

State of New Jersey
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AMBIENT BIOMONITORING NETWORK
Delaware River Drainage Basin
1992 Benthic Macroinvertebrate Data



New Jersey Department of Environmental Protection
ROBERT C. SHINN, JR.
COMMISSIONER

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April 1994

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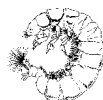
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Introduction

Historical Perspective

Since the early 1970's, the Bureau of Water Monitoring (BWM) has been conducting biomonitoring studies on the state's waterbodies. Biomonitoring conducted by the bureau has included both long-term ambient monitoring and intensive surveys.

Between 1977 and 1988 the **Ambient Station Biomonitoring Network** was sampled in cooperation with United States Environmental Protection Agency (USEPA) Region II and Headquarters and the United States Geological Survey (USGS). The resulting biological data was utilized by the 305(b) Program in its evaluations of waterbody impairment. After 1988, funding for ambient biomonitoring was severely curtailed, resulting in the abandonment of routine ambient biomonitoring in the State.

In 1991, BWM received numerous requests from the Office of Regulatory Policy to reactivate the Ambient Biomonitoring Network. The network stations have not been sampled since 1988 and a revisiting of the entire network was overdue. Long-term monitoring data from this network will be most beneficial to the generation of the 305(b) Biennial Report, to the updating of the 303(d) list, to providing the Department with the baseline data necessary to make sound environmental policy decisions in watershed management, and to direct permit activities.

Data Quality Objectives

Accordingly, in 1992 (NJ fiscal year 93), BWM designed and initiated the **Ambient Biomonitoring Network (AMNET)**. The goal of the program is to establish a network of lotic (running water) stations in each major watershed drainage basin. Each watershed drainage basin will be biomonitoring for benthic macroinvertebrate populations on a five to six year rotation. The frequency of sampling is reflective of a realistic temporal lag between the cessation of a perturbation and a biological community's recovery from said perturbation. Experience in the 305(b) Program, which reexamines the responses of New Jersey's biological communities to changes in water quality on a two year cycle, has indicated that five years is the optimum frequency for long-term biomonitoring.

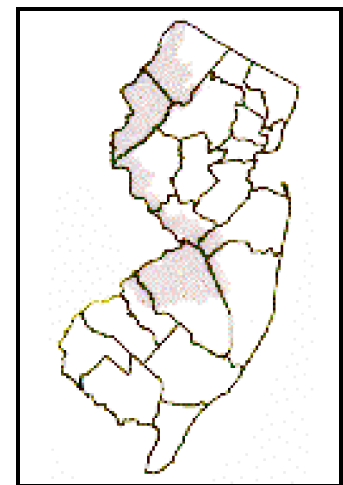


Figure 1 - Study Area

Based upon existing database deficiencies, the area of the Delaware River Drainage Basin shaded in Figure 1 was selected to be monitored during NJ fiscal year 1993 (calendar year 1992). The area was sampled from the sources of its many tributaries down to the Head-of-Tide.

Site Selection

At least one monitoring station has been located on every second order stream and all first order streams at least three miles in length. Stream order is defined as a measure of the position of a stream in the hierarchy of tributaries. First order streams are those with no tributaries, while second order streams are those that have as tributaries only first order streams. The main-stem of the Delaware River was not monitored since the Delaware River Basin Commission (DRBC) already performs biomonitoring along the main-stem of the river.

To the greatest extent possible, the network incorporated existing USGS and New Jersey Department of Environmental Protection (NJDEP) ambient monitoring stations so that correlation of the data sets could be maximized. Furthermore, the network was designed with mainstem (second or third order) stations located before the confluence of major tributaries and with stations located so as to assess the impacts of larger lakes. Known sources of contamination, and significant natural features (i.e., freshwater wetlands, preserves, Fish, Game and Wildlife Management Areas, etc.) were also considered when selecting the sampling locations. **Monitoring station locations in the study area are indicated on the Geographical Information System (G.I.S.) Maps # 12 through 22** (maps 1 - 11 have been deleted). All stations were positioned via the Global Positioning System (GPS), using Trimble Pathfinder Basic Plus global positioning units. Position data was corrected via the NJDEP and University of Rhode Island base station data sets. ***Appendix A contains a compilation of all station locations as generated by the GPS.***

Since the objectives of this monitoring network are to provide long-term basin wide biological impact data, the geographical dispersion of the stations was deemed adequate. However, it is likely that the monitoring resolution will not be sufficient to adequately assess the impact of any one point source of pollution. The development of site specific biological impact data is best handled by conducting an intensive biomonitoring survey.

While biological monitoring using benthic macroinvertebrate community structure is an excellent water quality monitoring tool, it is only one branch of water quality monitoring. Additional tools include water column chemistry, sediment chemistry, toxicity testing, fish tissue analysis, and fish community analysis. The most comprehensive evaluation would incorporate all of these elements. However, financial constraints make such monitoring difficult to perform. The frugality of benthic macroinvertebrate analysis provides the water pollution control professional with a holistic assessment of water quality at a reasonable cost.

Methods

Benthic Macroinvertebrate Sampling

The benthic macroinvertebrate sampling was performed in accordance with the procedures delineated in Chapter 7, section K. of the Department's "Field Procedures Manual, NJDEP, May 1992" and, with the following modifications for application to New Jersey's waters, the USEPA's Rapid Bioassessment Protocol II as given in "U.S. Environmental Protection Agency (EPA), 1989, Rapid Bioassessment Protocols For Use In Streams and Rivers, EPA/4444/4-89-001, Assessment and Watershed Protection

Division, Washington D.C." The rapid bioassessment was based upon an evaluation of relatively few samples collected at each station. AMNET's goal is to perform an evaluation of overall biological integrity by capitalizing upon the ability of benthic communities to holistically reflect environmental perturbations. It was imperative, therefore, that sampling be conducted when most of the benthic macroinvertebrates had both attained a size range likely to be retained during standard sieving and sorting, and when in a life stage most conducive to accurate identification. Since most emergence and reproduction occur in the spring and fall, a time when about 80 percent of the macroinvertebrates would be too small to be captured by conventional methods, the period between early June and early September was selected as the optimal collection period. In cases where fall emergence and reproduction were not an issue, sampling could continue into late fall / early winter.

Protocol II of the Rapid Bioassessment (RBPII) employs a systematic field collection of benthic macroinvertebrates and the subsequent analysis of the samples for major taxa. Semiquantitative samples of benthic macroinvertebrates were collected from three different locations at each sampling station. Both riffle/run area samples and Coarse Particulate Organic Matter (CPOM) samples were included in a composite sample for a given station. Using composite samples ameliorates the effects of habitat inconsistency between stations. Samples were collected either with a Surber Sampler, Kick Net, Petite Ponar, or by hand picking. During the field investigation, qualitative observations of habitat, surrounding land use, obvious sources of pollution, and observations of other aquatic biota were made and recorded.

The entire sample collected was sieved through a #30 mesh sieve, put into an appropriate container, preserved with between 5% - 10% formalin (up to 20% formalin was used in cases of excessive organic loading), and transported to the bureau's biomonitoring laboratory for sorting and identification.

Sample Sorting and Identification

The samples were placed on a grid in a small pan with a light colored bottom for the sorting and enumeration of a 100-organism subsample, as per the protocol. The subsampling procedure consisted of evenly distributing the composite sample into the pan. Grids were randomly selected and all organisms within those grids were removed until 100 had been counted. All organisms in the subsample were identified to at least family, though in most cases the identifications were taken to the species level.

Data Analysis

Benthic community biological impairment may be manifested by the absence of pollution sensitive macroinvertebrate taxa (such as Ephemeroptera [mayfly], Plecoptera [stonefly], and Trichoptera [caddisfly]); by excessive dominance by certain taxon (especially pollution tolerant groups such as some Chironomidae [midge] and Oligochaeta [aquatic worm]); by low overall taxa richness; or by perceptible shifts in community structure relative to a reference condition. All of these indicators were utilized in evaluating the RBPII sampling data generated during this study.

The RBPII data analysis protocol is a standardized bioassessment protocol developed by the USEPA in response to a need for a cost effective biomonitoring tool. The RBPII data analysis protocol integrates several community, population, and functional parameters into one easily comprehended evaluation of

biological integrity. This integrated approach to data analysis recognizes that each parameter, or biometric, has different ranges of sensitivity to pollution stresses. An integrated assessment provides increased assurance of validity due to the variety of biometrics evaluated. A deficiency in any one metric for a particular environmental situation is, therefore, less likely to invalidate the study conclusions. The integrated assessment results in each station being given a biological condition category rating, providing the analyst with an easily communicated assessment of relative impairment; this assessment is referred to in this report as the **Bioassessment Rating**.

The USEPA RBPII data analysis protocol, with some revision, was utilized to evaluate the 1990-92 sample data. Sample station data was evaluated by comparison to a historical database, consisting of 200 benthic macroinvertebrate samples collected in the state, using the impairment criteria developed by Mr. J. Kurtenbach, USEPA - Region II (A Method for Rapid Bioassessment of Streams in New Jersey Using Benthic Macroinvertebrates, Annual Meeting of the North American Benthological Society, Santa Fe, 1991). The bioassessment scores resulting from said analyses are referred to as **NJ Impairment Scores (NJIS)**.

The biometrics used in the assessments are based on family level taxonomy. The NJIS was developed, using the aforementioned database, for evaluating New Jersey biomonitoring stations. Community metric criteria were established for three categories of water quality bioassessment; **non-impaired**, **moderately impaired**, and **severely impaired** (Table 1), using the following metrics: **Taxa Richness**, which reflects the health of a community through a measure of the total taxa; **E+P+T**; the total number of the intolerant forms: *Ephemeroptera*, *Plecoptera*, and *Tricoptera*; **%EPT** (including the hydropsychid family); **%Contribution of the Dominant Family** (%CDF), a measure of community balance based upon the abundance of the numerically dominant taxon relative to the entire population; and **Modified Family Biotic Index** (FBI), which summarizes FTV (Family Tolerance Values) into a single score reflective of organic pollution.

In addition to the metrics listed above, any abnormalities observed in chironomid detritovores, herbivores, and periphyton feeders, demonstrated by number of abnormalities per number of chironomids analyzed for abnormalities, were also used, qualitatively, when developing the final evaluation of biological impairment.

Results and Discussion

The bioassessment ratings developed for each of the monitoring stations were used as the basis for evaluating the degree of biological impairment in the stream segments. In each subbasin, starting from the most downstream station, estimated stream segment bioassessment ratings were assigned by interpolating from the downstream station to the next contiguous upstream station. **The estimated stream segment bioassessment ratings are presented as color coded highlighted segments on each of the G.I.S. Maps # 12 through 22** (maps 1 - 11 have been deleted). These ratings are best estimates of the instream biological impairment based upon the available data. For any given segment the actual instream conditions may be different due to unknown sources of degradation.

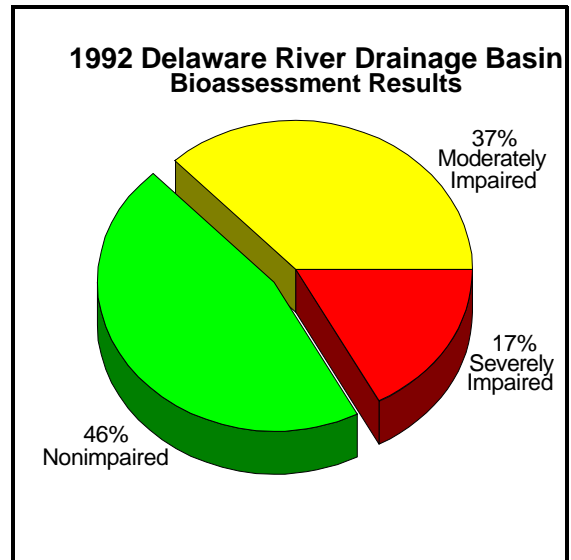


Figure 2

Overall, out of 190 monitoring stations sampled during this study period, **46%** were rated as **NON-IMPAIRED**, **37%** were rated as **MODERATELY IMPAIRED**, and **17%** were rated as **SEVERELY IMPAIRED** (see Figure 2).

When the Delaware River Drainage Basin is examined by subbasin groupings, different patterns of biological impairment emerge. The most upstream section of the study area (Clove Brook to Pophandusing Brook) is depicted in Figure 3 (see also maps 12, 13, 14). Only 3% of the drainages are rated as severely impaired, with the majority of the stations (71%) being rated as nonimpaired.

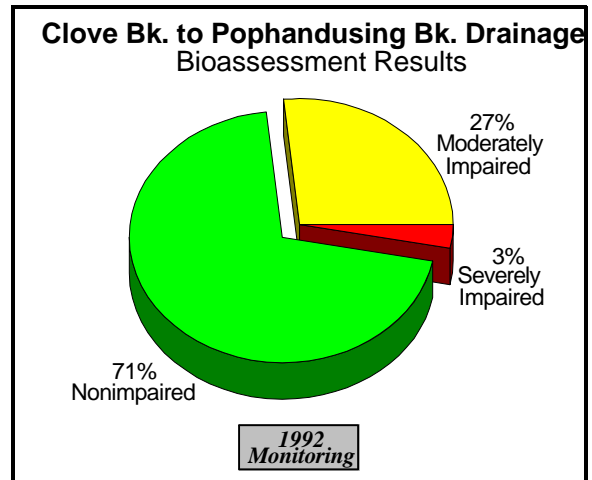


Figure 3

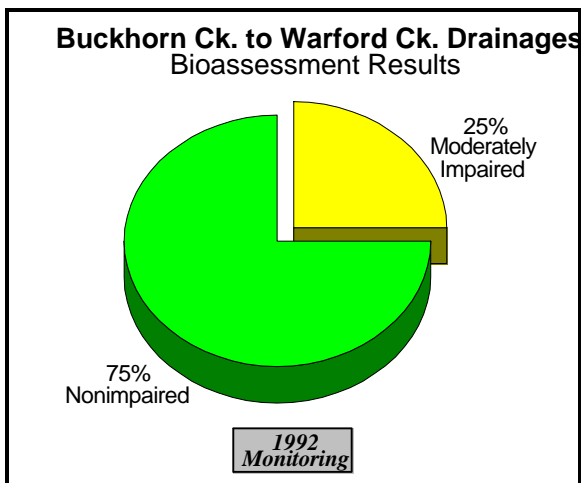


Figure 4

The Buckhorn Creek to Warford Creek drainages depicted in Figure 4 (see also maps 14, 15, 16) show no severely impaired sites and only 25% of the stations being rated as moderately impaired.

The Locketong Creek to Crosswicks Creek stream drainages in the next downstream group as depicted in Figure 5 (see also maps 16, 17, 18) shows 20% of the sites were severely impaired, and 43% moderately impaired

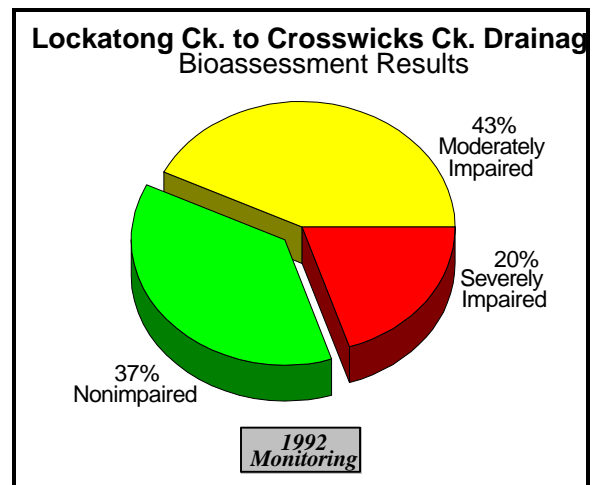


Figure 5

Continuing downstream to Blacks Creek to Rancocas Creek drainages as observed in Figure 6 (see also maps 19, 20, 21) 23% of the stations exhibited severely impaired ratings.

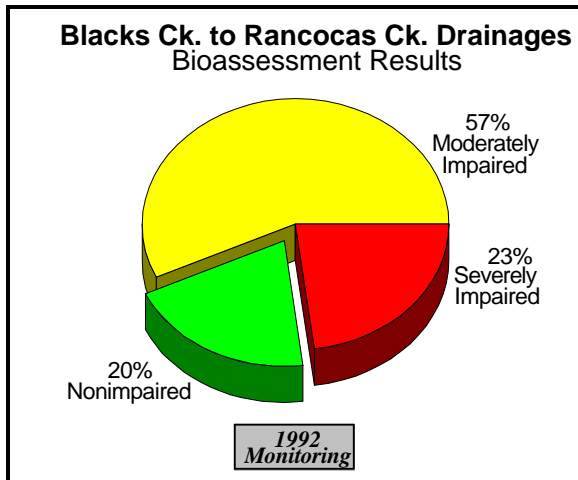


Figure 6

In the most downstream stations monitored during the study, Swedes Run to Cooper River, as depicted in Figure 7 (see also map 22), the results show that 25% of the stations as being rated moderately impaired, 0% rated as nonimpaired, and 75% being rated as severely impaired.

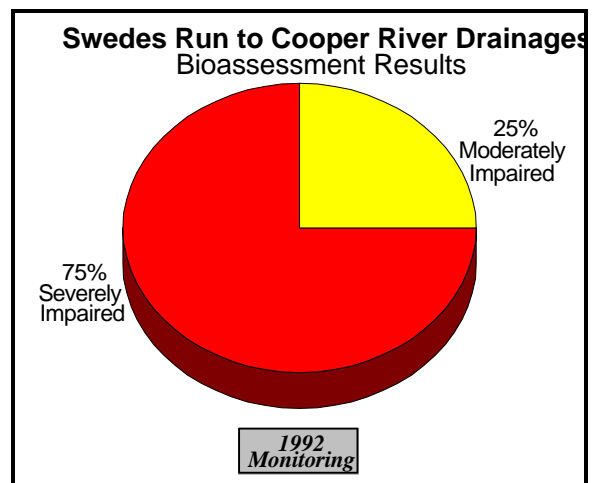


Figure 7

The raw taxonomic data, statistical analyses, and biological assessment ratings for each station are located in **Appendix B**.

References

Kurtenbach, J., *A Method for Rapid Bioassessment of Streams in New Jersey Using Benthic Macroinvertebrates*. Bulletin of the North American Benthological Society, Vol. 8(1):129., 1990.

New Jersey Department of Environmental Protection, Bureau of Water Monitoring, *Standard Operating Procedures Manual for Biomonitoring Laboratory*, 1990.

New Jersey Department of Environmental Protection and Energy, *Field Sampling Procedures Manual* NJDEPE, 1992.

U.S. Environmental Protection Agency, *Rapid Bioassessment Protocols For The Use In Streams And Rivers* USEPA, 1989.

TABLE 1

CRITERIA FOR SCREENING WATER QUALITY IN NEW JERSEY STREAMS

Scoring Criteria For Rapid Bioassessments¹

Biometrics 6 3 0

Taxa Richness (total Families)	> 10	10-5	4-0
E+ P+ T Index (EPT)	> 5	5-3	2-0
Percent Dominance (%CDF)	< 40	40-60	> 60
Percent EPT ² (%EPT)	> 35	35-10	< 10
Modified Family Biotic Index ³ (FBI)	0-4	4-6	6-10

Biological Assessment	Total Score
Non-impaired	24-30
Moderately Impaired	9-21
Severely Impaired	0-6

Attributes

Non-impaired: Benthic community comparable to other undisturbed streams within the region. A community characterized by a maximum taxa richness, balanced taxa groups and good representation of intolerant individuals.

Moderately Impaired: Macroinvertebrate richness is reduced, in particular EPT taxa. Taxa composition changes result in reduced community balance and intolerant taxa become absent.

Severely Impaired: A dramatic change in the benthic community has occurred. Macroinvertebrates are dominated by a few taxa which are very abundant. Tolerant taxa are the only individuals present.

¹ Based on 100 organism subsamples

² Including the hydropsychid family

³ Also known as the Hilsenhoff Biotic Index

MAPS

Appendix A Upper Delaware Basin

Station	Waterbody	Latitude/ Longitude
AN0001	Clove Bk	41 18'53.373"N 74 40'07.154"W
AN0002	Clove Bk	41 21'06.335"N 74 41'10.161"W
AN0003	Shimers Bk	41 18'46.731"N 74 46'43.451"W
AN0004	Little Flat Bk	41 17'02.719"N 74 45'29.275"W
AN0005	Little Flat Bk	41 15'45.716"N 74 47'33.516"W
AN0006	Big Flat Bk	41 12'00.054"N 74 48'55.832"W
AN0007	Big Flat Bk	41 09'25.965"N 74 52'38.074"W
AN0008	Flat Bk	41 06'05.606"N 74 57'43.855"W
AN0009	Van Campens Bk	41 05'43.209"N 74 55'45.708"W
AN0010	Van Campens Bk	41 04'22.070"N 74 57'45.202"W
AN0011	Van Campens Bk	41 03'27.651"N 75 00'11.308"W
AN0012	Dunfield Ck	40 58'14.065"N 75 07'34.898"W
AN0013	Stony Bk	40 56'22.413"N 75 06'13.117"W
AN0014	Trib to Paulinskill	41 04'00.778"N 74 41'15.963"W
AN0015	Paulinskill	41 05'07.878"N 74 41'57.964"W
AN0016	Trib to Paulinskill	41 06'21.295"N 74 40'56.237"W
AN0017	Outlet to Lk Owassa	41 10'05.657"N 74 47'30.702"W
AN0018	Outlet to Culvers Lk	41 09'21.025"N 74 46'57.541"W
AN0019	Dry Bk	41 10'09.042"N 74 44'10.326"W
AN0020	Dry Bk	41 08'36.840"N 74 44'43.274"W
AN0021	Paulinskill	41 06'13.513"N 74 45'29.351"W
AN0022	Paulinskill	41 03'08.907"N 74 49'40.505"W
AN0023	Troy Bk	41 03'33.471"N 74 51'11.835"W
AN0024	Trout Bk	41 03'20.519"N 74 51'41.591"W
AN0025	Paulinskill	40 58'52.121"N 74 57'12.460"W
AN0025 A	Blair Ck	41 04'19.874"N 74 55'13.513"W
AN0026	Blair Ck	41 03'00.829"N 74 56'40.113"W
AN0027	Blair Ck	40 58'54.804"N 74 57'35.356"W

Station	Waterbody	Latitude/ Longitude
AN0028	Jacksonburg Ck	41 02'20.775"N 74 57'53.670"W
AN0029	Jacksonburg Ck	40 59'14.684"N 74 58'43.178"W
AN0030	Yards Ck	40 59'43.000"N 75 01'55.902"W
AN0031	Yards Ck	40 57'23.847"N 75 03'34.777"W
AN0032	Paulinskill	40 55'15.243"N 75 05'17.479"W
AN0033	Delawanna Ck	40 53'52.815"N 75 04'19.347"W
AN0034	Ramseysburg Ck	40 53'05.044"N 75 03'36.520"W
AN0035	Pequest R	41 00'51.811"N 74 45'59.931"W
AN0036	Unnamed Trib to Pequest R	40 59'07.663"N 74 45'52.968"W
AN0037	Pequest R	40 58'50.814"N 74 46'35.360"W
AN0038	Trout Bk	40 55'48.127"N 74 49'08.167"W
AN0039	Pequest R	40 55'17.022"N 74 50'25.852"W
AN0040	Bear Ck	40 55'48.566"N 74 53'05.961"W
AN0041	Pequest R	40 51'58.398"N 74 54'19.347"W
AN0042	Furnace Bk	40 49'21.769"N 74 59'06.341"W
AN0043	Pequest R	40 49'49.847"N 74 58'39.953"W
AN0044	Mountain Lk Bk	40 51'10.847"N 74 59'07.246"W
AN0045	Beaver Bk	40 56'33.270"N 74 56'32.780"W
AN0046	Honey Run	40 53'33.971"N 74 58'40.558"W
AN0047	Beaver Bk	40 50'36.857"N 75 02'46.374"W
AN0048	Pequest R	40 49'45.841"N 75 04'55.768"W
AN0049	Pophandusing Bk	40 49'20.221"N 75 04'50.983"W
AN0050	Buck Horn Ck	40 46'17.971"N 75 07'50.883"W
AN0051	Lopatcong Ck	40 44'24.624"N 75 07'15.934"W
AN0052	Lopatcong Ck	40 42'07.878"N 75 08'12.891"W
AN0053	Lopatcong Ck	40 40'38.350"N 75 10'01.855"W
AN0054	Pohatcong Ck	40 50'18.689"N 74 53'59.968"W
AN0055	Pohatcong Ck	40 47'06.111"N 74 57'41.175"W

Appendix A Upper Delaware Basin

Station	Waterbody	Latitude/ Longitude
AN0056	Brass Castle Ck	40 45'53.533"N 75 00'43.295"W
AN0057	Pohatcong Ck	40 44'41.365"N 75 00'49.018"W
AN0058	Pohatcong Ck	40 42'57.959"N 75 04'18.230"W
AN0059	Merrill Ck	40 45'00.107"N 75 05'06.940"W
AN0060	Merrill Ck	40 41'11.491"N 75 06'29.268"W
AN0061	Pohatcong Ck	40 37'29.855"N 75 11'08.755"W
AN0062	Musconetcong R	40 55'01.431"N 74 39'56.687"W
AN0063	Musconetcong R	40 54'08.398"N 74 42'48.549"W
AN0064	Musconetcong R	40 55'15.877"N 74 43'54.037"W
AN0065	Lubbers Run	40 57'51.270"N 74 40'28.210"W
AN0066	Lubbers Run	40 55'35.979"N 74 43'07.086"W
AN0067	Mine Brook	40 49'58.240"N 74 49'22.029"W
AN0068	Trout Brook	40 49'46.217"N 74 49'52.241"W
AN0069	Musconetcong R	40 48'46.767"N 74 50'29.995"W
AN0070	Hances Brook	40 48'16.140"N 74 51'37.606"W
AN0071	Unnamed Trib to Musconetcong R	40 47'00.267"N 74 54'02.633"W
AN0072	Musconetcong R	40 43'22.996"N 74 57'35.801"W
AN0073	Musconetcong R	40 39'19.616"N 75 05'19.716"W
AN0074	Musconetcong R	40 35'33.407"N 75 11'17.230"W
AN0075	Hakihokake Ck	40 37'42.344"N 75 05'04.447"W
AN0076	Hakihokake Ck	40 35'02.591"N 75 05'07.655"W
AN0077	Hakihokake Ck	40 34'06.359"N 75 05'42.610"W
AN0078	Harihokake Ck	40 36'00.393"N 75 01'50.641"W
AN0079	Harihokake Ck	40 32'53.072"N 75 04'07.766"W
AN0080	Nishisakawick Ck	40 35'20.651"N 75 00'34.071"W
AN0081	Nishisakawick Ck	40 32'56.275"N 75 02'03.953"W
AN0082	Nishisakawick Ck	40 31'38.526"N 75 03'32.940"W
AN0083	Little Nishisakawick Ck	40 31'22.623"N 75 03'41.890"W

Station	Waterbody	Latitude/ Longitude
AN0084	Copper Ck	40 30'39.544"N 75 02'43.388"W
AN0085	Warford Ck	40 28'09.916"N 75 03'43.655"W
AN0086	Lockatong Ck	40 32'02.357"N 74 57'11.604"W
AN0087	Lockatong Ck	40 31'01.719"N 74 59'30.835"W
AN0088	Lockatong Ck	40 28'16.532"N 75 01'16.150"W
AN0089	Lockatong Ck	40 24'28.293"N 75 00'50.967"W
AN0090	Wickecheoke Ck	40 30'34.613"N 74 55'49.813"W
AN0091	Wickecheoke Ck	40 29'08.865"N 74 58'13.799"W
AN0092	Plum Brook	40 29'46.410"N 74 55'40.768"W
AN0093	Plum Brook	40 27'49.932"N 74 58'04.041"W
AN0094	Wickecheoke Ck	40 26'38.138"N 74 57'57.999"W
AN0095	Wickecheoke Ck	40 24'41.329"N 74 59'11.194"W
AN0096	Alexauken Ck	40 22'49.353"N 74 54'10.197"W
AN0097	Tributary to Alexauken Ck	40 24'22.175"N 74 55'10.615"W
AN0098	Alexauken Ck	40 22'50.158"N 74 56'52.659"W
AN0099	Swan Ck	40 21'50.273"N 74 56'42.853"W
AN0100	Moores Ck	40 20'39.621"N 74 53'08.715"W
AN0101	Moores Ck	40 19'26.394"N 74 55'01.395"W
AN0102	Jacobs Ck	40 20'29.374"N 74 50'18.357"W
AN0103	Airport Br of Jacobs Ck	40 17'24.047"N 74 50'26.702"W
AN0104	Woolseys Bk	40 18'27.419"N 74 49'35.358"W
AN0105	Jacobs Ck	40 18'25.937"N 74 50'01.804"W
AN0106	Jacobs Ck	40 16'42.298"N 74 51'12.939"W
AN0107	Gold Run	40 14'34.962"N 74 49'19.588"W
AN0108	Assunpink Ck	40 12'43.204"N 74 28'37.300"W
AN0109	Assunpink Ck	40 15'29.782"N 74 37'03.130"W
AN0110	Shipetaukin Ck	40 19'11.335"N 74 43'30.882"W
AN0111	Shipetaukin Ck	40 17'46.003"N 74 42'17.453"W

