Count	Percent	Count	Percent	Count	Percent
Plecoptera (STONEFLIES)						
Perlidae						
<i>Agnatina</i>	1	0.14%	—		—	
Taeniopterygidae						
<i>Taeniopteryx</i>	—		—		1	0.07%
Trichoptera (CADDISFLIES)						
Brachycentridae						
<i>Micrasema</i>	2	.28%	—		—	
Hydropsychidae						
<i>Ceratopsyche</i>	44	6.12%	58	6.85%	20	1.35%
<i>Cheumatopsyche</i>	40	5.56%	78	9.21%	11	.74%
<i>Hydropsyche</i>	38	5.29%	130	15.35%	117	7.92%
Hydroptilidae						
<i>Hydroptila</i>	9	1.25%	1	.12%	15	1.01%
<i>Leucotrichia</i>	12	1.67%	32	3.78%	220	14.88%
Leptoceridae						
<i>Oecetis</i>	1	.14%	—		3	.20%
Philopotamidae						
<i>Chimarra</i>	32	4.45%	9	1.06%	180	12.18%
Psychomyiidae						
<i>Psychomyia</i>	—		—		1	.07%
Lepidoptera (MOTHS)						
Noctuidae						
<i>Archanara</i>	—		1	.12%	—	
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
<i>Ancyronyx</i>	1	.14%	—		—	
<i>Dubiraphia</i>	1	.14%	—		—	
<i>Macronychus</i>	1	.14%	—		—	
<i>Optioservus</i>	—		3	.35%	5	.34%
<i>Stenelmis</i>	21	2.92%	13	1.53%	27	1.83%
Psephenidae (WATER PENNIES)						
<i>Psephenus</i>	3	.42%	7	.83%	10	.68%
Diptera (TRUE FLIES)						
Chironomidae (MIDGES)						
Empididae (DANCE FLIES)						
<i>Hemerodromia</i>	1	.14%	6	.71%	1	.07%
Simuliidae (BLACK FLIES)						
<i>Simulium</i>	—		65	7.67%	6	.41%
Tipulidae (CRANE FLIES)						
<i>Antocha</i>	27	3.76%	24	2.83%	52	3.52%
<i>Dicranota</i>	—		2	.24%	—	

Table 5. Benthic-macroinvertebrate data—Continued

01578343 (Site 34) - Valley Creek near Atglen, Pa.

Date	10/26/95		10/30/96	
Total count	460		1,855	
Total number of taxa	21		31	
Organism	Count	Percent	Count	Percent
Nematoda (NEMATODES)	—		2	.11%
Nemertea (PROBOSCIS WORMS)				
Enopla				
Hoplonemertea				
Tetrastemmatidae				
<i>Prostoma</i>	—		7	0.38%
Annelida (SEGMENTED WORMS)				
Oligochaeta				
Tubificida				
Naididae	18	3.91%	153	8.25%
Hirudinea (LEECHES)				
Pharyngobdellidae				
Erpobdellidae	—		7	.38%
Rhynehobdellida				
Glossiphoniidae				
<i>Helobdella</i>	2	.43%	4	.22%
Arthropoda				
Acariformes				
Hydrachnidia (WATER MITES)	—		25	1.35%
Crustacea				
Amphipoda (SCUDS)				
Gammaridae				
<i>Gammarus</i>	1	.22%	5	.27%
Isopoda (SOW BUGS)				
Asellidae				
<i>Caecidotea</i>	—		46	2.48%
Insecta				
Ephemeroptera (MAYFLIES)				
Baetidae				
<i>Baetis</i>	1	.22%	4	.22%
<i>Pseudocloeon</i>	—		7	.38%
Ephemerellidae				
<i>Ephemerella</i>	3	.65%	3	.16%
Heptageniidae				
<i>Stenonema</i>	—		5	.27%
Isonychiidae				
<i>Isonychia</i>	1	.22%	1	.05%
Plecoptera (STONEFLIES)				
Capniidae				
<i>Allocapnia</i>	—		1	.05%
Megaloptera				
Corydalidae (FISHFLIES AND DOBSONFLIES)				
<i>Corydalis</i>	1	.22%	—	

Trichoptera (CADDISFLIES)

Table 5. Benthic-macroinvertebrate data—Continued

01578343 (Site 34) - Valley Creek near Atglen, Pa.—Continued

Date	10/26/95		10/30/96	
Total count	460		1,855	
Total number of taxa	21		31	
Organism	Count	Percent	Count	Percent
Hydropsychidae				
<i>Ceratopsyche</i>	18	3.91%	142	7.65%
<i>Cheumatopsyche</i>	71	15.43%	114	6.15%
<i>Hydropsyche</i>	95	2.65%	220	11.86%
Hydroptilidae				
<i>Hydroptila</i>	1	.22%	3	.16%
<i>Leucotrichia</i>	16	3.48%	57	3.07%
Leptoceridae				
<i>Ceraclea</i>	2	.43%	—	
Philopotamidae				
<i>Dolophilodes</i>	—		1	.05%
Psychomyiidae				
<i>Psychomyia</i>	1	.22%	13	.70%
Coleoptera (BEETLES)				
Elmidae (RIFFLE BEETLES)				
<i>Ancyronyx</i>	2	.43%	4	.22%
<i>Optioservus</i>	3	.65%	5	.27%
<i>Oulimnius</i>	—		6	.32%
<i>Stenelmis</i>	38	8.26%	35	1.89%
Psephenidae				
<i>Psephenus</i>	5	1.09%	12	.65%
Diptera (TRUE FLIES)				
Chironomidae (MIDGES)	143	31.09%	630	33.96%
Empididae (DANCE FLIES)				
<i>Hemerodromia</i>	—		36	1.94%
Simuliidae (BLACK FLIES)				
<i>Simulium</i>	2	.43%	49	2.64%
Tipulidae (CRANE FLIES)				
<i>Antocha</i>	36	7.83%	256	13.80%
<i>Dicranota</i>	—		2	.11%

Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site

01472080 (Site 10) - Pigeon Creek near Parker Ford, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	930	39	3.28	5.30	0.40	0.59
1996	1,685	40	1.97	5.25	.25	.34
1997	1,918	36	3.43	5.23	.21	.64

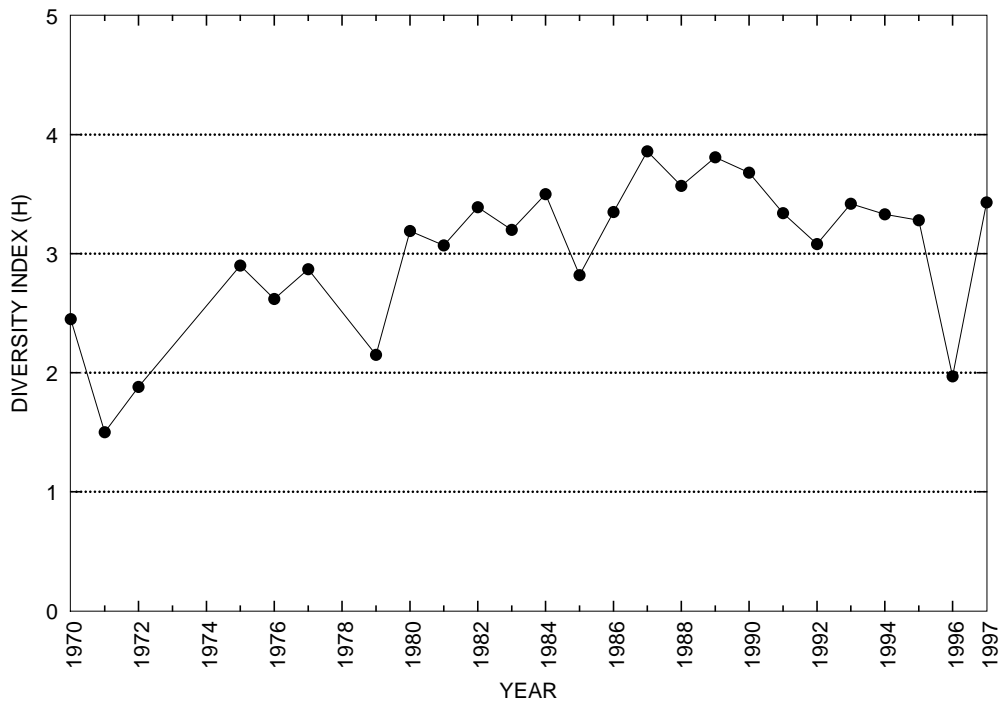


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01472109 (Site 6) - Stony Run near Spring City, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	744	39	3.97	5.13	0.49	0.75
1996	1,860	34	3.58	5.09	.19	.69
1997	—	—	—	—	—	—

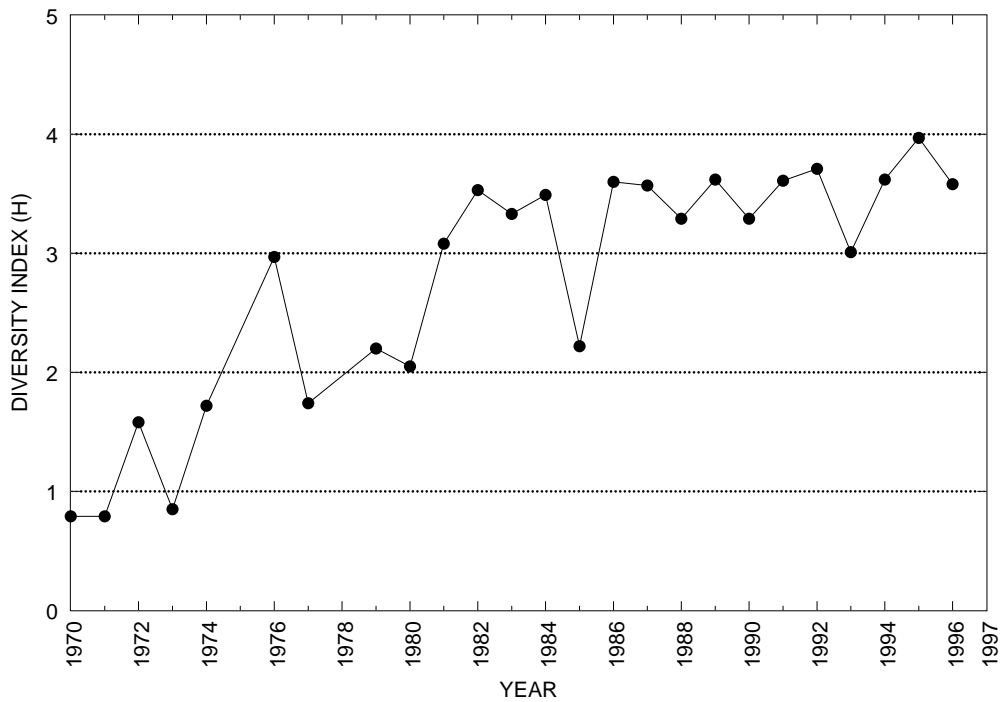


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01472138 (Site 13) - French Creek near Coventryville, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	414	34	3.79	4.90	0.69	0.74
1996	—	—	—	—	—	—
1997	1,080	32	3.76	4.88	.35	.64

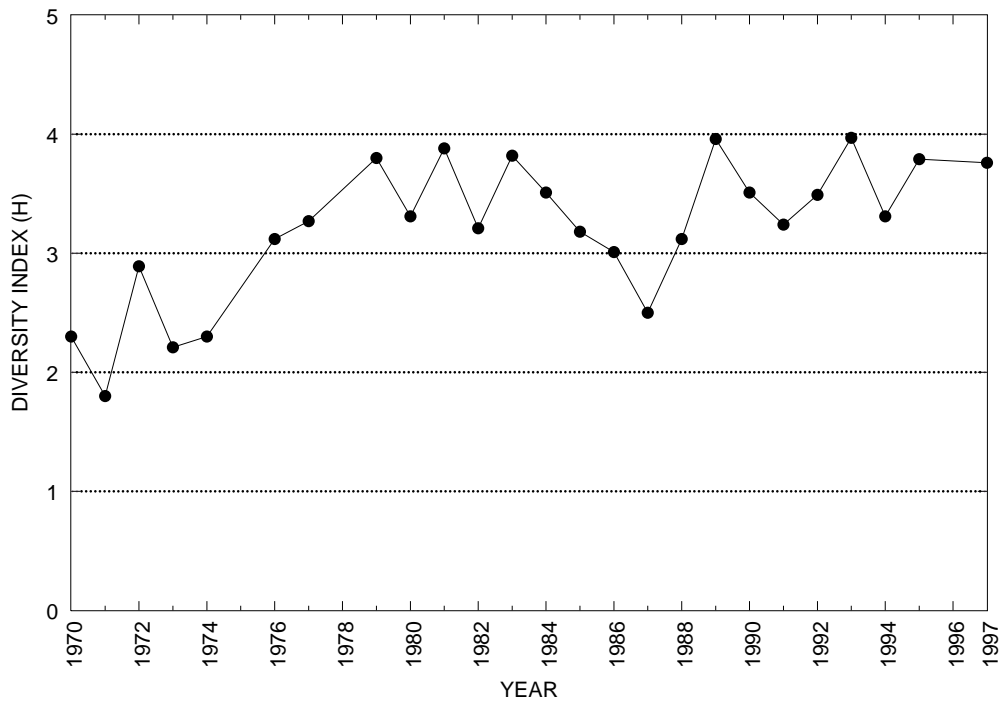


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01472140 (Site 12) - South Branch French Creek at Coventryville, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H _{max})	Minimum diversity (H _{min})	Evenness (E)
1995	585	32	3.83	4.89	0.49	0.76
1996	—	—	—	—	—	—
1997	1,527	32	3.23	5.00	.21	.63

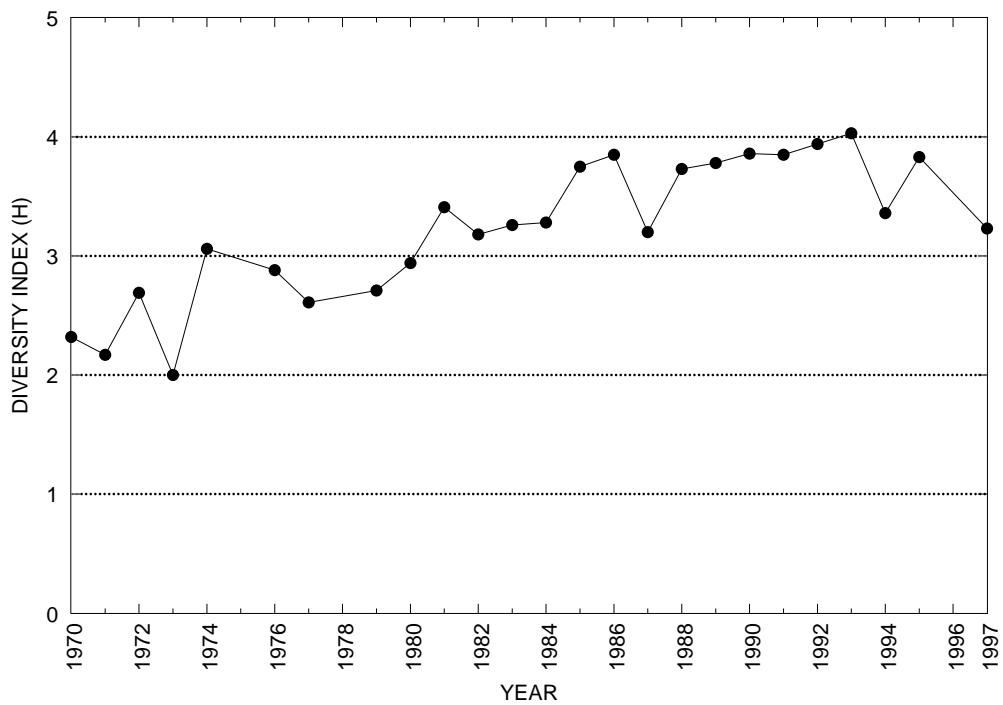


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01472154 (Site 14) - French Creek near Pughtown, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	388	34	3.80	4.96	0.73	0.73
1996	—	—	—	—	—	—
1997	800	33	3.41	4.95	.38	.66

