

Integration of
Nineteen Non-tidal Potomac
Biological Data Sets

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Prepared by the

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Executive Summary

The Commission continued to identify, obtain and analyze biological monitoring data collected between 1960 and 1994 from the Potomac Basin's non-tidal rivers and streams. Many of these data sets were wholly or partially collected in Maryland. Commission staff computerized hardcopy data and integrated electronic data into a common relational database structure. They produced standardized "meta" information files for the data and investigated data set comparability. They wrote computer programs to calculate the fish and macroinvertebrate metrics of the Environmental Protection Agency's Rapid Bioassessment Protocols (RBP) developed by Plafkin et al., 1989, and then generated the metrics from the database. The results are presented in report tables, with some interpretation of the metrics provided in the report discussion. Finally, Commission staff created an ArcView3 coverage of all the sampling stations identified in the data sets. The coverage will eventually be used to display and interpret information derived from the data.

The quality of the acquired data sets varied tremendously in their original form. Information on station location, methods and materials, and analytical methods ranged from comprehensive to scant in the available study reports. For instance, measurements were made in both qualitative (presence/absence) and quantitative units, and taxonomic identifications ranged from the Species level to Order and higher. The Commission's objective was to first extract the useful information from these studies and then put the data into a universal framework whereby they could be managed and analyzed uniformly. Much attention was given to the design of this universal framework, a relational database structure, to ensure it could accommodate the variety of data sets that exist. The Commission anticipates integrating data from ongoing monitoring programs into the relational database at a later date.

The EPA's RBP metrics were selected for preliminary analysis of the final integrated database after reviewing various metrics (indicators) commonly used to analyze stream and river biological data. The EPA metrics were chosen because of their traditional use in benthic and fish data analysis. While some of these metrics may be preserved in subsequent analysis of the data, the most appropriate set of metrics for analysis of these diverse data sets will not be selected until staff have further researched the comparability of the disparate studies. Presently, the EPA metrics are being used to point out possible stream degradation as well as to explore the potential taxon biases of different collection methods.

Table of Contents

Acknowledgments	ii
Executive Summary	iii
Table of Contents	v
Introduction	1
Data Assembly	1
Data Documentation	2
Relational Database Structure	2
Data Analysis	21
Discussion and Recommendations	26
References	28
Appendix A Study Summaries	
Appendix B Relational Database Tables	
Appendix C Indicator Data Sets Generated from Relational Database	
Appendix D Station Locations	

Introduction

A number of resource management agencies are realizing the value of historical data sets in assessing progress in restoration efforts. However, few integrated, well documented databases exist that pull together diverse data sets, hence the data are usually difficult to access or use. These datasets can provide resource managers, regulators, and legislators a wide array of information and a long-term perspective of the waters their decisions affect. In this study, the Interstate Commission on the Potomac River Basin has taken steps towards integrating biological data sets from Maryland, Pennsylvania, and West Virginia. Those steps are detailed in the "Data Assembly," "Data Documentation" and "Relational Database Structure" sections of this report. Selection criteria were used to identify potentially useful data sets from the studies located by the Commission. Studies which met the criteria were united in a relational database structure. Because data sets were available in extremely different formats, the report describes at length how various methods for recording date, identifying taxa and describing sampling methods and sites were incorporated into a single documentation format and a single relational database structure. The "Data Analysis" report section describes how a preliminary analysis of the databases was accomplished using EPA Rapid Bioassessment Protocol metrics for fish and invertebrates. As more data sets are integrated into the databases, the Commission will refine and enhance these analyses methods to reflect ecoregion specific differences. Finally, in "Discussion and Recommendations," major problems identified in the data, and possible resolutions to the problems, are presented.

Data Assembly

Of the data sets that were available to us, only a subset of these data sets were deemed useful for our ultimate purpose: basin-wide assessments. We formalized our data screening process by using the following criteria to evaluate each data set.

- ◆ The data source should be a monitoring study which includes tables or raw data sheets with taxon identifications for each station studied. The tables may include either qualitative (presence/absence) or quantitative (count) data for each taxon.
- ◆ The data source should specify each sampling station location with either a latitude and longitude or its relative distance from easily identifiable objects such as roads, bridges or towns.
- ◆ A date should be listed for each sampling event. Studies may also be acceptable if sampling occurred over a specified time span.

The following organizations, libraries, and institutions were contacted or searched for reports and data sets: the Commission's own library, the U.S. Department of Interior Library; the American University Library; the Army Corps of Engineers, Baltimore District reference librarian; Department of Natural Resources, Fisheries Administration; U.S. Department of Interior, Fish and Wildlife Service, Kearneysville WV; Academy of Natural Sciences of Philadelphia; Fish and

and Wildlife Service, Kearneysville WV; Academy of Natural Sciences of Philadelphia; Fish and Wildlife Service Reference Service, Bethesda, MD; National Fisheries Research Center; and the Washington Biologists' Field Club. Commission staff searched manually and electronically for references using keywords such as "Potomac," "fish" or "benth*." If reports were found in these searches, they were photocopied.

Studies listed in Table 1 met the data set selection criteria. Data for studies 1 - 20 were obtained; data acquisition of studies 21 - 23 is pending. Studies that did not meet the three data set selection criteria are listed in Table 2. They were not included in the integrated database. More detailed summaries of the data sets are provided in Appendix A.

Data sets for studies 1 - 19 were obtained in either hardcopy or electronic format. The data set for study 20 was obtained as an electronic file but the data was corrupted and no other clean files were available. Data set 21 was requested from the Virginia Department of Environmental Quality but has not yet been received by Commission staff. The release by Maryland of data sets 22 and 23 is pending. Hardcopy data were occasionally found on third and fourth generation photocopies of poorly legible data sheets, but most of the time the data were easy to read. Hardcopy data were computerized by Commission staff using simple spreadsheet software (QuattroPro). The computerized data were then checked for accuracy (QA/QC) by a staff person other than the original data entry person. Data in the QuattroPro spreadsheets were subsequently migrated to the relational database structure (see below) using Visual dBase as the relational database engine.

Data Documentation

"Meta" information files for each of the acquired data sets were created from information presented in the study reports and other documents as well as the actual data. Documenting the studies served to further identify useable data. For example, a few reports contained limited descriptions of study methods and materials, making it impossible to determine the data's comparability to other data. Information and data from these studies will need to be used with caution. Commission staff produced an electronic file of the documentation (meta information) for each data set using a template similar to one used by the Chesapeake Bay Program Data Center. The documentation files contain information extracted from reports, maps, and the actual data, including study abstracts, locational information and methodology. The documentation files are designed to eventually accompany electronic files of the data when the data are released. They can be found on the diskette at the back of this report.

Relational Database Structure

Data from studies 1 - 19 were incorporated into a relational database structure designed by the Commission. A relational database is a set of related tables linked on common fields. Each of the related tables represents a specific data theme (i.e. station information, stream reach information, benthic collection data). When the tables are placed within a relational framework, they can be accessed by all other tables within that framework. The "relational" framework

Table 1. Studies in non-tidal Potomac streams and rivers which met the data set selection criteria identified in the report. These studies are described in more detail in Appendix A. Data sets 1 - 20 were obtained; acquisition of data sets 21 - 23 is pending. Code corresponds to study code, a unique number arbitrarily assigned to each study.

Code	Title	Author & Date
1	Biological Survey of Antietam Creek and Some of its Tributaries from Waynesboro, Pennsylvannia to Antietam, Maryland, Potomac River Basin	LaBuy 1968
2	Piney and Alloway Creeks, Baseline Monitoring Report April 1990- September 1991	Lehman et al. 1993
3	Benthic Macroinvertebrate and Fish Populations In Maryland Streams Influenced by Acid Mine Drainage	Davis 1973
4	Biological Survey of the Monocacy River and Tributaries CB-SRBP Working Document No. 23 from Gettysburg Pa to the Rt 28 Bridge	LaBuy 1968
5	North and South Branch Potomac River Biological Study, 1988	Boaze & Smith 1988
6	North Branch Potomac River Biological Survey, 1982	Stauffer 1982
7	Piney Branch Benthic Study, 1993	MNCPPC (unpublished)
8	Eastern Montgomery Co. Benthic Sampling, June-Sept 1993	MNCPPC (unpublished)
9	A Study of the Macroinvertebrates of Antietam Creek	Elliot & Montgomery 1981
10	Pennsylvania Department of Environmental Resources, Aquatic Biological Investigation (1978 - 1984)	Marrocco et al. (unpublished)
11	Distribution and Abundance of Fishes and Benthic Macro-invertebrates in the Upper Potomac River, 1975-1979 F-29-R	Davis & Enamait (unpublished)
12	Macroinvertebrate Sampling of Piney Branch Watts Branch Watershed	van Ness 1991
13	Fisheries Survey of Piney Branch, Watts Branch and Muddy Branch	Gougeon 1991
14	Macroinvertebrate Sampling of Piney Branch and Associated Streams, Montgomery County	Rivers 1991
15	Dickerson Long-Term Fisheries Survey , 1979 - 1983	(unpublished)
16	Long-Term Benthic Monitoring Studies in the Freshwater Portion of the Potomac River , Final Report	Shaughnessy et al.
17	Macroinvertebrate and Habitat Analysis using EPA RBPII for Rock Creek and Two Tributary Stream Below Lake Needwood	Yuster
18	Prospects for Developing a Recreational Fishery on the North Branch of the Potomac River, 1992	The Conservation Fund

Table 1. (Cont.)

Code	Title	Author & Date
19	West Virginia Benthic Monitoring Surveys, 1978-1987	Arcuri (unpublished)
20	West Virginia Division of Environmental Resources, Save Our Streams Program (Volunteer Monitoring), 1989	(unpublished)
21	Virginia Department of Environmental Quality, Virginia Benthic Monitoring Program	Sievard, L. (unpublished)
22	Maryland Biological Stream Survey	(unpublished)
23	Maryland Department of Natural Resources, Western Maryland Stream Survey	(unpublished)

Table 2. Studies in non-tidal Potomac streams and rivers which did not meet the data set selection criteria identified in this report, or the data was not available for inclusion.

	Title	Author & Date
◆	Macroinvertebrate studies. <i>In: An ecosystematic study of the South River, Virginia.</i> Water Resources Research Center, VA Polytechnic Institute and State University, Blacksburg, VA.	Benfield, E.F., K.L. Dickson and A.C. Hendricks. 1972.
◆	Shenandoah River Report, 1951. U.S. Department of Interior, Fish and Wildlife Service, Kearneysville, W.V.	Davis 1951
◆	Fishes of the upper Anacostia River system of Maryland.	Giraldi, A. and A. Dietemann. 1974
◆	Shenandoah River investigations. U.S. Department of Interior, Fish and Wildlife Service, Kearneysville, W.V.	Henderson, C. 1948, 1950
◆	Fishes of the tributaries of the Anacostia River, Maryland. Proceedings Biological Society of Washington.	Howden, H. F. and R. Mansueti, 1951
◆	Fishes of the central Appalachian drainages: their distribution and dispersal. Virginia Polytechnic Institute and State University, Blacksburg, VA.	Jenkins, R. E., E.A. Lachner, and F.J. Schwartz, 1972
◆	Aquatic zoogeography of Maryland.	Lee, D.S. 1976
◆	Maryland Potomac River inland fishery investigations. U.S. Dept. of Interior.	Sanderson, Albert E. 1955-58

simply limits the amount of data that must be placed in any one database, thus eliminating repetitious data entry and creating a more logical, organized environment for data entry and data use. Several "relational database engines" (applications) are commercially available and Visual dBase 5.5 software was used in this project to create the relational database. Related tables in the database are stored as dBase 5.5 (.dbf) files but can be exported in several formats, including ASCII.

Data Themes

Each of the linked tables reflects one of the following data themes:

- ◆ Station Information
- ◆ Benthic Counts
- ◆ Organism Information
- ◆ Fish Counts
- ◆ Habitat Information
- ◆ Biological Metrics
- ◆ Stream Reach Information
- ◆ Individual Measures
- ◆ Water Quality

Individual table features (field names, types, widths, and descriptions) are described in Appendix B. The fields that were used to link tables are listed in bold type. The linkages are diagrammed in Figure 1. Most tables are linked on the concatenation of multiple fields (as opposed to linking on a single field) to ensure "many to one" table relations. For instance, the "station information" table and the "benthic counts" table are linked on the concatenation of the STATION, STUDYCOD, and REACHCOD fields (see Appendix B for field description). As a result, many records in "benthic counts" correspond to one and only one record in "station information."

Station Locations

The reliability, quality and type of station location information varied tremendously. Some reports contained each station's measured latitude and longitude, while others only included each station's relative distance from a town or other landmark. For stations where the latitude and longitude were provided, conversions were made to decimal degrees. For those studies with relative distances, GIS software (ArcView3.0) and EPA River Reach File (version 3.0 alpha release) layers were used to estimate latitude and longitude for each station. The station locations, measured and estimated, are mapped in Figure 2.

Arc View 3.0 was used to illustrate the distribution of sampling stations of studies in this report (Figures 2A - 2E). Please note that the precision of all station locations in Figures 2A - 2E was limited to the resolution of the River Reach File layer even though many are known with greater precision. Due to this mapping limitation in precision, some of the station locations on the maps are slightly shifted from their true locations. This shifting of station location is evident in Figure 2D where multiple stations on the Potomac mainstem are in linear rows rather than located on the curved path of the river.

Figure 1. Relational Database Structure showing fields (in bold) used to relate, or “link,” database tables. Single arrows represent “one to many” relationships and double arrows represent “one to one” relationships. The “TAXON” and “STREAM” tables are used only as “look-up” tables for “Nodccode” and “Reachcod” respectively.

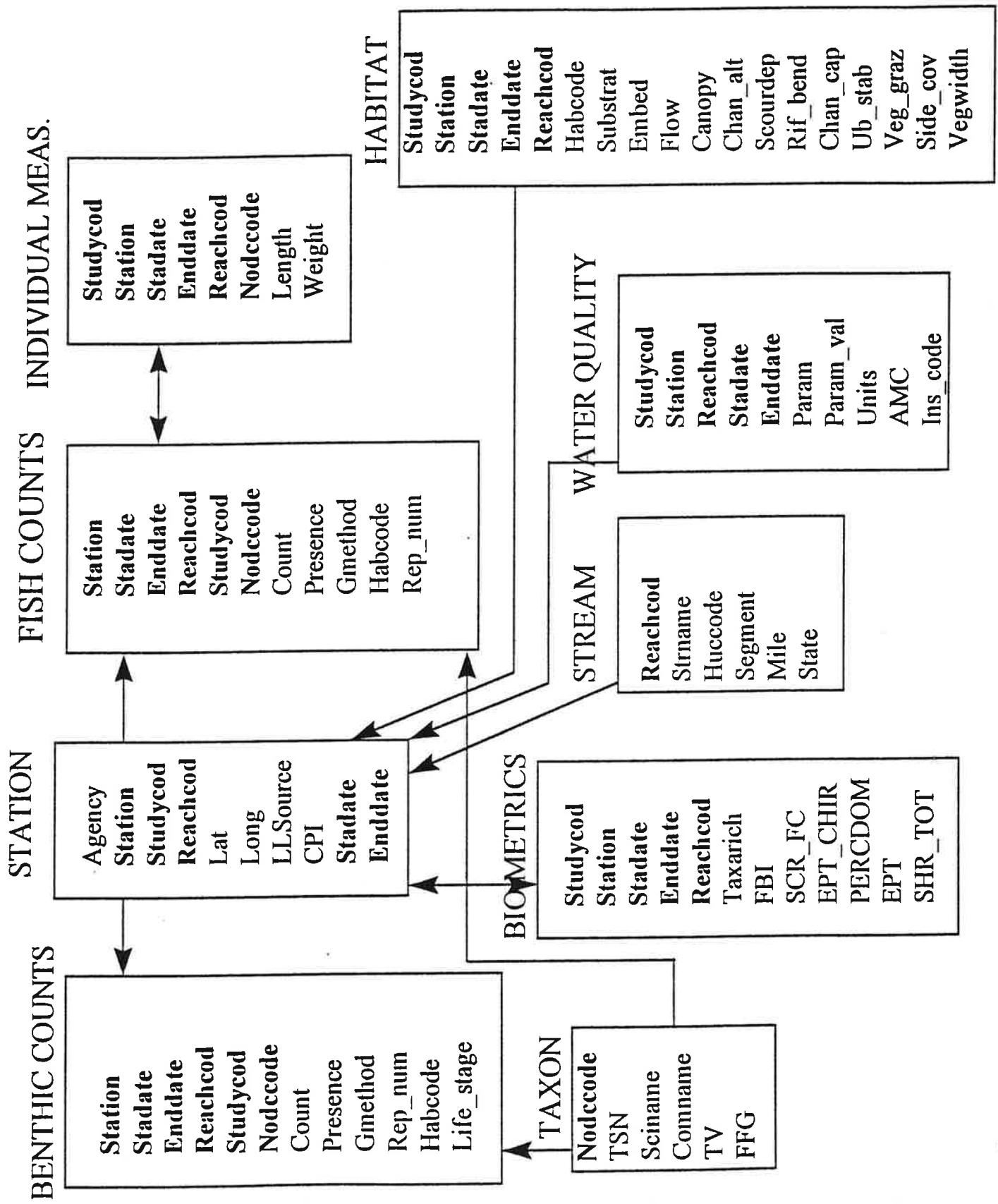


Figure 2. Potomac River Basin. Regions A - E are enlarged in Figures 2A - 2E, respectively, and map the sampling sites found in studies 1 - 6 and 8 - 19. (Study 7 identified stream reaches sampled rather than stations sampled.)

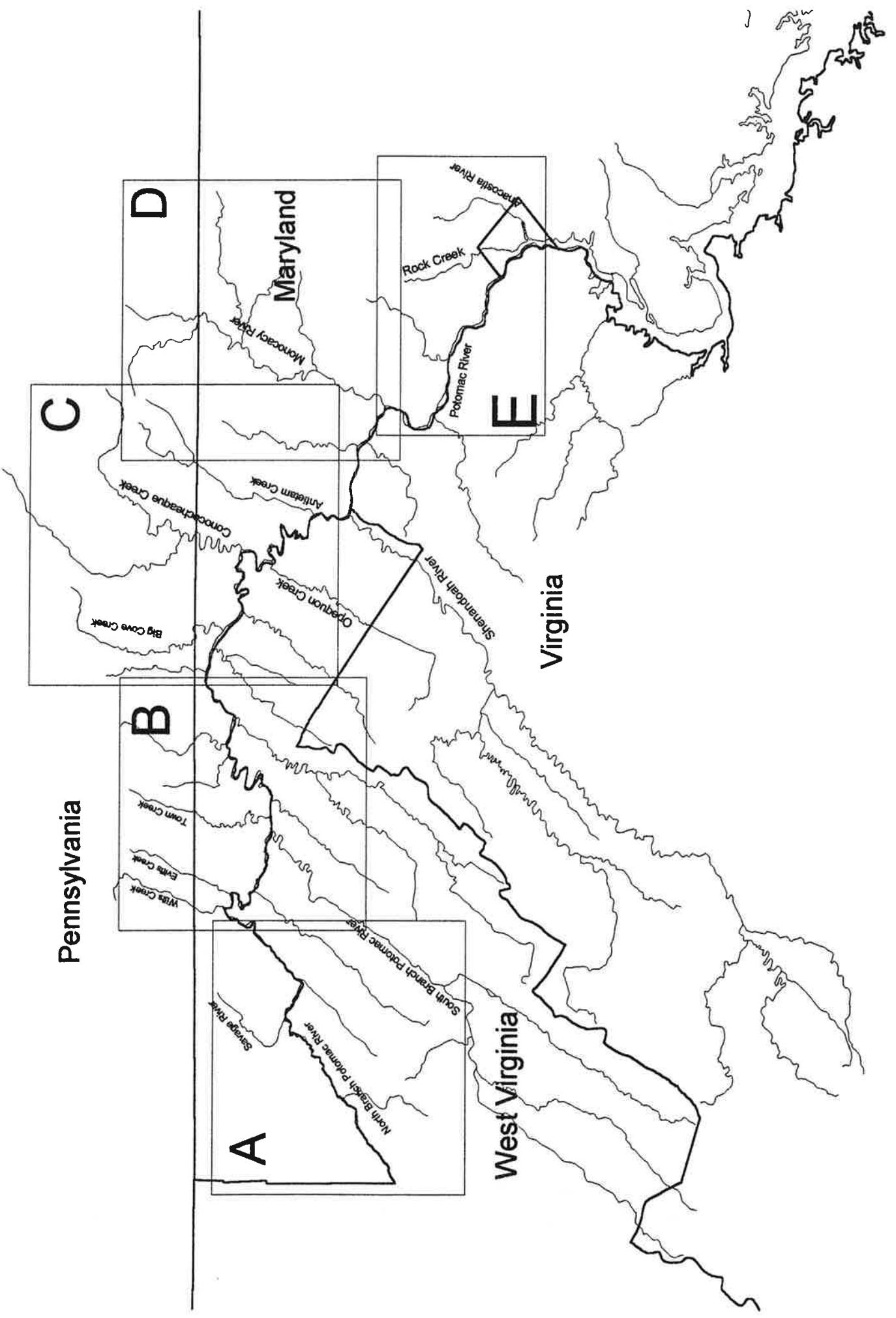
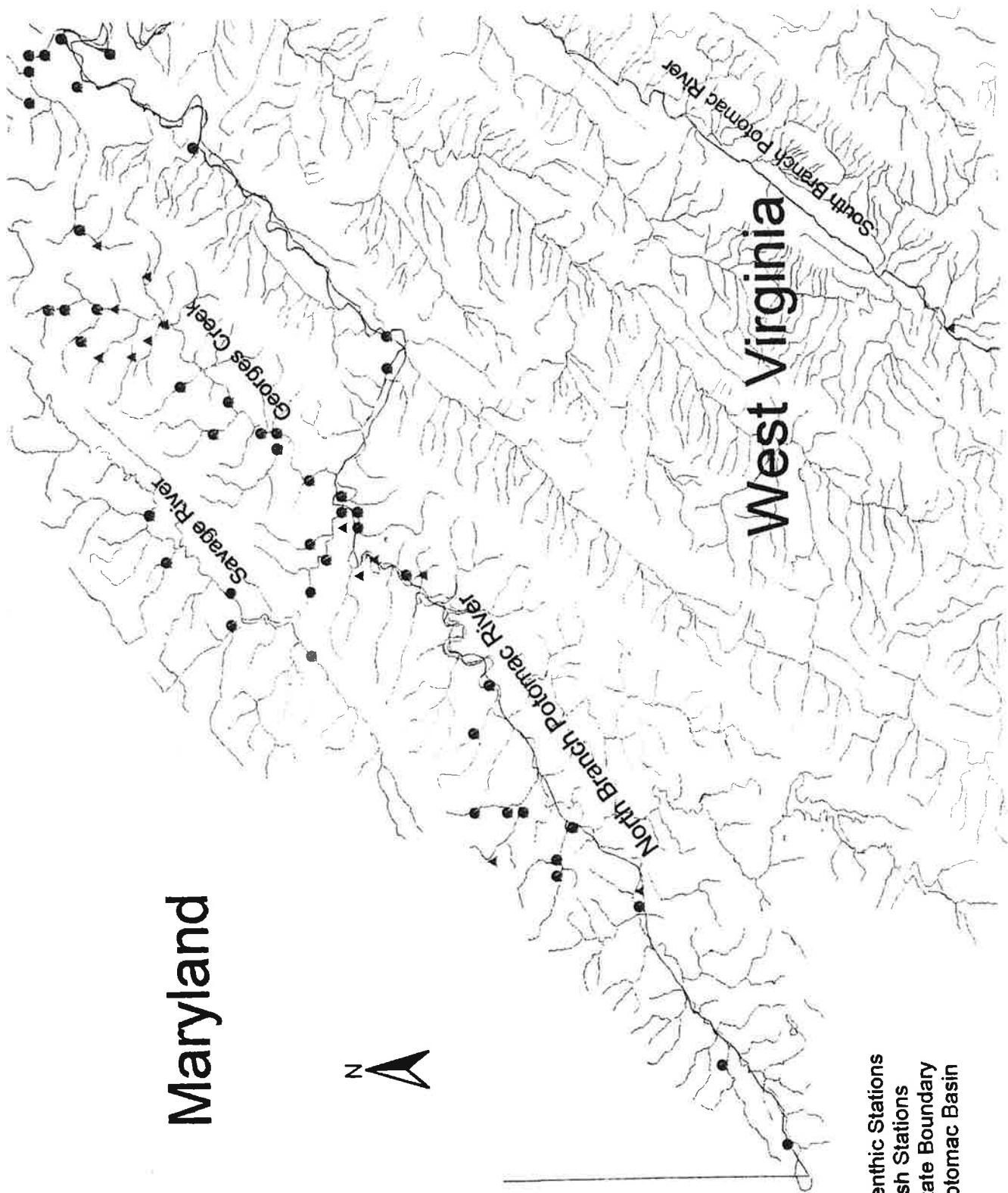


Figure 2A. Map of benthic and fish collection sites of studies having station locations in the North Branch Potomac River, Georges Creek, Savage River and South Branch Potomac River.

Maryland

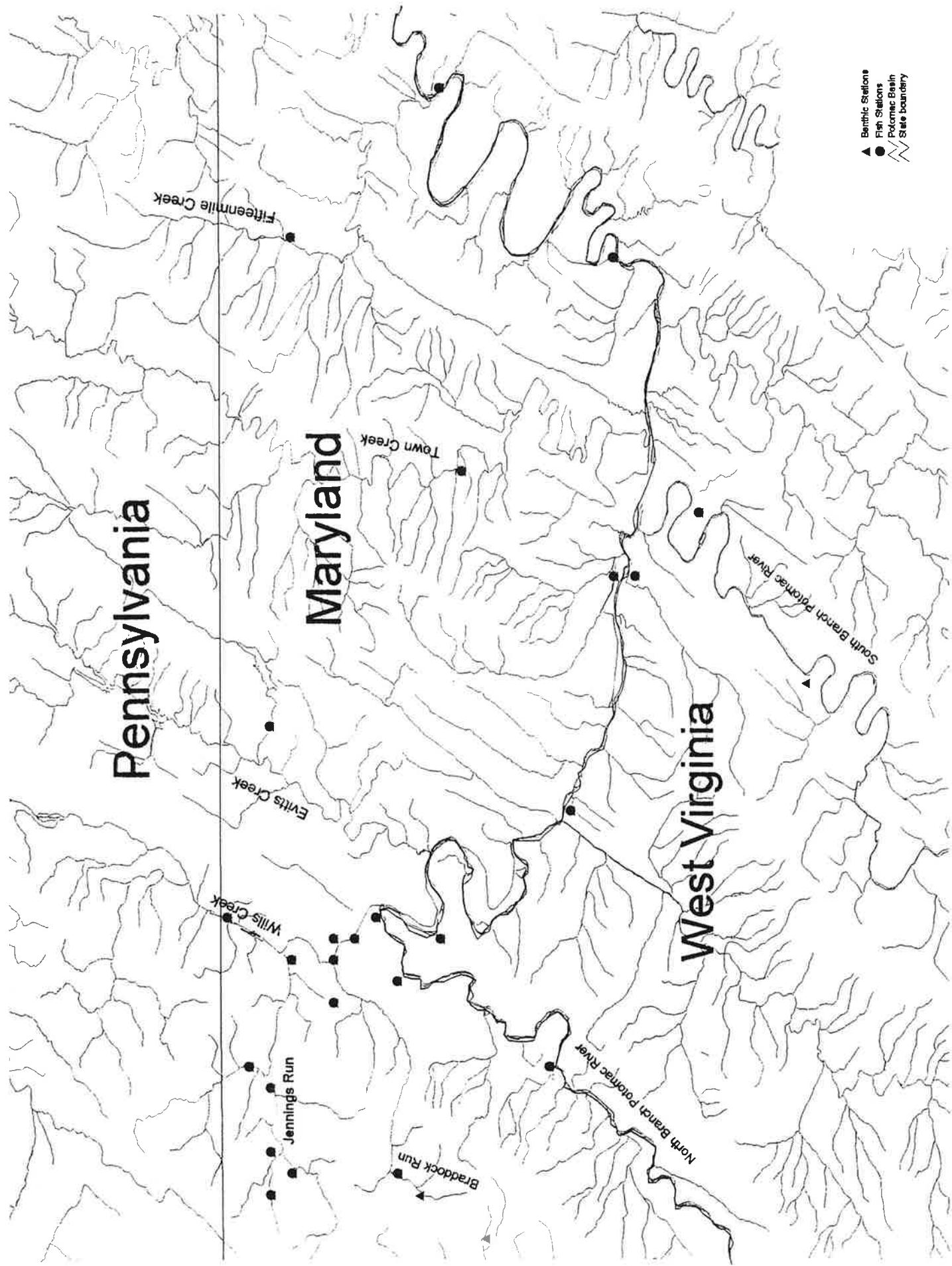
N

West Virginia



- Benthic Stations
- Fish Stations
- State Boundary
- Potomac Basin

Figure 2B. Map of benthic and fish collection sites of studies having station locations in the North Branch Potomac River, Braddock Run, Jennings Run, Wills Creek, Evitts Creek, Town Creek, Fifteenmile Creek and South Branch Potomac River.