Appendix A Upper Delaware Basin

Station	Waterbody	Latitude/ Longitude
AN0112	Little Shabakunk Ck	40 16'24.837"N 74 44'01.929"W
AN0113	Shabakunk Ck	40 17'06.648"N 74 45'59.203"W
AN0114	Shabakunk Ck	40 15'13.579"N 74 44'31.498"W
AN0115	Miry Run	40 14'49.546"N 74 41'13.758"W
AN0116	Assunpink Ck	40 14'08.450"N 74 44'19.749"W
AN0117	Pond Run	40 12'56.316"N 74 41'25.388"W
AN0118	Assunpink Ck	40 13'01.939"N 74 45'58.939"W
AN0119	Jumping Bk	40 02'46.163"N 74 32'22.678"W
AN0120	North Run	40 02'58.566"N 74 33'45.724"W
AN0121	Crosswicks Ck	40 05'03.177"N 74 32'27.148"W
AN0122	Lahaway Ck	40 08'02.478"N 74 27'41.945"W
AN0123	Ivanhoe Bk	40 08'17.621"N 74 27'37.970"W
AN0124	Lahaway Ck	40 06'25.582"N 74 32'11.319"W
AN0125	Crosswicks Ck	40 08'12.885"N 74 36'00.967"W
AN0126	Crosswicks Ck	40 10'02.009"N 74 40'38.249"W
AN0127	Doctors Ck	40 09'42.180"N 74 28'05.896"W
AN0128	Negro Run	40 10'31.491"N 74 34'03.730"W
AN0129	Doctors Ck	40 10'37.270"N 74 35'55.389"W
AN0130	Doctors Ck	40 10'31.642"N 74 40'32.327"W
AN0131	Crosswicks Ck	40 10'01.332"N 74 42'13.797"W
AN0132	Blacks Ck	40 06'34.757"N 74 38'29.999"W
AN0133	Bacon Run	40 06'26.828"N 74 41'06.139"W
AN0134	Blacks Ck	40 08'14.734"N 74 42'40.984"W
AN0135	Crafts Ck	40 04'30.104"N 74 39'55.313"W
AN0136	Crafts Ck	40 04'25.986"N 74 42'04.764"W
AN0137	Crafts Ck	40 06'01.643"N 74 45'21.566"W
AN0138	Assiscunk Ck	40 03'54.842"N 74 39'59.464"W
AN0139	Annaricken Bk	40 03'19.036"N 74 42'08.442"W

Station	Waterbody	Latitude/ Longitude
AN0140	North Br Barkers Bk	40 01'58.261"N 74 40'12.383"W
AN0141	Assiscunk Ck	40 03'52.971"N 74 45'24.601"W
AN0142	Assiscunk Ck	40 04'23.283"N 74 48'52.267"W
AN0143	North Br Rancocas Ck	39 58'46.829"N 74 31'30.920"W
AN0144	Pole Bridge Br	39 56'48.978"N 74 33'20.155"W
AN0145	Mt Misery Bk	39 55'44.693"N 74 31'51.593"W
AN0146	McDonalds Br	39 53'06.213"N 74 30'19.579"W
AN0147	Bisphams Mill Ck	39 55'26.003"N 74 35'30.127"W
AN0148	Greenwood Br	39 57'22.829"N 74 37'39.577"W
AN0149	North Br Rancocas Ck	39 58'12.345"N 74 41'03.227"W
AN0150	Budds Run	39 58'34.906"N 74 48'51.343"W
AN0151	North Br Rancocas Ck	39 59'31.423"N 74 46'56.313"W
AN0152	Friendship Ck	39 52'15.726"N 74 41'34.923"W
AN0153	Burrs Mill Bk	39 51'33.878"N 74 35'53.218"W
AN0154	Burrs Mill Bk	39 52'54.599"N 74 40'30.108"W
AN0155	Friendship Ck	39 54'59.540"N 74 42'51.537"W
AN0156	South Br Rancocas Ck	39 55'23.615"N 74 43'03.539"W
AN0157	Jade Run	39 56'26.473"N 74 43'57.203"W
AN0158	Little Ck	39 53'54.326"N 74 47'17.302"W
AN0159	Bear Swamp R	39 53'43.556"N 74 46'44.796"W
AN0160	Little Ck	39 56'16.831"N 74 47'36.279"W
AN0161	South Br Rancocas Ck	39 56'50.311"N 74 47'25.881"W
AN0162	Southwest Br Rancocas Ck	39 53'24.916"N 74 53'01.013"W
AN0163	Barton Run	39 51'20.592"N 74 55'17.336"W
AN0164	Black Run	39 49'58.943"N 74 53'34.378"W
AN0165	Trib to Black Run	39 51'00.889"N 74 54'22.261"W
AN0166	Barton Run	39 52'43.625"N 74 51'36.092"W
AN0167	Kettle Run	39 48'11.286"N 74 53'34.354"W

Appendix A Upper Delaware Basin

Station	Waterbody	Latitude/ Longitude
AN0168	Haynes Ck	39 53'06.698"N 74 49'53.909"W
AN0169	Southwest Br Rancocas Ck (Haynes Ck)	39 54'16.533"N 74 48'45.243"W
AN0170	Sharps Run	39 54'19.053"N 74 49'28.169"W
AN0171	Bobbys Run	39 57'47.847"N 74 48'19.039"W
AN0172	Masons Ck	39 56'02.337"N 74 51'03.465"W
AN0173	Masons Ck	39 58'19.308"N 74 51'25.370"W
AN0174	Parkers Ck	39 59'27.325"N 74 53'16.910"W
AN0175	Mill Ck	40 02'09.498"N 74 53'36.917"W
AN0176	Swedes Run	40 00'54.105"N 74 57'22.428"W
AN0177	Pompeston Ck	40 00'12.372"N 74 58'58.234"W
AN0178	North Br Pennsauken Ck	39 55'13.326"N 74 53'33.281"W
AN0179	North Br Pennsauken Ck	39 56'27.821"N 74 57'14.034"W
AN0180	North Br Pennsauken Ck	39 57'25.230"N 74 59'12.011"W
AN0181	North Br Pennsauken Ck	39 58'45.330"N 75 00'32.280"W
AN0182	South Br Pennsauken Ck	39 54'21.421"N 74 57'08.828"W
AN0183	South Br Pennsauken Ck	39 56'25.012"N 74 58'58.010"W
AN0184	South Br Pennsauken Ck	39 57'14.813"N 75 00'48.046"W
AN0185	South Br Pennsauken Ck	39 58'02.987"N 75 01'09.657"W
AN0186	North Br Cooper R	39 51'34.652"N 74 55'45.714"W
AN0187	North Br Cooper R	39 53'19.886"N 74 58'07.036"W
AN0188	North Br Cooper R	39 54'31.444"N 75 01'30.744"W
AN0189	South Br Cooper R	39 49'32.996"N 74 58'28.895"W
AN0190	South Br Cooper R	39 51'33.946"N 75 00'57.424"W
AN0191	South Br Cooper R	39 54'11.706"N 75 01'18.832"W

Map 12

Sub-Basins:
Flat Bk, VanCampens Bk,
Shimers Bk, Clove Bk

Estimated Stream Segment B Assessment

- Severely Impaired
- Moderately Impaired
- Non-Impaired

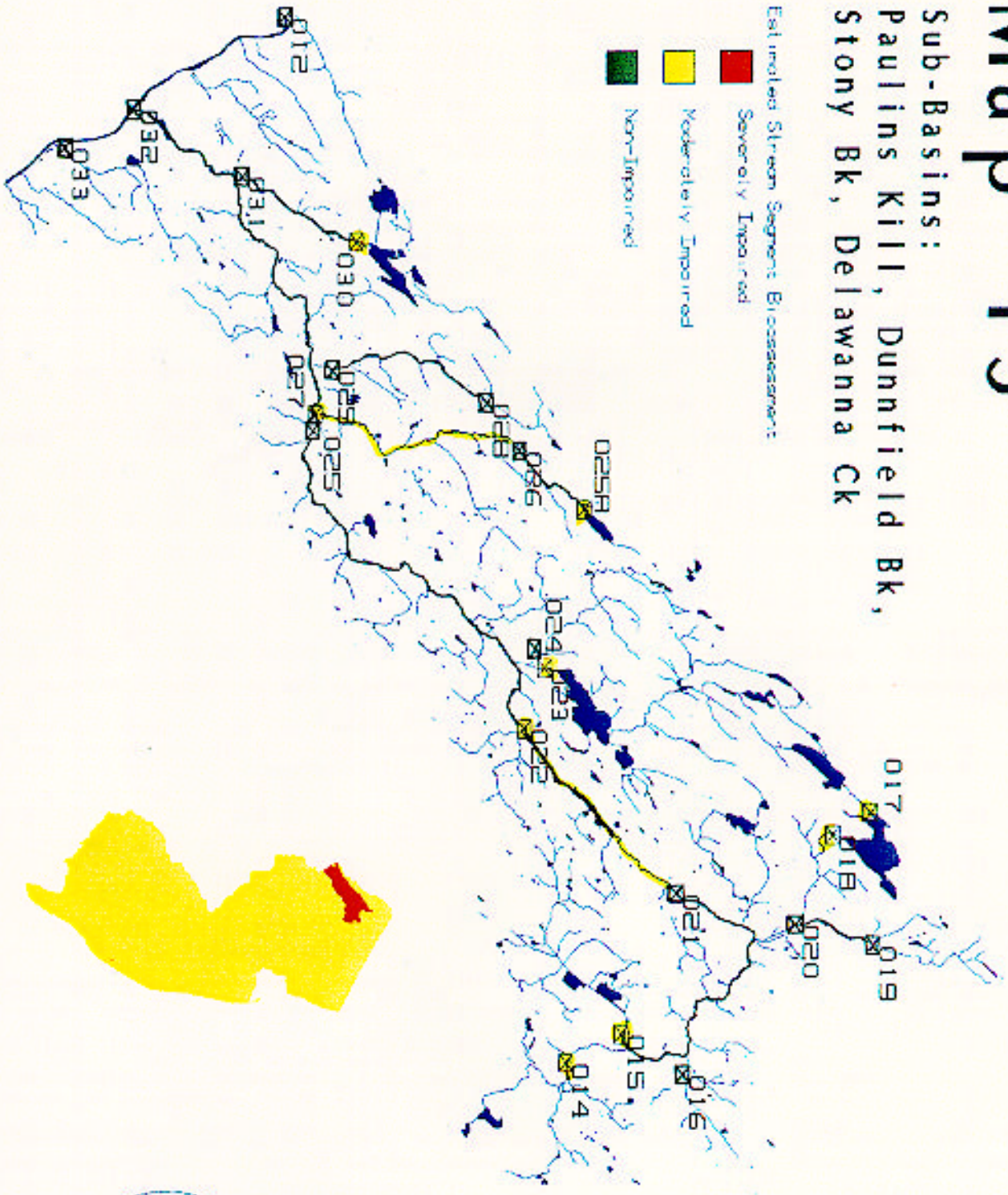


Map 13

Sub-Basins:
Paulins Kill, Dunnfield Bk,
Stony Bk, Delawanna Ck

Estimated Stream Segment Biorassessment:

- Severely Impaired
- Moderately Impaired
- Non-Impaired



Map 14

Sub-Basins:
Pequest River, Buckhorn Ck,
Pophandusing Ck



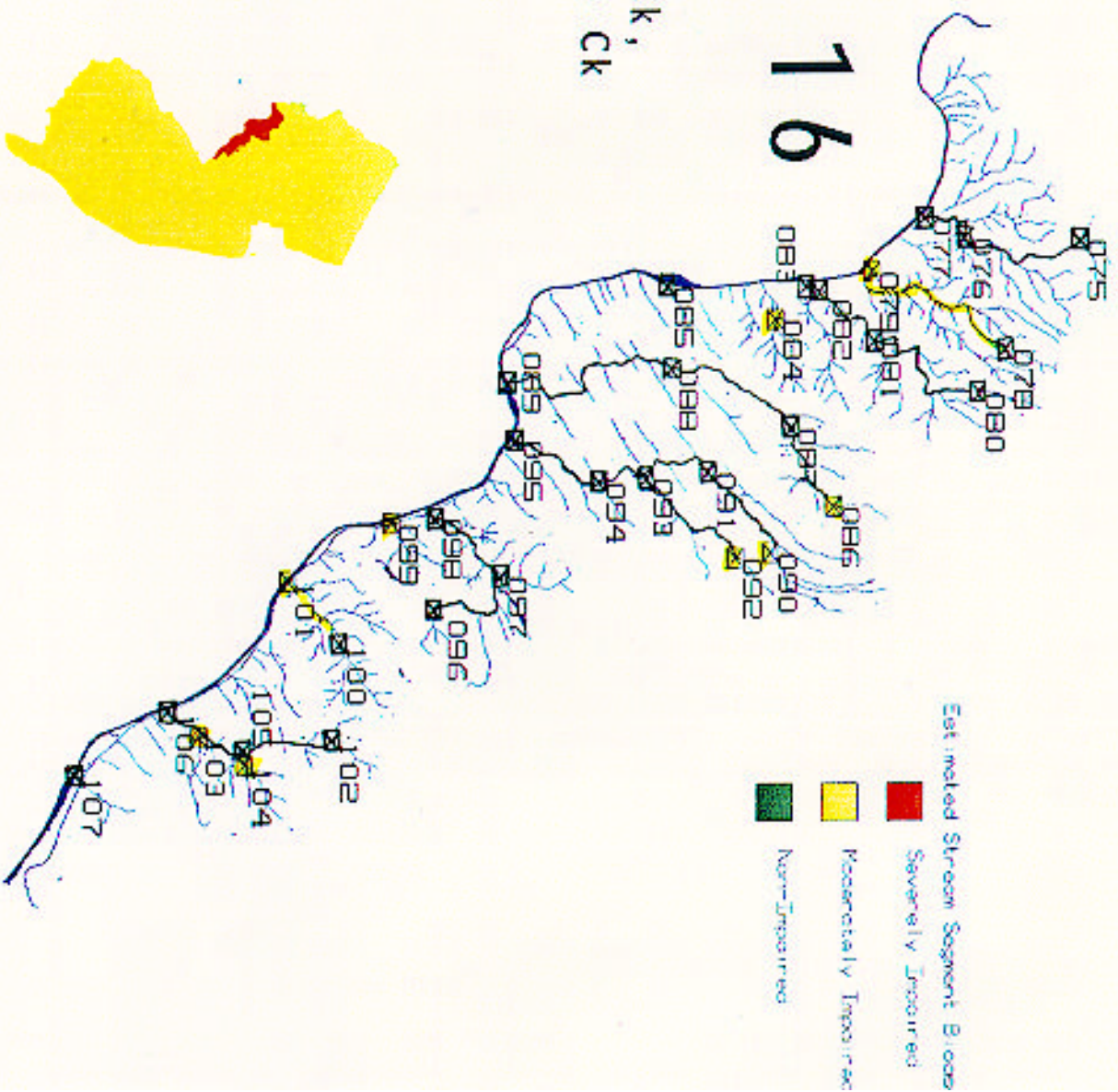
Map 15

Sub-Basins:
Musconetcong River,
Lopatcong Ck.,
Pohatcong Ck



Map 16

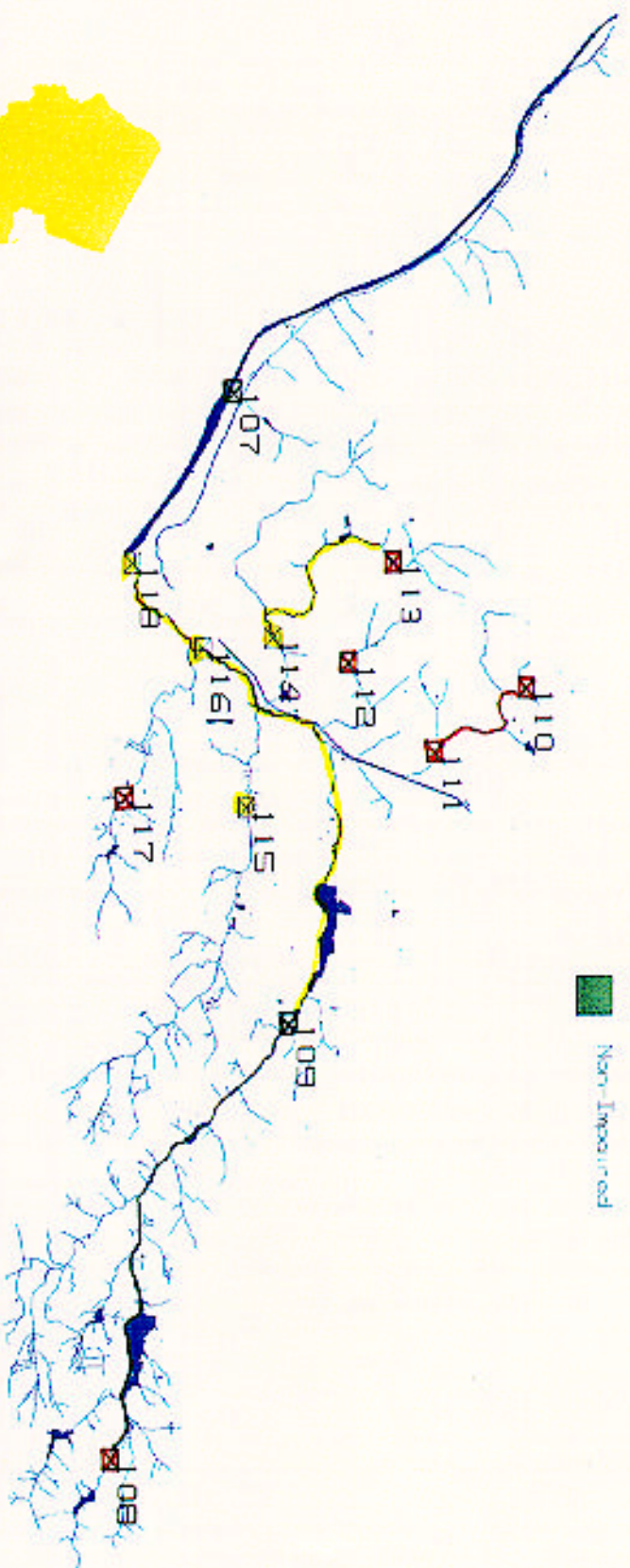
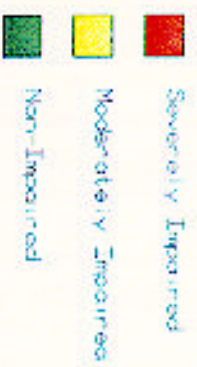
Sub-Basins:
Lockatong Ck,
Wickecheoke Ck



Map 17

Sub-Basins:
Assumpink CK, Duck CK

Estimated Stream Segment Classification

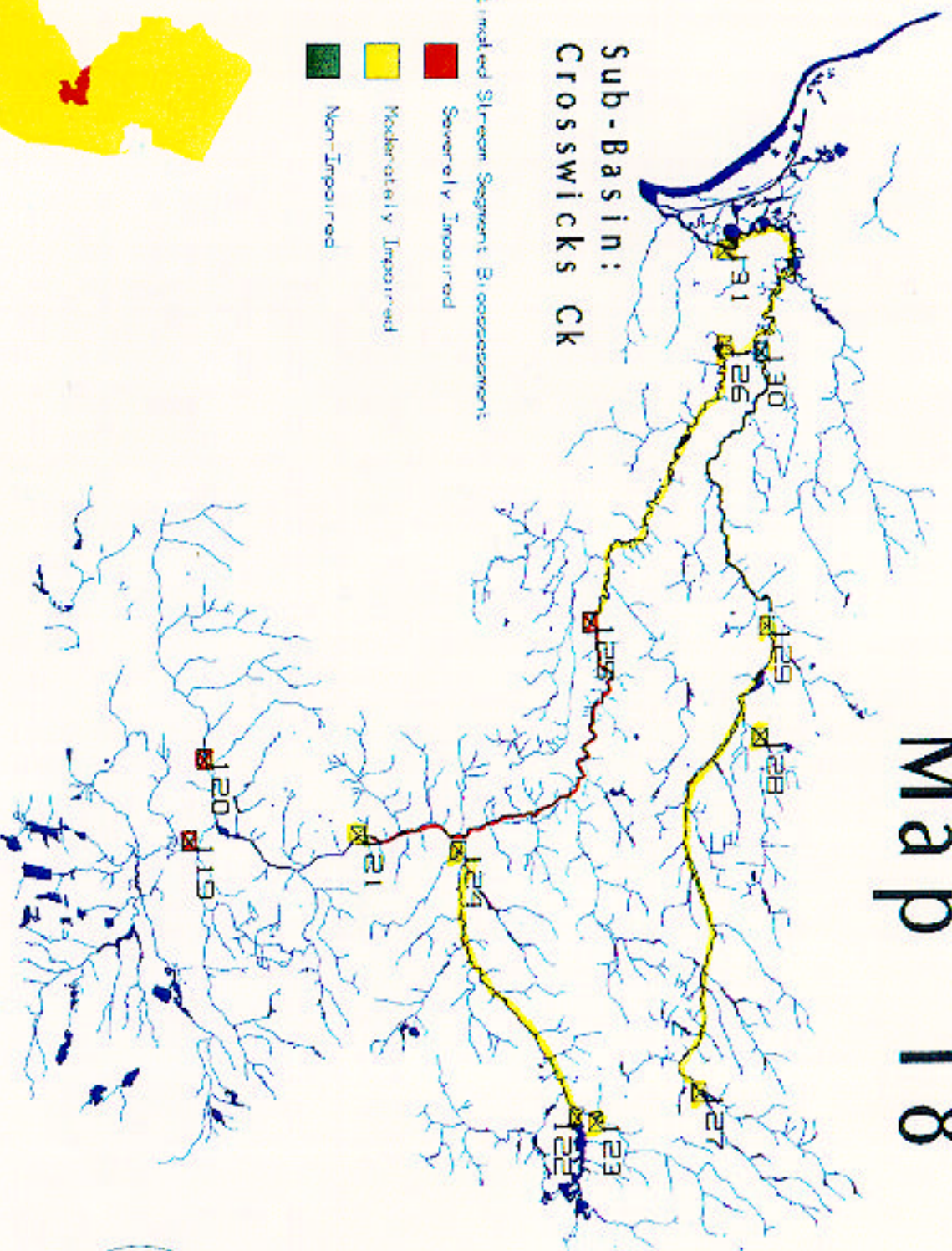


Map 18

Sub-Basin: CROSSWICKS CK

Estimated Stream Segment Bioassessment:

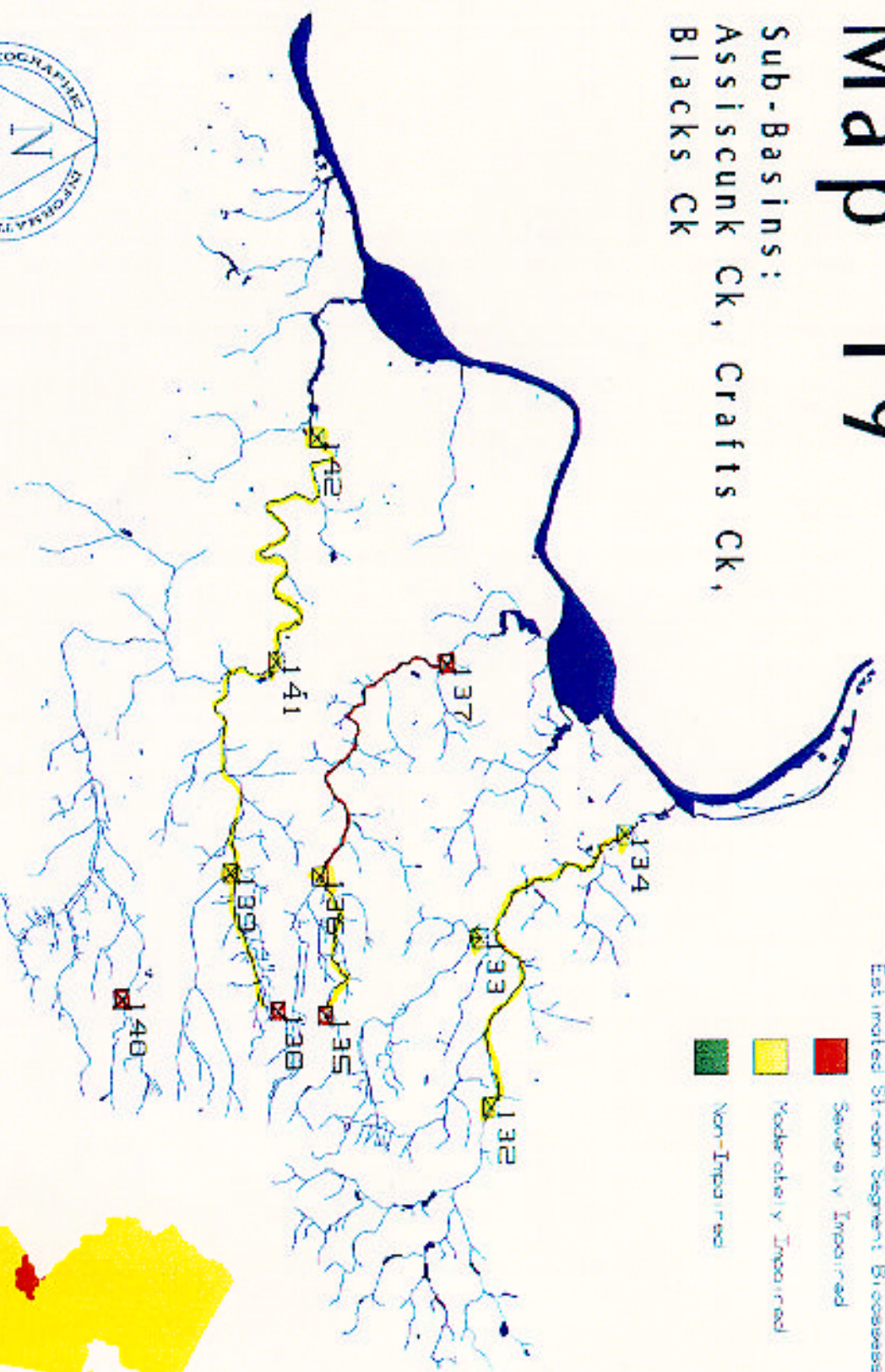
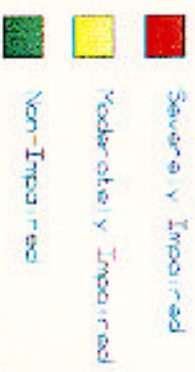
- Severely Impaired
- Moderately Impaired
- Non-Impaired



Map 19

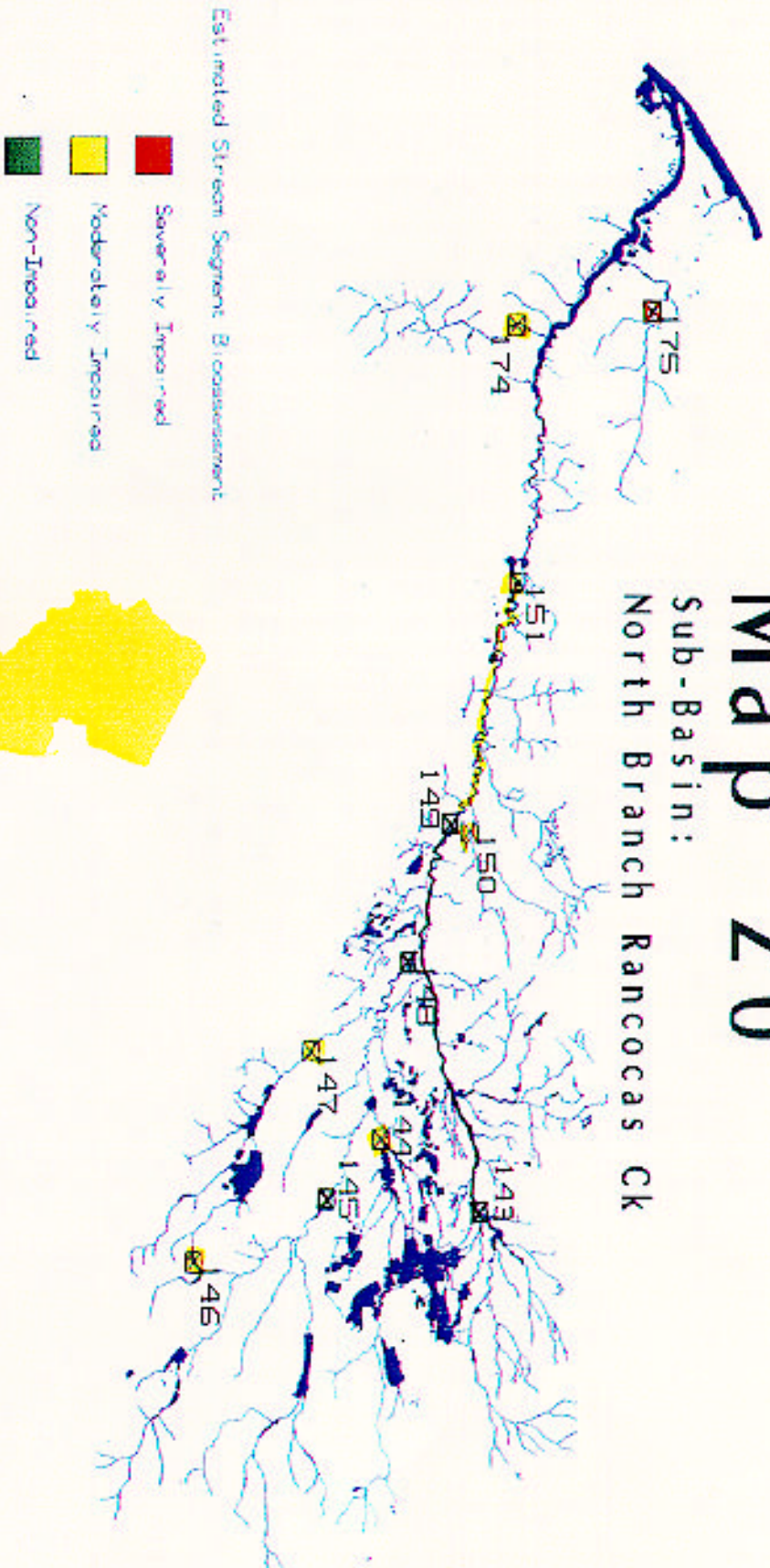
Sub-Basins:
Assiscunk Ck, Crafts Ck,
Blacks Ck