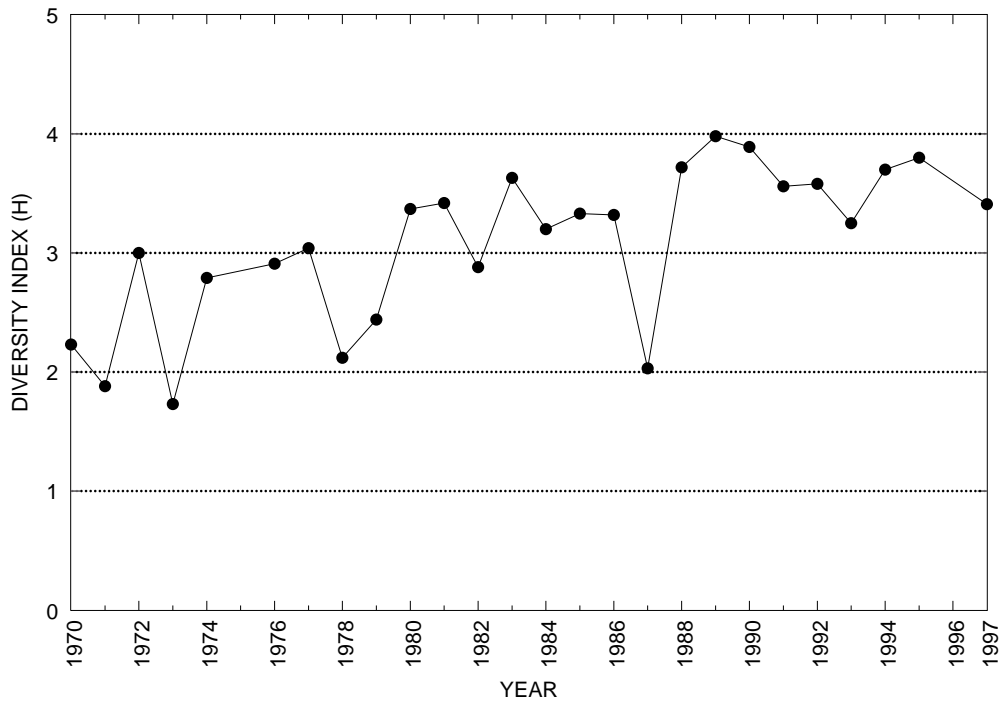


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

01472157 (Site 15) - French Creek near Phoenixville, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	281	35	3.60	5.14	1.00	0.63
1996	198	21	2.86	4.25	.76	.60
1997	1,677	37	3.80	5.16	.23	.72

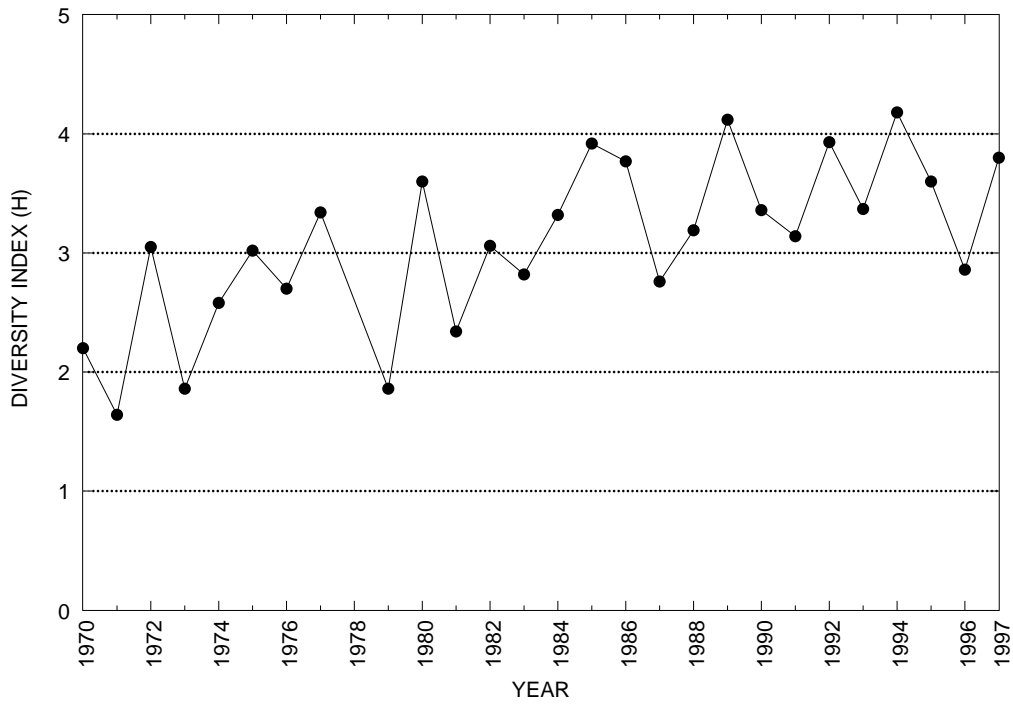


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

014721612 (Site 16) - French Creek at Railroad Bridge at Phoenixville, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	90	19	2.90	4.13	1.27	0.57
1996	—	—	—	—	—	—
1997	1,234	26	2.72	4.67	.21	.56

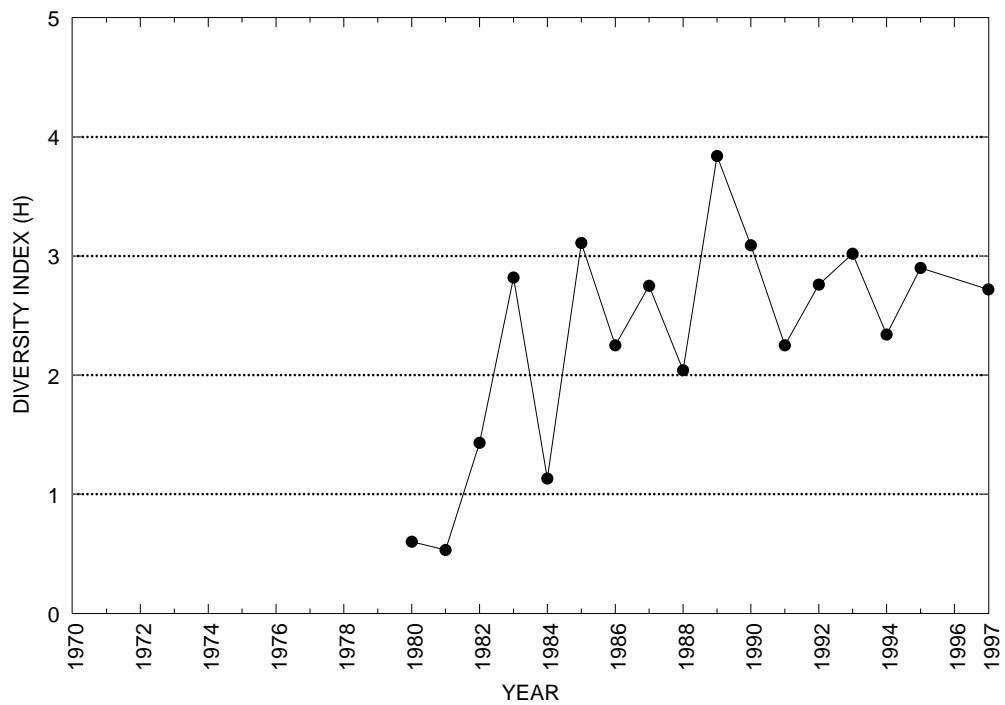


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01472170 (Site 1) - Pickering Creek near Eagle, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	533	23	2.88	4.41	0.37	0.62
1996	757	28	3.44	4.68	.34	.71
1997	—	—	—	—	—	—

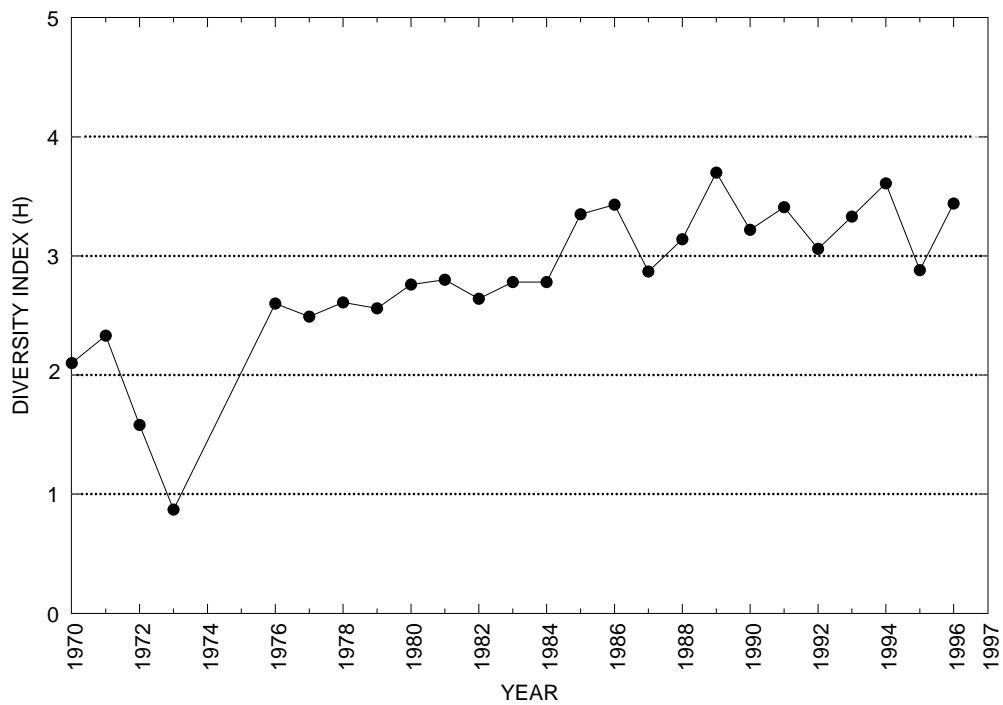


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01472174 (Site 2) - Pickering Creek near Chester Springs, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	223	26	3.51	4.60	0.87	0.71
1996	—	—	—	—	—	—
1997	—	—	—	—	—	—

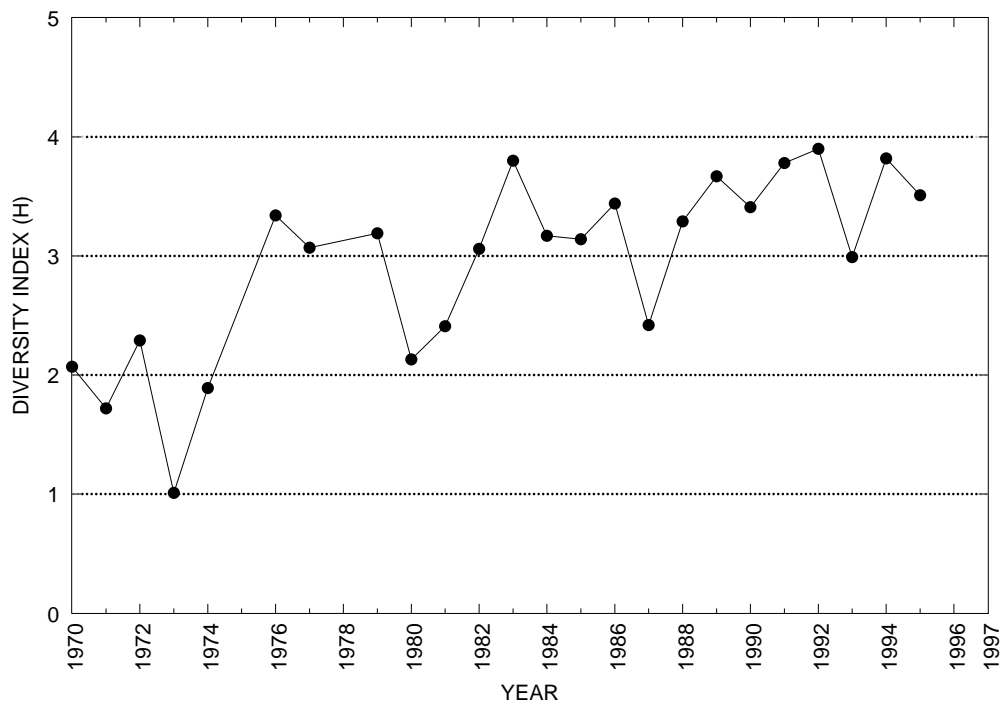


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

014721854 (Site 3) - Pickering Creek at Merlin, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	457	30	3.64	4.94	0.58	0.70
1996	—	—	—	—	—	—
1997	1,463	41	3.24	5.35	.29	.58

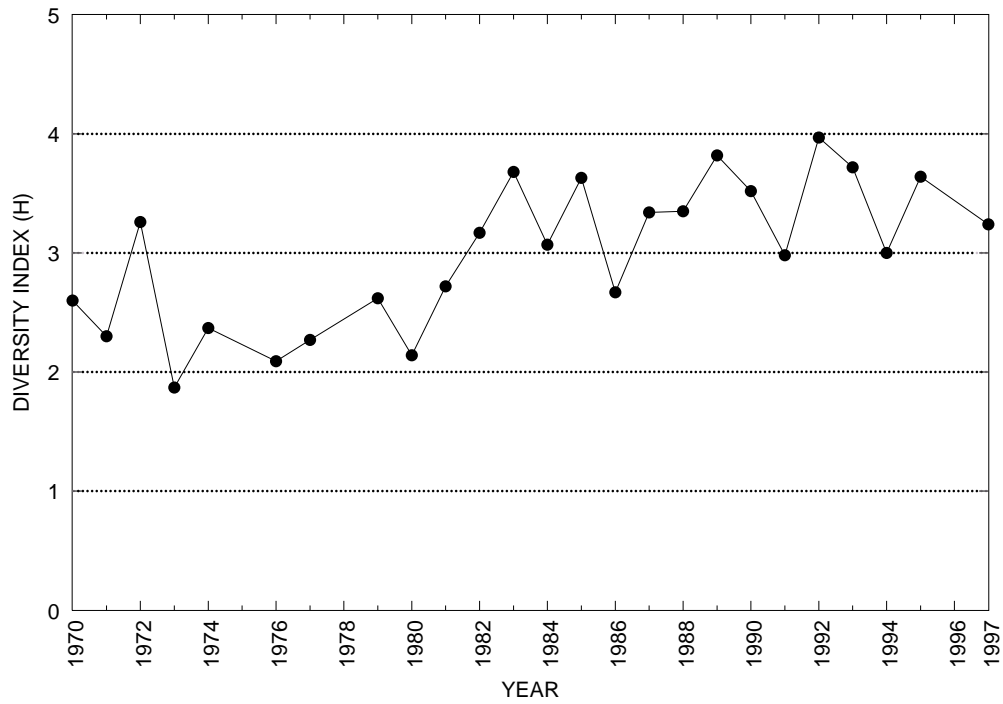


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

014721884 (Site 4) - Pickering Creek at Charlestown Road at Charlestown, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	811	42	3.84	5.29	0.49	0.70
1996	1,340	37	3.57	5.14	.28	.68
1997	—	—	—	—	—	—