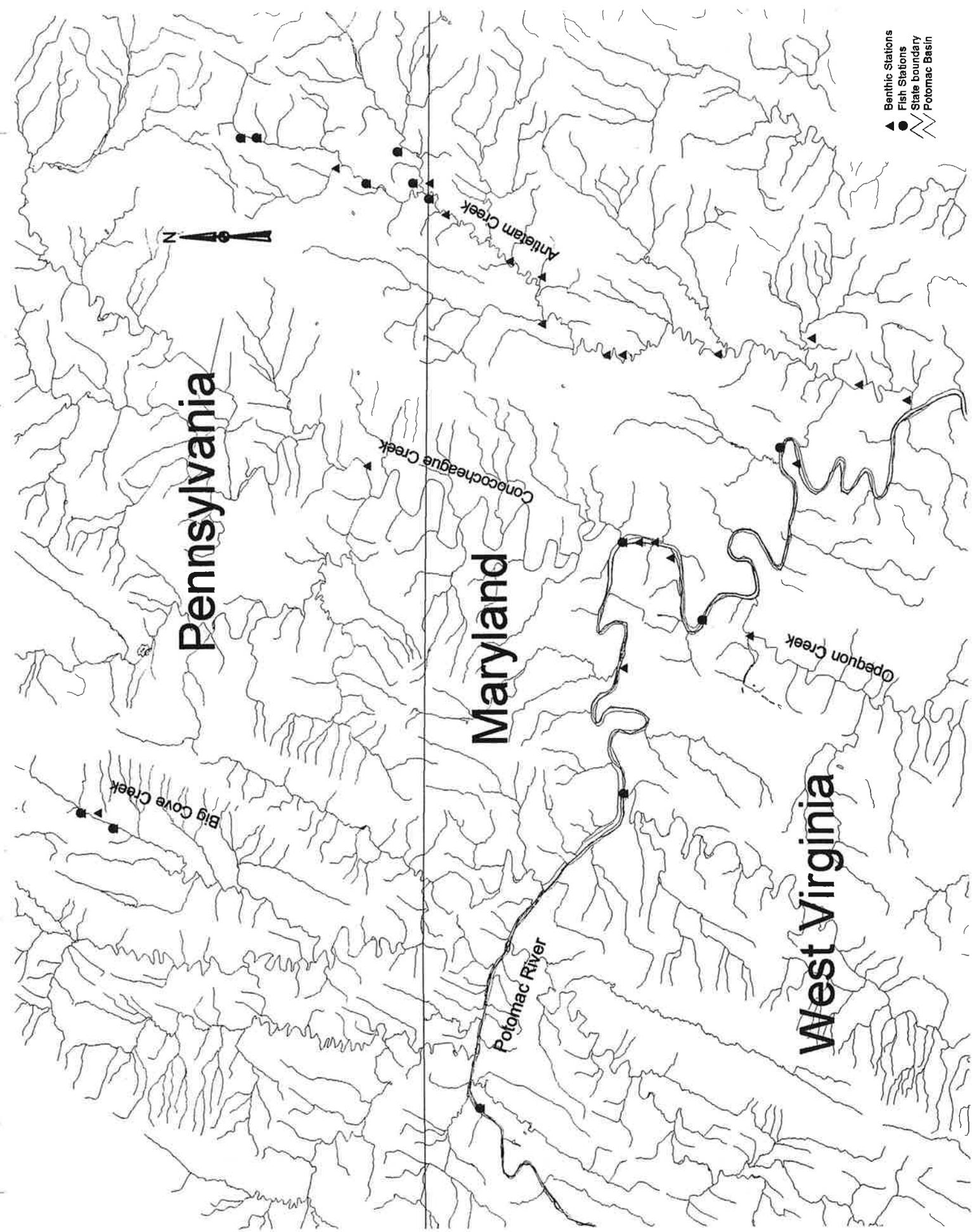


▲ Benthic Stations
● Fish Stations
~~~~ State boundary

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**Figure 2C.** Map of benthic and fish collection sites of studies having station locations in the North Branch Potomac River, Conococheague Creek, Big Cove Creek and Antietam Creek.

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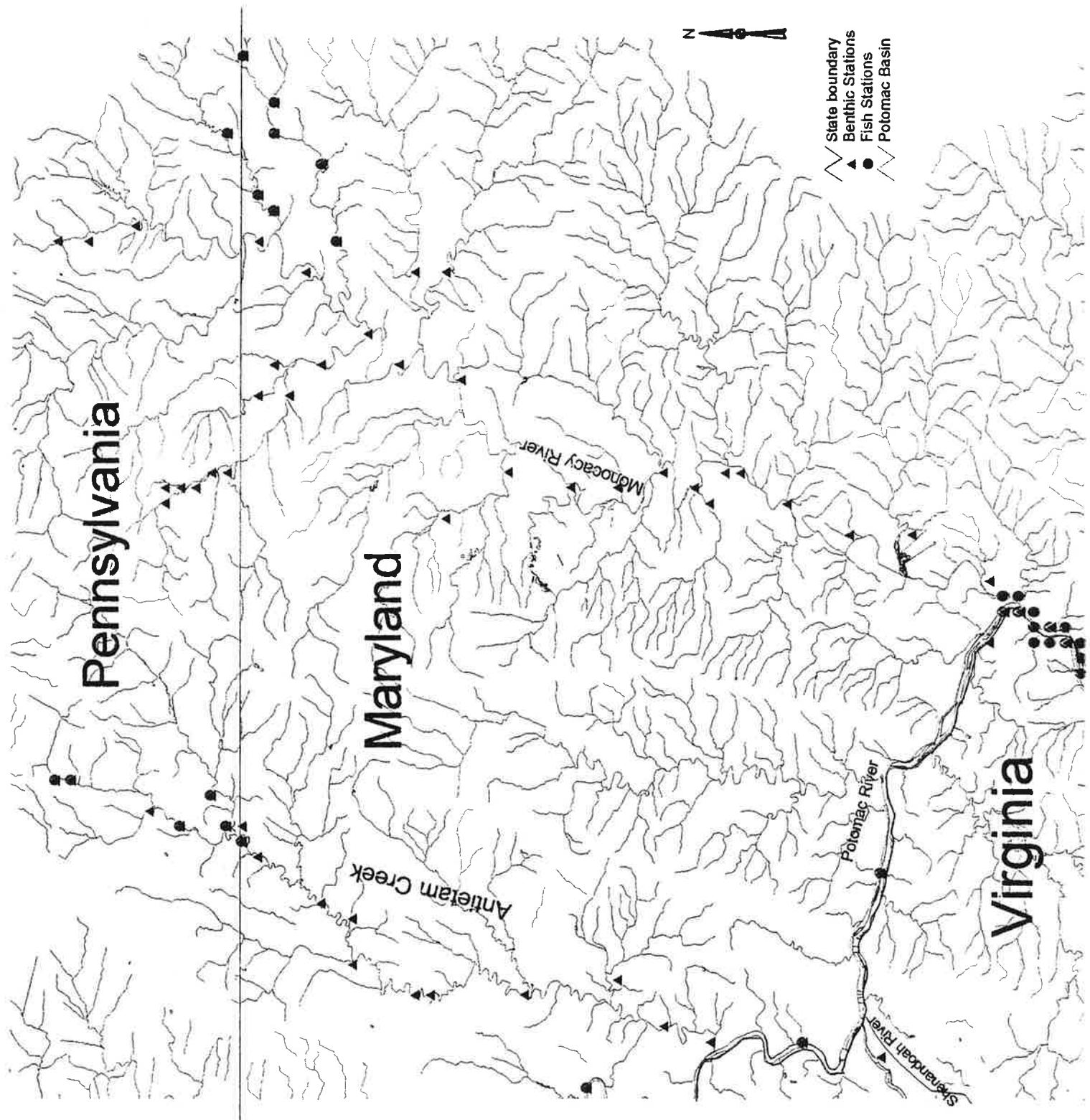


Benthic Stations  
Fish Stations  
State boundary  
Potomac Basin

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**Figure 2D.** Map of benthic and fish collection sites of studies having station locations in the Potomac River, Antietam Creek, Shenandoah River, and Monocacy River.

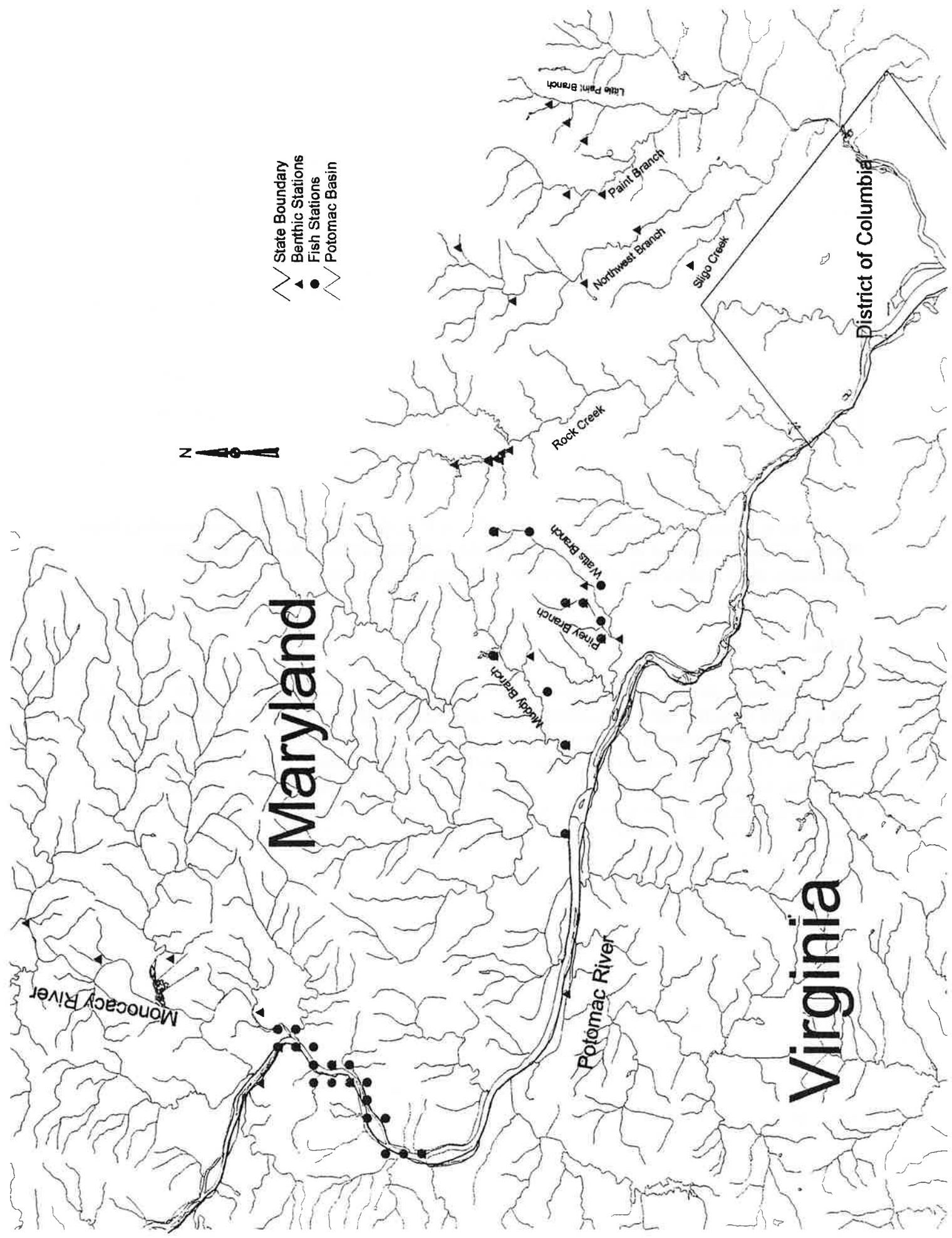
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**Figure 2E.** Map of benthic and fish collection sites of studies having station locations in the Potomac River, Muddy Branch, Piney Branch, Watts Branch, Rock Creek, Sligo Creek, Northwest Branch, and Paint Branch. Note: Due to site location resolution, some sites may be shifted from their actual map locations.

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**Table 3.** Modifications made to sampling periods identified in specific studies. Refer to Appendix A for study name and agency associated with each study code (STUDYCOD).

| STUDYCOD    | Date given in study       | Date entered in database |          |
|-------------|---------------------------|--------------------------|----------|
|             |                           | STADATE                  | ENDDATE  |
| 3           | August 1969 - August 1971 | 08/01/69                 | 08/01/71 |
| 11(benthos) | 1975-1978                 | 01/01/75                 | 12/31/78 |
| 11(fish)    | 1975-1979                 | 01/01/75                 | 12/31/79 |
| 2           | Spring 1990               |                          | 04/01/90 |
| 2           | Fall 1990                 |                          | 09/01/90 |
| 2           | Spring 1991               |                          | 04/01/91 |
| 2           | Fall 1991                 |                          | 09/01/91 |

At this time, an agreed upon set of metrics that can be reliably used to compare data from different studies, collected with different sampling methods, needs further development. Ultimately, these metrics will be graphically displayed on these maps.

#### Dates

Sampling date information also varied among the data sets used in this project. Some data sets included complete dates (day, month, and year) while others listed just the year, month and year, the season (i.e. *spring* and *summer*) and year, or the range of years over which data were collected. To make the relational database design accommodate these variations, we created a "STADATE" field (the sampling start date) and an "ENDDATE" field (the sampling end date). For sampling events with a complete date, only the enddate was entered. When a day was not indicated, we entered "01" as the default and flagged the date as estimated. We made the modifications listed in Table 3 in order to incorporate into our database structure other "difficult" dates.

#### NODC Code

A considerable amount of time was devoted to resolving taxonomic anomalies. Superceded or incorrectly spelled taxon names frequently appeared in the studies, especially the older ones. Taxon names were first checked against version 8 of NOAA's National Oceanographic Data Center (NODC) taxon list which is consistent with the Interagency Taxon System (<http://www.itis.usda.gov/itis>). NODC codes and Taxon Serial Numbers (TSN) were associated with each of the identified taxon. In cases where taxon names could not be matched with names in the NODC database, we researched the evolution of the name to determine if it had

been superceded or misspelled. Superceded names were replaced by their modern name. Names which we were unable to find in past or present taxonomy literature we assumed were misnomers. In most cases, it was fairly easy to determine what organism the researcher intended to record from the spelling that was given. Alternatively, we attempted to correct the misnomer by talking to the principal investigator of the study. If we still could not confidently identify the taxon, we deleted the misnomer and recorded the next higher level of identification. (This information was often available in the original report.) For example, a misspelled genus was recorded as the family level.

There were several cases where the NODC database did not have a record for a known taxonomic name or for a hybrid (Table 4). We have manually entered temporary NODC codes and Taxon Serial Numbers for these organisms. We will submit a list of these organisms to the Interagency Taxon System so that these temporary codes and numbers can eventually be replaced.

Sometimes a particular taxon name is used to identify two or more very different taxa. In these cases, the NODC database contains multiple records for the taxon name, each with a different NODC code and Taxon Serial Number. In these instances, we picked the organism to which we believe the researcher was referring. So far, the organisms have been distinct enough that the choice has been obvious.

Table 4. Temporary NODC code (NODCCODE) and Taxon Serial Number (TSN) for taxa not found in the NODC taxon list. Study code (STUDYCOP) is an arbitrarily assigned, unique number identifying each study.

| Taxon Name                          | NODCCODE     | TSN       | STUDYCOP |
|-------------------------------------|--------------|-----------|----------|
| <i>Lepomis cyanellus x gibbosus</i> | 8835160502GI | Not given | 6        |
| <i>Esox lucius x masquinongy</i>    | 8758010101MA | BAY0102   | 5        |
| <i>Rhabdocoela</i>                  | 3901         | BAY0237   | 11       |

### Calculation of EPA RBP Metrics

Metrics were taken from the data analysis scheme used in the EPA's Rapid Bioassessment Protocol II (Plafkin et al., 1989) and applied to the integrated databases. We have calculated the metrics but have not scored the sites according to the RBP II guidelines because the sampling methods used in the various studies were so diverse. The metric calculations are being used as a preliminary characterization of the data. Consequently, results from different studies should not be directly compared or merged until their comparability is established. The Commission is presently consulting with stream ecologists in the region in order to resolve the biases introduced into the data by different methodologies and to develop analytical methods to integrate the results.

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## Benthic Metrics

### METRIC 1: Taxa Richness

Total number of families found per station per sampling event

### METRIC 2: Modified Family Biotic Index

Sum of  $(x_i * t_i) / n$

where

$x_i$  = number of individuals within a taxon

$t_i$  = tolerance value of a taxon

$n$  = total number of organisms in the sample

Genus level tolerance values were acquired from Montgomery County Department of Environmental Protection. Family level tolerance values were taken from Hilsenhoff (1988).

### METRIC 3: Ratio of Scraper and Filtering Collector Functional Feeding Groups

For this metric we generated a database containing the functional feeding group designation for each family and genus (Merritt and Cummins, 1984). For families that contain organisms from more than one functional feeding group, we chose the most common functional feeding group for that family as stated by Merritt and Cummins.

$$\frac{\text{Number of Scrapers in sample}}{\text{Number of Filtering Collectors in sample}}$$

### METRIC 4: EPT Index

This metric is calculated by totaling the number of families representing the orders Ephemeroptera, Plecoptera, and Tricoptera.

### METRIC 5: Percent Contribution of Dominant Family

$$\frac{\text{Number individuals in dominant family} \times 100}{\text{Total number individuals in sample}}$$

### METRIC 6: Ratio of EPT and *Chironomidae* Abundances

$$\frac{\text{Number of individuals within the EPT orders}}{\text{Number of individuals representing the family } Chironomidae}$$

### METRIC 7: Ratio of Shredder Functional Feeding Group and Total Number of

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### Individuals Collected

Number of shredders in sample  
Total Number of individuals in sample

### Fish Metrics

#### METRIC 1: Sunfish

Number and percent sunfish (*Centrarchidae*)

#### METRIC 2: Minnows

Number and percent minnows (*Cyprinid*)

#### METRIC 3: Suckers

Number and percent suckers (*Catostomidae*)

#### METRIC 4: Perch

Number and percent perch (*Percidae*)

#### METRIC 5: Sculpins

Number and percent sculpins (*Cottidae*)

#### METRIC 6: Trout

Number and percent trout (*Salmonidae*)

#### METRIC 7: Darters

Number and percent darters (*Etheostoma*)

#### METRIC 8: Tolerant Species

Number and percent tolerant species

Species level tolerance rankings were taken from Van Ness (1996). Family level tolerance values were taken from Klemm et al. (1993)

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### Computer Programs Used to Calculate Metrics

Executables were created in Visual dBase's programming language to calculate EPA RBII

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biological metrics for each station. These programs are available at ICPRB upon request. The programs act on the databases by initially evaluating whether the data meet the criteria necessary for calculating a particular metric (Tables 5 and 6). If any data collected at a station do not meet the criteria, the station is skipped and the next station in the database is evaluated. If all criteria for the metric have been met by the data at a station, the program performs the appropriate calculation. Finally, all calculations are sent to ".dbf" output files.

Table 5. Criteria that must be met for Benthic metrics to be calculated.

| Metric | Criteria                                                                                                                                                                                                              |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | ◆ All organisms in sample must be identified to at least the <b>family</b> level                                                                                                                                      |
| 2      | ◆ All organisms in sample must be identified to at least the <b>family</b> level<br>◆ A tolerance value must exist for each family in sample<br>◆ Count data must be available for each organism in sample            |
| 3      | ◆ All organisms in sample must be identified to at least the <b>family</b> level<br>◆ A functional feeding group must exist for each organism in sample<br>◆ Count data must be available for each organism in sample |
| 4      | ◆ All individuals in sample must be identified to at least the <b>order</b> level                                                                                                                                     |
| 5      | ◆ All organisms in sample must be identified to at least the <b>family</b> level<br>◆ Count data must be available for each organism                                                                                  |
| 6      | ◆ No criteria                                                                                                                                                                                                         |
| 7      | ◆ All organisms in sample must be identified to at least the <b>family</b> level<br>◆ A functional feeding group must exist for each organism in sample<br>◆ Count data must be available for each organism in sample |

Table 6. Criteria that must be met for Fish metric to be calculated.

| Metric | Criteria                                                                                                                                                                                                                  |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1-6    | ◆ All organisms in sample must be identified to atleast the family level.<br>◆ Count data must be available for each organism in sample.                                                                                  |
| 7      | ◆ All organisms must be identified to atleast the family level.<br>◆ Not all organisms in the sampled have to be identified as "tolerant", "intolerant" or "moderate" in order to calculated the number of tolerant taxa. |
| 8      | ◆ All organisms in sample must be identified to at least the genus level.                                                                                                                                                 |

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## Discussion and Recommendations

Our biological data mining efforts uncovered 23 studies that met our data set selection criteria, and of these, 19 were included in our relational database. Currently, the Benthic Counts table contains a total of 8,856 records and the Fish Counts table contains a total of 21,055 records. In total, benthic data were collected from 245 sampling stations and fish data were collected from 165 sampling stations. These stations were located on 65 different streams throughout the Potomac River Basin.

One of the project's underlying goals was to establish the framework for easily consolidating disparate data sets in a thorough and clear way. This framework - a relational database structure - improves data accessibility since users will only need to query one database for subsets of data rather than search many data locations which store data in multiple formats. However, with increased data accessibility there is the potential for incorrect use and misinterpretation of the data. In a single relational database containing disparate biological data sets, contextual differences are disguised by the uniformity of the database and users can easily combine incomparable data if they are not aware of study differences. "Losing the context--and thereby the meaning--of information is the greatest impediment to effective communication across the Internet's global village" (Madnick, 1997). Some possible contextual differences include different sampling frequencies, methodologies or sampling dates, and perhaps most importantly different sampling objectives. Often, these are only obvious to users who are aware of sampling method biases and who have familiarized themselves with the "meta" data of each study.

A number of broad-based biological metrics can still be applied to seemingly incomparable datasets despite contextual differences, and will remain reliable indicators of water quality and/or biological integrity. In efforts to pinpoint these "broad-based" metrics, EPA Rapid Bioassessment Protocol benthic and fish metrics were calculated using data sets 1 - 19. A potential "next step" is to compare metric calculations from disparate data sets against our *a priori* knowledge of stream and river quality. If metric calculations consistently discriminate between "good" and "bad" sites, then this metric may be useful in further comparisons of disparate data sets.

In order to calculate each metric, some base-line criteria had to be established to determine if a station's data were adequate for the application of the metric (Tables 5 & 6). For instance all taxon collected at a station had to be identified to at least the order level for the EPT Index (Benthic Metric 4) to be calculated for that station. If this criterion was not met, then Benthic Metric 4 was not calculated. Very few stations met the criteria for Benthic Metrics 2,3, and 7. In the case of Benthic Metric 2, all taxa collected at a station needed to have a tolerance value in our tolerance value database in order to calculate the metric. This database currently contains tolerance values designated by Montgomery County, Department of the Environment, and values designated by Hilsenhoff (1988). Because tolerance values were not available for all the taxa listed at many stations, this metric was rarely calculated. Similarly, Benthic Metrics 3 and 7 could not be calculated for many stations because they require that all taxa at each station have a designated functional feeding group. The in-house "functional feeding group" database currently contains groups designated by Merritt and Cummins (1984). Again, because functional

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feeding group designation were not available for many taxa listed in the data sets, a majority of the stations did not receive values for these metrics. Thus, the output files generated for Benthic Metrics 2,3, and 7(Appendix C, Tables 2 and 4) are rather small.

The difficulties we had calculating Benthic Metrics 2,3, and 7 could be resolved in a several ways. If less stringent criteria were used, more stations would contain "acceptable" data for metric calculations. Criteria could be adjusted by only requiring that 80 percent of all taxa per station have a corresponding tolerance value or functional feeding group. Additionally, the tolerance value and functional feeding group designations could be reviewed and expanded with the aid of area experts.

This relational database facilitates the integration of tremendously diverse biological data sets. Ultimately, we suggest making this database accessible on the WEB, perhaps as part of a federated database. A federated database allows two or more agencies to share data with a "client" while each agency retains complete control over its own data set. However, a federated database design requires some entity to be responsible for the user interface or "mapping" that supports the federated view of the data (Winter, 1997). One such entity is potentially the Chesapeake Information Management System. CIMS, an initiative of Chesapeake Bay Program partners, will link technical and public information, educational material, environmental indicators, policy documents, and scientific data across many different WEB sites. Instead of having to locate data on a particular WEB site, CIMS is being built to act as the hub from which queries can be issued to search a number of different WEB sites.

This study makes the crucial first steps towards an understanding of the data dilemmas that must be faced when bringing together data from varied sources for basin wide assessments. Many of the traditional indicators could not be calculated from certain data sets because of the taxonomic level to which data were collected or because tolerance values and functional group designations have not yet been determined for some taxa. As indicators are developed for basin-wide assessments, one must be aware of an important tradeoff, the more "data demanding" a particular indicator is, the fewer the number of historical data sets that will qualify for use. Additionally, one must determine whether the less "data demanding" indicators will yield a thorough enough assessment.

With the increasing popularity of accessing databases via the Internet, the need for data set integration into consistent, user-friendly formats will be a topic that all environmental agencies will be facing in the near future. The goal is to increase data accessibility to encourage more comprehensive analyses, yet, eliminate the data analysis pitfalls that increased accessibility may create. A workshop may be a useful forum to confront some of the issues that arose from this study.

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**Appendix A**

**Study Summaries**

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## BENTHIC AND FISH DATA SET SUMMARY

**STUDY CODE: 1**

**STUDY TITLE AND DATE OF PUBLICATION:** Biological Survey of Antietam Creek and Some of its Tributaries from Waynesboro, Pennsylvania to Antietam, Maryland, Potomac River Basin. CB-SRBP Working Document No. 22. February, 1968.

**PRINCIPAL INVESTIGATOR:** J. LaBuy

**AGENCY/UNIVERSITY:** U. S. Department of the Interior, Federal Water Pollution Control Administration, Regional Office, Charlottesville, VA.

**STREAMS AND DATES SAMPLED:** Thirteen stations sampled on Antietam Creek, including Beaver Creek and Little Antietam Creek, July 1966.

**TYPE OF DATA:** Benthic macroinvertebrate samples, qualitative (present/absent) and quantitative species counts, detailed map of sampling sites, latitude and longitude measurements.

**DATA FORMAT:** Paper, diskette, electronic files

**STUDY CODE: 2**

**STUDY TITLE AND DATE OF PUBLICATION:** Piney and Alloway Creeks, Baseline Monitoring Report, April 1990-September 1991. Pub. October, 1993.

**PRINCIPAL INVESTIGATOR:** Stuart Lehman, Doug Marshall, John McCoy, Mike Haddaway, Niles Primrose, Fred Paul

**AGENCY/UNIVERSITY:** Maryland Department of Natural Resources (Maryland Targeted Watershed Project), Maryland Department of the Environment

**STREAMS AND DATES SAMPLED:** Six stations in Piney Creek, and three stations in Alloway Creek, from Pennsylvania to Maryland. April and September of 1990, and 1991.

**TYPE OF DATA:** Detailed habitat description including latitude and longitude measurements. Water quality analysis, physical and biological parameters, citizen monitoring results, benthic macroinvertebratequalitative analysis (present/absent) classified to family, electrofishing survey with fish counts, identified by common name.

**DATA FORMAT:** Paper hardcopy of report and habitat data; computer files of fish and benthic data.

**STUDY CODE: 3**

**STUDY TITLE AND DATE OF PUBLICATION:** Benthic Macroinvertebrate and Fish Populations in Maryland Streams Influenced by Acid Mine Drainage. July, 1973. Contribution No. 528.

**PRINCIPAL INVESTIGATOR:** Robert M. Davis

**AGENCY/UNIVERSITY:** Natural Resources Institute, University of Maryland.

**STREAMS AND DATES SAMPLED:** Streams in Savage River watershed, including Savage River, Aaron Run, Popular Lick Run, Big Run, Spring Lick Run and Blue Lick Run, 1969, 1971; Potomac River watershed: North Branch, Laurel Run, Trout Run, South Prong Lostland Run, Wolfden Run, Evitts Creek, Town Creek and Fifteen Mile Creek, 1969-1971; Georges Creek Watershed: Georges Creek, Mill Run, Moores Run, Butcher Run, Laurel Run, Koontz Run, Squirrel Neck Run, Woodland Creek, Staub Run, Matthew Run, Winebrenner Run, and Sandspring Run, 1969-1971. Wills Creek Watershed: Wills Creek, Braddock Run, Jennings Run, Dutch Hollow, North Branch Jennings Run. 1969-1971.

**TYPE OF DATA:** Water quality analysis for each station; mean numbers of benthic macroinvertebrates per square foot by station, classified to order; mean number of fish by station, classified by common name.

**DATA FORMAT:** Paper hardcopy of report; computer files of fish, benthic, and water quality data.

**STUDY CODE: 4**

**STUDY TITLE AND DATE OF PUBLICATION:** Biological survey of the Monocacy River and its tributaries from Gettysburg, Pennsylvania to the Maryland Route 28 Bridge, Potomac River Basin. January, 1968. CB-SRBP Working Document No. 23.

**PRINCIPAL INVESTIGATOR/S:** LaBuy

**AGENCY/UNIVERSITY:** U.S. Department of the Interior, Federal Water Pollution Control Administration, Middle Atlantic Region, Charlottesville, VA.

**STREAMS AND DATES SAMPLED:** Twenty six stations were sampled on the following streams in July, 1966: Rock

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Creek (PA), Monocacy River (MD), Toms Creek, Flat Run, Big Pipe Creek, Little Pike Creek, Monocacy River, Hunting Creek, Glade Creek, Carroll Creek and Bennett Creek.

TYPE OF DATA: Qualitative (present/absent) and quantitative counts of benthic macroinvertebrates classified to genus.

DATA FORMAT: Paper hardcopy of report; computer files of benthic data

**STUDY CODE: 5**

STUDY TITLE AND DATE OF PUBLICATION: North and South Branch Potomac Rivers Biological Study, 1988.

PRINCIPAL INVESTIGATOR/S: John L Boaze and Elizabeth F. Smith

AGENCY/UNIVERSITY: Fish and Wildlife Associates, Inc. Whittier, NC 28789 for U. S. Army Corps of Engineers, (Baltimore District), Baltimore, MD 21203

STREAMS AND DATES SAMPLED: Fish and benthic macroinvertebrates were sampled from ten stations on the North Branch Potomac River and one station on the South Branch Potomac River.

TYPE OF DATA: Detailed habitat description and water quality analysis; Fish and benthic macroinvertebrates collected by habitat type, classified to genus level.

DATA FORMAT: Paper hardcopy of report, habitat and water quality data; computer files of benthic and fish data.

**STUDY CODE: 6**

STUDY TITLE AND DATE OF PUBLICATION: North Branch Potomac River Biological Survey, 1982.

PRINCIPAL INVESTIGATOR: Jay R. Stauffer, Jr.

AGENCY/UNIVERSITY: U.S. Army Corps of Engineers, Baltimore District, Baltimore, MD 21203.

STREAMS AND DATES SAMPLED: Nine stations on the North Branch Potomac River, two on the Savage River, and one on the South Branch Potomac River. 1982.

TYPE OF DATA: Fish counts, identified to species. Benthic macroinvertebrate counts identified to species level.

DATA FORMAT: Hardcopy of report; computer files of benthic and fish data.

**STUDY CODE: 7**

STUDY TITLE AND DATE OF PUBLICATION: Piney Branch Benthic Survey

PRINCIPAL INVESTIGATOR: Unknown

AGENCY/UNIVERSITY: Maryland-National Capital Parks and Planning Commission, Environmental Planning Division.

STREAMS AND DATES SAMPLED: Four stations on Piney Branch and Bucklodge Branch, February to October, 1993.

TYPE OF DATA: Benthic macroinvertebrate counts identified to genus level, functional feeding groups, EPA Rapid Bioassessment II.

DATA FORMAT: Hardcopy of some methods; computer files of benthic data.

**STUDY CODE: 8**

STUDY TITLE AND DATE OF PUBLICATION: Eastern Montgomery County Rapid Bioassessment, June to September, 1993.

PRINCIPAL INVESTIGATOR: n/a

AGENCY/UNIVERSITY: Maryland-National Capital Parks and Planning Commission, Environmental Planning Division.

STREAMS AND DATES SAMPLED: Northwest Branch Headwaters, June-September, 1993; Sligo Creek, August, 1993; Paint Branch, August, 1993; Little Paint Branch Tributary, August, 1993.

TYPE OF DATA: Benthic macroinvertebrate counts using EPA Rapid Bioassessment II, identified to species level

DATA FORMAT: Paper map of station locations, computer files of benthic data

**STUDY CODE: 9**

STUDY TITLE AND DATE OF PUBLICATION: A study of the macroinvertebrates of Antietam Creek. 1981.

PRINCIPAL INVESTIGATOR/S: William D. Elliot and Richard J. Montgomery

AGENCY/UNIVERSITY: Hagerstown Junior College

STREAMS AND DATES SAMPLED: Antietam Creek, July, 1981.

TYPE OF DATA: Qualitative (present/absent) and qualitative analysis (counts) of benthic macroinvertebrates identified to genus.

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**DATA FORMAT:** Paper hardcopy of report; computer files of benthic data.

**STUDY CODE:** 10

**STUDY TITLE AND DATE OF PUBLICATION:** Aquatic Biological Investigation, six data sets including January-March, 1978; March-November 1980; July, 1984.

**PRINCIPAL INVESTIGATORS:** Frederick Marrocco, James T. Flesher, James D. Miller, Robert J. Schott, Ronald Hughey.  
**AGENCY/UNIVERSITY:** Harrisburg Regional Office, Planning Section, Pennsylvania Dept of Environmental Resources.  
**STREAMS AND DATES SAMPLED:** Fish and Benthic sampling: Big Cove Creek (Fulton County, Pennsylvania), July, 1984; West Branch Antietam Creek, East Branch Antietam Creek, (Franklin County, Pennsylvania), June, 1977. Benthic macroinvertebrates only: Toms Creek, (Adams County, Pennsylvania) December, 1977; Conococheague Creek 1980-1986; Rock Creek 1980-1987; East Branch Antietam Creek 1980-1987.

**TYPE OF DATA:** Water quality analysis, qualitative analysis (present/absent/common etc) of benthic macroinvertebrates identified to genus level. Qualitative analysis (present/absent/common etc) of fish identified by common name and species.

**DATA FORMAT:** Paper hardcopy of raw data sheets and some methods; computer files of benthic and fish data.

**STUDY CODE:** 11

**STUDY TITLE:** Distribution and Abundance of Fishes and Benthic Macroinvertebrates in the Upper Potomac River, 1975-1979.

**PRINCIPAL INVESTIGATOR/S:** Robert M. Davis and Edward C. Enamait

**AGENCY/UNIVERSITY:** Maryland Department of Natural Resources, Wildlife Administration, Annapolis, Maryland.

**DATE OF PUBLICATION:** March, 1982

**STREAMS AND DATES SAMPLED:** Eighteen stations on the Potomac River were sampled once a year from 1975 to 1979, including: North Branch Potomac River at Steyer, Bloomington, McCoole, U.S. Route 220 near Industrial Park, Spring Branch and Oldown. On the Mainstem, at Paw Paw, Little Orleans, Hancock, McCloys Ferry, Williamsport, Potomac Fish and Game Club, Taylors Landing, Shinham Boat Landing, Brunswick, above the Monocacy River, below the Monocacy River, at Whites Ferry and at Seneca Boat Ramp.

**TYPE OF DATA:** Presence/absence charts for fish and benthic macroinvertebrates identified to species level. Seventeen parameters for water quality data measured at each station.

**DATA FORMAT:** Paper hardcopy of report; computer files of benthic, fish and water quality data.

**STUDY CODE:** 12

**STUDY TITLE AND DATE OF PUBLICATION:** Macroinvertebrate Sampling of Piney Branch, Watts Branch Watershed, Montgomery County, Maryland. 1991.

**PRINCIPAL INVESTIGATOR:** Keith Van Ness

**AGENCY/UNIVERSITY:** Natural Resources Management Group, Natural Resources division, M-NCPPC, Department of Parks, Montgomery County, Maryland.

**STREAMS AND DATES SAMPLED:** Piney Branch, April and October, 1991.

**TYPE OF DATA:** Macroinvertebrate species counts.

**DATA FORMAT:** Paper hardcopy of report; computer files of benthic data.

**STUDY CODE:** 13

**STUDY TITLE AND DATE OF PUBLICATION:** Fisheries Survey of Piney Branch, Watts Branch, and Muddy Branch. 1991.

**PRINCIPAL INVESTIGATOR:** Charles R. Gougeon

**AGENCY/UNIVERSITY:** Maryland Department of Natural Resources, Resource Conservation Service, Freshwater Fisheries.

**STREAMS AND DATES SAMPLED:** Piney Branch, Watts Branch, and Muddy Branch. Samples were collected during the fall of 1990 and 1991. A mid-July sampling was conducted on Muddy and Piney Branches in 1991.

**TYPE OF DATA:** Presence/absence fish data identified by common name. Ten stations are sampled on Piney Branch, nine on Watts Branch, and six on Muddy Branch.

**DATA FORMAT:** Paper hardcopy of report; computer files of fish data.

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**STUDY CODE: 14**

**STUDY TITLE AND DATE OF PUBLICATION:** Macroinvertebrate Sampling of Piney Branch, Montgomery County, and Associated Streams. 1991.

**PRINCIPAL INVESTIGATOR:** Susan E. Rivers

**AGENCY/UNIVERSITY:** Freshwater Fisheries Division, Resource Conservation Service, Maryland Department of Natural Resources.

**STREAMS AND DATES SAMPLED:** Piney Branch in April, June, and July, 1991; Rich Branch in June and August, 1991; Watts Branch in May and June of 1991, and Muddy Branch in June and August, 1991.

**TYPE OF DATA:** Macroinvertebrate species counts.

**DATA FORMAT:** Paper hardcopy of report and data; computer files of benthic data.

**STUDY CODE: 15**

**STUDY TITLE AND DATE OF PUBLICATION:** Dickerson Station Long-Term Fisheries Monitoring Program Summary Report: 1979 - 1989, July 1991

**PRINCIPAL INVESTIGATOR:**

**AGENCY/UNIVERSITY:** Potomac Electric Power Company, Water Quality Department

**STREAMS AND DATES SAMPLED:** Monthly sampling where flow conditions permitted on the Potomac River b/w the Monocacy River and Whites Ferry.

**TYPE OF DATA:** Fish species counts.

**DATA FORMAT:** Paper hardcopy of report; computer files of fish data.

**STUDY CODE: 16**

**STUDY TITLE AND DATE OF PUBLICATION:** Long-Term Benthic Monitoring Studies in the Freshwater Portion of the Potomac River; Final Report

**PRINCIPAL INVESTIGATOR:** A.T. Shaughnessy, J.A. Ranasinghe, H. Wilson, B.J. Balcom, M.T. Barbour, R.A. Connally, M.J. Bickerton.

**AGENCY/UNIVERSITY:** Versar, Inc. for Maryland Department of Natural Resources, Tidewater Administration

**STREAMS AND DATES SAMPLED:** Potomac River and Monocacy River approximately between Conococheague Creek and Seneca Creek.

**TYPE OF DATA:** Benthic species counts.

**DATA FORMAT:** Paper hardcopy of report; computer files of benthic data (fixed site stations only, other strata samples not computerized).

**STUDY CODE: 17**

**STUDY TITLE AND DATE OF PUBLICATION:** Macroinvertebrate and Habitat Analysis using EPA RBPII for Rock Creek and two tributary streams below Lake Needwood.

**PRINCIPAL INVESTIGATOR:** Elizabeth Yuster

**AGENCY/UNIVERSITY:** Hood College

**STREAMS AND DATES SAMPLED:** Rock Creek, Crabbs Branch, and Southlawn Stream in August, 1992

**TYPE OF DATA:** Benthic Species data.

**DATA FORMAT:** Paper hardcopy of report; computer files of benthic data.

**STUDY CODE: 18**

**STUDY TITLE AND DATE OF PUBLICATION:** Prospects for developing a Recreational Fishery on the North Branch Potomac River; Final Report

**PRINCIPAL INVESTIGATOR:** NA

**AGENCY/UNIVERSITY:** The Conservation Fund, Freshwater Institute, Shepherdstown, W.V. for the Interstate Commission on the Potomac River Basin.

**STREAMS AND DATES SAMPLED:** North Branch Potomac River from Jennings Randolph Dam to the confluence with Savage River; Seven stations sampled in April, July, and October of 1991.

**TYPE OF DATA:** Benthic data identified to Order only.

**DATA FORMAT:** Paper hardcopy of report and data; computer files of benthic data.

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**STUDY CODE:** 19

**STUDY TITLE AND DATE OF PUBLICATION:** West Virginia Benthic Monitoring Survey: unpublished benthic multiplate sampling data: 1978 - 1987

**PRINCIPAL INVESTIGATOR:** Michael Arcuri

**AGENCY/UNIVERSITY:** West Virginia Department of Natural Resources

**STREAMS AND DATES SAMPLED:** Two stations on the South Branch Potomac River, and one station each on the Shenandoah River and Opequon Creek, sampled in summers 1978 - 1987.

**TYPE OF DATA:** Benthic count data.

**DATA FORMAT:** Paper hardcopy of raw data sheets; computer files of benthic data.

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## Appendix B

### Relational Database Tables

A relational database structure was used to integrate biological data sets from non-tidal Potomac streams and rivers. A relational database is a set of tables linked on a common field(s). Over time, the relational database structure will necessarily expand to accommodate additional, diverse data sets that will be discovered through our data mining efforts.

The relational database consists of the following tables (I-IX). Each table includes a list of fields, field types, field widths, and a detailed description of the data that will be stored in each field. Fields listed in bold-type are used to "relate" the tables. Please note that because the data sets are coming from very different sources, individual sampling events could only be uniquely identified and thus, linked using a minimum of three fields. The Benthic Counts Database (IV) and the Fish Counts Database (V) are central to the relational database structure. They are the "many" part of the "one to many" relationships established with other tables in the relational structure. Figure 1 in the body of the report illustrates the overall relational database structure and shows the "parent"/"child" table relationships.

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## Station Information Table

This table stores each individual sampling event and its associated geographical information. In addition, it includes the agency that was responsible for collecting data at that station.

| Field # | Field Name | Field Type | Width (dec) | Description                                                                                                                                                                            |
|---------|------------|------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | AGENCY     | character  | 6           | Code signifying data collection agency<br>(e.g. MD/DNR = Maryland Department of Natural Resources)                                                                                     |
| 2       | STATION    | character  | 8           | Sampling station identifier given in study<br>(e.g. PF27 = 300 yds upstream of Rt 2 Bridge)                                                                                            |
| 3       | STUDYCOD   | character  | 3           | An arbitrarily assigned unique number from 1 to 999 that identifies the study.                                                                                                         |
| 4       | LAT        | numeric    | 9(4)        | Latitude in Decimal Degrees                                                                                                                                                            |
| 5       | LONG       | numeric    | 9(4)        | Longitude in Decimal Degrees                                                                                                                                                           |
| 6       | LLSOURCE   | memo       |             | Source of Latitude & Longitude Data<br>(e.g. given in study; calculated from degrees-minutes-seconds that were given in study; estimated from station descriptions)                    |
| 7       | CPI        | character  |             | Coordinate Precision Index<br>(see attachment 1 for examples)                                                                                                                          |
| 8       | REACHCOD   | character  |             | Code representing the concatenation of HUC Code, Segment, and Mile<br>(This code is useful for linking databases with GIS coverages and can be changed depending on the coverage used) |
| 9       | STADATE    | date       | 8           | Date Sampling Started                                                                                                                                                                  |
| 10      | ENDDATE    | date       | 8           | Date Sampling Ended                                                                                                                                                                    |

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## Stream Code Table

The EPA's Reach File (version 3) fragments the waterways into pieces that can be uniquely identified by the concatenation of three parameters (HUC code, segment, and mile). We have codified this concatenation with a Reach code (REACHCOD). The station code table also contains the specific HUC code, segment, and mile that each Reach code represents. The "REACHCOD" field's primary function is to facilitate linking tables to other tables in the relational database and to GIS layers. In addition it contains the stream name (STRNAME) on which each waterway "piece" is located as well as the state (STATE) in which the "piece" is located.

| Field # | Field Name | Field Type | Width (dec) | Description                                                                                                                                                                         |
|---------|------------|------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | HUCCODE    | character  |             | USGS Watershed Code<br>Component of EPA Reach File Version 3                                                                                                                        |
| 2       | SEGMENT    | character  |             | Component of EPA Reach File Version 3                                                                                                                                               |
| 3       | MILE       | character  |             | Component of EPA Reach File Version 3                                                                                                                                               |
| 4       | REACHCOD   | character  |             | Code representing the concatenation of HUC Code, Segment, and Mile (this code is useful for linking databases with GIS coverages and can be changed depending on the coverage used) |
| 5       | STRNAME    | character  |             | Name of stream on which station located                                                                                                                                             |
| 6       | STATE      | character  |             | State in which the sample was obtained.                                                                                                                                             |

## Taxon Information Table

This table contains taxon-specific information including commonly used taxonomic codes as well as scientific and common names. Tolerance values and functional feeding groups have been included where possible. This table allows all other tables to carry a minimum of species specific information. Through their NODCCODE field, the other tables are linked to the Taxon Information Table and all the additional information it contains about each taxon.

| Field # | Field Name      | Field Type | Width<br>(dec) | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------|-----------------|------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | <b>NODCCODE</b> | character  | 12             | NODC Taxon Code (National Oceanic Data Center Code)<br>(This code is a hierarchical system of numerical codes used to represent the scientific names of organisms. This code links the Linnean system of biological nomenclature to a numerical schema. The NODC code contains a maximum of 12 digits partitioned into two digit couplets, each couplet representing one or more levels of the taxonomic hierarchy - e.g. 8776011401 = Campostoma anomalum, Central Stoneroller)(Johnson, 1996). |
| 2       | TSN             | character  |                | Taxon Serial Number - EPA taxonomic code<br>(The TSN code assigns each species a unique permanent number. The TSN allows the species to be tracked over time regardless of taxonomic changes in classification)                                                                                                                                                                                                                                                                                  |
| 3       | SCINAME         | character  |                | Scientific Name of Organism                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 4       | COMNAME         | character  |                | Common Name of Organism                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 5       | TV              | numeric    |                | Tolerance Value<br>(Tolerance Values have been assigned (by combination of various studies) to many macroinvertebrate families and genera. TVs are commonly used to calculate biotic indexes. These values range from 0 to 10, 0 being highly intolerant. These values can be further refined by the workgroup.)                                                                                                                                                                                 |
| 6       | FFG             | character  |                | Functional Feeding Group (Signifies the feeding role of invertebrate consumers in running waters; e.g. SHR = Shredder)                                                                                                                                                                                                                                                                                                                                                                           |

## Benthic Counts Table

This table stores the biological collection data per sampling station per date. The Benthic Count Table and Fish Count Table are central to the relational database structure. All other tables in the structure are essentially reference or "parent" tables for these core tables.

| Field # | Field Name | Field Type | Width (dec) | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------|------------|------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | STATION    | character  | 8           | Sampling station identifier given in study<br>(e.g. PF27 = 300 yds downstream from Rt 2 Bridge)                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2       | STADATE    | date       | 8           | Date Sampling Started                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3       | ENDDATE    | date       | 8           | Date Sampling Ended                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4       | REACHCOD   | character  |             | Code representing the concatenation of HUC Code, Segment, and Mile<br>(This code is useful for linking databases with GIS coverages and can be changed depending on the coverage used)                                                                                                                                                                                                                                                                                                           |
| 5       | STUDYCOD   | character  |             | An arbitrarily assigned unique number from 1 to 999 that identifies the study.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 6       | NODCCODE   | character  | 12          | NODC Taxon Code (National Oceanic Data Center Code)<br>(This code is a hierarchical system of numerical codes used to represent the scientific names of organisms. This code links the linnean system of biological nomenclature to a numerical schema. The NODC code contains a maximum of 12 digits partitioned into two digit couplets, each couplet representing one or more levels of the taxonomic hierarchy - e.g. 8776011401 = Campostoma anomalum, Central Stoneroller)(Johnson, 1996). |
| 7       | COUNT      | numeric    | 5           | Number of Individuals Present<br>(This represents the number of individuals of any one taxon found in the sample collected)                                                                                                                                                                                                                                                                                                                                                                      |
| 8       | PRESSENCE  | character  | 1           | The letter "P" in this field signifies the presence of individuals of the taxon specified in the NODCCODE field<br>(e.g. P = presence; A = absence)                                                                                                                                                                                                                                                                                                                                              |

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|    |            |           |   |                                                                                                                                                                            |
|----|------------|-----------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9  | GMETHOD    | character | 3 | Gear Method Code<br>(This code is an abbreviation of the apparatus used to collect the taxa - e.g. S1 = Surber square foot sampler for quantitative benthic samples)       |
| 10 | REP_NUM    | character | 2 | Replicate Number<br>(Since there may be more than one replicate for each sampling event, this number identifies the sampling replicate with which the data is associated.) |
| 11 | HABCODE    | character |   | Habitat Code                                                                                                                                                               |
| 12 | LIFE_STAGE | character | 8 | Life stage of organism when collected                                                                                                                                      |

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## Fish Counts Table

This database stores the fish collection data per sampling station per date.

| Field # | Field Name | Field Type | Width (dec) | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------|------------|------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | STATION    | character  | 8           | Sampling Station                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 2       | STADATE    | date       | 8           | Date Sampling Started                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3       | ENDDATE    | date       | 8           | Date Sampling Ended                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 4       | REACHCOD   | character  |             | Code representing the concatenation of HUC Code, Segment, and Mile (this code is useful for linking databases with GIS coverages and can be changed depending on the coverage used)                                                                                                                                                                                                                                                                                                            |
| 5       | STUDCODE   | character  |             | An arbitrarily assigned unique number from 1 to 999 that identifies the study.                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 6       | NODCCODE   | character  | 12          | NODC Taxon Code (National Oceanic Data Center Code)<br>(This code is a hierachial system of numerical codes used to represent the scientific names of organisms. This code links the linnean system of biological nomenclature to a numerical schema. The NODC code contains a maximum of 12 digits partitioned into two digit couplets, each couplet representing one or more levels of the taxonomic hierarchy - e.g. 8776011401 = Campostoma anomalum, Central Stoneroller)(Johnson, 1996). |
| 7       | COUNT      | numeric    | 4           | Number of Individuals Present                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 8       | PRESENCE   | character  | 1           | The letter "P" in this field signifies the presence of individuals of the taxon specified in the NODCCODE field (e.g. P = presence; A = absence)                                                                                                                                                                                                                                                                                                                                               |
| 9       | GMETHOD    | character  | 3           | Gear Method Code<br>(This code represents an abbreviation for the type of apparatus used to collect the specimens - e.g. S1 = Surber square foot sampler for quantitative benthic samples)                                                                                                                                                                                                                                                                                                     |
| 10      | HABCODE    | character  |             | Habitat Code (being developed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 11      | REP_NUM    | character  | 3           | Replicate Number<br>(Since there may be more than one replicate for each sampling event, this number identifies the sampling replicate with which the data is associated.)                                                                                                                                                                                                                                                                                                                     |

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### Individual Measurements Table

This database contains more specific data such as length and weight that may have been collected on individual fish.

| Field # | Field Name      | Field Type | Width (dec) | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------|-----------------|------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | <b>STUDYCOD</b> | character  | 3           | An arbitrarily assigned unique number from 1 to 999 that identifies the study.                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2       | <b>STATION</b>  | character  | 8           | Sampling Station                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3       | <b>STADATE</b>  | date       | 8           | Date Sampling Started                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 4       | <b>ENDDATE</b>  | date       | 8           | Date Sampling Ended                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 5       | <b>REACHCOD</b> | character  |             | Code representing the concatenation of HUC Code, Segment, and Mile<br>(this code is useful for linking databases with GIS coverages and can be changed depending on the coverage used)                                                                                                                                                                                                                                                                                                         |
| 6       | <b>NODCCODE</b> | character  | 12          | NODC Taxon Code (National Oceanic Data Center Code)<br>(This code is a hierachial system of numerical codes used to represent the scientific names of organisms. This code links the linnean system of biological nomenclature to a numerical schema. The NODC code contains a maximum of 12 digits partitioned into two digit couplets, each couplet representing one or more levels of the taxonomic hierarchy - e.g. 8776011401 = Campostoma anomalum, Central Stoneroller)(Johnson, 1996). |
| 7       | <b>LENGTH</b>   | numeric    | 4           | Length of Individual                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 8       | <b>WEIGHT</b>   | numeric    | 3           | Weight of Individual                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## Biological Metrics Table

This database will contain various metrics to characterize/interpret the data sets. Currently, parameters that have been included in this database are those that have been commonly used in the studies from which the data were taken. However, these metrics are not necessarily the most appropriate metrics for characterizing/interpreting the integrated database primarily due to the use of diverse sampling methodologies.

| Field # | Field Name      | Field Type | Width (dec) | Description                                                                                                                                                                         |
|---------|-----------------|------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | <b>STUDYCOD</b> | character  |             | An arbitrarily assigned unique number from 1 to 999 that identifies the study.                                                                                                      |
| 2       | <b>STATION</b>  | character  |             | Sampling Station                                                                                                                                                                    |
| 3       | <b>STADATE</b>  | date       |             | Date Sampling Started                                                                                                                                                               |
| 4       | <b>ENDDATE</b>  | date       |             | Date Sampling Ended                                                                                                                                                                 |
| 5       | <b>REACHCOD</b> | character  |             | Code representing the concatenation of Segment, HUC Code, and Mile (this code is useful for linking databases with GIS coverages and can be changed depending on the coverage used) |
| 6       | TAXARICH*       | numeric    |             | Taxa Richness                                                                                                                                                                       |
| 7       | FBI*            | numeric    |             | Modified Family Biotic Index                                                                                                                                                        |
| 8       | SCR_FC*         | numeric    |             | Ratio of Scraper and Filtering Collector Functional Feeding Groups                                                                                                                  |
| 9       | EPT_CHIR*       | numeric    |             | Ratio of EPT and Chironomidae Abundances                                                                                                                                            |
| 10      | PERCDOM*        | numeric    |             | Percent Contribution of Dominant Family                                                                                                                                             |
| 11      | EPT*            | numeric    |             | EPT Index                                                                                                                                                                           |
| 12      | SHR_TOT*        | numeric    |             | Ratio of Shredder Functional Feeding Group and Total Number of Individuals Collected                                                                                                |

\* Metrics calculated in EPA's Rapid Bioassessment Protocol

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## Water Quality Table

This database contains water quality data collected per sampling station per date.

| Field # | Field Name      | Field Type | Width (dec) | Description                                                                                                                                                                         |
|---------|-----------------|------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | <b>STUDYCOD</b> | character  |             | An arbitrarily assigned unique number from 1 to 999 that identifies the study.                                                                                                      |
| 2       | <b>STATION</b>  | character  |             | Sampling Station                                                                                                                                                                    |
| 3       | <b>REACHCOD</b> | character  |             | Code representing the concatenation of HUC Code, Segment, and Mile (this code is useful for linking databases with GIS coverages and can be changed depending on the coverage used) |