Estimated Stream Segment Biorassessment



Map 20

Sub-Basin:
North Branch Rancocas CK

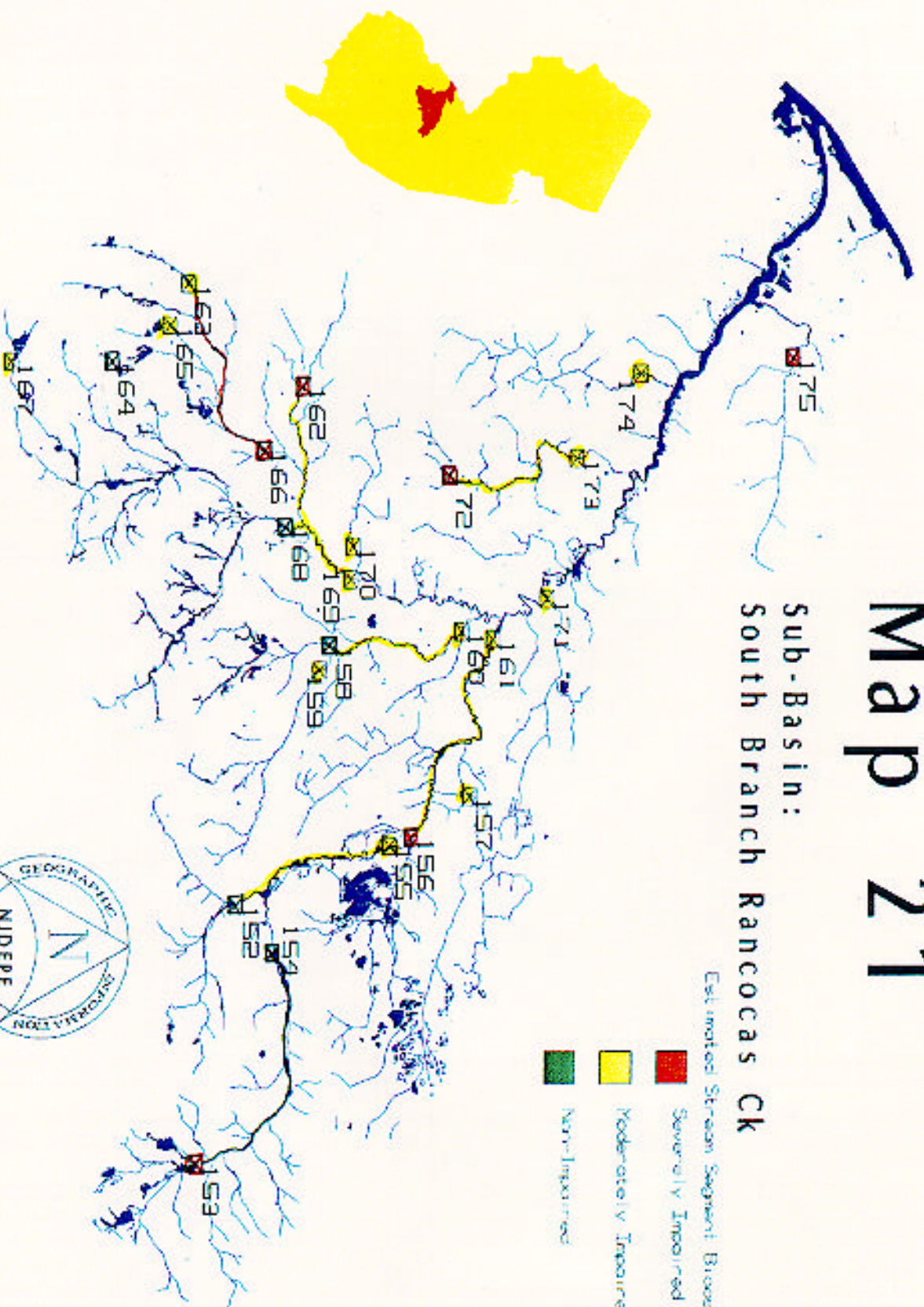


Map 21

Sub-Basin:
South Branch Rancocas CK

Estimated Stream Segment Bioassessment

- Severely Impaired
- Moderately Impaired
- Non-Impaired



Map 22

Sub-Basins:
Cooper River, Pennsauken Ck,
Pompeston Ck, Baldwins Run

- Estimated Stream Segment Bioassessment
- Severely Impaired
 - Modestly Impaired
 - Non-Impaired



APPENDIX B

Delaware Basin - Port Jervis South USGS Quadrangle
Station AN0001
Clove Brook, Route 23, below Lake Marcia, High Point State Park
January 7, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	51	6
Gastropoda	39	7
Hydropsychidae	5	4
Sphaeriidae	1	8
Empididae	1	6
Gammaridae	1	4
Lumbriculidae	1	8
Tubificidae	1	10

Statistical Analysis

Number of Taxa = 8
Total Number of Individuals = 100
% Contribution of Dominant Family = 51
Family Biotic Index = 6.35
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 5.00
EPT/C* = 0.01 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear...Flow: slow to mod...Width/Depth(ft): 2/<0.5..
.Substrate: gravel/sand...Streambank Vegetation/Stability: poor/
good...Canopy: open...Other: some trees on left bank; parking lot
on right bank; channelized with large flat stones

Delaware Basin - Port Jervis South USGS Quadrangle
Station AN0002
Clove Brook, Route 23, Duttonville
January 7, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	68	4
Limnephilidae	1	4
Corydalidae	1	0
Siphonuridae	10	7
Chironomidae	13	6
Taeniopterygidae	5	2
Simuliidae	1	6
Philopotamidae	1	3

Statistical Analysis

Number of Taxa = 8
Total Number of Individuals = 100
% Contribution of Dominant Family = 68
Family Biotic Index = 4.43
Scraper/Filterer Collector Ratio = 0.01
Shredder/Total Ratio = 0.05
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 85.00
EPT/C* = 6.54 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: Hydropsychidae overwhelmingly dominant

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 20/~1...
Substrate: boulders/cobbles...Streambank Vegetation/Stability:
good/good...Canopy: open...Other: tree-lined; periphyton and
mosses coverage~100%

Delaware Basin - Milford USGS Quadrangle
Station AN0003
Shimers Brook, Millville Road (Route 521), Millville
January 6, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	22	4
Limnephilidae	14	4
Ephemerellidae	4	1
Chironomidae	30	6
Corydalidae	7	0
Pyralidae	1	5
Elmidae	3	4
Helicopsychidae	4	3
Lumbriculidae	3	8
Taeniopterygidae	1	2
Philopotamidae	1	3
Glossosomatidae	1	0
Rhyacophilidae	1	0
Tipulidae	2	3
Simuliidae	1	6
Gomphidae	1	1
Perlidae	3	1
Aeshnidae	1	3

Statistical Analysis

Number of Taxa = 18
Total Number of Individuals = 100
% Contribution of Dominant Family = 30
Family Biotic Index = 4.05
Scraper/Filterer Collector Ratio = 0.83
Shredder/Total Ratio = 0.15
E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 51.00
EPT/C* = 1.70 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: very fast...Width/Depth(ft): 20/1...
Substrate: boulders...Streambank Vegetation/Stability: good/good..
.Canopy: open...Other: tree-lined

Delaware Basin - Port Jervis South USGS Quadrangle
 Station AN0004
 Little Flat Brook, Deckertown Tnpk. (Rt. 650), near Four Corners
 January 7, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	20	4
Limnephilidae	13	4
Chloroperlidae	6	1
Peltoperlidae	6	1
Philopotamidae	3	3
Ephemerellidae	4	1
Sialidae	1	4
Siphonuridae	1	7
Perlodidae	2	2
Simuliidae	2	6
Rhyacophilidae	2	0
Heptageniidae	5	4
Leptophlebiidae	11	2
Chironomidae	4	6
Pteronarcyidae	1	0
Hydrophilidae	2	5
Glossosomatidae	4	0
Lumbriculidae	1	8
Psephenidae	1	4
Tabanidae	1	6
Tipulidae	5	3
Goeridae	1	0
Asellidae	2	8
Lepidostomatidae	1	1
Odontoceridae	1	0

Statistical Analysis

Number of Taxa = 25
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 20
 Family Biotic Index = 3.10
 Scraper/Filterer Collector Ratio = 0.69
 Shredder/Total Ratio = 0.28
 E+P+T* = 15 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 75.00
 EPT/C* = 18.75 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 6/<1...
 Substrate: cobbles/gravel...Streambank Vegetation/Stability: good/
 good...Canopy: open...Other: wooded area; mosses coverage (~10%)

Delaware Basin - Milford USGS Quadrangle
Station AN0005
Little Flat Brook, Degroat Road, Hainesville
January 6, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Lumbriculidae	5	8
Talitridae	13	8
Gastropoda	14	7
Philopotamidae	1	3
Limnephilidae	10	4
Hydropsychidae	4	4
Chironomidae	6	6
Helicopsychidae	26	3
Simuliidae	4	6
Heptageniidae	2	4
Asellidae	4	8
Elmidae	1	4
Siphonuridae	2	7
Gomphidae	3	1
Taeniopterygidae	1	2
Leptoceridae	2	4
Perlidae	2	1

Statistical Analysis

Number of Taxa = 17
Total Number of Individuals = 100
% Contribution of Dominant Family = 26
Family Biotic Index = 5.12
Scraper/Filterer Collector Ratio = 4.18
Shredder/Total Ratio = 0.07
E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 50.00
EPT/C* = 8.33 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 20/1...
Substrate: boulders/cobbles/gravel/coarse sand...Streambank
Vegetation/Stability: good/good...Canopy: open...Other: wood-
lined

Delaware Basin - Culvers Gap USGS Quadrangle
 Station AN0006
 Big Flat Brook, Route 521, Tuttles Corner
 January 6, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Limnephilidae	7	4
Siphonuridae	8	7
Polycentropodidae	1	6
Leptophlebiidae	15	2
Baetidae	1	4
Sphaeriidae	1	8
Helicopsychidae	1	3
Simuliidae	1	6
Taeniopterygidae	9	2
Perlidae	3	1
Aeshnidae	1	3
Heptageniidae	10	4
Ephemerellidae	7	1
Psephenidae	2	4
Lumbriculidae	7	8
Goeridae	10	0
Capniidae	4	1
Gastropoda	2	7
Athericidae	1	2
Hydropsychidae	3	4
Rhyacophilidae	1	0
Gomphidae	2	1
Lepidostomatidae	2	1
Odontoceridae	1	0

Statistical Analysis

Number of Taxa = 24
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 15
 Family Biotic Index = 3.12
 Scraper/Filterer Collector Ratio = 1.85
 Shredder/Total Ratio = 0.19
 E+P+T* = 16 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 83.00
 EPT/C* = 0.00 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 100/>1...
 Substrate: boulders/cobbles/gravel...Streambank Vegetation/
 Stability: good/good...Canopy: open...Other: wood-lined;
 periphyton coverage (~100%)

Delaware Basin - Lake Maskenozha USGS Quadrangle
Station AN0007
Big Flat Brook, Route 615, Wallpack Center
January 6, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Limnephilidae	14	4
Taeniopterygidae	31	2
Capniidae	14	1
Chironomidae	12	6
Leptophlebiidae	2	2
Siphonuridae	5	7
Hydropsychidae	2	4
Perlidae	2	1
Heptageniidae	4	4
Lumbriculidae	2	8
Lumbricidae	2	10
Simuliidae	2	6
Gammaridae	1	4
Asellidae	2	8
Rhyacophilidae	1	0
Gomphidae	1	1
Tipulidae	1	3
Sphaeriidae	1	8
Elmidae	1	4

Statistical Analysis

Number of Taxa = 19
Total Number of Individuals = 100
% Contribution of Dominant Family = 31
Family Biotic Index = 3.53
Scraper/Filterer Collector Ratio = 0.60
Shredder/Total Ratio = 0.30
E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 75.00
EPT/C* = 6.25 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 40/1...
Substrate: gravel...Streambank Vegetation/Stability: good/good...
Canopy: open...Other: wood-lined

Delaware Basin - Flatbrookville USGS Quadrangle
 Station AN0008
 Flat Brook, Route 615, Flatbrookville
 November 16, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	5	4
Ephemerellidae	3	1
Siphonuridae	12	7
Polycentropodidae	3	6
Heptageniidae	12	4
Helicopsychidae	22	3
Chloroperlidae	1	1
Taeniopterygidae	16	2
Gastropoda	3	7
Corydalidae	1	0
Chironomidae	1	6
Talitridae	3	8
Turbellaria	2	4
Lumbriculidae	5	8
Limnephilidae	7	4
Leptoceridae	2	4
Elmidae	1	4
Tipulidae	1	3

 Statistical Analysis

Number of Taxa = 18
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 22
 Family Biotic Index = 4.14
 Scraper/Filterer Collector Ratio = 1.44
 Shredder/Total Ratio = 0.12
 E+P+T* = 10 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 83.00
 EPT/C* = 83.00 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

 Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 30/<1...
 Substrate: cobbles/gravel...Streambank Vegetation/Stability: good/
 good...Canopy: open...Other: tree-lined

Delaware Basin - Flatbrookville USGS Quadrangle
Station AN0009
Van Campens Brook, Flatbrookville-Middleville Road, Wallpack Twp.
November 16, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Peltoperlidae	33	1
Hydropsychidae	23	4
Perlidae	16	1
Chloroperlidae	5	1
Brachycentridae	5	1
Leuctridae	8	0
Cambarinae	1	6
Tipulidae	1	3
Philopotamidae	2	3
Lumbriculidae	1	8
Rhyacophilidae	2	0
Taeniopterygidae	1	2
Corydalidae	1	0
Chironomidae	1	6

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 33
Family Biotic Index = 1.82
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.48
E+P+T* = 8 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 62.00
EPT/C* = 62.00 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 6/<1...
Substrate: cobbles/gravel...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: wooded; leaf litter on substrate

Delaware Basin - Bushkill USGS Quadrangle
 Station AN0011
 Van Campens Brook, Old Mine Rd., Depew Recreation Area, Pahaquarry
 November 16, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Leptophlebiidae	17	2
Heptageniidae	14	4
Tipulidae	4	3
Odontoceridae	3	0
Chloroperlidae	9	1
Ephemerellidae	4	1
BloodRedChironomidae	3	8
Chironomidae	5	6
Lepidostomatidae	6	1
Limnephilidae	8	4
Psephenidae	6	4
Siphonuridae	2	7
Peltoperlidae	11	1
Pteronarcyidae	1	0
Hydropsychidae	3	4
Polycentropodidae	1	6
Perlidae	2	1
Goeridae	1	0

Statistical Analysis

Number of Taxa = 18
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 17
 Family Biotic Index = 2.76
 Scraper/Filterer Collector Ratio = 1.83
 Shredder/Total Ratio = 0.46
 E+P+T* = 13 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 71.00
 EPT/C* = 8.88 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 20/<1...
 Substrate: cobbles/gravel/sand...Streambank Vegetation/Stability:
 good/good...Canopy: mostly open...Other: wooded

Delaware Basin - Portland and Stroudsburg USGS Quadrangles
 Station AN0012
 Dunnfield Creek, River Road, Worthington State Park, Pahaquarry
 November 16, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Psephenidae	3	4
Ephemerellidae	29	1
Hydropsychidae	10	4
Brachycentridae	7	1
Limnephilidae	1	4
Peltoperlidae	13	1
Odontoceridae	1	0
Lumbriculidae	5	8
Nemouridae	1	2
Chloroperlidae	1	1
Glossosomatidae	3	0
Baetidae	2	4
Polycentropodidae	1	6
Heptageniidae	4	4
Lepidostomatidae	2	1
Dolichopodidae	1	4
Perlodidae	1	2
Perlidae	8	1
Rhyacophilidae	2	0
Pteronarcyidae	1	0
Lumbricidae	1	10
Asellidae	1	8
Tipulidae	2	3

 Statistical Analysis

Number of Taxa = 23
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 29
 Family Biotic Index = 2.18
 Scraper/Filterer Collector Ratio = 1.00
 Shredder/Total Ratio = 0.47
 E+P+T* = 16 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 74.00
 EPT/C* = 0.00 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

 Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 20/<1...
 Substrate: cobbles/gravel...Streambank Vegetation/Stability: good/
 good...Canopy: open...Other: wooded; some periphyton and mosses on
 substrate

Delaware Basin - Newton East USGS Quadrangle
Station AN0014
Paulins Kill tributary, Route 623, west of Sparta Junction
October 14, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	25	4
Gastropoda	7	7
Talitridae	29	8
Gammaridae	15	4
Tubificidae	8	10
Elmidae	1	4
Chironomidae	1	6
Helicopsychidae	4	3
Simuliidae	2	6
Sphaeriidae	4	8
Phryganeidae	1	4
Tabanidae	1	6
Polycentropodidae	1	6
Goeridae	1	0

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 29
Family Biotic Index = 6.03
Scraper/Filterer Collector Ratio = 0.16
Shredder/Total Ratio = 0.00
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 32.00
EPT/C* = 32.00 *(Chironomidae)
NJIS Rating = 21
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/1...
Substrate: rocks/gravel/sand...Streambank Vegetation/Stability:
good/good...Canopy: mostly open...Other: tree-lined; siltation;
macrophytes; darter

Delaware Basin - Newton East USGS Quadrangle
Station AN0015
Paulins Kill, Route 663, Warbasse
October 14, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	50	4
Turbellaria	21	4
Gammaridae	11	4
Tubificidae	7	10
Asellidae	7	8
Elmidae	3	4
Talitridae	1	8

Statistical Analysis

Number of Taxa = 7
Total Number of Individuals = 100
% Contribution of Dominant Family = 50
Family Biotic Index = 4.74
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 50.00
EPT/C* = 00.00 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 20/1...
Substrate: sand/coarse gravel...Streambank Vegetation/Stability:
good/good...Canopy: half open...Other: tree-lined; periphyton;
macrophytes; darter

Delaware Basin - Newton East USGS Quadrangle
Station AN0016
Paulins Kill tributary, Lafayette Meadows Road, Lafayette
October 14, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Elmidae	10	4
Philopotamidae	39	3
Hydropsychidae	34	4
Empididae	1	6
Gammaridae	1	4
Odontoceridae	5	0
Psephenidae	2	4
Limnephilidae	3	4
Heptageniidae	1	4
Tubificidae	1	10
Chironomidae	3	6

Statistical Analysis

Number of Taxa = 11
Total Number of Individuals = 100
% Contribution of Dominant Family = 39
Family Biotic Index = 3.55
Scraper/Filterer Collector Ratio = 0.09
Shredder/Total Ratio = 0.03
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 82.00
EPT/C* = 27.33 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: partly open...Other: tree-lined

Delaware Basin - Culvers Gap USGS Quadrangle
Station AN0017
Below outlet of Lake Owassa, Route 206, Frankford Township
October 13, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Philopotamidae	12	3
Hydropsychidae	47	4
Gammaridae	24	4
Nemertea	1	5
Asellidae	11	8
Elmidae	1	4
Hirudinea	2	10
Lumbriculidae	1	8
Simuliidae	1	6

Statistical Analysis

Number of Taxa = 9
Total Number of Individuals = 100
% Contribution of Dominant Family = 47
Family Biotic Index = 4.51
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 59.00
EPT/C* = 00.00 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 4/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: open...Other: urban; macrophytes

Delaware Basin - Culvers Gap USGS Quadrangle
Station AN0018
Culvers Creek, Long Bridge Road, Frankford Township
October 13, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	60	4
Bryozoa	30	7
Gammaridae	6	4
Corydalidae	2	0
Heptageniidae	2	4

Statistical Analysis

Number of Taxa = 5
Total Number of Individuals = 100
% Contribution of Dominant Family = 60
Family Biotic Index = 4.81
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.02
E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 62.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: partly open...Other: tree-lined; leaf litter on substrate

Delaware Basin - Branchville USGS Quadrangle
 Station AN0019
 Dry Brook, Route 519, Frankford Township
 October 13, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	43	4
Limnephilidae	25	4
Corydalidae	4	0
Naididae	1	7
Sialidae	2	4
Lumbricidae	2	10
Gastropoda	6	7
Heptageniidae	1	4
Simuliidae	1	6
Nematoda	2	6
Chironomidae	1	6
Aeshnidae	1	3
Capniidae	1	1
Elmidae	1	4
Odontoceridae	3	0
Gomphidae	1	1
Leptoceridae	1	4
Philopotamidae	3	3
Glossosomatidae	1	0

 Statistical Analysis

Number of Taxa = 19
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 43
 Family Biotic Index = 3.99
 Scraper/Filterer Collector Ratio = 0.64
 Shredder/Total Ratio = 0.01
 E+P+T* = 8 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 78.00
 EPT/C* = 78.00 *(Chironomidae)
 NJIS Rating = 27
 Biological Condition = non-impaired
 Deficiency(s) noted: none

 Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 10/<1...
 Substrate: mud...Streambank Vegetation/Stability: good/good...
 Canopy: partly open...Other: wooded; filamentous algae

Delaware Basin - Branchville USGS Quadrangle
Station AN0020
Dry Brook, Mill Road, Branchville
October 13, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	38	4
Lumbricidae	13	10
Perlidae	16	1
Lumbriculidae	2	8
Glossosomatidae	24	0
Chironomidae	2	6
Leptoceridae	1	4
Polycentropodidae	2	6
Tipulidae	1	3
Sialidae	1	4

Statistical Analysis

Number of Taxa = 10
Total Number of Individuals = 100
% Contribution of Dominant Family = 38
Family Biotic Index = 3.49
Scraper/Filterer Collector Ratio = 0.63
Shredder/Total Ratio = 0.01
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 81.00
EPT/C* = 40.50 *(Chironomidae)
NJIS Rating = 24
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 20/<1...
Substrate: cobbles/rubble...Streambank Vegetation/Stability: good/
good...Canopy: mostly covered...Other: wooded

Delaware Basin - Newton West USGS Quadrangle
Station AN0021
Paulinskill, Route 626, Balesville
October 14, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	7	6
Hydropsychidae	34	4
Brachycentridae	2	1
Gammaridae	11	4
Polycentropodidae	2	6
Elmidae	10	4
Ephemerellidae	9	1
Philopotamidae	11	3
Hydroptilidae	1	4
Simuliidae	1	6
Siphonuridae	2	7
Psephenidae	1	4
Tipulidae	4	3
Baetidae	2	4
Heptageniidae	1	4
Psychomyiidae	1	2
Perlidae	1	1

Statistical Analysis

Number of Taxa = 17
Total Number of Individuals = 100
% Contribution of Dominant Family = 34
Family Biotic Index = 3.73
Scraper/Filterer Collector Ratio = 0.06
Shredder/Total Ratio = 0.16
E+P+T* = 11 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 66.00
EPT/C* = 9.43 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 25/1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: open...Other: tree-lined; periphyton; minnows

Delaware Basin - Newton West USGS Quadrangle
Station AN0022
Paulins Kill, below Paulinskill Lake outlet
October 30, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	5	6
Hydropsychidae	68	4
Simuliidae	14	6
Philopotamidae	1	3
Turbellaria	11	4
Empididae	1	6

Statistical Analysis

Number of Taxa = 6
Total Number of Individuals = 100
% Contribution of Dominant Family = 68
Family Biotic Index = 4.39
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 69.00
EPT/C* = 13.80 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: Hydropsychidae overwhelmingly dominant
paucity of clean water organisms

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 50/0.5...
Substrate: cobbles/gravel/sand/gravel...Streambank Vegetation/
Stability: poor/poor...Canopy: mostly open...Other: some trees;
some filamentous green algae

Delaware Basin - Newton West USGS Quadrangle
Station AN0023
Troy Brook, Swartswood Lake outlet
October 30, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Talitridae	15	8
Turbellaria	18	4
Hydropsychidae	35	4
Simuliidae	3	6
Gastropoda	10	7
Elmidae	6	4
Naididae	2	7
Chironomidae	4	6
Perlidae	1	1
Corydalidae	2	0
Bryozoa	2	7
Gammaridae	1	4
Nematoda	1	6

Statistical Analysis

Number of Taxa = 13
Total Number of Individuals = 100
% Contribution of Dominant Family = 35
Family Biotic Index = 5.07
Scraper/Filterer Collector Ratio = 0.23
Shredder/Total Ratio = 0.00
E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 36.00
EPT/C* = 9.00 *(Chironomidae)
NJIS Rating = 21
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 20/0.5...
Substrate: cobbles/boulders/sand...Streambank Vegetation/
Stability: good/good...Canopy: mostly open...Other: wooded; curly
leaf pondweed; filamentous green algae; heavy periphyton

Delaware Basin - Newton West USGS Quadrangle
 Station AN0024
 Trout Brook, Pond Brook Road (Route 612), Middleville
 October 30, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Gastropoda	8	7
Glossosomatidae	18	0
Tipulidae	16	3
Chloroperlidae	3	1
Perlidae	3	1
Hydropsychidae	18	4
Simuliidae	1	6
Chironomidae	3	6
Odontoceridae	1	0
Siphonuridae	2	7
Lumbriculidae	1	8
Heptageniidae	7	4
Leptophlebiidae	9	2
Philopotamidae	3	3
Rhyacophilidae	1	0
Psephenidae	1	4
Ephemerellidae	1	1
Leuctridae	1	0
Elmidae	1	4
Taeniopterygidae	1	2
Peltoperlidae	1	1

 Statistical Analysis

Number of Taxa = 21
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 18
 Family Biotic Index = 2.95
 Scraper/Filterer Collector Ratio = 1.17
 Shredder/Total Ratio = 0.19
 E+P+T* = 13 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 68.00
 EPT/C* = 22.67 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

 Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 8/<1...
 Substrate: cobbles/boulders/gravel...Streambank Vegetation/
 Stability: good/good...Canopy: open...Other: tree-lined

Delaware Basin - Blairstown USGS Quadrangle
 Station AN0025
 Paulins Kill, Sunset Hill Road, below USGS Gage, Blairstown
 November 9, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Perlidae	5	1
Sphaeriidae	27	8
Gammaridae	14	4
Asellidae	2	8
Elmidae	5	4
Simuliidae	1	6
Psephenidae	5	4
Glossosomatidae	1	0
Brachycentridae	5	1
Taeniopterygidae	1	2
Helicopsychidae	7	3
Heptageniidae	4	4
Hydropsychidae	10	4
Limnephilidae	6	4
Gastropoda	2	7
Coenagrionidae	1	9
Hirudinea	1	10
Ephemerelellidae	2	1
Cambarinae	1	6

 Statistical Analysis

Number of Taxa = 19
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 27
 Family Biotic Index = 4.88
 Scraper/Filterer Collector Ratio = 0.53
 Shredder/Total Ratio = 0.07
 E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 41.00
 EPT/C* = 00.00 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

 Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 100/1...
 Substrate: rubble/gravel...Streambank Vegetation/Stability: good/
 good...Canopy: open...Other: tree-lined

Delaware Basin - Flatbrookville USGS Quadrangle
 Station AN0026
 Blair Creek, Shannon Road, Hardwick Township
 October 30, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	49	4
Elmidae	2	4
Ephemerellidae	1	1
Simuliidae	6	6
Philopotamidae	9	3
Chironomidae	6	6
Siphonuridae	13	7
Anthomyiidae	1	6
Tipulidae	9	3
Heptageniidae	1	4
Corydalidae	1	0
Asellidae	1	8
Psephenidae	1	4

Statistical Analysis

Number of Taxa = 13
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 49.00
 Family Biotic Index = 4.44
 Scraper/Filterer Collector Ratio = 0.01
 Shredder/Total Ratio = 0.10
 E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 73.00
 EPT/C* = 12.17 *(Chironomidae)
 NJIS Rating = 24
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 6/<1...
 Substrate: cobbles/gravel/sand...Streambank Vegetation/Stability:
 good/good...Canopy: open...Other: rural, fields, some trees; heavy
 filamentous algae (dying)

Delaware Basin - Blairstown USGS Quadrangle
Station AN0027
Blair Creek, Route 94, Blairstown
November 9, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Ephemerellidae	4	1
Gammaridae	64	4
Limnephilidae	7	4
Brachycentridae	3	1
Elmidae	2	4
Chironomidae	3	6
Sphaeriidae	2	8
Simuliidae	1	6
Perlidae	1	1
Psephenidae	3	4
Hydropsychidae	4	4
Heptageniidae	3	4
Odontoceridae	1	0
Gastropoda	2	7

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 64.00
Family Biotic Index = 3.94
Scraper/Filterer Collector Ratio = 1.71
Shredder/Total Ratio = 0.06
E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 23.00
EPT/C* = 7.67 *(Chironomidae)
NJIS Rating = 21
Biological Condition = moderately impaired
Deficiency(s) noted: Gammaridae overwhelmingly dominant

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 30/<1...
Substrate: cobbles/rubble...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: sparsely tree-lined; filamentous
algae; periphyton

Delaware Basin - Flatbrookville USGS Quadrangle
 Station AN0028
 Jacksonburg Creek, Route 602, Hardwick Township
 November 9, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Odontoceridae	6	0
Peltoperlidae	5	1
Hydropsychidae	24	4
Chironomidae	6	6
Corydalidae	3	0
Limnephilidae	2	4
Taeniopterygidae	5	2
Polycentropodidae	2	6
Perlidae	9	1
Lumbriculidae	10	8
Pteronarcyidae	3	0
Cordulegastridae	1	3
Heptageniidae	10	4
Psephenidae	2	4
Glossosomatidae	2	0
Leuctridae	1	0
Brachycentridae	2	1
Aeshnidae	1	3
Elmidae	2	4
Molannidae	1	6
Philopotamidae	1	3
Sialidae	1	4
Ephemerellidae	1	1

 Statistical Analysis

Number of Taxa = 23
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 24.00
 Family Biotic Index = 3.34
 Scraper/Filterer Collector Ratio = 0.37
 Shredder/Total Ratio = 0.24
 E+P+T* = 14 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 69.00
 EPT/C* = 11.50 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

 Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/<1...
 Substrate: cobble/gravel/sand...Streambank Vegetation/Stability:
 good/good...Canopy: open...Other: sparsely tree-lined; mosses;
 macrophytes; leaf litter

Delaware Basin - Blairstown USGS Quadrangle
Station AN0029
Jacksonburg Creek, Route 94, Jacksonburg
November 9, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Glossosomatidae	17	0
Hydropsychidae	6	4
Tipulidae	1	3
Lumbricidae	6	10
Siphonuridae	12	7
Heptageniidae	14	4
Limnephilidae	4	4
Gastropoda	31	7
Philopotamidae	2	3
Leuctridae	1	0
Perlidae	1	1
Psephenidae	3	4
Taeniopterygidae	2	2

Statistical Analysis

Number of Taxa = 13
Total Number of Individuals = 100
% Contribution of Dominant Family = 31.00
Family Biotic Index = 4.83
Scraper/Filterer Collector Ratio = 2.75
Shredder/Total Ratio = 0.02
E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 59.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 15/<1...
Substrate: cobble/rubble...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: sparsely tree-lined; clay siltation
on substrate; Darter