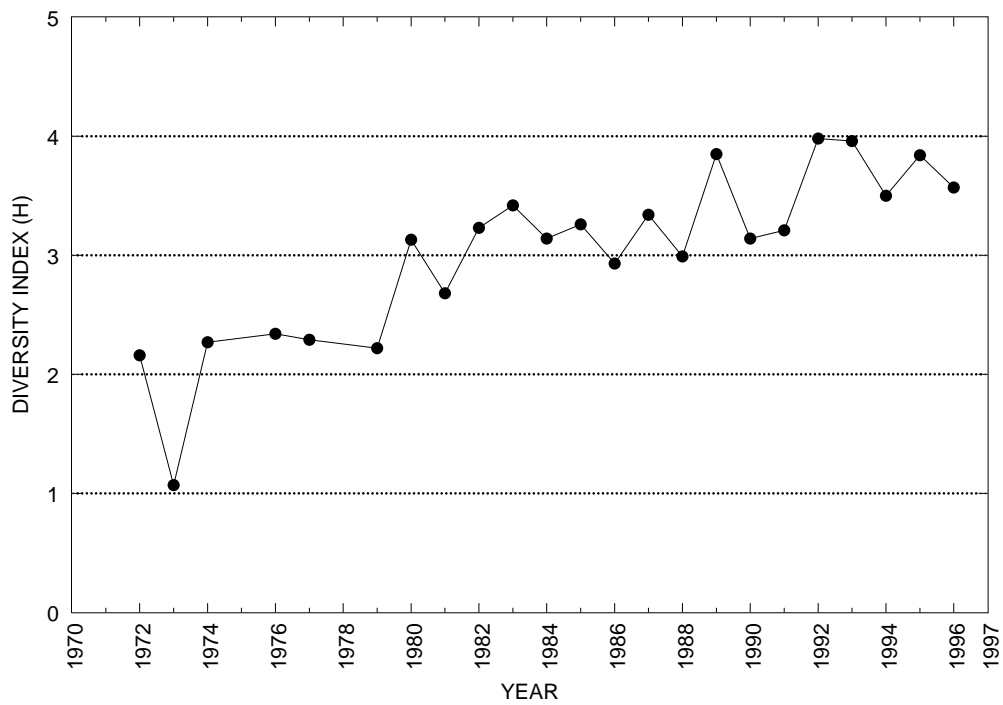


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

01472190 (Site 5) - Pickering Creek near Phoenixville, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	872	35	3.22	5.16	0.38	0.59
1996	418	26	2.97	4.53	.52	.61
1997	1,530	36	3.65	5.14	.24	.70

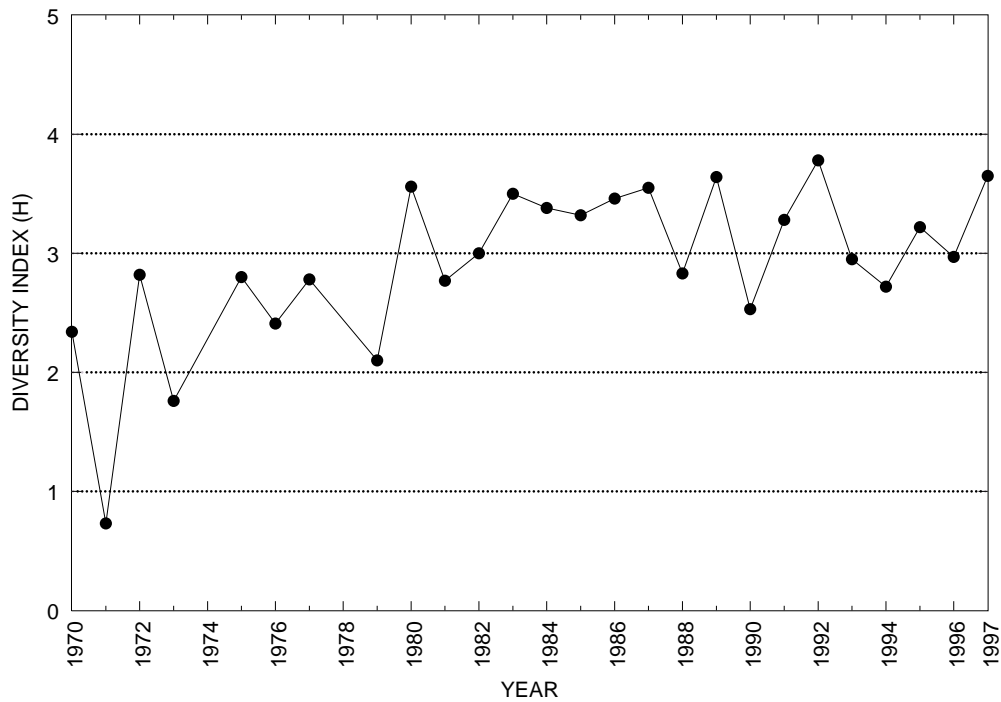


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01473167 (Site 49) - Little Valley Creek at Howellville, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	395	22	3.17	4.51	0.46	0.67
1996	113	16	2.98	3.68	.89	.75
1997	—	—	—	—	—	—

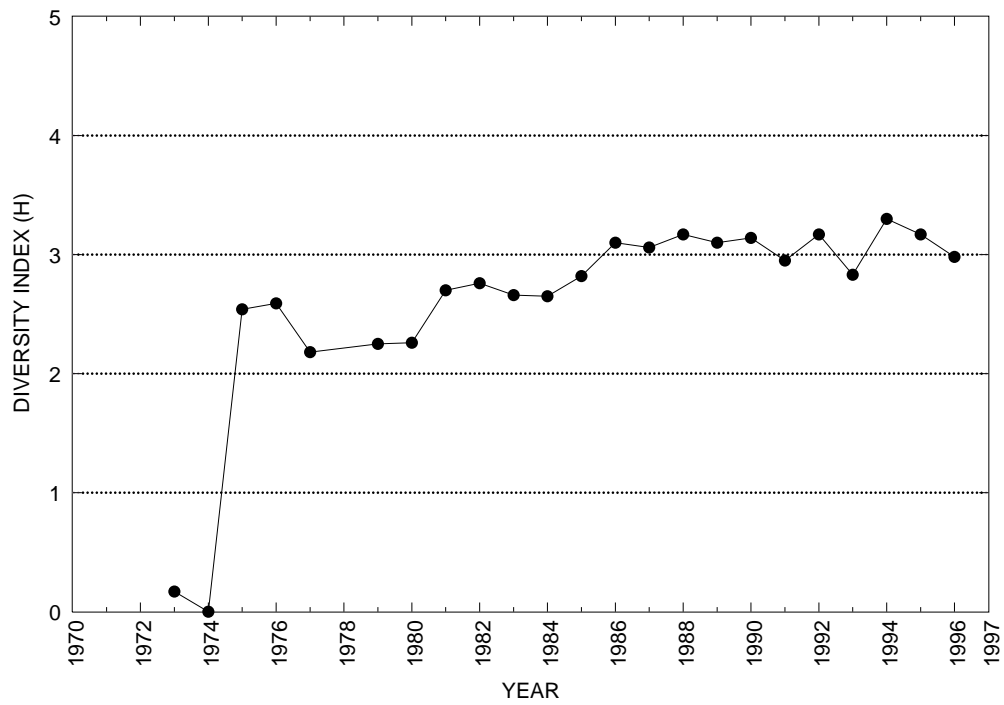


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01473168 (Site 50) - Valley Creek near Valley Forge, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	1,032	18	2.93	4.14	0.16	0.70
1996	870	23	2.91	4.54	.25	.62
1997	—	—	—	—	—	—

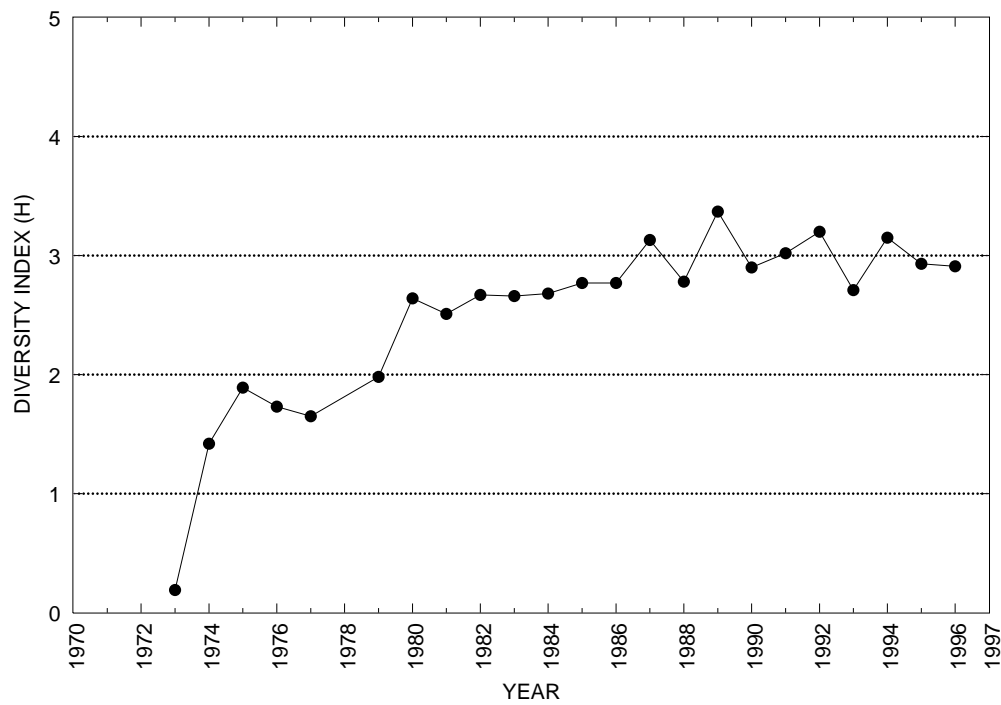


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01475300 (Site 17) - Darby Creek at Waterloo Mills near Devon, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	463	25	1.90	4.59	0.46	0.35
1996	256	20	3.00	4.33	.59	.65
1997	—	—	—	—	—	—

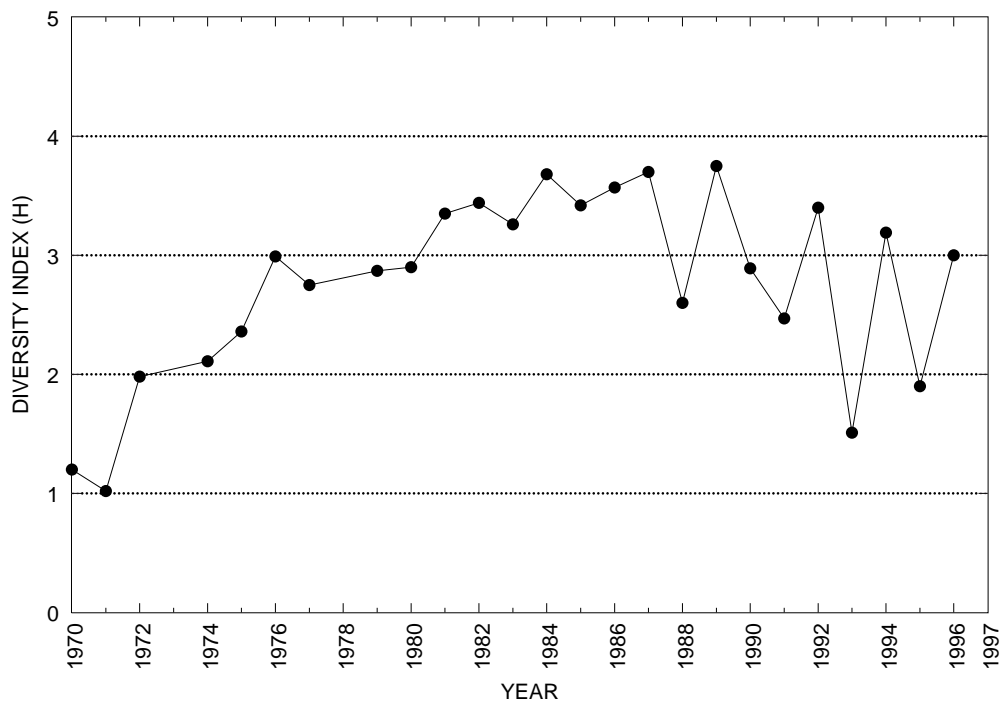


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01475840 (Site 19) - Crum Creek at Whitehorse, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	603	33	2.85	4.93	0.49	0.53
1996	886	29	2.75	4.83	.31	.54
1997	—	—	—	—	—	—

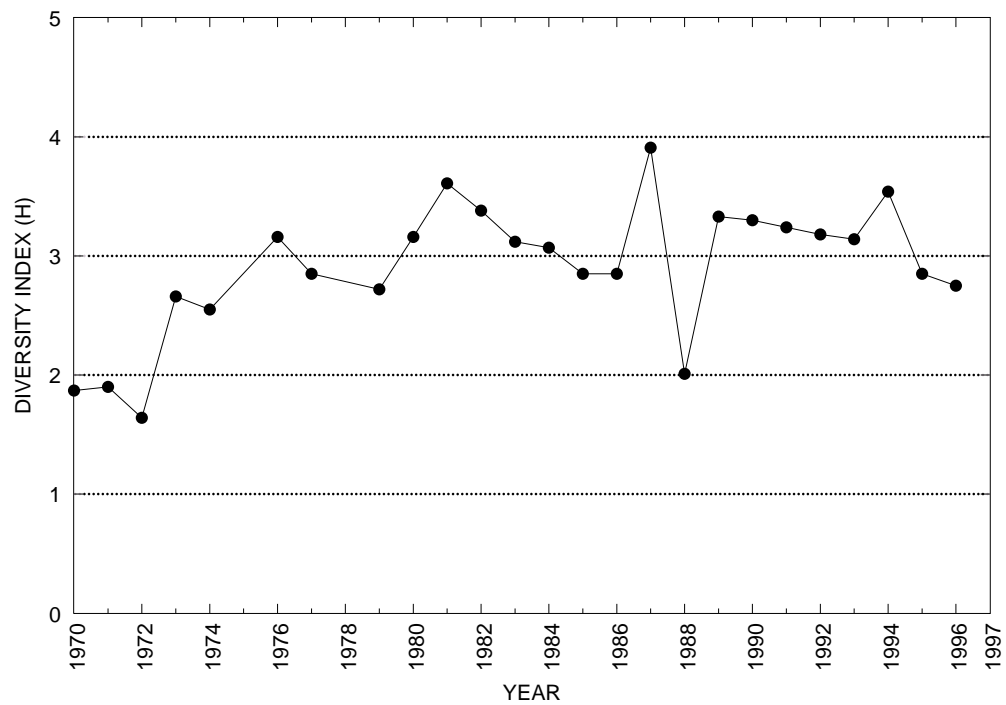


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01476430 (Site 20) - Ridley Creek at Goshenville, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	412	25	3.56	4.57	0.50	0.75
1996	201	19	3.17	4.17	.68	.71
1997	—	—	—	—	—	—



Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01476435 (Site 21) - Ridley Creek at Dutton Mill near West Chester, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H _{max})	Minimum diversity (H _{min})	Evenness (E)
1995	915	36	3.51	5.11	0.38	0.66
1996	633	34	3.43	5.05	.48	.65
1997	—	—	—	—	—	—

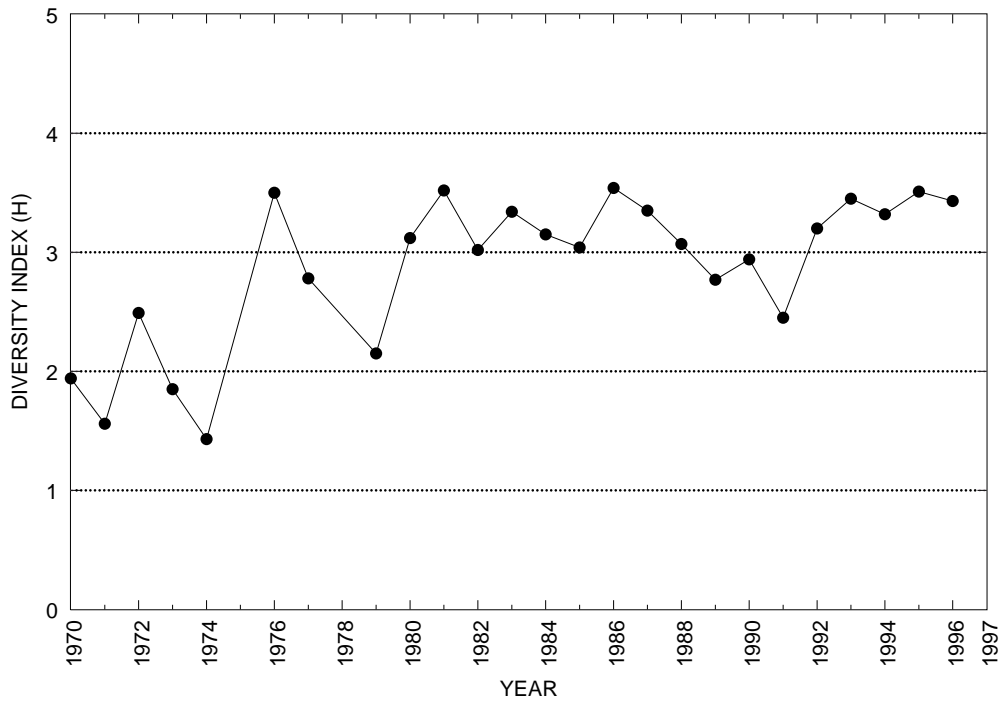


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01476790 (Site 22) - East Branch Chester Creek at Green Hill, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	331	22	2.77	4.27	0.53	0.60
1996	—	—	—	—	—	—
1997	250	17	3.17	4.07	.51	.75

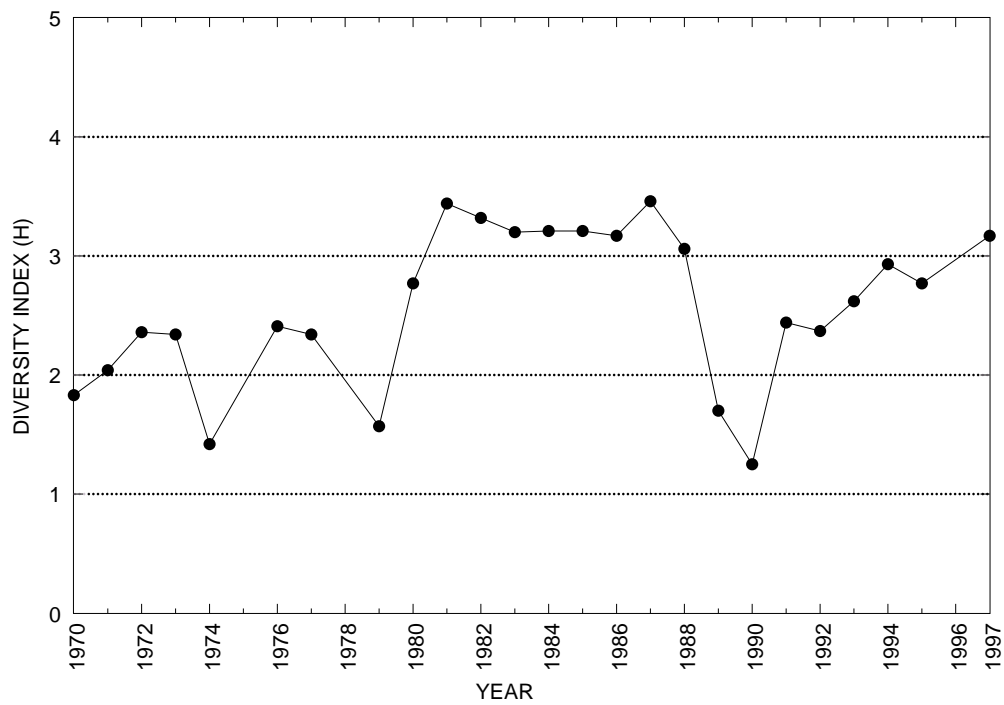


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01476830 (Site 23) - East Branch Chester Creek at Milltown, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	281	25	3.12	4.46	0.69	0.64
1996	1,594	29	3.64	4.89	.19	.73
1997	—	—	—	—	—	—

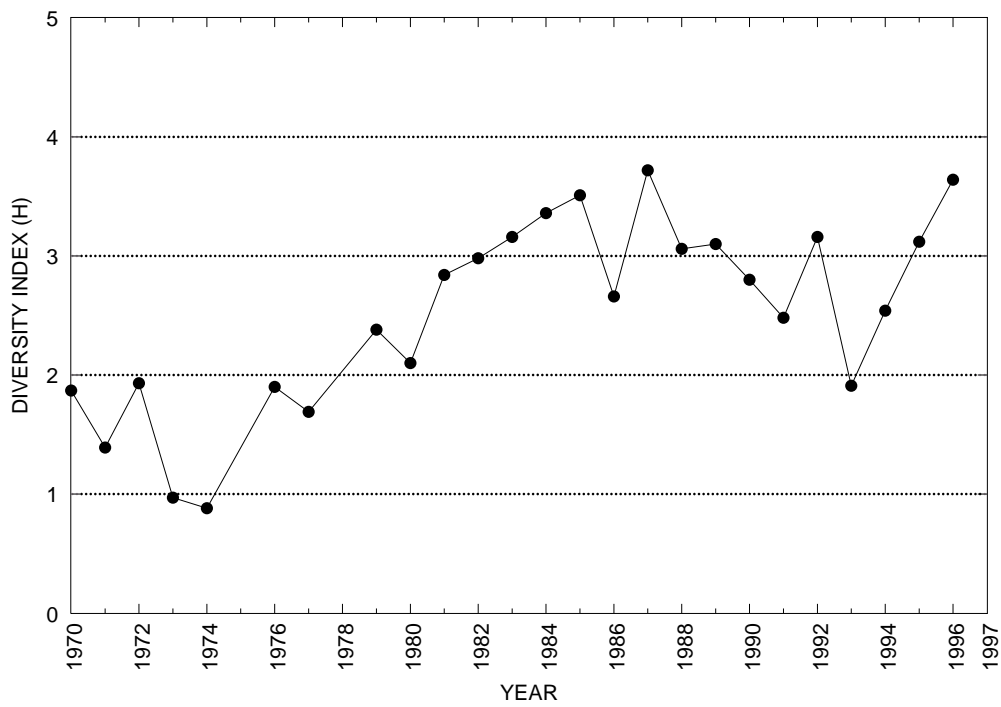


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

01476835 (Site 24) - East Branch Chester Creek at Westtown, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	464	26	3.41	4.72	0.48	0.69
1996	1,386	30	3.45	4.85	.22	.70
1997	1,291	26	3.36	4.70	.20	.70

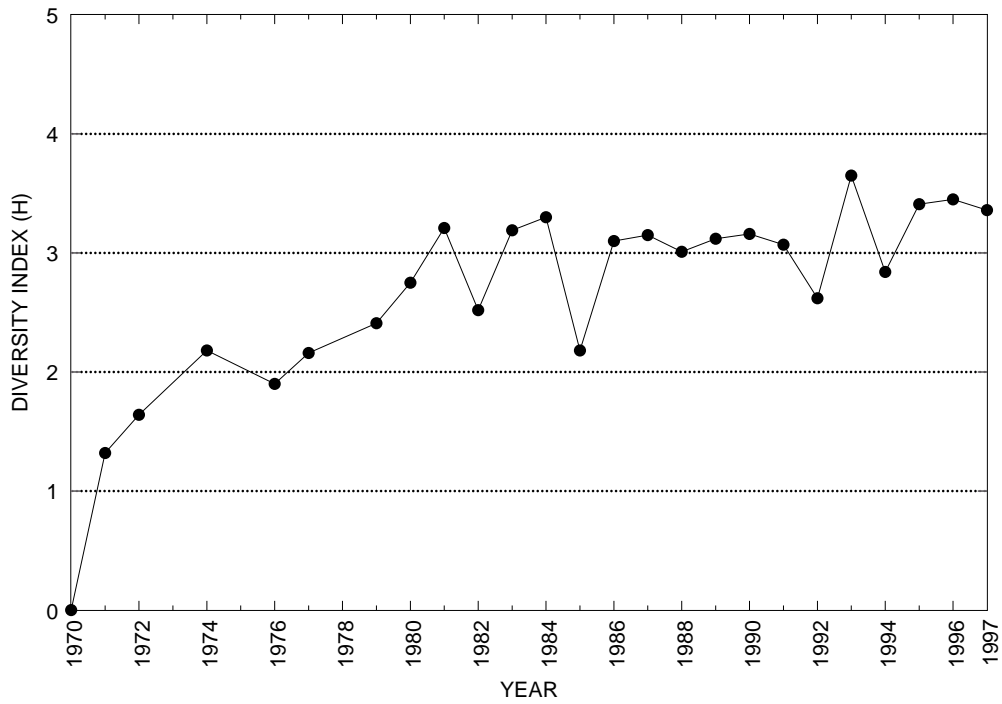


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

01476840 (Site 25) - Goose Creek Tributary to East Branch Chester Creek near West Chester, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	1,868	18	2.12	4.18	0.10	0.50
1996	1,298	19	2.58	4.22	.14	.60
1997	1,320	12	2.38	3.55	.09	.66

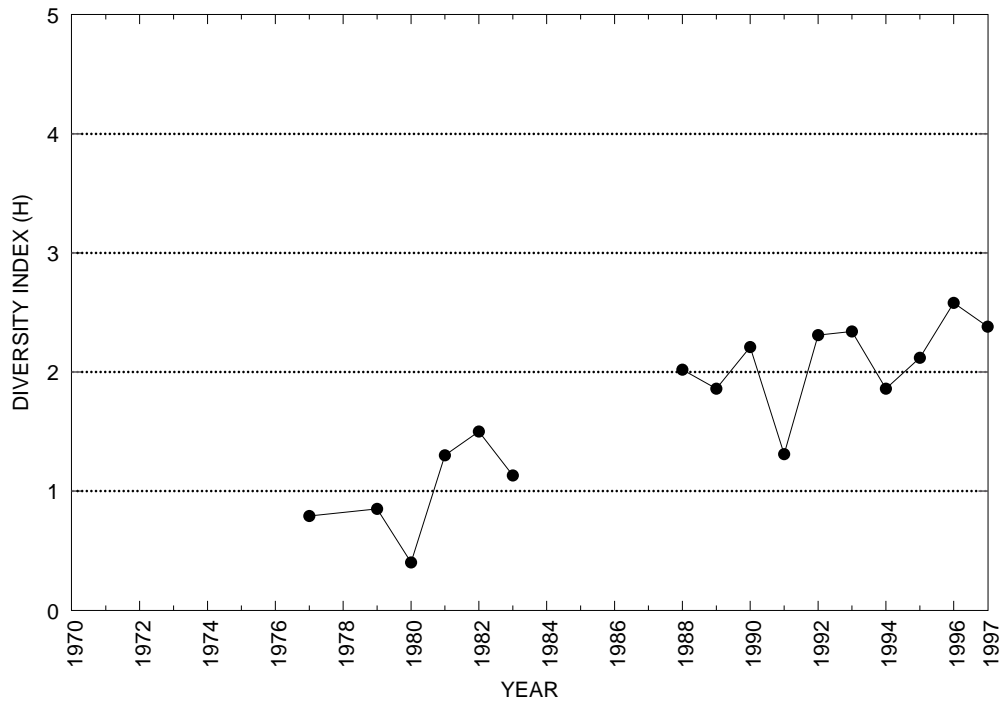


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01476848 (Site 51) - East Branch Chester Creek Below Goose Creek near West Chester, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	589	22	3.04	4.47	0.33	0.65
1996	—	—	—	—	—	—
1997	2,219	18	2.63	4.45	.15	.56

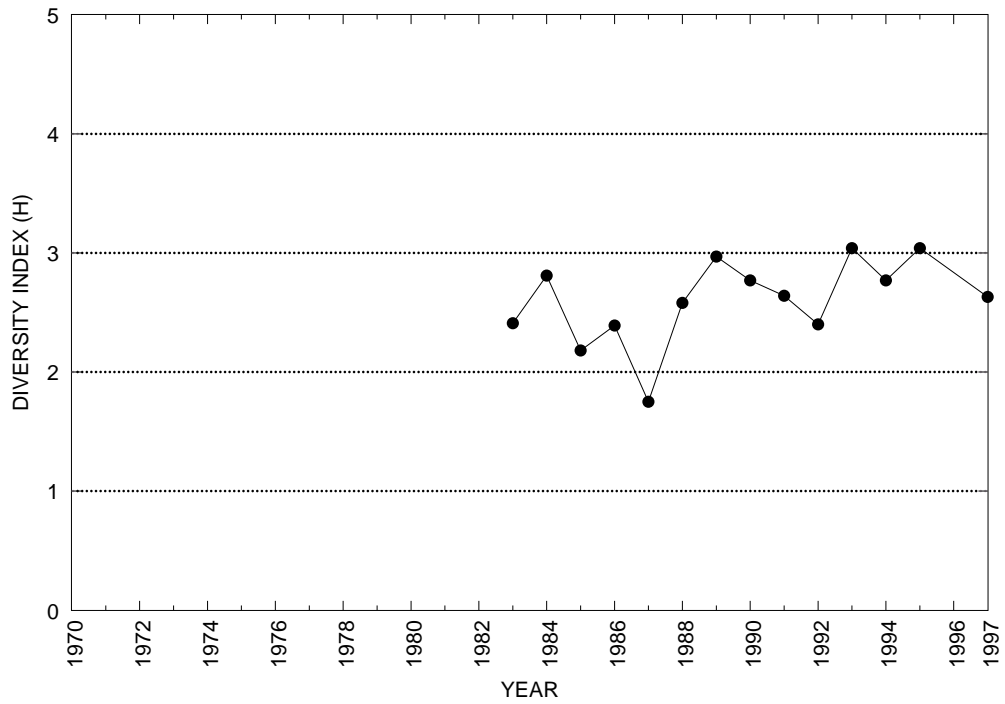


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01478120 (Site 28) - East Branch White Clay Creek at Avondale, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	1,543	28	2.71	4.75	0.19	0.55
1996	—	—	—	—	—	—
1997	1,717	24	2.87	4.57	.14	.61