| 4       | <b>STADATE</b>  | date       |             | Date Sampling Started                                                                                                                                                               |
| 5       | <b>ENDDATE</b>  | date       |             | Date Sampling Ended                                                                                                                                                                 |
| 6       | PARAM           | character  |             | Water quality parameter. These will be added as per recommendations of participants (D.O. - dissolved oxygen, PO4 - phosphate)                                                      |
| 7       |                 | numeric    |             | Quantity of water quality parameter measured.                                                                                                                                       |
| 8       | UNITS           | character  |             | Reported Units (mg=milligrams, number/m**2=number per square meter)                                                                                                                 |
| 9       | AMC             | character  |             | Analytical Method Code (to be determined)                                                                                                                                           |
| 10      | INS_CODE        | character  |             | Analytical Instrument Code (HL8000=Hydrolab 8000, PHMETER = PH meter)                                                                                                               |

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## Habitat Information Table

This database contains habitat data collected per sampling station per date. Currently, it only contains parameters used in the EPA's Habitat Evaluation Index.

| Field # | Field Name      | Field Type | Width (dec) | Description                                                                                                                                                                         |
|---------|-----------------|------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | <b>STUDYCOD</b> | character  | 3           | An arbitrarily assigned unique number from 1 to 999 that identifies the study.                                                                                                      |
| 2       | <b>STATION</b>  | character  | 8           | Sampling Station                                                                                                                                                                    |
| 3       | <b>STADATE</b>  | date       | 8           | Date Sampling Started                                                                                                                                                               |
| 4       | <b>ENDDATE</b>  | date       | 8           | Date Sampling Ended                                                                                                                                                                 |
| 5       | <b>REACHCOD</b> | character  |             | Code representing the concatenation of HUC Code, Segment, and Mile (this code is useful for linking databases with GIS coverages and can be changed depending on the coverage used) |
| 6       | HABCODE         | character  |             | Habitat Code                                                                                                                                                                        |
| 7       | SUBSTRAT*       | numeric    |             | Bottom substrate/instream cover                                                                                                                                                     |
| 8       | EMBED*          | numeric    |             | Embeddedness                                                                                                                                                                        |
| 9       | FLOW*           | numeric    |             | Potential divisions based on cubic feet/second (to be determined)                                                                                                                   |
| 10      | CANOPY*         | numeric    |             | Canopy cover (shading)                                                                                                                                                              |
| 11      | CHAN_ALT*       | numeric    |             | Channel alteration                                                                                                                                                                  |
| 12      | SCOURDEP*       | numeric    |             | Bottom scouring and deposition                                                                                                                                                      |
| 13      | RIF_BEND*       | numeric    |             | Distance between riffles/bends divided by stream width                                                                                                                              |
| 14      | CHAN_CAP*       | numeric    |             | Lower bank channel capacity                                                                                                                                                         |
| 15      | UB_STAB*        | numeric    |             | Upper bank stability                                                                                                                                                                |
| 16      | VEG_GRAZ*       | numeric    |             | Bank vegetative protection<br>OR<br>Grazing or other disruptive pressure                                                                                                            |

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|    |           |         |  |                                 |
|----|-----------|---------|--|---------------------------------|
| 17 | SIDE_COV* | numeric |  | Streamside cover                |
| 18 | VEGWIDTH* | numeric |  | Riparian vegetative zone width  |
| 19 | POOL_SUB* | numeric |  | Pool substrate characterization |
| 20 | POOL_VAR* | numeric |  | Pool variability                |
| 21 | CHAN_SIN* | numeric |  | Channel sinuosity               |

\*Parameters taken from EPA's Qualitative Habitat Evaluation Index

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## **Appendix C**

### **Indicator Data Sets Generated from Relational Database**



Table 1: Taxa Richness

| STRNAME           | STUDYCOD | STATION | STADATE  | ENDDATE  | FAMCOUNT |
|-------------------|----------|---------|----------|----------|----------|
| Antietam Creek    | 9        | 2       |          | 06/01/81 | 11       |
| Antietam Creek    | 1        | 12      |          | 07/01/66 | 13       |
| Antietam Creek    | 1        | 13      |          | 07/01/66 | 22       |
| Beaver Creek      | 1        | 10      |          | 07/01/66 | 23       |
| Bennett Creek     | 4        | 25      |          | 07/01/66 | 14       |
| Big Pipe Creek    | 4        | 11      |          | 07/01/66 | 9        |
| Bucklodge Branch  | 7        | BB      |          | 01/01/93 | 12       |
| Crabbs Branch     | 17       | 2A      |          | 08/30/92 | 17       |
| Glade Creek       | 4        | 17      |          | 07/01/66 | 6        |
| Hunting Creek     | 4        | 14      |          | 07/01/66 | 10       |
| Hunting Creek     | 4        | 15      |          | 07/01/66 | 11       |
| Little Pipe Creek | 4        | 12      |          | 07/01/66 | 13       |
| Monocacy River    | 4        | 10      |          | 07/01/66 | 10       |
| Monocacy River    | 4        | 13      |          | 07/01/66 | 23       |
| Monocacy River    | 4        | 16      |          | 07/01/66 | 18       |
| Monocacy River    | 4        | 18      |          | 07/01/66 | 20       |
| Monocacy River    | 4        | 22      |          | 07/01/66 | 15       |
| Monocacy River    | 4        | 23      |          | 07/01/66 | 13       |
| Monocacy River    | 4        | 24      |          | 07/01/66 | 14       |
| Muddy Branch      | 14       | MBER    |          | 06/05/91 | 13       |
| Opequon Creek     | 19       | P47     | 08/08/85 | 09/25/85 | 13       |

Taxa Richness (number of families) has been calculated per station per date sampled. These values appear in the "FAMCOUNT" field (Metric 1). The field "STADATE" is provided to accomodate for those databases in which only a range of dates was given rather than a specific date (i.e. 1980-1985).

Table 1: Taxa Richness

| STRNAME                    | STUDYCOD | STATION | STADATE  | ENDDATE  | FAMCOUNT |
|----------------------------|----------|---------|----------|----------|----------|
| Piney Branch               | 7        | 4       |          | 02/20/93 | 14       |
|                            | 12       | PBGHLP1 |          | 04/02/91 | 6        |
|                            | 12       | PBGHLP2 |          | 04/02/91 | 9        |
|                            | 12       | PBGR1   |          | 04/05/91 | 10       |
|                            | 12       | PBGR2   |          | 04/05/91 | 12       |
|                            | 12       | PBGHLP1 |          | 10/07/91 | 7        |
|                            | 12       | PBGHLP2 |          | 10/07/91 | 10       |
|                            | 12       | PBGR1   |          | 10/07/91 | 8        |
|                            | 12       | PBGR2   |          | 10/07/91 | 6        |
|                            | 7        | 4       |          | 10/13/93 | 15       |
| Potomac River              | 16       | S10L4A  |          | 08/08/89 | 1        |
|                            | 16       | S10L02B |          | 08/14/90 | 22       |
|                            | 11       | 11      | 01/01/75 | 12/31/78 | 37       |
| Rock Creek                 | 10D      | 1       |          | 03/03/81 | 3        |
|                            | 4        | 1       |          | 07/01/66 | 14       |
|                            | 4        | 2       |          | 07/01/66 | 10       |
|                            | 17       | 4       |          | 08/08/92 | 14       |
|                            | 17       | 5       |          | 08/22/92 | 16       |
|                            | 17       | 6       |          | 08/23/92 | 16       |
|                            | 17       | 1       |          | 08/25/92 | 20       |
|                            | 17       | 3       |          | 08/30/92 | 15       |
|                            | 10D      | 1       |          | 11/20/80 | 2        |
| South Branch Potomac River | 5        | 10      |          | 09/20/88 | 18       |
| Southlawn stream           | 17       | 4A      |          | 08/02/92 | 17       |
| Toms Creek                 | 10A      | 5       |          | 12/06/77 | 12       |
|                            | 10A      | 6       |          | 12/06/77 | 16       |
| West Branch Antietam Creek | 10B      | 1       |          | 06/01/77 | 22       |
|                            | 1        | 1       |          | 07/01/66 | 8        |

Taxa Richness (number of families) has been calculated per station per date sampled. These values appear in the "FAMCOUNT" field (Metric 1). The field "STADATE" is provided to accomodate for those databases in which only a range of dates was given rather than a specific date (i.e. 1980-1985).

**Table 2: Family Biotic Index and Percent Dominance**

| STRNAME      | STUDYCOD | STATION | STADATE | ENDDATE  | FBIINDEX | DOMFAM | DOMPERC |
|--------------|----------|---------|---------|----------|----------|--------|---------|
| Piney Branch | 12       | PBGHLP2 |         | 10/07/91 | 3.49     | 641804 | 33      |
| Piney Branch | 12       | PBGR2   |         | 10/07/91 | 3.01     | 641804 | 40      |

The field "FBIINDEX" contains the Family Biotic Index (Metric 2). The field "DOMFAM" indicates the dominant family found in the sample. The field "DOMPERC" (Metric3) is the percent of the total that the dominant family comprised. The field "STADATE" is provided to accomodate for those databases in which only a range of dates was given rather than a specific date (i.e. 1980-1985).



### Table 3

The "EPTINDEX" (Metric 4) is the taxa richness within the groups Ephemeroptera, Plecoptera and Trichoptera. The field "CHIRONOMID" is the abundance of taxa of the family Chironomidae. The field "EPT/CHIRO" (Metric 6) is the abundance of individuals within the Ephemeroptera, Plecoptera, and Tricoptera orders divided by the Chironomidae abundance. If not all individuals in a sample were collected to at least the order level, the EPT Index was not calculated. In these cases the field "EPTINDEX" was given a value of "-9,999.9". If no chironomidae were found in a sample, the field "EPT/CHIRO" was given a value of "-9,999.9." The field "STADATE" is provided to accommodate for those databases in which only a range of dates was given rather than a specific date (i.e. 1980-1985).



Table 3: EPT Index and EPT Abundance/ Chironomidae Abundance

| STRNAME        | STUDYCOD | STATION | STADATE  | ENDDATE  | EPT INDEX | CHIRONOMID | EPT/CHIRO |
|----------------|----------|---------|----------|----------|-----------|------------|-----------|
| Antietam Creek | 6        | 1       |          | 01/01/82 | 0.0       | 4.0        | 0.0       |
| Antietam Creek | 9        | 1       |          | 06/01/81 | 2.0       | 17.0       | 3.5       |
| Antietam Creek | 6        | 10      |          | 01/01/82 | -9,999.9  | 661.0      | -9,999.9  |
| Antietam Creek | 6        | 11      |          | 01/01/82 | -9,999.9  | 234.0      | -9,999.9  |
| Antietam Creek | 6        | 12      |          | 01/01/82 | -9,999.9  | 491.0      | -9,999.9  |
| Antietam Creek | 1        | 12      |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Antietam Creek | 1        | 13      |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Antietam Creek | 6        | 2       |          | 01/01/82 | 2.0       | 1.0        | 1.0       |
| Antietam Creek | 9        | 2       |          | 06/01/81 | 2.0       | 0.0        | -9,999.9  |
| Antietam Creek | 1        | 2       |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Antietam Creek | 6        | 3       |          | 01/01/82 | 5.0       | 15.0       | 1.0       |
| Antietam Creek | 9        | 3       |          | 06/01/81 | 1.0       | 58.0       | 0.2       |
| Antietam Creek | 1        | 3       |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Antietam Creek | 6        | 4       |          | 01/01/82 | -9,999.9  | 0.0        | -9,999.9  |
| Antietam Creek | 9        | 4       |          | 06/01/81 | 1.0       | 1.0        | 20.0      |
| Antietam Creek | 1        | 4       |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Antietam Creek | 6        | 5       |          | 01/01/82 | 6.0       | 397.0      | 0.1       |
| Antietam Creek | 6        | 6       |          | 01/01/82 | 1.0       | 7.0        | 0.1       |
| Antietam Creek | 10B      | 6       |          | 06/01/77 | -9,999.9  | 0.0        | -9,999.9  |
| Antietam Creek | 10B      | 6       |          | 06/01/77 | 2.0       | 0.0        | -9,999.9  |
| Antietam Creek | 1        | 6       |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Antietam Creek | 6        | 7       |          | 01/01/82 | 0.0       | 64.0       | 0.0       |
| Antietam Creek | 1        | 7       |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Antietam Creek | 6        | 8       |          | 01/01/82 | 2.0       | 36.0       | 0.0       |
| Antietam Creek | 1        | 8       |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Antietam Creek | 6        | 9       |          | 01/01/82 | -9,999.9  | 314.0      | -9,999.9  |
| Antietam Creek | 1        | 9       |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Beaver Creek   | 1        | 10      |          | 07/01/66 | 4.0       | 0.0        | -9,999.9  |
| Bennett Creek  | 4        | 25      |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Big Cove Creek | 10F      | 1       |          | 07/25/84 | 3.0       | 0.0        | -9,999.9  |
| Big Cove Creek | 10F      | 2       |          | 07/25/84 | 1.0       | 0.0        | -9,999.9  |
| Big Cove Creek | 10F      | 3       |          | 07/25/84 | 1.0       | 0.0        | -9,999.9  |
| Big Pipe Creek | 4        | 11      |          | 07/01/66 | 2.0       | 0.0        | -9,999.9  |
| Big Run        | 3        | 28      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Blue Lick Run  | 3        | 30      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |

Table 3: EPT Index and EPT Abundance/ Chironomidae Abundance

| STRNAME                    | STUDYCOD | STATION | STADATE  | ENDDATE  | EPT INDEX | CHIRONOMID | EPT/CHIRO |
|----------------------------|----------|---------|----------|----------|-----------|------------|-----------|
| Braddock Run               | 3        | 84      | 08/01/69 | 08/31/71 | 2.0       | 0.0        | -9,999.9  |
| Braddock Run               | 3        | 85      | 08/01/69 | 08/31/71 | 2.0       | 0.0        | -9,999.9  |
| Braddock Run               | 3        | 86      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Bucklodge Branch           | 7        | BB      |          | 01/01/93 | 1.0       | 19.0       | 0.4       |
| Bucklodge Branch           | 7        | BB      |          | 02/10/93 | 2.0       | 66.0       | 0.2       |
| Bucklodge Branch           | 7        | BB      |          | 05/22/93 | 2.0       | 43.0       | 0.0       |
| Bucklodge Branch           | 7        | BB      |          | 08/04/93 | 3.0       | 22.0       | 1.6       |
| Bucklodge Branch           | 7        | BB      |          | 10/23/93 | 5.0       | 11.0       | 5.9       |
| Butcher Run                | 3        | 69      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Carroll Creek              | 4        | 20      |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 03/03/80 | 2.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 03/03/81 | 1.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 05/07/81 | 1.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 05/12/82 | 3.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 05/12/83 | 1.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 05/21/84 | 3.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 05/28/80 | 1.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 08/13/80 | 1.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 08/13/81 | 3.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 08/24/82 | 2.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 08/29/83 | 2.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 10/16/86 | 3.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 10/31/84 | 4.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 11/06/80 | 4.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 11/09/82 | 4.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 11/17/83 | 2.0       | 0.0        | -9,999.9  |
| Conococheaque Creek        | 10C      | 1       |          | 11/18/81 | 2.0       | 0.0        | -9,999.9  |
| Crabbs Branch              | 17       | 2A      |          | 08/30/92 | 1.0       | 6.0        | 5.0       |
| Dutch Hollow Branch        | 3        | 89      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Dutch Hollow Branch        | 3        | 90      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 02/16/83 | 1.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 02/25/82 | 1.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 03/03/80 | 2.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 03/03/81 | 1.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 05/07/81 | 1.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 05/12/82 | 1.0       | 0.0        | -9,999.9  |

Table 3: EPT Index and EPT Abundance/ Chironomidae Abundance

| STRNAME                    | STUDYCOD | STATION | STADATE  | ENDDATE  | EPT INDEX | CHIRONOMID | EPT/CHIRO |
|----------------------------|----------|---------|----------|----------|-----------|------------|-----------|
| East Branch Antietam Creek | 10E      | 1       |          | 05/12/83 | 1.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 05/21/84 | 1.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 05/28/80 | 2.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 08/13/80 | 2.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 08/13/81 | 2.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 08/24/82 | 1.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 08/29/83 | 2.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 09/25/87 | 1.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 10/08/85 | 2.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 10/16/86 | 1.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 10/31/84 | 2.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 11/09/82 | 1.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 11/17/83 | 2.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 11/18/81 | 2.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10E      | 1       |          | 11/20/80 | 1.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10B      | 4       |          | 06/01/77 | -9,999.9  | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10B      | 4       |          | 06/01/77 | 4.0       | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10B      | 5       |          | 06/01/77 | -9,999.9  | 0.0        | -9,999.9  |
| East Branch Antietam Creek | 10B      | 5       |          | 06/01/77 | 2.0       | 0.0        | -9,999.9  |
| Evitts Creek               | 3        | 58      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Fifteen Mile Creek         | 3        | 60      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| Flat Run                   | 4        | 6       |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Flat Run                   | 4        | 7       |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Georges Creek              | 3        | 61      | 08/01/69 | 08/31/71 | 1.0       | 0.0        | -9,999.9  |
| Georges Creek              | 3        | 62      | 08/01/69 | 08/31/71 | 2.0       | 0.0        | -9,999.9  |
| Georges Creek              | 3        | 63      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| Georges Creek              | 3        | 64      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| Georges Creek              | 3        | 65      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| Glade Creek                | 4        | 17      |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Hunting Creek              | 4        | 14      |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Hunting Creek              | 4        | 15      |          | 07/01/66 | 3.0       | 0.0        | -9,999.9  |
| Jennings Run               | 3        | 87      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Jennings Run               | 3        | 88      | 08/01/69 | 08/31/71 | 2.0       | 0.0        | -9,999.9  |
| Jennings Run               | 3        | 91      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |

**Table 3: EPT Index and EPT Abundance/ Chironomidae Abundance**

| STRNAME                   | STUDYCOD | STATION | STADATE  | ENDDATE  | EPT INDEX | CHIRONOMID | EPT/CHIRO |
|---------------------------|----------|---------|----------|----------|-----------|------------|-----------|
| Koontz Run                | 3        | 71      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Laural Run                | 3        | 49      | 08/01/69 | 08/31/71 | 0.0       | 0.0        | -9,999.9  |
| Laural Run                | 3        | 51      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Laural Run                | 3        | 52      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Laural Run                | 3        | 70      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Little Antietam Creek     | 1        | 11      |          | 07/01/66 | 2.0       | 0.0        | -9,999.9  |
| Little Pipe Creek         | 4        | 12      |          | 07/01/66 | 2.0       | 0.0        | -9,999.9  |
| Marsh Run                 | 1        | 5       |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Matthew Run               | 3        | 75      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Mill Run                  | 3        | 66      | 08/01/69 | 08/31/71 | 2.0       | 0.0        | -9,999.9  |
| Monocacy River            | 4        | 10      |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Monocacy River            | 4        | 13      |          | 07/01/66 | 2.0       | 0.0        | -9,999.9  |
| Monocacy River            | 4        | 16      |          | 07/01/66 | 2.0       | 0.0        | -9,999.9  |
| Monocacy River            | 4        | 18      |          | 07/01/66 | 2.0       | 0.0        | -9,999.9  |
| Monocacy River            | 4        | 19      |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Monocacy River            | 4        | 21      |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Monocacy River            | 4        | 22      |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Monocacy River            | 4        | 23      |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Monocacy River            | 4        | 24      |          | 07/01/66 | 3.0       | 0.0        | -9,999.9  |
| Monocacy River            | 4        | 26      |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Monocacy River            | 4        | 3       |          | 07/01/66 | 2.0       | 0.0        | -9,999.9  |
| Monocacy River            | 4        | 4       |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Monocacy River            | 16       | S16R05B |          | 08/01/90 | -9,999.9  | 7.0        | -9,999.9  |
| Moores Run                | 3        | 67      | 08/01/69 | 08/31/71 | 2.0       | 0.0        | -9,999.9  |
| North Branch Jennings Run | 3        | 92      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| North Branch Potomac      | 11       | 1       | 01/01/75 | 12/31/78 | 1.0       | 0.0        | -9,999.9  |
| North Branch Potomac      | 18       | 11      |          | 04/24/91 | 3.0       | 0.0        | -9,999.9  |
| North Branch Potomac      | 18       | 11      |          | 07/18/91 | 1.0       | 0.0        | -9,999.9  |
| North Branch Potomac      | 18       | 11      |          | 10/01/91 | 1.0       | 0.0        | -9,999.9  |
| North Branch Potomac      | 18       | 12      |          | 04/24/91 | 2.0       | 0.0        | -9,999.9  |

**Table 3: EPT Index and EPT Abundance/ Chironomidae Abundance**

| STRNAME                  | STUDYCOD | STATION | STADATE  | ENDDATE  | EPT INDEX | CHIRONOMID | EPT/CHIRO |
|--------------------------|----------|---------|----------|----------|-----------|------------|-----------|
| North Branch Potomac     | 18       | 12      |          | 07/18/91 | 1.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 18       | 12      |          | 10/01/91 | 1.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 18       | 2       |          | 04/24/91 | 1.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 18       | 2       |          | 07/18/91 | 2.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 5        | 2       |          | 09/19/88 | 2.0       | 4.0        | 0.7       |
| North Branch Potomac     | 18       | 2       |          | 10/01/91 | 2.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 11       | 2       | 01/01/75 | 12/31/78 | 2.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 18       | 3       |          | 04/24/91 | 3.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 18       | 3       |          | 07/18/91 | 3.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 18       | 3       |          | 10/01/91 | 3.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 11       | 3       | 01/01/75 | 12/31/78 | 2.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 5        | 4       |          | 09/19/88 | 2.0       | 6.0        | 1.1       |
| North Branch Potomac     | 11       | 4       | 01/01/75 | 12/31/78 | 1.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 3        | 46      | 08/01/69 | 08/31/71 | 0.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 3        | 47      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| North Branch Potomac     | 5        | 5       |          | 09/20/88 | 0.0       | 13.0       | 0.0       |
| North Branch Potomac     | 11       | 5       | 01/01/75 | 12/31/78 | 4.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 5        | 6       |          | 09/20/88 | 1.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 11       | 6       | 01/01/75 | 12/31/78 | 4.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 18       | 7       |          | 04/24/91 | 3.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 18       | 7       |          | 07/18/91 | 3.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 5        | 7       |          | 09/20/88 | 0.0       | 3.0        | 0.0       |
| North Branch Potomac     | 18       | 7       |          | 10/01/91 | 3.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 18       | 8       |          | 04/24/91 | 3.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 18       | 8       |          | 07/18/91 | 3.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 5        | 8       |          | 09/20/88 | 1.0       | 8.0        | 8.6       |
| North Branch Potomac     | 18       | 8       |          | 10/01/91 | 3.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 18       | 9       |          | 04/24/91 | 3.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 18       | 9       |          | 07/18/91 | 3.0       | 0.0        | -9,999.9  |
| North Branch Potomac     | 5        | 9       |          | 09/21/88 | 1.0       | 8.0        | 11.5      |
| North Branch Potomac     | 18       | 9       |          | 10/01/91 | 3.0       | 0.0        | -9,999.9  |
| North Prong Lostland Run | 3        | 55      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| North Prong Lostland Run | 3        | 56      | 08/01/69 | 08/31/71 | 2.0       | 0.0        | -9,999.9  |
| Opequon Creek            | 19       | P47     | 06/16/87 | 07/30/87 | 4.0       | 0.0        | -9,999.9  |
| Opequon Creek            | 19       | P47     | 06/28/82 | 08/13/82 | 4.0       | 0.0        | -9,999.9  |
| Opequon Creek            | 19       | P47     | 07/05/84 | 08/17/84 | 2.0       | 0.0        | -9,999.9  |
| Opequon Creek            | 19       | P47     | 07/05/78 | 08/18/78 | 2.0       | 0.0        | -9,999.9  |
| Opequon Creek            | 19       | P47     | 06/19/86 | 08/20/86 | 2.0       | 0.0        | -9,999.9  |
| Opequon Creek            | 19       | P47     | 07/18/79 | 08/28/79 | 0.0       | 0.0        | -9,999.9  |
| Opequon Creek            | 19       | P47     | 07/08/81 | 08/28/81 | 4.0       | 30.0       | 0.1       |
| Opequon Creek            | 19       | P47     | 08/08/85 | 09/25/85 | 3.0       | 0.0        | -9,999.9  |
| Piney Branch             | 7        | 1       |          | 01/16/93 | 2.0       | 7.0        | 4.4       |
| Piney Branch             | 7        | 1       |          | 02/28/93 | 3.0       | 37.0       | 1.1       |
| Piney Branch             | 7        | 1       |          | 04/04/93 | 5.0       | 39.0       | 0.6       |

Table 3: EPT Index and EPT Abundance/ Chironomidae Abundance

| STRNAME          | STUDYCOD | STATION | STADATE  | ENDDATE  | EPT INDEX | CHIRONOMID | EPT/CHIRO |
|------------------|----------|---------|----------|----------|-----------|------------|-----------|
| Piney Branch     | 7        | 1       |          | 05/15/93 | 1.0       | 43.0       | 0.0       |
| Piney Branch     | 7        | 1A      |          | 07/16/93 | 4.0       | 24.0       | 2.9       |
| Piney Branch     | 7        | 2       |          | 01/16/93 | 4.0       | 5.0        | 5.8       |
| Piney Branch     | 7        | 2       |          | 02/28/93 | 2.0       | 31.0       | 0.3       |
| Piney Branch     | 7        | 2       |          | 04/04/93 | 3.0       | 53.0       | 0.1       |
| Piney Branch     | 7        | 2       |          | 05/15/93 | 2.0       | 19.0       | 0.7       |
| Piney Branch     | 7        | 2       |          | 06/30/93 | 4.0       | 37.0       | 1.2       |
| Piney Branch     | 7        | 2       |          | 09/29/93 | 3.0       | 7.0        | 10.2      |
| Piney Branch     | 7        | 3       |          | 02/02/93 | 3.0       | 110.0      | 0.1       |
| Piney Branch     | 7        | 3       |          | 05/15/93 | 1.0       | 28.0       | 0.2       |
| Piney Branch     | 7        | 3       |          | 06/30/93 | 4.0       | 27.0       | 2.3       |
| Piney Branch     | 7        | 3       |          | 09/29/93 | 2.0       | 10.0       | 9.7       |
| Piney Branch     | 7        | 4       |          | 02/20/93 | 4.0       | 62.0       | 0.3       |
| Piney Branch     | 7        | 4       |          | 05/17/93 | 3.0       | 21.0       | 0.5       |
| Piney Branch     | 7        | 4       |          | 07/20/93 | 4.0       | 10.0       | 7.4       |
| Piney Branch     | 7        | 4       |          | 10/13/93 | 2.0       | 6.0        | 16.3      |
| Piney Branch     | 7        | 5       |          | 02/20/93 | 3.0       | 54.0       | 0.3       |
| Piney Branch     | 7        | 5       |          | 04/08/93 | 5.0       | 35.0       | 1.0       |
| Piney Branch     | 7        | 5       |          | 07/29/93 | 3.0       | 19.0       | 3.1       |
| Piney Branch     | 7        | 5       |          | 10/01/93 | 3.0       | 16.0       | 1.8       |
| Piney Branch     | 12       | PBGHLP1 |          | 04/02/91 | 1.0       | 67.0       | 0.4       |
| Piney Branch     | 12       | PBGHLP1 |          | 10/07/91 | 2.0       | 0.0        | -9,999.9  |
| Piney Branch     | 12       | PBGHLP2 |          | 04/02/91 | 1.0       | 18.0       | 3.3       |
| Piney Branch     | 12       | PBGHLP2 |          | 10/07/91 | 3.0       | 2.0        | 39.0      |
| Piney Branch     | 12       | PBGR1   |          | 04/05/91 | 3.0       | 4.0        | 5.2       |
| Piney Branch     | 12       | PBGR1   |          | 10/07/91 | 2.0       | 0.0        | -9,999.9  |
| Piney Branch     | 12       | PBGR2   |          | 04/05/91 | 1.0       | 10.0       | 0.7       |
| Piney Branch     | 12       | PBGR2   |          | 10/07/91 | 2.0       | 0.0        | -9,999.9  |
| Popular Lick Run | 3        | 27      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River    | 11       | 10      | 01/01/75 | 12/31/78 | 6.0       | 0.0        | -9,999.9  |
| Potomac River    | 11       | 11      | 01/01/75 | 12/31/78 | 6.0       | 0.0        | -9,999.9  |
| Potomac River    | 11       | 12      | 01/01/75 | 12/31/78 | 3.0       | 0.0        | -9,999.9  |
| Potomac River    | 11       | 13      | 01/01/75 | 12/31/78 | 5.0       | 0.0        | -9,999.9  |
| Potomac River    | 11       | 14      | 01/01/75 | 12/31/78 | 5.0       | 0.0        | -9,999.9  |
| Potomac River    | 11       | 15      | 01/01/75 | 12/31/78 | 4.0       | 0.0        | -9,999.9  |
| Potomac River    | 11       | 16A     | 01/01/75 | 12/31/78 | 4.0       | 0.0        | -9,999.9  |
| Potomac River    | 11       | 16B     | 01/01/75 | 12/31/78 | 4.0       | 0.0        | -9,999.9  |
| Potomac River    | 11       | 17      | 01/01/75 | 12/31/78 | 3.0       | 0.0        | -9,999.9  |
| Potomac River    | 11       | 18      | 01/01/75 | 12/31/78 | 5.0       | 0.0        | -9,999.9  |
| Potomac River    | 3        | 45      | 08/01/69 | 08/31/71 | 2.0       | 0.0        | -9,999.9  |
| Potomac River    | 3        | 48      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River    | 11       | 7       | 01/01/75 | 12/31/78 | 3.0       | 0.0        | -9,999.9  |
| Potomac River    | 11       | 8       | 01/01/75 | 12/31/78 | 4.0       | 0.0        | -9,999.9  |
| Potomac River    | 11       | 9       | 01/01/75 | 12/31/78 | 5.0       | 0.0        | -9,999.9  |
| Potomac River    | 16       | S01002A |          | 08/17/90 | -9,999.9  | 7.0        | -9,999.9  |
| Potomac River    | 16       | S01002B |          | 08/17/90 | -9,999.9  | 3.0        | -9,999.9  |

**Table 3: EPT Index and EPT Abundance/ Chironomidae Abundance**

| STRNAME       | STUDYCOD | STATION | STADATE | ENDDATE  | EPT INDEX | CHIRONOMID | EPT/CHIRO |
|---------------|----------|---------|---------|----------|-----------|------------|-----------|
| Potomac River | 16       | S03L02A |         | 08/02/90 | -9,999.9  | 5.0        | -9,999.9  |
| Potomac River | 16       | S03L02B |         | 08/02/90 | -9,999.9  | 2.0        | -9,999.9  |
| Potomac River | 16       | S03R02A |         | 08/02/90 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River | 16       | S03R02B |         | 08/02/90 | -9,999.9  | 1.0        | -9,999.9  |
| Potomac River | 16       | S04L05A |         | 08/03/90 | -9,999.9  | 12.0       | -9,999.9  |
| Potomac River | 16       | S04L05B |         | 08/03/90 | -9,999.9  | 19.0       | -9,999.9  |
| Potomac River | 16       | S05L01A |         | 08/09/90 | -9,999.9  | 1.0        | -9,999.9  |
| Potomac River | 16       | S05L01B |         | 08/09/90 | 7.0       | 1.0        | 51.0      |
| Potomac River | 16       | S06005A |         | 08/10/90 | -9,999.9  | 8.0        | -9,999.9  |
| Potomac River | 16       | S06005B |         | 08/10/90 | -9,999.9  | 4.0        | -9,999.9  |
| Potomac River | 16       | S08007A |         | 08/13/90 | -9,999.9  | 13.0       | -9,999.9  |
| Potomac River | 16       | S08007B |         | 08/13/90 | -9,999.9  | 4.0        | -9,999.9  |
| Potomac River | 16       | S09L02A |         | 08/13/90 | -9,999.9  | 3.0        | -9,999.9  |
| Potomac River | 16       | S09L02B |         | 08/13/90 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River | 16       | S10L02A |         | 08/14/90 | -9,999.9  | 6.0        | -9,999.9  |
| Potomac River | 16       | S10L02B |         | 08/14/90 | 5.0       | 17.0       | 2.5       |
| Potomac River | 16       | S10L4B  |         | 08/08/89 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River | 16       | S11L02A |         | 08/13/90 | -9,999.9  | 16.0       | -9,999.9  |
| Potomac River | 16       | S11L02B |         | 08/13/90 | 4.0       | 9.0        | 1.4       |
| Potomac River | 16       | S11L4A  |         | 08/08/89 | -9,999.9  | 5.0        | -9,999.9  |
| Potomac River | 16       | S11L4B  |         | 08/08/89 | -9,999.9  | 6.0        | -9,999.9  |
| Potomac River | 16       | S12L04A |         | 08/16/90 | -9,999.9  | 77.0       | -9,999.9  |
| Potomac River | 16       | S12L04B |         | 08/16/90 | -9,999.9  | 88.0       | -9,999.9  |
| Potomac River | 16       | S12L4A  |         | 08/14/89 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River | 16       | S12L4B  |         | 08/14/89 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River | 16       | S13R07A |         | 08/15/90 | -9,999.9  | 1.0        | -9,999.9  |
| Potomac River | 16       | S13R07B |         | 08/15/90 | -9,999.9  | 2.0        | -9,999.9  |
| Potomac River | 16       | S13R7A  |         | 08/11/89 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River | 16       | S13R7B  |         | 08/11/89 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River | 16       | S16R05A |         | 08/01/90 | -9,999.9  | 5.0        | -9,999.9  |
| Potomac River | 16       | S1L2A   |         | 08/15/89 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River | 16       | S1L2B   |         | 08/15/89 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River | 16       | S3L2A   |         | 08/21/89 | -9,999.9  | 25.0       | -9,999.9  |
| Potomac River | 16       | S3L2B   |         | 08/21/89 | -9,999.9  | 13.0       | -9,999.9  |
| Potomac River | 16       | S3R4A   |         | 08/21/89 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River | 16       | S3R4B   |         | 08/21/89 | -9,999.9  | 1.0        | -9,999.9  |
| Potomac River | 16       | S4L4A   |         | 08/22/89 | -9,999.9  | 6.0        | -9,999.9  |
| Potomac River | 16       | S4L4B   |         | 08/22/89 | -9,999.9  | 5.0        | -9,999.9  |
| Potomac River | 16       | S5L1A   |         | 08/07/89 | 7.0       | 1.0        | 66.0      |
| Potomac River | 16       | S5L1B   |         | 08/07/89 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River | 16       | S6L2A   |         | 08/18/89 | -9,999.9  | 3.0        | -9,999.9  |
| Potomac River | 16       | S6L2B   |         | 08/18/89 | -9,999.9  | 5.0        | -9,999.9  |
| Potomac River | 16       | S8L5A   |         | 08/08/89 | -9,999.9  | 0.0        | -9,999.9  |
| Potomac River | 16       | S8L5B   |         | 08/08/89 | -9,999.9  | 1.0        | -9,999.9  |
| Potomac River | 16       | S9L3A   |         | 08/08/89 | 4.0       | 9.0        | 7.7       |
| Potomac River | 16       | S9L3B   |         | 08/08/89 | 7.0       | 23.0       | 4.6       |
| Rock Creek    | 10D      | 1       |         | 02/16/83 | 2.0       | 0.0        | -9,999.9  |
| Rock Creek    | 10D      | 1       |         | 02/25/82 | 1.0       | 0.0        | -9,999.9  |

Table 3: EPT Index and EPT Abundance/ Chironomidae Abundance

| STRNAME              | STUDYCOD | STATION | STADATE  | ENDDATE  | EPT INDEX | CHIRONOMID | EPT/CHIRO |
|----------------------|----------|---------|----------|----------|-----------|------------|-----------|
| Rock Creek           | 10D      | 1       |          | 03/03/80 | 1.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 03/03/81 | 1.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 05/11/81 | 1.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 05/12/82 | 1.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 05/12/83 | 0.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 05/19/80 | 1.0       | 0.0        | -9,999.9  |
| Rock Creek           | 4        | 1       |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 08/13/80 | 1.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 08/19/81 | 1.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 08/24/82 | 1.0       | 0.0        | -9,999.9  |
| Rock Creek           | 17       | 1       |          | 08/25/92 | 4.0       | 5.0        | 2.6       |
| Rock Creek           | 10D      | 1       |          | 08/29/83 | 0.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 10/08/85 | 0.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 10/16/86 | 3.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 10/31/84 | 0.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 11/09/82 | 0.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 11/17/83 | 0.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 11/18/81 | 1.0       | 0.0        | -9,999.9  |
| Rock Creek           | 10D      | 1       |          | 11/20/80 | 1.0       | 0.0        | -9,999.9  |
| Rock Creek           | 4        | 2       |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Rock Creek           | 17       | 2       |          | 08/29/92 | 0.0       | 23.0       | 0.0       |
| Rock Creek           | 17       | 3       |          | 08/30/92 | 1.0       | 27.0       | 1.0       |
| Rock Creek           | 17       | 4       |          | 08/08/92 | 1.0       | 8.0        | 3.5       |
| Rock Creek           | 17       | 5       |          | 08/22/92 | 1.0       | 8.0        | 1.8       |
| Rock Creek           | 17       | 6       |          | 08/23/92 | 1.0       | 6.0        | 7.6       |
| Sandspring Run       | 3        | 78      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| Sandspring Run       | 3        | 79      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| Savage River         | 3        | 22      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Savage River         | 3        | 23      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Savage River         | 3        | 25      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Shenandoah River     | 19       | S1      | 06/16/87 | 07/30/87 | 3.0       | 0.0        | -9,999.9  |
| Shenandoah River     | 19       | S1      | 06/21/78 | 07/31/78 | 2.0       | 14.0       | 77.1      |
| Shenandoah River     | 19       | S1      | 06/30/83 | 08/11/83 | 3.0       | 0.0        | -9,999.9  |
| Shenandoah River     | 19       | S1      | 07/04/80 | 08/12/80 | 5.0       | 0.0        | -9,999.9  |
| Shenandoah River     | 19       | S1      | 07/05/84 | 08/17/84 | 2.0       | 17.0       | 3.5       |
| Shenandoah River     | 19       | S1      | 06/19/86 | 08/20/86 | 3.0       | 0.0        | -9,999.9  |
| Shenandoah River     | 19       | S1      | 07/18/79 | 08/28/79 | 3.0       | 0.0        | -9,999.9  |
| Shenandoah River     | 19       | S1      | 07/13/81 | 08/28/81 | 6.0       | 0.0        | -9,999.9  |
| South Branch Potomac | 5        | 10      |          | 09/20/88 | 2.0       | 13.0       | 1.2       |
| South Branch Potomac | 19       | PSB1    | 06/15/87 | 07/29/87 | 6.0       | 0.0        | -9,999.9  |
| South Branch Potomac | 19       | PSB1    | 06/21/78 | 07/31/78 | 4.0       | 8.0        | 1.2       |
| South Branch Potomac | 19       | PSB1    | 07/14/81 | 08/07/81 | 3.0       | 0.0        | -9,999.9  |

Table 3: EPT Index and EPT Abundance/ Chironomidae Abundance

| STRNAME                  | STUDYCOD | STATION | STADATE  | ENDDATE  | EPT INDEX | CHIRONOMID | EPT/CHIRO |
|--------------------------|----------|---------|----------|----------|-----------|------------|-----------|
| South Branch Potomac     | 19       | PSB1    | 06/19/86 | 08/20/86 | 4.0       | 0.0        | -9,999.9  |
|                          | 19       | PSB1    | 07/07/82 | 08/23/82 | 4.0       | 0.0        | -9,999.9  |
|                          | 19       | PSB1    | 07/22/85 | 08/26/85 | 5.0       | 0.0        | -9,999.9  |
|                          | 19       | PSB1    | 07/19/79 | 08/30/79 | 4.0       | 0.0        | -9,999.9  |
|                          | 19       | PSB1    | 07/12/83 | 08/31/83 | 4.0       | 0.0        | -9,999.9  |
|                          | 19       | PSB1    | 07/21/80 | 09/05/80 | 3.0       | 0.0        | -9,999.9  |
|                          | 19       | PSB56   | 06/15/83 | 07/27/83 | 2.0       | 0.0        | -9,999.9  |
|                          | 19       | PSB56   | 06/15/87 | 07/29/87 | 3.0       | 0.0        | -9,999.9  |
|                          | 19       | PSB56   | 06/22/78 | 07/31/78 | 6.0       | 11.0       | 6.0       |
|                          | 19       | PSB56   | 06/23/82 | 08/11/82 | 2.0       | 0.0        | -9,999.9  |
|                          | 19       | PSB56   | 06/26/84 | 08/16/84 | 2.0       | 0.0        | -9,999.9  |
|                          | 19       | PSB56   | 06/19/86 | 08/20/86 | 3.0       | 0.0        | -9,999.9  |
|                          | 19       | PSB56   | 07/14/80 | 08/28/80 | 2.0       | 6.0        | 0.5       |
|                          |          |         |          |          |           |            |           |
| South Prong Lostland Run | 3        | 53      | 08/01/69 | 08/31/71 | 2.0       | 0.0        | -9,999.9  |
| South Prong Lostland Run | 3        | 54      | 08/01/69 | 08/31/71 | 2.0       | 0.0        | -9,999.9  |
| Southlawn stream         | 17       | 4A      |          | 08/02/92 | 1.0       | 19.0       | 0.8       |
| Spring Lick Run          | 3        | 29      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Squirrel Neck Run        | 3        | 72      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| Staub Run                | 3        | 74      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Toms Creek               | 10A      | 3       |          | 12/06/77 | 2.0       | 0.0        | -9,999.9  |
| Toms Creek               | 10A      | 4       |          | 12/06/77 | 1.0       | 0.0        | -9,999.9  |
| Toms Creek               | 4        | 5       |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Toms Creek               | 10A      | 5       |          | 12/06/77 | 1.0       | 0.0        | -9,999.9  |
| Toms Creek               | 10A      | 6       |          | 12/06/77 | 2.0       | 0.0        | -9,999.9  |
| Toms Creek               | 4        | 8       |          | 07/01/66 | 0.0       | 0.0        | -9,999.9  |
| Toms Creek               | 4        | 9       |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| Town Creek               | 3        | 59      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Trout Run                | 3        | 50      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Unnamed Tributary        | 10A      | 1       |          | 12/06/77 | 1.0       | 0.0        | -9,999.9  |
| Unnamed Tributary        | 10A      | 2       |          | 12/06/77 | 1.0       | 0.0        | -9,999.9  |
| Unnamed Tributary        | 3        | 68      | 08/01/69 | 08/31/71 | 0.0       | 0.0        | -9,999.9  |

Table 3: EPT Index and EPT Abundance/ Chironomidae Abundance

| STRNAME                    | STUDYCOD | STATION | STADATE  | ENDDATE  | EPT INDEX | CHIRONOMID | EPT/CHIRO |
|----------------------------|----------|---------|----------|----------|-----------|------------|-----------|
| West Branch Antietam Creek | 10B      | 1       |          | 06/01/77 | 4.0       | 0.0        | -9,999.9  |
| West Branch Antietam Creek | 10B      | 1       |          | 06/01/77 | 4.0       | 0.0        | -9,999.9  |
| West Branch Antietam Creek | 1        | 1       |          | 07/01/66 | 1.0       | 0.0        | -9,999.9  |
| West Branch Antietam Creek | 10B      | 2       |          | 06/01/77 | -9,999.9  | 0.0        | -9,999.9  |
| West Branch Antietam Creek | 10B      | 2       |          | 06/01/77 | 5.0       | 0.0        | -9,999.9  |
| West Branch Antietam Creek | 10B      | 3       |          | 06/01/77 | -9,999.9  | 0.0        | -9,999.9  |
| West Branch Antietam Creek | 10B      | 3       |          | 06/01/77 | 2.0       | 0.0        | -9,999.9  |
| <hr/>                      |          |         |          |          |           |            |           |
| Wills Creek                | 3        | 80      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| Wills Creek                | 3        | 81      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| Wills Creek                | 3        | 82      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| <hr/>                      |          |         |          |          |           |            |           |
| Winebrenner Run            | 3        | 76      | 08/01/69 | 08/31/71 | 2.0       | 0.0        | -9,999.9  |
| Winebrenner Run            | 3        | 77      | 08/01/69 | 08/31/71 | -9,999.9  | 0.0        | -9,999.9  |
| <hr/>                      |          |         |          |          |           |            |           |
| Wolfden Run                | 3        | 57      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |
| <hr/>                      |          |         |          |          |           |            |           |
| Woodland Creek             | 3        | 73      | 08/01/69 | 08/31/71 | 3.0       | 0.0        | -9,999.9  |

**Table 4: Functional Feeding Group Ratios**

| STRNAME          | STUDYCOD | STATION | STADATE | ENDDATE  | SHR/TOTAL | SCR/FC |
|------------------|----------|---------|---------|----------|-----------|--------|
| Bucklodge Branch | 7        | BB      |         | 01/01/93 | 0.17      | 0.12   |
| Piney Branch     | 12       | PBGHLP1 |         | 04/02/91 | 0.07      | 0.19   |
| Piney Branch     | 12       | PBGHLP1 |         | 10/07/91 | 0.01      | 0.08   |
| Piney Branch     | 12       | PBGHLP2 |         | 04/02/91 | 0.05      | 0.18   |
| Piney Branch     | 12       | PBGHLP2 |         | 10/07/91 | 0.00      | 0.36   |
| Piney Branch     | 12       | PBGR1   |         | 04/05/91 | 0.55      | 0.00   |
| Piney Branch     | 12       | PBGR1   |         | 10/07/91 | 0.04      | 0.05   |
| Piney Branch     | 12       | PBGR2   |         | 04/05/91 | 0.32      | 1.11   |
| Piney Branch     | 12       | PBGR2   |         | 10/07/91 | 0.00      | 0.08   |

The field "SHR/TOTAL" (Metric 7) is the ratio of the number of individuals that belong to the shredder functional feeding group to the total number of individuals in the sample. The field "SCR/FC" (Metric 3) is the ratio of the number of individuals that belong to the scraper functional feeding group to the number of individuals that belong to the filterer-collector functional feeding group. The field "STADATE" is provided to accommodate for those databases in which only a range of dates was given rather than a specific date (i.e. 1980-1985).



**Table 5**

A number of metrics were selected to summarize the fish data. The total number of fish of the family Centrarchidae is calculated in the field "SUNFISH" (Metric 1). Likewise, Cyprinidae abundances are in the field "CYPRINIDAE" (Metric 2), Catostomidae abundances are in the field "SUCKERS" (Metric 3), Percidae abundances are in the field "PERCHES" (Metric 4), Cottidae abundances are in the field "SCULPINS" (Metric 5), Salmonidae abundances are in the field "TROUT" (Metric 6), and Etheostoma abundances are in the field "DARTERS" (Metric 7). Using fish tolerance rankings provided by Montgomery County, DEP and the EPA, the number of tolerant fish per sampling station per date is calculated in the field "TOLERANT" (Metric 8). The total number of fish per sampling station per date is calculated in the field "TOTAL". Although not shown in this table, the electronic files contain the percent abundance of each of the above taxa. If the data at a station do not meet the criteria to calculate a particular metric, a value of ".1" is placed in the appropriate field.



**Table 5: Fish Metrics**

| STUDYNAME                  | STUDYCOD | STATION | STADATE  | ENDDATE | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|----------------------------|----------|---------|----------|---------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Alloway Creek              | 2        | A1      | 04/01/90 | 169.0   | 80.0    | 2.0        | 8.0     | 0.0     | 0.0      | 8.0   | 160     | 259      |       |
| Alloway Creek              | 2        | A1      | 04/01/91 | 211.0   | 266.0   | 4.0        | 9.0     | 0.0     | 0.0      | 0.1   | 295     | 502      |       |
| Alloway Creek              | 2        | A1      | 09/01/90 | 250.0   | 809.0   | 4.0        | 71.0    | 0.0     | 0.0      | 71.0  | 799     | 1,147    |       |
| Alloway Creek              | 2        | A1      | 09/01/91 | 427.0   | 548.0   | 50.0       | 33.0    | 0.0     | 0.0      | 33.0  | 691     | 1,079    |       |
| Alloway Creek              | 2        | A2      | 04/01/90 | 258.0   | 95.0    | 4.0        | 22.0    | 0.0     | 0.0      | 22.0  | 140     | 396      |       |
| Alloway Creek              | 2        | A2      | 04/01/91 | 278.0   | 211.0   | 0.0        | 26.0    | 0.0     | 0.0      | 26.0  | 268     | 551      |       |
| Alloway Creek              | 2        | A2      | 09/01/90 | 359.0   | 1,240.0 | 4.0        | 93.0    | 0.0     | 0.0      | 93.0  | 1,159   | 1,755    |       |
| Alloway Creek              | 2        | A2      | 09/01/91 | 279.0   | 622.0   | 0.0        | 12.0    | 0.0     | 0.0      | 12.0  | 612     | 970      |       |
| Alloway Creek              | 2        | A3      | 04/01/90 | 53.0    | 197.0   | 1.0        | 85.0    | 0.0     | 0.0      | 85.0  | 18      | 372      |       |
| Alloway Creek              | 2        | A3      | 04/01/91 | 61.0    | 937.0   | 3.0        | 57.0    | 0.0     | 0.0      | 57.0  | 250     | 1,092    |       |
| Alloway Creek              | 2        | A3      | 09/01/90 | 36.0    | 370.0   | 1.0        | 29.0    | 0.0     | 0.0      | 29.0  | 56      | 442      |       |
| Alloway Creek              | 2        | A3      | 09/01/91 | 65.0    | 51.0    | 2.0        | 1.0     | 0.0     | 0.0      | 1.0   | 59      | 130      |       |
| <hr/>                      |          |         |          |         |         |            |         |         |          |       |         |          |       |
| Antietam Creek             | 10B      | 6       | 06/01/77 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0       | 0        | 0     |
| <hr/>                      |          |         |          |         |         |            |         |         |          |       |         |          |       |
| Big Cove Creek             | 10F      | 1       | 07/25/84 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0       | 0        | 0     |
| Big Cove Creek             | 10F      | 3       | 07/25/84 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0       | 0        | 0     |
| <hr/>                      |          |         |          |         |         |            |         |         |          |       |         |          |       |
| East Branch Antietam Creek | 10B      | 4       | 06/01/77 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0       | 0        | 0     |
| East Branch Antietam Creek | 10B      | 5       | 06/01/77 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0       | 0        | 0     |
| <hr/>                      |          |         |          |         |         |            |         |         |          |       |         |          |       |
| Muddy Branch               | 13       | M1      | 07/11/91 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0       | 0        | 0     |
| Muddy Branch               | 13       | M2      | 10/28/91 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0       | 0        | 0     |
| Muddy Branch               | 13       | M3      | 10/28/91 | 1.0     | 74.0    | 2.0        | 11.0    | 0.0     | 0.0      | 11.0  | 40      | 88       |       |
| Muddy Branch               | 13       | M4      | 10/28/91 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0       | 0        | 0     |
| Muddy Branch               | 13       | M5      | 11/01/91 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0       | 0        | 0     |
| Muddy Branch               | 13       | M6      | 11/01/91 | 1.0     | 42.0    | 7.0        | 8.0     | 12.0    | 0.0      | 8.0   | 24      | 70       |       |
| <hr/>                      |          |         |          |         |         |            |         |         |          |       |         |          |       |
| North Branch Potomac River | 5        | 1       | 01/01/82 | 0.0     | 7.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0       | 8        | 8     |
| North Branch Potomac River | 6        | 1       | 01/01/82 | 0.0     | 7.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 7       | 8        |       |
| North Branch Potomac River | 5        | 1       | 01/01/83 | 0.0     | 20.0    | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 24      | 24       |       |
| North Branch Potomac River | 5        | 1       | 01/01/84 | 0.0     | 4.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 8       | 8        |       |
| North Branch Potomac River | 5        | 1       | 01/01/85 | 2.0     | 7.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 12      | 12       |       |