Delaware Basin - Portland USGS Quadrangle
Station AN0030
Yards Creek, Mount Vernon Road, Mount Vernon
November 10, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	62	4
Sphaeriidae	15	8
Tipulidae	4	3
Philopotamidae	2	3
Phryganeidae	1	4
Lumbriculidae	3	8
Simuliidae	6	6
Tubificidae	3	10
Heptageniidae	3	4
Lumbricidae	1	10

Statistical Analysis

Number of Taxa = 10
Total Number of Individuals = 100
% Contribution of Dominant Family = 62.00
Family Biotic Index = 5.02
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.06
E+P+T* = 4 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 68.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: Hydropsychidae overwhelmingly dominant

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 3/<1...
Substrate: rubble...Streambank Vegetation/Stability: good/good...
Canopy: open...Other: field; macrophytes

Delaware Basin - Portland USGS Quadrangle
Station AN0031
Yards Creek, Route 94, Hainesburg
November 10, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Glossosomatidae	23	0
Gammaridae	24	4
Limnephilidae	4	4
Helicopsychidae	1	3
Baetidae	1	4
Chironomidae	4	6
Psephenidae	1	4
Heptageniidae	4	4
Philopotamidae	3	3
Hydropsychidae	9	4
Elmidae	9	4
Perlidae	6	1
Ephemerellidae	1	1
Gastropoda	1	7
Tipulidae	6	3
Polycentropodidae	1	6
Asellidae	1	8
Siphonuridae	1	7

Statistical Analysis

Number of Taxa = 18
Total Number of Individuals = 100
% Contribution of Dominant Family = 24.00
Family Biotic Index = 2.97
Scraper/Filterer Collector Ratio = 2.08
Shredder/Total Ratio = 0.11
E+P+T* = 11 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 54.00
EPT/C* = 13.50 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 8/<1...
Substrate: cobbles/gravel...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: tree-lined on one side, lawn on other
side; small impoundment upstream

Delaware Basin - Portland USGS Quadrangle
 Station AN0032
 Paulins Kill, Route 46, Columbia
 November 10, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Elmidae	1	4
Hydropsychidae	53	4
Taeniopterygidae	13	2
Siphonuridae	6	7
Polycentropodidae	5	6
Ephemerellidae	3	1
Perlidae	2	1
Gammaridae	6	4
Chironomidae	2	6
Heptageniidae	3	4
Brachycentridae	1	1
Philopotamidae	2	3
Gastropoda	1	7
Psephenidae	1	4
BloodRedChironomidae	1	8

Statistical Analysis

Number of Taxa = 15
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 53
 Family Biotic Index = 3.93
 Scraper/Filterer Collector Ratio = 0.03
 Shredder/Total Ratio = 0.07
 E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 88.00
 EPT/C* = 29.33 *(Chironomidae)
 NJIS Rating = 27
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): >50/~1...
 Substrate: rocks/cobbles...Streambank Vegetation/Stability: good/
 good...Canopy: open...Other: tree-lined

Delaware Basin - Portland USGS Quadrangle
Station AN0033
Delawanna Creek, Route 46, Delaware
November 10, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Tipulidae	1	3
Helicopsychidae	30	3
Heptageniidae	4	4
Asellidae	28	8
Ephemerellidae	5	1
Hydropsychidae	6	4
Psephenidae	4	4
Lumbricidae	4	10
Limnephilidae	4	4
Baetidae	1	4
Leuctridae	2	0
Elmidae	1	4
Gastropoda	3	7
Gammaridae	7	4

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 30.00
Family Biotic Index = 4.91
Scraper/Filterer Collector Ratio = 6.50
Shredder/Total Ratio = 0.10
E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 52.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: rubble/gravel...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: few trees and brush; truck stop

Delaware Basin - Portland USGS Quadrangle
Station AN0034
Ramseysburg Creek, Route 46, Ramseysburg
November 10, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Glossosomatidae	15	0
Gastropoda	8	7
Ephemerelellidae	4	1
Hydropsychidae	25	4
Perlidae	17	1
Lumbricidae	2	10
Taeniopterygidae	7	2
Chironomidae	3	6
Elmidae	3	4
Tipulidae	2	3
Psephenidae	3	4
Leuctridae	1	0
Leptophlebiidae	2	2
Lumbriculidae	5	8
Rhyacophilidae	2	0
Baetidae	1	4

Statistical Analysis

Number of Taxa = 16
Total Number of Individuals = 100
% Contribution of Dominant Family = 25.00
Family Biotic Index = 3.07
Scraper/Filterer Collector Ratio = 0.88
Shredder/Total Ratio = 0.10
E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 74.00
EPT/C* = 24.67 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: rubble/gravel...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: sparsely tree-lined; some leaf litter

Delaware Basin - Newton West USGS Quadrangle
Station AN0035
Pequest River, Route 206, Springdale
September 15, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Empididae	1	6
Baetidae	2	4
Chironomidae	48	6
Gastropoda	6	7
Tubificidae	1	10
Heptageniidae	3	4
Psephenidae	2	4
Unionidae	1	8
Hydropsychidae	21	4
Elmidae	4	4
Turbellaria	2	4
Gammaridae	3	4
Sialidae	2	4
Coenagrionidae	2	9
Cambarinae	1	6
Naididae	1	7

Statistical Analysis

Number of Taxa = 16
Total Number of Individuals = 100
% Contribution of Dominant Family = 48.00
Family Biotic Index = 5.41
Scraper/Filterer Collector Ratio = 0.15
Shredder/Total Ratio = 0.05
E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 26.00
EPT/C* = 0.54 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 10/<1...
Substrate: rubble/gravel/sand...Streambank Vegetation/Stability:
good/good...Canopy: open...Other: farm adjacent; macrophytes;
mosses; Crayfish

Delaware Basin - Tranquility USGS Quadrangle
 Station AN0036
 Pequest River tributary, Brighton Road, Brighton
 September 15, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Gastropoda	20	7
Turbellaria	4	4
Helicopsychidae	15	3
Gammaridae	36	4
Sphaeriidae	1	8
Psephenidae	3	4
Lumbricidae	1	10
Elmidae	8	4
BloodRedChironomidae	1	8
Chironomidae	4	6
Goeridae	4	0
Tubificidae	1	10
Asellidae	1	8
Limnephilidae	1	4

Statistical Analysis

Number of Taxa = 14
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 36.00
 Family Biotic Index = 4.61
 Scraper/Filterer Collector Ratio = 14.00
 Shredder/Total Ratio = 0.01
 E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 20.00
 EPT/C* = 4.00 *(Chironomidae)
 NJIS Rating = 24
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 15/<1...
 Substrate: rubble/gravel/sand...Streambank Vegetation/Stability:
 good/good...Canopy: open...Other: tree-lined; siltation; clams

Delaware Basin - Tranquility USGS Quadrangle
Station AN0037
Pequest River, Pequest Road, Huntsville
September 15, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
BloodRedChironomidae	1	8
Chironomidae	11	6
Hydropsychidae	27	4
Lumbricidae	2	10
Gammaridae	33	4
Leptoceridae	4	4
Tabanidae	2	6
Baetidae	3	4
Elmidae	3	4
Limnephilidae	3	4
Heptageniidae	3	4
Psephenidae	5	4
Hydroptilidae	1	4
Sphaeriidae	1	8
Psychomyiidae	1	2

Statistical Analysis

Number of Taxa = 15
Total Number of Individuals = 100
% Contribution of Dominant Family = 33.00
Family Biotic Index = 4.44
Scraper/Filterer Collector Ratio = 0.23
Shredder/Total Ratio = 0.10
E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 42.00
EPT/C* = 3.50 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 30/<1...
Substrate: coarse gravel...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: rural area

Delaware Basin - Tranquility USGS Quadrangle
Station AN0038
Trout Brook, Allamuchy Road (Route 612), Allamuchy
March 25, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Ephemerelellidae	48	1
Chironomidae	19	6
Brachycentridae	1	1
Elmidae	5	4
Gammaridae	7	4
Asellidae	2	8
Limnephilidae	4	4
Tabanidae	2	6
Tipulidae	2	3
Simuliidae	1	6
Sphaeriidae	2	8
Tubificidae	2	10
Turbellaria	1	4
Gastropoda	1	7
Haplotaxidae	1	8
Nematoda	1	6
Lepidostomatidae	1	1

Statistical Analysis

Number of Taxa = 17
Total Number of Individuals = 100
% Contribution of Dominant Family = 48
Family Biotic Index = 3.29
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.62
E+P+T* = 4 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 54.00
EPT/C* = 2.84 *(Chironomidae)
NJIS Rating = 24
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 10/<1...
Substrate: sand/mud...Streambank Vegetation/Stability: good/good..
.Canopy: mostly closed...Other: wooded

Delaware Basin - Tranquility USGS Quadrangle
Station AN0039
Pequest River, Route 615, Long Bridge
September 15, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	47	4
Chironomidae	13	6
Heptageniidae	8	4
Elmidae	9	4
Simuliidae	2	6
Gammaridae	3	4
Turbellaria	1	4
Limnephilidae	3	4
Tipulidae	3	3
Corydalidae	1	0
Perlidae	3	1
Philoptamidae	5	3
Baetidae	2	4

Statistical Analysis

Number of Taxa = 13
Total Number of Individuals = 100
% Contribution of Dominant Family = 47.00
Family Biotic Index = 4.09
Scraper/Filterer Collector Ratio = 0.03
Shredder/Total Ratio = 0.15
E+P+T* = 6 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 68.00
EPT/C* = 5.23 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 25/<1...
Substrate: cobbles/rubble...Streambank Vegetation/Stability: good/
good...Canopy: mostly open...Other: some trees; meadow

Delaware Basin - Blairstown USGS Quadrangle
Station AN0040
Bear Creek, near Alphano, Independence Township
September 16, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	4	6
Gammaridae	2	4
Elmidae	7	4
Hydropsychidae	65	4
Psychomiidae	2	2
Chironomidae	10	6
Heptageniidae	1	4
Glossosomatidae	4	0
Limnephilidae	1	4
Gastropoda	3	7
Brachycentrus	1	1

Statistical Analysis

Number of Taxa = 11
Total Number of Individuals = 100
% Contribution of Dominant Family = 65.00
Family Biotic Index = 4.14
Scraper/Filterer Collector Ratio = 0.11
Shredder/Total Ratio = 0.04
E+P+T* = 6 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 74.00
EPT/C* = 7.40 *(Chironomidae)
NJIS Rating = 24
Biological Condition = non-impaired
Deficiency(s) noted: Hydropsychidae overwhelmingly dominant

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 6/<1...
Substrate: gravel...Streambank Vegetation/Stability: good/good
Canopy: mostly open...Other: meadow and a few trees; a dead
rainbow trout

Delaware Basin - Washington USGS Quadrangle
Station AN0041
Pequest River, Cemetery Road, Vienna
September 16, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	34	4
Elmidae	8	4
Gammaridae	21	4
Chironomidae	14	6
Asellidae	1	8
Heptageniidae	7	4
BloodRedChironomidae	3	8
Gomphidae	1	1
Brachycentridae	3	1
Simuliidae	2	6
Leptoceridae	1	4
Perlidae	1	1
Tipulidae	3	3
Glossosomatidae	1	0

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 34.00
Family Biotic Index = 4.26
Scraper/Filterer Collector Ratio = 0.02
Shredder/Total Ratio = 0.12
E+P+T* = 6 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 47.00
EPT/C* = 2.76 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 40/<1...
Substrate: cobbles/gravel...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: tree-lined; Orconectes; Darter;
sampled just below confluence with unnamed tributary

Delaware Basin - Washington USGS Quadrangle
Station AN0042
Furnace Brook, Pequest Road, Oxford
October 8, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Naididae	93	7
Asellidae	2	8
Gammaridae	1	4
BloodRedChironomidae	4	8

Statistical Analysis

Number of Taxa = 4
Total Number of Individuals = 100
% Contribution of Dominant Family = 93.00
Family Biotic Index = 7.03
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 0
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
 low diversity
 Naididae overwhelmingly dominant
 significant organic pollution

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 8/<1...
Substrate: rocks/gravel...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: rural; below Oxford STP; lots of
algae and periphyton

Delaware Basin - Washington USGS Quadrangle
Station AN0043
Pequest River, Pequest Road, Pequest
October 8, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	25	4
Elmidae	6	4
Tipulidae	10	3
Chironomidae	19	6
Heptageniidae	11	4
Gammaridae	6	4
Simuliidae	9	6
Ephemerellidae	2	1
Glossosomatidae	1	0
Baetidae	3	4
Lumbriculidae	1	8
Turbellaria	1	4
Polycentropodidae	2	6
Asellidae	2	8
Gomphidae	1	1
Nematoda	1	6

Statistical Analysis

Number of Taxa = 16
Total Number of Individuals = 100
% Contribution of Dominant Family = 25.00
Family Biotic Index = 4.51
Scraper/Filterer Collector Ratio = 0.03
Shredder/Total Ratio = 0.16
E+P+T* = 6 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 44.00
EPT/C* = 2.32 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 50/1...
Substrate: cobbles/sand...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: tree-lined; Darter

Delaware Basin - Washington USGS Quadrangle
Station AN0044
Mountain Lake Brook, Tamarack Road, below Mountain Lake outlet
October 8, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Sphaeriidae	1	8
Hydropsychidae	66	4
Elmidae	6	4
Simuliidae	6	6
Gammaridae	14	4
Turbellaria	1	4
Chironomidae	4	6
Corydalidae	1	0
Gastropoda	1	7

Statistical Analysis

Number of Taxa = 9
Total Number of Individuals = 100
% Contribution of Dominant Family = 66.00
Family Biotic Index = 4.23
Scraper/Filterer Collector Ratio = 0.01
Shredder/Total Ratio = 0.00
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 66.00
EPT/C* = 16.50 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: Hydropsychidae overwhelmingly dominant
paucity of clean water organisms

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 10/<1...
Substrate: rocks/cobbles/gravel...Streambank Vegetation/Stability:
good/good...Canopy: open...Other: tree-lined; periphyton; fish

Delaware Basin - Blairstown USGS Quadrangle
Station AN0045
Beaver Brook, above Silver Lake, north of Hope
September 16, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	32	4
Philopotamidae	35	3
Limnephilidae	5	4
Chironomidae	6	6
Odontoceridae	3	0
Perlidae	4	1
Heptageniidae	6	4
Polycentropodidae	1	6
Elmidae	4	4
Peltoperlidae	2	1
Psephenidae	1	4
Asellidae	1	8

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 35.00
Family Biotic Index = 3.53
Scraper/Filterer Collector Ratio = 0.13
Shredder/Total Ratio = 0.10
E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 86.00
EPT/C* = 14.33 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: rocks/gravel...Streambank Vegetation/Stability: good/
good...Canopy: partly open...Other: tree-lined; a darter

Delaware Basin - Blairstown USGS Quadrangle
Station AN0046
Honey Run, Route 519, near Swayze Cemetery
September 16, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Gammaridae	24	4
Chironomidae	22	6
Limnephilidae	13	4
Hydropsychidae	9	4
Molannidae	1	6
Elmidae	10	4
Leptoceridae	4	4
Heptageniidae	6	4
Philopotamidae	2	3
Sialidae	2	4
Psephenidae	1	4
Empididae	1	6
Pyralidae	1	5
Coenagrionidae	2	9
Tipulidae	1	3
Baetidae	1	4

Statistical Analysis

Number of Taxa = 16
Total Number of Individuals = 100
% Contribution of Dominant Family = 24.00
Family Biotic Index = 4.56
Scraper/Filterer Collector Ratio = 0.44
Shredder/Total Ratio = 0.18
E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 36.00
EPT/C* = 1.64 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: slightly turbid...Flow: slow...Width/Depth(ft): 6/<1.
...Substrate: rubble/gravel...Streambank Vegetation/Stability:
good/good...Canopy: open...Other: lawn-lined, meadow upstream;
periphyton; several fish

Delaware Basin - Belvidere USGS Quadrangle
 Station AN0047
 Beaver Brook, Sarepta Road, near USGS Gage
 October 8, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	15	4
Heptageniidae	2	4
Helicopsychidae	41	3
Chironomidae	4	6
Brachycentridae	1	1
Limnephilidae	3	4
Elmidae	11	4
Rhyacophilidae	1	0
Gammaridae	1	4
Odontoceridae	9	0
Psephenidae	3	4
BloodRedChironomidae	1	8
Ephemerellidae	1	1
Tubificidae	2	10
Baetidae	2	4
Philopotamidae	1	3
Perlidae	1	1
Hirudinea	1	10

Statistical Analysis

Number of Taxa = 18
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 41.00
 Family Biotic Index = 3.39
 Scraper/Filterer Collector Ratio = 3.38
 Shredder/Total Ratio = 0.06
 E+P+T* = 11 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 77.00
 EPT/C* = 15.40 *(Chironomidae)
 NJIS Rating = 27
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: mod-fast...Width/Depth(ft): 20/<1...
 Substrate: rocks/cobbles...Streambank Vegetation/Stability: good/
 good...Canopy: open...Other: tree-lined

Delaware Basin - Belvidere USGS Quadrangle
Station AN0048
Pequest River, Water Street, Belvidere
October 8, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	49	4
Psephenidae	6	4
Gammaridae	2	4
Philopotamidae	3	3
Hydroptilidae	1	4
Elmidae	8	4
Corydalidae	1	0
Ephemerellidae	3	1
Heptageniidae	12	4
Perlidae	3	1
Turbellaria	1	4
Psychomyiidae	1	2
Asellidae	1	8
Tipulidae	2	3
Baetidae	3	4
Chironomidae	2	6
Polycentropodidae	1	6
Gastropoda	1	7

Statistical Analysis

Number of Taxa = 18
Total Number of Individuals = 100
% Contribution of Dominant Family = 49.00
Family Biotic Index = 3.84
Scraper/Filterer Collector Ratio = 0.17
Shredder/Total Ratio = 0.08
E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 76.00
EPT/C* = 38.00 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 30/<1...
Substrate: rocks/cobbles/gravel...Streambank Vegetation/Stability:
good/good...Canopy: partly open...Other: tree-lined

Delaware Basin - Belvidere USGS Quadrangle
 Station AN0049
 Pophandusing Brook, off Route 519, Belvidere
 October 8, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	8	6
Elmidae	13	4
Leptoceridae	6	4
Baetidae	4	4
Gastropoda	14	7
Glossosomatidae	4	0
Tipulidae	6	3
Psephenidae	9	4
Psychomyiidae	3	2
Hydropsychidae	8	4
Polycentropodidae	3	6
Philopotamidae	2	3
Heptageniidae	4	4
Ephemerellidae	6	1
Turbellaria	1	4
Limnephilidae	4	4
Simuliidae	1	6
Helicopsychidae	1	3
Tubificidae	2	10
Gammaridae	1	4

Statistical Analysis

Number of Taxa = 20
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 14.00
 Family Biotic Index = 4.29
 Scraper/Filterer Collector Ratio = 2.62
 Shredder/Total Ratio = 0.16
 E+P+T* = 11 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 45.00
 EPT/C* = 5.63 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 5/<1...
 Substrate: rocks/cobbles/gravel...Streambank Vegetation/Stability:
 good/good...Canopy: mostly open...Other: tree-lined; fish

Delaware Basin - Belvidere USGS Quadrangle
Station AN0050
Buckhorn Creek, Hutchinson
October 8, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Philopotamidae	21	3
Hydropsychidae	35	4
Glossosomatidae	2	0
Rhyacophilidae	1	0
Gammaridae	4	4
Elmidae	4	4
Lumbricidae	1	10
Heptageniidae	11	4
Ephemerellidae	1	1
Psephenidae	1	4
Tipulidae	6	3
Perlidae	4	1
Baetidae	3	4
Turbellaria	2	4
Siphonuridae	2	7
Chironomidae	1	6
Nemertea	1	5

Statistical Analysis

Number of Taxa = 17
Total Number of Individuals = 100
% Contribution of Dominant Family = 35.00
Family Biotic Index = 3.61
Scraper/Filterer Collector Ratio = 0.05
Shredder/Total Ratio = 0.10
E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 80.00
EPT/C* = 80.00 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: rock/cobble/gravel...Streambank Vegetation/Stability:
good/good...Canopy: mostly open...Other: tree-lined; periphyton;
darter

Delaware Basin - Bloomsbury USGS Quadrangle
 Station AN0051
 Lopatcong Creek, Montana Mountain Road, Allens Mills
 September 1, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Limnephilidae	5	4
Elmidae	6	4
Psephenidae	3	4
Heptageniidae	14	4
Hydropsycidae	11	4
Peltoperlidae	11	1
Philoptamidae	20	3
Simuliidae	2	6
Perlidae	4	1
Leuctridae	2	0
Glossosomatidae	5	0
Baetidae	5	4
Goeridae	1	0
Rhyacophilidae	2	0
Chironomidae	3	6
Lumbriculidae	1	8
Tipulidae	3	3
Ephemerellidae	1	1
Perlodidae	1	2

 Statistical Analysis

Number of Taxa = 19
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 20.00
 Family Biotic Index = 3.01
 Scraper/Filterer Collector Ratio = 0.42
 Shredder/Total Ratio = 0.24
 E+P+T* = 12 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 71.00
 EPT/C* = 23.67 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

 Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 6/<1...
 Substrate: rock/sand...Streambank Vegetation/Stability: good/good.
 ..Canopy: partly open...Other: wooded; some mosses on substrate

Delaware Basin - Easton USGS Quadrangle
Station AN0052
Lopatcong Creek, Route 57, Port Warren
September 1, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	5	4
Psephenidae	16	4
Corydalidae	1	0
Gastropoda	4	7
Siphonuridae	5	7
Chironomidae	35	6
Elmidae	15	4
Tipulidae	2	3
Philopotamidae	1	3
Asellidae	2	8
Ephemerellidae	1	1
Tricorythidae	5	4
Lumbriculidae	1	8
Psychomyiidae	3	2
Gomphidae	1	1
Heptageniidae	2	4
Simuliidae	1	6

Statistical Analysis

Number of Taxa = 17
Total Number of Individuals = 100
% Contribution of Dominant Family = 35.00
Family Biotic Index = 4.92
Scraper/Filterer Collector Ratio = 0.69
Shredder/Total Ratio = 0.07
E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 22.00
EPT/C* = 0.63 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 7/<1...
Substrate: rocks/sand...Streambank Vegetation/Stability: good/good
...Canopy: open...Other: farms (cornfield) upstream; siltation and
mosses on substrate; suckers and darters

Delaware Basin - Easton USGS Quadrangle
Station AN0053
Lopatcong Creek, Old Route 22, Alpha
September 1, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Gammaridae	88	4
Baetidae	8	4
Elmidae	2	4
Asellidae	1	8
Chironomidae	1	6

Statistical Analysis

Number of Taxa = 5
Total Number of Individuals = 100
% Contribution of Dominant Family = 88.00
Family Biotic Index = 4.06
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.08
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 8.00
EPT/C* = 8.00 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: Gammaridae overwhelmingly dominant
paucity of clean water organisms

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 15/<1...
Substrate: rubble/gravel/sand...Streambank Vegetation/Stability:
good/good...Canopy: partly open...Other: tree-lined; residential
and urban

Delaware Basin - Washington USGS Quadrangle
 Station AN0054
 Pohatcong Creek, Janes Chapel Road, near Mount Bethel
 August 31, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Glossosomatidae	9	0
Perlidae	1	1
Baetidae	17	4
Philopotamidae	1	3
Pteronarcyidae	1	0
Psephenidae	13	4
Heptageniidae	10	4
Peltoperlidae	16	1
Chironomidae	2	6
Tipulidae	7	3
Simuliidae	2	6
Elmidae	2	4
Hydropsychidae	9	4
Limnephilidae	2	4
Diplopoda	4	5
Goeridae	1	0
Siphonuridae	2	7
Ephemerellidae	1	1

Statistical Analysis

Number of Taxa = 18
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 17.00
 Family Biotic Index = 3.12
 Scraper/Filterer Collector Ratio = 1.53
 Shredder/Total Ratio = 0.51
 E+P+T* = 11 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 54.00
 EPT/C* = 27.00 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 6/<1...
 Substrate: rocks/sand...Streambank Vegetation/Stability: good/
 good...Canopy: partly open...Other: tree-lined; rural; Vaucheria;
 mosses

Delaware Basin - Washington USGS Quadrangle
Station AN0055
Pohatcong Creek, Tunnel Hill Road, Washington Township
August 31, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Bryozoa	87	7
Heptageniidae	1	4
Hydropsychidae	1	4
Chironomidae	4	6
Limnephilidae	3	4
Polycentropodidae	1	6
Naididae	1	7
Hydroptilidae	1	4
Baetidae	1	4

Statistical Analysis

Number of Taxa = 9
Total Number of Individuals = 100
% Contribution of Dominant Family = 87.00
Family Biotic Index = 6.74
Scraper/Filterer Collector Ratio = 0.04
Shredder/Total Ratio = 0.02
E+P+T* = 6 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 8.00
EPT/C* = 2.00 *(Chironomidae)
NJIS Rating = 12
Biological Condition = moderately impaired
Deficiency(s) noted: Bryozoa overwhelmingly dominant

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 15/<1...
Substrate: rocks/sand...Streambank Vegetation/Stability: good/
good...Canopy: partly open...Other: tree-lined; rural; siltation;
periphyton; fish

Delaware Basin - Washington USGS Quadrangle
 Station AN0056
 Brass Castle Creek, Brass Castle Road, Washington
 September 1, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Elmidae	15	4
Hydropsychidae	31	4
BloodRedChironomidae	1	8
Hydroptilidae	2	4
Heptageniidae	5	4
Baetidae	4	4
Siphonuridae	4	7
Glossosomatidae	2	0
Gammaridae	4	4
Sphaeriidae	2	8
Limnephilidae	7	4
Chironomidae	3	6
Tipulidae	6	3
Simuliidae	1	6
Philopotamidae	5	3
Tabanidae	1	6
Hemiptera	1	8
Psephenidae	5	4
Perlidae	1	1

Statistical Analysis

Number of Taxa = 19
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 31.00
 Family Biotic Index = 4.16
 Scraper/Filterer Collector Ratio = 0.29
 Shredder/Total Ratio = 0.15
 E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 61.00
 EPT/C* = 15.25 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 20/<1...
 Substrate: rock/gravel...Streambank Vegetation/Stability: good/
 good...Canopy: partly covered...Other: tree-lined; periphyton;
 several fish

Delaware Basin - Bloomsbury USGS Quadrangle
Station AN0057
Pohatcong Creek, Buttermilk Bridge Road, Pleasant Valley
August 31, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Psephenidae	1	4
Hydropsychidae	50	4
Chironomidae	31	6
Elmidae	11	4
Limnephilidae	1	4
Asellidae	2	8
Lumbriculidae	1	8
Gastropoda	1	7
Hydroptilidae	1	4
Tipulidae	1	3

Statistical Analysis

Number of Taxa = 10
Total Number of Individuals = 100
% Contribution of Dominant Family = 50.00
Family Biotic Index = 4.76
Scraper/Filterer Collector Ratio = 0.06
Shredder/Total Ratio = 0.03
E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 52.00
EPT/C* = 1.68 *(Chironomidae)
NJIS Rating = 21
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 20/<1...
Substrate: cobbles/sand...Streambank Vegetation/Stability: good/
good...Canopy: partly open...Other: tree-lined; rural; siltation;
periphyton; Suckers; sewage odor in water

Delaware Basin - Bloomsbury USGS Quadrangle
Station AN0058
Pohatcong Creek, Edison Road, New Village
August 31, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Turbellaria	1	4
Elmidae	11	4
Chironomidae	26	6
Baetidae	10	4
Psephenidae	3	4
Hydropsychidae	25	4
Simuliidae	6	6
Heptageniidae	3	4
Brachycentridae	1	1
Gomphidae	1	1
Sphaeriidae	2	8
Tipulidae	5	3
Gammaridae	4	4
Helicopsychidae	1	3
Nemertea	1	5

Statistical Analysis

Number of Taxa = 15
Total Number of Individuals = 100
% Contribution of Dominant Family = 26.00
Family Biotic Index = 4.61
Scraper/Filterer Collector Ratio = 0.08
Shredder/Total Ratio = 0.18
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 40.00
EPT/C* = 1.54 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 30/<1...
Substrate: rocks/sand...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: rural; lots of geese upstream; fish;
macrophytes; filamentous green algae

Delaware Basin - Bloomsbury USGS Quadrangle
 Station AN0059
 Merrill Creek, Merrill Creek Road, upstream of reservoir, Harmony
 August 31, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	17	4
Chironomidae	66	6
Tabanidae	2	6
Goeridae	1	0
BloodRedChironomidae	1	8
Gastropoda	1	7
Heptageniidae	1	4
Limnephilidae	1	4
Psephenidae	2	4
Corydalidae	2	0
Caenidae	1	7
Tipulidae	4	3
Aeshnidae	1	3

Statistical Analysis

Number of Taxa = 13
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 66.00
 Family Biotic Index = 5.29
 Scraper/Filterer Collector Ratio = 0.11
 Shredder/Total Ratio = 0.10
 E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 21.00
 EPT/C* = 0.31 *(Chironomidae)
 NJIS Rating = 15
 Biological Condition = moderately impaired
 Deficiency(s) noted: Chironomidae overwhelmingly dominant

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 3/<1...
 Substrate: rocks/sand...Streambank Vegetation/Stability: good/good
 ...Canopy: open...Other: tree-lined; some siltation; lots of
 periphyton; filamentous green algae; macrophytes; several fish

Delaware Basin - Bloomsbury USGS Quadrangle
Station AN0060
Merrill Creek, Farm Road, south of Stewartsville
August 31, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Baetidae	19	4
Chironomidae	22	6
Hydropsychidae	15	4
Elmidae	17	4
Philopotamidae	8	3
Ephemerellidae	4	1
Heptageniidae	2	4
Psephenidae	1	4
Helicopsychidae	1	3
BloodRedChironomidae	1	8
Perlidae	2	1
Rhyacophilidae	1	0
Tricorythidae	5	4
Sphaeriidae	1	8
Tabanidae	1	6