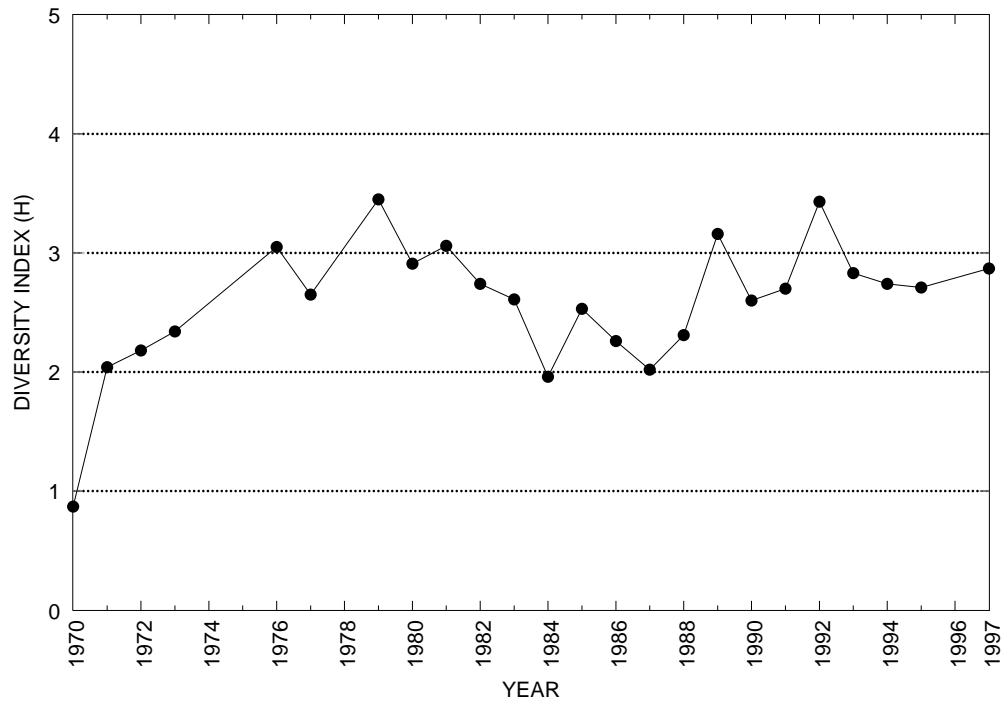


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01478190 (Site 29) - Middle Branch White Clay Creek at Wickerton, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	1,841	28	2.26	4.81	0.18	0.45
1996	—	—	—	—	—	—
1997	1,371	29	3.10	4.81	.21	.63

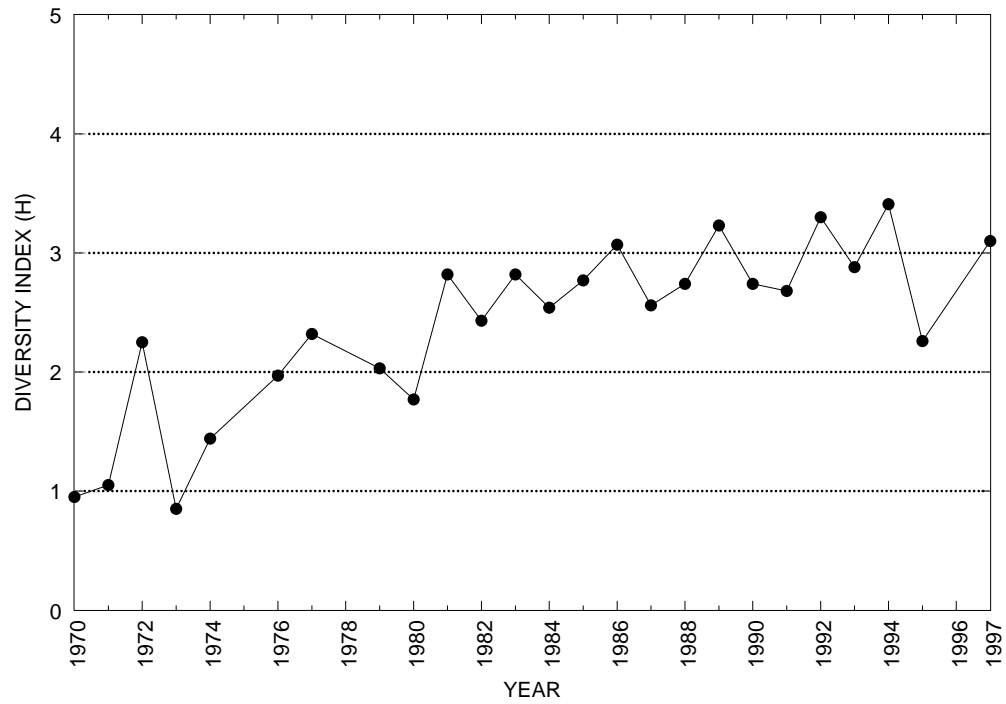


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01478220 (Site 30) - West Branch White Clay Creek near Chesterville, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	637	30	3.26	4.80	0.42	0.65
1996	—	—	—	—	—	—
1997	1,470	27	2.95	4.84	.22	.59

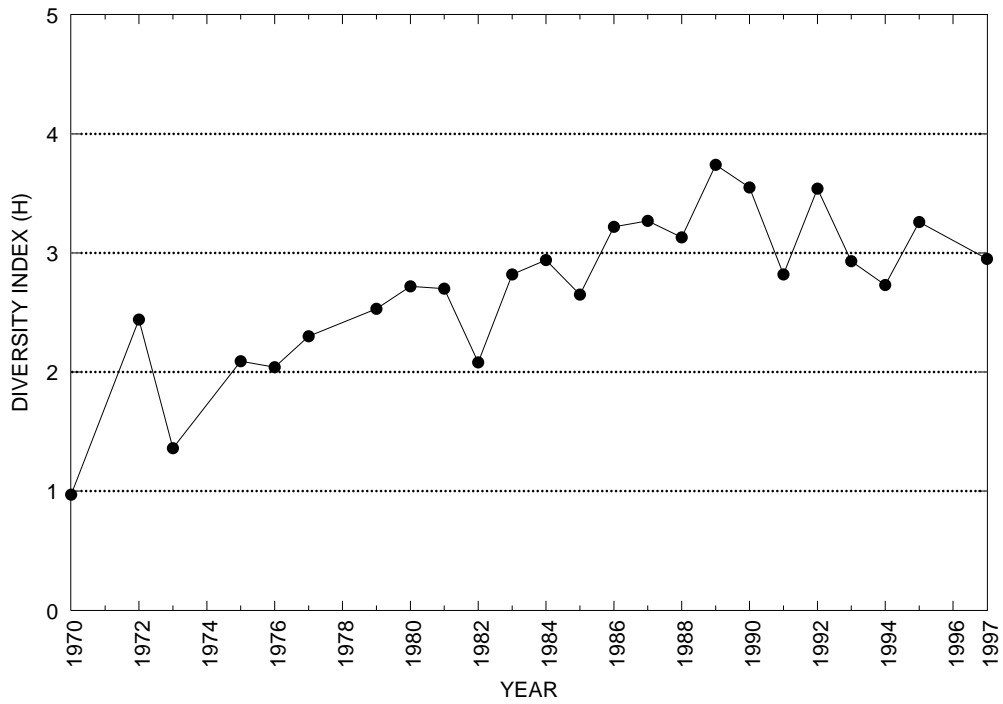


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

01479680 (Site 27) - West Branch Red Clay Creek at Kennett Square, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	323	22	3.12	4.43	0.54	0.66
1996	178	15	2.17	3.93	.58	.47
1997	790	26	2.86	4.65	.30	.59

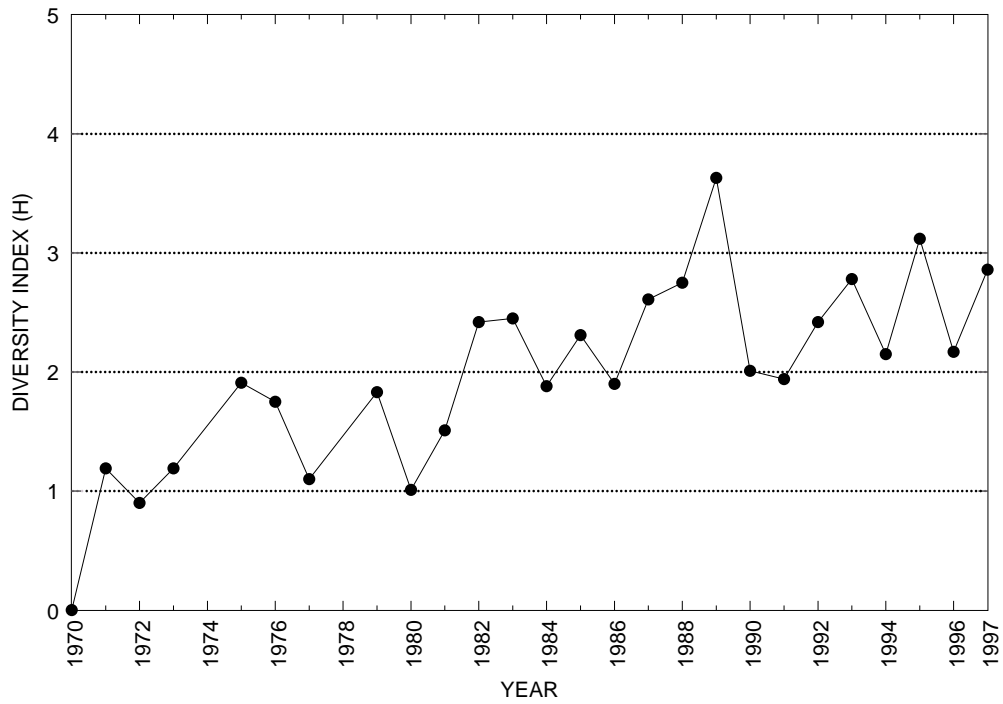


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

01479800 (Site 26) - East Branch Red Clay Creek near Five Point, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	514	22	3.30	4.39	0.37	0.73
1996	1,240	22	2.73	4.43	.17	.60
1997	1,213	17	2.33	4.06	.14	.56

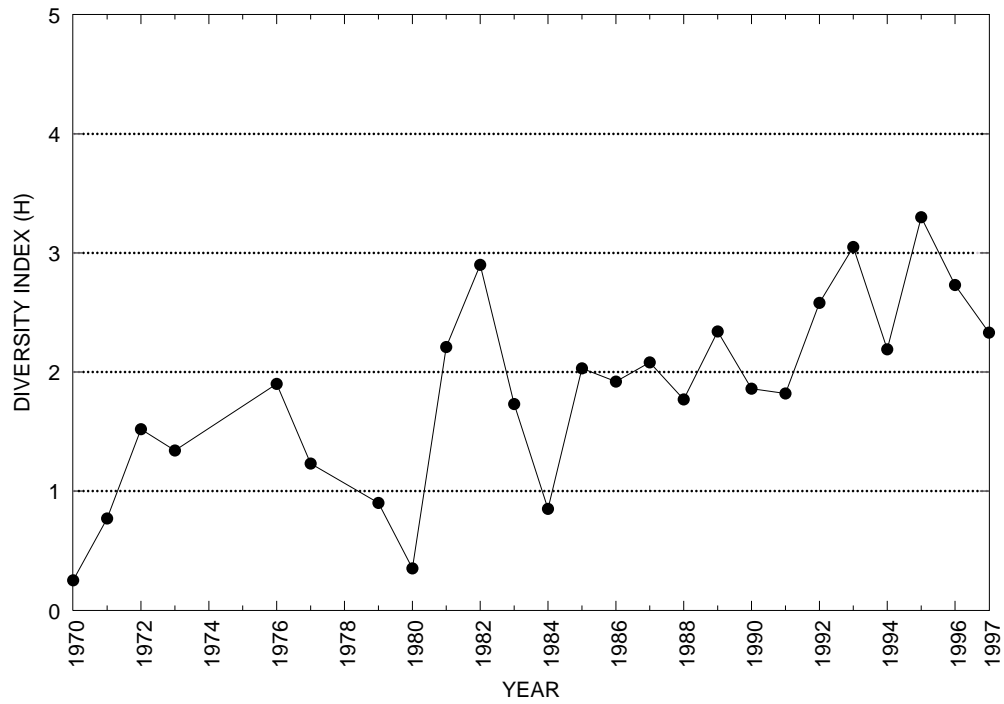


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—
Continued

[—, no data]

01480434 (Site 37) - West Branch Brandywine Creek at Rock Run, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H _{max})	Minimum diversity (H _{min})	Evenness (E)
1995	440	36	3.73	4.99	0.69	0.71
1996	511	27	3.43	4.79	.46	.69
1997	--	--	--	--	--	--

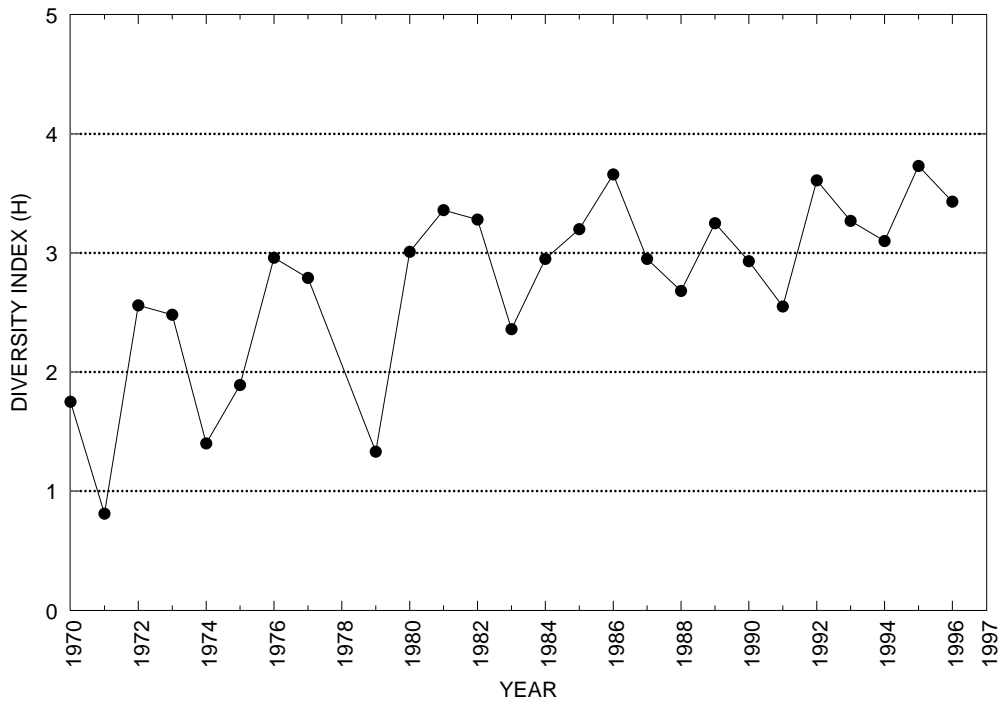


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01480629 (Site 46) - Buck Run at Doe Run, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	674	27	3.38	4.80	0.36	0.68
1996	—	—	—	—	—	—
1997	1,405	31	3.47	4.91	.22	.69