**Table 5: Fish Metrics**

| STUDYCODE                  | STATION | STADATE | ENDDATE  | SUNFISH  | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL   |          |  |
|----------------------------|---------|---------|----------|----------|------------|---------|---------|----------|-------|---------|----------|---------|----------|--|
|                            |         |         |          |          |            |         |         |          |       |         |          | DARTERS | TOLERANT |  |
| North Branch Potomac River | 5       | 1       | 01/01/86 | 0.0      | 2.0        | 6.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7       | 8        |  |
| North Branch Potomac River | 5       | 1       | 09/18/88 | 0.0      | 42.0       | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3       | 45       |  |
| North Branch Potomac River | 6       | 10      | 01/01/82 | 3.0      | 234.0      | 0.0     | 28.0    | 0.0      | 0.0   | 28.0    | 59       | 266     |          |  |
| North Branch Potomac River | 5       | 11      | 01/01/80 | 2.0      | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0       | 16       |  |
| North Branch Potomac River | 5       | 11      | 01/01/82 | 11.0     | 893.0      | 8.0     | 12.0    | 0.0      | 0.0   | 12.0    | 38       | 924     |          |  |
| North Branch Potomac River | 5       | 11      | 01/01/83 | 23.0     | 1,466.0    | 17.0    | 12.0    | 0.0      | 0.0   | 12.0    | 243      | 1,518   |          |  |
| North Branch Potomac River | 5       | 11      | 01/01/84 | 73.0     | 885.0      | 46.0    | 187.0   | 0.0      | 0.0   | 187.0   | 173      | 1,192   |          |  |
| North Branch Potomac River | 5       | 11      | 01/01/85 | 14.0     | 205.0      | 3.0     | 16.0    | 0.0      | 0.0   | 16.0    | 28       | 238     |          |  |
| North Branch Potomac River | 5       | 11      | 01/01/86 | 8.0      | 213.0      | 3.0     | 7.0     | 0.0      | 0.0   | 7.0     | 9        | 231     |          |  |
| North Branch Potomac River | 5       | 11      | 09/21/88 | 46.0     | 7.0        | 0.0     | 25.0    | 0.0      | 0.0   | 25.0    | 50       | 78      |          |  |
| North Branch Potomac River | 6       | 12      | 01/01/82 | 11.0     | 893.0      | 8.0     | 12.0    | 0.0      | 0.0   | 12.0    | 38       | 924     |          |  |
| North Branch Potomac River | 5       | 2       | 01/01/82 | 18.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5       | 23       |  |
| North Branch Potomac River | 6       | 2       | 01/01/82 | 18.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5       | 23       |  |
| North Branch Potomac River | 5       | 2       | 01/01/83 | 2.0      | 8.0        | 1.0     | 0.0     | 0.0      | 0.0   | 7.0     | 0.0      | 11      | 18       |  |
| North Branch Potomac River | 5       | 2       | 01/01/85 | 10.0     | 40.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 41      | 52       |  |
| North Branch Potomac River | 5       | 2       | 01/01/86 | 0.0      | 12.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 12      | 12       |  |
| North Branch Potomac River | 5       | 2       | 09/19/88 | 0.0      | 87.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 87      | 87       |  |
| North Branch Potomac River | 5       | 3       | 01/01/82 | 8.0      | 6.0        | 13.0    | 1.0     | 0.0      | 0.0   | 1.0     | 0.0      | 17      | 28       |  |
| North Branch Potomac River | 6       | 3       | 01/01/82 | 8.0      | 6.0        | 13.0    | 1.0     | 0.0      | 0.0   | 1.0     | 0.0      | 17      | 28       |  |
| North Branch Potomac River | 5       | 3       | 01/01/83 | 0.0      | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1       | 1        |  |
| North Branch Potomac River | 5       | 3       | 01/01/84 | 0.0      | 21.0       | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 11      | 25       |  |
| North Branch Potomac River | 5       | 3       | 01/01/85 | 1.0      | 7.0        | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 9       | 11       |  |
| North Branch Potomac River | 5       | 3       | 01/01/86 | 1.0      | 3.0        | 0.0     | 0.0     | 1.0      | 0.0   | 0.0     | 0.0      | 3       | 5        |  |
| North Branch Potomac River | 5       | 3       | 09/19/88 | 0.0      | 10.0       | 0.0     | 0.0     | 1.0      | 0.0   | 0.0     | 0.0      | 0       | 11       |  |
| North Branch Potomac River | 11      | 3       | 01/01/75 | 12/31/79 | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0       | 0        |  |
| North Branch Potomac River | 5       | 4       | 01/01/82 | 6.0      | 2.0        | 6.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13      | 14       |  |
| North Branch Potomac River | 5       | 4       | 01/01/83 | 1.0      | 26.0       | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 17      | 30       |  |
| North Branch Potomac River | 5       | 4       | 01/01/84 | 4.0      | 5.0        | 6.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 14      | 15       |  |
| North Branch Potomac River | 5       | 4       | 01/01/85 | 0.0      | 29.0       | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 26      | 33       |  |
| North Branch Potomac River | 5       | 4       | 01/01/86 | 1.0      | 73.0       | 17.0    | 0.0     | 2.0      | 0.0   | 0.0     | 0.0      | 86      | 93       |  |
| North Branch Potomac River | 5       | 4       | 09/19/88 | 0.0      | 133.0      | 1.0     | 1.0     | 4.0      | 0.0   | 1.0     | 0.0      | 119     | 140      |  |
| North Branch Potomac River | 11      | 4       | 01/01/75 | 12/31/79 | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0       | 0        |  |
| North Branch Potomac River | 5       | 5       | 01/01/82 | 1.0      | 60.0       | 10.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 54      | 71       |  |
| North Branch Potomac River | 5       | 5       | 01/01/83 | 0.0      | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 19      | 27       |  |
| North Branch Potomac River | 5       | 5       | 01/01/84 | 0.0      | 37.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 30      | 39       |  |
| North Branch Potomac River | 5       | 5       | 01/01/85 | 0.0      | 24.0       | 5.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 25      | 29       |  |
| North Branch Potomac River | 5       | 5       | 01/01/86 | 1.0      | 59.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 59      | 62       |  |
| North Branch Potomac River | 5       | 5       | 09/20/88 | 0.0      | 91.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 29      | 91       |  |
| North Branch Potomac River | 11      | 5       | 01/01/75 | 12/31/79 | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0       | 0        |  |

**Table 5: Fish Metrics**

| STATIONNAME                | STUDYCODE | STATION | STADATE  | SUNFISH  | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|----------------------------|-----------|---------|----------|----------|------------|---------|---------|----------|-------|---------|----------|-------|
| North Branch Potomac River | 5         | 6       | 01/01/80 | 0.0      | 2.0        | 26.0    | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 28    |
| North Branch Potomac River | 5         | 6       | 01/01/82 | 0.0      | 45.0       | 15.0    | 0.0     | 0.0      | 0.0   | 0.0     | 32       | 61    |
| North Branch Potomac River | 6         | 6       | 01/01/82 | 6.0      | 2.0        | 6.0     | 0.0     | 0.0      | 0.0   | 0.0     | 13       | 14    |
| North Branch Potomac River | 5         | 6       | 01/01/83 | 32.0     | 62.0       | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 96       | 98    |
| North Branch Potomac River | 5         | 6       | 01/01/84 | 17.0     | 87.0       | 108.0   | 0.0     | 0.0      | 0.0   | 0.0     | 215      | 215   |
| North Branch Potomac River | 5         | 6       | 01/01/85 | 5.0      | 50.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 55       | 56    |
| North Branch Potomac River | 5         | 6       | 01/01/86 | 1.0      | 168.0      | 22.0    | 0.0     | 0.0      | 0.0   | 0.0     | 191      | 191   |
| North Branch Potomac River | 5         | 6       | 09/20/88 | 2.0      | 138.0      | 1.0     | 0.0     | 1.0      | 0.0   | 0.0     | 66       | 142   |
| North Branch Potomac River | 11        | 6       | 01/01/75 | 12/31/79 | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| North Branch Potomac River | 5         | 7       | 01/01/80 | 5.0      | 15.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 20    |
| North Branch Potomac River | 5         | 7       | 01/01/82 | 24.0     | 101.0      | 13.0    | 8.0     | 0.0      | 0.0   | 8.0     | 94       | 146   |
| North Branch Potomac River | 6         | 7       | 01/01/82 | 1.0      | 60.0       | 10.0    | 0.0     | 0.0      | 0.0   | 0.0     | 54       | 71    |
| North Branch Potomac River | 5         | 7       | 01/01/83 | 26.0     | 141.0      | 5.0     | 24.0    | 0.0      | 0.0   | 24.0    | 78       | 196   |
| North Branch Potomac River | 5         | 7       | 01/01/84 | 29.0     | 483.0      | 10.0    | 19.0    | 1.0      | 0.0   | 19.0    | 110      | 547   |
| North Branch Potomac River | 5         | 7       | 01/01/85 | 10.0     | 63.0       | 1.0     | 14.0    | 0.0      | 0.0   | 14.0    | 40       | 88    |
| North Branch Potomac River | 5         | 7       | 01/01/86 | 1.0      | 235.0      | 1.0     | 8.0     | 0.0      | 0.0   | 8.0     | 9        | 245   |
| North Branch Potomac River | 5         | 7       | 09/20/88 | 43.0     | 45.0       | 1.0     | 55.0    | 0.0      | 0.0   | 55.0    | 60       | 146   |
| North Branch Potomac River | 5         | 8       | 01/01/80 | 7.0      | 15.0       | 2.0     | 6.0     | 0.0      | 0.0   | 6.0     | 15       | 31    |
| North Branch Potomac River | 5         | 8       | 01/01/82 | 3.0      | 234.0      | 0.0     | 28.0    | 0.0      | 0.0   | 28.0    | 59       | 266   |
| North Branch Potomac River | 6         | 8       | 01/01/82 | 0.1      | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 58       | 62    |
| North Branch Potomac River | 5         | 8       | 01/01/83 | 4.0      | 58.0       | 0.0     | 5.0     | 0.0      | 0.0   | 5.0     | 13       | 67    |
| North Branch Potomac River | 5         | 8       | 01/01/84 | 6.0      | 420.0      | 5.0     | 30.0    | 0.0      | 0.0   | 30.0    | 49       | 461   |
| North Branch Potomac River | 5         | 8       | 01/01/85 | 2.0      | 108.0      | 1.0     | 4.0     | 0.0      | 0.0   | 4.0     | 24       | 115   |
| North Branch Potomac River | 5         | 8       | 01/01/86 | 0.0      | 176.0      | 2.0     | 9.0     | 0.0      | 0.0   | 9.0     | 13       | 187   |
| North Branch Potomac River | 5         | 8       | 09/20/88 | 56.0     | 74.0       | 0.0     | 29.0    | 0.0      | 0.0   | 29.0    | 36       | 159   |
| North Branch Potomac River | 6         | 9       | 01/01/82 | 24.0     | 101.0      | 13.0    | 13.0    | 0.0      | 0.0   | 13.0    | 99       | 151   |
| North Branch Potomac River | 5         | 9       | 01/01/85 | 4.0      | 84.0       | 7.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 95    |
| North Branch Potomac River | 5         | 9       | 01/01/86 | 2.0      | 8.0        | 1.0     | 50.0    | 0.0      | 0.0   | 50.0    | 51       | 61    |
| North Branch Potomac River | 5         | 9       | 09/21/88 | 23.0     | 49.0       | 6.0     | 35.0    | 0.0      | 0.0   | 35.0    | 47       | 117   |
| Piney Branch               | 13        | P1      | 10/02/90 | 0.1      | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     |
| Piney Branch               | 13        | P10     | 10/18/91 | 0.1      | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Piney Branch               | 13        | P2      | 07/11/91 | 0.1      | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Piney Branch               | 13        | P3      | 07/11/91 | 0.1      | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Piney Branch               | 13        | P4      | 10/07/91 | 0.1      | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Piney Branch               | 13        | P5      | 10/11/91 | 0.1      | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Piney Branch               | 13        | P6      | 10/16/91 | 0.1      | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Piney Branch               | 13        | P7      | 10/18/91 | 4.0      | 45.0       | 12.0    | 3.0     | 7.0      | 0.0   | 3.0     | 33       | 71    |

**Table 5: Fish Metrics**

| STNAME        | STUDYCOD | STATION | STADATE  | ENDDATE | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |     |
|---------------|----------|---------|----------|---------|---------|------------|---------|---------|----------|-------|---------|----------|-------|-----|
|               |          |         |          |         |         |            |         |         |          |       |         |          | 0     | 0   |
| Pinney Branch | 13       | P8      | 10/18/91 | 0.1     | 0.1     | 94.0       | 15.0    | 2.0     | 17.0     | 0.0   | 2.0     | 0.0      | 97    | 130 |
| Pinney Creek  | 2        | P1      | 04/01/90 | 19.0    | 261.0   | 9.0        | 71.0    | 12.0    | 0.0      | 71.0  | 0.0     | 73       | 376   |     |
| Pinney Creek  | 2        | P1      | 04/01/91 | 35.0    | 500.0   | 258.0      | 325.0   | 38.0    | 0.0      | 325.0 | 0.0     | 760      | 1,157 |     |
| Pinney Creek  | 2        | P1      | 09/01/90 | 8.0     | 422.0   | 12.0       | 129.0   | 55.0    | 0.0      | 129.0 | 0.0     | 424      | 629   |     |
| Pinney Creek  | 2        | P1      | 09/01/91 | 122.0   | 676.0   | 27.0       | 264.0   | 50.0    | 0.0      | 264.0 | 0.0     | 518      | 1,155 |     |
| Pinney Creek  | 2        | P3      | 04/01/90 | 53.0    | 77.0    | 15.0       | 58.0    | 3.0     | 0.0      | 58.0  | 0.0     | 98       | 208   |     |
| Pinney Creek  | 2        | P3      | 04/01/91 | 37.0    | 105.0   | 20.0       | 111.0   | 1.0     | 0.0      | 111.0 | 0.0     | 98       | 273   |     |
| Pinney Creek  | 2        | P3      | 09/01/90 | 54.0    | 325.0   | 8.0        | 83.0    | 9.0     | 0.0      | 83.0  | 0.0     | 349      | 485   |     |
| Pinney Creek  | 2        | P3      | 09/01/91 | 339.0   | 942.0   | 11.0       | 70.0    | 0.0     | 0.0      | 70.0  | 0.0     | 1,259    | 1,515 |     |
| Pinney Creek  | 2        | P4      | 04/01/90 | 27.0    | 168.0   | 1.0        | 93.0    | 3.0     | 0.0      | 93.0  | 0.0     | 207      | 306   |     |
| Pinney Creek  | 2        | P4      | 04/01/91 | 83.0    | 2,156.0 | 17.0       | 224.0   | 1.0     | 0.0      | 224.0 | 0.0     | 1,947    | 2,486 |     |
| Pinney Creek  | 2        | P4      | 09/01/90 | 8.0     | 798.0   | 1.0        | 283.0   | 3.0     | 0.0      | 283.0 | 0.0     | 795      | 1,094 |     |
| Pinney Creek  | 2        | P4      | 09/01/91 | 93.0    | 6,518.0 | 17.0       | 121.0   | 0.0     | 0.0      | 121.0 | 0.0     | 6,567    | 7,120 |     |
| Pinney Creek  | 2        | P5      | 04/01/90 | 89.0    | 185.0   | 0.0        | 66.0    | 0.0     | 0.0      | 66.0  | 0.0     | 207      | 360   |     |
| Pinney Creek  | 2        | P5      | 04/01/91 | 66.0    | 412.0   | 0.0        | 148.0   | 0.0     | 0.0      | 148.0 | 0.0     | 310      | 667   |     |
| Pinney Creek  | 2        | P5      | 09/01/90 | 112.0   | 827.0   | 5.0        | 143.0   | 0.0     | 0.0      | 143.0 | 0.0     | 696      | 1,118 |     |
| Pinney Creek  | 2        | P5      | 09/01/91 | 81.0    | 1,016.0 | 26.0       | 157.0   | 0.0     | 0.0      | 157.0 | 0.0     | 1,034    | 1,292 |     |
| Pinney Creek  | 2        | P6      | 04/01/90 | 38.0    | 267.0   | 7.0        | 41.0    | 0.0     | 0.0      | 41.0  | 0.0     | 170      | 362   |     |
| Pinney Creek  | 2        | P6      | 04/01/91 | 35.0    | 571.0   | 5.0        | 49.0    | 0.0     | 0.0      | 49.0  | 0.0     | 242      | 709   |     |
| Pinney Creek  | 2        | P6      | 09/01/90 | 60.0    | 455.0   | 1.0        | 98.0    | 0.0     | 0.0      | 98.0  | 0.0     | 204      | 735   |     |
| Pinney Creek  | 2        | P6      | 09/01/91 | 128.0   | 810.0   | 11.0       | 79.0    | 0.0     | 0.0      | 79.0  | 0.0     | 775      | 1,079 |     |
|               |          |         |          |         |         |            |         |         |          |       |         |          |       |     |
| Potomac River | 15       | 201     | 01/09/90 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     | 0   |
| Potomac River | 15       | 201     | 01/17/83 | 2.0     | 16.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 7     | 18  |
| Potomac River | 15       | 201     | 01/24/89 | 0.0     | 4.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 0     | 4   |
| Potomac River | 15       | 201     | 02/28/80 | 1.0     | 1.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 1     | 3   |
| Potomac River | 15       | 201     | 03/04/81 | 0.0     | 28.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 28    |     |
| Potomac River | 15       | 201     | 03/06/86 | 0.0     | 24.0    | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1.0      | 12    | 25  |
| Potomac River | 15       | 201     | 03/07/85 | 0.0     | 12.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 0     | 12  |
| Potomac River | 15       | 201     | 03/07/88 | 1.0     | 32.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 33    |     |
| Potomac River | 15       | 201     | 03/17/83 | 5.0     | 25.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 30    |     |
| Potomac River | 15       | 201     | 03/27/87 | 3.0     | 59.0    | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 64    |     |
| Potomac River | 15       | 201     | 04/07/81 | 1.0     | 138.0   | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 83       | 140   |     |
| Potomac River | 15       | 201     | 04/10/85 | 6.0     | 5.0     | 1.0        | 2.0     | 0.0     | 0.0      | 2.0   | 0.0     | 3        | 14    |     |
| Potomac River | 15       | 201     | 04/14/89 | 18.0    | 0.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 19    |     |

**Table 5:** Fish Metrics

Table 5: Fish Metrics

| STATION       | STUDY COD | STATION | STADATE  | SUNFISH | CYPRINIDAE | SCULPINS | PERCHES | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|-----------|---------|----------|---------|------------|----------|---------|-------|---------|----------|-------|
| Potomac River | 15        | 201     | 11/09/83 | 4.0     | 27.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 17    |
| Potomac River | 15        | 201     | 11/11/86 | 6.0     | 257.0      | 2.0      | 1.0     | 0.0   | 0.0     | 1.0      | 32    |
| Potomac River | 15        | 201     | 11/17/87 | 2.0     | 31.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 267   |
| Potomac River | 15        | 201     | 11/19/79 | 16.0    | 6.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 33    |
| Potomac River | 15        | 201     | 11/20/80 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1   | 0.1     | 0.0      | 22    |
| Potomac River | 15        | 201     | 12/04/86 | 1.0     | 339.0      | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 340   |
| Potomac River | 15        | 201     | 12/09/87 | 3.0     | 30.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 33    |
| Potomac River | 15        | 201     | 12/10/82 | 2.0     | 77.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 79    |
| Potomac River | 15        | 201     | 12/11/80 | 1.0     | 23.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 24    |
| Potomac River | 15        | 201     | 12/11/84 | 1.0     | 0.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 0     |
| Potomac River | 15        | 201     | 12/13/85 | 8.0     | 13.0       | 0.0      | 4.0     | 0.0   | 0.0     | 4.0      | 1     |
| Potomac River | 15        | 201     | 12/17/79 | 1.0     | 1.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 7     |
| Potomac River | 15        | 201     | 12/27/83 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1   | 0.1     | 0.0      | 25    |
| Potomac River | 15        | 202     | 01/09/80 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1   | 0.1     | 0.0      | 0     |
| Potomac River | 15        | 202     | 01/17/83 | 0.0     | 5.0        | 0.0      | 1.0     | 0.0   | 0.0     | 1.0      | 6     |
| Potomac River | 15        | 202     | 01/24/89 | 0.0     | 10.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 1     |
| Potomac River | 15        | 202     | 02/28/80 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1   | 0.1     | 0.0      | 0     |
| Potomac River | 15        | 202     | 03/04/81 | 1.0     | 76.0       | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 0     |
| Potomac River | 15        | 202     | 03/06/86 | 2.0     | 31.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 31    |
| Potomac River | 15        | 202     | 03/07/85 | 1.0     | 4.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 78    |
| Potomac River | 15        | 202     | 03/07/88 | 5.0     | 41.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 33    |
| Potomac River | 15        | 202     | 03/17/83 | 3.0     | 46.0       | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 50    |
| Potomac River | 15        | 202     | 03/27/87 | 19.0    | 27.0       | 0.0      | 4.0     | 0.0   | 0.0     | 4.0      | 50    |
| Potomac River | 15        | 202     | 04/07/81 | 35.0    | 36.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 5     |
| Potomac River | 15        | 202     | 04/10/85 | 4.0     | 60.0       | 0.0      | 1.0     | 0.0   | 0.0     | 0.0      | 46    |
| Potomac River | 15        | 202     | 04/14/89 | 20.0    | 27.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 50    |
| Potomac River | 15        | 202     | 04/21/80 | 3.0     | 10.0       | 2.0      | 0.0     | 0.0   | 0.0     | 0.0      | 48    |
| Potomac River | 15        | 202     | 04/22/82 | 13.0    | 53.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 73    |
| Potomac River | 15        | 202     | 04/29/88 | 9.0     | 14.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 65    |
| Potomac River | 15        | 202     | 05/12/80 | 8.0     | 0.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 20    |
| Potomac River | 15        | 202     | 05/12/82 | 1.0     | 38.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 15    |
| Potomac River | 15        | 202     | 05/15/85 | 2.0     | 17.0       | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 46    |
| Potomac River | 15        | 202     | 05/16/84 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1   | 0.1     | 0.0      | 27    |
| Potomac River | 15        | 202     | 05/22/86 | 4.0     | 28.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 11    |
| Potomac River | 15        | 202     | 05/28/87 | 24.0    | 33.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 59    |
| Potomac River | 15        | 202     | 06/07/83 | 15.0    | 86.0       | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 108   |
| Potomac River | 15        | 202     | 06/09/80 | 6.0     | 3.0        | 3.0      | 0.0     | 0.0   | 0.0     | 0.0      | 14    |
| Potomac River | 15        | 202     | 06/12/85 | 8.0     | 19.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 30    |
| Potomac River | 15        | 202     | 06/13/79 | 9.0     | 7.0        | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 17    |

**Table 5: Fish Metrics**

| STRAINNAME    | STUDYCODE | STATION | STADATE  | ENDDATE | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|-----------|---------|----------|---------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15        | 202     | 06/16/89 | 2.0     | 34.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 36    |
| Potomac River | 15        | 202     | 06/18/87 | 5.0     | 48.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 54    |
| Potomac River | 15        | 202     | 06/21/84 | 12.0    | 13.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 13       | 32    |
| Potomac River | 15        | 202     | 06/26/86 | 6.0     | 0.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 6     |
| Potomac River | 15        | 202     | 06/30/82 | 17.0    | 103.0   | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 89       | 127   |
| Potomac River | 15        | 202     | 07/01/81 | 12.0    | 30.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 58    |
| Potomac River | 15        | 202     | 07/07/80 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.0      | 0.0   | 0.0     | 0        | 0     |
| Potomac River | 15        | 202     | 07/07/83 | 12.0    | 27.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 44    |
| Potomac River | 15        | 202     | 07/11/84 | 25.0    | 12.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 23       | 38    |
| Potomac River | 15        | 202     | 07/17/85 | 3.0     | 23.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 26    |
| Potomac River | 15        | 202     | 07/18/79 | 6.0     | 3.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 11    |
| Potomac River | 15        | 202     | 07/22/82 | 23.0    | 47.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 32       | 70    |
| Potomac River | 15        | 202     | 07/28/89 | 4.0     | 8.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 12    |
| Potomac River | 15        | 202     | 08/09/84 | 25.0    | 7.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 20       | 33    |
| Potomac River | 15        | 202     | 08/16/79 | 5.0     | 15.0    | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 25    |
| Potomac River | 15        | 202     | 08/26/82 | 19.0    | 22.0    | 0.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 46    |
| Potomac River | 15        | 202     | 09/10/81 | 19.0    | 35.0    | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 56    |
| Potomac River | 15        | 202     | 09/17/87 | 23.0    | 17.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 13       | 40    |
| Potomac River | 15        | 202     | 09/19/79 | 22.0    | 24.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 19       | 52    |
| Potomac River | 15        | 202     | 09/29/89 | 28.0    | 5.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 36    |
| Potomac River | 15        | 202     | 10/04/84 | 32.0    | 39.0    | 1.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1.0      | 73    |
| Potomac River | 15        | 202     | 10/19/83 | 7.0     | 75.0    | 1.0        | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3.0      | 87    |
| Potomac River | 15        | 202     | 10/22/79 | 7.0     | 11.0    | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 22    |
| Potomac River | 15        | 202     | 10/25/85 | 26.0    | 61.0    | 4.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1.0      | 96    |
| Potomac River | 15        | 202     | 10/27/89 | 20.0    | 0.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1.0      | 24    |
| Potomac River | 15        | 202     | 11/05/81 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0.0     | 0        | 0     |
| Potomac River | 15        | 202     | 11/09/83 | 1.0     | 0.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| Potomac River | 15        | 202     | 11/11/86 | 4.0     | 324.0   | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 177      | 335   |
| Potomac River | 15        | 202     | 11/17/87 | 2.0     | 1.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 3     |
| Potomac River | 15        | 202     | 11/19/79 | 4.0     | 0.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 8     |
| Potomac River | 15        | 202     | 11/20/80 | 5.0     | 87.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 39       | 92    |
| Potomac River | 15        | 202     | 12/04/86 | 11.0    | 509.0   | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1.0      | 163   |
| Potomac River | 15        | 202     | 12/09/87 | 2.0     | 26.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 28    |
| Potomac River | 15        | 202     | 12/10/82 | 0.0     | 22.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 23    |
| Potomac River | 15        | 202     | 12/11/80 | 15.0    | 89.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 41       | 113   |
| Potomac River | 15        | 202     | 12/11/84 | 1.0     | 2.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 3     |
| Potomac River | 15        | 202     | 12/13/85 | 13.0    | 2.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 16    |
| Potomac River | 15        | 202     | 12/17/79 | 0.0     | 3.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 4     |
| Potomac River | 15        | 202     | 12/27/83 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0.0     | 0        | 0     |

**Table 5: Fish Metrics**

| STUDYNAME     | STATION | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|---------|----------|---------|------------|---------|---------|----------|---------|----------|-------|
| Potomac River | 15      | 203     |         | 01/09/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 203     |         | 01/17/83 | 0.0     | 11.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 4     |
| Potomac River | 15      | 203     |         | 01/24/89 | 0.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 1     |
| Potomac River | 15      | 203     |         | 02/28/80 | 0.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 6     |
| Potomac River | 15      | 203     |         | 03/04/81 | 0.0     | 44.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 203     |         | 03/06/86 | 1.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 19    |
| Potomac River | 15      | 203     |         | 03/07/85 | 1.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 44    |
| Potomac River | 15      | 203     |         | 03/07/88 | 1.0     | 88.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 89    |
| Potomac River | 15      | 203     |         | 03/17/83 | 6.0     | 61.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 20    |
| Potomac River | 15      | 203     |         | 03/27/87 | 1.0     | 95.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 7     |
| Potomac River | 15      | 203     |         | 04/07/81 | 14.0    | 133.0      | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 203     |         | 04/10/85 | 0.0     | 3.0        | 2.0     | 0.0     | 0.0      | 0.0     | 0.0      | 149   |
| Potomac River | 15      | 203     |         | 04/14/89 | 7.0     | 40.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 67    |
| Potomac River | 15      | 203     |         | 04/21/80 | 1.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 98    |
| Potomac River | 15      | 203     |         | 04/22/82 | 8.0     | 121.0      | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 5     |
| Potomac River | 15      | 203     |         | 04/29/88 | 20.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 28    |
| Potomac River | 15      | 203     |         | 05/12/80 | 8.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 10    |
| Potomac River | 15      | 203     |         | 05/12/82 | 4.0     | 13.0       | 2.0     | 0.0     | 0.0      | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 203     |         | 05/15/85 | 2.0     | 11.0       | 2.0     | 0.0     | 0.0      | 0.0     | 0.0      | 129   |
| Potomac River | 15      | 203     |         | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0     | 0.0      | 5     |
| Potomac River | 15      | 203     |         | 05/22/86 | 6.0     | 62.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 11    |
| Potomac River | 15      | 203     |         | 05/28/87 | 5.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 203     |         | 06/07/83 | 10.0    | 146.0      | 2.0     | 0.0     | 0.0      | 0.0     | 0.0      | 17    |
| Potomac River | 15      | 203     |         | 06/09/80 | 6.0     | 19.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 203     |         | 06/12/85 | 11.0    | 24.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 27    |
| Potomac River | 15      | 203     |         | 06/13/79 | 6.0     | 5.0        | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 40    |
| Potomac River | 15      | 203     |         | 06/16/89 | 6.0     | 22.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 12    |
| Potomac River | 15      | 203     |         | 06/18/87 | 7.0     | 49.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 57    |
| Potomac River | 15      | 203     |         | 06/21/84 | 17.0    | 7.0        | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 13    |
| Potomac River | 15      | 203     |         | 06/26/86 | 10.0    | 29.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 28    |
| Potomac River | 15      | 203     |         | 06/30/82 | 9.0     | 53.0       | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 39    |
| Potomac River | 15      | 203     |         | 07/01/81 | 14.0    | 20.0       | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 27    |
| Potomac River | 15      | 203     |         | 07/07/80 | 2.0     | 7.0        | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 40    |
| Potomac River | 15      | 203     |         | 07/07/83 | 14.0    | 19.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 5     |
| Potomac River | 15      | 203     |         | 07/11/84 | 42.0    | 8.0        | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 16    |
| Potomac River | 15      | 203     |         | 07/17/85 | 0.0     | 10.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 71    |
| Potomac River | 15      | 203     |         | 07/18/79 | 7.0     | 5.0        | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 203     |         | 07/22/82 | 9.0     | 60.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 23    |
| Potomac River | 15      | 203     |         | 07/28/89 | 4.0     | 19.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 0     |

Table 5: Fish Metrics

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| STUDYCOD      | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 204     | 04/21/80 | 6.0     | 2.0        | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 11    |
| Potomac River | 15      | 204     | 04/22/82 | 14.0    | 203.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 48       | 218   |
| Potomac River | 15      | 204     | 04/29/88 | 17.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 17    |
| Potomac River | 15      | 204     | 05/12/80 | 2.0     | 6.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 11    |
| Potomac River | 15      | 204     | 05/12/82 | 5.0     | 47.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 40       | 61    |
| Potomac River | 15      | 204     | 05/15/85 | 4.0     | 33.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 9        | 40    |
| Potomac River | 15      | 204     | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 204     | 05/22/86 | 5.0     | 40.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 45    |
| Potomac River | 15      | 204     | 05/28/87 | 19.0    | 31.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 52    |
| Potomac River | 15      | 204     | 06/07/83 | 8.0     | 89.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 100   |
| Potomac River | 15      | 204     | 06/09/80 | 4.0     | 32.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 39    |
| Potomac River | 15      | 204     | 06/12/85 | 4.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 19    |
| Potomac River | 15      | 204     | 06/13/79 | 3.0     | 12.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 17    |
| Potomac River | 15      | 204     | 06/16/89 | 7.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 13    |
| Potomac River | 15      | 204     | 06/18/87 | 16.0    | 52.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 72    |
| Potomac River | 15      | 204     | 06/21/84 | 19.0    | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 25    |
| Potomac River | 15      | 204     | 06/26/86 | 27.0    | 1.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 30    |
| Potomac River | 15      | 204     | 06/30/82 | 16.0    | 97.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 96       | 114   |
| Potomac River | 15      | 204     | 07/01/81 | 16.0    | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 24       | 44    |
| Potomac River | 15      | 204     | 07/07/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0.0     | 0        | 0     |
| Potomac River | 15      | 204     | 07/07/83 | 17.0    | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 28    |
| Potomac River | 15      | 204     | 07/11/84 | 41.0    | 7.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 29       | 51    |
| Potomac River | 15      | 204     | 07/17/85 | 3.0     | 35.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 39    |
| Potomac River | 15      | 204     | 07/18/79 | 10.0    | 14.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 28    |
| Potomac River | 15      | 204     | 07/22/82 | 15.0    | 65.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 20       | 80    |
| Potomac River | 15      | 204     | 07/28/89 | 3.0     | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 16    |
| Potomac River | 15      | 204     | 08/09/84 | 14.0    | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 13       | 42    |
| Potomac River | 15      | 204     | 08/16/79 | 5.0     | 38.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 45    |
| Potomac River | 15      | 204     | 08/26/82 | 14.0    | 155.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 93       | 170   |
| Potomac River | 15      | 204     | 09/10/81 | 29.0    | 104.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 92       | 138   |
| Potomac River | 15      | 204     | 09/17/87 | 6.0     | 21.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 30    |
| Potomac River | 15      | 204     | 09/19/79 | 8.0     | 25.0       | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 16       | 37    |
| Potomac River | 15      | 204     | 09/29/89 | 21.0    | 13.0       | 1.0     | 2.0     | 0.0      | 0.0   | 2.0     | 21       | 40    |
| Potomac River | 15      | 204     | 10/04/84 | 25.0    | 32.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 23       | 57    |
| Potomac River | 15      | 204     | 10/19/83 | 14.0    | 55.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 21       | 71    |
| Potomac River | 15      | 204     | 10/22/79 | 5.0     | 14.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 21    |
| Potomac River | 15      | 204     | 10/25/85 | 13.0    | 52.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 24       | 65    |
| Potomac River | 15      | 204     | 10/27/89 | 3.0     | 5.0        | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 5        | 9     |
| Potomac River | 15      | 204     | 11/05/81 | 35.0    | 14.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 29       | 50    |

**Table 5: Fish Metrics**

| STATION       | STUDYCODE | STATION | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|-----------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15        | 204     | 11/09/83 | 14.0    | 72.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 49       | 91    |
| Potomac River | 15        | 204     | 11/11/86 | 6.0     | 214.0      | 2.0     | 1.0     | 0.0      | 0.0   | 1.0     | 94       | 240   |
| Potomac River | 15        | 204     | 11/17/87 | 28.0    | 32.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 24       | 60    |
| Potomac River | 15        | 204     | 11/19/79 | 0.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 3     |
| Potomac River | 15        | 204     | 11/20/80 | 18.0    | 101.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 87       | 120   |
| Potomac River | 15        | 204     | 12/04/86 | 0.0     | 33.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 33    |
| Potomac River | 15        | 204     | 12/09/87 | 5.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 11    |
| Potomac River | 15        | 204     | 12/10/82 | 2.0     | 89.0       | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 77       | 95    |
| Potomac River | 15        | 204     | 12/11/80 | 3.0     | 134.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 87       | 139   |
| Potomac River | 15        | 204     | 12/11/84 | 5.0     | 22.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 27    |
| Potomac River | 15        | 204     | 12/13/85 | 1.0     | 49.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 50    |
| Potomac River | 15        | 204     | 12/17/79 | 0.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 4     |
| Potomac River | 15        | 205     | 12/27/83 | 0.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 2     |
| Potomac River | 15        | 205     | 01/09/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15        | 205     | 01/17/83 | 0.0     | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 9     |
| Potomac River | 15        | 205     | 01/24/89 | 0.0     | 22.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 23    |
| Potomac River | 15        | 205     | 02/28/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15        | 205     | 03/04/81 | 1.0     | 78.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 37       | 79    |
| Potomac River | 15        | 205     | 03/06/86 | 0.0     | 7.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 8     |
| Potomac River | 15        | 205     | 03/07/85 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15        | 205     | 03/07/88 | 0.0     | 10.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 10    |
| Potomac River | 15        | 205     | 03/17/83 | 1.0     | 227.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 137      | 228   |
| Potomac River | 15        | 205     | 03/27/87 | 2.0     | 71.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 74    |
| Potomac River | 15        | 205     | 04/07/81 | 1.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 7     |
| Potomac River | 15        | 205     | 04/10/85 | 0.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 2     |
| Potomac River | 15        | 205     | 04/14/89 | 53.0    | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 26       | 57    |
| Potomac River | 15        | 205     | 04/21/80 | 1.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 15    |
| Potomac River | 15        | 205     | 04/22/82 | 5.0     | 114.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 40       | 121   |
| Potomac River | 15        | 205     | 04/29/88 | 9.0     | 17.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 27    |
| Potomac River | 15        | 205     | 05/12/80 | 5.0     | 0.0        | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 9     |
| Potomac River | 15        | 205     | 05/12/82 | 3.0     | 34.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 31       | 72    |
| Potomac River | 15        | 205     | 05/15/85 | 2.0     | 11.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 19       | 54    |
| Potomac River | 15        | 205     | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15        | 205     | 05/22/86 | 10.0    | 62.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 18    |
| Potomac River | 15        | 205     | 05/28/87 | 10.0    | 42.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 6        | 30    |
| Potomac River | 15        | 205     | 06/07/83 | 8.0     | 46.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 54    |
| Potomac River | 15        | 205     | 06/09/80 | 4.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 18    |
| Potomac River | 15        | 205     | 06/12/85 | 8.0     | 18.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 20    |
| Potomac River | 15        | 205     | 06/13/79 | 6.0     | 13.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 20    |

Table 5: Fish Metrics

| STATIONNAME   | STUDYCOD | STATION | STADATE  | ENDDATE | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|----------|---------|----------|---------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15       | 205     | 06/16/89 | 2.0     | 32.0    | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 35    |
| Potomac River | 15       | 205     | 06/18/87 | 10.0    | 152.0   | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 168   |
| Potomac River | 15       | 205     | 06/21/84 | 18.0    | 14.0    | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 35    |
| Potomac River | 15       | 205     | 06/26/86 | 24.0    | 54.0    | 0.0        | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 84    |
| Potomac River | 15       | 205     | 06/30/82 | 8.0     | 224.0   | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 232   |
| Potomac River | 15       | 205     | 07/01/81 | 19.0    | 36.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 28    |
| Potomac River | 15       | 205     | 07/07/80 | 3.0     | 0.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 4     |
| Potomac River | 15       | 205     | 07/07/83 | 32.0    | 24.0    | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 1.0     | 0        | 39    |
| Potomac River | 15       | 205     | 07/11/84 | 32.0    | 22.0    | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 56    |
| Potomac River | 15       | 205     | 07/17/85 | 6.0     | 49.0    | 1.0        | 1.0     | 0.0     | 0.0      | 0.0   | 1.0     | 0        | 61    |
| Potomac River | 15       | 205     | 07/18/79 | 31.0    | 40.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 75    |
| Potomac River | 15       | 205     | 07/22/82 | 16.0    | 11.0    | 2.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 31    |
| Potomac River | 15       | 205     | 07/28/89 | 4.0     | 7.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 11    |
| Potomac River | 15       | 205     | 08/09/84 | 28.0    | 11.0    | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 45    |
| Potomac River | 15       | 205     | 08/16/79 | 11.0    | 73.0    | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 1.0     | 0        | 88    |
| Potomac River | 15       | 205     | 08/26/82 | 45.0    | 155.0   | 2.0        | 5.0     | 0.0     | 0.0      | 0.0   | 5.0     | 0        | 207   |
| Potomac River | 15       | 205     | 09/10/81 | 6.0     | 81.0    | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 1.0     | 0        | 96    |
| Potomac River | 15       | 205     | 09/17/87 | 14.0    | 11.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 25    |
| Potomac River | 15       | 205     | 09/19/79 | 13.0    | 8.0     | 0.0        | 2.0     | 0.0     | 0.0      | 0.0   | 2.0     | 0        | 27    |
| Potomac River | 15       | 205     | 09/29/89 | 11.0    | 24.0    | 0.0        | 2.0     | 0.0     | 0.0      | 0.0   | 2.0     | 0        | 38    |
| Potomac River | 15       | 205     | 10/04/84 | 14.0    | 51.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 65    |
| Potomac River | 15       | 205     | 10/19/83 | 7.0     | 90.0    | 0.0        | 2.0     | 0.0     | 0.0      | 0.0   | 2.0     | 0        | 99    |
| Potomac River | 15       | 205     | 10/22/79 | 7.0     | 35.0    | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 43    |
| Potomac River | 15       | 205     | 10/25/85 | 6.0     | 50.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 57    |
| Potomac River | 15       | 205     | 10/27/89 | 24.0    | 44.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 68    |
| Potomac River | 15       | 205     | 11/05/81 | 1.0     | 116.0   | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 118   |
| Potomac River | 15       | 205     | 11/09/83 | 1.0     | 41.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 42    |
| Potomac River | 15       | 205     | 11/11/86 | 12.0    | 760.0   | 3.0        | 1.0     | 0.0     | 0.0      | 0.0   | 1.0     | 0        | 776   |
| Potomac River | 15       | 205     | 11/17/87 | 3.0     | 66.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 14    |
| Potomac River | 15       | 205     | 11/19/79 | 5.0     | 5.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 16    |
| Potomac River | 15       | 205     | 11/20/80 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.0      | 0.0   | 0.0     | 0        | 0     |
| Potomac River | 15       | 205     | 12/04/86 | 8.0     | 117.0   | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 141   |
| Potomac River | 15       | 205     | 12/09/87 | 2.0     | 14.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 125   |
| Potomac River | 15       | 205     | 12/10/82 | 0.0     | 696.0   | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 698   |
| Potomac River | 15       | 205     | 12/11/80 | 3.0     | 138.0   | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 2     |
| Potomac River | 15       | 205     | 12/11/84 | 0.0     | 5.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 5     |
| Potomac River | 15       | 205     | 12/13/85 | 0.0     | 17.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 17    |
| Potomac River | 15       | 205     | 12/17/79 | 0.0     | 3.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 3     |
| Potomac River | 15       | 205     | 12/27/83 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.0      | 0.0   | 0.0     | 0        | 0     |

Table 5: Fish Metrics

| STUDYNAME     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | PERCHES | SCULPINS | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|----------|---------|----------|-------|
|               |         |         |          |         |            |         |          |         |          |       |
| Potomac River | 15      | 206     | 01/09/80 | 0.1     | 0.1        | 0.1     | 0.1      | 0.1     | 0.0      | 0     |
| Potomac River | 15      | 206     | 01/17/83 | 0.0     | 8.0        | 2.0     | 0.0      | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 206     | 01/24/89 | 3.0     | 18.0       | 0.0     | 0.0      | 0.0     | 0.0      | 9     |
| Potomac River | 15      | 206     | 02/28/80 | 0.0     | 0.0        | 0.0     | 0.0      | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 206     | 03/04/81 | 2.0     | 17.0       | 0.0     | 0.0      | 0.0     | 0.0      | 10    |
| Potomac River | 15      | 206     | 03/06/86 | 0.1     | 0.1        | 0.1     | 0.1      | 0.1     | 0.0      | 0     |
| Potomac River | 15      | 206     | 03/07/85 | 1.0     | 12.0       | 0.0     | 0.0      | 0.0     | 0.0      | 13    |
| Potomac River | 15      | 206     | 03/07/88 | 2.0     | 5.0        | 0.0     | 0.0      | 0.0     | 0.0      | 7     |
| Potomac River | 15      | 206     | 03/17/83 | 1.0     | 16.0       | 0.0     | 0.0      | 0.0     | 0.0      | 19    |
| Potomac River | 15      | 206     | 03/27/87 | 0.0     | 175.0      | 0.0     | 0.0      | 0.0     | 0.0      | 4     |
| Potomac River | 15      | 206     | 04/07/81 | 0.0     | 3.0        | 1.0     | 0.0      | 0.0     | 0.0      | 17    |
| Potomac River | 15      | 206     | 04/10/85 | 1.0     | 3.0        | 2.0     | 0.0      | 0.0     | 0.0      | 1     |
| Potomac River | 15      | 206     | 04/14/89 | 7.0     | 13.0       | 0.0     | 0.0      | 0.0     | 0.0      | 21    |
| Potomac River | 15      | 206     | 04/21/80 | 0.0     | 50.0       | 0.0     | 0.0      | 0.0     | 0.0      | 50    |
| Potomac River | 15      | 206     | 04/22/82 | 1.0     | 92.0       | 0.0     | 0.0      | 0.0     | 0.0      | 39    |
| Potomac River | 15      | 206     | 04/29/88 | 12.0    | 40.0       | 1.0     | 0.0      | 0.0     | 0.0      | 93    |
| Potomac River | 15      | 206     | 05/12/80 | 6.0     | 6.0        | 1.0     | 0.0      | 0.0     | 0.0      | 53    |
| Potomac River | 15      | 206     | 05/12/82 | 1.0     | 49.0       | 0.0     | 0.0      | 0.0     | 0.0      | 12    |
| Potomac River | 15      | 206     | 05/15/85 | 0.0     | 24.0       | 1.0     | 0.0      | 0.0     | 0.0      | 51    |
| Potomac River | 15      | 206     | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1      | 0.1     | 0.0      | 0     |
| Potomac River | 15      | 206     | 05/22/86 | 9.0     | 54.0       | 2.0     | 0.0      | 0.0     | 0.0      | 66    |
| Potomac River | 15      | 206     | 05/28/87 | 5.0     | 99.0       | 0.0     | 0.0      | 0.0     | 0.0      | 24    |
| Potomac River | 15      | 206     | 06/07/83 | 4.0     | 32.0       | 0.0     | 0.0      | 0.0     | 0.0      | 26    |
| Potomac River | 15      | 206     | 06/09/80 | 7.0     | 23.0       | 0.0     | 0.0      | 0.0     | 0.0      | 36    |
| Potomac River | 15      | 206     | 06/18/87 | 8.0     | 117.0      | 0.0     | 0.0      | 0.0     | 0.0      | 10    |
| Potomac River | 15      | 206     | 06/21/84 | 19.0    | 32.0       | 0.0     | 0.0      | 0.0     | 0.0      | 33    |
| Potomac River | 15      | 206     | 06/26/86 | 14.0    | 1.0        | 0.0     | 0.0      | 0.0     | 0.0      | 1     |
| Potomac River | 15      | 206     | 07/01/81 | 8.0     | 136.0      | 0.0     | 0.0      | 0.0     | 0.0      | 18    |
| Potomac River | 15      | 206     | 07/01/82 | 4.0     | 27.0       | 1.0     | 0.0      | 0.0     | 0.0      | 125   |
| Potomac River | 15      | 206     | 07/07/80 | 0.0     | 3.0        | 0.0     | 0.0      | 0.0     | 0.0      | 3     |
| Potomac River | 15      | 206     | 07/07/83 | 11.0    | 15.0       | 0.0     | 0.0      | 0.0     | 0.0      | 27    |
| Potomac River | 15      | 206     | 07/11/84 | 13.0    | 32.0       | 0.0     | 1.0      | 0.0     | 0.0      | 46    |
| Potomac River | 15      | 206     | 07/17/85 | 3.0     | 39.0       | 0.0     | 2.0      | 0.0     | 0.0      | 45    |
| Potomac River | 15      | 206     | 07/18/79 | 4.0     | 14.0       | 0.0     | 0.0      | 0.0     | 0.0      | 23    |
| Potomac River | 15      | 206     | 07/22/82 | 4.0     | 131.0      | 0.0     | 0.0      | 0.0     | 0.0      | 136   |
| Potomac River | 15      | 206     | 07/28/89 | 4.0     | 13.0       | 0.0     | 0.0      | 0.0     | 0.0      | 17    |

Table 5: Fish Metrics

| STUDYCOD      | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | PERCHES | SCULPINS | TROUT | DAKERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|----------|-------|--------|----------|-------|
|               |         |         |          |         |            |         |          |       |        |          |       |
| Potomac River | 15      | 206     | 08/09/84 | 12.0    | 23.0       | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 37    |
| Potomac River | 15      | 206     | 08/16/79 | 2.0     | 21.0       | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 25    |
| Potomac River | 15      | 206     | 08/26/82 | 23.0    | 101.0      | 0.0     | 2.0      | 0.0   | 0.0    | 2.0      | 126   |
| Potomac River | 15      | 206     | 09/10/81 | 17.0    | 96.0       | 0.0     | 3.0      | 0.0   | 0.0    | 3.0      | 157   |
| Potomac River | 15      | 206     | 09/17/87 | 18.0    | 65.0       | 0.0     | 1.0      | 0.0   | 0.0    | 1.0      | 85    |
| Potomac River | 15      | 206     | 09/19/79 | 24.0    | 72.0       | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 98    |
| Potomac River | 15      | 206     | 09/29/89 | 18.0    | 22.0       | 1.0     | 0.0      | 0.0   | 0.0    | 0.0      | 45    |
| Potomac River | 15      | 206     | 10/04/84 | 23.0    | 19.0       | 1.0     | 0.0      | 0.0   | 0.0    | 0.0      | 18    |
| Potomac River | 15      | 206     | 10/19/83 | 6.0     | 25.0       | 0.0     | 1.0      | 0.0   | 0.0    | 1.0      | 43    |
| Potomac River | 15      | 206     | 10/22/79 | 10.0    | 13.0       | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 32    |
| Potomac River | 15      | 206     | 10/25/85 | 8.0     | 103.0      | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 111   |
| Potomac River | 15      | 206     | 10/27/89 | 43.0    | 0.0        | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 31    |
| Potomac River | 15      | 206     | 11/05/81 | 1.0     | 335.0      | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 336   |
| Potomac River | 15      | 206     | 11/09/83 | 3.0     | 692.0      | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 695   |
| Potomac River | 15      | 206     | 11/11/86 | 2.0     | 92.0       | 1.0     | 0.0      | 0.0   | 0.0    | 0.0      | 97    |
| Potomac River | 15      | 206     | 11/17/87 | 82.0    | 84.0       | 6.0     | 0.0      | 0.0   | 0.0    | 0.0      | 172   |
| Potomac River | 15      | 206     | 11/19/79 | 0.0     | 0.0        | 3.0     | 0.0      | 0.0   | 0.0    | 0.0      | 3     |
| Potomac River | 15      | 206     | 11/20/80 | 4.0     | 120.0      | 0.0     | 1.0      | 0.0   | 0.0    | 1.0      | 125   |
| Potomac River | 15      | 206     | 12/04/86 | 11.0    | 870.0      | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 881   |
| Potomac River | 15      | 206     | 12/09/87 | 0.0     | 8.0        | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 9     |
| Potomac River | 15      | 206     | 12/10/82 | 4.0     | 71.0       | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 75    |
| Potomac River | 15      | 206     | 12/11/80 | 0.0     | 117.0      | 1.0     | 0.0      | 0.0   | 0.0    | 0.0      | 118   |
| Potomac River | 15      | 206     | 12/11/84 | 1.0     | 3.0        | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 4     |
| Potomac River | 15      | 206     | 12/13/85 | 0.0     | 10.0       | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 10    |
| Potomac River | 15      | 206     | 12/17/79 | 0.0     | 0.0        | 1.0     | 0.0      | 0.0   | 0.0    | 0.0      | 1     |
| Potomac River | 15      | 206     | 12/27/83 | 0.1     | 0.1        | 0.1     | 0.1      | 0.1   | 0.1    | 0.0      | 6     |
| Potomac River | 15      | 207     | 01/09/80 | 0.1     | 0.1        | 0.1     | 0.1      | 0.1   | 0.1    | 0.0      | 5     |
| Potomac River | 15      | 207     | 01/17/83 | 0.0     | 0.0        | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 0     |
| Potomac River | 15      | 207     | 01/24/89 | 0.0     | 6.0        | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 151   |
| Potomac River | 15      | 207     | 02/28/80 | 0.1     | 0.1        | 0.1     | 0.1      | 0.1   | 0.1    | 0.0      | 1     |
| Potomac River | 15      | 207     | 03/04/81 | 0.0     | 70.0       | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 22    |
| Potomac River | 15      | 207     | 03/06/86 | 0.1     | 0.1        | 0.1     | 0.1      | 0.1   | 0.1    | 0.0      | 0     |
| Potomac River | 15      | 207     | 03/07/85 | 0.0     | 4.0        | 1.0     | 0.0      | 0.0   | 0.0    | 0.0      | 39    |
| Potomac River | 15      | 207     | 03/07/88 | 1.0     | 5.0        | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 6     |
| Potomac River | 15      | 207     | 03/17/83 | 5.0     | 145.0      | 1.0     | 0.0      | 0.0   | 0.0    | 0.0      | 2     |
| Potomac River | 15      | 207     | 03/27/87 | 0.0     | 39.0       | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 1     |
| Potomac River | 15      | 207     | 04/07/81 | 0.0     | 1.0        | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 2     |
| Potomac River | 15      | 207     | 04/10/85 | 0.0     | 2.0        | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 2     |