Statistical Analysis

Number of Taxa = 15
Total Number of Individuals = 100
% Contribution of Dominant Family = 22.00
Family Biotic Index = 4.23
Scraper/Filterer Collector Ratio = 0.08
Shredder/Total Ratio = 0.34
E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 57.00
EPT/C* = 2.48 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 4/<1...
Substrate: cobbles/sand...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: cornfield; little periphyton

Delaware Basin - Easton/Reigelsville USGS Quadrangle
Station AN0061
Pohatcong Creek, River Road, near Carpentersville
September 1, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Glossosomatidae	18	0
Hydropsychidae	36	4
Psephenidae	8	4
Baetidae	8	4
Heptageniidae	6	4
Elmidae	12	4
Leptoceridae	1	4
Philopotamidae	1	3
Rhyacophilidae	1	0
Chironomidae	2	6
Tipulidae	3	3
Turbellaria	2	4
Simuliidae	1	6
Perlidae	1	1

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 36.00
Family Biotic Index = 3.23
Scraper/Filterer Collector Ratio = 0.67
Shredder/Total Ratio = 0.11
E+P+T* = 8 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 72.00
EPT/C* = 36.00 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 50/<1...
Substrate: cobbles/gravel/sand...Streambank Vegetation/Stability:
good/good...Canopy: mostly open...Other: tree-lined; macrophytes;
little periphyton

Delaware Basin - Stanhope USGS Quadrangle
Station AN0062
Musconetcong River, Lake Hopatcong outlet, Hopatcong State Park
August 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	28	6
Hydropsychidae	44	4
Simuliidae	23	6
Gammaridae	3	4
Baetidae	1	4
Heptageniidae	1	4

Statistical Analysis

Number of Taxa = 6
Total Number of Individuals = 100
% Contribution of Dominant Family = 44.00
Family Biotic Index = 5.02
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.02
E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 46.00
EPT/C* = 1.64 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: near clear...Flow: moderate...Width/Depth(ft): 40/<1.
..Substrate: cobbles/gravel...Streambank Vegetation/Stability:
none/good...Canopy: open...Other: channelized

Delaware Basin - Stanhope USGS Quadrangle
Station AN0063
Musconetcong River, below Lake Musconetcong outlet
August 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Baetidae	5	4
Gammaridae	50	4
Gastropoda	3	7
Hydropsychidae	24	4
Chironomidae	16	6
Glossosomatidae	1	0
Simuliidae	1	6

Statistical Analysis

Number of Taxa = 7
Total Number of Individuals = 100
% Contribution of Dominant Family = 50.00
Family Biotic Index = 4.39
Scraper/Filterer Collector Ratio = 0.11
Shredder/Total Ratio = 0.05
E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 30.00
EPT/C* = 1.88 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: near clear...Flow: moderate...Width/Depth(ft): 30/<1.
Substrate: cobbles/gravel...Streambank Vegetation/Stability: good/
good...Canopy: mostly open...Other: tree-lined; silt on substrate;
Orconectes

Delaware Basin - Stanhope USGS Quadrangle
Station AN0064
Musconetcong River, near Route 604, Lockwood
August 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	38	4
Chironomidae	26	6
Heptageniidae	5	4
Asellidae	2	8
Baetidae	10	4
Corydalidae	1	0
Perlidae	1	1
Brachycentridae	7	1
Tipulidae	5	3
Gammaridae	2	4
Elmidae	1	4
Nemertea	2	5

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 38.00
Family Biotic Index = 4.29
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.20
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 61.00
EPT/C* = 2.35 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: near clear...Flow: fast...Width/Depth(ft): 20/<1...
Substrate: rock...Streambank Vegetation/Stability: good/good...
Canopy: mostly closed...Other: tree-lined; periphyton; Orconectes;
Sunfish; below Wills Brook STP and above Lubbers Run confluence

Delaware Basin - Stanhope USGS Quadrangle
Station AN0065
Lubbers Run, Route 607, Hopatcong Township
August 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	59	4
Siphonuridae	9	7
Simuliidae	5	6
Perlidae	7	1
Chironomidae	10	6
Baetidae	3	4
Lumbricidae	1	10
Gomphidae	1	1
Philopotamidae	1	3
Empididae	1	6
Elmidae	2	4
Psephenidae	1	4

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 59.00
Family Biotic Index = 4.40
Scraper/Filterer Collector Ratio = 0.01
Shredder/Total Ratio = 0.05
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 79.00
EPT/C* = 7.90 *(Chironomidae)
NJIS Rating = 24
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 15/<1...
Substrate: cobbles/sand/gravel...Streambank Vegetation/Stability:
good/good...Canopy: mostly covered...Other: tree-lined; Elodea;
periphyton; small fish

Delaware Basin - Stanhope USGS Quadrangle
Station AN0066
Lubbers Run, Route 206, Lockwood
August 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Perlidae	15	1
Hydropsychidae	41	4
Chironomidae	15	6
Gammaridae	2	4
Hemiptera	3	8
Brachcentridae	7	1
Elmidae	5	4
Limnephilidae	2	4
Heptageniidae	2	4
Philopotamidae	2	3
Baetidae	5	4
Rhyacophilidae	1	0

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 41.00
Family Biotic Index = 3.70
Scraper/Filterer Collector Ratio = 0.04
Shredder/Total Ratio = 0.08
E+P+T* = 8 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 75.00
EPT/C* = 5.00 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: near clear...Flow: fast...Width/Depth(ft): 20/<1...
Substrate: rocks...Streambank Vegetation/Stability: good/good...
Canopy: mostly covered...Other: periphyton; Orconectes

Delaware Basin - Hackettstown USGS Quadrangle
 Station AN0067
 Mine Brook, Route 517, Mansfield Township
 August 5, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Cordalidae	1	0
Elmidae	4	4
Gammaridae	11	4
Heptageniidae	6	4
Limnephilidae	9	4
Chironomidae	29	6
BloodRedChironomidae	17	8
Psephenidae	4	4
Polycentropodidae	4	6
Asellidae	4	8
Glossosomatidae	1	0
Gastropoda	2	7
Perlidae	1	1
Turbellaria	1	4
Hydropsychidae	5	4
Sphaeriidae	1	8

Statistical Analysis

Number of Taxa = 16
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 29.00
 Family Biotic Index = 5.49
 Scraper/Filterer Collector Ratio = 1.00
 Shredder/Total Ratio = 0.22
 E+P+T* = 6 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 26.00
 EPT/C* = 0.57 *(Chironomidae)
 NJIS Rating = 24
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 8/<1...
 Substrate: cobbles/sand...Streambank Vegetation/Stability: good/
 good...Canopy: open...Other: adjacent to golf course; crayfish;
 darter; other small fish

Delaware Basin - Hackettstown USGS Quadrangle
Station AN0068
Trout Brook, Route 57, Hackettstown
August 5, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	1	6
Lumbriculidae	14	8
Hydropsychidae	31	4
Turbellaria	4	4
Asellidae	35	8
Philopotamidae	5	3
Hirudinea	1	10
Elmidae	1	4
Gastropoda	3	7
Leptoceridae	1	4
Gammaridae	3	4
Psychomyiidae	1	2

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 35
Family Biotic Index = 6.06
Scraper/Filterer Collector Ratio = 0.03
Shredder/Total Ratio = 0.00
E+P+T* = 4 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 38.00
EPT/C* = 38.00 *(Chironomidae)
NJIS Rating = 24
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 20/<1...
Substrate: cobbles/gravel...Streambank Vegetation/Stability: good/
good...Canopy: partly open...Other: tree-lined

Delaware Basin - Hackettstown USGS Quadrangle
 Station AN0069
 Musconetcong River, Kings Highway, Beattystown
 August 5, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Baetidae	3	4
Hydropsychidae	31	4
Simuliidae	21	6
Lepidostomatidae	1	1
Chironomidae	12	6
Ephemerelellidae	1	1
Helicopsychidae	3	3
Glossosomatidae	5	0
Tipulidae	1	3
Elmidae	3	4
Gammaridae	5	4
Heptageniidae	2	4
Asellidae	2	8
Hydroptilidae	1	4
Lumbriculidae	2	8
Siphonuridae	1	7
Brachycentridae	2	1
Leptoceridae	1	4
Psephenidae	1	4
Gastropoda	1	7
Nematoda	1	6

 Statistical Analysis

Number of Taxa = 21
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 31.00
 Family Biotic Index = 4.54
 Scraper/Filterer Collector Ratio = 0.17
 Shredder/Total Ratio = 0.08
 E+P+T* = 11 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 51.00
 EPT/C* = 4.25 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

 Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 50/<1...
 Substrate: cobbles/gravel...Streambank Vegetation/Stability: good/
 good...Canopy: open...Other: residential area; periphyton; fish;
 macrophytes

Delaware Basin - Hackettstown USGS Quadrangle
Station AN0070
Hances Brook, Route 57, south of Beattystown
August 5, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Gammaridae	1	4
Chironomidae	60	6
Hydropsychidae	12	4
Asellidae	4	8
Simuliidae	14	6
Lepidostomatidae	1	1
Gastropoda	2	7
Tipulidae	1	3
Sialidae	1	4
Psephenidae	2	4
Tricorythidae	1	4
Naididae	1	7

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 60.00
Family Biotic Index = 5.69
Scraper/Filterer Collector Ratio = 0.03
Shredder/Total Ratio = 0.07
E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 14.00
EPT/C* = 0.23 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: turbid...Flow: slow-moderate...Width/Depth(ft): 10/<1
Substrate: cobbles/gravel...Streambank Vegetation/Stability: good/
good...Canopy: mostly covered...Other: tree-lined; sewage odor

Delaware Basin - Washington USGS Quadrangle
Station AN0071
Musconetcong River tributary, Route 57, Penwell
November 18, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	7	6
Capniidae	40	1
Hydropsychidae	16	4
Taeniopterygidae	1	2
Chloroperlidae	1	1
Perlidae	6	1
Tipulidae	1	3
Limnephilidae	7	4
EphemereIIDae	5	1
Heptageniidae	3	4
Lumbricidae	4	10
Peltoperlidae	2	1
Gammaridae	4	4
Glossosomatidae	1	0
Baetidae	1	4
Philopotamidae	1	3

Statistical Analysis

Number of Taxa = 16
Total Number of Individuals = 100
% Contribution of Dominant Family = 40.00
Family Biotic Index = 2.68
Scraper/Filterer Collector Ratio = 0.47
Shredder/Total Ratio = 0.55
E+P+T* = 11 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 82.00
EPT/C* = 11.71 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 6/<1...
Substrate: rubble...Streambank Vegetation/Stability: good/good...
Canopy: mostly open...Other: tree and brush-lined

Delaware Basin - Highbridge USGS Quadrangle
 Station AN0072
 Musconetcong River, New Hampton Road, New Hampton
 August 5, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	8	6
Hydropsychidae	32	4
Simuliidae	3	6
Lumbriculidae	24	8
Philopotamidae	3	3
Tubificidae	1	10
Brachycentridae	3	1
Elmidae	1	4
Heptageniidae	4	4
Ephemerellidae	4	1
Gammaridae	4	4
BloodRedChironomidae	1	8
Baetidae	5	4
Turbellaria	1	4
Gastropoda	3	7
Helicopsychidae	1	3
Perlidae	1	1
Psephenidae	1	4

Statistical Analysis

Number of Taxa = 18
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 32.00
 Family Biotic Index = 5.09
 Scraper/Filterer Collector Ratio = 0.10
 Shredder/Total Ratio = 0.14
 E+P+T* = 8 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 53.00
 EPT/C* = 5.89 *(Chironomidae)
 NJIS Rating = 27
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 100/<1...
 Substrate: rocks...Streambank Vegetation/Stability: good/good...
 Canopy: open...Other: tree-lined; periphyton; macrophytes

Delaware Basin - Bloomsbury USGS Quadrangle
Station AN0073
Musconetcong River, Route 579, Bloomsbury
February 22, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Ephemerellidae	44	1
Chironomidae	18	6
Hydropsychidae	12	4
Philopotamidae	4	3
Elmidae	6	4
Gammaridae	4	4
Gastropoda	1	7
Lumbriculidae	2	8
Simuliidae	3	6
Turbellaria	3	4
Tipulidae	1	3
Perlidae	1	1
Heptageniidae	1	4

Statistical Analysis

Number of Taxa = 13
Total Number of Individuals = 100
% Contribution of Dominant Family = 44.00
Family Biotic Index = 3.13
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.50
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 62.00
EPT/C* = 3.44 *(Chironomidae)
NJIS Rating = 24
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 75/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: open...Other: sparsely tree-lined; periphyton

Delaware Basin - Reigelsville USGS Quadrangle
Station AN0074
Musconetcong River, River Road, Reigelsville
August 11, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Philopotamidae	1	3
Tipulidae	8	3
Baetidae	13	4
Glossosomatidae	9	0
Hydropsychidae	33	4
Tubificidae	1	10
Chironomidae	6	6
Heptageniidae	6	4
Gammaridae	6	4
Hydroptilidae	1	4
Ephemerellidae	3	1
Lumbriculidae	3	8
Gastropoda	2	7
Limnephilidae	2	4
Elmidae	1	4
Brachycentridae	3	1
Asellidae	1	8
Leptoceridae	1	4

Statistical Analysis

Number of Taxa = 18
Total Number of Individuals = 100
% Contribution of Dominant Family = 33.00
Family Biotic Index = 3.77
Scraper/Filterer Collector Ratio = 0.37
Shredder/Total Ratio = 0.29
E+P+T* = 10 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 72.00
EPT/C* = 12.00 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 100/1...
Substrate: cobbles/sand...Streambank Vegetation/Stability: good/
good...Canopy: mostly closed...Other: tree-lined; some periphyton;
fish

Delaware Basin - Bloomsbury USGS Quadrangle
 Station AN0075
 Hakiokake Creek, Myler Road, Alexandria
 July 28, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	39	4
Perlodidae	3	2
Glossosomatidae	9	0
Baetidae	7	4
Lumbriculidae	2	8
Rhyacophilidae	2	0
Elmidae	2	4
Peltoperlidae	12	1
Lepidostomatidae	2	1
Heptageniidae	3	4
Philopotamidae	4	3
Gammaridae	3	4
Leuctridae	2	0
Ephemerellidae	2	1
Perlidae	1	1
Pteronarcyidae	1	0
Nemertea	1	5
Tipulidae	3	3
Limnephilidae	1	4
Chironomidae	1	6

Statistical Analysis

Number of Taxa = 20
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 39.00
 Family Biotic Index = 2.91
 Scraper/Filterer Collector Ratio = 0.23
 Shredder/Total Ratio = 0.20
 E+P+T* = 13 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 76.00
 EPT/C* = 76.00 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 8/<1...
 Substrate: cobbles/gravel...Streambank Vegetation/Stability: good/
 good...Canopy: mostly open...Other:

Delaware Basin - Frenchtown USGS Quadrangle
Station AN0076
Hakihokake Creek, Miller Park Road, Holland Township
July 28, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Baetidae	8	4
Tipulidae	8	3
Ephemerelellidae	2	1
Hydropsychidae	38	4
Chironomidae	8	6
Heptageniidae	3	4
Limnephilidae	15	4
Perlidae	2	1
Glossosomatidae	3	0
Peltoperlidae	2	1
Leuctridae	1	0
Psephenidae	5	4
Caenidae	2	7
Gomphidae	1	1
Brachycentridae	1	1
Nemertea	1	5

Statistical Analysis

Number of Taxa = 16
Total Number of Individuals = 100
% Contribution of Dominant Family = 38.00
Family Biotic Index = 3.75
Scraper/Filterer Collector Ratio = 0.60
Shredder/Total Ratio = 0.23
E+P+T* = 10 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 75.00
EPT/C* = 9.38 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 20/<1...
Substrate: cobbles/gravel/sand...Streambank Vegetation/Stability:
good/good...Canopy: mostly covered...Other: several small fish

Delaware Basin - Frenchtown USGS Quadrangle
Station AN0077
Hakihokake Creek, Bridge Street, Milford
July 28, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	35	6
Elmidae	2	4
Tipulidae	8	3
Hydropsychidae	39	4
Psephenidae	3	4
Turbellaria	1	4
Nemertea	1	5
Lepidostomatidae	6	1
Brachycentridae	2	1
Corydalidae	1	0
Baetidae	1	4
Gastropoda	1	7

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 39.00
Family Biotic Index = 4.38
Scraper/Filterer Collector Ratio = 0.09
Shredder/Total Ratio = 0.17
E+P+T* = 4 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 48.00
EPT/C* = 1.37 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 40/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: open...Other: residential, houses, park; several fish

Delaware Basin - Frenchtown USGS Quadrangle
Station AN0078
Harihokake Creek, Hartpence Road, Alexandria
July 27, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Leuctridae	4	0
Tipulidae	8	3
Glossosomatidae	4	0
Philopotamidae	34	3
Heptageniidae	4	4
Chironomidae	4	6
Perlidae	16	1
Hydropsychidae	9	4
Siphonuridae	1	7
Psephenidae	8	4
Rhyacophilidae	1	0
Peltoperlidae	3	1
Empididae	1	6
Cambarinae	1	6
Odontoceridae	1	0
Baetidae	1	4

Statistical Analysis

Number of Taxa = 16
Total Number of Individuals = 100
% Contribution of Dominant Family = 34.00
Family Biotic Index = 2.76
Scraper/Filterer Collector Ratio = 0.29
Shredder/Total Ratio = 0.19
E+P+T* = 10 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 75.00
EPT/C* = 18.75 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 6/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: mostly closed...Other:

Delaware Basin - Frenchtown USGS Quadrangle
Station AN0079
Harihokake Creek, River Road, north of Frenchtown
July 27, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Psephenidae	59	4
Hydropsychidae	8	4
Perlidae	8	1
Glossosomatidae	1	0
Tipulidae	5	3
Gastropoda	1	7
Gomphidae	3	1
Heptageniidae	2	4
Lumbriculidae	3	8
Baetidae	4	4
Chironomidae	3	6
Elmidae	1	4
Naididae	1	7
Dytiscidae	1	4

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 59.00
Family Biotic Index = 3.82
Scraper/Filterer Collector Ratio = 7.50
Shredder/Total Ratio = 0.07
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 23.00
EPT/C* = 7.67 *(Chironomidae)
NJIS Rating = 21
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: slightly turbid...Flow: fast...Width/Depth(ft): 10/<1
...Substrate: shale...Streambank Vegetation/Stability: good/good..
.Canopy: partly covered...Other:

Delaware Basin - Frenchtown USGS Quadrangle
 Station AN0080
 Nishisakawick Creek at Airport Road, Alexandria
 April 12, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Ceratopogonidae	1	6
Simuliidae	17	6
Philopotamidae	2	3
Baetidae	1	4
Nemouridae	27	2
Glossosomatidae	2	0
Hydropsychidae	4	4
Psephenidae	7	4
Tipulidae	4	3
Elmidae	10	4
Corydalidae	1	0
Perlodidae	1	2
Perlidae	6	1
Chironomidae	5	6
Rhyacophilidae	1	0
Limnephilidae	4	4
Ephemerellidae	4	1
Empididae	1	6
Turbellaria	1	4
Naididae	1	7

Statistical Analysis

Number of Taxa = 20
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 27.00
 Family Biotic Index = 3.43
 Scraper/Filterer Collector Ratio = 0.57
 Shredder/Total Ratio = 0.09
 E+P+T* = 10 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 52.00
 EPT/C* = 10.40 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 6/<1...
 Substrate: shale...Streambank Vegetation/Stability: good/good...
 Canopy: mostly closed...Other: tree-lined; fish

Delaware Basin - Frenchtown USGS Quadrangle
 Station AN0081
 Nishisakawick Creek, one mile below Everittstown
 January 22, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	3	4
Simuliidae	44	6
Ephemerellidae	4	1
Heptageniidae	4	4
Chironomidae	15	6
Capniidae	19	1
Psephenidae	1	4
Baetidae	2	4
Taeniopterygidae	4	2
Lumbriculidae	2	8
Tipulidae	1	3
Siphonuridae	1	7

Statistical Analysis

Number of Taxa = 12
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 44.00
 Family Biotic Index = 4.51
 Scraper/Filterer Collector Ratio = 0.10
 Shredder/Total Ratio = 0.31
 E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 37.00
 EPT/C* = 2.47 *(Chironomidae)
 NJIS Rating = 27
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 25/<1...
 Substrate: shale...Streambank Vegetation/Stability: good/good...
 Canopy: mostly open...Other: tree-lined; Suckers

Delaware Basin - Frenchtown USGS Quadrangle
 Station AN0082
 Nishisakawick Creek at Creek Road, Frenchtown Park
 April 12, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Ephemerellidae	18	1
Hydropsychidae	8	4
Nemouridae	17	2
Simuliidae	11	6
Empididae	4	6
Heptageniidae	7	4
Limnephilidae	2	4
Chironomidae	20	6
Baetidae	1	4
Odontoceridae	1	0
Perlidae	3	1
Helicopsychidae	1	3
Lumbricidae	2	10
Psychomyiidae	1	2
Psephenidae	1	4
Leptophlebiidae	1	2
Siphonuridae	2	7

Statistical Analysis

Number of Taxa = 17
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 20.00
 Family Biotic Index = 3.82
 Scraper/Filterer Collector Ratio = 0.27
 Shredder/Total Ratio = 0.28
 E+P+T* = 12 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 62.00
 EPT/C* = 3.10 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 25/<1...
 Substrate: shale...Streambank Vegetation/Stability: good/good...
 Canopy: mostly open...Other: tree-lined

Delaware Basin - Frenchtown USGS Quadrangle
 Station AN0083
 Little Nishisakawick Creek at Route 29, Frenchtown
 July 21, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Psephenidae	6	4
Tipulidae	1	3
Lumbriculidae	8	8
Simuliidae	8	6
Hydropsychidae	13	4
Leptoceridae	1	4
Chironomidae	30	6
Naididae	14	7
Elmidae	2	4
Baetidae	1	4
Philopotamidae	4	3
Glossosomatidae	2	0
Hirudinea	1	10
Polycentropodidae	4	6
Perlidae	2	1
Gastropoda	2	7
Corydalidae	1	0

Statistical Analysis

Number of Taxa = 17
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 30.00
 Family Biotic Index = 5.47
 Scraper/Filterer Collector Ratio = 0.29
 Shredder/Total Ratio = 0.03
 E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 27.00
 EPT/C* = 0.90 *(Chironomidae)
 NJIS Rating = 24
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 6/<1...
 Substrate: shale/sand...Streambank Vegetation/Stability: good/good
 ...Canopy: mostly covered...Other: tree-lined; sunfish and suckers

Delaware Basin - Frenchtown USGS Quadrangle
Station AN0084
Copper Creek at Horseshow Bend Road, Kingwood
July 21, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	29	6
Lumbriculidae	4	8
Gastropoda	6	7
BloodRedChironomidae	26	8
Hydropsychidae	14	4
Baetidae	5	4
Tipulidae	3	3
Aeshnidae	1	3
Hemiptera	1	8
Psephenidae	1	4
Simuliidae	4	6
Dytiscidae	1	4
Glossosomatidae	1	0
Leptoceridae	2	4
Perlidae	1	1
Naididae	1	7

Statistical Analysis

Number of Taxa = 16
Total Number of Individuals = 100
% Contribution of Dominant Family = 29.00
Family Biotic Index = 6.00
Scraper/Filterer Collector Ratio = 0.08
Shredder/Total Ratio = 0.39
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 23.00
EPT/C* = 0.42 *(Chironomidae)
NJIS Rating = 21
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 5/<1...
Substrate: bedrock/cobble...Streambank Vegetation/Stability: good/
good...Canopy: partly open...Other: wooded; several small fish,
darters, minnows; Cambarus

Delaware Basin - Lambertville USGS Quadrangle
Station AN0085
Warford Creek at Route 29, Kingwood Station
July 20, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Lumbriculidae	2	8
Leuctridae	2	0
Chironomidae	53	6
Hydroptilidae	1	4
Philopotamidae	10	3
Perlidae	4	1
Corydalidae	3	0
Capniidae	1	1
Hydropsychidae	6	4
Elmidae	2	4
Limnephilidae	2	4
Gastropoda	5	7
Leptoceridae	1	4
Tipulidae	4	3
Gomphidae	2	1
Baetidae	1	4
Sialidae	1	4

Statistical Analysis

Number of Taxa = 17
Total Number of Individuals = 100
% Contribution of Dominant Family = 53.00
Family Biotic Index = 4.74
Scraper/Filterer Collector Ratio = 0.03
Shredder/Total Ratio = 0.10
E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 28.00
EPT/C* = 0.53 *(Chironomidae)
NJIS Rating = 24
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 20/<1...
Substrate: bedrock/cobble...Streambank Vegetation/Stability: good/
good...Canopy: mostly shaded...Other: tree-lined; Minnows and
Sunfish

Delaware Basin - Pittstown USGS Quadrangle
Station AN0086
Lockatong Creek at Oak Grove Road, Oak Grove
July 21, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	8	6
Sphaeriidae	23	8
Gastropoda	4	7
Philopotamidae	6	3
Heptageniidae	3	4
Hydropsychidae	14	4
Elmidae	14	4
Polycentropodidae	1	6
Baetidae	2	4
Naididae	3	7
Psephenidae	17	4
Athericidae	1	2
Gomphidae	1	1
Turbellaria	1	4
Cambarinae	1	6
Bryozoa	1	7

Statistical Analysis

Number of Taxa = 16
Total Number of Individuals = 100
% Contribution of Dominant Family = 23.00
Family Biotic Index = 5.25
Scraper/Filterer Collector Ratio = 0.35
Shredder/Total Ratio = 0.02
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 26.00
EPT/C* = 3.25 *(Chironomidae)
NJIS Rating = 21
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 15/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: mostly covered...Other: tree-lined; siltation on substrate

Delaware Basin - Pittstown USGS Quadrangle
 Station AN0087
 Lockatong Creek at Route 12, Baptistown
 July 21, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Turbellaria	5	4
Hydropsychidae	26	4
Polycentropodidae	4	6
Chironomidae	29	6
Caenidae	7	7
Heptageniidae	1	4
Helicopsychidae	1	3
Hydrophilidae	2	5
Gastropoda	3	7
Ephemerellidae	1	1
Philopotamidae	1	3
Leptoceridae	2	4
Lumbriculidae	1	8
Hydroptilidae	2	4
Psephenidae	3	4
Naididae	1	7
Baetidae	2	4
Talitridae	5	8
Sialidae	2	4
Elmidae	1	4
Corydalidae	1	0

Statistical Analysis

Number of Taxa = 21
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 29.00
 Family Biotic Index = 5.16
 Scraper/Filterer Collector Ratio = 0.19
 Shredder/Total Ratio = 0.18
 E+P+T* = 10 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 47.00
 EPT/C* = 1.62 *(Chironomidae)
 NJIS Rating = 27
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 10/<1...
 Substrate: gravel/shale slabs...Streambank Vegetation/Stability:
 good/good...Canopy: open...Other: tree-lined; lots of silt

Delaware Basin - Lumberville USGS Quadrangle
 Station AN0088
 Lockatong Creek at Route 519, Kingwood
 July 21, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Baetidae	4	4
Lepidostomatidae	4	1
Caenidae	7	7
Psephenidae	9	4
Heptageniidae	5	4
Elmidae	15	4
Philopotamidae	4	3
Gastropoda	12	7
Chironomidae	23	6
Hydroptilidae	1	4
Turbellaria	2	4
Hydropsychidae	6	4
Gyrinidae	1	3
Talitridae	1	8
BloodRedChironomidae	1	8
Lumbriculidae	1	8
Siphonuridae	2	7
Tricorythidae	1	4
Helicopsychidae	1	3

 Statistical Analysis

Number of Taxa = 19
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 23.00
 Family Biotic Index = 5.03
 Scraper/Filterer Collector Ratio = 0.81
 Shredder/Total Ratio = 0.24
 E+P+T* = 10 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 35.00
 EPT/C* = 1.46 *(Chironomidae)
 NJIS Rating = 24
 Biological Condition = non-impaired
 Deficiency(s) noted: none

 Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 50/<1...
 Substrate: cobbles...Streambank Vegetation/Stability: good/good...
 Canopy: partly open...Other: tree-lined; small fish

Delaware Basin - Lumberville USGS Quadrangle
Station AN0089
Lockatong Creek at Route 29, Raven Rock
July 21, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	14	4
Chironomidae	34	6
Baetidae	14	4
Psephenidae	10	4
Tricorythidae	6	4
Ephemerellidae	1	1
Elmidae	3	4
Gastropoda	1	7
Tipulidae	3	3
Caenidae	4	7
Perlidae	2	1
Heptageniidae	2	4
Sphaeriidae	1	8
Simuliidae	1	6
Siphonuridae	1	7
Polycentropodidae	1	6
Lepidostomatidae	1	1
Gyrinidae	1	3

Statistical Analysis

Number of Taxa = 18
Total Number of Individuals = 100
% Contribution of Dominant Family = 34.00
Family Biotic Index = 4.78
Scraper/Filterer Collector Ratio = 0.40
Shredder/Total Ratio = 0.34
E+P+T* = 10 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 46.00
EPT/C* = 1.35 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 15/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: open...Other: tree-lined; small fish

Delaware Basin - Pittstown USGS Quadrangle
Station AN0090
Wickecheoke Creek, Route 579, Croton
July 20, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Elmidae	1	4
Gammaridae	39	4
Gastropoda	45	7
Lumbriculidae	2	8
Hemiptera	5	8
Asellidae	4	8
Psephenidae	1	4
Sphaeriidae	2	8
Hirudinea	1	10

Statistical Analysis

Number of Taxa = 9
Total Number of Individuals = 100
% Contribution of Dominant Family = 45.00
Family Biotic Index = 5.93
Scraper/Filterer Collector Ratio = 0.50
Shredder/Total Ratio = 0.00
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: bedrock/cobble...Streambank Vegetation/Stability: good/
good...Canopy: mostly open...Other: tree-lined; Cambarus

Delaware Basin - Stockton USGS Quadrangle
Station AN0091
Wickecheoke Creek, Locktown-Sergeantsville Road, Locktown
July 20, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	41	6
Leptoceridae	6	4
Hydropsychidae	7	4
Gammaridae	28	4
Gastropoda	3	7
Elmidae	5	4
Halplidae	1	5
Turbellaria	1	4
Psephenidae	2	4
Glossosomatidae	2	0
Polycentropodidae	1	6
Leptophlebiidae	1	2
Philopotamidae	1	3
Caenidae	1	7