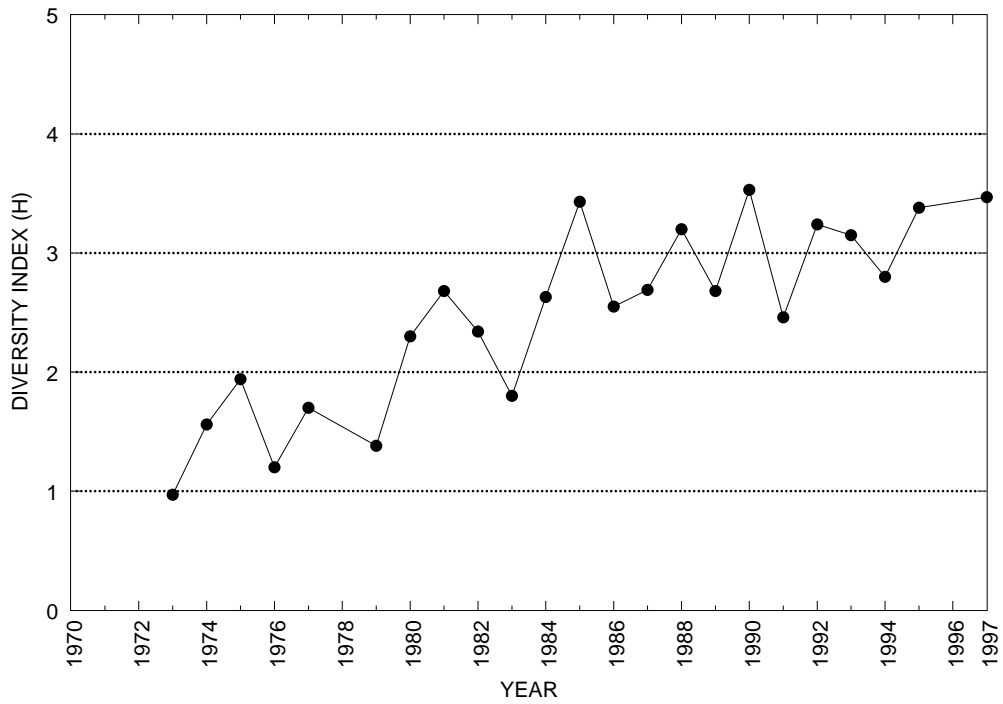


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01480632 (Site 45) - Doe Run at Springdell, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	820	32	3.60	4.98	0.36	0.70
1996	—	—	—	—	—	—
1997	1,078	26	3.69	4.67	.23	.78

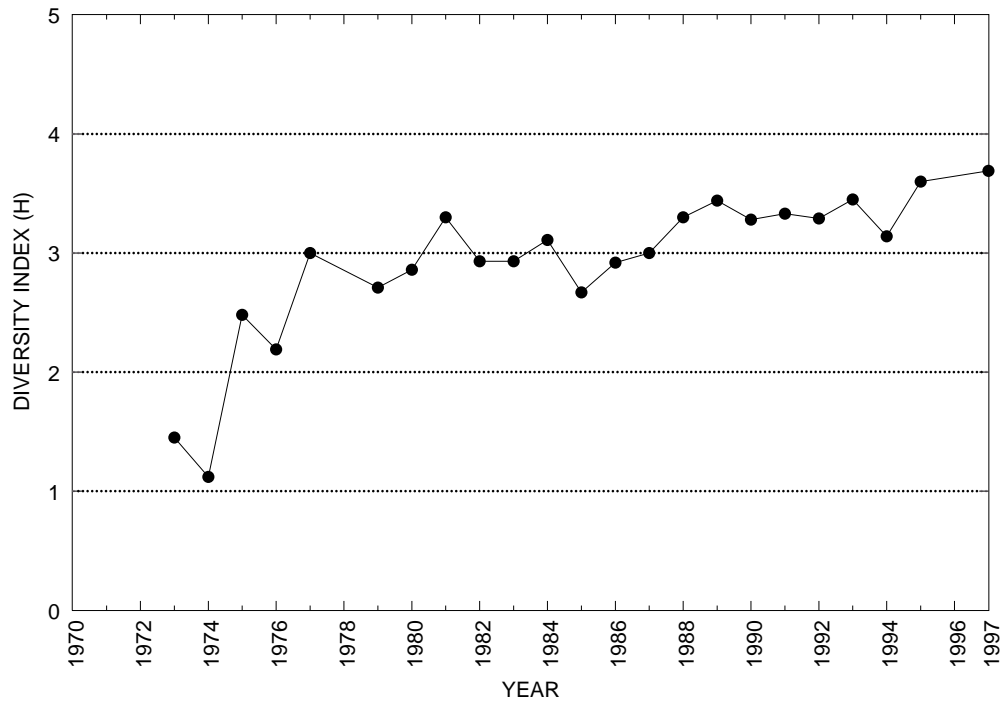


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

01480640 (Site 38) - West Branch Brandywine Creek at Wawaset, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	547	43	3.94	5.40	0.69	0.69
1996	861	30	3.39	4.90	.33	.67
1997	1,476	38	3.72	5.26	.26	.69

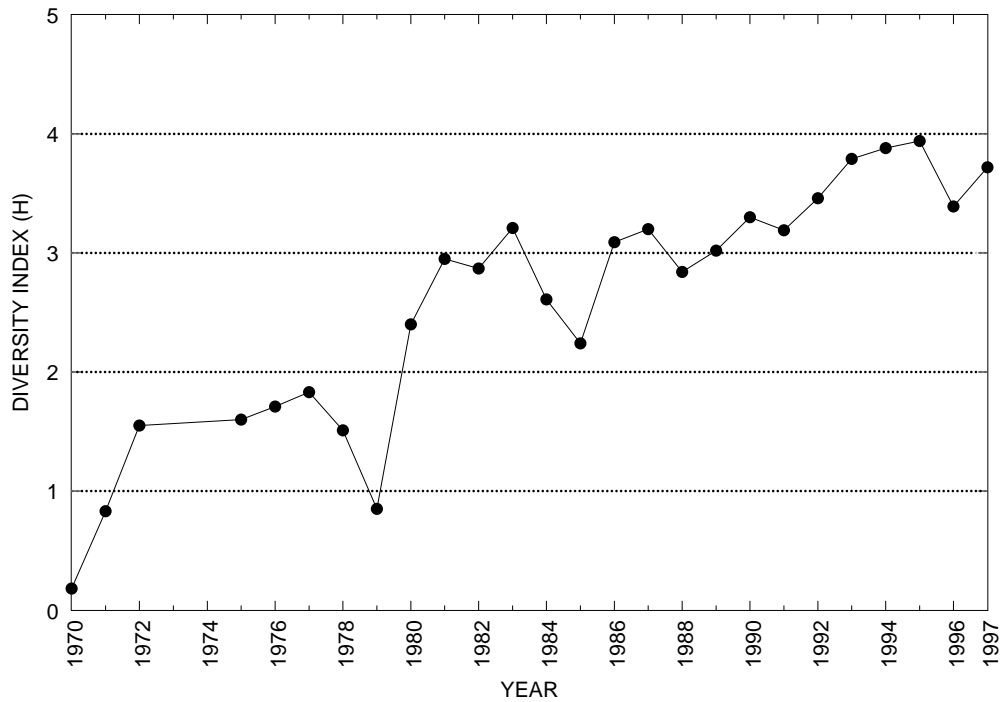


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01480648 (Site 48) - East Branch Brandywine Creek near Cupola, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	648	35	3.66	5.07	0.49	0.69
1996	—	—	—	—	—	—
1997	—	—	—	—	—	—

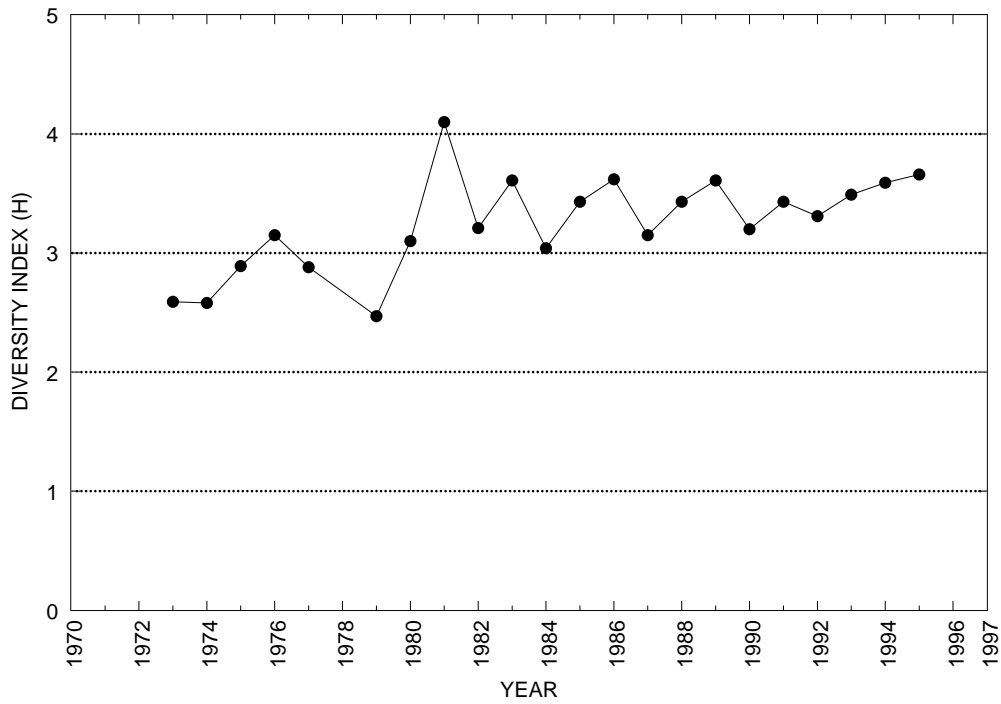


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01480653 (Site 42) - East Branch Brandywine Creek at Glenmoore, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	625	34	3.48	5.00	0.49	0.66
1996	—	—	—	—	—	—
1997	—	—	—	—	—	—

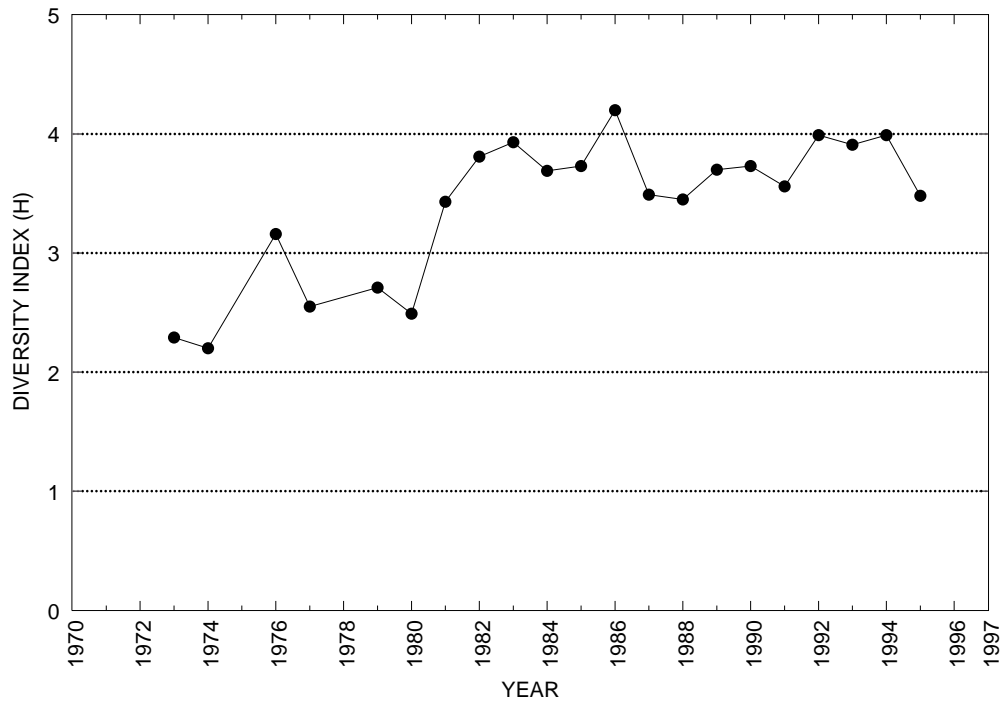


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01480656 (Site 47) - Indian Run near Springton, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	647	33	3.37	5.01	0.46	0.64
1996	—	—	—	—	—	—
1997	—	—	—	—	—	—

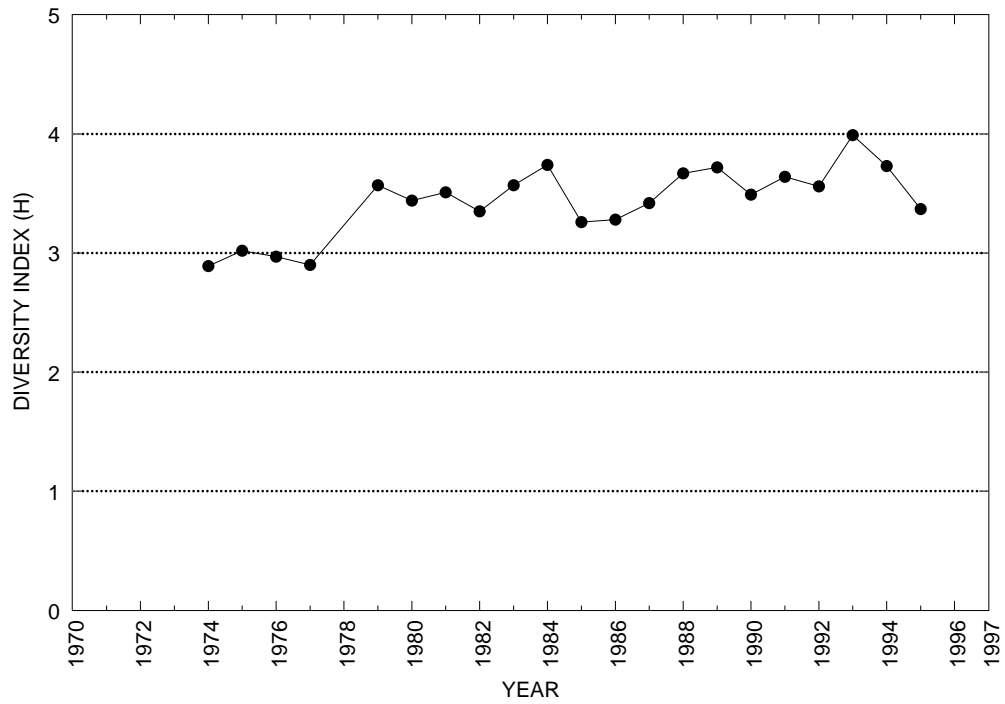


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01480700 (Site 36) - East Branch Brandywine Creek near Downingtown, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	1,508	41	3.53	5.37	0.28	0.64
1996	1,347	49	4.01	5.57	.37	.70
1997	—	—	—	—	—	—