| Potomac River | 15      | 207     | 04/14/89 | 24.0    | 3.0        | 0.0     | 0.0      | 0.0   | 0.0    | 0.0      | 12    |

**Table 5: Fish Metrics**

| STUDYCODE     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 207     | 04/21/80 | 0.0     | 2.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 4     |
| Potomac River | 15      | 207     | 04/22/82 | 8.0     | 209.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 141      | 217   |
| Potomac River | 15      | 207     | 04/29/88 | 2.0     | 17.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 21    |
| Potomac River | 15      | 207     | 05/12/80 | 8.0     | 18.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 26    |
| Potomac River | 15      | 207     | 05/12/82 | 4.0     | 35.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 29       | 39    |
| Potomac River | 15      | 207     | 05/15/85 | 0.0     | 7.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 10    |
| Potomac River | 15      | 207     | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0.0     | 0        | 0     |
| Potomac River | 15      | 207     | 05/22/86 | 5.0     | 40.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 48    |
| Potomac River | 15      | 207     | 05/28/87 | 3.0     | 96.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 6        | 100   |
| Potomac River | 15      | 207     | 06/07/83 | 2.0     | 67.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 72    |
| Potomac River | 15      | 207     | 06/09/80 | 1.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 7     |
| Potomac River | 15      | 207     | 06/12/85 | 0.0     | 37.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 38    |
| Potomac River | 15      | 207     | 06/13/79 | 2.0     | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 12    |
| Potomac River | 15      | 207     | 06/16/89 | 12.0    | 60.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 74    |
| Potomac River | 15      | 207     | 06/18/87 | 20.0    | 120.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 29       | 141   |
| Potomac River | 15      | 207     | 06/21/84 | 11.0    | 17.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 31    |
| Potomac River | 15      | 207     | 06/26/86 | 9.0     | 62.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 29       | 73    |
| Potomac River | 15      | 207     | 07/01/81 | 7.0     | 36.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 44    |
| Potomac River | 15      | 207     | 07/01/82 | 2.0     | 45.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 32       | 48    |
| Potomac River | 15      | 207     | 07/07/80 | 1.0     | 10.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 11    |
| Potomac River | 15      | 207     | 07/07/83 | 14.0    | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 39    |
| Potomac River | 15      | 207     | 07/11/84 | 12.0    | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 37    |
| Potomac River | 15      | 207     | 07/17/85 | 8.0     | 30.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 7        | 41    |
| Potomac River | 15      | 207     | 07/18/79 | 1.0     | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 46    |
| Potomac River | 15      | 207     | 07/22/82 | 7.0     | 120.0      | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 47    |
| Potomac River | 15      | 207     | 07/28/89 | 6.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 26       | 129   |
| Potomac River | 15      | 207     | 08/09/84 | 9.0     | 35.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 9     |
| Potomac River | 15      | 207     | 08/16/79 | 1.0     | 43.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 38    |
| Potomac River | 15      | 207     | 08/26/82 | 6.0     | 45.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 12       | 55    |
| Potomac River | 15      | 207     | 09/10/81 | 24.0    | 49.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 41       | 76    |
| Potomac River | 15      | 207     | 09/17/87 | 14.0    | 22.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 38    |
| Potomac River | 15      | 207     | 09/19/79 | 1.0     | 65.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 67    |
| Potomac River | 15      | 207     | 09/29/89 | 1.0     | 11.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 14    |
| Potomac River | 15      | 207     | 10/04/84 | 55.0    | 23.0       | 0.0     | 5.0     | 0.0      | 0.0   | 5.0     | 40       | 83    |
| Potomac River | 15      | 207     | 10/19/83 | 25.0    | 55.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 25       | 81    |
| Potomac River | 15      | 207     | 10/22/79 | 0.0     | 39.0       | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 3        | 41    |
| Potomac River | 15      | 207     | 10/25/85 | 13.0    | 90.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 26       | 105   |
| Potomac River | 15      | 207     | 10/27/89 | 6.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 7     |
| Potomac River | 15      | 207     | 11/05/81 | 1.0     | 26.0       | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 28       | 31    |

Table 5: Fish Metrics

| STATION | STRNAME       | STUDYCOD | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------|---------------|----------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| 15      | Potomac River | 207      |         | 11/09/83 | 0.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 4     |
| 15      | Potomac River | 207      |         | 11/11/86 | 5.0     | 0.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 7     |
| 15      | Potomac River | 207      |         | 11/17/87 | 2.0     | 28.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 30    |
| 15      | Potomac River | 207      |         | 11/19/79 | 0.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| 15      | Potomac River | 207      |         | 11/20/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| 15      | Potomac River | 207      |         | 12/04/86 | 4.0     | 327.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 40       | 331   |
| 15      | Potomac River | 207      |         | 12/09/87 | 1.0     | 21.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 22    |
| 15      | Potomac River | 207      |         | 12/10/82 | 0.0     | 39.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 39    |
| 15      | Potomac River | 207      |         | 12/11/80 | 3.0     | 183.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 76       | 186   |
| 15      | Potomac River | 207      |         | 12/11/84 | 0.0     | 4.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 5     |
| 15      | Potomac River | 207      |         | 12/13/85 | 0.0     | 293.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 12       | 294   |
| 15      | Potomac River | 207      |         | 12/17/79 | 0.0     | 1.0        | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 1        | 2     |
| 15      | Potomac River | 207      |         | 12/27/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| 15      | Potomac River | 208      |         | 01/09/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| 15      | Potomac River | 208      |         | 01/17/83 | 1.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 4     |
| 15      | Potomac River | 208      |         | 01/24/89 | 0.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 3     |
| 15      | Potomac River | 208      |         | 02/28/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| 15      | Potomac River | 208      |         | 03/04/81 | 2.0     | 66.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 38       | 68    |
| 15      | Potomac River | 208      |         | 03/06/86 | 0.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| 15      | Potomac River | 208      |         | 03/07/85 | 0.0     | 11.0       | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 1        | 13    |
| 15      | Potomac River | 208      |         | 03/07/88 | 2.0     | 1.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 4     |
| 15      | Potomac River | 208      |         | 03/17/83 | 0.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 2     |
| 15      | Potomac River | 208      |         | 03/27/87 | 0.0     | 163.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 163   |
| 15      | Potomac River | 208      |         | 04/07/81 | 0.0     | 281.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 24       | 281   |
| 15      | Potomac River | 208      |         | 04/10/85 | 0.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 2     |
| 15      | Potomac River | 208      |         | 04/14/89 | 2.0     | 59.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 61    |
| 15      | Potomac River | 208      |         | 04/21/80 | 0.0     | 11.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 12    |
| 15      | Potomac River | 208      |         | 04/22/82 | 2.0     | 76.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 22       | 78    |
| 15      | Potomac River | 208      |         | 04/29/88 | 20.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 20    |
| 15      | Potomac River | 208      |         | 05/12/80 | 1.0     | 21.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 23    |
| 15      | Potomac River | 208      |         | 05/12/82 | 3.0     | 43.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 80    |
| 15      | Potomac River | 208      |         | 05/15/85 | 2.0     | 18.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 53    |
| 15      | Potomac River | 208      |         | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 3        | 42    |
| 15      | Potomac River | 208      |         | 05/22/86 | 5.0     | 73.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 126   |
| 15      | Potomac River | 208      |         | 05/28/87 | 1.0     | 49.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 55    |
| 15      | Potomac River | 208      |         | 06/07/83 | 8.0     | 32.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 20    |
| 15      | Potomac River | 208      |         | 06/09/80 | 8.0     | 118.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 0     |
| 15      | Potomac River | 208      |         | 06/12/85 | 9.0     | 44.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 51    |
| 15      | Potomac River | 208      |         | 06/13/79 | 4.0     | 42.0       | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 51    |

Table 5: Fish Metrics

**Table 5: Fish Metrics**

| STUDY COD     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKER | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL   |         |
|---------------|---------|---------|----------|---------|------------|--------|----------|-------|---------|----------|---------|---------|
|               |         |         |          |         |            |        |          |       |         |          | PERCHES | SUCKERS |
| Potomac River | 15      | 209     | 01/09/80 | 0.0     | 2.0        | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 0       | 2       |
| Potomac River | 15      | 209     | 01/17/83 | 1.0     | 6.0        | 1.0    | 0.0      | 0.0   | 0.0     | 0.0      | 4       | 8       |
| Potomac River | 15      | 209     | 01/24/89 | 1.0     | 16.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 5       | 17      |
| Potomac River | 15      | 209     | 02/28/80 | 0.1     | 0.1        | 0.1    | 0.1      | 0.1   | 0.1     | 0.0      | 0       | 0       |
| Potomac River | 15      | 209     | 03/04/81 | 1.0     | 59.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 35      | 60      |
| Potomac River | 15      | 209     | 03/06/86 | 0.0     | 7.0        | 0.0    | 2.0      | 0.0   | 0.0     | 2.0      | 3       | 9       |
| Potomac River | 15      | 209     | 03/07/85 | 1.0     | 59.0       | 1.0    | 0.0      | 0.0   | 0.0     | 0.0      | 8       | 61      |
| Potomac River | 15      | 209     | 03/07/88 | 0.0     | 49.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 10      | 49      |
| Potomac River | 15      | 209     | 03/17/83 | 8.0     | 283.0      | 0.0    | 3.0      | 0.0   | 0.0     | 3.0      | 69      | 294     |
| Potomac River | 15      | 209     | 03/27/87 | 8.0     | 6.0        | 1.0    | 1.0      | 0.0   | 0.0     | 1.0      | 6       | 16      |
| Potomac River | 15      | 209     | 04/07/81 | 9.0     | 25.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 10      | 34      |
| Potomac River | 15      | 209     | 04/10/85 | 2.0     | 6.0        | 0.0    | 2.0      | 0.0   | 0.0     | 2.0      | 6       | 10      |
| Potomac River | 15      | 209     | 04/14/89 | 2.0     | 20.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 1       | 22      |
| Potomac River | 15      | 209     | 04/21/80 | 13.0    | 9.0        | 1.0    | 0.0      | 0.0   | 0.0     | 0.0      | 11      | 26      |
| Potomac River | 15      | 209     | 04/22/82 | 19.0    | 80.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 33      | 100     |
| Potomac River | 15      | 209     | 04/29/88 | 51.0    | 3.0        | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 35      | 54      |
| Potomac River | 15      | 209     | 05/12/80 | 6.0     | 52.0       | 1.0    | 0.0      | 0.0   | 0.0     | 0.0      | 8       | 60      |
| Potomac River | 15      | 209     | 05/12/82 | 5.0     | 145.0      | 0.0    | 1.0      | 0.0   | 0.0     | 1.0      | 117     | 155     |
| Potomac River | 15      | 209     | 05/15/85 | 20.0    | 11.0       | 0.0    | 1.0      | 0.0   | 0.0     | 1.0      | 15      | 40      |
| Potomac River | 15      | 209     | 05/16/84 | 0.1     | 0.1        | 0.1    | 0.1      | 0.1   | 0.1     | 0.0      | 0       | 0       |
| Potomac River | 15      | 209     | 05/22/86 | 12.0    | 66.0       | 5.0    | 0.0      | 0.0   | 0.0     | 0.0      | 12      | 89      |
| Potomac River | 15      | 209     | 05/28/87 | 5.0     | 107.0      | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 13      | 112     |
| Potomac River | 15      | 209     | 06/07/83 | 10.0    | 73.0       | 1.0    | 0.0      | 0.0   | 0.0     | 0.0      | 75      | 90      |
| Potomac River | 15      | 209     | 06/09/80 | 1.0     | 36.0       | 2.0    | 0.0      | 0.0   | 0.0     | 0.0      | 10      | 49      |
| Potomac River | 15      | 209     | 06/12/85 | 15.0    | 19.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 12      | 131     |
| Potomac River | 15      | 209     | 06/13/79 | 7.0     | 15.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 7       | 39      |
| Potomac River | 15      | 209     | 06/16/89 | 2.0     | 56.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 47      | 73      |
| Potomac River | 15      | 209     | 06/18/87 | 14.0    | 109.0      | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 7       | 24      |
| Potomac River | 15      | 209     | 06/21/84 | 39.0    | 31.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 1       | 58      |
| Potomac River | 15      | 209     | 06/26/86 | 9.0     | 34.0       | 0.0    | 1.0      | 0.0   | 0.0     | 0.0      | 9       | 47      |
| Potomac River | 15      | 209     | 07/01/81 | 41.0    | 59.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 77      | 108     |
| Potomac River | 15      | 209     | 07/01/82 | 50.0    | 77.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 106     | 133     |
| Potomac River | 15      | 209     | 07/07/80 | 14.0    | 16.0       | 0.0    | 1.0      | 0.0   | 0.0     | 1.0      | 9       | 31      |
| Potomac River | 15      | 209     | 07/07/83 | 35.0    | 38.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 42      | 78      |
| Potomac River | 15      | 209     | 07/11/84 | 37.0    | 8.0        | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 20      | 46      |
| Potomac River | 15      | 209     | 07/17/85 | 7.0     | 39.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 4       | 46      |
| Potomac River | 15      | 209     | 07/18/79 | 11.0    | 112.0      | 0.0    | 1.0      | 0.0   | 0.0     | 1.0      | 10      | 126     |
| Potomac River | 15      | 209     | 07/22/82 | 47.0    | 73.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 94      | 122     |
| Potomac River | 15      | 209     | 07/28/89 | 8.0     | 22.0       | 0.0    | 0.0      | 0.0   | 0.0     | 0.0      | 5       | 30      |

Table 5: Fish Metrics

| STUDY COD     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 209     | 08/09/84 | 32.0    | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 45    |
| Potomac River | 15      | 209     | 08/16/79 | 19.0    | 11.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1.5      | 35    |
| Potomac River | 15      | 209     | 08/26/82 | 39.0    | 53.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 66       | 95    |
| Potomac River | 15      | 209     | 09/10/81 | 31.0    | 34.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 23       | 66    |
| Potomac River | 15      | 209     | 09/17/87 | 25.0    | 29.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 20       | 56    |
| Potomac River | 15      | 209     | 09/19/79 | 7.0     | 15.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 25    |
| Potomac River | 15      | 209     | 09/29/89 | 25.0    | 16.0       | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 13       | 45    |
| Potomac River | 15      | 209     | 10/04/84 | 31.0    | 124.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 39       | 156   |
| Potomac River | 15      | 209     | 10/19/83 | 20.0    | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 25    |
| Potomac River | 15      | 209     | 10/22/79 | 15.0    | 22.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 38    |
| Potomac River | 15      | 209     | 10/25/85 | 40.0    | 28.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 32       | 68    |
| Potomac River | 15      | 209     | 10/27/89 | 76.0    | 21.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 68       | 97    |
| Potomac River | 15      | 209     | 11/05/81 | 41.0    | 72.0       | 1.0     | 3.0     | 0.0      | 0.0   | 3.0     | 88       | 118   |
| Potomac River | 15      | 209     | 11/09/83 | 27.0    | 6.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 13       | 35    |
| Potomac River | 15      | 209     | 11/11/86 | 4.0     | 40.0       | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 48    |
| Potomac River | 15      | 209     | 11/17/87 | 31.0    | 14.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 45    |
| Potomac River | 15      | 209     | 11/19/79 | 1.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 2     |
| Potomac River | 15      | 209     | 11/20/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 209     | 12/04/86 | 17.0    | 433.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 111      | 456   |
| Potomac River | 15      | 209     | 12/09/87 | 8.0     | 100.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 109   |
| Potomac River | 15      | 209     | 12/10/82 | 6.0     | 61.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 34       | 70    |
| Potomac River | 15      | 209     | 12/11/80 | 5.0     | 123.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 59       | 131   |
| Potomac River | 15      | 209     | 12/11/84 | 2.0     | 32.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 36    |
| Potomac River | 15      | 210     | 01/09/80 | 0.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 2     |
| Potomac River | 15      | 210     | 01/17/83 | 0.0     | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 1.0     | 7        | 20    |
| Potomac River | 15      | 210     | 01/24/89 | 1.0     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 210     | 02/28/80 | 0.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 57       | 57    |
| Potomac River | 15      | 210     | 03/04/81 | 8.0     | 95.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 35       | 103   |
| Potomac River | 15      | 210     | 03/06/86 | 0.0     | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 11    |
| Potomac River | 15      | 210     | 03/07/85 | 0.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 3     |
| Potomac River | 15      | 210     | 03/07/88 | 12.0    | 55.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 28       | 67    |
| Potomac River | 15      | 210     | 03/17/83 | 1.0     | 133.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 13       | 134   |
| Potomac River | 15      | 210     | 03/27/87 | 31.0    | 10.0       | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 48    |
| Potomac River | 15      | 210     | 04/07/81 | 7.0     | 23.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 13       | 30    |
| Potomac River | 15      | 210     | 04/10/85 | 0.0     | 378.0      | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 32       | 380   |
| Potomac River | 15      | 210     | 04/14/89 | 67.0    | 126.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 64       | 195   |

Table 5: Fish Metrics

| STUDY/COD     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 210     | 04/21/80 | 1.0     | 2.0        | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 9     |
| Potomac River | 15      | 210     | 04/22/82 | 6.0     | 117.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 53       | 124   |
| Potomac River | 15      | 210     | 04/29/88 | 4.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 9     |
| Potomac River | 15      | 210     | 05/12/80 | 15.0    | 6.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 23    |
| Potomac River | 15      | 210     | 05/12/82 | 5.0     | 19.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 26    |
| Potomac River | 15      | 210     | 05/15/85 | 5.0     | 23.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 30    |
| Potomac River | 15      | 210     | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 210     | 05/22/86 | 8.0     | 62.0       | 5.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 77    |
| Potomac River | 15      | 210     | 05/28/87 | 25.0    | 53.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 87    |
| Potomac River | 15      | 210     | 06/07/83 | 3.0     | 38.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 45    |
| Potomac River | 15      | 210     | 06/09/80 | 8.0     | 9.0        | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 21    |
| Potomac River | 15      | 210     | 06/12/85 | 5.0     | 21.0       | 1.0     | 0.0     | 0.0      | 0.0   | 1.0     | 3        | 32    |
| Potomac River | 15      | 210     | 06/13/79 | 7.0     | 16.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 23    |
| Potomac River | 15      | 210     | 06/16/89 | 26.0    | 71.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 104   |
| Potomac River | 15      | 210     | 06/18/87 | 23.0    | 87.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 111   |
| Potomac River | 15      | 210     | 06/21/84 | 30.0    | 25.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 26       | 58    |
| Potomac River | 15      | 210     | 06/26/86 | 3.0     | 56.0       | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 9        | 66    |
| Potomac River | 15      | 210     | 07/01/81 | 37.0    | 52.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 60       | 98    |
| Potomac River | 15      | 210     | 07/01/82 | 9.0     | 35.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 46    |
| Potomac River | 15      | 210     | 07/07/80 | 8.0     | 6.0        | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 19    |
| Potomac River | 15      | 210     | 07/07/83 | 14.0    | 28.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 20       | 44    |
| Potomac River | 15      | 210     | 07/11/84 | 21.0    | 37.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 42       | 61    |
| Potomac River | 15      | 210     | 07/17/85 | 4.0     | 68.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 73    |
| Potomac River | 15      | 210     | 07/18/79 | 23.0    | 25.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 19       | 53    |
| Potomac River | 15      | 210     | 07/22/82 | 18.0    | 108.0      | 5.0     | 3.0     | 0.0      | 0.0   | 3.0     | 41       | 134   |
| Potomac River | 15      | 210     | 07/28/89 | 22.0    | 55.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 19       | 80    |
| Potomac River | 15      | 210     | 08/09/84 | 13.0    | 64.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 77    |
| Potomac River | 15      | 210     | 08/16/79 | 33.0    | 26.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 23       | 63    |
| Potomac River | 15      | 210     | 08/26/82 | 23.0    | 164.0      | 3.0     | 3.0     | 0.0      | 0.0   | 3.0     | 124      | 193   |
| Potomac River | 15      | 210     | 09/10/81 | 45.0    | 19.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 37       | 66    |
| Potomac River | 15      | 210     | 09/17/87 | 13.0    | 33.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 48    |
| Potomac River | 15      | 210     | 09/19/79 | 9.0     | 23.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 37    |
| Potomac River | 15      | 210     | 09/29/89 | 53.0    | 38.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 34       | 94    |
| Potomac River | 15      | 210     | 10/04/84 | 18.0    | 66.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 13       | 84    |
| Potomac River | 15      | 210     | 10/19/83 | 4.0     | 15.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 32       | 62    |
| Potomac River | 15      | 210     | 10/22/79 | 8.0     | 26.0       | 5.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 39    |
| Potomac River | 15      | 210     | 10/25/85 | 44.0    | 67.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 73       | 115   |
| Potomac River | 15      | 210     | 10/27/89 | 25.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 21       | 25    |
| Potomac River | 15      | 210     | 11/05/81 | 69.0    | 29.0       | 3.0     | 2.0     | 0.0      | 0.0   | 2.0     | 71       | 103   |

**Table 5: Fish Metrics**

| STRAINME      | STUDYCOD | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|----------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15       | 210     |         | 11/09/83 | 6.0     | 118.0      | 1.0     | 0.0     | 0.0      | 1.0   | 0.0     | 52       | 126   |
| Potomac River | 15       | 210     |         | 11/11/86 | 26.0    | 63.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 66       | 90    |
| Potomac River | 15       | 210     |         | 11/17/87 | 8.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 21    |
| Potomac River | 15       | 210     |         | 11/19/79 | 0.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| Potomac River | 15       | 210     |         | 11/20/80 | 1.0     | 60.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 32       | 62    |
| Potomac River | 15       | 210     |         | 12/04/86 | 14.0    | 99.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 49       | 113   |
| Potomac River | 15       | 210     |         | 12/09/87 | 1.0     | 22.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 24    |
| Potomac River | 15       | 210     |         | 12/10/82 | 2.0     | 186.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 31       | 188   |
| Potomac River | 15       | 210     |         | 12/11/80 | 1.0     | 190.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 148      | 192   |
| Potomac River | 15       | 210     |         | 12/11/84 | 0.0     | 12.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 12    |
| Potomac River | 15       | 210     |         | 12/13/85 | 8.0     | 88.0       | 2.0     | 2.0     | 0.0      | 0.0   | 2.0     | 20       | 100   |
| Potomac River | 15       | 210     |         | 12/17/79 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15       | 210     |         | 12/27/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15       | 211     |         | 01/09/80 | 0.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 4     |
| Potomac River | 15       | 211     |         | 01/17/83 | 0.0     | 19.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 19    |
| Potomac River | 15       | 211     |         | 01/24/89 | 0.0     | 19.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 19    |
| Potomac River | 15       | 211     |         | 02/28/80 | 0.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| Potomac River | 15       | 211     |         | 03/04/81 | 3.0     | 470.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 189      | 474   |
| Potomac River | 15       | 211     |         | 03/06/86 | 2.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 8     |
| Potomac River | 15       | 211     |         | 03/07/85 | 0.0     | 8.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 8     |
| Potomac River | 15       | 211     |         | 03/07/88 | 0.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 3     |
| Potomac River | 15       | 211     |         | 03/17/83 | 0.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 13    |
| Potomac River | 15       | 211     |         | 03/27/87 | 6.0     | 51.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 13       | 58    |
| Potomac River | 15       | 211     |         | 04/07/81 | 20.0    | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 30    |
| Potomac River | 15       | 211     |         | 04/10/85 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15       | 211     |         | 04/14/89 | 10.0    | 65.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 28       | 76    |
| Potomac River | 15       | 211     |         | 04/21/80 | 0.0     | 2.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 3     |
| Potomac River | 15       | 211     |         | 04/22/82 | 20.0    | 87.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 48       | 111   |
| Potomac River | 15       | 211     |         | 04/29/88 | 18.0    | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 22    |
| Potomac River | 15       | 211     |         | 05/12/80 | 5.0     | 39.0       | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 50    |
| Potomac River | 15       | 211     |         | 05/12/82 | 7.0     | 21.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 24       | 38    |
| Potomac River | 15       | 211     |         | 05/15/85 | 6.0     | 13.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 6        | 22    |
| Potomac River | 15       | 211     |         | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 14    |
| Potomac River | 15       | 211     |         | 05/22/86 | 8.0     | 48.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 56    |
| Potomac River | 15       | 211     |         | 05/28/87 | 8.0     | 41.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 51    |
| Potomac River | 15       | 211     |         | 06/07/83 | 3.0     | 29.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 36    |
| Potomac River | 15       | 211     |         | 06/09/80 | 3.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 9     |
| Potomac River | 15       | 211     |         | 06/12/85 | 3.0     | 15.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 2        | 20    |
| Potomac River | 15       | 211     |         | 06/13/79 | 3.0     | 19.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 24    |

Table 5: Fish Metrics

**Table 5: Fish Metrics**

| STUDYCODE     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 212     | 01/09/80 | 0.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 212     | 01/17/83 | 1.0     | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     |
| Potomac River | 15      | 212     | 01/24/89 | 0.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 212     | 02/28/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     |
| Potomac River | 15      | 212     | 03/04/81 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     |
| Potomac River | 15      | 212     | 03/06/86 | 0.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 212     | 03/07/85 | 1.0     | 20.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 22    |
| Potomac River | 15      | 212     | 03/07/88 | 1.0     | 26.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 27    |
| Potomac River | 15      | 212     | 03/17/83 | 0.0     | 12.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    |
| Potomac River | 15      | 212     | 03/27/87 | 7.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    |
| Potomac River | 15      | 212     | 04/07/81 | 9.0     | 140.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 149   |
| Potomac River | 15      | 212     | 04/10/85 | 6.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    |
| Potomac River | 15      | 212     | 04/14/89 | 6.0     | 79.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 86    |
| Potomac River | 15      | 212     | 04/21/80 | 0.0     | 17.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 18    |
| Potomac River | 15      | 212     | 04/22/82 | 30.0    | 136.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 166   |
| Potomac River | 15      | 212     | 04/29/88 | 30.0    | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 32    |
| Potomac River | 15      | 212     | 05/12/80 | 5.0     | 19.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     |
| Potomac River | 15      | 212     | 05/12/82 | 5.0     | 62.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 29    |
| Potomac River | 15      | 212     | 05/15/85 | 8.0     | 55.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 65    |
| Potomac River | 15      | 212     | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 212     | 05/22/86 | 6.0     | 15.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 27    |
| Potomac River | 15      | 212     | 05/28/87 | 18.0    | 59.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 80    |
| Potomac River | 15      | 212     | 06/07/83 | 2.0     | 227.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 231   |
| Potomac River | 15      | 212     | 06/09/80 | 9.0     | 20.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 30    |
| Potomac River | 15      | 212     | 06/12/85 | 9.0     | 29.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 0.0      | 46    |
| Potomac River | 15      | 212     | 06/13/79 | 6.0     | 3.0        | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    |
| Potomac River | 15      | 212     | 06/16/89 | 16.0    | 94.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 0.0      | 111   |
| Potomac River | 15      | 212     | 06/18/87 | 20.0    | 49.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 66    |
| Potomac River | 15      | 212     | 06/21/84 | 10.0    | 24.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 60    |
| Potomac River | 15      | 212     | 06/26/86 | 17.0    | 121.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 0.0      | 40    |
| Potomac River | 15      | 212     | 07/01/81 | 5.0     | 58.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 51    |
| Potomac River | 15      | 212     | 07/11/84 | 33.0    | 43.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 31    |
| Potomac River | 15      | 212     | 07/01/82 | 27.0    | 137.0      | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 169   |
| Potomac River | 15      | 212     | 07/07/80 | 7.0     | 10.0       | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 22    |
| Potomac River | 15      | 212     | 07/07/83 | 8.0     | 38.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     |
| Potomac River | 15      | 212     | 07/17/85 | 5.0     | 21.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 0.0      | 73    |
| Potomac River | 15      | 212     | 07/18/79 | 2.0     | 68.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 0.0      | 111   |
| Potomac River | 15      | 212     | 07/22/82 | 17.0    | 88.0       | 0.0     | 4.0     | 0.0      | 0.0   | 4.0     | 0.0      | 59    |
| Potomac River | 15      | 212     | 07/28/89 | 0.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     |

**Table 5: Fish Metrics**

| STNAME        | STUDYCOD | STATION | STADATE  | ENDDATE | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|----------|---------|----------|---------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15       | 212     | 08/09/84 | 38.0    | 44.0    | 1.0        | 1.0     | 0.0     | 0.0      | 1.0   | 0.0     | 20       | 85    |
| Potomac River | 15       | 212     | 08/16/79 | 13.0    | 15.0    | 0.0        | 1.0     | 0.0     | 0.0      | 1.0   | 1.0     | 11       | 31    |
| Potomac River | 15       | 212     | 08/26/82 | 12.0    | 95.0    | 0.0        | 4.0     | 0.0     | 0.0      | 4.0   | 4.0     | 57       | 114   |
| Potomac River | 15       | 212     | 09/10/81 | 18.0    | 79.0    | 1.0        | 4.0     | 0.0     | 0.0      | 0.0   | 4.0     | 24       | 111   |
| Potomac River | 15       | 212     | 09/17/87 | 44.0    | 34.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 78    |
| Potomac River | 15       | 212     | 09/19/79 | 17.0    | 43.0    | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 1.0     | 18       | 67    |
| Potomac River | 15       | 212     | 09/29/89 | 22.0    | 35.0    | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 61    |
| Potomac River | 15       | 212     | 10/04/84 | 10.0    | 188.0   | 1.0        | 3.0     | 0.0     | 0.0      | 0.0   | 3.0     | 44       | 202   |
| Potomac River | 15       | 212     | 10/19/83 | 6.0     | 51.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 35       | 59    |
| Potomac River | 15       | 212     | 10/22/79 | 13.0    | 6.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 24    |
| Potomac River | 15       | 212     | 10/25/85 | 11.0    | 9.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 21    |
| Potomac River | 15       | 212     | 10/27/89 | 47.0    | 17.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 29       | 64    |
| Potomac River | 15       | 212     | 11/05/81 | 52.0    | 6.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 28       | 62    |
| Potomac River | 15       | 212     | 11/09/83 | 2.0     | 63.0    | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 51       | 68    |
| Potomac River | 15       | 212     | 11/11/86 | 10.0    | 87.0    | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 100   |
| Potomac River | 15       | 212     | 11/17/87 | 7.0     | 6.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 13    |
| Potomac River | 15       | 212     | 11/19/79 | 1.0     | 24.0    | 0.0        | 1.0     | 0.0     | 0.0      | 1.0   | 1.0     | 2        | 27    |
| Potomac River | 15       | 212     | 11/20/80 | 1.0     | 67.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 36       | 68    |
| Potomac River | 15       | 212     | 12/04/86 | 6.0     | 181.0   | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 67       | 188   |
| Potomac River | 15       | 212     | 12/09/87 | 3.0     | 38.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 43    |
| Potomac River | 15       | 212     | 12/10/82 | 2.0     | 87.0    | 0.0        | 1.0     | 0.0     | 0.0      | 1.0   | 1.0     | 25       | 92    |
| Potomac River | 15       | 212     | 12/11/80 | 0.0     | 45.0    | 1.0        | 1.0     | 0.0     | 0.0      | 1.0   | 1.0     | 17       | 47    |
| Potomac River | 15       | 212     | 12/11/84 | 1.0     | 44.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 46    |
| Potomac River | 15       | 212     | 12/13/85 | 2.0     | 6.0     | 0.0        | 1.0     | 0.0     | 0.0      | 1.0   | 1.0     | 3        | 10    |
| Potomac River | 15       | 212     | 12/17/79 | 0.0     | 1.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| Potomac River | 15       | 212     | 12/27/83 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15       | 213     | 01/09/80 | 0.0     | 4.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 4     |
| Potomac River | 15       | 213     | 01/17/83 | 0.0     | 9.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 9     |
| Potomac River | 15       | 213     | 01/24/89 | 0.0     | 46.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 46    |
| Potomac River | 15       | 213     | 02/28/80 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15       | 213     | 03/04/81 | 0.0     | 12.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 12    |
| Potomac River | 15       | 213     | 03/06/86 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15       | 213     | 03/07/85 | 0.0     | 17.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 18    |
| Potomac River | 15       | 213     | 03/07/88 | 1.0     | 6.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 7     |
| Potomac River | 15       | 213     | 03/17/83 | 0.0     | 69.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 69    |
| Potomac River | 15       | 213     | 03/27/87 | 1.0     | 20.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 21    |
| Potomac River | 15       | 213     | 04/07/81 | 0.0     | 156.0   | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 39       | 156   |
| Potomac River | 15       | 213     | 04/10/85 | 1.0     | 37.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 38    |
| Potomac River | 15       | 213     | 04/14/89 | 4.0     | 12.0    | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 18    |

Table 5: Fish Metrics

| STUDY COD | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SCULPINS | PERCHES | SUCKERS | TROUT | DARTERS | TOLERANT | TOTAL |
|-----------|---------|---------|----------|---------|------------|----------|---------|---------|-------|---------|----------|-------|
|           |         |         |          |         |            |          |         |         |       |         |          |       |
| 0         | 1       | 2       | 3        | 4       | 5          | 6        | 7       | 8       | 9     | 10      | 11       | 12    |
| 15        | 213     |         | 04/21/80 | 4.0     | 3.0        | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 7     |
| 15        | 213     |         | 04/22/82 | 8.0     | 71.0       | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 45       | 79    |
| 15        | 213     |         | 04/29/88 | 16.0    | 2.0        | 1.0      | 0.0     | 0.0     | 0.0   | 0.0     | 13       | 29    |
| 15        | 213     |         | 05/12/80 | 1.0     | 17.0       | 3.0      | 0.0     | 0.0     | 0.0   | 0.0     | 3        | 22    |
| 15        | 213     |         | 05/12/82 | 5.0     | 59.0       | 0.0      | 1.0     | 0.0     | 0.0   | 1.0     | 36       | 71    |
| 15        | 213     |         | 05/15/85 | 5.0     | 80.0       | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 6        | 86    |
| 15        | 213     |         | 05/16/84 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1     | 0.1   | 0.0     | 0        | 0     |
| 15        | 213     |         | 05/22/86 | 5.0     | 36.0       | 1.0      | 1.0     | 0.0     | 0.0   | 1.0     | 6        | 49    |
| 15        | 213     |         | 05/28/87 | 11.0    | 163.0      | 0.0      | 1.0     | 0.0     | 0.0   | 1.0     | 73       | 175   |
| 15        | 213     |         | 06/07/83 | 5.0     | 213.0      | 0.0      | 1.0     | 0.0     | 0.0   | 1.0     | 36       | 220   |
| 15        | 213     |         | 06/09/80 | 7.0     | 7.0        | 2.0      | 0.0     | 0.0     | 0.0   | 0.0     | 7        | 17    |
| 15        | 213     |         | 06/12/85 | 11.0    | 45.0       | 1.0      | 1.0     | 0.0     | 0.0   | 1.0     | 7        | 62    |
| 15        | 213     |         | 06/13/79 | 1.0     | 0.0        | 7.0      | 0.0     | 0.0     | 0.0   | 0.0     | 1        | 8     |
| 15        | 213     |         | 06/16/89 | 8.0     | 41.0       | 0.0      | 1.0     | 0.0     | 0.0   | 1.0     | 9        | 50    |
| 15        | 213     |         | 06/18/87 | 2.0     | 157.0      | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 3        | 159   |
| 15        | 213     |         | 06/21/84 | 20.0    | 29.0       | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 31       | 56    |
| 15        | 213     |         | 06/26/86 | 4.0     | 58.0       | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 6        | 62    |
| 15        | 213     |         | 07/01/81 | 9.0     | 27.0       | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 8        | 28    |
| 15        | 213     |         | 07/01/82 | 15.0    | 138.0      | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 17       | 38    |
| 15        | 213     |         | 07/07/80 | 4.0     | 1.0        | 1.0      | 0.0     | 0.0     | 0.0   | 0.0     | 4        | 9     |
| 15        | 213     |         | 07/07/83 | 11.0    | 14.0       | 0.0      | 0.0     | 0.0     | 0.0   | 1.0     | 4        | 52    |
| 15        | 213     |         | 07/11/84 | 32.0    | 30.0       | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 2.0      | 152   |
| 15        | 213     |         | 07/17/85 | 7.0     | 22.0       | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 0        | 19    |
| 15        | 213     |         | 07/18/79 | 4.0     | 38.0       | 1.0      | 1.0     | 0.0     | 0.0   | 1.0     | 5        | 32    |
| 15        | 213     |         | 07/22/82 | 23.0    | 278.0      | 1.0      | 2.0     | 0.0     | 0.0   | 2.0     | 306      | 306   |
| 15        | 213     |         | 07/28/89 | 4.0     | 15.0       | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 412      | 412   |
| 15        | 213     |         | 08/09/84 | 23.0    | 40.0       | 3.0      | 0.0     | 0.0     | 0.0   | 3.0     | 15       | 69    |
| 15        | 213     |         | 08/16/79 | 6.0     | 33.0       | 0.0      | 1.0     | 0.0     | 0.0   | 1.0     | 7        | 41    |
| 15        | 213     |         | 08/26/82 | 3.0     | 402.0      | 0.0      | 7.0     | 0.0     | 0.0   | 7.0     | 207      | 207   |
| 15        | 213     |         | 09/10/81 | 18.0    | 66.0       | 0.0      | 4.0     | 0.0     | 0.0   | 4.0     | 35       | 101   |
| 15        | 213     |         | 09/17/87 | 44.0    | 72.0       | 0.0      | 1.0     | 0.0     | 0.0   | 1.0     | 33       | 120   |
| 15        | 213     |         | 09/19/79 | 8.0     | 19.0       | 1.0      | 0.0     | 0.0     | 0.0   | 0.0     | 8        | 32    |
| 15        | 213     |         | 09/29/89 | 20.0    | 39.0       | 2.0      | 0.0     | 0.0     | 0.0   | 0.0     | 18       | 62    |
| 15        | 213     |         | 10/04/84 | 11.0    | 78.0       | 0.0      | 1.0     | 0.0     | 0.0   | 1.0     | 13       | 92    |
| 15        | 213     |         | 10/19/83 | 8.0     | 36.0       | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 16       | 49    |
| 15        | 213     |         | 10/22/79 | 5.0     | 23.0       | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 5        | 28    |
| 15        | 213     |         | 10/25/85 | 13.0    | 81.0       | 1.0      | 0.0     | 0.0     | 0.0   | 0.0     | 20       | 95    |
| 15        | 213     |         | 10/27/89 | 5.0     | 11.0       | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 4        | 16    |
| 15        | 213     |         | 11/05/81 | 6.0     | 32.0       | 0.0      | 0.0     | 0.0     | 0.0   | 0.0     | 32       | 42    |



**Table 5: Fish Metrics**

| STRNAME       | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SCULPINS | PERCHES | TROUT | DARTERS | TOLERANT | TOTAL |     |
|---------------|---------|---------|----------|---------|------------|----------|---------|-------|---------|----------|-------|-----|
|               |         |         |          |         |            |          |         |       |         |          | 17    | 55  |
| Potomac River | 15      | 1       | 06/16/89 | 17.0    | 38.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 10    | 69  |
| Potomac River | 15      | 1       | 06/18/87 | 14.0    | 47.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 11    | 23  |
| Potomac River | 15      | 1       | 06/21/84 | 11.0    | 10.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15      | 1       | 06/25/86 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1   | 0.1     | 0.0      | 0     | 0   |
| Potomac River | 15      | 1       | 06/30/82 | 2.0     | 34.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 18    | 36  |
| Potomac River | 15      | 1       | 07/01/81 | 11.0    | 37.0       | 1.0      | 2.0     | 0.0   | 0.0     | 2.0      | 33    | 59  |
| Potomac River | 15      | 1       | 07/06/83 | 9.0     | 82.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 59    | 94  |
| Potomac River | 15      | 1       | 07/07/80 | 5.0     | 5.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 4     | 12  |
| Potomac River | 15      | 1       | 07/11/84 | 6.0     | 18.0       | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 6     | 27  |
| Potomac River | 15      | 1       | 07/16/85 | 4.0     | 22.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 3     | 27  |
| Potomac River | 15      | 1       | 07/18/79 | 6.0     | 4.0        | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 6     | 15  |
| Potomac River | 15      | 1       | 07/21/82 | 7.0     | 32.0       | 2.0      | 1.0     | 0.0   | 0.0     | 1.0      | 15    | 47  |
| Potomac River | 15      | 1       | 07/28/89 | 11.0    | 14.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 9     | 26  |
| Potomac River | 15      | 1       | 08/09/84 | 12.0    | 32.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 9     | 47  |
| Potomac River | 15      | 1       | 08/15/79 | 6.0     | 33.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 5     | 39  |
| Potomac River | 15      | 1       | 08/25/82 | 1.0     | 142.0      | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 57    | 145 |
| Potomac River | 15      | 1       | 09/09/81 | 7.0     | 5.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 5     | 12  |
| Potomac River | 15      | 1       | 09/17/87 | 6.0     | 114.0      | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 11    | 121 |
| Potomac River | 15      | 1       | 09/19/79 | 3.0     | 12.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 3     | 16  |
| Potomac River | 15      | 1       | 09/29/89 | 13.0    | 2.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 9     | 17  |
| Potomac River | 15      | 1       | 10/04/84 | 6.0     | 9.0        | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 3     | 16  |
| Potomac River | 15      | 1       | 10/18/83 | 5.0     | 4.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 1     | 11  |
| Potomac River | 15      | 1       | 10/24/79 | 1.0     | 7.0        | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 2     | 9   |
| Potomac River | 15      | 1       | 10/25/85 | 10.0    | 102.0      | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 15    | 113 |
| Potomac River | 15      | 1       | 10/26/89 | 5.0     | 0.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 5     | 5   |
| Potomac River | 15      | 1       | 11/05/81 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1   | 0.1     | 0.0      | 0     | 0   |
| Potomac River | 15      | 1       | 11/08/83 | 3.0     | 7.0        | 0.0      | 2.0     | 0.0   | 0.0     | 2.0      | 5     | 14  |
| Potomac River | 15      | 1       | 11/11/86 | 13.0    | 0.0        | 4.0      | 0.0     | 0.0   | 0.0     | 0.0      | 10    | 17  |
| Potomac River | 15      | 1       | 11/17/87 | 10.0    | 38.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 13    | 50  |
| Potomac River | 15      | 1       | 11/19/79 | 1.0     | 0.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 1     | 2   |
| Potomac River | 15      | 1       | 11/20/80 | 4.0     | 72.0       | 1.0      | 1.0     | 0.0   | 0.0     | 1.0      | 38    | 79  |
| Potomac River | 15      | 1       | 12/04/86 | 0.0     | 20.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 2     | 17  |
| Potomac River | 15      | 1       | 12/08/87 | 2.0     | 36.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 2     | 38  |
| Potomac River | 15      | 1       | 12/09/82 | 4.0     | 119.0      | 12.0     | 2.0     | 0.0   | 0.0     | 2.0      | 89    | 138 |
| Potomac River | 15      | 1       | 12/10/80 | 0.0     | 17.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 8     | 20  |
| Potomac River | 15      | 1       | 12/10/84 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1   | 0.1     | 0.0      | 0     | 0   |
| Potomac River | 15      | 1       | 12/12/85 | 31.0    | 7.0        | 0.0      | 2.0     | 0.0   | 0.0     | 2.0      | 24    | 41  |
| Potomac River | 15      | 1       | 12/17/79 | 0.0     | 2.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 0     | 2   |
| Potomac River | 15      | 1       | 12/27/83 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1   | 0.1     | 0.0      | 0     | 0   |

Table 5: Fish Metrics

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| STUDYCOD      | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| STRNAME       |         |         |          |         |            |         |         |          |       |         |          |       |
| Potomac River | 15      | 10      | 08/08/84 | 24.0    | 118.0      | 3.0     | 4.0     | 0.0      | 0.0   | 4.0     | 32       | 151   |
| Potomac River | 15      | 10      | 08/15/79 | 2.0     | 21.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 28    |
| Potomac River | 15      | 10      | 08/25/82 | 19.0    | 4.0        | 4.0     | 5.0     | 0.0      | 0.0   | 5.0     | 24       | 35    |
| Potomac River | 15      | 10      | 09/09/81 | 20.0    | 13.0       | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 18       | 40    |
| Potomac River | 15      | 10      | 09/16/87 | 40.0    | 20.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 24       | 60    |
| Potomac River | 15      | 10      | 09/19/79 | 13.0    | 2.0        | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 12       | 18    |
| Potomac River | 15      | 10      | 09/28/89 | 24.0    | 12.0       | 0.0     | 5.0     | 0.0      | 0.0   | 5.0     | 14       | 41    |
| Potomac River | 15      | 10      | 10/03/84 | 20.0    | 1.0        | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 16       | 23    |
| Potomac River | 15      | 10      | 10/18/83 | 4.0     | 5.0        | 0.0     | 10.0    | 0.0      | 0.0   | 10.0    | 13       | 22    |
| Potomac River | 15      | 10      | 10/24/79 | 3.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 4     |
| Potomac River | 15      | 10      | 10/24/85 | 14.0    | 28.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 42    |
| Potomac River | 15      | 10      | 10/26/89 | 11.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 15    |
| Potomac River | 15      | 10      | 11/05/81 | 9.0     | 14.0       | 0.0     | 8.0     | 0.0      | 0.0   | 8.0     | 18       | 34    |
| Potomac River | 15      | 10      | 11/08/83 | 4.0     | 14.0       | 0.0     | 5.0     | 0.0      | 0.0   | 5.0     | 14       | 27    |
| Potomac River | 15      | 10      | 11/10/86 | 2.0     | 13.0       | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 18    |
| Potomac River | 15      | 10      | 11/16/87 | 1.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 4     |
| Potomac River | 15      | 10      | 11/19/79 | 1.0     | 10.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 11    |
| Potomac River | 15      | 10      | 11/20/80 | 0.0     | 27.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 25       | 27    |
| Potomac River | 15      | 10      | 12/04/86 | 6.0     | 253.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 58       | 259   |
| Potomac River | 15      | 10      | 12/08/87 | 0.0     | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 11    |
| Potomac River | 15      | 10      | 12/09/82 | 4.0     | 7.0        | 3.0     | 1.0     | 0.0      | 0.0   | 1.0     | 12       | 16    |
| Potomac River | 15      | 10      | 12/10/80 | 1.0     | 32.0       | 1.0     | 5.0     | 0.0      | 0.0   | 5.0     | 35       | 40    |
| Potomac River | 15      | 10      | 12/10/84 | 0.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 2     |
| Potomac River | 15      | 10      | 12/12/85 | 2.0     | 12.0       | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 9        | 17    |
| Potomac River | 15      | 10      | 12/17/79 | 0.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| Potomac River | 15      | 10      | 12/27/83 | 0.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 6     |
| Potomac River | 11      | 10      | 01/01/75 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0        | 0     |
| Potomac River | 15      | 11      | 01/09/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0        | 0     |
| Potomac River | 15      | 11      | 01/17/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0        | 0     |
| Potomac River | 15      | 11      | 01/23/89 | 2.0     | 115.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 49       | 117   |
| Potomac River | 15      | 11      | 02/28/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0        | 0     |
| Potomac River | 15      | 11      | 03/03/81 | 0.0     | 62.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 22       | 63    |
| Potomac River | 15      | 11      | 03/05/86 | 0.0     | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 25    |
| Potomac River | 15      | 11      | 03/06/85 | 2.0     | 23.0       | 1.0     | 3.0     | 0.0      | 0.0   | 3.0     | 7        | 30    |
| Potomac River | 15      | 11      | 03/07/88 | 1.0     | 52.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 54    |
| Potomac River | 15      | 11      | 03/16/83 | 0.0     | 256.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 133      | 260   |
| Potomac River | 15      | 11      | 03/26/87 | 6.0     | 157.0      | 0.0     | 3.0     | 0.0      | 0.0   | 3.0     | 22       | 181   |
| Potomac River | 15      | 11      | 04/06/81 | 7.0     | 13.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 8        | 22    |
| Potomac River | 15      | 11      | 04/09/85 | 5.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 7     |

Table 5: Fish Metrics

| STUDYCOD      | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 11      | 04/13/89 | 14.0    | 117.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    |
| Potomac River | 15      | 11      | 04/21/80 | 5.0     | 23.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     |
| Potomac River | 15      | 11      | 04/22/82 | 7.0     | 122.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 59    |
| Potomac River | 15      | 11      | 04/28/88 | 14.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 11    |
| Potomac River | 15      | 11      | 05/11/82 | 8.0     | 92.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 66    |
| Potomac River | 15      | 11      | 05/13/80 | 8.0     | 5.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 8     |
| Potomac River | 15      | 11      | 05/14/85 | 3.0     | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 11      | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 11      | 05/21/86 | 0.0     | 9.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4     |
| Potomac River | 15      | 11      | 05/27/87 | 17.0    | 39.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 14    |
| Potomac River | 15      | 11      | 06/06/83 | 9.0     | 55.0       | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 18    |