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 41.00
Family Biotic Index = 4.86
Scraper/Filterer Collector Ratio = 0.24
Shredder/Total Ratio = 0.26
E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 19.00
EPT/C* = 0.46 *(Chironomidae)
NJIS Rating = 24
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 30/<1...
Substrate: rocks/cobbles...Streambank Vegetation/Stability: good/
good...Canopy: mostly open...Other: tree-lined; siltation; fish;
periphyton

Delaware Basin - Stockton USGS Quadrangle
Station AN0092
Plum Brook, Route 579, near Croton
July 20, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Taltridae	22	8
Hemiptera	20	8
Baetidae	28	4
Gastropoda	11	7
BloodRedChironomidae	2	8
Leptophlebiidae	2	2
Chironomidae	6	6
Elmidae	3	4
Corduliidae	1	5
Dytiscidae	1	4
Leptoceridae	2	4
Psephenidae	2	4

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 28.00
Family Biotic Index = 6.18
Scraper/Filterer Collector Ratio = 1.00
Shredder/Total Ratio = 0.05
E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 32.00
EPT/C* = 4.00 *(Chironomidae)
NJIS Rating = 21
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 15/<1...
Substrate: rocks/cobbles...Streambank Vegetation/Stability: good/
good...Canopy: partly open...Other: tree-lined; Sunfish

Delaware Basin - Stockton USGS Quadrangle
Station AN0093
Plum Brook, Pine Hill Road, Delaware Township
July 20, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	21	6
Hydropsychidae	22	4
Philopotamidae	17	3
Elmidae	16	4
Naididae	1	7
Gastropoda	1	7
Psephenidae	8	4
BloodRedChironomidae	3	8
Empididae	3	6
Perlidae	2	1
Hemiptera	2	8
Leptoceridae	2	4
Baetidae	1	4
Tipulidae	1	3

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 22.00
Family Biotic Index = 4.50
Scraper/Filterer Collector Ratio = 0.19
Shredder/Total Ratio = 0.07
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 44.00
EPT/C* = 1.83 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 15/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: half open...Other: tree-lined; several small fish

Delaware Basin - Stockton USGS Quadrangle
 Station AN0094
 Wickecheoke Creek, near the covered bridge, Sergeantsville
 July 20, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Gammaridae	14	4
Psephenidae	5	4
Lepidostomatidae	20	1
Gastropoda	2	7
Chironomidae	11	6
Heptageniidae	2	4
Hydropsychidae	25	4
Siphonuridae	2	7
Baetidae	7	4
Polycentropodidae	2	6
BloodRedChironomidae	1	8
Perlidae	2	1
Naididae	1	7
Gyrinidae	1	3
Simuliidae	1	6
Philopotamidae	1	3
Elmidae	1	4
Tipulidae	1	3
Asellidae	1	8

 Statistical Analysis

Number of Taxa = 19
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 25.00
 Family Biotic Index = 3.82
 Scraper/Filterer Collector Ratio = 0.15
 Shredder/Total Ratio = 0.30
 E+P+T* = 8 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 61.00
 EPT/C* = 5.08 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

 Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 20/<1...
 Substrate: bedrock/cobble...Streambank Vegetation/Stability: good/
 good...Canopy: mostly open...Other: tree-lined; fish

Delaware Basin - Stockton USGS Quadrangle
Station AN0095
Wickecheoke Creek, Route 29, Prallsville
July 20, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	25	4
Lepidostomatidae	9	1
Gammaridae	18	4
Leptoceridae	4	4
Heptageniidae	8	4
Baetidae	11	4
Caenidae	1	7
Tipulidae	1	3
Chironomidae	8	6
Psephenidae	4	4
Leptophlebiidae	1	2
Elmidae	3	4
Tricorythidae	2	4
Polycentropodidae	3	6
Coenagrionidae	1	9
Turbellaria	1	4

Statistical Analysis

Number of Taxa = 16
Total Number of Individuals = 100
% Contribution of Dominant Family = 25.00
Family Biotic Index = 4.00
Scraper/Filterer Collector Ratio = 0.15
Shredder/Total Ratio = 0.30
E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 64.00
EPT/C* = 8.00 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: bedrock/cobble...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: tree-lined; fish

Delaware Basin - Stockton USGS Quadrangle
Station AN0096
Alexauken Creek, Lambertville Road, West Amwell Township
July 14, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydroptilidae	12	4
Empididae	1	6
Turbellaria	7	4
Hydrozoa	4	7
Leptoceridae	6	4
Hydropsychidae	16	4
Chironomidae	12	6
Elmidae	6	4
Polycentropodidae	10	6
Gastropoda	10	7
Lepidostomatidae	2	1
Talitridae	2	8
Naididae	6	7
Psephenidae	3	4
Perlidae	1	1
Psychomyiidae	1	2
Helicopsychidae	1	3

Statistical Analysis

Number of Taxa = 17
Total Number of Individuals = 100
% Contribution of Dominant Family = 16
Family Biotic Index = 5.02
Scraper/Filterer Collector Ratio = 0.85
Shredder/Total Ratio = 0.07
E+P+T* = 8 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 49.00
EPT/C* = 4.08 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: mostly open...Other: tree-lined; periphyton; filamentous
algae; duck weed

Delaware Basin - Stockton USGS Quadrangle
 Station AN0097
 Alexauken Creek tributary, Queen and Alexauken Ck. Rds., Mt. Airy
 July 14, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	34	6
Philopotamidae	4	3
Hydropsychidae	17	4
Baetidae	4	4
Psephenidae	4	4
Perlidae	2	1
BloodRedChironomidae	9	8
Naididae	1	7
Tipulidae	4	3
Lepidostomatidae	3	1
Siphonuridae	1	7
Tricorythidae	3	4
Asellidae	3	8
Gastropoda	2	7
Turbellaria	4	4
Empididae	2	6
Gammaridae	1	4
Leptoceridae	1	4
Elmidae	1	4

Statistical Analysis

Number of Taxa = 19
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 34
 Family Biotic Index = 5.09
 Scraper/Filterer Collector Ratio = 0.13
 Shredder/Total Ratio = 0.38
 E+P+T* = 8 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 35.00
 EPT/C* = 0.81 *(Chironomidae)
 NJIS Rating = 24
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 15/<1...
 Substrate: cobbles...Streambank Vegetation/Stability: good/good...
 Canopy: mostly covered...Other: tree-lined

Delaware Basin - Stockton USGS Quadrangle
Station AN0098
Alexauken Creek, Route 29, Lambertville
July 14, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Tricorythidae	9	4
Gammaridae	21	4
Chironomidae	26	6
Lepidostomatidae	1	1
Hydropsychidae	17	4
BloodRedChironomidae	7	8
Baetidae	2	4
Tipulidae	1	3
Simuliidae	3	6
Empididae	2	6
Leptoceridae	3	4
Heptageniidae	4	4
Turbellaria	1	4
Philopotamidae	1	3
Polycentropodidae	1	6
Elmidae	1	4

Statistical Analysis

Number of Taxa = 16
Total Number of Individuals = 100
% Contribution of Dominant Family = 26
Family Biotic Index = 4.87
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.21
E+P+T* = 8 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 38.00
EPT/C* = 1.15 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 20/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: open...Other: tree-lined; periphyton; minnows and suckers

Delaware Basin - Lambertville USGS Quadrangle
Station AN0099
Swan Creek, Swan Street, Lambertville
July 14, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	29	6
Gastropoda	5	7
BloodRedChironomidae	7	8
Tubificidae	11	10
Hydropsychidae	7	4
Naididae	16	7
Psephenidae	3	4
Asellidae	9	8
Baetidae	4	4
Hydroptilidae	1	4
Gammaridae	2	4
Empididae	4	6
Elmidae	1	4
Simuliidae	1	6

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 29.00
Family Biotic Index = 6.61
Scraper/Filterer Collector Ratio = 0.55
Shredder/Total Ratio = 0.08
E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 12.00
EPT/C* = 0.33 *(Chironomidae)
NJIS Rating = 21
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: half open...Other: tree-lined

Delaware Basin - Lambertville USGS Quadrangle
Station AN0100
Moore's Creek, Barry Road, West Amwell Township
July 14, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	29	6
Heptageniidae	1	4
Hydropsychidae	50	4
Philopotamidae	2	3
Glossosomatidae	3	0
Simuliidae	1	6
Psephenidae	3	4
Leptophlebiidae	1	2
Baetidae	4	4
Elmidae	2	4
BloodRedChironomidae	1	8
Polycentropodidae	1	6
Tipulidae	1	3
Nematoda	1	6

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 50.00
Family Biotic Index = 4.51
Scraper/Filterer Collector Ratio = 0.12
Shredder/Total Ratio = 0.03
E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 62.00
EPT/C* = 2.07 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 30/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: mostly open...Other: tree-lined; water appears clear in
shallow riffles, but where it's pooled it's very green with algae;
Crappies, Darters, Suckers, and Sunfish

Delaware Basin - Lambertville USGS Quadrangle
Station AN0101
Moores Creek, Route 29, Hopewell Township
July 14, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Gammaridae	26	4
Baetidae	4	4
Asellidae	2	8
Chironomidae	39	6
Simuliidae	5	6
BloodRedChironomidae	10	8
Turbellaria	8	4
Tubificidae	1	10
Lumbriculidae	2	8
Hirudinea	1	10
Leptophlebiidae	1	2
Hydropsychidae	1	4

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 39.00
Family Biotic Index = 5.54
Scraper/Filterer Collector Ratio = 0.12
Shredder/Total Ratio = 0.22
E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 6.00
EPT/C* = 0.12 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 15/<1...
Substrate: cobbles...Streambank Vegetation/Stability: good/good...
Canopy: half open...Other: tree-lined

Delaware Basin - Pennington USGS Quadrangle
Station AN0102
Jacobs Creek, Woosamonsa Road, Hopewell Township
April 8, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Nemouridae	21	2
Simuliidae	59	6
Ephemerellidae	9	1
Elmidae	1	4
Caenidae	1	7
Empididae	1	6
Hydropsychidae	1	4
Chironomidae	3	6
Limnephilidae	1	4
Tipulidae	1	3
Talitridae	1	8
Perlodidae	1	2

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 59.00
Family Biotic Index = 4.61
Scraper/Filterer Collector Ratio = 0.02
Shredder/Total Ratio = 0.12
E+P+T* = 6 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 34.00
EPT/C* = 11.33 *(Chironomidae)
NJIS Rating = 24
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 6/<1...
Substrate: cobble/gravel...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: tree-lined; rural; eel; dead sucker

Delaware Basin - Pennington USGS Quadrangle
 Station AN0103
 Airport Branch, Route 579 (Jacobs Creek Road), Hopewell Township
 July 13, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Psephenidae	17	4
BloodRedChironomidae	8	8
Chironomidae	14	6
Naididae	2	7
Asellidae	16	8
Sialidae	4	4
Elmidae	4	4
Tubificidae	6	10
Turbellaria	2	4
Gastropoda	16	7
Coenagrionidae	1	9
Hydropsychidae	2	4
Heptageniidae	1	4
Gammaridae	1	4
Tipulidae	1	3
Polycentropodidae	3	6
Lumbriculidae	1	8
Leptoceridae	1	4

Statistical Analysis

Number of Taxa = 18
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 17
 Family Biotic Index = 6.28
 Scraper/Filterer Collector Ratio = 7.75
 Shredder/Total Ratio = 0.16
 E+P+T* = 4 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 7.00
 EPT/C* = 32.00 *(Chironomidae)
 NJIS Rating = 18
 Biological Condition = moderately impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 20/<1...
 Substrate: shale/cobbles/gravel...Streambank Vegetation/Stability:
 good/good...Canopy: mostly covered...Other: wooded; periphyton not
 apparent

Delaware Basin - Pennington USGS Quadrangle
 Station AN0104
 Woolseys Brook, Route 546 and Jacobs Creek Road, Hopewell Township
 July 13, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	67	6
Naididae	6	7
Haliplidae	2	5
Turbellaria	2	4
Psephenidae	1	4
Tabanidae	1	6
Polycentropodidae	3	6
Asellidae	2	8
Talitridae	1	8
Gomphidae	1	1
Gammaridae	9	4
Baetidae	2	4
BloodRedChironomidae	2	8
Elmidae	1	4

Statistical Analysis

Number of Taxa = 14
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 67.00
 Family Biotic Index = 5.81
 Scraper/Filterer Collector Ratio = 0.03
 Shredder/Total Ratio = 0.08
 $E+P+T^* = 2 * (\text{Ephemeroptera, Plecoptera and Trichoptera})$
 $\%EPT = 4.00$
 $EPT/C^* = 0.06 * (\text{Chironomidae})$
 NJIS Rating = 9
 Biological Condition = moderately impaired
 Deficiency(s) noted: Chironomidae overwhelmingly dominant
 paucity of clean water organisms

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 10/<1...
 Substrate: cobbles/gravel...Streambank Vegetation/Stability: good/
 good...Canopy: half open...Other: tree-lined; Darters, Sunfish,
 Minnows, and Suckers

Delaware Basin - Pennington USGS Quadrangle
 Station AN0105
 Jacobs Creek, Route 546, Hopewell Township
 July 13, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Perlidae	6	1
Chironomidae	6	6
Heptageniidae	2	4
Psephenidae	28	4
Hydropsychidae	9	4
Gammaridae	6	4
Polycentropodidae	5	6
Leptoceridae	13	4
BloodRedChironomidae	3	8
Turbellaria	5	4
Talitridae	5	8
Elmidae	1	4
Lepidostomatidae	1	1
Hydroptilidae	2	4
Lumbriculidae	1	8
Gyrinidae	2	3
Coenagrionidae	1	9
Sphaeriidae	1	8
Helicopsychidae	1	3
Tricorythidae	1	4
Hydrophilidae	1	5

 Statistical Analysis

Number of Taxa = 21
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 28.00
 Family Biotic Index = 4.44
 Scraper/Filterer Collector Ratio = 2.46
 Shredder/Total Ratio = 0.06
 E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 40.00
 EPT/C* = 4.44 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

 Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 10-50/<1...
 Substrate: cobble/gravel(shale)...Streambank Vegetation/Stability:
 fair/fair...Canopy: partly open...Other: tree-lined; minnows

Delaware Basin - Pennington USGS Quadrangle
Station AN0106
Jacobs Creek, Route 29, Hopewell Township
July 13, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	33	4
Simuliidae	22	6
Baetidae	3	4
Chironomidae	28	6
Lepidostomatidae	1	1
BloodRedChironomidae	1	8
Gastropoda	1	7
Gammaridae	6	4
Heptageniidae	1	4
Empididae	2	6
Leptoceridae	1	4
Sphaeriidae	1	8

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 33.00
Family Biotic Index = 5.12
Scraper/Filterer Collector Ratio = 0.05
Shredder/Total Ratio = 0.05
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 39.00
EPT/C* = 1.34 *(Chironomidae)
NJIS Rating = 24
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: cobble/gravel...Streambank Vegetation/Stability: good/
good...Canopy: partly open...Other:

Delaware Basin - Pennington/Trenton West USGS Quadrangle
 Station AN0107
 Gold Run, Route 29 and Lower Ferry Road, Wilburtha
 July 13, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Psephenidae	2	4
Hydropsychidae	41	4
Tipulidae	2	3
Turbellaria	11	4
Philopotamidae	12	3
Chironomidae	5	6
Simuliidae	1	6
Asellidae	9	8
Baetidae	5	4
Elmidae	5	4
Gammaridae	4	4
BloodRedChironomidae	1	8
Gastropoda	1	7
Naididae	1	7

Statistical Analysis

Number of Taxa = 14
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 41.00
 Family Biotic Index = 4.44
 Scraper/Filterer Collector Ratio = 0.04
 Shredder/Total Ratio = 0.08
 E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 58.00
 EPT/C* = 9.67 *(Chironomidae)
 NJIS Rating = 24
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: moderate-fast...Width/Depth(ft): 10/<1.
 ..Substrate: rocks/cobbles/gravel...Streambank Vegetation/
 Stability: good/good...Canopy: mostly covered...Other: periphyton

Delaware Basin - Roosevelt USGS Quadrangle
Station AN0108
Assunpink Creek, Roosevelt Road, Roosevelt
March 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	91	6
Chironomidae	2	6
Sphaeriidae	4	8
BloodRedChironomidae	1	8
Lepidostomatidae	1	1
Naididae	1	7

Statistical Analysis

Number of Taxa = 6
Total Number of Individuals = 100
% Contribution of Dominant Family = 91.00
Family Biotic Index = 6.06
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.02
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 1.00
EPT/C* = 0.33 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
Simuliidae overwhelmingly dominant

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 5/<1...
Substrate: clay/sand...Streambank Vegetation/Stability: fair/fair.
...Canopy: open...Other: wooded; iron precipitate

Delaware Basin - Hightstown USGS Quadrangle
 Station AN0109
 Assunpink Creek, Edinburg Road (Route 535), Edinburg
 March 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	37	6
Heptageniidae	8	4
Hydropsychidae	28	4
Leptoceridae	1	4
Chironomidae	13	6
Gastropoda	1	7
Taeniopterygidae	4	2
Sphaeriidae	3	8
Lumbricidae	2	10
Nematoda	1	6
Turbellaria	2	4

Statistical Analysis

Number of Taxa = 11
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 37.00
 Family Biotic Index = 5.21
 Scraper/Filterer Collector Ratio = 0.00
 Shredder/Total Ratio = 0.10
 E+P+T* = 4 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 41.00
 EPT/C* = 3.15 *(Chironomidae)
 NJIS Rating = 24
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: fast...Width/Depth(ft): 30/<1...
 Substrate: gravel/cobbles/rocks...Streambank Vegetation/Stability:
 poor/poor...Canopy: open...Other: wooded

Delaware Basin - Princeton USGS Quadrangle
Station AN0110
Shipetauken Creek, Van Kirk Road
March 3, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	84	6
Gastropoda	1	7
Chironomidae	10	6
Asellidae	1	8
Dytiscidae	1	4
Sphaeriidae	1	8
BloodRedChironomidae	1	8

Statistical Analysis

Number of Taxa = 7
Total Number of Individuals = 100
% Contribution of Dominant Family = 84.00
Family Biotic Index = 6.07
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.04
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
Simuliidae overwhelmingly dominant

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 4/<1...
Substrate: rock...Streambank Vegetation/Stability: fair/fair...
Canopy: open...Other: tree-lined; silt on substrate; periphyton

Delaware Basin - Princeton USGS Quadrangle
Station AN0111
Shipetauken Creek, Princeton Pike (Route 583), Lawrence Township
March 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	93	6
Tubificidae	2	10
Simuliidae	1	6
Gammaridae	1	4
Gomphidae	1	1
BloodRedChironomidae	1	8
Naididae	1	7

Statistical Analysis

Number of Taxa = 7
Total Number of Individuals = 100
% Contribution of Dominant Family = 93.00
Family Biotic Index = 6.04
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.62
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
Chironomidae overwhelmingly dominant

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 20/1...
Substrate: clay...Streambank Vegetation/Stability: poor/poor...
Canopy: open...Other: tree-lined; periphyton

Delaware Basin - Princeton USGS Quadrangle
Station AN0112
Little Shabakunk Creek, Route 206, Lawrence Township
March 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	3	10
Psychodidae	1	10
Gastropoda	14	7
BloodRedChironomidae	10	8
Naididae	4	7
Chironomidae	2	6

Statistical Analysis

Number of Taxa = 6
Total Number of Individuals = 34
% Contribution of Dominant Family = 41.18
Family Biotic Index = 7.59
Scraper/Filterer Collector Ratio = 5.00
Shredder/Total Ratio = 0.29
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution

Observations

Streamwater: turbid/green...Flow: negligible...Width/Depth(ft): 20
1-4...Substrate: mud...Streambank Vegetation/Stability: good/good.
...Canopy: open...Other: tree-lined; residential; substrate covered
with 6-8 inches of leaf litter

Delaware Basin - Pennington USGS Quadrangle
Station AN0113
Shabakunk Creek, Bull Run Road
March 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	77	6
Tubificidae	14	10
BloodRedChironomidae	9	8

Statistical Analysis

Number of Taxa = 3
Total Number of Individuals = 100
% Contribution of Dominant Family = 77.00
Family Biotic Index = 6.74
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.70
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 3
Biological Condition = severely impaired
Deficiency(s) noted: low diversity
Chironomidae overwhelmingly dominant
paucity of clean water organisms

Observations

Streamwater: clear...Flow: very slow...Width/Depth(ft): 30/1...
Substrate: mud/cobbles...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: tree-lined; lots of leaf litter

Delaware Basin - Pennington USGS Quadrangle
Station AN0114
Shabakunk Creek, Route 206, Lawrence Township
March 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	12	6
Lumbricidae	4	10
Hydropsychidae	4	4
Elmidae	1	4
Simuliidae	2	6
Gastropoda	4	7
Gammaridae	3	4
Asellidae	1	8
Lumbriculidae	1	8
Sphaeriidae	1	8

Statistical Analysis

Number of Taxa = 10
Total Number of Individuals = 33
% Contribution of Dominant Family = 36.36
Family Biotic Index = 6.30
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.06
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 12.12
EPT/C* = 0.33 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 25/1...
Substrate: sand/cobbles...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: urban area

Delaware Basin - Trenton East USGS Quadrangle
Station AN0115
Miry Run, Route 533, Hamilton Township
March 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	36	10
Sphaeriidae	12	8
Gammaridae	21	4
Chironomidae	15	6
Lumbricidae	7	10
Elmidae	3	4
Tipulidae	2	3
Nemertea	1	5
Gastropoda	1	7
Nematoda	1	6
Hydropsychidae	1	4

Statistical Analysis

Number of Taxa = 11
Total Number of Individuals = 100
% Contribution of Dominant Family = 36.00
Family Biotic Index = 7.40
Scraper/Filterer Collector Ratio = 0.08
Shredder/Total Ratio = 0.02
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 1.00
EPT/C* = 0.07 *(Chironomidae)
NJIS Rating = 12
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 20/<1...
Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: tree-lined; periphyton; macrophytes;
a fine assortment of trash (including but not limited to) tires,
lumber, flower pots, and 22 shopping carts

Delaware Basin - Trenton East USGS Quadrangle
Station AN0116
Assunpink Creek, Mulberry Street, Trenton
March 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Turbellaria	7	4
Sphaeriidae	30	8
Chironomidae	11	6
Gammaridae	7	4
Gastropoda	6	7
Nemertea	7	5
Simuliidae	7	6
Tubificidae	1	10
Coenagrionidae	1	9
Lumbricidae	1	10
Hirudinea	1	10

Statistical Analysis

Number of Taxa = 11
Total Number of Individuals = 79
% Contribution of Dominant Family = 37.97
Family Biotic Index = 6.58
Scraper/Filterer Collector Ratio = 0.05
Shredder/Total Ratio = 0.00
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 150/<1...
Substrate: cobbles/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: urban/industrial area; oil spots on
water surface; heavy periphyton growth; stream filled with trash

Delaware Basin - Trenton East USGS Quadrangle
Station AN0117
Pond Run at Route 533, Hamilton Township
March 4, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	87	10
Chironomidae	2	6
Sphaeriidae	8	8
BloodRedChironomidae	3	8

Statistical Analysis

Number of Taxa = 4
Total Number of Individuals = 100
% Contribution of Dominant Family = 87.00
Family Biotic Index = 9.70
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 0
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution
 low diversity
 Tubificidae overwhelmingly dominant

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 12/<1...
Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: wooded; commercial nearby; metallic
iron; iron precipitate; lots of periphyton; a few macrophytes

Delaware Basin - Trenton West USGS Quadrangle
Station AN0118
Assunpink Creek, Willow Street, Trenton
March 3, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Lumbricidae	4	10
Hydropsychidae	1	4
Chironomidae	6	6
Nemertea	4	5
Gastropoda	3	7
Gammaridae	1	4
Simuliidae	1	6

Statistical Analysis

Number of Taxa = 7
Total Number of Individuals = 20
% Contribution of Dominant Family = 30.00
Family Biotic Index = 6.55
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 5.00
EPT/C* = 0.17 *(Chironomidae)
NJIS Rating = 12
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: slightly turbid...Flow: fast...Width/Depth(ft): 50/1.
..Substrate: cobbles/boulders...Streambank Vegetation/Stability:
poor/fair...Canopy: open...Other: a few trees lining stream; heavy
periphyton growth; sewage odor

Delaware Basin - New Egypt USGS Quadrangle
Station AN0119
Jumping Brook, Bunting Bridge Road, Cookstown
January 19, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
BloodRedChironomidae	4	8
Chironomidae	2	6
Naididae	12	7
Tubificidae	2	10
Lumbricidae	1	8

Statistical Analysis

Number of Taxa = 5
Total Number of Individuals = 21
% Contribution of Dominant Family = 57.14
Family Biotic Index = 7.43
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.10
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: significant organic pollution
paucity of clean water organisms

Observations

Streamwater: turbid, dark...Flow: slow...Width/Depth(ft): 20/1+...
Substrate: mud...Streambank Vegetation/Stability: poor/poor...
Canopy: open...Other: wood-lined; rural; substrate leaf-covered

Delaware Basin - New Egypt USGS Quadrangle
Station AN0120
North Run, Cookstown Road and Main Street, Cookstown
January 19, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	71	10
Chironomidae	22	6
Gammaridae	6	4
Hydropsychidae	1	4

Statistical Analysis

Number of Taxa = 4
Total Number of Individuals = 100
% Contribution of Dominant Family = 71.00
Family Biotic Index = 8.70
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.17
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 1.00
EPT/C* = 0.05 *(Chironomidae)
NJIS Rating = 0
Biological Condition = severely impaired
Deficiency(s) noted: low diversity
 Tubificidae overwhelmingly dominant
 paucity of clean water organisms
 significant organic pollution

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 15/1+...
Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: sparsely tree-lined; rural area

Delaware Basin - Trenton East USGS Quadrangle
Station AN0121
Crosswicks Creek, Route 537, near New Egypt
January 19, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	19	6
Tubificidae	10	10
Turbellaria	2	2
Hydrophilidae	1	1
Hydropsychidae	3	3
BloodRedChironomidae	1	1
Asellidae	1	1
Tipulidae	1	1

Statistical Analysis

Number of Taxa = 8
Total Number of Individuals = 38
% Contribution of Dominant Family = 50.00
Family Biotic Index = 6.79
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.05
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 7.89
EPT/C* = 0.15 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 30/2...
Substrate: clay/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: wooded; mosses; macrophytes; snags

Delaware Basin - Roosevelt USGS Quadrangle
Station AN0122
Lahaway Creek, Route 537, below Propertown Lake outlet
January 19, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	88	4
Gastropoda	1	7
Tipulidae	1	3
Chironomidae	7	6
Simuliidae	3	6

Statistical Analysis

Number of Taxa = 5
Total Number of Individuals = 100
% Contribution of Dominant Family = 88.00
Family Biotic Index = 4.22
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.01
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 88.00
EPT/C* = 12.57 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: Hydropsychidae overwhelmingly dominant
 paucity of clean water organisms

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 6/<1...
Substrate: ironstone/sand/rocks...Streambank Vegetation/Stability:
poor/poor...Canopy: open...Other: iron precipitate; algae

Delaware Basin - Roosevelt USGS Quadrangle
Station AN0123
Ivanhoe Brook, Millers Mill Road, Prospertown
January 19, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Tipulidae	7	3
Chironomidae	4	6
Simuliidae	4	6
Limnephilidae	1	4

Statistical Analysis

Number of Taxa = 4
Total Number of Individuals = 16
% Contribution of Dominant Family = 43.75
Family Biotic Index = 4.56
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.50
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 6.25
EPT/C* = 0.25 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: low diversity
 paucity of clean water organisms

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 8/variable
...Substrate: sand/clay/ironstone...Streambank Vegetation/
Stability: poor/poor...Canopy: open...Other: wooded; substrate
covered with thin layer of iron precipitate

Delaware Basin - New Egypt USGS Quadrangle
 Station AN0124
 Lahaway Creek, New Egypt-Allentown Road, Upper Freehold Township
 January 19, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	2	10
Taeniopterygidae	4	2
Heptageniidae	2	4
Chironomidae	9	6
Gomphidae	1	1
Turbellaria	1	4
Hydropsychidae	3	4
Simuliidae	1	6
Sphaeriidae	1	8
Tabanidae	1	6

Statistical Analysis

Number of Taxa = 10
 Total Number of Individuals = 25
 % Contribution of Dominant Family = 36.00
 Family Biotic Index = 5.08
 Scraper/Filterer Collector Ratio = 0.00
 Shredder/Total Ratio = 0.12
 E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 36.00
 EPT/C* = 1.00 *(Chironomidae)
 NJIS Rating = 21
 Biological Condition = moderately impaired
 Deficiency(s) noted: none

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 20/<1...
 Substrate: sand...Streambank Vegetation/Stability: poor/poor...
 Canopy: open...Other: wooded; snags in stream

Delaware Basin - Allentown USGS Quadrangle
Station AN0125
Crosswicks Creek, USGS gage, Extonville Road, Extonville
January 19, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	50	6
Tubificidae	1	10
Limnephilidae	1	4
Hydropsychidae	4	4
Gammaridae	1	4
Empididae	1	6
Coenagrionidae	1	9
Simuliidae	2	6

Statistical Analysis

Number of Taxa = 8
Total Number of Individuals = 61
% Contribution of Dominant Family = 81.97
Family Biotic Index = 5.92
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.02
E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 8.20
EPT/C* = 0.10 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
Chironomidae overwhelmingly dominant

Observations

Streamwater: slightly turbid...Flow: moderate...Width/Depth(ft):
40-60/2.5...Substrate: sand/gravel...Streambank Vegetation/
Stability: poor/poor...Canopy: open...Other: wooded; rural; darter

Delaware Basin - Trenton East USGS Quadrangle
Station AN0126
Crosswicks Creek, Main Street, Groveville
January 20, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Taeniopterygidae	12	2
Tubificidae	9	10
Chironomidae	4	6
Simuliidae	1	6
Gammaridae	9	4
Chrysomelidae	1	5
Hydropsychidae	1	4
Gastropoda	1	7
Sphaeriidae	1	8