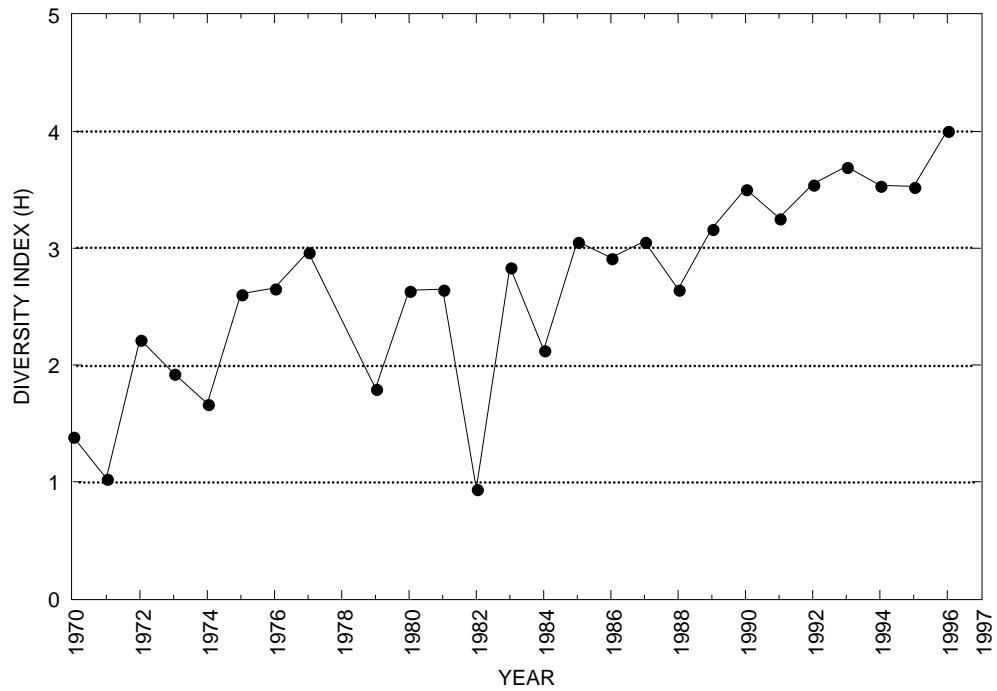


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01480903 (Site 44) - Valley Creek at Mullsteins Meadows near Downingtown, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	1,327	34	3.50	4.99	0.26	0.69
1996	—	—	—	—	—	—
1997	3,137	36	3.30	5.13	.13	.63

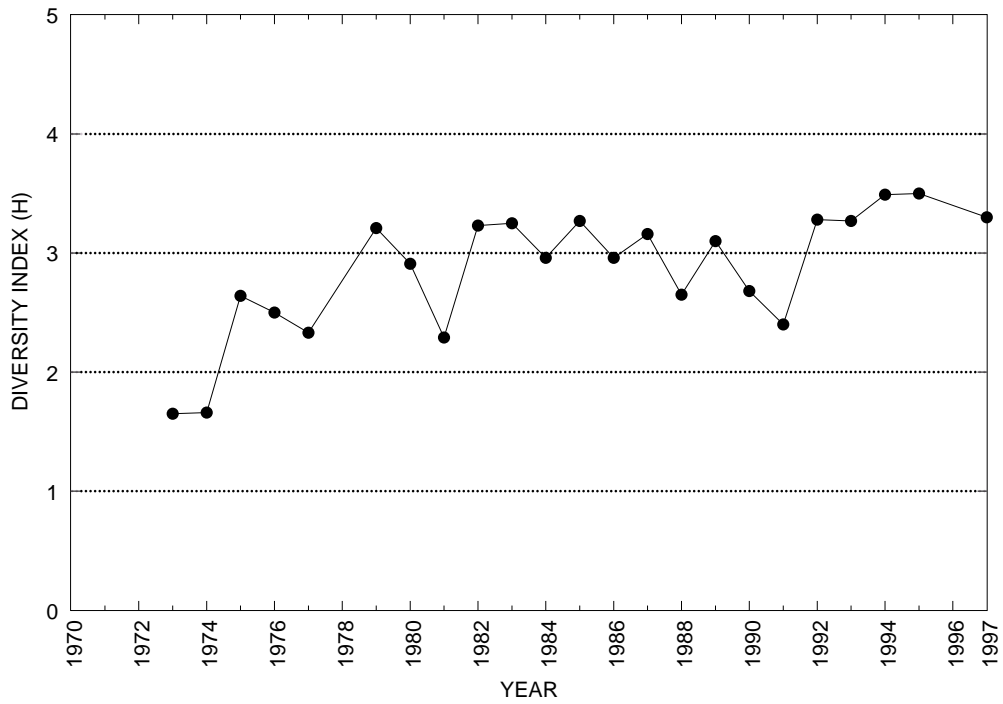


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

01480950 (Site 39) - East Branch Brandywine Creek at Wawaset, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	307	33	3.59	4.85	0.85	0.68
1996	880	32	3.30	4.96	.34	.64
1997	2,123	30	3.21	4.91	.15	.64

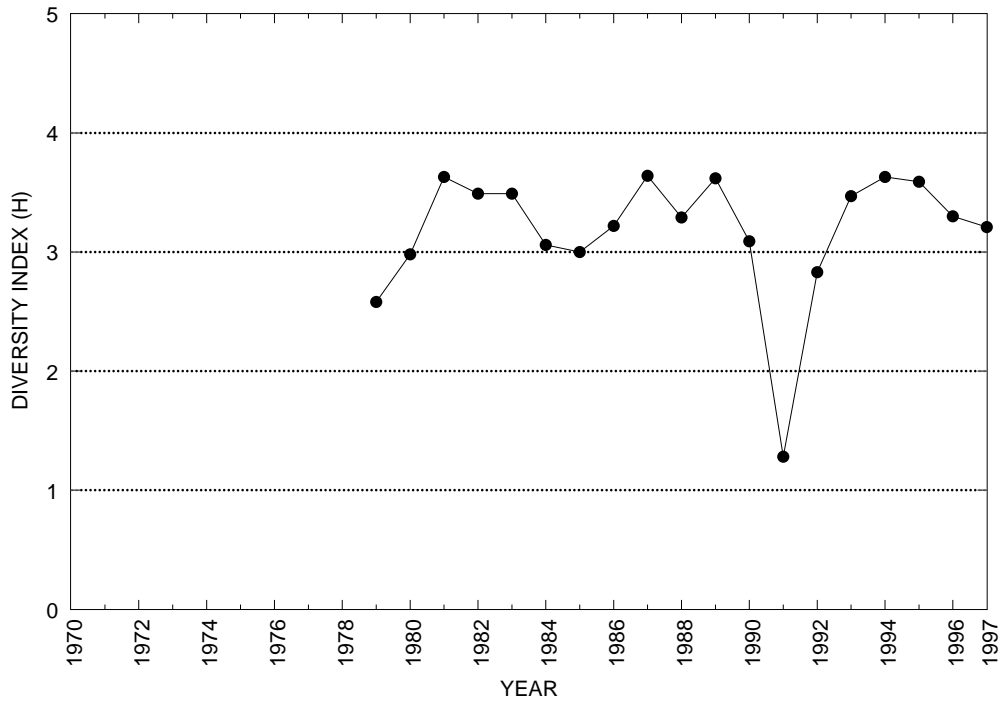


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01481030 (Site 40) - Brandywine Creek near Chadds Ford, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	1,208	33	3.77	5.03	0.27	0.74
1996	—	—	—	—	—	—
1997	3,000	41	3.37	5.37	.16	.62

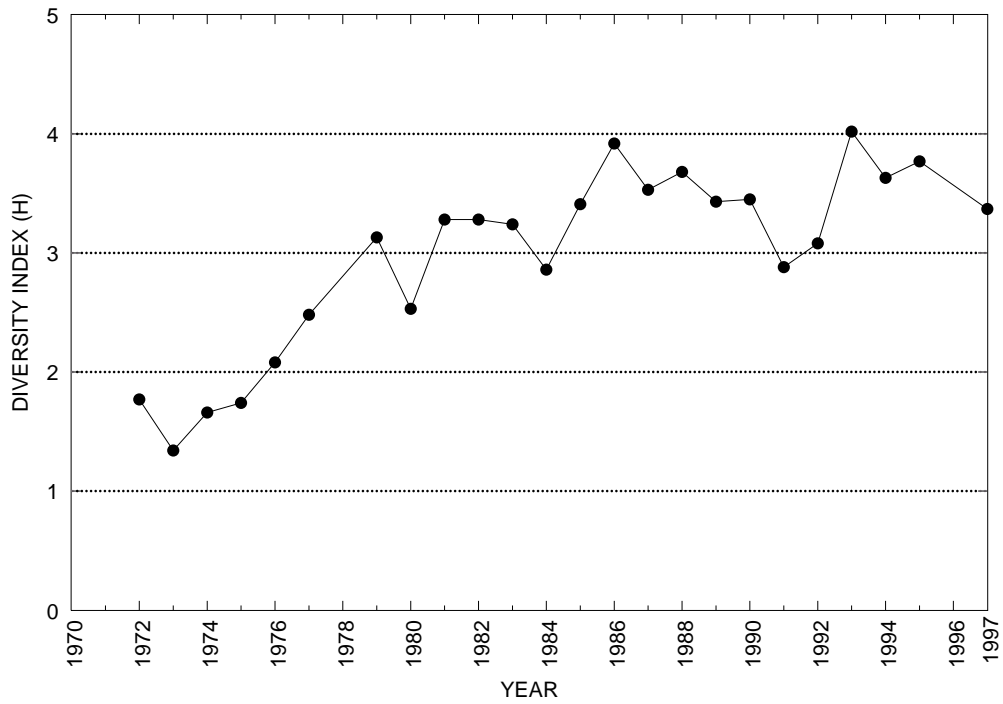


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

01494900 (Site 31) - East Branch Big Elk Creek at Elkview, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	124	14	2.45	3.82	0.72	0.56
1996	71	11	2.29	3.30	.85	.59
1997	529	13	1.39	3.70	.20	.34

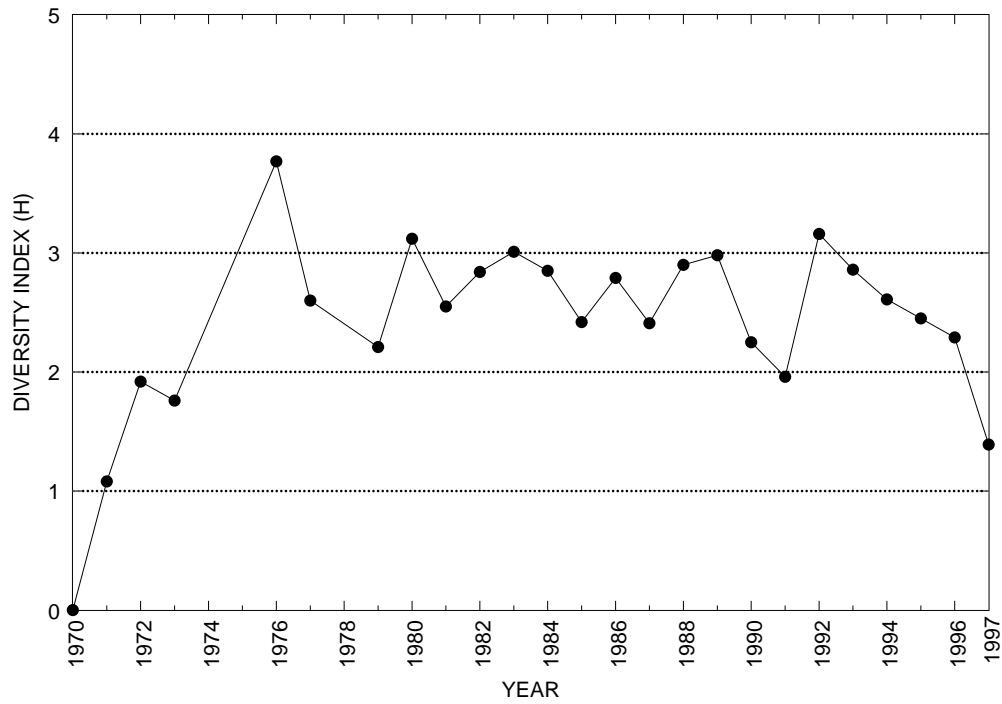


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01494950 (Site 32) - West Branch Big Elk Creek near Oxford, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	85	15	2.06	3.80	0.32	0.37
1996	290	20	2.97	4.25	.53	.66
1997	—	—	—	—	—	—

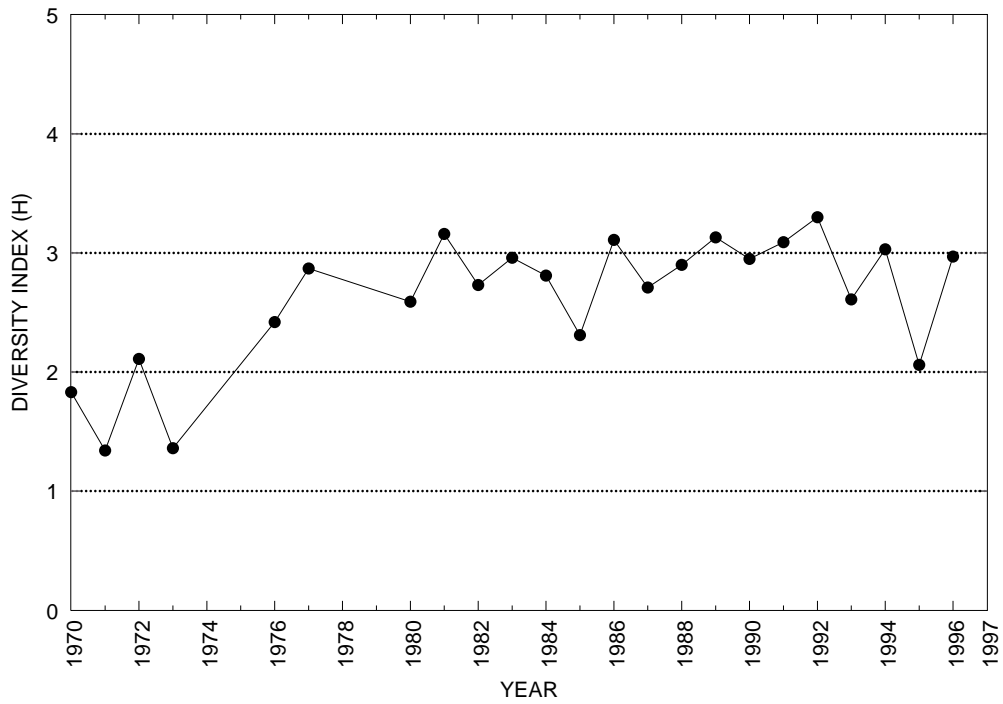


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

01578340 (Site 33) - East Branch Octoraro Creek at Christiana, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	719	26	3.05	4.69	0.33	0.62
1996	847	25	3.36	4.67	.28	.70
1997	1,478	29	3.08	4.88	.20	.61