| Potomac River | 15      | 11      | 06/09/80 | 3.0     | 6.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4     |
| Potomac River | 15      | 11      | 06/11/85 | 6.0     | 26.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 11      | 06/13/79 | 8.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     |
| Potomac River | 15      | 11      | 06/15/89 | 20.0    | 38.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 26    |
| Potomac River | 15      | 11      | 06/17/87 | 13.0    | 65.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 14    |
| Potomac River | 15      | 11      | 06/20/84 | 25.0    | 75.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 36    |
| Potomac River | 15      | 11      | 06/25/86 | 5.0     | 28.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 11      | 06/30/82 | 15.0    | 31.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 26    |
| Potomac River | 15      | 11      | 07/01/81 | 13.0    | 80.0       | 0.0     | 2.0     | 0.0      | 0.0   | 0.0     | 0.0      | 29    |
| Potomac River | 15      | 11      | 07/06/83 | 10.0    | 48.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 61    |
| Potomac River | 15      | 11      | 07/07/80 | 4.0     | 15.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5     |
| Potomac River | 15      | 11      | 07/10/84 | 11.0    | 12.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 20    |
| Potomac River | 15      | 11      | 07/16/85 | 38.0    | 73.0       | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 43    |
| Potomac River | 15      | 11      | 07/18/79 | 16.0    | 65.0       | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 18    |
| Potomac River | 15      | 11      | 07/21/82 | 32.0    | 27.0       | 0.0     | 2.0     | 0.0      | 0.0   | 0.0     | 0.0      | 61    |
| Potomac River | 15      | 11      | 07/27/89 | 20.0    | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 27    |
| Potomac River | 15      | 11      | 08/03/84 | 31.0    | 46.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 21    |
| Potomac River | 15      | 11      | 08/15/79 | 5.0     | 46.0       | 2.0     | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 35    |
| Potomac River | 15      | 11      | 08/25/82 | 12.0    | 187.0      | 0.0     | 2.0     | 0.0      | 0.0   | 0.0     | 0.0      | 68    |
| Potomac River | 15      | 11      | 09/09/81 | 21.0    | 72.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 17    |
| Potomac River | 15      | 11      | 09/16/87 | 41.0    | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 22    |
| Potomac River | 15      | 11      | 09/19/79 | 7.0     | 10.0       | 0.0     | 2.0     | 0.0      | 0.0   | 0.0     | 0.0      | 12    |
| Potomac River | 15      | 11      | 09/28/89 | 16.0    | 35.0       | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 32    |
| Potomac River | 15      | 11      | 10/03/84 | 9.0     | 112.0      | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 125   |
| Potomac River | 15      | 11      | 10/18/83 | 7.0     | 52.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 14    |
| Potomac River | 15      | 11      | 10/24/79 | 4.0     | 24.0       | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 20    |
| Potomac River | 15      | 11      | 10/24/85 | 23.0    | 79.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 104   |
| Potomac River | 15      | 11      | 10/26/89 | 16.0    | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 8     |

**Table 5: Fish Metrics**

| STNAME        | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SCULPINS | PERCIES | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|----------|---------|-------|---------|----------|-------|
| Potomac River | 15      | 11      | 11/05/81 | 1.0     | 288.0      | 0.0      | 3.0     | 0.0   | 0.0     | 3.0      | 206   |
| Potomac River | 15      | 11      | 11/08/83 | 20.0    | 104.0      | 2.0      | 0.0     | 0.0   | 0.0     | 0.0      | 34    |
| Potomac River | 15      | 11      | 11/10/86 | 10.0    | 1,069.0    | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 17    |
| Potomac River | 15      | 11      | 11/16/87 | 3.0     | 24.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 5     |
| Potomac River | 15      | 11      | 11/19/79 | 6.0     | 20.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 5     |
| Potomac River | 15      | 11      | 11/20/80 | 10.0    | 1,437.0    | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 1,320 |
| Potomac River | 15      | 11      | 12/04/86 | 2.0     | 2,818.0    | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 638   |
| Potomac River | 15      | 11      | 12/08/87 | 1.0     | 46.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 5     |
| Potomac River | 15      | 11      | 12/09/82 | 4.0     | 550.0      | 2.0      | 19.0    | 0.0   | 0.0     | 19.0     | 413   |
| Potomac River | 15      | 11      | 12/10/80 | 4.0     | 183.0      | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 159   |
| Potomac River | 15      | 11      | 12/10/84 | 0.0     | 7.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 1     |
| Potomac River | 15      | 11      | 12/12/85 | 0.0     | 5.0        | 0.0      | 2.0     | 0.0   | 0.0     | 2.0      | 4     |
| Potomac River | 15      | 11      | 12/17/79 | 0.0     | 1.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 11      | 01/01/75 | 0.0     | 0.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 11      | 01/09/80 | 3.0     | 2.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 5     |
| Potomac River | 15      | 12      | 01/17/83 | 41.0    | 18.0       | 0.0      | 19.0    | 0.0   | 0.0     | 19.0     | 41    |
| Potomac River | 15      | 12      | 01/23/89 | 22.0    | 73.0       | 0.0      | 2.0     | 0.0   | 0.0     | 2.0      | 25    |
| Potomac River | 15      | 12      | 02/28/80 | 34.0    | 3.0        | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 29    |
| Potomac River | 15      | 12      | 03/03/81 | 38.0    | 344.0      | 6.0      | 0.0     | 0.0   | 0.0     | 0.0      | 37    |
| Potomac River | 15      | 12      | 03/05/86 | 43.0    | 17.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 57    |
| Potomac River | 15      | 12      | 03/06/85 | 28.0    | 51.0       | 2.0      | 0.0     | 0.0   | 0.0     | 0.0      | 30    |
| Potomac River | 15      | 12      | 03/07/88 | 56.0    | 19.0       | 6.0      | 0.0     | 0.0   | 0.0     | 0.0      | 13    |
| Potomac River | 15      | 12      | 03/16/83 | 19.0    | 39.0       | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 37    |
| Potomac River | 15      | 12      | 04/13/89 | 24.0    | 50.0       | 2.0      | 0.0     | 0.0   | 0.0     | 0.0      | 68    |
| Potomac River | 15      | 12      | 04/21/80 | 15.0    | 14.0       | 1.0      | 0.0     | 0.0   | 0.0     | 0.0      | 9     |
| Potomac River | 15      | 12      | 04/22/82 | 24.0    | 66.0       | 3.0      | 0.0     | 0.0   | 0.0     | 0.0      | 17    |
| Potomac River | 15      | 12      | 04/28/88 | 22.0    | 13.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 17    |
| Potomac River | 15      | 12      | 05/11/82 | 16.0    | 124.0      | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 98    |
| Potomac River | 15      | 12      | 05/13/80 | 18.0    | 30.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 15    |
| Potomac River | 15      | 12      | 05/14/85 | 3.0     | 5.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 5     |
| Potomac River | 15      | 12      | 05/16/84 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1   | 0.1     | 0.1      | 34    |
| Potomac River | 15      | 12      | 05/21/86 | 7.0     | 17.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 77    |
| Potomac River | 15      | 12      | 05/27/87 | 58.0    | 75.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 52    |
| Potomac River | 15      | 12      | 06/06/83 | 4.0     | 76.0       | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 44    |
| Potomac River | 15      | 12      | 06/09/80 | 9.0     | 9.0        | 0.0      | 0.0     | 0.0   | 0.0     | 0.0      | 8     |

**Table 5: Fish Metrics**

| STNAME        | STUDYCOD | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |     |
|---------------|----------|---------|---------|----------|---------|------------|---------|----------|-------|---------|----------|-------|-----|
|               |          |         |         |          |         |            |         |          |       |         |          | 7     | 107 |
| Potomac River | 15       | 12      |         | 06/11/85 | 27.0    | 73.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4     | 24  |
| Potomac River | 15       | 12      |         | 06/13/79 | 6.0     | 16.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 16    | 49  |
| Potomac River | 15       | 12      |         | 06/15/89 | 18.0    | 30.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 15    | 84  |
| Potomac River | 15       | 12      |         | 06/17/87 | 26.0    | 55.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 48    | 148 |
| Potomac River | 15       | 12      |         | 06/20/84 | 35.0    | 112.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 39    | 208 |
| Potomac River | 15       | 12      |         | 06/25/86 | 16.0    | 67.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 14    | 86  |
| Potomac River | 15       | 12      |         | 06/30/81 | 19.0    | 28.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 17    | 72  |
| Potomac River | 15       | 12      |         | 07/01/82 | 11.0    | 53.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 39    |     |
| Potomac River | 15       | 12      |         | 07/06/83 | 6.0     | 19.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 27  |
| Potomac River | 15       | 12      |         | 07/07/80 | 9.0     | 18.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 28  |
| Potomac River | 15       | 12      |         | 07/10/84 | 25.0    | 27.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 19    | 53  |
| Potomac River | 15       | 12      |         | 07/16/85 | 15.0    | 16.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 31  |
| Potomac River | 15       | 12      |         | 07/18/79 | 2.0     | 9.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4     | 12  |
| Potomac River | 15       | 12      |         | 07/21/82 | 5.0     | 9.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 9     | 18  |
| Potomac River | 15       | 12      |         | 07/27/89 | 4.0     | 3.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     | 7   |
| Potomac River | 15       | 12      |         | 08/08/84 | 25.0    | 85.0       | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 11    | 118 |
| Potomac River | 15       | 12      |         | 08/15/79 | 5.0     | 31.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6     | 38  |
| Potomac River | 15       | 12      |         | 08/25/82 | 11.0    | 0.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     | 13  |
| Potomac River | 15       | 12      |         | 09/09/81 | 13.0    | 77.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4     | 123 |
| Potomac River | 15       | 12      |         | 09/16/87 | 14.0    | 14.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6     | 32  |
| Potomac River | 15       | 12      |         | 09/19/79 | 34.0    | 13.0       | 2.0     | 0.0      | 0.0   | 0.0     | 0.0      | 24    | 49  |
| Potomac River | 15       | 12      |         | 09/28/89 | 16.0    | 25.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 12    | 41  |
| Potomac River | 15       | 12      |         | 10/03/84 | 57.0    | 27.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 34    | 84  |
| Potomac River | 15       | 12      |         | 10/18/83 | 85.0    | 100.0      | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 62    | 187 |
| Potomac River | 15       | 12      |         | 10/23/79 | 39.0    | 11.0       | 2.0     | 0.0      | 0.0   | 0.0     | 0.0      | 34    | 59  |
| Potomac River | 15       | 12      |         | 10/24/85 | 94.0    | 251.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 136   | 348 |
| Potomac River | 15       | 12      |         | 10/26/89 | 38.0    | 28.0       | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 26    | 68  |
| Potomac River | 15       | 12      |         | 11/05/81 | 43.0    | 53.0       | 0.0     | 3.0      | 0.0   | 0.0     | 0.0      | 3.0   | 687 |
| Potomac River | 15       | 12      |         | 11/08/83 | 103.0   | 35.0       | 0.0     | 1.0      | 0.0   | 0.0     | 0.0      | 88    | 142 |
| Potomac River | 15       | 12      |         | 11/10/86 | 20.0    | 102.0      | 2.0     | 0.0      | 0.0   | 0.0     | 0.0      | 15    | 142 |
| Potomac River | 15       | 12      |         | 11/16/87 | 108.0   | 50.0       | 2.0     | 1.0      | 0.0   | 0.0     | 1.0      | 81    | 165 |
| Potomac River | 15       | 12      |         | 11/19/79 | 47.0    | 8.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 43    | 74  |
| Potomac River | 15       | 12      |         | 11/19/80 | 11.0    | 126.0      | 1.0     | 1.0      | 0.0   | 0.0     | 1.0      | 40    | 139 |
| Potomac River | 15       | 12      |         | 12/03/86 | 194.0   | 60.0       | 5.0     | 1.0      | 0.0   | 0.0     | 1.0      | 167   | 305 |
| Potomac River | 15       | 12      |         | 12/08/87 | 68.0    | 0.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 44    |     |
| Potomac River | 15       | 12      |         | 12/09/82 | 45.0    | 15.0       | 3.0     | 14.0     | 0.0   | 0.0     | 14.0     | 38    | 669 |
| Potomac River | 15       | 12      |         | 12/10/80 | 154.0   | 266.0      | 0.0     | 1.0      | 0.0   | 0.0     | 1.0      | 237   | 481 |
| Potomac River | 15       | 12      |         | 12/10/84 | 3.0     | 50.0       | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 16    | 56  |
| Potomac River | 15       | 12      |         | 12/12/85 | 65.0    | 23.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 44    | 96  |

Table 5: Fish Metrics

| STUDYCOD      | STATION | STADATE | ENDDATE  | SUNFISH  | CYPRINIDAE | PERCHES | SUCKERS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|----------|------------|---------|---------|-------|---------|----------|-------|
| STRNAME       |         |         |          |          |            |         |         |       |         |          |       |
| Potomac River | 15      | 12      | 12/17/79 | 36.0     | 3.0        | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 49    |
| Potomac River | 15      | 12      | 12/27/83 | 76.0     | 4.0        | 1.0     | 1.0     | 0.0   | 0.0     | 1.0      | 96    |
| Potomac River | 11      | 12      | 01/01/75 | 12/31/79 | 0.1        | 0.1     | 0.1     | 0.1   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 13      | 01/09/80 | 6.0      | 2.0        | 0.0     | 1.0     | 0.0   | 0.0     | 1.0      | 13    |
| Potomac River | 15      | 13      | 01/17/83 | 73.0     | 3.0        | 0.0     | 1.0     | 0.0   | 0.0     | 1.0      | 56    |
| Potomac River | 15      | 13      | 01/23/89 | 15.0     | 135.0      | 0.0     | 1.0     | 0.0   | 0.0     | 1.0      | 82    |
| Potomac River | 15      | 13      | 02/28/80 | 49.0     | 8.0        | 3.0     | 0.0     | 0.0   | 0.0     | 0.0      | 17    |
| Potomac River | 15      | 13      | 03/03/81 | 17.0     | 41.0       | 2.0     | 0.0     | 0.0   | 0.0     | 0.0      | 52    |
| Potomac River | 15      | 13      | 03/05/86 | 31.0     | 7.0        | 2.0     | 0.0     | 0.0   | 0.0     | 0.0      | 62    |
| Potomac River | 15      | 13      | 03/06/85 | 12.0     | 99.0       | 2.0     | 0.0     | 0.0   | 0.0     | 0.0      | 152   |
| Potomac River | 15      | 13      | 03/07/88 | 56.0     | 5.0        | 2.0     | 0.0     | 0.0   | 0.0     | 0.0      | 71    |
| Potomac River | 15      | 13      | 03/16/83 | 16.0     | 28.0       | 6.0     | 0.0     | 0.0   | 0.0     | 0.0      | 71    |
| Potomac River | 15      | 13      | 03/26/87 | 19.0     | 2.0        | 2.0     | 0.0     | 0.0   | 0.0     | 0.0      | 42    |
| Potomac River | 15      | 13      | 04/06/81 | 5.0      | 16.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 113   |
| Potomac River | 15      | 13      | 04/09/85 | 3.0      | 99.0       | 2.0     | 0.0     | 0.0   | 0.0     | 0.0      | 63    |
| Potomac River | 15      | 13      | 04/13/89 | 7.0      | 30.0       | 2.0     | 0.0     | 0.0   | 0.0     | 0.0      | 50    |
| Potomac River | 15      | 13      | 04/21/80 | 7.0      | 29.0       | 2.0     | 0.0     | 0.0   | 0.0     | 0.0      | 30    |
| Potomac River | 15      | 13      | 04/22/82 | 21.0     | 61.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 26    |
| Potomac River | 15      | 13      | 04/28/88 | 10.0     | 8.0        | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 104   |
| Potomac River | 15      | 13      | 05/11/82 | 22.0     | 40.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 59    |
| Potomac River | 15      | 13      | 05/13/80 | 10.0     | 22.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 39    |
| Potomac River | 15      | 13      | 05/14/85 | 2.0      | 4.0        | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 21    |
| Potomac River | 15      | 13      | 05/16/84 | 0.1      | 0.1        | 0.1     | 0.1     | 0.1   | 0.1     | 0.1      | 39    |
| Potomac River | 15      | 13      | 05/21/86 | 4.0      | 5.0        | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 85    |
| Potomac River | 15      | 13      | 05/27/87 | 20.0     | 22.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 40    |
| Potomac River | 15      | 13      | 06/13/79 | 1.0      | 24.0       | 1.0     | 0.0     | 0.0   | 0.0     | 0.0      | 38    |
| Potomac River | 15      | 13      | 06/06/83 | 12.0     | 50.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 86    |
| Potomac River | 15      | 13      | 06/09/80 | 9.0      | 23.0       | 1.0     | 0.0     | 0.0   | 0.0     | 0.0      | 29    |
| Potomac River | 15      | 13      | 06/11/85 | 1.0      | 31.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 11    |
| Potomac River | 15      | 13      | 06/13/79 | 1.0      | 24.0       | 1.0     | 0.0     | 0.0   | 0.0     | 0.0      | 1     |
| Potomac River | 15      | 13      | 06/15/89 | 8.0      | 10.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 7     |
| Potomac River | 15      | 13      | 06/17/87 | 11.0     | 42.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 32    |
| Potomac River | 15      | 13      | 06/20/84 | 46.0     | 0.0        | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 53    |
| Potomac River | 15      | 13      | 06/25/86 | 37.0     | 61.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 94    |
| Potomac River | 15      | 13      | 06/30/81 | 4.0      | 17.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 101   |
| Potomac River | 15      | 13      | 07/01/82 | 25.0     | 42.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 32    |
| Potomac River | 15      | 13      | 07/06/83 | 2.0      | 15.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 19    |
| Potomac River | 15      | 13      | 07/07/80 | 4.0      | 1.0        | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 9     |
| Potomac River | 15      | 13      | 07/10/84 | 5.0      | 11.0       | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 16    |
| Potomac River | 15      | 13      | 07/16/85 | 9.0      | 2.0        | 0.0     | 0.0     | 0.0   | 0.0     | 0.0      | 13    |

**Table 5: Fish Metrics**

| STUDYCODE     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERES | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |     |
|---------------|---------|---------|----------|---------|------------|----------|---------|----------|-------|---------|----------|-------|-----|
|               |         |         |          |         |            |          |         |          |       |         |          | 1     | 4   |
| Potomac River | 15      | 13      | 07/18/79 | 0.0     | 4.0        | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     | 4   |
| Potomac River | 15      | 13      | 07/21/82 | 3.0     | 9.0        | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     | 13  |
| Potomac River | 15      | 13      | 07/27/89 | 8.0     | 5.0        | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6     | 13  |
| Potomac River | 15      | 13      | 08/08/84 | 10.0    | 66.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 8     | 96  |
| Potomac River | 15      | 13      | 08/15/79 | 1.0     | 11.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     | 12  |
| Potomac River | 15      | 13      | 08/25/82 | 25.0    | 113.0      | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 90    | 140 |
| Potomac River | 15      | 13      | 09/09/81 | 10.0    | 16.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5     | 31  |
| Potomac River | 15      | 13      | 09/16/87 | 12.0    | 8.0        | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 10    | 20  |
| Potomac River | 15      | 13      | 09/19/79 | 29.0    | 5.0        | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 25    | 38  |
| Potomac River | 15      | 13      | 09/28/89 | 20.0    | 6.0        | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 15    | 26  |
| Potomac River | 15      | 13      | 10/03/84 | 33.0    | 29.0       | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 18    | 63  |
| Potomac River | 15      | 13      | 10/18/83 | 77.0    | 32.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 44    | 109 |
| Potomac River | 15      | 13      | 10/23/79 | 24.0    | 16.0       | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 26    | 50  |
| Potomac River | 15      | 13      | 10/24/85 | 31.0    | 46.0       | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 21    | 78  |
| Potomac River | 15      | 13      | 10/26/89 | 19.0    | 11.0       | 2.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 11    | 36  |
| Potomac River | 15      | 13      | 11/05/81 | 18.0    | 24.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 22    | 49  |
| Potomac River | 15      | 13      | 11/08/83 | 136.0   | 66.0       | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 93    | 209 |
| Potomac River | 15      | 13      | 11/10/86 | 9.0     | 33.0       | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4     | 45  |
| Potomac River | 15      | 13      | 11/16/87 | 44.0    | 44.0       | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 26    | 90  |
| Potomac River | 15      | 13      | 11/19/79 | 19.0    | 5.0        | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 17    | 28  |
| Potomac River | 15      | 13      | 11/19/80 | 18.0    | 239.0      | 1.0      | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 91    | 259 |
| Potomac River | 15      | 13      | 12/03/86 | 42.0    | 116.0      | 9.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 32    | 167 |
| Potomac River | 15      | 13      | 12/08/87 | 68.0    | 3.0        | 3.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 44    | 76  |
| Potomac River | 15      | 13      | 12/09/82 | 49.0    | 6.0        | 0.0      | 9.0     | 0.0      | 0.0   | 0.0     | 9.0      | 42    | 66  |
| Potomac River | 15      | 13      | 12/10/80 | 67.0    | 36.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 64    | 104 |
| Potomac River | 15      | 13      | 12/10/84 | 46.0    | 52.0       | 12.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 45    | 111 |
| Potomac River | 15      | 13      | 12/12/85 | 65.0    | 4.0        | 3.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 52    | 75  |
| Potomac River | 15      | 13      | 12/17/79 | 24.0    | 8.0        | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 24    | 38  |
| Potomac River | 15      | 13      | 12/27/83 | 219.0   | 125.0      | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 232   | 358 |
| Potomac River | 11      | 13      | 01/01/75 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15      | 14      | 01/09/80 | 1.0     | 0.0        | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     | 1   |
| Potomac River | 15      | 14      | 01/17/83 | 26.0    | 60.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 32    | 88  |
| Potomac River | 15      | 14      | 01/23/89 | 13.0    | 392.0      | 3.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 42    | 409 |
| Potomac River | 15      | 14      | 02/28/80 | 1.0     | 2.0        | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     | 4   |
| Potomac River | 15      | 14      | 03/03/81 | 4.0     | 65.0       | 10.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6     | 80  |
| Potomac River | 15      | 14      | 03/05/86 | 15.0    | 5.0        | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    | 22  |
| Potomac River | 15      | 14      | 03/06/85 | 6.0     | 35.0       | 3.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 45  |
| Potomac River | 15      | 14      | 03/07/88 | 8.0     | 8.0        | 5.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 14    | 21  |
| Potomac River | 15      | 14      | 03/16/83 | 11.0    | 164.0      | 3.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 37    | 180 |

**Table 5: Fish Metrics**

**Table 5: Fish Metrics**

| STNAME        | STUDYCOD | STATION | STADATE  | ENDDATE  | SUNFISH | CYPRINIDAE | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL   |         |
|---------------|----------|---------|----------|----------|---------|------------|----------|-------|---------|----------|---------|---------|
|               |          |         |          |          |         |            |          |       |         |          | SUCKERS | PERCHEs |
| Potomac River | 15       | 14      | 10/23/79 | 17.0     | 20.0    | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 12      | 38      |
| Potomac River | 15       | 14      | 10/24/85 | 7.0      | 38.0    | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 9       | 45      |
| Potomac River | 15       | 14      | 10/26/89 | 25.0     | 73.0    | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 32      | 100     |
| Potomac River | 15       | 14      | 11/05/81 | 8.0      | 33.0    | 0.0        | 1.0      | 0.0   | 0.0     | 1.0      | 35      | 48      |
| Potomac River | 15       | 14      | 11/08/83 | 32.0     | 72.0    | 6.0        | 0.0      | 0.0   | 0.0     | 0.0      | 39      | 111     |
| Potomac River | 15       | 14      | 11/10/86 | 8.0      | 177.0   | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 9       | 216     |
| Potomac River | 15       | 14      | 11/16/87 | 27.0     | 16.0    | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 20      | 44      |
| Potomac River | 15       | 14      | 11/19/79 | 2.0      | 2.0     | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 1       | 4       |
| Potomac River | 15       | 14      | 11/19/80 | 24.0     | 261.0   | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 202     | 286     |
| Potomac River | 15       | 14      | 12/03/86 | 15.0     | 792.0   | 1.0        | 0.0      | 0.0   | 0.0     | 0.0      | 35      | 809     |
| Potomac River | 15       | 14      | 12/08/87 | 11.0     | 13.0    | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 9       | 24      |
| Potomac River | 15       | 14      | 12/09/82 | 29.0     | 75.0    | 0.0        | 5.0      | 0.0   | 0.0     | 5.0      | 80      | 110     |
| Potomac River | 15       | 14      | 12/10/80 | 19.0     | 224.0   | 1.0        | 0.0      | 0.0   | 0.0     | 0.0      | 108     | 246     |
| Potomac River | 15       | 14      | 12/10/84 | 47.0     | 207.0   | 13.0       | 0.0      | 0.0   | 0.0     | 0.0      | 35      | 267     |
| Potomac River | 15       | 14      | 12/12/85 | 13.0     | 71.0    | 2.0        | 1.0      | 0.0   | 0.0     | 1.0      | 23      | 87      |
| Potomac River | 15       | 14      | 12/17/79 | 26.0     | 8.0     | 1.0        | 0.0      | 0.0   | 0.0     | 0.0      | 29      | 45      |
| Potomac River | 15       | 14      | 12/27/83 | 52.0     | 114.0   | 2.0        | 0.0      | 0.0   | 0.0     | 0.0      | 59      | 169     |
| Potomac River | 11       | 14      | 01/01/75 | 12/31/79 | 0.1     | 0.1        | 0.1      | 0.1   | 0.1     | 0.0      | 0       | 0       |
| Potomac River | 15       | 15      | 01/09/80 | 0.0      | 2.0     | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 1       | 2       |
| Potomac River | 15       | 15      | 01/17/83 | 7.0      | 221.0   | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 35      | 229     |
| Potomac River | 15       | 15      | 01/23/89 | 4.0      | 479.0   | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 88      | 485     |
| Potomac River | 15       | 15      | 02/28/80 | 1.0      | 3.0     | 1.0        | 0.0      | 0.0   | 0.0     | 0.0      | 0       | 5       |
| Potomac River | 15       | 15      | 03/03/81 | 2.0      | 233.0   | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 32      | 266     |
| Potomac River | 15       | 15      | 03/05/86 | 0.0      | 63.0    | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 11      | 63      |
| Potomac River | 15       | 15      | 03/06/85 | 1.0      | 114.0   | 7.0        | 0.0      | 0.0   | 0.0     | 0.0      | 1       | 122     |
| Potomac River | 15       | 15      | 03/07/88 | 44.0     | 11.0    | 9.0        | 0.0      | 0.0   | 0.0     | 0.0      | 38      | 64      |
| Potomac River | 15       | 15      | 03/16/83 | 0.0      | 209.0   | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 95      | 218     |
| Potomac River | 15       | 15      | 03/26/87 | 8.0      | 4.0     | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 6       | 21      |
| Potomac River | 15       | 15      | 04/06/81 | 5.0      | 14.0    | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 6       | 62      |
| Potomac River | 15       | 15      | 04/09/85 | 9.0      | 75.0    | 7.0        | 0.0      | 0.0   | 0.0     | 0.0      | 5       | 91      |
| Potomac River | 15       | 15      | 04/13/89 | 31.0     | 265.0   | 1.0        | 0.0      | 0.0   | 0.0     | 0.0      | 40      | 299     |
| Potomac River | 15       | 15      | 04/21/80 | 5.0      | 28.0    | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 9       | 40      |
| Potomac River | 15       | 15      | 04/22/82 | 1.0      | 227.0   | 2.0        | 1.0      | 0.0   | 0.0     | 1.0      | 114     | 289     |
| Potomac River | 15       | 15      | 04/28/88 | 9.0      | 20.0    | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 4       | 33      |
| Potomac River | 15       | 15      | 05/11/82 | 5.0      | 24.0    | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 14      | 164     |
| Potomac River | 15       | 15      | 05/13/80 | 4.0      | 159.0   | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 0       | 4       |
| Potomac River | 15       | 15      | 05/14/85 | 3.0      | 0.0     | 1.0        | 0.0      | 0.0   | 0.0     | 0.0      | 0       | 4       |
| Potomac River | 15       | 15      | 05/16/84 | 2.0      | 39.0    | 2.0        | 0.0      | 0.0   | 0.0     | 0.0      | 13      | 43      |
| Potomac River | 15       | 15      | 05/21/86 | 5.0      | 19.0    | 0.0        | 0.0      | 0.0   | 0.0     | 0.0      | 11      | 34      |

**Table 5: Fish Metrics**

| STUDYCOD      | STATION | STADATE | ENDDATE    | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|------------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| STRNAME       |         |         |            |         |            |         |         |          |       |         |          |       |
| Potomac River | 15      | 15      | 0/5/27/87  | 20.0    | 21.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 43    |
| Potomac River | 15      | 15      | 0/6/06/83  | 2.0     | 142.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 85       | 145   |
| Potomac River | 15      | 15      | 0/6/09/80  | 5.0     | 41.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 48    |
| Potomac River | 15      | 15      | 0/6/11/85  | 4.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 7     |
| Potomac River | 15      | 15      | 0/6/13/79  | 8.0     | 54.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 65    |
| Potomac River | 15      | 15      | 0/6/15/89  | 11.0    | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 33    |
| Potomac River | 15      | 15      | 0/6/17/87  | 28.0    | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 63    |
| Potomac River | 15      | 15      | 0/6/20/84  | 82.0    | 56.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 55       | 139   |
| Potomac River | 15      | 15      | 0/6/25/86  | 2.0     | 60.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 0        | 63    |
| Potomac River | 15      | 15      | 0/6/30/81  | 17.0    | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 51    |
| Potomac River | 15      | 15      | 0/7/01/82  | 22.0    | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 36    |
| Potomac River | 15      | 15      | 0/7/06/83  | 6.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 13    |
| Potomac River | 15      | 15      | 0/7/07/80  | 22.0    | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 20       | 33    |
| Potomac River | 15      | 15      | 0/7/10/84  | 8.0     | 24.0       | 8.0     | 1.0     | 0.0      | 0.0   | 1.0     | 16       | 41    |
| Potomac River | 15      | 15      | 0/7/16/85  | 1.0     | 59.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 61    |
| Potomac River | 15      | 15      | 0/7/18/79  | 7.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 10    |
| Potomac River | 15      | 15      | 0/7/21/82  | 12.0    | 83.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 47       | 96    |
| Potomac River | 15      | 15      | 0/7/27/89  | 8.0     | 8.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 17    |
| Potomac River | 15      | 15      | 0/8/08/84  | 13.0    | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 40    |
| Potomac River | 15      | 15      | 0/8/15/79  | 4.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 8     |
| Potomac River | 15      | 15      | 0/8/25/82  | 12.0    | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 26    |
| Potomac River | 15      | 15      | 0/9/09/81  | 6.0     | 19.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 54    |
| Potomac River | 15      | 15      | 0/9/16/87  | 31.0    | 76.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 23       | 108   |
| Potomac River | 15      | 15      | 0/9/19/79  | 6.0     | 74.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 80    |
| Potomac River | 15      | 15      | 0/9/28/89  | 20.0    | 20.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 40    |
| Potomac River | 15      | 15      | 10/03/84   | 22.0    | 18.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 40    |
| Potomac River | 15      | 15      | 10/1/18/83 | 4.0     | 51.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 55    |
| Potomac River | 15      | 15      | 10/2/3/79  | 13.0    | 11.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 26    |
| Potomac River | 15      | 15      | 10/24/85   | 18.0    | 96.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 54       | 227   |
| Potomac River | 15      | 15      | 10/26/89   | 24.0    | 11.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 38    |
| Potomac River | 15      | 15      | 11/0/4/81  | 17.0    | 115.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 59       | 141   |
| Potomac River | 15      | 15      | 11/0/8/83  | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0        | 0     |
| Potomac River | 15      | 15      | 11/1/16/87 | 21.0    | 71.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 21       | 95    |
| Potomac River | 15      | 15      | 11/1/9/79  | 1.0     | 3.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 6     |
| Potomac River | 15      | 15      | 11/1/19/80 | 19.0    | 182.0      | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 24       | 203   |
| Potomac River | 15      | 15      | 12/0/3/86  | 25.0    | 843.0      | 23.0    | 0.0     | 0.0      | 0.0   | 0.0     | 40       | 891   |
| Potomac River | 15      | 15      | 12/0/8/87  | 2.0     | 50.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 52    |
| Potomac River | 15      | 15      | 12/0/9/82  | 2.0     | 180.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 65       | 184   |

Table 5: Fish Metrics

| STUDYCODE     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLENT | TOTAL |     |     |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|--------|-------|-----|-----|
|               |         |         |          |         |            |         |         |          |       |         |        | 15    | 15  | 15  |
| Potomac River | 15      | 15      | 12/10/80 | 9.0     | 89.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 1     | 1   | 24  |
| Potomac River | 15      | 15      | 12/10/84 | 3.0     | 1.0        | 20.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 7     | 7   | 79  |
| Potomac River | 15      | 15      | 12/12/85 | 1.0     | 78.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 0     | 0   | 3   |
| Potomac River | 15      | 15      | 12/17/79 | 0.0     | 2.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 0     | 0   | 3   |
| Potomac River | 15      | 15      | 12/27/83 | 2.0     | 59.0       | 8.0     | 1.0     | 0.0      | 0.0   | 1.0     | 0.0    | 22    | 22  | 73  |
| Potomac River | 11      | 15      | 01/01/75 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0    | 0     | 0   | 0   |
| Potomac River | 15      | 16      | 01/09/80 | 1.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 1     | 1   | 1   |
| Potomac River | 15      | 16      | 01/17/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0    | 0     | 0   | 0   |
| Potomac River | 15      | 16      | 01/23/89 | 63.0    | 430.0      | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 97    | 97  | 496 |
| Potomac River | 15      | 16      | 02/28/80 | 1.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 1     | 1   | 3   |
| Potomac River | 15      | 16      | 03/03/81 | 4.0     | 391.0      | 1.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0    | 113   | 113 | 398 |
| Potomac River | 15      | 16      | 03/05/86 | 0.0     | 3.0        | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0    | 1     | 1   | 4   |
| Potomac River | 15      | 16      | 03/06/85 | 2.0     | 3.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 3     | 3   | 8   |
| Potomac River | 15      | 16      | 03/07/88 | 33.0    | 39.0       | 9.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 32    | 32  | 81  |
| Potomac River | 15      | 16      | 03/16/83 | 4.0     | 92.0       | 3.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0    | 16    | 16  | 100 |
| Potomac River | 15      | 16      | 03/26/87 | 7.0     | 104.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 18    | 18  | 116 |
| Potomac River | 15      | 16      | 04/06/81 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0    | 0     | 0   | 0   |
| Potomac River | 15      | 16      | 04/09/85 | 3.0     | 8.0        | 5.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 1     | 1   | 16  |
| Potomac River | 15      | 16      | 04/13/89 | 32.0    | 77.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 39    | 39  | 119 |
| Potomac River | 15      | 16      | 04/21/80 | 4.0     | 37.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 17    | 17  | 44  |
| Potomac River | 15      | 16      | 04/22/82 | 7.0     | 388.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 128   | 128 | 400 |
| Potomac River | 15      | 16      | 04/28/88 | 19.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 6     | 6   | 19  |
| Potomac River | 15      | 16      | 05/11/82 | 4.0     | 20.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 13    | 13  | 26  |
| Potomac River | 15      | 16      | 05/13/80 | 1.0     | 52.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 2     | 2   | 55  |
| Potomac River | 15      | 16      | 05/14/85 | 3.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 2     | 2   | 8   |
| Potomac River | 15      | 16      | 05/16/84 | 12.0    | 65.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 17    | 17  | 79  |
| Potomac River | 15      | 16      | 05/21/86 | 0.0     | 16.0       | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0    | 0     | 0   | 17  |
| Potomac River | 15      | 16      | 05/27/87 | 27.0    | 39.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 27    | 27  | 69  |
| Potomac River | 15      | 16      | 06/06/83 | 5.0     | 34.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 10    | 10  | 41  |
| Potomac River | 15      | 16      | 06/09/80 | 2.0     | 36.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 2     | 2   | 40  |
| Potomac River | 15      | 16      | 06/11/85 | 1.0     | 24.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.1     | 0.1    | 1     | 1   | 29  |
| Potomac River | 15      | 16      | 06/13/79 | 8.0     | 4.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 25    | 25  | 103 |
| Potomac River | 15      | 16      | 06/15/89 | 13.0    | 7.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 6     | 6   | 14  |
| Potomac River | 15      | 16      | 06/17/87 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0    | 0     | 0   | 0   |
| Potomac River | 15      | 16      | 06/20/84 | 29.0    | 74.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 25    | 25  | 103 |
| Potomac River | 15      | 16      | 06/25/86 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0    | 0     | 0   | 0   |
| Potomac River | 15      | 16      | 06/30/81 | 15.0    | 133.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 8     | 8   | 27  |
| Potomac River | 15      | 16      | 07/01/82 | 8.0     | 7.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 5     | 5   | 211 |
| Potomac River | 15      | 16      | 07/06/83 | 4.0     | 8.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0    | 2     | 2   | 13  |

Table 5: Fish Metrics

| STRNAME       | STUDYCOD | STATION | STADATE  | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKER | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |     |
|---------------|----------|---------|----------|----------|---------|------------|--------|---------|----------|-------|---------|----------|-------|-----|
|               |          |         |          |          |         |            |        |         |          |       |         |          | 0.0   | 10  |
| Potomac River | 15       | 16      |          | 07/07/80 | 9.0     | 3.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4     | 20  |
| Potomac River | 15       | 16      |          | 07/10/84 | 5.0     | 13.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     | 36  |
| Potomac River | 15       | 16      |          | 07/16/85 | 4.0     | 32.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     | 59  |
| Potomac River | 15       | 16      |          | 07/18/79 | 1.0     | 58.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     | 15  |
| Potomac River | 15       | 16      |          | 07/21/82 | 9.0     | 54.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15       | 16      |          | 07/27/89 | 3.0     | 3.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     | 6   |
| Potomac River | 15       | 16      |          | 08/08/84 | 30.0    | 66.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 8     | 96  |
| Potomac River | 15       | 16      |          | 08/15/79 | 10.0    | 14.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 27  |
| Potomac River | 15       | 16      |          | 08/25/82 | 0.1     | 0.1        | 0.1    | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15       | 16      |          | 09/10/81 | 31.0    | 6.0        | 1.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 20    | 40  |
| Potomac River | 15       | 16      |          | 09/16/87 | 19.0    | 53.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 12    | 75  |
| Potomac River | 15       | 16      |          | 09/19/79 | 13.0    | 26.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 8     | 41  |
| Potomac River | 15       | 16      |          | 09/28/89 | 33.0    | 35.0       | 0.0    | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 17    | 69  |
| Potomac River | 15       | 16      |          | 10/03/84 | 0.1     | 0.1        | 0.1    | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15       | 16      |          | 10/18/83 | 0.1     | 0.1        | 0.1    | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15       | 16      |          | 10/23/79 | 11.0    | 7.0        | 7.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 25  |
| Potomac River | 15       | 16      |          | 10/24/85 | 23.0    | 43.0       | 4.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 12    | 71  |
| Potomac River | 15       | 16      |          | 10/26/89 | 12.0    | 84.0       | 2.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    | 100 |
| Potomac River | 15       | 16      |          | 11/04/81 | 0.1     | 0.1        | 0.1    | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15       | 16      |          | 11/08/83 | 15.0    | 27.0       | 1.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 14    | 46  |
| Potomac River | 15       | 16      |          | 11/10/86 | 5.0     | 115.0      | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 9     | 123 |
| Potomac River | 15       | 16      |          | 11/17/87 | 24.0    | 61.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 11    | 85  |
| Potomac River | 15       | 16      |          | 11/19/79 | 2.0     | 5.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     | 7   |
| Potomac River | 15       | 16      |          | 11/19/80 | 0.1     | 0.1        | 0.1    | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15       | 16      |          | 12/03/86 | 35.0    | 138.0      | 19.0   | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 57    | 196 |
| Potomac River | 15       | 16      |          | 12/08/87 | 18.0    | 15.0       | 7.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 11    | 42  |
| Potomac River | 15       | 16      |          | 12/09/82 | 0.1     | 0.1        | 0.1    | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15       | 16      |          | 12/10/80 | 0.1     | 0.1        | 0.1    | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15       | 16      |          | 12/10/84 | 6.0     | 5.0        | 4.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     | 15  |
| Potomac River | 15       | 16      |          | 12/12/85 | 6.0     | 33.0       | 1.0    | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 16    | 41  |
| Potomac River | 15       | 16      |          | 12/17/79 | 1.0     | 3.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     | 5   |
| Potomac River | 15       | 16      |          | 12/27/83 | 2.0     | 23.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     | 15  |
| Potomac River | 11       | 16A     | 01/01/75 | 12/31/79 | 0.1     | 0.1        | 0.1    | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 11       | 16B     | 01/01/75 | 12/31/79 | 0.1     | 0.1        | 0.1    | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15       | 17      |          | 01/09/80 | 3.0     | 8.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     | 5   |
| Potomac River | 15       | 17      |          | 01/17/83 | 0.1     | 0.1        | 0.1    | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15       | 17      |          | 01/23/89 | 4.0     | 15.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0     | 21  |
| Potomac River | 15       | 17      |          | 02/28/80 | 2.0     | 2.0        | 1.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4     | 5   |
| Potomac River | 15       | 17      |          | 03/03/81 | 8.0     | 2.0        | 1.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1.0   | 53  |

**Table 5: Fish Metrics**

| STUDY COD     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 17      | 03/05/86 | 0.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| Potomac River | 15      | 17      | 03/06/85 | 2.0     | 6.0        | 1.0     | 0.0     | 0.0      | 0.0   | 1.0     | 1        | 10    |
| Potomac River | 15      | 17      | 03/07/88 | 9.0     | 15.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 26    |
| Potomac River | 15      | 17      | 03/16/83 | 8.0     | 122.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 21       | 132   |
| Potomac River | 15      | 17      | 03/26/87 | 1.0     | 56.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 57    |
| Potomac River | 15      | 17      | 04/06/81 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 17      | 04/09/85 | 5.0     | 65.0       | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 73    |
| Potomac River | 15      | 17      | 04/13/89 | 22.0    | 64.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 21       | 89    |
| Potomac River | 15      | 17      | 04/21/80 | 0.0     | 67.0       | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 71    |
| Potomac River | 15      | 17      | 04/22/82 | 6.0     | 192.0      | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 81       | 213   |
| Potomac River | 15      | 17      | 04/28/88 | 6.0     | 58.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 66    |
| Potomac River | 15      | 17      | 05/11/82 | 9.0     | 160.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 32       | 170   |
| Potomac River | 15      | 17      | 05/13/80 | 3.0     | 28.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 32    |
| Potomac River | 15      | 17      | 05/14/85 | 1.0     | 18.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 19    |
| Potomac River | 15      | 17      | 05/16/84 | 14.0    | 120.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 65       | 139   |
| Potomac River | 15      | 17      | 05/21/86 | 0.0     | 30.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 31    |
| Potomac River | 15      | 17      | 05/27/87 | 21.0    | 183.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 40       | 205   |
| Potomac River | 15      | 17      | 06/06/83 | 2.0     | 53.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 62    |
| Potomac River | 15      | 17      | 06/09/80 | 4.0     | 8.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 17    |
| Potomac River | 15      | 17      | 06/11/85 | 1.0     | 21.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 28    |
| Potomac River | 15      | 17      | 06/13/79 | 12.0    | 30.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 45    |
| Potomac River | 15      | 17      | 06/15/89 | 12.0    | 15.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 28    |
| Potomac River | 15      | 17      | 06/17/87 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 17      | 06/20/84 | 21.0    | 76.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 20       | 99    |
| Potomac River | 15      | 17      | 06/25/86 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 17      | 06/30/81 | 12.0    | 7.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 20    |
| Potomac River | 15      | 17      | 07/01/82 | 16.0    | 28.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 21       | 48    |
| Potomac River | 15      | 17      | 07/06/83 | 7.0     | 29.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 38    |
| Potomac River | 15      | 17      | 07/07/80 | 4.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 7     |
| Potomac River | 15      | 17      | 07/10/84 | 5.0     | 10.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 10    |
| Potomac River | 15      | 17      | 07/16/85 | 6.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 18    |
| Potomac River | 15      | 17      | 07/18/79 | 2.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 31    |
| Potomac River | 15      | 17      | 07/21/82 | 8.0     | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 22       | 37    |
| Potomac River | 15      | 17      | 08/08/84 | 18.0    | 36.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 56    |
| Potomac River | 15      | 17      | 08/15/79 | 9.0     | 20.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 35    |
| Potomac River | 15      | 17      | 08/25/82 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 17      | 09/10/81 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 17      | 09/16/87 | 7.0     | 107.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 116   |
| Potomac River | 15      | 17      | 09/19/79 | 9.0     | 17.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 35    |

Table 5: Fish Metrics

| STATION       | STUDYCOD | STADATE | ENDDATE  | SUNFISH  | CYPRINIDAE | SCULPINS | PERCHES | SUCKERS | DARTERS | TOLERANT | TOTAL |
|---------------|----------|---------|----------|----------|------------|----------|---------|---------|---------|----------|-------|
| Potomac River | 15       | 17      | 09/28/89 | 11.0     | 16.0       | 0.0      | 0.0     | 0.0     | 0.0     | 0.0      | 3     |
| Potomac River | 15       | 17      | 10/03/84 | 0.1      | 0.1        | 0.1      | 0.1     | 0.1     | 0.1     | 0.0      | 0     |
| Potomac River | 15       | 17      | 10/18/83 | 0.1      | 0.1        | 0.1      | 0.1     | 0.1     | 0.1     | 0.0      | 0     |
| Potomac River | 15       | 17      | 10/23/79 | 16.0     | 31.0       | 4.0      | 0.0     | 0.0     | 0.0     | 0.0      | 54    |
| Potomac River | 15       | 17      | 10/24/85 | 11.0     | 59.0       | 2.0      | 0.0     | 0.0     | 0.0     | 0.0      | 72    |
| Potomac River | 15       | 17      | 10/26/89 | 5.0      | 25.0       | 1.0      | 0.0     | 0.0     | 0.0     | 0.0      | 31    |
| Potomac River | 15       | 17      | 11/04/81 | 0.1      | 0.1        | 0.1      | 0.1     | 0.1     | 0.1     | 0.0      | 0     |
| Potomac River | 15       | 17      | 11/08/83 | 0.1      | 0.1        | 0.1      | 0.1     | 0.1     | 0.1     | 0.0      | 0     |
| Potomac River | 15       | 17      | 11/10/86 | 0.1      | 0.1        | 0.1      | 0.1     | 0.1     | 0.1     | 0.0      | 0     |
| Potomac River | 15       | 17      | 11/17/87 | 9.0      | 3.0        | 2.0      | 0.0     | 0.0     | 0.0     | 0.0      | 2     |
| Potomac River | 15       | 17      | 11/19/79 | 9.0      | 28.0       | 1.0      | 0.0     | 0.0     | 0.0     | 0.0      | 40    |
| Potomac River | 15       | 17      | 11/19/80 | 0.1      | 0.1        | 0.1      | 0.1     | 0.1     | 0.1     | 0.0      | 0     |
| Potomac River | 15       | 17      | 12/03/86 | 7.0      | 132.0      | 21.0     | 0.0     | 0.0     | 0.0     | 0.0      | 160   |
| Potomac River | 15       | 17      | 12/08/87 | 4.0      | 65.0       | 0.0      | 0.0     | 0.0     | 0.0     | 0.0      | 69    |
| Potomac River | 15       | 17      | 12/12/85 | 6.0      | 148.0      | 6.0      | 1.0     | 0.0     | 0.0     | 1.0      | 161   |
| Potomac River | 15       | 17      | 12/17/79 | 2.0      | 127.0      | 0.0      | 0.0     | 0.0     | 0.0     | 0.0      | 129   |
| Potomac River | 15       | 17      | 12/27/83 | 28.0     | 205.0      | 0.0      | 0.0     | 1.0     | 0.0     | 0.0      | 234   |
| Potomac River | 11       | 17      | 01/01/75 | 12/31/79 | 0.1        | 0.1      | 0.1     | 0.1     | 0.1     | 0.0      | 7     |
| Potomac River | 15       | 18      | 01/09/80 | 9.0      | 23.0       | 1.0      | 0.0     | 0.0     | 0.0     | 1.0      | 66    |
| Potomac River | 15       | 18      | 01/17/83 | 25.0     | 28.0       | 0.0      | 0.0     | 0.0     | 0.0     | 0.0      | 34    |
| Potomac River | 15       | 18      | 01/23/89 | 47.0     | 799.0      | 0.0      | 1.0     | 0.0     | 0.0     | 1.0      | 847   |
| Potomac River | 15       | 18      | 02/28/80 | 1.0      | 13.0       | 3.0      | 0.0     | 0.0     | 0.0     | 0.0      | 19    |
| Potomac River | 15       | 18      | 03/03/81 | 5.0      | 118.0      | 0.0      | 0.0     | 0.0     | 0.0     | 0.0      | 127   |
| Potomac River | 15       | 18      | 03/05/86 | 1.0      | 15.0       | 0.0      | 1.0     | 0.0     | 0.0     | 1.0      | 60    |
| Potomac River | 15       | 18      | 03/06/85 | 1.0      | 13.0       | 0.0      | 0.0     | 0.0     | 0.0     | 0.0      | 17    |
| Potomac River | 15       | 18      | 03/07/88 | 37.0     | 44.0       | 1.0      | 0.0     | 0.0     | 0.0     | 1.0      | 82    |
| Potomac River | 15       | 18      | 03/16/83 | 4.0      | 14.0       | 0.0      | 0.0     | 0.0     | 0.0     | 0.0      | 25    |
| Potomac River | 15       | 18      | 03/26/87 | 48.0     | 89.0       | 2.0      | 1.0     | 0.0     | 0.0     | 1.0      | 145   |
| Potomac River | 15       | 18      | 04/06/81 | 10.0     | 90.0       | 0.0      | 0.0     | 0.0     | 0.0     | 0.0      | 28    |
| Potomac River | 15       | 18      | 04/09/85 | 9.0      | 0.0        | 0.0      | 0.0     | 0.0     | 0.0     | 0.0      | 4     |
| Potomac River | 15       | 18      | 04/13/89 | 18.0     | 192.0      | 1.0      | 0.0     | 0.0     | 0.0     | 0.0      | 21    |
| Potomac River | 15       | 18      | 04/21/80 | 7.0      | 37.0       | 2.0      | 0.0     | 0.0     | 0.0     | 0.0      | 47    |
| Potomac River | 15       | 18      | 04/22/82 | 7.0      | 191.0      | 2.0      | 0.0     | 0.0     | 0.0     | 0.0      | 112   |
| Potomac River | 15       | 18      | 04/28/88 | 33.0     | 32.0       | 0.0      | 0.0     | 0.0     | 0.0     | 0.0      | 267   |
| Potomac River | 15       | 18      | 05/11/82 | 14.0     | 47.0       | 0.0      | 0.0     | 0.0     | 0.0     | 0.0      | 65    |
| Potomac River | 15       | 18      | 05/13/80 | 6.0      | 12.0       | 0.0      | 0.0     | 0.0     | 0.0     | 0.0      | 20    |

**Table 5: Fish Metrics**

| STUDYCODE     | STATION | STADATE | ENDDATE  | SURFISH | CYPRINIDAE | SUCCERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |     |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|-----|
|               |         |         |          |         |            |         |         |          |       |         |          | 0     | 0   |
| Potomac River | 15      | 18      | 05/14/85 | 0.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0     | 4   |
| Potomac River | 15      | 18      | 05/16/84 | 17.0    | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 11    | 30  |
| Potomac River | 15      | 18      | 05/21/86 | 1.0     | 50.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     | 53  |
| Potomac River | 15      | 18      | 05/27/87 | 20.0    | 75.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 22    | 97  |
| Potomac River | 15      | 18      | 06/06/83 | 8.0     | 56.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 16    | 67  |
| Potomac River | 15      | 18      | 06/09/80 | 2.0     | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4     | 14  |
| Potomac River | 15      | 18      | 06/11/85 | 10.0    | 34.0       | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 5     | 49  |
| Potomac River | 15      | 18      | 06/13/79 | 5.0     | 19.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     | 28  |
| Potomac River | 15      | 18      | 06/15/89 | 24.0    | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 15    | 32  |