Statistical Analysis

Number of Taxa = 9
Total Number of Individuals = 39
% Contribution of Dominant Family = 30.77
Family Biotic Index = 5.23
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 33.33
EPT/C* = 3.25 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 20/1.5...
Substrate: sand/gravel/rocks...Streambank Vegetation/Stability:
poor/poor...Canopy: open...Other: tree-lined; industrial area;
some oil around edges of rocks

Delaware Basin - Roosevelt USGS Quadrangle
Station AN0127
Doctors Creek, Red Valley Road, Upper Freehold Township
January 19, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
BloodRedChironomidae	28	8
Hirudinea	3	10
Chironomidae	30	6
Sphaeriidae	24	8
Gastropoda	8	7
Gomphidae	1	1
Tubificidae	5	10
Hydrozoa	1	7

Statistical Analysis

Number of Taxa = 8
Total Number of Individuals = 100
% Contribution of Dominant Family = 30.00
Family Biotic Index = 7.40
Scraper/Filterer Collector Ratio = 0.13
Shredder/Total Ratio = 0.17
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 15/2...
Substrate: mud/clay...Streambank Vegetation/Stability: poor/poor
...Canopy: open...Other: tree-lined; rural

Delaware Basin - Allentown USGS Quadrangle
Station AN0128
Negro Run, Red Valley Road, Allentown
January 19, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	33	6
Hydropsychidae	13	4
Simuliidae	6	6
Sphaeriidae	13	8
Tipulidae	3	3
Talitridae	3	8
Tubificidae	8	10
Lumbricidae	1	10
Gammaridae	15	4
Naididae	1	7
Turbellaria	2	4
Gastropoda	2	7

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 33.00
Family Biotic Index = 6.02
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.04
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 13.00
EPT/C* = 0.39 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: a few trees; 3 kinds of macrophytes

Delaware Basin - Allentown USGS Quadrangle
 Station AN0129
 Doctors Creek, Breza Road, Allentown
 January 19, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Lumbriculidae	5	8
Hydropsychidae	46	4
Simuliidae	8	6
Tubificidae	1	10
Gastropoda	2	7
Gammaridae	4	4
Chironomidae	19	6
Lumbricidae	1	10
Gomphidae	1	1
Elmidae	1	4
Sphaeriidae	1	8
Nemouridae	1	2
Turbellaria	1	4
Coenagrionidae	1	9
Haplotaxidae	1	8

Statistical Analysis

Number of Taxa = 15
 Total Number of Individuals = 93
 % Contribution of Dominant Family = 49.46
 Family Biotic Index = 5.08
 Scraper/Filterer Collector Ratio = 0.02
 Shredder/Total Ratio = 0.02
 E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 50.54
 EPT/C* = 2.47 *(Chironomidae)
 NJIS Rating = 18
 Biological Condition = moderately impaired
 Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 20/<1...
 Substrate: sand/gravel/ironstone...Streambank Vegetation/
 Stability: poor/poor...Canopy: open...Other: tree-lined;
 apartments and STP upstream; lots of broken glass on substrate;
 darter

Delaware Basin - Trenton East USGS Quadrangle
Station AN0130
Doctors Creek, Route 130, Groveville
January 20, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Taeniopterygidae	26	2
Chironomidae	31	6
Polycentropodidae	1	6
Gammaridae	3	4
Lumbriculidae	3	8
Hydropsychidae	6	4
Tubificidae	3	10
Tipulidae	2	3
Sphaeriidae	2	8
Heptageniidae	1	4
Gastropoda	1	7

Statistical Analysis

Number of Taxa = 11
Total Number of Individuals = 79
% Contribution of Dominant Family = 39.24
Family Biotic Index = 4.65
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.23
E+P+T* = 4 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 43.04
EPT/C* = 1.10 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 20/1...
Substrate: gravel/sand...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: wooded

Delaware Basin - Trenton East USGS Quadrangle
Station AN0131
Crosswicks Creek, Point Breeze, Bordentown Township
January 20, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Gammaridae	82	4
Gastropoda	1	7
Sphaeriidae	2	8
Taeniopterygidae	3	2
Tubificidae	2	10
Chironomidae	7	6
Hirudinea	1	10
Lampyridae	1	6
Asellidae	1	8

Statistical Analysis

Number of Taxa = 9
Total Number of Individuals = 100
% Contribution of Dominant Family = 82.00
Family Biotic Index = 4.43
Scraper/Filterer Collector Ratio = 0.50
Shredder/Total Ratio = 0.00
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 3.00
EPT/C* = 0.43 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms
Gammaridae overwhelmingly dominant

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 200/2...
Substrate: gravel...Streambank Vegetation/Stability: poor/poor
...Canopy: open...Other: wooded; marsh

Delaware Basin - Columbus USGS Quadrangle
Station AN0132
Blacks Creek, Chesterfield-Georgetown Road, Chesterfield
January 25, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	59	6
Tubificidae	10	10
Hydropsychidae	11	4
Chironomidae	13	6
Tipulidae	1	3
Turbellaria	1	4
BloodRedChironomidae	1	8
Gammaridae	1	4
Naididae	1	7
Spaeriidae	1	8
Elmidae	1	4

Statistical Analysis

Number of Taxa = 11
Total Number of Individuals = 100
% Contribution of Dominant Family = 59.00
Family Biotic Index = 6.14
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.03
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 11.00
EPT/C* = 0.79 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: turbid/green...Flow: moderate...Width/Depth(ft): 15/1
Substrate: sand/gravel/ironstone...Streambank Vegetation/
Stability: poor/poor...Canopy: open...Other: wooded; siltation;
iron precipitate; filamentous algae; macrophytes; eels

Delaware Basin - Columbus USGS Quadrangle
Station AN0133
Bacon Run, White Pine Road near Kuser PD, Chesterfield Township
January 25, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Gammaridae	5	4
Tipulidae	6	3
Cordulegastriidae	1	3
Chironomidae	4	6
Hydropsychidae	2	4
Asellidae	5	8
Simuliidae	1	6
Tubificidae	1	10
Phryganeidae	1	4
Tabanidae	1	6
Nemertea	1	5

Statistical Analysis

Number of Taxa = 11
Total Number of Individuals = 28
% Contribution of Dominant Family = 21.43
Family Biotic Index = 5.14
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.21
E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 10.71
EPT/C* = 0.75 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/<1...
Substrate: sand/some stones...Streambank Vegetation/Stability:
poor/poor...Canopy: open...Other: wooded area; iron precipitate

Delaware Basin - Columbus USGS Quadrangle
Station AN0134
Blacks Creek, Route 130, Bordentown
January 25, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	9	6
Asellidae	1	8
Hirudinea	2	10
Sphaeriidae	6	8
Tubificidae	4	10
Heptageniidae	1	4
Lumbriculidae	1	8
Tipulidae	1	3

Statistical Analysis

Number of Taxa = 8
Total Number of Individuals = 25
% Contribution of Dominant Family = 36.00
Family Biotic Index = 7.40
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.32
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 4.00
EPT/C* = 0.11 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 20/<1...
Substrate: sand/clay/gravel...Streambank Vegetation/Stability:
poor/poor...Canopy: open...Other: tree-lined; sewage odor

Delaware Basin - Columbus USGS Quadrangle
Station AN0135
Crafts Creek, Gaunts Bridge Road, Georgetown
January 25, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	80	6
Gammaridae	12	4
Chironomidae	6	6
Lumbriculidae	1	8
Gastropoda	1	7

Statistical Analysis

Number of Taxa = 5
Total Number of Individuals = 100
% Contribution of Dominant Family = 80.00
Family Biotic Index = 5.79
Scraper/Filterer Collector Ratio = 0.08
Shredder/Total Ratio = 0.00
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: Simuliidae overwhelmingly dominant
 paucity of clean water organisms

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 2/<1...
Substrate: sand/rock...Streambank Vegetation/Stability: good/good
...Canopy: partly covered...Other: rural; a few trees

Delaware Basin - Columbus USGS Quadrangle
Station AN0136
Crafts Creek, Island Road, Columbus
January 25, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Asellidae	20	8
Chironomidae	5	6
Gammaridae	12	4
Phryganeidae	3	4
Simuliidae	1	6
Tubificidae	17	10
Sialidae	1	4
Dytiscidae	1	4

Statistical Analysis

Number of Taxa = 8
Total Number of Individuals = 60
% Contribution of Dominant Family = 33.33
Family Biotic Index = 7.23
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 5.00
EPT/C* = 0.60 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: significant organic pollution
 paucity of clean water organisms

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 15/<1...
Substrate: sand...Streambank Vegetation/Stability: poor/poor
...Canopy: open...Other: tree-lined; rural

Delaware Basin - Bristol USGS Quadrangle
Station AN0137
Crafts Creek, Old York Road, near Roebbling
January 25, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Sphaeriidae	59	8
Turbellaria	2	4
Taeniopterygidae	2	2
Gastropoda	1	7
Gammaridae	4	4
Chironomidae	2	6
Tubificidae	4	10
Simuliidae	1	6
Tipulidae	1	3
BloodRedChironomidae	1	8

Statistical Analysis

Number of Taxa = 10
Total Number of Individuals = 77
% Contribution of Dominant Family = 76.62
Family Biotic Index = 7.48
Scraper/Filterer Collector Ratio = 0.02
Shredder/Total Ratio = 0.03
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 2.60
EPT/C* = 0.67 *(Chironomidae)
NJIS Rating = 3
Biological Condition = severely impaired
Deficiency(s) noted: significant organic pollution
paucity of clean water organisms
Sphaeriidae overwhelmingly dominant

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 20/variable...
Substrate: sand/clay...Streambank Vegetation/Stability: poor/poor
...Canopy: open...Other: tree-lined; rural

Delaware Basin - Columbus USGS Quadrangle
Station AN0138
Assiscunk Creek, Columbus-Georgetown Road, near Georgetown
January 25, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	90	6
Tubificidae	1	10
Gammaridae	2	4
Chironomidae	6	6
Limnephilidae	1	4
Tipulidae	1	3

Statistical Analysis

Number of Taxa = 6
Total Number of Individuals = 101
% Contribution of Dominant Family = 89.11
Family Biotic Index = 5.95
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.01
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 00.99
EPT/C* = 0.17 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: Simuliidae overwhelmingly dominant
paucity of clean water organisms

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 6/<1...
Substrate: sand/gravel/ironstone...Streambank Vegetation/
Stability: poor/poor...Canopy: partly open...Other: tree-lined

Delaware Basin - Columbus USGS Quadrangle
Station AN0139
Anaricken Brook, Island Road, Springfield Township
January 25, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Tipulidae	12	3
Simuliidae	33	6
Chironomidae	15	6
Heptageniidae	2	4
Gammaridae	7	4
Tabanidae	1	6
Corydalidae	2	0
Asellidae	10	8
Hydropsychidae	9	4
Leptophlebiidae	3	2
Sphaeriidae	1	8
Aeshnidae	2	3
Ephemerellidae	1	1
Elmidae	1	4
Dytiscidae	1	4

Statistical Analysis

Number of Taxa = 15
Total Number of Individuals = 100
% Contribution of Dominant Family = 33
Family Biotic Index = 5.11
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.19
E+P+T* = 4 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 15.00
EPT/C* = 1.00 *(Chironomidae)
NJIS Rating = 21
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 6/1...
Substrate: sand/construction stones...Streambank Vegetation/
Stability: poor/poor...Canopy: open...Other: tree-lined

Delaware Basin - Columbus USGS Quadrangle
Station AN0140
North Branch Barkers Brook, Juliustown Road, Springfield Twp.
January 25, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	92	6
Tubificidae	1	10
Gammaridae	3	4
Gastropoda	2	7
Chironomidae	2	6

Statistical Analysis

Number of Taxa = 5
Total Number of Individuals = 100
% Contribution of Dominant Family = 92.00
Family Biotic Index = 6.00
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: Simuliidae overwhelmingly dominant
 paucity of clean water organisms

Observations

Streamwater: grey...Flow: slow...Width/Depth(ft): 6/1...Substrate:
sand/gravel...Streambank Vegetation/Stability: poor/poor...Canopy:
open...Other: tree-lined; farms; silt on substrate

Delaware Basin - Bristol USGS Quadrangle
 Station AN0141
 Assiscunk Creek, near Jacksonville, Springfield Township
 January 26, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	11	6
Hydropsychidae	45	4
Sphaeriidae	17	8
Nemertea	5	5
Taeniopterygidae	4	2
Empididae	1	6
Simuliidae	6	6
Lumbricidae	7	10
Elmidae	2	4
Gammaridae	1	4
Tipulidae	1	3

Statistical Analysis

Number of Taxa = 11
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 45.00
 Family Biotic Index = 5.42
 Scraper/Filterer Collector Ratio = 0.00
 Shredder/Total Ratio = 0.05
 E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 49.00
 EPT/C* = 4.45 *(Chironomidae)
 NJIS Rating = 18
 Biological Condition = moderately impaired
 Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: turbid/green...Flow: slow...Width/Depth(ft): 20/1.5..
 .Substrate: gravel...Streambank Vegetation/Stability: poor/poor..
 Canopy: open...Other: tree-lined

Delaware Basin - Bristol USGS Quadrangle
Station AN0142
Assiscunk Creek, Neck Road, near Sutton Chapel
January 26, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Gammaridae	94	4
Turbellaria	1	4
Chironomidae	1	6
Asellidae	1	8
Hydrophilidae	1	5
Taeniopterygidae	1	2
Hemiptera	1	8

Statistical Analysis

Number of Taxa = 7
Total Number of Individuals = 100
% Contribution of Dominant Family = 94.00
Family Biotic Index = 4.09
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.01
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 1.00
EPT/C* = 1.00 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: Gammaridae overwhelmingly dominant
paucity of clean water organisms

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 140/variable..
.Substrate: mud...Streambank Vegetation/Stability: poor/poor...
Canopy: open...Other: tree-lined

Delaware Basin - Browns Mills USGS Quadrangle
 Station AN0143
 North Branch Rancocas Creek, Hanover Lake outlet, Hanover Furnace
 February 23, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	16	4
Elmidae	6	4
Chironomidae	33	6
Aeshnidae	1	3
Cordulegastridae	1	3
Naididae	1	7
Bryozoa	6	7
Simuliidae	1	6
Polycentropodidae	2	6
Philopotamidae	2	3
Coenagrionidae	3	9
Pyralidae	2	5
Tubificidae	1	10
Hydroptilidae	2	4
Leptoceridae	3	4
Phryganeidae	1	4
Limnephilidae	2	4

Statistical Analysis

Number of Taxa = 17
 Total Number of Individuals = 83
 % Contribution of Dominant Family = 39.76
 Family Biotic Index = 5.35
 Scraper/Filterer Collector Ratio = 0.08
 Shredder/Total Ratio = 0.17
 E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 33.73
 EPT/C* = 0.85 *(Chironomidae)
 NJIS Rating = 24
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear/cedar...Flow: slow...Width/Depth(ft): 25/2+...
 Substrate: sand...Streambank Vegetation/Stability: good/good...
 Canopy: partly open...Other: tree-lined; leaf litter on substrate;
 macrophytes

Delaware Basin - Browns Mills USGS Quadrangle
Station AN0144
Polebridge Branch, outlet of Country Lake, Pemberton Township
February 23, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	27	6
Hydropsychidae	50	4
Philopotamidae	10	3
Asellidae	9	8
Lumbriculidae	1	8
Polycentropodidae	1	6
Elmidae	1	4
Tipulidae	1	3

Statistical Analysis

Number of Taxa = 8
Total Number of Individuals = 100
% Contribution of Dominant Family = 50.00
Family Biotic Index = 4.85
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.01
E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 61.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 21
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: clear/cedar...Flow: moderate...Width/Depth(ft):
variable/1+...Substrate: sand...Streambank Vegetation/Stability:
good/good...Canopy: partly open...Other: tree-lined; snags

Delaware Basin - Browns Mill USGS Quadrangle
 Station AN0145
 Mount Misery Brook, Route 70, Pemberton Township
 February 23, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Leptophlebiidae	7	2
Philopotamidae	7	3
Hydropsychidae	3	4
Limnephilidae	8	4
Heptageniidae	3	4
Simuliidae	1	6
Brachycentridae	4	1
Chironomidae	3	6
Corydalidae	1	0
Capniidae	1	1
Asellidae	1	8
Taeniopterygidae	2	2
Tipulidae	1	3
Lumbriculidae	1	8
Isotomidae	1	10
Gammaridae	1	4
Leuctridae	1	0

 Statistical Analysis

Number of Taxa = 17
 Total Number of Individuals = 46
 % Contribution of Dominant Family = 17.39
 Family Biotic Index = 3.41
 Scraper/Filterer Collector Ratio = 0.00
 Shredder/Total Ratio = 0.46
 E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 78.26
 EPT/C* = 12.00 *(Chironomidae)
 NJIS Rating = 30
 Biological Condition = non-impaired
 Deficiency(s) noted: none

 Observations

Streamwater: clear/cedar...Flow: moderate...Width/Depth(ft): 20/1.
 ..Substrate: sand/gravel...Streambank Vegetation/Stability: good/
 good...Canopy: partly open...Other: tree-lined

Delaware Basin - Mount Misery USGS Quadrangle
Station AN0146
McDonalds Branch, USGS Gaging Station, Lebanon State Forest
December 10, 1991

Family	Number of Individuals	Family Tolerance Value (FTV)
Phryganeidae	2	4
Tipulidae	1	3
Chironomidae	44	6
Simuliidae	2	6
Leptophlebiidae	1	2
Tubificidae	4	10
Polycentropodidae	2	6
Limnephilidae	3	4
Ceratopogonidae	1	6
Naididae	4	7
Corduliidae	1	5
Hemiptera	2	8
Tabanidae	1	6
Philopotamidae	1	3

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 69
% Contribution of Dominant Family = 63.77
Family Biotic Index = 6.04
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.26
E+P+T* = 5 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 13.04
EPT/C* = 0.20 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: Chironomidae overwhelmingly dominant

Observations

Streamwater: clear/cedar...Flow: moderate...Width/Depth(ft): 6/<1.
..Substrate: sand/gravel...Streambank Vegetation/Stability: good/
good...Canopy: partly open...Other: wooded

Delaware Basin - Browns Mills USGS Quadrangle
Station AN0147
Bisphams Mill Creek, New Lisbon Road, near Lower Mill
February 23, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	83	6
Molannidae	1	6
Asellidae	1	8
Sialidae	7	4
Leuctridae	1	0
Corydalidae	3	0
Perlidae	3	1
Sphaeriidae	1	8

Statistical Analysis

Number of Taxa = 8
Total Number of Individuals = 100
% Contribution of Dominant Family = 83.00
Family Biotic Index = 5.51
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.64
E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 5.00
EPT/C* = 0.06 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: Chironomidae overwhelmingly dominant

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 20/variable
...Substrate: sand/gravel...Streambank Vegetation/Stability: good/
good...Canopy: partly open...Other: wooded

Delaware Basin - Pemberton USGS Quadrangle
Station AN0148
Greenwood Branch, New Lisbon
February 23, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	43	4
Philopotamidae	23	3
Chironomidae	20	6
Corydalidae	3	0
Hydroptilidae	1	4
Brachycentridae	1	1
Perlidae	1	1
Simuliidae	1	6
Polycentropodidae	4	6
Sialidae	1	4
Ephemerellidae	1	1
Leuctridae	1	0

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 43.00
Family Biotic Index = 4.02
Scraper/Filterer Collector Ratio = 0.01
Shredder/Total Ratio = 0.02
E+P+T* = 8 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 75.00
EPT/C* = 3.75 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear/cedar...Flow: fast...Width/Depth(ft): 60/1...
Substrate: concrete/rocks...Streambank Vegetation/Stability: good/
good...Canopy: open...Other: sparsely tree-lined; channelized on
right side; algae

Delaware Basin - Pemberton USGS Quadrangle
Station AN0149
North Branch Rancocas Creek, Hanover Street, Pemberton
January 26, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Philopotamidae	8	3
Hydropsychidae	45	4
Chironomidae	14	6
Heptageniidae	1	4
Taeniopterygidae	4	2
Corydalidae	2	0
Leptophlebiidae	5	2
Asellidae	5	8
Limnephilidae	2	4
Sphaeriidae	2	8
Molannidae	2	6
Lumbricidae	1	10
Simuliidae	1	6
Tubificidae	2	10
Tipulidae	4	3
Capniidae	1	1
Perlidae	1	1

Statistical Analysis

Number of Taxa = 17
Total Number of Individuals = 100
% Contribution of Dominant Family = 45.00
Family Biotic Index = 4.36
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.10
E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 69.00
EPT/C* = 4.93 *(Chironomidae)
NJIS Rating = 27
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear/cedar...Flow: fast...Width/Depth(ft): 75/1+...
Substrate: sand/boulders...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: partially tree-lined; urban area;
macrophytes; sample taken from both above and below spillway

Delaware Basin - Pemberton USGS Quadrangle
Station AN0150
Budds Run, Main Street, Pemberton
February 23, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	40	6
Gammaridae	27	4
Chironomidae	13	6
Asellidae	4	8
Tubificidae	12	10
Hydropsychidae	1	4
Gastropoda	1	7
Turbellaria	1	4
Tipulidae	1	3

Statistical Analysis

Number of Taxa = 9
Total Number of Individuals = 100
% Contribution of Dominant Family = 40.00
Family Biotic Index = 5.96
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.03
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 1.00
EPT/C* = 0.08 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 25/1...
Substrate: sand...Streambank Vegetation/Stability: poor/poor
Canopy: open...Other: sparsely tree-lined; darter

Delaware Basin - Mount Holly USGS Quadrangle
Station AN0151
North Branch Rancocas Creek, Pine Street Park, Mount Holly
January 26, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	29	6
Gammaridae	15	4
Lumbricidae	3	10
Hydropsychidae	4	4
Heptageniidae	1	4
Brachycentridae	2	1
Naididae	1	7
Nemertea	1	5
Taeniopterygidae	2	2
Tubificidae	2	10

Statistical Analysis

Number of Taxa = 10
Total Number of Individuals = 60
% Contribution of Dominant Family = 48.33
Family Biotic Index = 5.37
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.05
E+P+T* = 4 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 15.00
EPT/C* = 0.31 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: none

Observations

Streamwater: clear/dark cedar...Flow: fast...Width/Depth(ft): 75/1
...Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: tree-lined

Delaware Basin - Indian Mills USGS Quadrangle
 Station AN0152
 Friendship Creek, Friendship
 March 2, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Brachycentridae	57	1
Philopotamidae	4	3
Hydropsychidae	4	4
Chironomidae	8	6
Simuliidae	10	6
Corydalidae	1	0
Tipulidae	6	3
Phryganeidae	1	4
Sphaeriidae	2	8
Limnephilidae	3	4
Molannidae	1	6
Leptophlebiidae	2	2
Cordulegastridae	1	3

Statistical Analysis

Number of Taxa = 13
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 57.00
 Family Biotic Index = 2.56
 Scraper/Filterer Collector Ratio = 0.00
 Shredder/Total Ratio = 0.08
 E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 72.00
 EPT/C* = 9.00 *(Chironomidae)
 NJIS Rating = 27
 Biological Condition = non-impaired
 Deficiency(s) noted: none

Observations

Streamwater: clear/cedar...Flow: moderate...Width/Depth(ft): 8/1..
 .Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
 poor...Canopy: open...Other: wooded; filamentous algae

Delaware Basin - Chatsworth USGS Quadrangle
Station AN0153
Burrs Mill Brook, Hedgerhouse Road, Woodland Township
March 2, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	32	10
Dytiscidae	3	4
Asellidae	1	8
Sialidae	1	4
Chironomidae	10	6
Nematoda	2	6
Leptoceridae	1	4
Simuliidae	1	6

Statistical Analysis

Number of Taxa = 8
Total Number of Individuals = 51
% Contribution of Dominant Family = 62.75
Family Biotic Index = 8.35
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.02
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 1.96
EPT/C* = 0.10 *(Chironomidae)
NJIS Rating = 3
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
Tubificidae overwhelmingly dominant
significant organic pollution

Observations

Streamwater: clear/cedar...Flow: slow...Width/Depth(ft): 20/1.5...
Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: wooded; twigs and leaves on substrate

Delaware Basin - Pemberton USGS Quadrangle
Station AN0154
Burrs Mill Brook, Soeey Place Road (off Route 70)
March 2, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	37	6
Hydropsychidae	33	4
Leptophlebiidae	7	2
Philopotamidae	3	3
Asellidae	6	8
Heptageniidae	1	4
Chironomidae	3	6
Ceratopogonidae	1	6
Limnephilidae	3	4
Lumbriculidae	1	8
Nematoda	2	6
Molannidae	1	6
Leptoceridae	1	4
Aeshnidae	1	3

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 37.00
Family Biotic Index = 4.98
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.11
E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 49.00
EPT/C* = 16.33 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear/cedar...Flow: slow...Width/Depth(ft): 20/1...
Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: wooded

Delaware Basin - Pemberton USGS Quadrangle
Station AN0155
Friendship Creek, Retreat
March 2, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Limnephilidae	4	4
Sialidae	5	4
Tipulidae	2	3
Asellidae	2	8
Polycentropodidae	3	6
Lumbriculidae	5	8
Hirudinea	1	10
Chironomidae	2	6

Statistical Analysis

Number of Taxa = 8
Total Number of Individuals = 24
% Contribution of Dominant Family = 20.83
Family Biotic Index = 5.75
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.25
E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 29.17
EPT/C* = 3.50 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear/cedar...Flow: slow...Width/Depth(ft): 25/2...
Substrate: sand...Streambank Vegetation/Stability: poor/poor...
Canopy: mostly open...Other: wooded

Delaware Basin - Pemberton USGS Quadrangle
Station AN0156
South Branch Rancocas Creek, Buddtown-Beaverville Road, nr Retreat
March 2, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	67	6
Asellidae	11	8
Tubificidae	13	10
Polycentropodidae	3	6
Tipulidae	1	3
Hemiptera	1	8
Tabanidae	1	6
Lumbriculidae	2	8
Sialidae	1	4

Statistical Analysis

Number of Taxa = 9
Total Number of Individuals = 100
% Contribution of Dominant Family = 67.00
Family Biotic Index = 6.75
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.64
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 3.00
EPT/C* = 0.04 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
Chironomidae overwhelmingly dominant

Observations

Streamwater: clear/dark cedar...Flow: slow...Width/Depth(ft): 60/1
...Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: mostly open...Other: wooded

Delaware Basin - Pemberton USGS Quadrangle
Station AN0157
Jade Run, off Route 206, Vincentown
March 2, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Gammaridae	64	4
Chironomidae	5	6
Tubificidae	13	10
Heptageniidae	1	4
Turbellaria	4	4
Taeniopterygidae	1	2
Elmidae	1	4
Hydropsychidae	4	4
Limnephilidae	1	4
Hirudinea	1	10
Simuliidae	4	6
Coenagrionidae	1	9

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 64.00
Family Biotic Index = 5.05
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.04
E+P+T* = 4 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 7.00
EPT/C* = 1.40 *(Chironomidae)
NJIS Rating = 12
Biological Condition = moderately impaired
Deficiency(s) noted: Gammaridae overwhelmingly dominant

Observations

Streamwater: clear, cedar...Flow: slow...Width/Depth(ft): 15/1...
Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: mostly open...Other: sparsely tree-lined

Delaware Basin - Mount Holly USGS Quadrangle
Station AN0158
Little Creek, Route 70, Chairville
March 2, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Leptophlebiidae	26	2
Simuliidae	32	6
Philopotamidae	1	3
Chironomidae	20	6
Phryganeidae	2	4
Ceratopogonidae	2	6
Taeniopterygidae	1	2
Heptageniidae	4	4
Elmidae	6	4
Dytiscidae	1	4
Tipulidae	1	3
Corydalidae	2	0
Metretopodidae	1	2
Hydropsychidae	1	4

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 32.00
Family Biotic Index = 4.42
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.34
E+P+T* = 7 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 36.00
EPT/C* = 1.80 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear/cedar...Flow: slow...Width/Depth(ft): 10/1...
Substrate: sand...Streambank Vegetation/Stability: poor/poor...
Canopy: open...Other: tree-lined

Delaware Basin - Mount Holly USGS Quadrangle
Station AN0159
Bear Swamp River, Route 70, Chairville
March 3, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	68	6
Leptophlebiidae	6	2
Limnephilidae	2	4
BloodRedChironomidae	3	8
Polycentropodidae	2	6
Asellidae	6	8
Lumbriculidae	3	8
Simuliidae	3	6
Metretopodidae	2	2
Sialidae	3	4
Dytiscidae	1	4
Gammaridae	1	4

Statistical Analysis

Number of Taxa = 12
Total Number of Individuals = 100
% Contribution of Dominant Family = 68.00
Family Biotic Index = 5.78
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.63
E+P+T* = 4 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 12.00
EPT/C* = 0.17 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: Chironomidae overwhelmingly dominant

Observations

Streamwater: clear/cedar...Flow: slow...Width/Depth(ft): 20/1...
Substrate: sand...Streambank Vegetation/Stability: poor/poor
Canopy: open...Other: tree-lined

Delaware Basin - Mount Holly USGS Quadrangle
Station AN0160
Little Creek, Earyrestown Road, Eayrestown
March 2, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Hydropsychidae	39	4
Nematoda	2	6
Chironomidae	22	6
Naididae	3	7
Simuliidae	26	6
Turbellaria	1	4
Tipulidae	2	3
Tubificidae	2	10
Lumbriculidae	2	8
BloodRedChironomidae	1	8

Statistical Analysis

Number of Taxa = 10
Total Number of Individuals = 100
% Contribution of Dominant Family = 39.00
Family Biotic Index = 5.31
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.02
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 39.00
EPT/C* = 1.70 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear/cedar...Flow: moderate...Width/Depth(ft): 20/1.
..Substrate: sand/gravel/clay...Streambank Vegetation/Stability:
poor/poor...Canopy: open...Other: tree-lined; filamentous algae

Delaware Basin - Mount Holly USGS Quadrangle
Station AN0161
South Branch Rancocas Creek, Mt. Holly-Eayrestown Road, Eayrestown
April 14, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Heptageniidae	18	4
Hydropsychidae	16	4
Turbellaria	1	4
Lumbriculidae	11	8
Chironomidae	2	6
Elmidae	3	4
Nemertea	1	5
Coenagrionidae	1	9
Gastropoda	1	7
Lampyridae	1	6