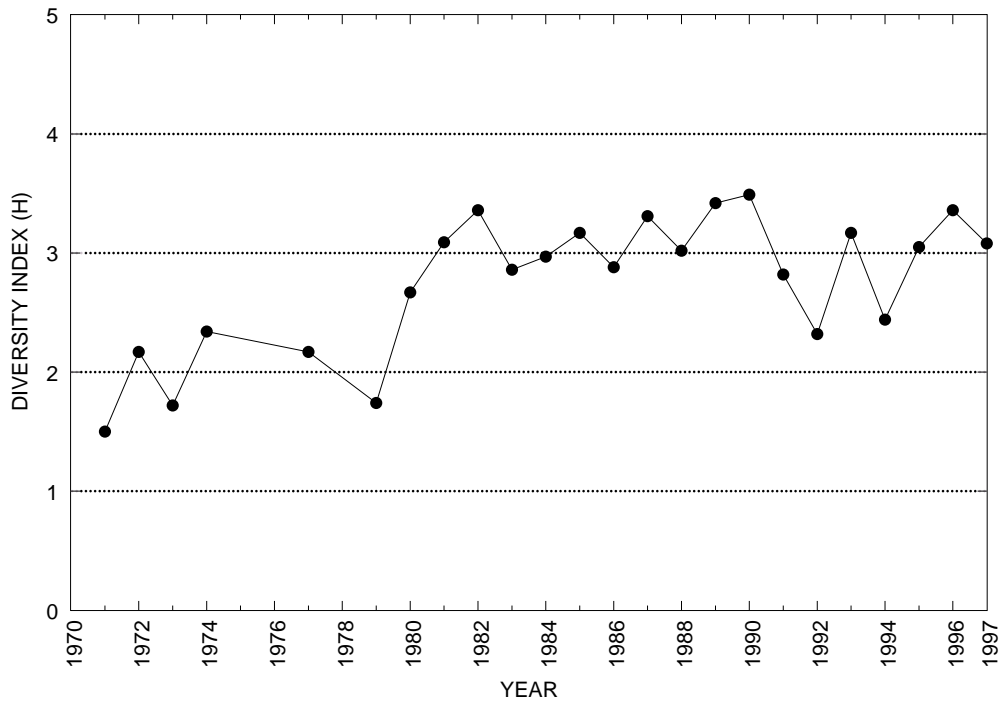


Table 6. Brillouin's diversity index, maximum diversity, minimum diversity, and relative evenness by site—Continued

[—, no data]

01578343 (Site 34) - Valley Creek near Atglen, Pa.

Year	Total organisms	Total taxa	Brillouin's diversity index (H)	Maximum diversity (H_{max})	Minimum diversity (H_{min})	Evenness (E)
1995	460	21	2.84	4.43	0.38	0.61
1996	1,855	31	3.20	4.97	.18	.63
1997	—	—	—	—	—	—

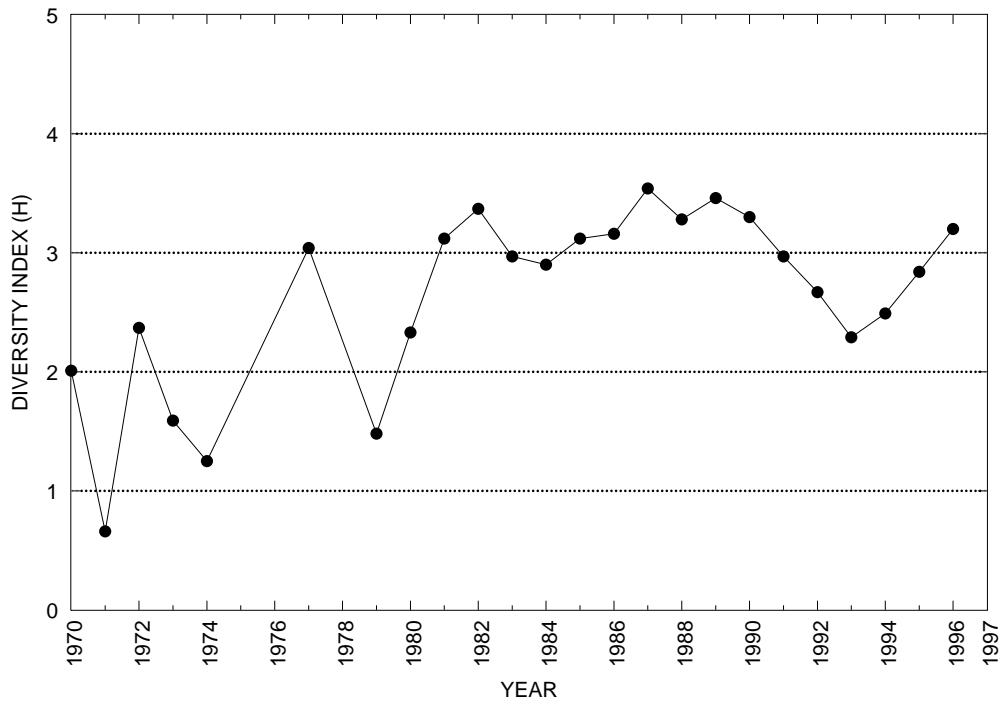


Table 7. Alphabetical checklist of taxa reported from Chester County Biological Monitoring Network, 1995-97

<i>Acroneuria</i>	<i>Ferrissia</i>	<i>Paragnetina</i>
<i>Agnatina</i>	<i>Gammarus</i>	<i>Paraleptophlebia</i>
<i>Allocapnia</i>	<i>Glossosoma</i>	<i>Paraleuctra</i>
<i>Amnicola</i>	<i>Goera</i>	<i>Paranemoura</i>
<i>Ancyronyx</i>	Gomphidae	<i>Parapsyche</i>
<i>Anthopotamus</i>	<i>Gomphus</i>	Perlidae
<i>Antocha</i>	<i>Gyraulus</i>	<i>Petrophila</i>
<i>Apatania</i>		<i>Physa</i>
<i>Archanara</i>	<i>Helicopsyche</i>	<i>Pisidium</i>
<i>Argia</i>	<i>Helobdella</i>	Planariidae
Asellidae	<i>Helophorus</i>	Podocopa
<i>Atherix</i>	<i>Hemerodromia</i>	<i>Polycentropus</i>
	<i>Hexagenia</i>	<i>Promoresia</i>
<i>Baetis</i>	<i>Hexatoma</i>	<i>Prosimulium</i>
<i>Berosus</i>	<i>Hydatophylax</i>	<i>Prostoma</i>
<i>Brachycentrus</i>	Hydrachnidia	<i>Protoptila</i>
	<i>Hydropsyche</i>	<i>Psephenus</i>
<i>Caecidotea</i>	<i>Hydroptila</i>	<i>Pseudocloeon</i>
<i>Caenis</i>		<i>Psilotreta</i>
Cambaridae	<i>Isonychia</i>	<i>Psychomyia</i>
Capniidae		
Ceratopogonidae	<i>Lanthus</i>	<i>Rhagovelia</i>
<i>Ceratopsyche</i>	<i>Lepidostoma</i>	<i>Rhyacophila</i>
<i>Chelifera</i>	<i>Leucotrichia</i>	
<i>Cheumatopsyche</i>	<i>Limnophila</i>	<i>Sialis</i>
<i>Chimarra</i>	<i>Lirceus</i>	<i>Sigara</i>
Chironomidae	Lumbriculida	<i>Simulium</i>
Chloroperlidae	<i>Lymnaea</i>	Sphaeriidae
Chrysomelidae		<i>Stenacron</i>
Cladocera	<i>Macronychus</i>	<i>Stenelmis</i>
<i>Clinocera</i>	<i>Macrostemum</i>	<i>Stenonema</i>
Coenagrionidae	<i>Manayunkia speciosa</i>	<i>Strophopteryx</i>
Corixidae	<i>Metrobates</i>	
<i>Corydalus</i>	<i>Micrasema</i>	<i>Taeniopteryx</i>
<i>Crangonyx</i>	<i>Microcylloepus</i>	<i>Tipula</i>
Curculionidae	<i>Musculium</i>	<i>Tricorythodes</i>
Cyclopidae	<i>Mystacides</i>	Tubificidae
<i>Cyrtellus</i>		
	Naididae	<i>Wormaldia</i>
<i>Dicranota</i>	Nematoda	
<i>Diplectronea</i>	Nemouridae	
<i>Dolophilodes</i>	<i>Neophylax</i>	
<i>Dubiraphia</i>	<i>Neureclipsis</i>	
	<i>Nigronia</i>	
<i>Ectopria</i>	<i>Nyctiophylax</i>	
Empididae		
<i>Epeorus</i>	<i>Oecetis</i>	
<i>Ephemera</i>	Oligochaeta	
<i>Ephemerella</i>	<i>Optioservus</i>	
Ephydridae	<i>Oulimnius</i>	
Erpobdellidae		

Table 8. Systematic checklist of taxa reported from Chester County Biological Monitoring Network, 1995-97

Platyhelminthes	Isopoda (SOW BUGS)
Turbellaria (FLATWORMS)	Asellidae
Tricladida	<i>Caecidotea</i>
Planariidae	<i>Lirceus</i>
Nematoda (NEMATODES)	Decapoda
Nemertea (PROBOSCIS WORMS)	Cambaridae (CRAYFISH)
Enopla	Podocopa (SEED SHRIMP)
Hoplonemertea	Insecta
Tetrastemmatidae	Ephemeroptera (MAYFLIES)
<i>Prostoma</i>	Baetidae
Mollusca	<i>Baetis</i>
Gastropoda (SNAILS)	<i>Pseudocloeon</i>
Mesogastropoda	Caenidae
Hydrobiidae	<i>Caenis</i>
<i>Ammicola</i>	Ephemerellidae
Basommatophora	<i>Ephemerella</i>
Ancyliidae	Ephemeridae
<i>Ferrissia</i>	<i>Ephemera</i>
<i>Gyraulus</i>	Heptageniidae
Lymnaeidae	<i>Epeorus</i>
<i>Lymnaea</i>	<i>Stenacron</i>
Physidae	<i>Stenonema</i>
<i>Physa</i>	Isonychiidae
Bivalvia (CLAMS)	<i>Isonychia</i>
Veneroidea	Leptophlebiidae
Sphaeriidae	<i>Paraleptophlebia</i>
<i>Musculium</i>	Potamanthidae
<i>Pisidium</i>	<i>Anthopotamus</i>
Annelida (SEGMENTED WORMS)	Tricorythidae
Oligochaeta	<i>Tricorythodes</i>
Lumbriculida	Odonata (DRAGONFLIES AND DAMSELFLIES)
Lumbriculidae	Calopterygidae
Tubificida	<i>Hetaerina</i>
Naididae	Coenagrionidae
Polychaeta	<i>Argia</i>
Sabellida	Gomphidae
Sabellidae	<i>Gomphus</i>
<i>Manayunkia speciosa</i>	<i>Lanthus</i>
Hirudinea (LEECHES)	Plecoptera (STONEFLIES)
Pharyngobdellidae	Capniidae
Erpobdellidae	<i>Allocapnia</i>
Rhynchobdellida	Chloroperlidae
Glossiphoniidae	Leuctridae
<i>Helobdella</i>	<i>Paraleuctra</i>
Arthropoda	Nemouridae
Acariformes	<i>Paranemoura</i>
Hydrachnidia (WATER MITES)	Perlidae
Crustacea	<i>Acroneuria</i>
Cladocera	<i>Agnatina</i>
Cyclopoida	<i>Paragnetina</i>
Cyclopidae	Taeniopterygidae
Amphipoda (SCUDS)	<i>Strophopteryx</i>
Crangonyctidae	<i>Taeniopteryx</i>
<i>Crangonyx</i>	Hemiptera (TRUE BUGS)
Gammaridae	Corixidae
<i>Gammarus</i>	<i>Sigara</i>
	Gerridae

Table 8. Systematic checklist of taxa reported from Chester County Biological Monitoring Network, 1995-97—Continued

Megaloptera	Coleoptera (BEETLES)
Corydalidae (FISHFLIES AND DOBSONFLIES)	Chrysomelidae
<i>Corydalis</i>	Curculionidae
<i>Nigronia</i>	Elmidae (RIFFLE BEETLES)
Sialidae (ALDERFLIES)	<i>Ancyronyx</i>
<i>Sialis</i>	<i>Dubiraphia</i>
Trichoptera (CADDISFLIES)	<i>Macronychus</i>
Apataniidae	<i>Microcylloepus</i>
<i>Apatania</i>	<i>Optioservus</i>
Brachycentridae	<i>Oulimnius</i>
<i>Brachycentrus</i>	<i>Promoresia</i>
<i>Micrasema</i>	<i>Stenelmis</i>
Glossosomatidae	Hydrophilidae
<i>Glossosoma</i>	<i>Berosus</i>
<i>Protoptila</i>	<i>Helophorus</i>
Goeridae	Psephenidae (WATER PENNIES)
<i>Goera</i>	<i>Ectopria</i>
Helicopsychidae	<i>Psephenus</i>
<i>Helicopsyche</i>	Diptera (TRUE FLIES)
Hydropsychidae	Athericidae
<i>Ceratopsyche</i>	<i>Atherix</i>
<i>Cheumatopsyche</i>	Ceratopogonidae
<i>Diplectrona</i>	Chironomidae (MIDGES)
<i>Hydropsyche</i>	Empididae (DANCE FLIES)
<i>Macrostemum</i>	<i>Chelifera</i>
<i>Parapsyche</i>	<i>Clinocera</i>
Hydroptilidae	<i>Hemerodromia</i>
<i>Hydroptila</i>	Ephydriidae
<i>Leucotrichia</i>	Simuliidae (BLACK FLIES)
Lepidostomatidae	<i>Prosimulium</i>
<i>Lepidostoma</i>	<i>Simulium</i>
Leptoceridae	Tipulidae (CRANE FLIES)
<i>Mystacides</i>	<i>Antocha</i>
<i>Oecetis</i>	<i>Dicranota</i>
Limnephilidae	<i>Hexatoma</i>
<i>Hydatophylax</i>	<i>Limnophila</i>
Odontoceridae	<i>Tipula</i>
<i>Psilotreta</i>	
Philopotamidae	
<i>Chimarra</i>	
<i>Dolophilodes</i>	
<i>Wormaldia</i>	
Polycentropodidae	
<i>Cyrnellus</i>	
<i>Neureclipsis</i>	
<i>Nyctiophylax</i>	
<i>Polycentropus</i>	
Psychomyiidae	
<i>Psychomyia</i>	
Rhyacophilidae	
<i>Rhyacophila</i>	
Uenoidae	
<i>Neophylax</i>	
Lepidoptera	
Noctuidae	
<i>Archanara</i>	
Pyralidae (MOTHS)	
<i>Petrophila</i>	