| Potomac River | 15      | 18      | 06/17/87 | 12.0    | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 58  |
| Potomac River | 15      | 18      | 06/20/84 | 32.0    | 34.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 24    | 67  |
| Potomac River | 15      | 18      | 06/25/86 | 15.0    | 54.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 12    | 69  |
| Potomac River | 15      | 18      | 06/30/81 | 7.0     | 17.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 16    | 35  |
| Potomac River | 15      | 18      | 07/01/82 | 4.0     | 29.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 10    | 36  |
| Potomac River | 15      | 18      | 07/06/83 | 7.0     | 5.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     | 15  |
| Potomac River | 15      | 18      | 07/07/80 | 5.0     | 5.0        | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 6     | 11  |
| Potomac River | 15      | 18      | 07/10/84 | 6.0     | 8.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 17  |
| Potomac River | 15      | 18      | 07/16/85 | 30.0    | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 24    | 42  |
| Potomac River | 15      | 18      | 07/18/79 | 4.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 20  |
| Potomac River | 15      | 18      | 07/21/82 | 18.0    | 15.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 22    | 41  |
| Potomac River | 15      | 18      | 07/27/89 | 4.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     | 10  |
| Potomac River | 15      | 18      | 08/08/84 | 31.0    | 41.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 20    | 72  |
| Potomac River | 15      | 18      | 08/15/79 | 4.0     | 6.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6     | 12  |
| Potomac River | 15      | 18      | 08/25/82 | 19.0    | 45.0       | 0.0     | 2.0     | 0.0      | 0.0   | 0.0     | 2.0      | 23    | 78  |
| Potomac River | 15      | 18      | 09/10/81 | 21.0    | 12.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 23    | 39  |
| Potomac River | 15      | 18      | 09/16/87 | 14.0    | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 18    | 40  |
| Potomac River | 15      | 18      | 09/19/79 | 26.0    | 14.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 23    | 45  |
| Potomac River | 15      | 18      | 09/28/89 | 8.0     | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5     | 19  |
| Potomac River | 15      | 18      | 10/03/84 | 24.0    | 67.0       | 5.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 29    | 96  |
| Potomac River | 15      | 18      | 10/18/83 | 6.0     | 66.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 12    | 77  |
| Potomac River | 15      | 18      | 10/23/79 | 10.0    | 10.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 11    | 23  |
| Potomac River | 15      | 18      | 10/24/85 | 10.0    | 53.0       | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 18    | 71  |
| Potomac River | 15      | 18      | 10/26/89 | 16.0    | 11.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 14    | 30  |
| Potomac River | 15      | 18      | 11/04/81 | 6.0     | 45.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 14    | 59  |
| Potomac River | 15      | 18      | 11/08/83 | 11.0    | 48.0       | 1.0     | 2.0     | 0.0      | 0.0   | 0.0     | 1.0      | 17    | 64  |
| Potomac River | 15      | 18      | 11/10/86 | 36.0    | 648.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 62    | 684 |
| Potomac River | 15      | 18      | 11/16/87 | 41.0    | 72.0       | 10.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 27    | 123 |
| Potomac River | 15      | 18      | 11/19/79 | 15.0    | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 18    | 36  |
| Potomac River | 15      | 18      | 11/19/80 | 4.0     | 156.0      | 0.0     | 4.0     | 0.0      | 0.0   | 0.0     | 0.0      | 24    | 165 |

Table 5: Fish Metrics

| STUDY COD | STATION | STADATE  | SUNFISH  | TROUT      |         |         | DARTERS  |       | TOLERANT |          | TOTAL |
|-----------|---------|----------|----------|------------|---------|---------|----------|-------|----------|----------|-------|
|           |         |          |          | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS  | TOLERANT |       |
| 15        | 18      | 12/03/86 | 14.0     | 245.0      | 10.0    | 0.0     | 0.0      | 0.0   | 0.0      | 43       | 270   |
| 15        | 18      | 12/08/87 | 4.0      | 8.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 10       | 14    |
| 15        | 18      | 12/09/82 | 15.0     | 77.0       | 0.0     | 2.0     | 0.0      | 0.0   | 2.0      | 58       | 100   |
| 15        | 18      | 12/10/80 | 6.0      | 101.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0      | 22       | 115   |
| 15        | 18      | 12/10/84 | 9.0      | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 5        | 10    |
| 15        | 18      | 12/12/85 | 20.0     | 17.0       | 0.0     | 7.0     | 0.0      | 0.0   | 7.0      | 35       | 46    |
| 15        | 18      | 12/17/79 | 0.0      | 1.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0      | 1        | 4     |
| 15        | 18      | 12/27/83 | 22.0     | 72.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0      | 25       | 96    |
| 11        | 18      | 01/01/75 | 12/31/79 | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0      | 0        | 0     |
| 15        | 19      | 01/09/80 | 2.0      | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 2        | 14    |
| 15        | 19      | 01/17/83 | 12.0     | 45.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 18       | 61    |
| 15        | 19      | 01/23/89 | 6.0      | 149.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 15       | 155   |
| 15        | 19      | 02/28/80 | 0.0      | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 2        | 5     |
| 15        | 19      | 03/03/81 | 10.0     | 197.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0      | 89       | 210   |
| 15        | 19      | 03/05/86 | 5.0      | 110.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 11       | 25    |
| 15        | 19      | 03/06/85 | 0.0      | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 0        | 1     |
| 15        | 19      | 03/07/88 | 19.0     | 179.0      | 4.0     | 0.0     | 0.0      | 0.0   | 0.0      | 39       | 202   |
| 15        | 19      | 03/16/83 | 1.0      | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 13       | 95    |
| 15        | 19      | 03/26/87 | 4.0      | 16.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 2        | 20    |
| 15        | 19      | 04/06/81 | 6.0      | 113.0      | 0.0     | 3.0     | 0.0      | 0.0   | 3.0      | 44       | 142   |
| 15        | 19      | 04/09/85 | 5.0      | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 1        | 19    |
| 15        | 19      | 04/13/89 | 9.0      | 86.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 13       | 95    |
| 15        | 19      | 04/21/80 | 7.0      | 31.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 6        | 38    |
| 15        | 19      | 04/22/82 | 16.0     | 130.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0      | 57       | 155   |
| 15        | 19      | 04/28/88 | 13.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 5        | 24    |
| 15        | 19      | 05/11/82 | 9.0      | 37.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 30       | 62    |
| 15        | 19      | 05/13/80 | 5.0      | 107.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 7        | 113   |
| 15        | 19      | 05/14/85 | 2.0      | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 2        | 11    |
| 15        | 19      | 05/16/84 | 18.0     | 28.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 18       | 54    |
| 15        | 19      | 05/21/86 | 6.0      | 22.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 12       | 34    |
| 15        | 19      | 05/27/87 | 16.0     | 33.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 21       | 49    |
| 15        | 19      | 06/06/83 | 12.0     | 30.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 12       | 46    |
| 15        | 19      | 06/15/89 | 10.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 3        | 16    |
| 15        | 19      | 06/17/87 | 17.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 11       | 36    |
| 15        | 19      | 06/20/84 | 50.0     | 31.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 34       | 81    |
| 15        | 19      | 06/25/86 | 52.0     | 38.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0      | 3.0      | 95    |

**Table 5:** Fish Metrics

**Table 5: Fish Metrics**

| STNAME        | STATION | STUDYCOD | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCIES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |     |
|---------------|---------|----------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|-----|
|               |         |          |          |         |            |         |         |          |       |         |          | 1     | 2   |
| Potomac River | 15      | 2        | 03/04/81 | 0.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     | 3   |
| Potomac River | 15      | 2        | 03/05/86 | 0.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     | 1   |
| Potomac River | 15      | 2        | 03/06/85 | 0.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0     | 1   |
| Potomac River | 15      | 2        | 03/07/88 | 3.0     | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     | 14  |
| Potomac River | 15      | 2        | 03/16/83 | 1.0     | 49.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 19    | 52  |
| Potomac River | 15      | 2        | 03/26/87 | 14.0    | 2.0        | 4.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 13    | 23  |
| Potomac River | 15      | 2        | 04/06/81 | 1.0     | 18.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     | 19  |
| Potomac River | 15      | 2        | 04/09/85 | 0.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     | 1   |
| Potomac River | 15      | 2        | 04/14/89 | 7.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     | 10  |
| Potomac River | 15      | 2        | 04/21/80 | 2.0     | 0.0        | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     | 7   |
| Potomac River | 15      | 2        | 04/22/82 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     | 0   |
| Potomac River | 15      | 2        | 04/28/88 | 7.0     | 7.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     | 17  |
| Potomac River | 15      | 2        | 05/11/82 | 1.0     | 21.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 24  |
| Potomac River | 15      | 2        | 05/13/80 | 0.0     | 56.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4     | 57  |
| Potomac River | 15      | 2        | 05/14/85 | 0.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0     | 1   |
| Potomac River | 15      | 2        | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     | 0   |
| Potomac River | 15      | 2        | 05/21/86 | 0.0     | 12.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     | 12  |
| Potomac River | 15      | 2        | 05/27/87 | 6.0     | 62.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 9     | 68  |
| Potomac River | 15      | 2        | 06/06/83 | 1.0     | 16.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0     | 17  |
| Potomac River | 15      | 2        | 06/09/80 | 2.0     | 7.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4     | 12  |
| Potomac River | 15      | 2        | 06/11/85 | 1.0     | 22.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     | 24  |
| Potomac River | 15      | 2        | 06/13/79 | 4.0     | 61.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6     | 67  |
| Potomac River | 15      | 2        | 06/16/89 | 9.0     | 29.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 11    | 40  |
| Potomac River | 15      | 2        | 06/18/87 | 17.0    | 162.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 98    | 189 |
| Potomac River | 15      | 2        | 06/21/84 | 15.0    | 19.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 20    | 35  |
| Potomac River | 15      | 2        | 06/25/86 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     | 0   |
| Potomac River | 15      | 2        | 06/30/82 | 3.0     | 17.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 9     | 22  |
| Potomac River | 15      | 2        | 07/01/81 | 19.0    | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 31    | 55  |
| Potomac River | 15      | 2        | 07/06/83 | 0.0     | 81.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    | 81  |
| Potomac River | 15      | 2        | 07/07/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     | 0   |
| Potomac River | 15      | 2        | 07/11/84 | 4.0     | 39.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 25    | 47  |
| Potomac River | 15      | 2        | 07/16/85 | 19.0    | 14.0       | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 14    | 34  |
| Potomac River | 15      | 2        | 07/18/79 | 10.0    | 26.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 12    | 36  |
| Potomac River | 15      | 2        | 07/21/82 | 0.0     | 48.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 24    | 48  |
| Potomac River | 15      | 2        | 07/28/89 | 15.0    | 21.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    | 37  |
| Potomac River | 15      | 2        | 08/09/84 | 31.0    | 11.0       | 0.0     | 2.0     | 0.0      | 0.0   | 0.0     | 2.0      | 17    | 50  |
| Potomac River | 15      | 2        | 08/15/79 | 6.0     | 8.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6     | 18  |
| Potomac River | 15      | 2        | 08/25/82 | 0.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5     | 13  |
| Potomac River | 15      | 2        | 09/09/81 | 9.0     | 19.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 10    | 32  |

**Table 5: Fish Metrics**

| STNAME        | STATION | STDATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL     |           |           |              |          |
|---------------|---------|--------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-----------|-----------|-----------|--------------|----------|
|               |         |        |          |         |            |         |         |          |       |         |          | STUDYCODE | STUDYNAME | STUDYDATE | STUDYENDDATE | STUDYSUM |
| Potomac River | 15      | 2      | 09/17/87 | 5.0     | 44.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13        | 50        |           |              |          |
| Potomac River | 15      | 2      | 09/19/79 | 7.0     | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 10        | 36        |           |              |          |
| Potomac River | 15      | 2      | 09/29/89 | 9.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 8         | 15        |           |              |          |
| Potomac River | 15      | 2      | 10/04/84 | 6.0     | 40.0       | 1.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 6         | 48        |           |              |          |
| Potomac River | 15      | 2      | 10/18/83 | 4.0     | 0.0        | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 4         | 5         |           |              |          |
| Potomac River | 15      | 2      | 10/24/79 | 1.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2         | 9         |           |              |          |
| Potomac River | 15      | 2      | 10/25/85 | 14.0    | 151.0      | 1.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 89        | 167       |           |              |          |
| Potomac River | 15      | 2      | 10/26/89 | 2.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1         | 4         |           |              |          |
| Potomac River | 15      | 2      | 11/05/81 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0         | 0         |           |              |          |
| Potomac River | 15      | 2      | 11/08/83 | 9.0     | 27.0       | 1.0     | 3.0     | 0.0      | 0.0   | 3.0     | 0.0      | 12        | 44        |           |              |          |
| Potomac River | 15      | 2      | 11/11/86 | 11.0    | 32.0       | 5.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 20        | 48        |           |              |          |
| Potomac River | 15      | 2      | 11/17/87 | 4.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3         | 7         |           |              |          |
| Potomac River | 15      | 2      | 11/19/79 | 0.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0         | 1         |           |              |          |
| Potomac River | 15      | 2      | 11/20/80 | 0.0     | 94.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 41        | 95        |           |              |          |
| Potomac River | 15      | 2      | 12/04/86 | 0.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0         | 5         |           |              |          |
| Potomac River | 15      | 2      | 12/08/87 | 3.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1         | 10        |           |              |          |
| Potomac River | 15      | 2      | 12/09/82 | 2.0     | 29.0       | 1.0     | 3.0     | 0.0      | 0.0   | 3.0     | 0.0      | 22        | 36        |           |              |          |
| Potomac River | 15      | 2      | 12/10/80 | 2.0     | 28.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 20        | 31        |           |              |          |
| Potomac River | 15      | 2      | 12/10/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0         | 0         |           |              |          |
| Potomac River | 15      | 2      | 12/12/85 | 0.0     | 14.0       | 3.0     | 4.0     | 0.0      | 0.0   | 4.0     | 0.0      | 12        | 21        |           |              |          |
| Potomac River | 15      | 2      | 12/17/79 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0         | 0         |           |              |          |
| Potomac River | 15      | 2      | 12/27/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0         | 0         |           |              |          |
| Potomac River | 15      | 20     | 01/09/80 | 1.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0         | 1         | 16        |              |          |
| Potomac River | 15      | 20     | 01/17/83 | 5.0     | 64.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 16        | 70        |           |              |          |
| Potomac River | 15      | 20     | 01/23/89 | 31.0    | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 29        | 33        |           |              |          |
| Potomac River | 15      | 20     | 02/28/80 | 0.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0         | 2         |           |              |          |
| Potomac River | 15      | 20     | 03/03/81 | 7.0     | 150.0      | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7         | 164       |           |              |          |
| Potomac River | 15      | 20     | 03/05/86 | 0.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1         | 5         |           |              |          |
| Potomac River | 15      | 20     | 03/06/85 | 2.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0         | 3         |           |              |          |
| Potomac River | 15      | 20     | 03/07/88 | 3.0     | 1.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2         | 6         |           |              |          |
| Potomac River | 15      | 20     | 03/16/83 | 3.0     | 45.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4         | 50        |           |              |          |
| Potomac River | 15      | 20     | 03/26/87 | 3.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3         | 14        |           |              |          |
| Potomac River | 15      | 20     | 04/06/81 | 14.0    | 69.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3         | 34        |           |              |          |
| Potomac River | 15      | 20     | 04/09/85 | 6.0     | 0.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0         | 57        |           |              |          |
| Potomac River | 15      | 20     | 04/13/89 | 24.0    | 54.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 30        | 83        |           |              |          |
| Potomac River | 15      | 20     | 04/21/80 | 3.0     | 28.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3         | 34        |           |              |          |
| Potomac River | 15      | 20     | 04/22/82 | 2.0     | 154.0      | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 24        | 93        |           |              |          |
| Potomac River | 15      | 20     | 04/28/88 | 12.0    | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2         | 22        |           |              |          |
| Potomac River | 15      | 20     | 05/11/82 | 7.0     | 242.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 56        | 253       |           |              |          |

**Table 5: Fish Metrics**

| STNAME        | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 20      | 05/13/80 | 7.0     | 12.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 8        | 20    |
| Potomac River | 15      | 20      | 05/14/85 | 2.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 10    |
| Potomac River | 15      | 20      | 05/16/84 | 25.0    | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 30       | 50    |
| Potomac River | 15      | 20      | 05/21/86 | 2.0     | 33.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 38    |
| Potomac River | 15      | 20      | 05/27/87 | 59.0    | 33.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 47       | 94    |
| Potomac River | 15      | 20      | 06/06/83 | 4.0     | 15.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 28    |
| Potomac River | 15      | 20      | 06/09/80 | 4.0     | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 14    |
| Potomac River | 15      | 20      | 06/11/85 | 7.0     | 45.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 56    |
| Potomac River | 15      | 20      | 06/13/79 | 7.0     | 22.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 31    |
| Potomac River | 15      | 20      | 06/15/89 | 23.0    | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 34    |
| Potomac River | 15      | 20      | 06/17/87 | 14.0    | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 28    |
| Potomac River | 15      | 20      | 06/20/84 | 32.0    | 4.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 40    |
| Potomac River | 15      | 20      | 06/25/86 | 26.0    | 30.0       | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 26       | 58    |
| Potomac River | 15      | 20      | 06/30/81 | 7.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 36    |
| Potomac River | 15      | 20      | 07/01/82 | 18.0    | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 13       | 55    |
| Potomac River | 15      | 20      | 07/06/83 | 4.0     | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 19    |
| Potomac River | 15      | 20      | 07/07/80 | 10.0    | 7.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 19    |
| Potomac River | 15      | 20      | 07/10/84 | 14.0    | 12.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 28    |
| Potomac River | 15      | 20      | 07/16/85 | 4.0     | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 31    |
| Potomac River | 15      | 20      | 07/18/79 | 6.0     | 12.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 18    |
| Potomac River | 15      | 20      | 07/21/82 | 14.0    | 20.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 23       | 37    |
| Potomac River | 15      | 20      | 07/27/89 | 23.0    | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 37    |
| Potomac River | 15      | 20      | 08/08/84 | 25.0    | 23.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 50    |
| Potomac River | 15      | 20      | 08/15/79 | 3.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 7     |
| Potomac River | 15      | 20      | 08/25/82 | 17.0    | 31.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 12       | 53    |
| Potomac River | 15      | 20      | 09/09/81 | 11.0    | 65.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 80    |
| Potomac River | 15      | 20      | 09/16/87 | 14.0    | 20.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 34    |
| Potomac River | 15      | 20      | 09/19/79 | 12.0    | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 15    |
| Potomac River | 15      | 20      | 09/28/89 | 32.0    | 15.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 47    |
| Potomac River | 15      | 20      | 10/03/84 | 21.0    | 19.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 43    |
| Potomac River | 15      | 20      | 10/18/83 | 15.0    | 79.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 24       | 97    |
| Potomac River | 15      | 20      | 10/23/79 | 6.0     | 8.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 17    |
| Potomac River | 15      | 20      | 10/24/85 | 33.0    | 51.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 28       | 88    |
| Potomac River | 15      | 20      | 10/26/89 | 22.0    | 17.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 41    |
| Potomac River | 15      | 20      | 11/04/81 | 10.0    | 82.0       | 2.0     | 1.0     | 0.0      | 0.0   | 1.0     | 40       | 99    |
| Potomac River | 15      | 20      | 11/08/83 | 18.0    | 17.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 48    |
| Potomac River | 15      | 20      | 11/10/86 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 20      | 11/16/87 | 17.0    | 23.0       | 6.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 46    |
| Potomac River | 15      | 20      | 11/19/79 | 3.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 8     |

**Table 5: Fish Metrics**

| STUDYCODE     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 20      | 11/19/80 | 7.0     | 25.0       | 0.0      | 0.0   | 0.0     | 0.0      | 17    |
| Potomac River | 15      | 20      | 12/03/86 | 57.0    | 159.0      | 12.0     | 0.0   | 0.0     | 0.0      | 54    |
| Potomac River | 15      | 20      | 12/08/87 | 11.0    | 99.0       | 0.0      | 0.0   | 0.0     | 0.0      | 27    |
| Potomac River | 15      | 20      | 12/09/82 | 20.0    | 119.0      | 2.0      | 0.0   | 0.0     | 0.0      | 27    |
| Potomac River | 15      | 20      | 12/10/80 | 18.0    | 146.0      | 0.0      | 1.0   | 0.0     | 1.0      | 38    |
| Potomac River | 15      | 20      | 12/10/84 | 8.0     | 8.0        | 0.0      | 0.0   | 0.0     | 0.0      | 4     |
| Potomac River | 15      | 20      | 12/12/85 | 27.0    | 21.0       | 0.0      | 1.0   | 0.0     | 1.0      | 35    |
| Potomac River | 15      | 20      | 12/17/79 | 4.0     | 1.0        | 1.0      | 0.0   | 0.0     | 0.0      | 4     |
| Potomac River | 15      | 20      | 12/27/83 | 3.0     | 26.0       | 0.0      | 0.0   | 0.0     | 0.0      | 9     |
| Potomac River | 15      | 21      | 01/09/80 | 0.0     | 3.0        | 0.0      | 0.0   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 21      | 01/17/83 | 3.0     | 17.0       | 0.0      | 0.0   | 0.0     | 0.0      | 4     |
| Potomac River | 15      | 21      | 01/23/89 | 3.0     | 113.0      | 1.0      | 2.0   | 0.0     | 2.0      | 9     |
| Potomac River | 15      | 21      | 02/28/80 | 1.0     | 1.0        | 0.0      | 0.0   | 0.0     | 0.0      | 1     |
| Potomac River | 15      | 21      | 03/03/81 | 2.0     | 161.0      | 1.0      | 0.0   | 0.0     | 0.0      | 23    |
| Potomac River | 15      | 21      | 03/05/86 | 0.0     | 36.0       | 0.0      | 0.0   | 0.0     | 0.0      | 20    |
| Potomac River | 15      | 21      | 03/06/85 | 9.0     | 1.0        | 2.0      | 2.0   | 0.0     | 2.0      | 6     |
| Potomac River | 15      | 21      | 03/07/88 | 4.0     | 7.0        | 2.0      | 0.0   | 0.0     | 0.0      | 1     |
| Potomac River | 15      | 21      | 03/16/83 | 1.0     | 25.0       | 0.0      | 0.0   | 0.0     | 0.0      | 5     |
| Potomac River | 15      | 21      | 03/26/87 | 2.0     | 131.0      | 0.0      | 0.0   | 0.0     | 0.0      | 8     |
| Potomac River | 15      | 21      | 04/06/81 | 1.0     | 338.0      | 0.0      | 1.0   | 0.0     | 1.0      | 193   |
| Potomac River | 15      | 21      | 04/09/85 | 14.0    | 14.0       | 2.0      | 0.0   | 0.0     | 0.0      | 4     |
| Potomac River | 15      | 21      | 04/13/89 | 17.0    | 130.0      | 0.0      | 0.0   | 0.0     | 0.0      | 27    |
| Potomac River | 15      | 21      | 04/21/80 | 1.0     | 8.0        | 1.0      | 0.0   | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 21      | 04/22/82 | 1.0     | 262.0      | 0.0      | 0.0   | 0.0     | 0.0      | 51    |
| Potomac River | 15      | 21      | 04/28/88 | 9.0     | 30.0       | 0.0      | 0.0   | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 21      | 05/11/82 | 6.0     | 57.0       | 0.0      | 0.0   | 0.0     | 0.0      | 18    |
| Potomac River | 15      | 21      | 05/13/80 | 3.0     | 29.0       | 0.0      | 0.0   | 0.0     | 0.0      | 4     |
| Potomac River | 15      | 21      | 05/14/85 | 2.0     | 28.0       | 0.0      | 0.0   | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 21      | 05/16/84 | 18.0    | 220.0      | 1.0      | 0.0   | 0.0     | 0.0      | 46    |
| Potomac River | 15      | 21      | 05/21/86 | 7.0     | 33.0       | 0.0      | 0.0   | 0.0     | 0.0      | 3     |
| Potomac River | 15      | 21      | 05/27/87 | 16.0    | 29.0       | 0.0      | 0.0   | 0.0     | 0.0      | 13    |
| Potomac River | 15      | 21      | 06/06/83 | 19.0    | 159.0      | 0.0      | 0.0   | 0.0     | 0.0      | 21    |
| Potomac River | 15      | 21      | 06/09/80 | 3.0     | 9.0        | 0.0      | 0.0   | 0.0     | 0.0      | 6     |
| Potomac River | 15      | 21      | 06/11/85 | 3.0     | 21.0       | 0.0      | 0.0   | 0.0     | 0.0      | 3     |
| Potomac River | 15      | 21      | 06/13/79 | 3.0     | 18.0       | 0.0      | 0.0   | 0.0     | 0.0      | 4     |
| Potomac River | 15      | 21      | 06/15/89 | 14.0    | 23.0       | 0.0      | 0.0   | 0.0     | 0.0      | 243   |
| Potomac River | 15      | 21      | 06/17/87 | 0.1     | 0.1        | 0.1      | 0.1   | 0.1     | 0.1      | 16    |
| Potomac River | 15      | 21      | 06/20/84 | 27.0    | 31.0       | 1.0      | 0.0   | 0.0     | 0.0      | 22    |
| Potomac River | 15      | 21      | 06/25/86 | 0.1     | 0.1        | 0.1      | 0.1   | 0.1     | 0.1      | 0     |

Table 5: Fish Metrics

Table 5: Fish Metrics

Table 5: Fish Metrics

| STNAME        | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| STUDYCOD      |         |         |          |         |            |         |         |          |       |         |          |       |
| Potomac River | 15      | 22      | 09/16/87 | 2.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 9     |
| Potomac River | 15      | 22      | 09/19/79 | 8.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 21    |
| Potomac River | 15      | 22      | 09/28/89 | 7.0     | 11.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 19    |
| Potomac River | 15      | 22      | 10/03/84 | 20.0    | 4.0        | 0.9     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 26    |
| Potomac River | 15      | 22      | 10/18/83 | 3.0     | 71.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 74    |
| Potomac River | 15      | 22      | 10/23/79 | 6.0     | 13.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 23    |
| Potomac River | 15      | 22      | 10/24/85 | 12.0    | 125.0      | 1.0     | 2.0     | 0.0      | 0.0   | 2.0     | 18       | 141   |
| Potomac River | 15      | 22      | 10/26/89 | 22.0    | 14.0       | 0.9     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 39    |
| Potomac River | 15      | 22      | 11/04/81 | 6.0     | 48.0       | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 58    |
| Potomac River | 15      | 22      | 11/08/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 22      | 11/10/86 | 3.0     | 74.0       | 0.9     | 2.0     | 0.0      | 0.0   | 2.0     | 20       | 80    |
| Potomac River | 15      | 22      | 11/16/87 | 14.0    | 271.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 105      | 286   |
| Potomac River | 15      | 22      | 11/19/79 | 3.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 11    |
| Potomac River | 15      | 22      | 11/19/80 | 0.0     | 62.0       | 0.9     | 1.0     | 0.0      | 0.0   | 1.0     | 12       | 63    |
| Potomac River | 15      | 22      | 12/03/86 | 3.0     | 61.0       | 5.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 72    |
| Potomac River | 15      | 22      | 12/08/87 | 19.0    | 63.0       | 7.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 89    |
| Potomac River | 15      | 22      | 12/09/82 | 11.0    | 40.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 75    |
| Potomac River | 15      | 22      | 12/10/80 | 26.0    | 15.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 24       | 42    |
| Potomac River | 15      | 22      | 12/10/84 | 6.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 20    |
| Potomac River | 15      | 22      | 12/12/85 | 7.0     | 42.0       | 2.0     | 1.0     | 0.0      | 0.0   | 1.0     | 19       | 53    |
| Potomac River | 15      | 22      | 12/17/79 | 6.0     | 3.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 10    |
| Potomac River | 15      | 22      | 12/27/83 | 4.0     | 19.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 24    |
| Potomac River | 15      | 23      | 01/09/80 | 1.0     | 16.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 23    |
| Potomac River | 15      | 23      | 01/17/83 | 5.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 5     |
| Potomac River | 15      | 23      | 01/23/89 | 3.0     | 50.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 53    |
| Potomac River | 15      | 23      | 02/28/80 | 1.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 5     |
| Potomac River | 15      | 23      | 03/03/81 | 22.0    | 51.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 21       | 80    |
| Potomac River | 15      | 23      | 03/05/86 | 5.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 12    |
| Potomac River | 15      | 23      | 03/06/85 | 1.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 2     |
| Potomac River | 15      | 23      | 03/07/88 | 20.0    | 15.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 36    |
| Potomac River | 15      | 23      | 03/16/83 | 9.0     | 55.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 65    |
| Potomac River | 15      | 23      | 03/26/87 | 6.0     | 38.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 47    |
| Potomac River | 15      | 23      | 04/06/81 | 12.0    | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 38    |
| Potomac River | 15      | 23      | 04/09/85 | 3.0     | 0.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 5     |
| Potomac River | 15      | 23      | 04/13/89 | 17.0    | 22.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 39    |
| Potomac River | 15      | 23      | 04/21/80 | 2.0     | 26.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 29    |
| Potomac River | 15      | 23      | 04/22/82 | 12.0    | 176.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 45       | 195   |
| Potomac River | 15      | 23      | 04/28/88 | 0.0     | 153.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 153   |
| Potomac River | 15      | 23      | 05/11/82 | 10.0    | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 27    |

**Table 5: Fish Metrics**

| STUDYCODE     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKER | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |     |
|---------------|---------|---------|----------|---------|------------|--------|---------|----------|-------|---------|----------|-------|-----|
|               |         |         |          |         |            |        |         |          |       |         |          | 10    | 15  |
| Potomac River | 15      | 23      | 05/14/85 | 5.0     | 10.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 20  |
| Potomac River | 15      | 23      | 05/16/84 | 12.0    | 27.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 16    | 40  |
| Potomac River | 15      | 23      | 05/21/86 | 2.0     | 3.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     | 6   |
| Potomac River | 15      | 23      | 05/27/87 | 8.0     | 46.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 8     | 57  |
| Potomac River | 15      | 23      | 06/06/83 | 5.0     | 14.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    | 19  |
| Potomac River | 15      | 23      | 06/09/80 | 6.0     | 11.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6     | 17  |
| Potomac River | 15      | 23      | 06/11/85 | 4.0     | 10.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     | 16  |
| Potomac River | 15      | 23      | 06/13/79 | 3.0     | 6.0        | 1.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     | 11  |
| Potomac River | 15      | 23      | 06/15/89 | 29.0    | 17.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 14    | 46  |
| Potomac River | 15      | 23      | 06/17/87 | 14.0    | 18.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    | 36  |
| Potomac River | 15      | 23      | 06/20/84 | 30.0    | 9.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 16    | 39  |
| Potomac River | 15      | 23      | 06/25/86 | 0.1     | 0.1        | 0.1    | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15      | 23      | 06/30/81 | 15.0    | 59.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 51    | 79  |
| Potomac River | 15      | 23      | 07/01/82 | 12.0    | 13.0       | 2.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 11    | 30  |
| Potomac River | 15      | 23      | 07/06/83 | 7.0     | 20.0       | 1.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 8     | 32  |
| Potomac River | 15      | 23      | 07/07/80 | 12.0    | 5.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 10    | 17  |
| Potomac River | 15      | 23      | 07/10/84 | 8.0     | 27.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5     | 35  |
| Potomac River | 15      | 23      | 07/16/85 | 39.0    | 14.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 29    | 53  |
| Potomac River | 15      | 23      | 07/18/79 | 3.0     | 40.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     | 43  |
| Potomac River | 15      | 23      | 07/21/82 | 16.0    | 18.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 15    | 34  |
| Potomac River | 15      | 23      | 07/27/89 | 22.0    | 18.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 18    | 43  |
| Potomac River | 15      | 23      | 08/08/84 | 15.0    | 13.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 10    | 31  |
| Potomac River | 15      | 23      | 08/15/79 | 4.0     | 5.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5     | 12  |
| Potomac River | 15      | 23      | 08/25/82 | 11.0    | 5.0        | 0.0    | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 11    | 25  |
| Potomac River | 15      | 23      | 09/09/81 | 31.0    | 3.0        | 0.0    | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 29    | 42  |
| Potomac River | 15      | 23      | 09/16/87 | 7.0     | 37.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0     | 45  |
| Potomac River | 15      | 23      | 09/19/79 | 8.0     | 6.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 9     | 14  |
| Potomac River | 15      | 23      | 09/28/89 | 19.0    | 18.0       | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 12    | 38  |
| Potomac River | 15      | 23      | 10/03/84 | 29.0    | 4.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    | 34  |
| Potomac River | 15      | 23      | 10/18/83 | 36.0    | 8.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 33    | 49  |
| Potomac River | 15      | 23      | 10/23/79 | 13.0    | 7.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    | 21  |
| Potomac River | 15      | 23      | 10/24/85 | 29.0    | 0.0        | 0.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 52  |
| Potomac River | 15      | 23      | 10/26/89 | 22.0    | 21.0       | 1.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 17    | 32  |
| Potomac River | 15      | 23      | 11/04/81 | 20.0    | 32.0       | 0.0    | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 15    | 56  |
| Potomac River | 15      | 23      | 11/08/83 | 14.0    | 33.0       | 3.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    | 21  |
| Potomac River | 15      | 23      | 11/10/86 | 0.1     | 0.1        | 0.1    | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     | 0   |
| Potomac River | 15      | 23      | 11/16/87 | 32.0    | 174.0      | 1.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 74    | 207 |
| Potomac River | 15      | 23      | 11/19/79 | 0.0     | 7.0        | 2.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7     | 11  |

**Table 5: Fish Metrics**

| STUDYCOD      | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 23      | 1/19/80  | 7.0     | 57.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 67    |
| Potomac River | 15      | 23      | 12/03/86 | 51.0    | 279.0      | 9.0     | 1.0     | 0.0      | 0.0   | 1.0     | 158      | 340   |
| Potomac River | 15      | 23      | 12/08/87 | 26.0    | 121.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 19       | 151   |
| Potomac River | 15      | 23      | 12/09/82 | 8.0     | 19.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 5        | 31    |
| Potomac River | 15      | 23      | 12/10/80 | 10.0    | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 21    |
| Potomac River | 15      | 23      | 12/10/84 | 9.0     | 7.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 18    |
| Potomac River | 15      | 23      | 12/12/85 | 86.0    | 412.0      | 0.0     | 3.0     | 0.0      | 0.0   | 3.0     | 202      | 503   |
| Potomac River | 15      | 23      | 12/17/79 | 5.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 8     |
| Potomac River | 15      | 23      | 12/27/83 | 7.0     | 71.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 80    |
| Potomac River | 15      | 24      | 01/09/80 | 2.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 7     |
| Potomac River | 15      | 24      | 01/17/83 | 0.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 2     |
| Potomac River | 15      | 24      | 01/23/89 | 21.0    | 44.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 36       | 67    |
| Potomac River | 15      | 24      | 02/28/80 | 1.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 4     |
| Potomac River | 15      | 24      | 03/03/81 | 3.0     | 279.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 34       | 284   |
| Potomac River | 15      | 24      | 03/03/88 | 26.0    | 7.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 18       | 40    |
| Potomac River | 15      | 24      | 03/05/86 | 1.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| Potomac River | 15      | 24      | 03/06/85 | 1.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 1     |
| Potomac River | 15      | 24      | 03/16/83 | 2.0     | 47.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 50    |
| Potomac River | 15      | 24      | 03/26/87 | 10.0    | 15.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 30    |
| Potomac River | 15      | 24      | 04/06/81 | 11.0    | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 21    |
| Potomac River | 15      | 24      | 04/09/85 | 0.0     | 0.0        | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 4     |
| Potomac River | 15      | 24      | 04/13/89 | 10.0    | 23.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 35    |
| Potomac River | 15      | 24      | 04/21/80 | 0.0     | 16.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 16    |
| Potomac River | 15      | 24      | 04/22/82 | 2.0     | 47.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 51    |
| Potomac River | 15      | 24      | 04/28/88 | 4.0     | 70.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 74    |
| Potomac River | 15      | 24      | 05/11/82 | 5.0     | 57.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 19       | 69    |
| Potomac River | 15      | 24      | 05/13/80 | 3.0     | 22.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 25    |
| Potomac River | 15      | 24      | 05/14/85 | 2.0     | 32.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 36    |
| Potomac River | 15      | 24      | 05/16/84 | 4.0     | 29.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 5        | 35    |
| Potomac River | 15      | 24      | 05/21/86 | 1.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 3     |
| Potomac River | 15      | 24      | 05/27/87 | 14.0    | 15.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 29    |
| Potomac River | 15      | 24      | 06/06/83 | 7.0     | 106.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 113   |
| Potomac River | 15      | 24      | 06/09/80 | 3.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 11    |
| Potomac River | 15      | 24      | 06/11/85 | 1.0     | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 29    |
| Potomac River | 15      | 24      | 06/13/79 | 4.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 5     |
| Potomac River | 15      | 24      | 06/15/89 | 10.0    | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 19    |
| Potomac River | 15      | 24      | 06/17/87 | 19.0    | 14.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 36    |
| Potomac River | 15      | 24      | 06/20/84 | 22.0    | 32.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 22       | 57    |
| Potomac River | 15      | 24      | 06/25/86 | 33.0    | 18.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 35       | 55    |

Table 5: Fish Metrics

| STNAME        | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| STUDYCOD      | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
| Potomac River | 15      | 24      | 06/30/81 | 8.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 295   |
| Potomac River | 15      | 24      | 07/01/82 | 15.0    | 29.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 44    |
| Potomac River | 15      | 24      | 07/06/83 | 5.0     | 14.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 22    |
| Potomac River | 15      | 24      | 07/07/80 | 4.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 6     |
| Potomac River | 15      | 24      | 07/10/84 | 7.0     | 15.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 23    |
| Potomac River | 15      | 24      | 07/16/85 | 13.0    | 58.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 71    |
| Potomac River | 15      | 24      | 07/18/79 | 8.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 13    |
| Potomac River | 15      | 24      | 07/21/82 | 3.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 9     |
| Potomac River | 15      | 24      | 07/27/89 | 4.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 8     |
| Potomac River | 15      | 24      | 08/08/84 | 12.0    | 9.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 25    |
| Potomac River | 15      | 24      | 08/15/79 | 6.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 14    |
| Potomac River | 15      | 24      | 08/25/82 | 22.0    | 8.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 25       | 37    |
| Potomac River | 15      | 24      | 09/09/81 | 24.0    | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 31    |
| Potomac River | 15      | 24      | 09/16/87 | 2.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 6     |
| Potomac River | 15      | 24      | 09/19/79 | 16.0    | 10.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 27    |
| Potomac River | 15      | 24      | 09/28/89 | 11.0    | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 24    |
| Potomac River | 15      | 24      | 10/03/84 | 26.0    | 7.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 22       | 37    |
| Potomac River | 15      | 24      | 10/18/83 | 23.0    | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 42    |
| Potomac River | 15      | 24      | 10/23/79 | 11.0    | 10.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 11       | 25    |
| Potomac River | 15      | 24      | 10/24/85 | 23.0    | 55.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 38       | 81    |
| Potomac River | 15      | 24      | 10/26/89 | 8.0     | 4.0        | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 17    |
| Potomac River | 15      | 24      | 11/04/81 | 31.0    | 10.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 22       | 44    |
| Potomac River | 15      | 24      | 11/08/83 | 18.0    | 8.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 10    |
| Potomac River | 15      | 24      | 11/10/86 | 22.0    | 24.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 31    |
| Potomac River | 15      | 24      | 11/16/87 | 24.0    | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 49    |
| Potomac River | 15      | 24      | 11/19/79 | 3.0     | 3.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 31       | 143   |
| Potomac River | 15      | 24      | 11/19/80 | 13.0    | 102.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 54       | 119   |
| Potomac River | 15      | 24      | 12/03/86 | 32.0    | 103.0      | 8.0     | 0.0     | 0.0      | 0.0   | 0.0     | 90       | 470   |
| Potomac River | 15      | 24      | 12/08/87 | 21.0    | 73.0       | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 34       | 101   |
| Potomac River | 15      | 24      | 12/09/82 | 16.0    | 78.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 23       | 104   |
| Potomac River | 15      | 24      | 12/10/80 | 3.0     | 465.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     |
| Potomac River | 15      | 24      | 12/10/84 | 8.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 10    |
| Potomac River | 15      | 24      | 12/12/85 | 5.0     | 104.0      | 0.0     | 3.0     | 0.0      | 0.0   | 3.0     | 34       | 113   |
| Potomac River | 15      | 24      | 12/17/79 | 1.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 9     |
| Potomac River | 15      | 24      | 12/27/83 | 3.0     | 283.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 24       | 287   |
| Potomac River | 15      | 25      | 01/09/80 | 0.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 3     |
| Potomac River | 15      | 25      | 01/17/83 | 2.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 2     |
| Potomac River | 15      | 25      | 01/23/89 | 72.0    | 17.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 58       | 89    |
| Potomac River | 15      | 25      | 02/28/80 | 0.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 1     |





Table 5: Fish Metrics



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| STRNAME       | STATION | STDATE | ENDATE   | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL     |        |
|---------------|---------|--------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-----------|--------|
|               |         |        |          |         |            |         |         |          |       |         |          | STUDYCODE | ENDATE |
| Potomac River | 15      | 28     | 09/16/87 | 31.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 21        | 32     |
| Potomac River | 15      | 28     | 09/19/79 | 1.0     | 14.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1         | 17     |
| Potomac River | 15      | 28     | 09/28/89 | 5.0     | 41.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4         | 47     |
| Potomac River | 15      | 28     | 10/03/84 | 7.0     | 21.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3         | 28     |
| Potomac River | 15      | 28     | 10/18/83 | 10.0    | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7         | 36     |
| Potomac River | 15      | 28     | 10/23/79 | 5.0     | 21.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5         | 27     |
| Potomac River | 15      | 28     | 10/24/85 | 5.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 9         | 17     |
| Potomac River | 15      | 28     | 10/26/89 | 9.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5         | 10     |
| Potomac River | 15      | 28     | 11/04/81 | 2.0     | 78.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 57        | 85     |
| Potomac River | 15      | 28     | 11/08/83 | 26.0    | 89.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 60        | 119    |
| Potomac River | 15      | 28     | 11/10/86 | 21.0    | 37.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 20        | 62     |
| Potomac River | 15      | 28     | 11/16/87 | 12.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6         | 12     |
| Potomac River | 15      | 28     | 11/19/79 | 3.0     | 31.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4         | 35     |
| Potomac River | 15      | 28     | 11/19/80 | 0.0     | 130.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 42        | 131    |
| Potomac River | 15      | 28     | 12/03/86 | 3.0     | 533.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 120       | 540    |
| Potomac River | 15      | 28     | 12/08/87 | 2.0     | 14.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 8         | 16     |
| Potomac River | 15      | 28     | 12/09/82 | 1.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2         | 9      |
| Potomac River | 15      | 28     | 12/10/80 | 1.0     | 89.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 23        | 90     |
| Potomac River | 15      | 28     | 12/10/84 | 0.0     | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1         | 9      |
| Potomac River | 15      | 28     | 12/12/85 | 1.0     | 86.0       | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 1.0      | 12        | 89     |
| Potomac River | 15      | 28     | 12/17/79 | 0.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0         | 3      |
| Potomac River | 15      | 28     | 12/27/83 | 1.0     | 16.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 9         | 17     |
| Potomac River | 15      | 29     | 01/09/80 | 0.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2         | 5      |
| Potomac River | 15      | 29     | 01/17/83 | 0.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1         | 5      |
| Potomac River | 15      | 29     | 01/23/89 | 4.0     | 282.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 12        | 286    |
| Potomac River | 15      | 29     | 02/28/80 | 0.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2         | 5      |
| Potomac River | 15      | 29     | 03/03/81 | 1.0     | 119.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 1.0      | 15        | 123    |
| Potomac River | 15      | 29     | 03/03/88 | 1.0     | 89.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 14        | 93     |
| Potomac River | 15      | 29     | 03/05/86 | 0.0     | 8.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5         | 8      |
| Potomac River | 15      | 29     | 03/06/85 | 0.0     | 17.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0         | 17     |
| Potomac River | 15      | 29     | 03/16/83 | 2.0     | 46.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6         | 48     |
| Potomac River | 15      | 29     | 03/26/87 | 0.0     | 246.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 0.0      | 58        | 248    |
| Potomac River | 15      | 29     | 04/06/81 | 0.0     | 40.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2         | 21     |
| Potomac River | 15      | 29     | 04/09/85 | 2.0     | 76.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 74        | 202    |
| Potomac River | 15      | 29     | 04/13/89 | 11.0    | 151.0      | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 51        | 164    |
| Potomac River | 15      | 29     | 04/21/80 | 1.0     | 20.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1         | 28     |
| Potomac River | 15      | 29     | 04/22/82 | 3.0     | 197.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0         | 35     |
| Potomac River | 15      | 29     | 04/28/88 | 1.0     | 27.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1         | 28     |
| Potomac River | 15      | 29     | 05/11/82 | 16.0    | 79.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0         | 102    |

Table 5: Fish Metrics

| STUDY COD | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|-----------|---------|---------|----------|---------|------------|---------|----------|-------|---------|----------|-------|
|           |         |         |          |         |            |         |          |       |         |          |       |
| 15        | 29      |         | 05/13/80 | 6.0     | 82.0       | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 24    |
| 15        | 29      |         | 05/14/85 | 4.0     | 12.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     |
| 15        | 29      |         | 05/16/84 | 16.0    | 87.0       | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 27    |
| 15        | 29      |         | 05/21/86 | 0.0     | 10.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 105   |
| 15        | 29      |         | 05/27/87 | 7.0     | 62.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 17    |
| 15        | 29      |         | 06/06/83 | 10.0    | 113.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     |
| 15        | 29      |         | 06/09/80 | 11.0    | 14.0       | 2.0     | 0.0      | 0.0   | 0.0     | 0.0      | 27    |
| 15        | 29      |         | 06/11/85 | 1.0     | 24.0       | 0.0     | 1.0      | 0.0   | 0.0     | 0.0      | 2     |
| 15        | 29      |         | 06/13/79 | 8.0     | 7.0        | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 19    |
| 15        | 29      |         | 06/15/89 | 4.0     | 21.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 70    |
| 15        | 29      |         | 06/17/87 | 1.0     | 6.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 129   |
| 15        | 29      |         | 06/20/84 | 8.0     | 19.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 29    |
| 15        | 29      |         | 06/25/86 | 32.0    | 44.0       | 0.0     | 1.0      | 0.0   | 0.0     | 0.0      | 28    |
| 15        | 29      |         | 06/30/81 | 11.0    | 28.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    |
| 15        | 29      |         | 07/01/82 | 11.0    | 25.0       | 2.0     | 0.0      | 0.0   | 0.0     | 0.0      | 29    |
| 15        | 29      |         | 07/06/83 | 6.0     | 5.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 28    |
| 15        | 29      |         | 07/07/80 | 1.0     | 2.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 24    |