Statistical Analysis

Number of Taxa = 10
Total Number of Individuals = 55
% Contribution of Dominant Family = 32.73
Family Biotic Index = 5.07
Scraper/Filterer Collector Ratio = 0.06
Shredder/Total Ratio = 0.33
E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 61.82
EPT/C* = 17.00 *(Chironomidae)
NJIS Rating = 18
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear/cedar...Flow: moderate...Width/Depth(ft): 30/
1-2...Substrate: sand/gravel...Streambank Vegetation/Stability:
fair/fair...Canopy: open...Other: tree-lined; some mosses

Delaware Basin - Moorestown USGS Quadrangle
Station AN0162
South West Branch Rancocas Creek, Elmwood Road, Evesham Township
April 14, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	28	6
Hydropsychidae	3	4
Lumbricidae	2	10
Gastropoda	3	7
Asellidae	3	8
Simuliidae	1	6
Tubificidae	1	10

Statistical Analysis

Number of Taxa = 7
Total Number of Individuals = 41
% Contribution of Dominant Family = 68.29
Family Biotic Index = 6.37
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.02
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 7.32
EPT/C* = 0.11 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
Chironomidae overwhelmingly dominant

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 6/<1...
Substrate: sand/gravel/rocks...Streambank Vegetation/Stability:
poor/fair...Canopy: open...Other: a few trees; concrete slabs on
right bank; green filamentous algae; Darter

Delaware Basin - Clementon USGS Quadrangle
 Station AN0163
 Barton Run, Braddock Mill Road and Route 73, Kresson
 April 14, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	34	6
Lumbriculidae	4	8
Nemertea	4	5
Hydropsychidae	23	4
Tipulidae	2	3
Simuliidae	25	6
Lumbricidae	1	10
Gastropoda	2	7
Nematoda	1	6
Turbellaria	1	4
Elmidae	2	4
Leptoceridae	1	4

Statistical Analysis

Number of Taxa = 12
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 34.00
 Family Biotic Index = 5.50
 Scraper/Filterer Collector Ratio = 0.02
 Shredder/Total Ratio = 0.02
 E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 24.00
 EPT/C* = 0.71 *(Chironomidae)
 NJIS Rating = 18
 Biological Condition = moderately impaired
 Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 6/<1...
 Substrate: sand/gravel...Streambank Vegetation/Stability: fair/
 fair...Canopy: open...Other: few trees; algae; trash in stream

Delaware Basin - Clementon USGS Quadrangle
Station AN0164
Black Run, Kettle Run Road, Evesham Township
December 10, 1991

Family	Number of Individuals	Family Tolerance Value (FTV)
Molannidae	4	6
Hydropsychidae	17	4
Simuliidae	17	6
Lumbriculidae	9	8
Chironomidae	21	6
Ceratopogonidae	2	6
Philopotamidae	4	3
Leptophlebiidae	6	2
Leuctridae	2	0
Limnephilidae	2	4
Tipulidae	3	3
Polycentropodidae	3	6
Ephemerellidae	5	1
Corydalidae	4	0
Leptoceridae	1	4

Statistical Analysis

Number of Taxa = 15
Total Number of Individuals = 100
% Contribution of Dominant Family = 21.00
Family Biotic Index = 4.72
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.20
E+P+T* = 9 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 44.00
EPT/C* = 2.10 *(Chironomidae)
NJIS Rating = 30
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 3/<1...
Substrate: sand/gravel...Streambank Vegetation/Stability: good/
good...Canopy: half open...Other: wooded

Delaware Basin - Clementon USGS Quadrangle
 Station AN0165
 North Tributary to Black Run, Braddock Mill Road, Evesham Township
 December 10, 1991

Family	Number of Individuals	Family Tolerance Value (FTV)
Asellidae	28	8
Simuliidae	3	6
Chironomidae	28	6
Tubificidae	10	10
Sialidae	5	4
Naididae	1	7
Psychodidae	1	10
Cordulegastridae	1	3
Phoridae	1	7
Lumbriculidae	1	8
Entomobryinae	1	10

Statistical Analysis

Number of Taxa = 11
 Total Number of Individuals = 80
 % Contribution of Dominant Family = 35.00
 Family Biotic Index = 7.19
 Scraper/Filterer Collector Ratio = 0.00
 Shredder/Total Ratio = 0.13
 E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 0.00
 EPT/C* = 0.00 *(Chironomidae)
 NJIS Rating = 12
 Biological Condition = moderately impaired
 Deficiency(s) noted: significant organic pollution
 paucity of clean water organisms

Observations

Streamwater: clear/dark cedar...Flow: slow...Width/Depth(ft): 4/1+
 ...Substrate: sand...Streambank Vegetation/Stability: good/good...
 Canopy: mostly open...Other: wooded; tree roots, branches, and
 leaves on substrate; suspended particulates

Delaware Basin - Mount Holly USGS Quadrangle
Station AN0166
Barton Run, Tuckerton Road, near Hoot Owl Estates
April 14, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Tipulidae	1	3
Elmidae	5	4
Gastropoda	22	7
Sphaeriidae	61	8
Unionidae	2	8
Hydropsychidae	5	4
Nemertea	1	5
Turbellaria	2	4
Tubificidae	1	10

Statistical Analysis

Number of Taxa = 9
Total Number of Individuals = 100
% Contribution of Dominant Family = 61.00
Family Biotic Index = 7.24
Scraper/Filterer Collector Ratio = 0.31
Shredder/Total Ratio = 0.00
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 5.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 3
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution
 Sphaeriidae overwhelmingly dominant

Observations

Streamwater: very turbid...Flow: slow...Width/Depth(ft): 20/1...
Substrate: sand/gravel/pieces of concrete...Streambank Vegetation/
Stability: poor/poor...Canopy: open...Other: tree-lined;
filamentous algae; muddy water coming in from storm drain (from
road construction by Burlington County Highway Department, no hay
bales, etc. being used)

Delaware Basin - Medford Lakes USGS Quadrangle
 Station AN0167
 Kettle Run, Hopewell Road, Marlton Lakes, Evesham Township
 April 14, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
BloodRedChironomidae	7	8
Tubificidae	16	10
Sphaeriidae	34	8
Turbellaria	8	4
Naididae	10	7
Lumbriculidae	8	8
Hydropsychidae	4	4
Asellidae	6	8
Nemertea	1	5
Coenagrionidae	1	9
Chironomidae	5	6

Statistical Analysis

Number of Taxa = 11
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 34.00
 Family Biotic Index = 7.62
 Scraper/Filterer Collector Ratio = 0.00
 Shredder/Total Ratio = 0.06
 E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 4.00
 EPT/C* = 0.33 *(Chironomidae)
 NJIS Rating = 12
 Biological Condition = moderately impaired
 Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 10/<1...
 Substrate: sand...Streambank Vegetation/Stability: fair/fair...
 Canopy: open...Other: left side wooded, right side cleared;
 macrophytes; sunfish

Delaware Basin - Mount Holly USGS Quadrangle
Station AN0168
Haynes Creek, Himmelein Road, Oliphant Mills
April 14, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Sphaeriidae	19	8
BloodRedChironomidae	8	8
Hydropsychidae	34	4
Naididae	9	7
Gastropoda	1	7
Turbellaria	6	4
Heptageniidae	1	4
Elmidae	7	4
Tubificidae	4	10
Chironomidae	4	6
Caenidae	2	7
Nemertea	3	5
Lumbriculidae	1	8
Lumbricidae	1	10

Statistical Analysis

Number of Taxa = 14
Total Number of Individuals = 100
% Contribution of Dominant Family = 34.00
Family Biotic Index = 5.89
Scraper/Filterer Collector Ratio = 0.02
Shredder/Total Ratio = 0.05
E+P+T* = 3 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 37.00
EPT/C* = 3.08 *(Chironomidae)
NJIS Rating = 24
Biological Condition = non-impaired
Deficiency(s) noted: none

Observations

Streamwater: clear/cedar...Flow: moderate-fast...Width/Depth(ft):
30/1.5...Substrate: sand/gravel/rocks...Streambank Vegetation/
Stability: good/good...Canopy: open...Other: tree-lined;
macrophytes; filamentous green algae

Delaware Basin - Mount Holly USGS Quadrangle
Station AN0169
South West Branch Rancocas Creek, Route 70, Medford
April 14, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Tipulidae	1	3
Polycentropodidae	1	6
Sphaeriidae	9	8
Tubificidae	14	10
Simuliidae	2	6
Turbellaria	4	4
Nemertea	1	5
Gammaridae	9	4
Chironomidae	2	6
Heptageniidae	2	4
Ceratopogonidae	1	6

Statistical Analysis

Number of Taxa = 11
Total Number of Individuals = 46
% Contribution of Dominant Family = 30.43
Family Biotic Index = 6.87
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.04
E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 6.52
EPT/C* = 1.50 *(Chironomidae)
NJIS Rating = 15
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear/cedar...Flow: slow...Width/Depth(ft): 50/1...
Substrate: sand...Streambank Vegetation/Stability: fair/fair...
Canopy: open...Other: a few trees; snags; siltation; filamentous
algae; macrophytes; sign reads Haynes Creek

Delaware Basin - Mount Holly USGS Quadrangle
 Station AN0170
 Sharps Run, Route 541, Medford
 April 14, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	27	10
Unionidae	1	8
Chironomidae	17	6
Sphaeriidae	28	8
Gammaridae	3	4
Gastropoda	8	7
Hydropsychidae	2	4
BloodRedChironomidae	2	8
Cambarinae	1	6
Polycentropodidae	1	6

Statistical Analysis

Number of Taxa = 10
 Total Number of Individuals = 90
 % Contribution of Dominant Family = 31.11
 Family Biotic Index = 7.87
 Scraper/Filterer Collector Ratio = 0.24
 Shredder/Total Ratio = 0.10
 E+P+T* = 2 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 3.33
 EPT/C* = 0.16 *(Chironomidae)
 NJIS Rating = 9
 Biological Condition = moderately impaired
 Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 10/1...
 Substrate: mud/clay/sand...Streambank Vegetation/Stability: poor/
 poor...Canopy: open...Other: tree-lined; macrophytes

Delaware Basin - Lumberton USGS Quadrangle
Station AN0171
Bobbys Run, Newbolds Corner Road, Lumberton
April 14, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Lumbriculidae	1	8
Tubificidae	1	10
Nemertea	1	5
Tipulidae	1	3
Chironomidae	2	6

Statistical Analysis

Number of Taxa = 5
Total Number of Individuals = 6
% Contribution of Dominant Family = 33.33
Family Biotic Index = 6.33
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.33
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 12
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 30/1.5...
Substrate: mud/sand/rocks from bridge construction...Streambank
Vegetation/Stability: poor/poor...Canopy: open...Other: tree-
lined; siltation; iron precipitate; detritus; filamentous algae

Delaware Basin - Mount Holly USGS Quadrangle
 Station AN0172
 Masons Creek, Ark Road, Lumberton
 December 10, 1991

Family	Number of Individuals	Family Tolerance Value (FTV)
Sphaeriidae	59	8
Tubificidae	5	10
Phoridae	10	7
Chironomidae	13	6
Asellidae	7	8
Psychodidae	1	10
Sialidae	2	4
Psephenidae	1	4
BloodRedChironomidae	2	8

Statistical Analysis

Number of Taxa = 9
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 59.00
 Family Biotic Index = 7.64
 Scraper/Filterer Collector Ratio = 0.02
 Shredder/Total Ratio = 0.04
 E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 00.00
 EPT/C* = 0.00 *(Chironomidae)
 NJIS Rating = 6
 Biological Condition = severely impaired
 Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution

Observations

Streamwater: cloudy...Flow: slow...Width/Depth(ft): 4/<1...
 Substrate: sand...Streambank Vegetation/Stability: good/good...
 Canopy: mostly open...Other: tree-lined

Delaware Basin - Mount Holly USGS Quadrangle
Station AN0173
Masons Creek, off Route 38, Union Mills
April 14, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Gammaridae	21	4
Tubificidae	4	10
Lumbriculidae	7	8
Gastropoda	5	7
Nemertea	1	5
Sphaeriidae	1	8
Chironomidae	2	6

Statistical Analysis

Number of Taxa = 7
Total Number of Individuals = 41
% Contribution of Dominant Family = 51.22
Family Biotic Index = 5.85
Scraper/Filterer Collector Ratio = 5.00
Shredder/Total Ratio = 0.00
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 20/1+...
Substrate: muck/sand...Streambank Vegetation/Stability: poor/poor.
...Canopy: open...Other: a few trees; macrophytes

Delaware Basin - Moorestown/Mount Holly USGS Quadrangle
Station AN0174
Parkers Creek, Creek Road, Centerton
April 14, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Gammaridae	73	4
Tubificidae	1	10
Lumbriculidae	1	8
Chironomidae	3	6
Sphaeriidae	14	8
Gastropoda	4	7
Hydropsychidae	1	4

Statistical Analysis

Number of Taxa = 7
Total Number of Individuals = 97
% Contribution of Dominant Family = 75.26
Family Biotic Index = 4.87
Scraper/Filterer Collector Ratio = 0.27
Shredder/Total Ratio = 0.03
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 1.03
EPT/C* = 0.33 *(Chironomidae)
NJIS Rating = 9
Biological Condition = moderately impaired
Deficiency(s) noted: Gammaridae overwhelmingly dominant
paucity of clean water organisms

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 25/1-2...
Substrate: sand/gravel/rubble...Streambank Vegetation/Stability:
poor/poor...Canopy: open...Other: tree-lined

Delaware Basin - Beverly USGS Quadrangle
Station AN0175
Mill Creek, Levitt Parkway, Willingboro
January 26, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Asellidae	2	8
Gammaridae	10	4
Tubificidae	13	10
Gastropoda	1	7
Dolichopodidae	1	4
Hydropsychidae	1	4
Lumbricidae	1	10
Sialidae	1	4
Chironomidae	1	6

Statistical Analysis

Number of Taxa = 9
Total Number of Individuals = 31
% Contribution of Dominant Family = 41.94
Family Biotic Index = 7.13
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.03
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 3.23
EPT/C* = 1.00 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 20/1...
Substrate: sand...Streambank Vegetation/Stability: poor/poor...
Canopy: open...Other: tree-lined

Delaware Basin - Beverly USGS Quadrangle
Station AN0176
Swedes Run, Route 130, Delran
April 15, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	62	10
Nematoda	1	6
Sphaeriidae	24	8
Gammaridae	6	4
Nemertea	1	5
Chironomidae	3	6
Gastropoda	1	7
Hydropsychidae	1	4
BloodRedChironomidae	1	8

Statistical Analysis

Number of Taxa = 9
Total Number of Individuals = 100
% Contribution of Dominant Family = 62.00
Family Biotic Index = 8.84
Scraper/Filterer Collector Ratio = 0.04
Shredder/Total Ratio = 0.02
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 1.00
EPT/C* = 0.25 *(Chironomidae)
NJIS Rating = 3
Biological Condition = severely impaired
Deficiency(s) noted: Tubificidae overwhelmingly dominant
paucity of clean water organisms
significant organic pollution

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 20/<1...
Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: a few trees on right bank; McDonalds
on left bank; oil and grease running off from parking lot;
filamentous algae

Delaware Basin - Beverly USGS Quadrangle
 Station AN0177
 Pompeston Creek, Route 130, Cinnaminson
 April 15, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	8	6
BloodRedChironomidae	12	8
Lumbriculidae	1	8
Hydropsychidae	1	4
Naididae	11	7
Tubificidae	11	10
Gastropoda	2	7
Hirudinea	8	10
Tipulidae	4	3
Coenagrionidae	1	9

Statistical Analysis

Number of Taxa = 10
 Total Number of Individuals = 59
 % Contribution of Dominant Family = 20.34
 Family Biotic Index = 7.76
 Scraper/Filterer Collector Ratio = 0.00
 Shredder/Total Ratio = 0.24
 E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 1.69
 EPT/C* = 0.05 *(Chironomidae)
 NJIS Rating = 9
 Biological Condition = moderately impaired
 Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution

Observations

Streamwater: grey...Flow: moderate...Width/Depth(ft): 20/<1...
 Substrate: sand/gravel/rubble...Streambank Vegetation/Stability:
 poor/poor...Canopy: open...Other: tree-lined; trash instream;
 heavy filamentous algae

Delaware Basin - Moorestown USGS Quadrangle
 Station AN0178
 North Branch Pennsauken Creek, Church Road, Mt. Laurel Township
 March 18, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	31	10
Simuliidae	9	6
Chironomidae	4	6
Asellidae	5	8
Hydropsychidae	3	4
Gastropoda	1	7
Tipulidae	1	3
Nemertea	1	5
Nematoda	1	6
Turbellaria	1	4
BloodRedChironomidae	1	8
Sphaeriidae	1	8

Statistical Analysis

Number of Taxa = 12
 Total Number of Individuals = 59
 % Contribution of Dominant Family = 52.54
 Family Biotic Index = 8.15
 Scraper/Filterer Collector Ratio = 0.00
 Shredder/Total Ratio = 0.05
 E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 5.08
 EPT/C* = 0.60 *(Chironomidae)
 NJIS Rating = 9
 Biological Condition = moderately impaired
 Deficiency(s) noted: significant organic pollution
 paucity of clean water organisms

Observations

Streamwater: clean...Flow: slow...Width/Depth(ft): 10/<1...
 Substrate: sand...Streambank Vegetation/Stability: fair/fair...
 Canopy: open...Other: wooded; iron and iron bacteria; substrate
 covered with mosses; Darter

Delaware Basin - Moorestown USGS Quadrangle
 Station AN0179
 North Branch Pennsauken Creek, Fellowship Road, Mt. Laurel Twp.
 March 18, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	1	6
Tubificidae	10	10
Sphaeriidae	1	8
Nemertea	3	5
Chironomidae	6	6
Turbellaria	2	4
Gastropoda	1	7
Coenagrionidae	1	9
BloodRedChironomidae	1	8

Statistical Analysis

Number of Taxa = 9
 Total Number of Individuals = 26
 % Contribution of Dominant Family = 38.46
 Family Biotic Index = 7.58
 Scraper/Filterer Collector Ratio = 0.00
 Shredder/Total Ratio = 0.04
 E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 0.00
 EPT/C* = 0.00 *(Chironomidae)
 NJIS Rating = 9
 Biological Condition = moderately impaired
 Deficiency(s) noted: significant organic pollution
 paucity of clean water organisms

Observations

Streamwater: turbid/green...Flow: slow...Width/Depth(ft): 20/<1...
 Substrate: clay/sand/gravel...Streambank Vegetation/Stability:
 fair/fair...Canopy: open...Other: sparsely tree-lined; industrial
 park; leaf litter on substrate; macrophytes

Delaware Basin - Camden USGS Quadrangle
Station AN0180
North Branch Pennsauken Creek, Route 537, Maple Shade
March 18, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	53	6
Naididae	13	7
Hirudinea	5	10
Gammaridae	12	4
Turbellaria	3	4
Tubificidae	5	10
Gastropoda	3	7
Haplotaxidae	1	8
Asellidae	3	8
Sphaeriidae	1	8
Coenagrionidae	1	9

Statistical Analysis

Number of Taxa = 11
Total Number of Individuals = 100
% Contribution of Dominant Family = 53.00
Family Biotic Index = 6.39
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 12
Biological Condition = moderately impaired
Deficiency(s) noted: paucity of clean water organisms

Observations

Streamwater: turbid/green...Flow: moderate...Width/Depth(ft): 50/
<1...Substrate: sand/gravel/mud/cobbles...Streambank Vegetation/
Stability: poor/poor...Canopy: open...Other: commercial area;
substrate covered with mosses, silt, and 20 shopping carts.

Delaware Basin - Camden USGS Quadrangle
Station AN0181
North Branch Pennsauken Creek, Fork Landing Road, Maple Shade
March 18, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	70	10
BloodRedChironomidae	10	8
Asellidae	6	8
Gammaridae	10	4
Gastropoda	1	7
Chironomidae	3	6

Statistical Analysis

Number of Taxa = 6
Total Number of Individuals = 100
% Contribution of Dominant Family = 70.00
Family Biotic Index = 8.93
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.01
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 3
Biological Condition = severely impaired
Deficiency(s) noted: significant organic pollution
paucity of clean water organisms
Tubificidae overwhelmingly dominant

Observations

Streamwater: turbid...Flow: low tide...Width/Depth(ft): 60/1+...
Substrate: muck/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: residential; tide starting to come in

Delaware Basin - Moorestown USGS Quadrangle
 Station AN0182
 South Branch Pennsauken Creek, Greentree Road, Cherry Hill
 March 18, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	34	10
Chironomidae	5	6
Hydropsychidae	1	4
Asellidae	10	8
BloodRedChironomidae	20	8
Sphaeriidae	6	8
Naididae	1	7
Coenagrionidae	2	9
Gastropoda	1	7
Lumbricidae	1	10

Statistical Analysis

Number of Taxa = 10
 Total Number of Individuals = 81
 % Contribution of Dominant Family = 41.98
 Family Biotic Index = 8.69
 Scraper/Filterer Collector Ratio = 0.00
 Shredder/Total Ratio = 0.25
 E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 1.23
 EPT/C* = 0.04 *(Chironomidae)
 NJIS Rating = 6
 Biological Condition = severely impaired
 Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 10-20/<1...
 Substrate: sand...Streambank Vegetation/Stability: poor/poor...
 Canopy: open...Other: tree-lined; residential area; iron and iron
 bacteria; macrophytes

Delaware Basin - Moorestown USGS Quadrangle
Station AN0183
South Branch Pennsauken Creek, Route 41, Maple Shade
March 18, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	11	10
Hirudinea	2	10
BloodRedChironomidae	15	8
Lumbricidae	1	10
Naididae	1	7
Chironomidae	6	6

Statistical Analysis

Number of Taxa = 6
Total Number of Individuals = 36
% Contribution of Dominant Family = 41.67
Family Biotic Index = 8.42
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.39
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution

Observations

Streamwater: turbid/green...Flow: slow...Width/Depth(ft): 20/<1...
Substrate: sand...Streambank Vegetation/Stability: poor/poor...
Canopy: open...Other: tree-lined; residential/commercial area; oil
sheen on water's surface; Sphaerotilis

Delaware Basin - Camden USGS Quadrangle
Station AN0184
South Branch Pennsauken Creek, Route 537, Maple Shade
March 18, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	98	10
BloodRedChironomidae	1	8
Hydropsychidae	1	4

Statistical Analysis

Number of Taxa = 3
Total Number of Individuals = 100
% Contribution of Dominant Family = 98.00
Family Biotic Index = 9.92
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.01
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 1.00
EPT/C* = 1.00 *(Chironomidae)
NJIS Rating = 0
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
 significant organic pollution
 low diversity
 Tubificidae overwhelmingly dominant

Observations

Streamwater: green...Flow: slow...Width/Depth(ft): 30/<1...
Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: tree-lined; filamentous algae;
macrophytes

Delaware Basin - Camden USGS Quadrangle
Station AN0185
South Branch Pennsauken Creek, Fork Landing Road, East Pennsauken
March 18, 1992

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	63	10
BloodRedChironomidae	6	8
Gammaridae	28	4
Turbellaria	1	4
Nemertea	1	5
Hirudinea	1	10

Statistical Analysis

Number of Taxa = 6
Total Number of Individuals = 100
% Contribution of Dominant Family = 63.00
Family Biotic Index = 8.09
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 3
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
Tubificidae overwhelmingly dominant
significant organic pollution

Observations

Streamwater: turbid...Flow: low tide...Width/Depth(ft): 60/1+...
Substrate: muck/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: residential

Delaware Basin - Clementon USGS Quadrangle
Station AN0186
North Branch Cooper River, Kresson Road, Kresson
April 15, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	74	6
Nemertea	1	5
Lumbriculidae	2	8
Tubificidae	7	10
Simuliidae	10	6
BloodRedChironomidae	2	8
Sphaeriidae	4	8

Statistical Analysis

Number of Taxa = 7
Total Number of Individuals = 100
% Contribution of Dominant Family = 74.00
Family Biotic Index = 6.43
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.14
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: Chironomidae overwhelmingly dominant
paucity of clean water organisms

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 10/1...
Substrate: sand/gravel/mud...Streambank Vegetation/Stability:
poor/poor...Canopy: open...Other: wooded; macrophytes

Delaware Basin - Moorestown USGS Quadrangle
Station AN0187
North Branch Cooper River, Springdale Road, Cherry Hill Township
April 15, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	5	10
Simuliidae	1	6
Sphaeriidae	1	8
Tipulidae	1	3

Statistical Analysis

Number of Taxa = 4
Total Number of Individuals = 8
% Contribution of Dominant Family = 62.50
Family Biotic Index = 8.38
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.13
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 0
Biological Condition = severely impaired
Deficiency(s) noted: low diversity
 paucity of clean water organisms
 Tubificidae overwhelmingly dominant
 significant organic pollution

Observations

Streamwater: clean...Flow: moderate...Width/Depth(ft): 20/1...
Substrate: sand...Streambank Vegetation/Stability: poor/poor...
Canopy: open...Other: wooded; iron precipitate; filamentous algae

Delaware Basin - Camden USGS Quadrangle
Station AN0188
North Branch Cooper River, River Drive, Erlton
April 15, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Tubificidae	12	10

Statistical Analysis

Number of Taxa = 1
Total Number of Individuals = 12
% Contribution of Dominant Family = 100.00
Family Biotic Index = 10.00
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.14
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 0
Biological Condition = severely impaired
Deficiency(s) noted: low diversity
 paucity of clean water organisms
 Tubificidae overwhelmingly dominant
 significant organic pollution

Observations

Streamwater: turbid...Flow: slow...Width/Depth(ft): 20/1...
Substrate: sand...Streambank Vegetation/Stability: poor/poor...
Canopy: open...Other: few trees; park; oil in sample

Delaware Basin - Clementon USGS Quadrangle
Station AN0189
South Branch Cooper River, Gibbsboro Road, Gibbsboro
April 15, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Simuliidae	67	6
Lumbriculidae	21	8
Sphaeriidae	1	8
Elmidae	2	4
Corydalidae	1	0
Lumbricidae	1	10
Chironomidae	5	6
Leuctridae	1	0
Nemertea	1	5

Statistical Analysis

Number of Taxa = 9
Total Number of Individuals = 100
% Contribution of Dominant Family = 67.00
Family Biotic Index = 6.31
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.01
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 1.00
EPT/C* = 0.20 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
Simuliidae overwhelmingly dominant

Observations

Streamwater: clear/cedar...Flow: moderate...Width/Depth(ft): 6/1..
Substrate: sand/gravel...Streambank Vegetation/Stability: fair/
fair...Canopy: open...Other: tree-lined; filamentous algae

Delaware Basin - Runnemede USGS Quadrangle
Station AN0190
South Branch Cooper River, Evesham Road, Magnolia
April 15, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Chironomidae	13	6
Tubificidae	33	10
Lumbricidae	2	10
Naididae	3	7

Statistical Analysis

Number of Taxa = 4
Total Number of Individuals = 51
% Contribution of Dominant Family = 64.71
Family Biotic Index = 8.80
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 0 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 0.00
EPT/C* = 0.00 *(Chironomidae)
NJIS Rating = 0
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
Tubificidae overwhelmingly dominant
low diversity
significant organic pollution

Observations

Streamwater: clear...Flow: moderate...Width/Depth(ft): 20/<1...
Substrate: sand/gravel...Streambank Vegetation/Stability: poor/
poor...Canopy: open...Other: tree-lined; filamentous algae; sewage
odor

Delaware Basin - Camden USGS Quadrangle
Station AN0191
South Branch Cooper River, Route 41, Haddonfield
April 15, 1993

Family	Number of Individuals	Family Tolerance Value (FTV)
Naididae	9	7
Nematoda	1	6
Chironomidae	68	6
Hydropsychidae	5	4
Sphaeriidae	5	8

Statistical Analysis

Number of Taxa = 5
Total Number of Individuals = 88
% Contribution of Dominant Family = 77.27
Family Biotic Index = 6.10
Scraper/Filterer Collector Ratio = 0.00
Shredder/Total Ratio = 0.00
E+P+T* = 1 *(Ephemeroptera, Plecoptera and Trichoptera)
%EPT = 5.68
EPT/C* = 0.07 *(Chironomidae)
NJIS Rating = 6
Biological Condition = severely impaired
Deficiency(s) noted: paucity of clean water organisms
Chironomidae overwhelmingly dominant

Observations

Streamwater: turbid...Flow: moderate...Width/Depth(ft): 20/1...
Substrate: rocks...Streambank Vegetation/Stability: poor/poor...
Canopy: open...Other: tree-lined; filamentous algae

Delaware Basin - Flatbrookville USGS Quadrangle
 Station AN0025A
 Blair Creek, below Fairview Lake outlet, Hardwick Township
 October 22, 1991

Family	Number of Individuals	Family Tolerance Value (FTV)
Leptoceridae	1	4
Sphaeriidae	35	8
Hydroptilidae	1	4
Tubificidae	19	10
Hydropsycidae	7	4
Phryganeidae	2	4
Nemertea	5	5
Limnephilidae	2	4
Gastropoda	3	7
Naididae	3	7
Chironomidae	2	6
Heptageniidae	11	4
Tipulidae	2	3
Psephenidae	2	4
Coenagrionidae	2	9
Libellulidae	1	9
Bryozoa	1	7
Hirudinea	1	10

Statistical Analysis

Number of Taxa = 18
 Total Number of Individuals = 100
 % Contribution of Dominant Family = 35.00
 Family Biotic Index = 7.03
 Scraper/Filterer Collector Ratio = 0.07
 Shredder/Total Ratio = 0.16
 E+P+T* = 6 *(Ephemeroptera, Plecoptera and Trichoptera)
 %EPT = 24.00
 EPT/C* = 12.00 *(Chironomidae)
 NJIS Rating = 21
 Biological Condition = moderately impaired
 Deficiency(s) noted: significant organic pollution

Observations

Streamwater: clear...Flow: slow...Width/Depth(ft): 3/<1...
 Substrate: rocks/cobbles/gravel/sand...Streambank Vegetation/
 Stability: good/good...Canopy: mostly open...Other: wooded