| 15        | 29      |         | 07/10/84 | 13.0    | 46.0       | 0.0     | 1.0      | 0.0   | 0.0     | 0.0      | 25    |
| 15        | 29      |         | 07/16/85 | 12.0    | 186.0      | 1.0     | 1.0      | 0.0   | 0.0     | 0.0      | 6     |
| 15        | 29      |         | 07/18/79 | 5.0     | 46.0       | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 27    |
| 15        | 29      |         | 07/21/82 | 1.0     | 8.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 25    |
| 15        | 29      |         | 07/27/89 | 2.0     | 18.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 39    |
| 15        | 29      |         | 08/08/84 | 2.0     | 19.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 16    |
| 15        | 29      |         | 08/15/79 | 2.0     | 4.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 77    |
| 15        | 29      |         | 08/25/82 | 3.0     | 13.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 8     |
| 15        | 29      |         | 09/09/81 | 4.0     | 0.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 49    |
| 15        | 29      |         | 09/16/87 | 20.0    | 68.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 61    |
| 15        | 29      |         | 09/19/79 | 3.0     | 3.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 39    |
| 15        | 29      |         | 09/28/89 | 1.0     | 30.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 21    |
| 15        | 29      |         | 10/03/84 | 13.0    | 17.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 206   |
| 15        | 29      |         | 10/18/83 | 2.0     | 9.0        | 0.0     | 1.0      | 0.0   | 0.0     | 0.0      | 24    |
| 15        | 29      |         | 10/23/79 | 3.0     | 60.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 53    |
| 15        | 29      |         | 10/24/85 | 24.0    | 81.0       | 0.0     | 1.0      | 0.0   | 0.0     | 0.0      | 89    |
| 15        | 29      |         | 10/26/89 | 1.0     | 12.0       | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 30    |
| 15        | 29      |         | 11/04/81 | 12.0    | 11.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 14    |
| 15        | 29      |         | 11/08/83 | 19.0    | 101.0      | 1.0     | 2.0      | 0.0   | 0.0     | 0.0      | 26    |
| 15        | 29      |         | 11/10/86 | 24.0    | 17.0       | 9.0     | 0.0      | 0.0   | 0.0     | 0.0      | 126   |
| 15        | 29      |         | 11/16/87 | 16.0    | 27.0       | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 43    |
| 15        | 29      |         | 11/19/79 | 1.0     | 6.0        | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     |

**Table 5: Fish Metrics**

| STRA NAME     | STUDY COD | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKER S | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL   |          |
|---------------|-----------|---------|---------|----------|---------|------------|----------|---------|----------|-------|---------|----------|---------|----------|
|               |           |         |         |          |         |            |          |         |          |       |         |          | DARTERS | TOLERANT |
| Potomac River | 15        | 29      |         | 11/19/80 | 0.0     | 144.0      | 84.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 62      | 228      |
| Potomac River | 15        | 29      |         | 12/03/86 | 9.0     | 285.0      | 2.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 64      | 296      |
| Potomac River | 15        | 29      |         | 12/08/87 | 2.0     | 17.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3       | 19       |
| Potomac River | 15        | 29      |         | 12/09/82 | 1.0     | 31.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7       | 34       |
| Potomac River | 15        | 29      |         | 12/10/80 | 1.0     | 49.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 12      | 51       |
| Potomac River | 15        | 29      |         | 12/10/84 | 0.0     | 43.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3       | 43       |
| Potomac River | 15        | 29      |         | 12/12/85 | 2.0     | 29.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6       | 31       |
| Potomac River | 15        | 29      |         | 12/17/79 | 1.0     | 8.0        | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3       | 9        |
| Potomac River | 15        | 29      |         | 12/27/83 | 0.0     | 92.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 18      | 93       |
| Potomac River | 15        | 3       |         | 01/09/80 | 0.0     | 10.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1       | 10       |
| Potomac River | 15        | 3       |         | 01/17/83 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0       | 0        |
| Potomac River | 15        | 3       |         | 01/24/89 | 1.0     | 17.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3       | 18       |
| Potomac River | 15        | 3       |         | 02/28/80 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0       | 0        |
| Potomac River | 15        | 3       |         | 03/04/81 | 0.0     | 79.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 30      | 79       |
| Potomac River | 15        | 3       |         | 03/05/86 | 0.0     | 4.0        | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1       | 4        |
| Potomac River | 15        | 3       |         | 03/06/85 | 0.0     | 1.0        | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0       | 1        |
| Potomac River | 15        | 3       |         | 03/07/88 | 4.0     | 11.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6       | 15       |
| Potomac River | 15        | 3       |         | 03/16/83 | 0.0     | 49.0       | 0.0      | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 12      | 50       |
| Potomac River | 15        | 3       |         | 03/26/87 | 6.0     | 92.0       | 0.0      | 2.0     | 0.0      | 0.0   | 2.0     | 0.0      | 27      | 100      |
| Potomac River | 15        | 3       |         | 04/06/81 | 1.0     | 52.0       | 0.0      | 2.0     | 0.0      | 0.0   | 2.0     | 0.0      | 20      | 55       |
| Potomac River | 15        | 3       |         | 04/09/85 | 1.0     | 1.0        | 0.0      | 1.0     | 0.0      | 0.0   | 1.0     | 0.0      | 2       | 3        |
| Potomac River | 15        | 3       |         | 04/14/89 | 3.0     | 95.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 52      | 98       |
| Potomac River | 15        | 3       |         | 04/21/80 | 0.0     | 27.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2       | 27       |
| Potomac River | 15        | 3       |         | 04/22/82 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0       | 0        |
| Potomac River | 15        | 3       |         | 04/28/88 | 3.0     | 9.0        | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4       | 12       |
| Potomac River | 15        | 3       |         | 05/11/82 | 3.0     | 8.0        | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0       | 12       |
| Potomac River | 15        | 3       |         | 05/13/80 | 0.0     | 59.0       | 2.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1       | 61       |
| Potomac River | 15        | 3       |         | 05/14/85 | 0.0     | 1.0        | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 0       | 3        |
| Potomac River | 15        | 3       |         | 05/16/84 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0       | 0        |
| Potomac River | 15        | 3       |         | 05/21/86 | 3.0     | 5.0        | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4       | 10       |
| Potomac River | 15        | 3       |         | 05/27/87 | 2.0     | 118.0      | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 41      | 121      |
| Potomac River | 15        | 3       |         | 06/06/83 | 1.0     | 58.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 8       | 59       |
| Potomac River | 15        | 3       |         | 06/09/80 | 6.0     | 56.0       | 2.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13      | 65       |
| Potomac River | 15        | 3       |         | 06/11/85 | 2.0     | 41.0       | 1.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 7       | 44       |
| Potomac River | 15        | 3       |         | 06/13/79 | 2.0     | 53.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6       | 56       |
| Potomac River | 15        | 3       |         | 06/16/89 | 7.0     | 71.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3       | 78       |
| Potomac River | 15        | 3       |         | 06/18/87 | 15.0    | 110.0      | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 36      | 125      |
| Potomac River | 15        | 3       |         | 06/21/84 | 6.0     | 59.0       | 0.0      | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 21      | 66       |
| Potomac River | 15        | 3       |         | 06/25/86 | 0.1     | 0.1        | 0.1      | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0       | 0        |

Table 5: Fish Metrics

**Table 5: Fish Metrics**

| STNAME        | STUDYCOD | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|----------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15       | 30      |         | 03/03/81 | 1.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 78    |
| Potomac River | 15       | 30      |         | 03/03/88 | 15.0    | 35.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 55    |
| Potomac River | 15       | 30      |         | 03/05/86 | 0.0     | 183.0      | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 117      | 187   |
| Potomac River | 15       | 30      |         | 03/06/85 | 1.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 2     |
| Potomac River | 15       | 30      |         | 03/16/83 | 0.0     | 120.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 120   |
| Potomac River | 15       | 30      |         | 03/26/87 | 0.0     | 109.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 10       | 149   |
| Potomac River | 15       | 30      |         | 04/06/81 | 6.0     | 150.0      | 3.0     | 2.0     | 0.0      | 0.0   | 2.0     | 38       | 861   |
| Potomac River | 15       | 30      |         | 04/09/85 | 5.0     | 102.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 108   |
| Potomac River | 15       | 30      |         | 04/13/89 | 25.0    | 233.0      | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 50       | 261   |
| Potomac River | 15       | 30      |         | 04/21/80 | 0.0     | 22.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 22    |
| Potomac River | 15       | 30      |         | 04/22/82 | 6.0     | 95.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 28       | 107   |
| Potomac River | 15       | 30      |         | 04/28/88 | 0.0     | 38.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 38    |
| Potomac River | 15       | 30      |         | 05/11/82 | 9.0     | 72.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 28       | 100   |
| Potomac River | 15       | 30      |         | 05/13/80 | 3.0     | 28.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 31    |
| Potomac River | 15       | 30      |         | 05/14/85 | 0.0     | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 24    |
| Potomac River | 15       | 30      |         | 05/16/84 | 8.0     | 79.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 88    |
| Potomac River | 15       | 30      |         | 05/21/86 | 0.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 13    |
| Potomac River | 15       | 30      |         | 05/27/87 | 2.0     | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 28    |
| Potomac River | 15       | 30      |         | 06/06/83 | 4.0     | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 29    |
| Potomac River | 15       | 30      |         | 06/09/80 | 26.0    | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 23       | 33    |
| Potomac River | 15       | 30      |         | 06/11/85 | 0.0     | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 27    |
| Potomac River | 15       | 30      |         | 06/13/79 | 8.0     | 12.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 20    |
| Potomac River | 15       | 30      |         | 06/15/89 | 2.0     | 15.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 18    |
| Potomac River | 15       | 30      |         | 06/17/87 | 2.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 15    |
| Potomac River | 15       | 30      |         | 06/20/84 | 4.0     | 9.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 14    |
| Potomac River | 15       | 30      |         | 06/25/86 | 38.0    | 63.0       | 7.0     | 4.0     | 0.0      | 0.0   | 4.0     | 89       | 114   |
| Potomac River | 15       | 30      |         | 06/30/81 | 29.0    | 17.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 32       | 71    |
| Potomac River | 15       | 30      |         | 07/01/82 | 10.0    | 27.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 21       | 57    |
| Potomac River | 15       | 30      |         | 07/06/83 | 2.0     | 7.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 12    |
| Potomac River | 15       | 30      |         | 07/07/80 | 2.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 4     |
| Potomac River | 15       | 30      |         | 07/10/84 | 16.0    | 23.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 19       | 40    |
| Potomac River | 15       | 30      |         | 07/16/85 | 40.0    | 26.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 20       | 66    |
| Potomac River | 15       | 30      |         | 07/18/79 | 2.0     | 19.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 27    |
| Potomac River | 15       | 30      |         | 07/21/82 | 3.0     | 13.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 24    |
| Potomac River | 15       | 30      |         | 07/27/89 | 41.0    | 12.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 26       | 55    |
| Potomac River | 15       | 30      |         | 08/08/84 | 2.0     | 22.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 26    |
| Potomac River | 15       | 30      |         | 08/16/79 | 3.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 10    |
| Potomac River | 15       | 30      |         | 08/25/82 | 3.0     | 12.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 10       | 19    |
| Potomac River | 15       | 30      |         | 09/09/81 | 2.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 8     |

**Table 5: Fish Metrics**

| STNAME        | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 30      | 09/16/87 | 55.0    | 8.0        | 0.0      | 0.0   | 0.0     | 0.0      | 33    |
| Potomac River | 15      | 30      | 09/19/79 | 2.0     | 3.0        | 0.0      | 0.0   | 0.0     | 0.0      | 6     |
| Potomac River | 15      | 30      | 09/28/89 | 9.0     | 6.0        | 0.0      | 0.0   | 0.0     | 0.0      | 4     |
| Potomac River | 15      | 30      | 10/03/84 | 3.0     | 9.0        | 0.0      | 0.0   | 0.0     | 0.0      | 3     |
| Potomac River | 15      | 30      | 10/18/83 | 0.0     | 4.0        | 0.0      | 0.0   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 30      | 10/23/79 | 7.0     | 4.0        | 0.0      | 0.0   | 0.0     | 0.0      | 5     |
| Potomac River | 15      | 30      | 10/24/85 | 14.0    | 119.0      | 1.0      | 0.0   | 0.0     | 0.0      | 11    |
| Potomac River | 15      | 30      | 10/26/89 | 13.0    | 88.0       | 1.0      | 0.0   | 0.0     | 0.0      | 17    |
| Potomac River | 15      | 30      | 11/04/81 | 10.0    | 19.0       | 1.0      | 0.0   | 0.0     | 0.0      | 37    |
| Potomac River | 15      | 30      | 11/08/83 | 8.0     | 26.0       | 0.0      | 0.0   | 0.0     | 0.0      | 34    |
| Potomac River | 15      | 30      | 11/10/86 | 8.0     | 496.0      | 3.0      | 0.0   | 0.0     | 0.0      | 135   |
| Potomac River | 15      | 30      | 11/16/87 | 21.0    | 37.0       | 0.0      | 0.0   | 0.0     | 0.0      | 103   |
| Potomac River | 15      | 30      | 11/19/79 | 3.0     | 5.0        | 0.0      | 0.0   | 0.0     | 0.0      | 37    |
| Potomac River | 15      | 30      | 11/19/80 | 5.0     | 87.0       | 9.0      | 0.0   | 0.0     | 0.0      | 43    |
| Potomac River | 15      | 30      | 12/03/86 | 10.0    | 442.0      | 6.0      | 0.0   | 0.0     | 0.0      | 508   |
| Potomac River | 15      | 30      | 12/08/87 | 17.0    | 143.0      | 0.0      | 0.0   | 0.0     | 0.0      | 59    |
| Potomac River | 15      | 30      | 12/09/82 | 1.0     | 29.0       | 0.0      | 0.0   | 0.0     | 0.0      | 9     |
| Potomac River | 15      | 30      | 12/10/80 | 5.0     | 56.0       | 0.0      | 0.0   | 0.0     | 0.0      | 101   |
| Potomac River | 15      | 30      | 12/10/84 | 0.0     | 26.0       | 0.0      | 0.0   | 0.0     | 0.0      | 458   |
| Potomac River | 15      | 30      | 12/12/85 | 1.0     | 55.0       | 0.0      | 0.0   | 0.0     | 0.0      | 161   |
| Potomac River | 15      | 30      | 12/17/79 | 0.0     | 2.0        | 0.0      | 0.0   | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 30      | 12/27/83 | 1.0     | 2.0        | 0.0      | 0.0   | 0.0     | 0.0      | 3     |
| Potomac River | 15      | 4       | 01/09/80 | 0.0     | 3.0        | 0.0      | 0.0   | 0.0     | 0.0      | 24    |
| Potomac River | 15      | 4       | 01/17/83 | 0.1     | 0.1        | 0.1      | 0.1   | 0.0     | 0.0      | 43    |
| Potomac River | 15      | 4       | 01/24/89 | 2.0     | 11.0       | 0.0      | 0.0   | 0.0     | 0.0      | 61    |
| Potomac River | 15      | 4       | 02/28/80 | 0.0     | 8.0        | 0.0      | 0.0   | 0.0     | 0.0      | 26    |
| Potomac River | 15      | 4       | 03/04/81 | 1.0     | 98.0       | 0.0      | 0.0   | 0.0     | 0.0      | 56    |
| Potomac River | 15      | 4       | 03/05/86 | 0.0     | 6.0        | 0.0      | 0.0   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 4       | 03/06/85 | 0.0     | 3.0        | 0.0      | 0.0   | 0.0     | 0.0      | 2     |
| Potomac River | 15      | 4       | 03/07/88 | 1.0     | 4.0        | 0.0      | 0.0   | 0.0     | 0.0      | 3     |
| Potomac River | 15      | 4       | 03/16/83 | 1.0     | 31.0       | 0.0      | 0.0   | 0.0     | 0.0      | 32    |
| Potomac River | 15      | 4       | 03/26/87 | 1.0     | 136.0      | 0.0      | 1.0   | 0.0     | 0.0      | 138   |
| Potomac River | 15      | 4       | 04/06/81 | 0.0     | 8.0        | 0.0      | 0.0   | 0.0     | 0.0      | 8     |
| Potomac River | 15      | 4       | 04/09/85 | 5.0     | 18.0       | 1.0      | 0.0   | 0.0     | 0.0      | 25    |
| Potomac River | 15      | 4       | 04/14/89 | 6.0     | 28.0       | 0.0      | 0.0   | 0.0     | 0.0      | 35    |
| Potomac River | 15      | 4       | 04/21/80 | 1.0     | 7.0        | 1.0      | 0.0   | 0.0     | 0.0      | 9     |
| Potomac River | 15      | 4       | 04/22/82 | 0.1     | 0.1        | 0.1      | 0.1   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 4       | 04/28/88 | 1.0     | 27.0       | 1.0      | 0.0   | 0.0     | 0.0      | 29    |
| Potomac River | 15      | 4       | 05/11/82 | 1.0     | 100.0      | 0.0      | 0.0   | 0.0     | 0.0      | 103   |

**Table 5: Fish Metrics**

| STNAME        | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 4       | 05/13/80 | 3.0     | 125.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 130   |
| Potomac River | 15      | 4       | 05/14/85 | 0.0     | 47.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 49    |
| Potomac River | 15      | 4       | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 4       | 05/21/86 | 0.0     | 58.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 58    |
| Potomac River | 15      | 4       | 05/27/87 | 7.0     | 62.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 69    |
| Potomac River | 15      | 4       | 06/06/83 | 6.0     | 96.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 20       | 102   |
| Potomac River | 15      | 4       | 06/09/80 | 0.0     | 18.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 18    |
| Potomac River | 15      | 4       | 06/11/85 | 1.0     | 56.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 58    |
| Potomac River | 15      | 4       | 06/13/79 | 8.0     | 83.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 21       | 93    |
| Potomac River | 15      | 4       | 06/16/89 | 20.0    | 39.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 21       | 59    |
| Potomac River | 15      | 4       | 06/18/87 | 20.0    | 94.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 42       | 114   |
| Potomac River | 15      | 4       | 06/21/84 | 15.0    | 29.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 22       | 47    |
| Potomac River | 15      | 4       | 06/23/86 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 4       | 06/30/82 | 0.0     | 91.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 92    |
| Potomac River | 15      | 4       | 07/01/81 | 14.0    | 41.0       | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 20       | 64    |
| Potomac River | 15      | 4       | 07/06/83 | 4.0     | 75.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 26       | 79    |
| Potomac River | 15      | 4       | 07/07/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 5        | 27    |
| Potomac River | 15      | 4       | 07/11/84 | 8.0     | 44.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 23       | 52    |
| Potomac River | 15      | 4       | 07/16/85 | 20.0    | 19.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 39    |
| Potomac River | 15      | 4       | 07/18/79 | 4.0     | 20.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 22       | 72    |
| Potomac River | 15      | 4       | 07/21/82 | 5.0     | 94.0       | 3.0     | 2.0     | 0.0      | 0.0   | 2.0     | 91       | 104   |
| Potomac River | 15      | 4       | 07/28/89 | 14.0    | 28.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 81       | 173   |
| Potomac River | 15      | 4       | 08/09/84 | 15.0    | 54.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 20    |
| Potomac River | 15      | 4       | 08/15/79 | 5.0     | 31.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 43    |
| Potomac River | 15      | 4       | 08/25/82 | 8.0     | 164.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 45    |
| Potomac River | 15      | 4       | 09/09/81 | 9.0     | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 20       | 20    |
| Potomac River | 15      | 4       | 09/17/87 | 25.0    | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 56    |
| Potomac River | 15      | 4       | 09/19/79 | 0.0     | 97.0       | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 7        | 103   |
| Potomac River | 15      | 4       | 09/29/89 | 17.0    | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 20    |
| Potomac River | 15      | 4       | 10/04/84 | 3.0     | 26.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 30    |
| Potomac River | 15      | 4       | 10/18/83 | 3.0     | 7.0        | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 4        | 11    |
| Potomac River | 15      | 4       | 10/24/79 | 1.0     | 25.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 27    |
| Potomac River | 15      | 4       | 10/25/85 | 43.0    | 133.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 16    |
| Potomac River | 15      | 4       | 10/26/89 | 9.0     | 13.0       | 1.0     | 0.0     | 0.0      | 0.0   | 1.0     | 10       | 24    |
| Potomac River | 15      | 4       | 11/05/81 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 4       | 11/08/83 | 6.0     | 7.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 16    |
| Potomac River | 15      | 4       | 11/11/86 | 8.0     | 23.0       | 29.0    | 1.0     | 0.0      | 0.0   | 1.0     | 30       | 61    |
| Potomac River | 15      | 4       | 11/17/87 | 14.0    | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 18    |
| Potomac River | 15      | 4       | 11/19/79 | 2.0     | 1.0        | 7.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 10    |

Table 5: Fish Metrics

| STNAME        | STATION | STDATE | ENDATE   | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|--------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| STUDYCOD      | STATION | STDATE | ENDATE   | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
| Potomac River | 15      | 4      | 11/20/80 | 4.0     | 52.0       | 6.0     | 0.0     | 0.0      | 0.0   | 0.0     | 39       | 62    |
| Potomac River | 15      | 4      | 12/04/86 | 2.0     | 50.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 29       | 52    |
| Potomac River | 15      | 4      | 12/08/87 | 0.0     | 30.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 30    |
| Potomac River | 15      | 4      | 12/09/82 | 4.0     | 312.0      | 8.0     | 0.0     | 0.0      | 0.0   | 0.0     | 282      | 325   |
| Potomac River | 15      | 4      | 12/10/80 | 6.0     | 49.0       | 8.0     | 0.0     | 0.0      | 0.0   | 0.0     | 43       | 64    |
| Potomac River | 15      | 4      | 12/10/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 4      | 12/12/85 | 6.0     | 10.0       | 2.0     | 1.0     | 0.0      | 0.0   | 1.0     | 14       | 19    |
| Potomac River | 15      | 4      | 12/17/79 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 4      | 12/27/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 5      | 01/09/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 5      | 01/17/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 5      | 01/24/89 | 0.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 4     |
| Potomac River | 15      | 5      | 02/28/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 5      | 03/04/81 | 0.0     | 71.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 71    |
| Potomac River | 15      | 5      | 03/05/86 | 0.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 3     |
| Potomac River | 15      | 5      | 03/06/85 | 0.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| Potomac River | 15      | 5      | 03/07/88 | 3.0     | 5.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 9     |
| Potomac River | 15      | 5      | 03/16/83 | 2.0     | 7.0        | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 4        | 11    |
| Potomac River | 15      | 5      | 03/26/87 | 0.0     | 15.0       | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 3        | 17    |
| Potomac River | 15      | 5      | 04/06/81 | 0.0     | 18.0       | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 4        | 21    |
| Potomac River | 15      | 5      | 04/09/85 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 5      | 04/14/89 | 4.0     | 48.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 10       | 53    |
| Potomac River | 15      | 5      | 04/21/80 | 1.0     | 8.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 10    |
| Potomac River | 15      | 5      | 04/22/82 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 5      | 04/28/88 | 5.0     | 129.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 134   |
| Potomac River | 15      | 5      | 05/11/82 | 5.0     | 155.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 112      | 161   |
| Potomac River | 15      | 5      | 05/13/80 | 2.0     | 5.0        | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 4        | 8     |
| Potomac River | 15      | 5      | 05/14/85 | 2.0     | 12.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 16    |
| Potomac River | 15      | 5      | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 5      | 05/21/86 | 4.0     | 53.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 25       | 58    |
| Potomac River | 15      | 5      | 05/27/87 | 9.0     | 95.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 29       | 105   |
| Potomac River | 15      | 5      | 06/06/83 | 0.0     | 44.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 45    |
| Potomac River | 15      | 5      | 06/09/80 | 3.0     | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 27    |
| Potomac River | 15      | 5      | 06/11/85 | 1.0     | 27.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 29    |
| Potomac River | 15      | 5      | 06/13/79 | 1.0     | 67.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 70    |
| Potomac River | 15      | 5      | 06/16/89 | 14.0    | 103.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 117   |
| Potomac River | 15      | 5      | 06/18/87 | 8.0     | 80.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 88    |
| Potomac River | 15      | 5      | 06/21/84 | 19.0    | 139.0      | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 44       | 160   |
| Potomac River | 15      | 5      | 06/25/86 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |

Table 5: Fish Metrics

**Table 5: Fish Metrics**

| STNAME        | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|---------|----------|-------|
| Potomac River | 15      | 6       | 03/03/81 | 4.0     | 310.0      | 2.0     | 0.0     | 0.0      | 0.0     | 45       | 316   |
| Potomac River | 15      | 6       | 03/05/86 | 1.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0     | 2        | 5     |
| Potomac River | 15      | 6       | 03/06/85 | 1.0     | 12.0       | 1.0     | 2.0     | 0.0      | 0.0     | 2.0      | 7     |
| Potomac River | 15      | 6       | 03/07/88 | 0.0     | 62.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 12    |
| Potomac River | 15      | 6       | 03/16/83 | 1.0     | 24.0       | 0.0     | 2.0     | 0.0      | 0.0     | 2.0      | 11    |
| Potomac River | 15      | 6       | 03/26/87 | 2.0     | 81.0       | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 11    |
| Potomac River | 15      | 6       | 04/06/81 | 0.0     | 75.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 17    |
| Potomac River | 15      | 6       | 04/09/85 | 1.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 62    |
| Potomac River | 15      | 6       | 04/13/89 | 4.0     | 30.0       | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 27    |
| Potomac River | 15      | 6       | 04/21/80 | 1.0     | 11.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 84    |
| Potomac River | 15      | 6       | 04/22/82 | 1.0     | 84.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 75    |
| Potomac River | 15      | 6       | 04/28/88 | 5.0     | 160.0      | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 45    |
| Potomac River | 15      | 6       | 05/11/82 | 6.0     | 27.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 35    |
| Potomac River | 15      | 6       | 05/13/80 | 5.0     | 209.0      | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 12    |
| Potomac River | 15      | 6       | 05/14/85 | 0.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 12    |
| Potomac River | 15      | 6       | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 6       | 05/21/86 | 0.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 6       | 05/27/87 | 13.0    | 107.0      | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 216   |
| Potomac River | 15      | 6       | 06/06/83 | 5.0     | 89.0       | 2.0     | 0.0     | 0.0      | 0.0     | 0.0      | 86    |
| Potomac River | 15      | 6       | 06/09/80 | 4.0     | 32.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 24    |
| Potomac River | 15      | 6       | 06/11/85 | 2.0     | 29.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 167   |
| Potomac River | 15      | 6       | 06/13/79 | 14.0    | 38.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 3     |
| Potomac River | 15      | 6       | 06/15/89 | 12.0    | 26.0       | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 6       | 06/17/87 | 10.0    | 78.0       | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 6       | 06/20/84 | 22.0    | 76.0       | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 60    |
| Potomac River | 15      | 6       | 06/25/86 | 50.0    | 15.0       | 0.0     | 1.0     | 0.0      | 0.0     | 0.0      | 121   |
| Potomac River | 15      | 6       | 06/30/82 | 18.0    | 16.0       | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 36    |
| Potomac River | 15      | 6       | 07/01/81 | 20.0    | 11.0       | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 12    |
| Potomac River | 15      | 6       | 07/06/83 | 6.0     | 21.0       | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 216   |
| Potomac River | 15      | 6       | 07/07/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0     | 0.0      | 36    |
| Potomac River | 15      | 6       | 07/10/84 | 8.0     | 26.0       | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 12    |
| Potomac River | 15      | 6       | 07/16/85 | 9.0     | 94.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 45    |
| Potomac River | 15      | 6       | 07/18/79 | 7.0     | 47.0       | 1.0     | 1.0     | 0.0      | 0.0     | 0.0      | 103   |
| Potomac River | 15      | 6       | 07/21/82 | 18.0    | 34.0       | 1.0     | 0.0     | 0.0      | 0.0     | 0.0      | 56    |
| Potomac River | 15      | 6       | 07/27/89 | 6.0     | 19.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 42    |
| Potomac River | 15      | 6       | 08/08/84 | 20.0    | 44.0       | 1.0     | 2.0     | 0.0      | 0.0     | 0.0      | 68    |
| Potomac River | 15      | 6       | 08/15/79 | 3.0     | 15.0       | 0.0     | 0.0     | 0.0      | 0.0     | 0.0      | 19    |
| Potomac River | 15      | 6       | 08/25/82 | 4.0     | 13.0       | 1.0     | 2.0     | 0.0      | 0.0     | 0.0      | 22    |
| Potomac River | 15      | 6       | 09/09/81 | 22.0    | 17.0       | 2.0     | 0.0     | 0.0      | 0.0     | 0.0      | 19    |

Table 5: Fish Metrics

| STATION       | STUDYCODE | STADATE | SUNFISH  | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|-----------|---------|----------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15        | 6       | 09/16/87 | 39.0       | 13.0    | 1.0     | 0.0      | 0.0   | 0.0     | 25       | 53    |
| Potomac River | 15        | 6       | 09/19/79 | 4.0        | 45.0    | 1.0     | 0.0      | 0.0   | 0.0     | 7        | 51    |
| Potomac River | 15        | 6       | 09/28/89 | 12.0       | 14.0    | 1.0     | 0.0      | 0.0   | 0.0     | 7        | 27    |
| Potomac River | 15        | 6       | 10/03/84 | 14.0       | 12.0    | 4.0     | 0.0      | 0.0   | 0.0     | 14       | 32    |
| Potomac River | 15        | 6       | 10/18/83 | 14.0       | 26.0    | 0.0     | 5.0      | 0.0   | 0.0     | 33       | 46    |
| Potomac River | 15        | 6       | 10/24/79 | 1.0        | 33.0    | 0.0     | 1.0      | 0.0   | 0.0     | 1.0      | 35    |
| Potomac River | 15        | 6       | 10/24/85 | 24.0       | 63.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 23    |
| Potomac River | 15        | 6       | 10/26/89 | 9.0        | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 4     |
| Potomac River | 15        | 6       | 11/05/81 | 1.0        | 18.0    | 1.0     | 1.0      | 0.0   | 0.0     | 1.0      | 7     |
| Potomac River | 15        | 6       | 11/08/83 | 1.0        | 30.0    | 1.0     | 1.0      | 0.0   | 0.0     | 1.0      | 5     |
| Potomac River | 15        | 6       | 11/10/86 | 2.0        | 35.0    | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5     |
| Potomac River | 15        | 6       | 11/16/87 | 8.0        | 24.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 6     |
| Potomac River | 15        | 6       | 11/19/79 | 0.0        | 97.0    | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 13    |
| Potomac River | 15        | 6       | 11/20/80 | 16.0       | 133.0   | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 116   |
| Potomac River | 15        | 6       | 12/04/86 | 13.0       | 472.0   | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 32    |
| Potomac River | 15        | 6       | 12/08/87 | 0.0        | 14.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     |
| Potomac River | 15        | 6       | 12/09/82 | 0.0        | 39.0    | 7.0     | 0.0      | 0.0   | 0.0     | 0.0      | 29    |
| Potomac River | 15        | 6       | 12/10/80 | 0.0        | 73.0    | 2.0     | 2.0      | 0.0   | 0.0     | 2.0      | 39    |
| Potomac River | 15        | 6       | 12/10/84 | 0.0        | 0.0     | 2.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     |
| Potomac River | 15        | 6       | 12/12/85 | 1.0        | 98.0    | 3.0     | 0.0      | 0.0   | 0.0     | 0.0      | 102   |
| Potomac River | 15        | 6       | 12/17/79 | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     |
| Potomac River | 15        | 6       | 12/27/83 | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     |
| Potomac River | 15        | 7       | 01/09/80 | 0.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     |
| Potomac River | 15        | 7       | 01/17/83 | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     |
| Potomac River | 15        | 7       | 01/23/89 | 0.0        | 11.0    | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 1     |
| Potomac River | 15        | 7       | 02/28/80 | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     |
| Potomac River | 15        | 7       | 03/03/81 | 0.0        | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 2     |
| Potomac River | 15        | 7       | 03/05/86 | 1.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 3     |
| Potomac River | 15        | 7       | 03/06/85 | 0.0        | 8.0     | 1.0     | 0.0      | 0.0   | 0.0     | 0.0      | 9     |
| Potomac River | 15        | 7       | 03/07/88 | 2.0        | 49.0    | 0.0     | 0.0      | 0.0   | 0.0     | 8        | 51    |
| Potomac River | 15        | 7       | 03/16/83 | 1.0        | 116.0   | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 11    |
| Potomac River | 15        | 7       | 03/26/87 | 3.0        | 101.0   | 0.0     | 3.0      | 0.0   | 0.0     | 3.0      | 37    |
| Potomac River | 15        | 7       | 04/06/81 | 6.0        | 58.0    | 0.0     | 2.0      | 0.0   | 0.0     | 2.0      | 17    |
| Potomac River | 15        | 7       | 04/09/85 | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0      | 0     |
| Potomac River | 15        | 7       | 04/13/89 | 1.0        | 34.0    | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 17    |
| Potomac River | 15        | 7       | 04/21/80 | 9.0        | 48.0    | 2.0     | 0.0      | 0.0   | 0.0     | 0.0      | 5     |
| Potomac River | 15        | 7       | 04/22/82 | 2.0        | 27.0    | 0.0     | 1.0      | 0.0   | 0.0     | 1.0      | 4     |
| Potomac River | 15        | 7       | 04/28/88 | 24.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 16    |
| Potomac River | 15        | 7       | 05/11/82 | 13.0       | 138.0   | 0.0     | 0.0      | 0.0   | 0.0     | 0.0      | 76    |

**Table 5: Fish Metrics**

| STNAME        | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 7       | 05/13/80 | 12.0    | 26.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 38    |
| Potomac River | 15      | 7       | 05/14/85 | 0.0     | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 7     |
| Potomac River | 15      | 7       | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0.0      | 0     |
| Potomac River | 15      | 7       | 05/21/86 | 3.0     | 43.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 46    |
| Potomac River | 15      | 7       | 05/27/87 | 16.0    | 126.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 119      | 144   |
| Potomac River | 15      | 7       | 06/06/83 | 8.0     | 74.0       | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 13       | 85    |
| Potomac River | 15      | 7       | 06/09/80 | 6.0     | 30.0       | 4.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 40    |
| Potomac River | 15      | 7       | 06/11/85 | 7.0     | 43.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 22       | 52    |
| Potomac River | 15      | 7       | 06/13/79 | 10.0    | 43.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 28       | 55    |
| Potomac River | 15      | 7       | 06/15/89 | 4.0     | 57.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 61    |
| Potomac River | 15      | 7       | 06/17/87 | 9.0     | 59.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 73    |
| Potomac River | 15      | 7       | 06/20/84 | 14.0    | 33.0       | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 50    |
| Potomac River | 15      | 7       | 06/25/86 | 37.0    | 6.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 34       | 46    |
| Potomac River | 15      | 7       | 06/30/82 | 7.0     | 25.0       | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 28       | 35    |
| Potomac River | 15      | 7       | 07/01/81 | 7.0     | 3.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 15    |
| Potomac River | 15      | 7       | 07/06/83 | 10.0    | 22.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 36    |
| Potomac River | 15      | 7       | 07/07/80 | 6.0     | 4.0        | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 9        | 13    |
| Potomac River | 15      | 7       | 07/10/84 | 11.0    | 9.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 20    |
| Potomac River | 15      | 7       | 07/16/85 | 8.0     | 69.0       | 0.0     | 3.0     | 0.0      | 0.0   | 3.0     | 7        | 80    |
| Potomac River | 15      | 7       | 07/18/79 | 14.0    | 21.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 36    |
| Potomac River | 15      | 7       | 07/21/82 | 11.0    | 19.0       | 10.0    | 2.0     | 0.0      | 0.0   | 2.0     | 32       | 42    |
| Potomac River | 15      | 7       | 07/27/89 | 8.0     | 29.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 37    |
| Potomac River | 15      | 7       | 08/08/84 | 16.0    | 38.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 56    |
| Potomac River | 15      | 7       | 08/15/79 | 7.0     | 11.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 25    |
| Potomac River | 15      | 7       | 08/25/82 | 8.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 14    |
| Potomac River | 15      | 7       | 09/09/81 | 12.0    | 11.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 9        | 27    |
| Potomac River | 15      | 7       | 09/16/87 | 33.0    | 6.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 23       | 39    |
| Potomac River | 15      | 7       | 09/19/79 | 1.0     | 3.0        | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 4        | 8     |
| Potomac River | 15      | 7       | 09/28/89 | 38.0    | 11.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 20       | 52    |
| Potomac River | 15      | 7       | 10/03/84 | 4.0     | 6.0        | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 2        | 12    |
| Potomac River | 15      | 7       | 10/18/83 | 35.0    | 19.0       | 0.0     | 14.0    | 0.0      | 0.0   | 14.0    | 47       | 68    |
| Potomac River | 15      | 7       | 10/24/79 | 2.0     | 14.0       | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 19    |
| Potomac River | 15      | 7       | 10/24/85 | 12.0    | 38.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 51    |
| Potomac River | 15      | 7       | 10/26/89 | 9.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 23    |
| Potomac River | 15      | 7       | 11/05/81 | 4.0     | 7.0        | 0.0     | 3.0     | 0.0      | 0.0   | 3.0     | 10       | 14    |
| Potomac River | 15      | 7       | 11/08/83 | 6.0     | 3.0        | 0.0     | 3.0     | 0.0      | 0.0   | 3.0     | 5        | 12    |
| Potomac River | 15      | 7       | 11/10/86 | 4.0     | 10.0       | 1.0     | 0.0     | 0.0      | 0.0   | 1.0     | 8        | 16    |
| Potomac River | 15      | 7       | 11/16/87 | 2.0     | 31.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 34    |
| Potomac River | 15      | 7       | 11/19/79 | 1.0     | 15.0       | 1.0     | 1.0     | 0.0      | 0.0   | 0.0     | 7        | 18    |

**Table 5: Fish Metrics**

| STNAME        | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 7       | 11/20/80 | 0.0     | 22.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 11       | 23    |
| Potomac River | 15      | 7       | 12/04/86 | 21.0    | 368.0      | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 156      | 393   |
| Potomac River | 15      | 7       | 12/08/87 | 6.0     | 202.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 89       | 208   |
| Potomac River | 15      | 7       | 12/09/82 | 2.0     | 74.0       | 3.0     | 1.0     | 0.0      | 0.0   | 1.0     | 42       | 80    |
| Potomac River | 15      | 7       | 12/10/80 | 2.0     | 35.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 15       | 38    |
| Potomac River | 15      | 7       | 12/10/84 | 0.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| Potomac River | 15      | 7       | 12/12/85 | 1.0     | 4.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 6     |
| Potomac River | 15      | 7       | 12/17/79 | 0.0     | 2.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 2     |
| Potomac River | 15      | 7       | 12/27/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 11      | 7       | 01/01/75 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 8       | 01/09/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 8       | 01/17/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 8       | 01/23/89 | 0.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 5     |
| Potomac River | 15      | 8       | 02/28/80 | 0.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 2     |
| Potomac River | 15      | 8       | 03/03/81 | 1.0     | 20.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 13       | 22    |
| Potomac River | 15      | 8       | 03/05/86 | 0.0     | 18.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 0     |
| Potomac River | 15      | 8       | 03/06/85 | 1.0     | 14.0       | 2.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0      | 3     |
| Potomac River | 15      | 8       | 03/07/88 | 5.0     | 8.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 13    |
| Potomac River | 15      | 8       | 03/16/83 | 3.0     | 20.0       | 1.0     | 1.0     | 0.0      | 0.0   | 0.0     | 12       | 28    |
| Potomac River | 15      | 8       | 03/26/87 | 5.0     | 241.0      | 0.0     | 2.0     | 0.0      | 0.0   | 0.0     | 4        | 21    |
| Potomac River | 15      | 8       | 04/06/81 | 0.0     | 6.0        | 2.0     | 1.0     | 0.0      | 0.0   | 0.0     | 3        | 18    |
| Potomac River | 15      | 8       | 04/09/85 | 1.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 3     |
| Potomac River | 15      | 8       | 04/13/89 | 2.0     | 67.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 0     |
| Potomac River | 15      | 8       | 04/21/80 | 3.0     | 10.0       | 3.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 69    |
| Potomac River | 15      | 8       | 04/22/82 | 9.0     | 38.0       | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 15       | 49    |
| Potomac River | 15      | 8       | 04/28/88 | 32.0    | 34.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 27       | 67    |
| Potomac River | 15      | 8       | 05/11/82 | 5.0     | 45.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 50    |
| Potomac River | 15      | 8       | 05/13/80 | 2.0     | 54.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 59    |
| Potomac River | 15      | 8       | 05/14/85 | 0.0     | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| Potomac River | 15      | 8       | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 8       | 05/21/86 | 6.0     | 18.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 24    |
| Potomac River | 15      | 8       | 05/27/87 | 13.0    | 91.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 41       | 104   |
| Potomac River | 15      | 8       | 06/06/83 | 6.0     | 79.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 43       | 87    |
| Potomac River | 15      | 8       | 06/09/80 | 6.0     | 12.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 18    |
| Potomac River | 15      | 8       | 06/11/85 | 3.0     | 13.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 16    |
| Potomac River | 15      | 8       | 06/13/79 | 3.0     | 24.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 11       | 29    |
| Potomac River | 15      | 8       | 06/15/89 | 11.0    | 37.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 25       | 50    |
| Potomac River | 15      | 8       | 06/17/87 | 18.0    | 74.0       | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 24       | 96    |
| Potomac River | 15      | 8       | 06/20/84 | 16.0    | 40.0       | 5.0     | 0.0     | 0.0      | 0.0   | 0.0     | 21       | 62    |

**Table 5: Fish Metrics**

| STUDYCODE     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Potomac River | 15      | 8       | 06/25/86 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0.0     | 0        | 0     |
| Potomac River | 15      | 8       | 06/30/82 | 2.0     | 108.0      | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 61       | 111   |
| Potomac River | 15      | 8       | 07/01/81 | 6.0     | 6.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 13    |
| Potomac River | 15      | 8       | 07/06/83 | 8.0     | 8.0        | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 9        | 17    |
| Potomac River | 15      | 8       | 07/07/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 8       | 07/10/84 | 3.0     | 8.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 13    |
| Potomac River | 15      | 8       | 07/16/85 | 27.0    | 80.0       | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 18       | 109   |
| Potomac River | 15      | 8       | 07/18/79 | 15.0    | 29.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 21       | 45    |
| Potomac River | 15      | 8       | 07/21/82 | 11.0    | 25.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 37    |
| Potomac River | 15      | 8       | 07/27/89 | 6.0     | 10.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 16    |
| Potomac River | 15      | 8       | 08/08/84 | 12.0    | 66.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 31       | 78    |
| Potomac River | 15      | 8       | 08/15/79 | 4.0     | 25.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 29    |
| Potomac River | 15      | 8       | 08/25/82 | 2.0     | 23.0       | 2.0     | 1.0     | 0.0      | 0.0   | 1.0     | 10       | 32    |
| Potomac River | 15      | 8       | 09/09/81 | 16.0    | 29.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 19       | 54    |
| Potomac River | 15      | 8       | 09/16/87 | 17.0    | 114.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 43       | 131   |
| Potomac River | 15      | 8       | 09/19/79 | 1.0     | 6.0        | 1.0     | 3.0     | 0.0      | 0.0   | 3.0     | 9        | 11    |
| Potomac River | 15      | 8       | 09/28/89 | 13.0    | 34.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 7        | 50    |
| Potomac River | 15      | 8       | 10/03/84 | 6.0     | 6.0        | 3.0     | 1.0     | 0.0      | 0.0   | 1.0     | 7        | 16    |
| Potomac River | 15      | 8       | 10/18/83 | 5.0     | 51.0       | 0.0     | 11.0    | 0.0      | 0.0   | 11.0    | 45       | 67    |
| Potomac River | 15      | 8       | 10/24/79 | 7.0     | 37.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 8        | 46    |
| Potomac River | 15      | 8       | 10/24/85 | 16.0    | 228.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 126      | 245   |
| Potomac River | 15      | 8       | 10/26/89 | 18.0    | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 12       | 20    |
| Potomac River | 15      | 8       | 11/05/81 | 11.0    | 14.0       | 1.0     | 3.0     | 0.0      | 0.0   | 3.0     | 21       | 29    |
| Potomac River | 15      | 8       | 11/08/83 | 4.0     | 6.0        | 2.0     | 6.0     | 0.0      | 0.0   | 6.0     | 9        | 24    |
| Potomac River | 15      | 8       | 11/10/86 | 10.0    | 0.0        | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 12    |
| Potomac River | 15      | 8       | 11/16/87 | 5.0     | 10.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 17    |
| Potomac River | 15      | 8       | 11/19/79 | 1.0     | 23.0       | 0.0     | 0.0     | 1.0      | 0.0   | 0.0     | 12       | 26    |
| Potomac River | 15      | 8       | 11/20/80 | 2.0     | 12.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 14    |
| Potomac River | 15      | 8       | 12/04/86 | 7.0     | 81.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 34       | 88    |
| Potomac River | 15      | 8       | 12/08/87 | 4.0     | 21.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 26    |
| Potomac River | 15      | 8       | 12/09/82 | 0.0     | 32.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 9        | 33    |
| Potomac River | 15      | 8       | 12/10/80 | 0.0     | 122.0      | 0.0     | 4.0     | 0.0      | 0.0   | 4.0     | 36       | 130   |
| Potomac River | 15      | 8       | 12/10/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 8       | 12/12/85 | 0.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 2        | 4     |
| Potomac River | 15      | 8       | 12/17/79 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 8       | 12/27/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 11      | 8       | 01/01/75 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 9       | 01/09/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River | 15      | 9       | 01/17/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |

Table 5: Fish Metrics

| STUDYCODE     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOOLTOLERANT | TOTAL |     |
|---------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|--------------|-------|-----|
|               |         |         |          |         |            |         |         |          |       |         |              | 1     | 7   |
| Potomac River | 15      | 9       | 01/23/89 | 1.0     | 5.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 1     | 7   |
| Potomac River | 15      | 9       | 02/28/80 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0          | 0     | 0   |
| Potomac River | 15      | 9       | 03/03/81 | 4.0     | 39.0       | 0.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0          | 35    | 47  |
| Potomac River | 15      | 9       | 03/05/86 | 1.0     | 61.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 8     | 64  |
| Potomac River | 15      | 9       | 03/06/85 | 0.0     | 4.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 0     | 6   |
| Potomac River | 15      | 9       | 03/07/88 | 14.0    | 58.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 13    | 73  |
| Potomac River | 15      | 9       | 03/16/83 | 5.0     | 6.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 11    | 12  |
| Potomac River | 15      | 9       | 03/26/87 | 1.0     | 38.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 5     | 41  |
| Potomac River | 15      | 9       | 04/06/81 | 0.0     | 3.0        | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 2.0          | 2     | 6   |
| Potomac River | 15      | 9       | 04/09/85 | 1.0     | 0.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 0     | 2   |
| Potomac River | 15      | 9       | 04/13/89 | 3.0     | 11.0       | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 0.0          | 4     | 15  |
| Potomac River | 15      | 9       | 04/21/80 | 1.0     | 15.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 2     | 16  |
| Potomac River | 15      | 9       | 04/22/82 | 0.0     | 210.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 88    | 210 |
| Potomac River | 15      | 9       | 04/28/88 | 32.0    | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 28    | 36  |
| Potomac River | 15      | 9       | 05/11/82 | 2.0     | 4.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 2     | 7   |
| Potomac River | 15      | 9       | 05/13/80 | 4.0     | 37.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 9     | 41  |
| Potomac River | 15      | 9       | 05/14/85 | 1.0     | 16.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 1     | 17  |
| Potomac River | 15      | 9       | 05/16/84 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0          | 0     | 0   |
| Potomac River | 15      | 9       | 05/21/86 | 5.0     | 8.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 4     | 13  |
| Potomac River | 15      | 9       | 05/27/87 | 10.0    | 69.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 32    | 79  |
| Potomac River | 15      | 9       | 06/06/83 | 0.0     | 53.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 13    | 53  |
| Potomac River | 15      | 9       | 06/09/80 | 7.0     | 22.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 7     | 30  |
| Potomac River | 15      | 9       | 06/11/85 | 7.0     | 20.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 42    | 145 |
| Potomac River | 15      | 9       | 06/13/79 | 3.0     | 17.0       | 6.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 1     | 28  |
| Potomac River | 15      | 9       | 06/15/89 | 18.0    | 41.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 16    | 59  |
| Potomac River | 15      | 9       | 06/17/87 | 9.0     | 131.0      | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 13    | 21  |
| Potomac River | 15      | 9       | 06/20/84 | 15.0    | 17.0       | 5.0     | 1.0     | 0.0      | 0.0   | 0.0     | 1.0          | 17    | 38  |
| Potomac River | 15      | 9       | 06/25/86 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.1     | 0.0          | 0     | 0   |
| Potomac River | 15      | 9       | 06/30/82 | 3.0     | 17.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 2     | 6   |
| Potomac River | 15      | 9       | 07/01/81 | 18.0    | 23.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 10    | 33  |
| Potomac River | 15      | 9       | 07/06/83 | 2.0     | 15.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 5     | 19  |
| Potomac River | 15      | 9       | 07/07/80 | 0.0     | 4.0        | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 10    | 7   |
| Potomac River | 15      | 9       | 07/10/84 | 10.0    | 20.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 45    | 58  |
| Potomac River | 15      | 9       | 07/16/85 | 19.0    | 57.0       | 1.0     | 3.0     | 0.0      | 0.0   | 3.0     | 19           | 80    |     |
| Potomac River | 15      | 9       | 07/18/79 | 3.0     | 23.0       | 1.0     | 1.0     | 0.0      | 0.0   | 1.0     | 0.0          | 7     | 32  |
| Potomac River | 15      | 9       | 07/21/82 | 21.0    | 33.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 4     | 50  |
| Potomac River | 15      | 9       | 07/27/89 | 4.0     | 44.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 33    | 71  |
| Potomac River | 15      | 9       | 08/08/84 | 15.0    | 48.0       | 2.0     | 3.0     | 0.0      | 0.0   | 3.0     | 0.0          | 7     | 32  |
| Potomac River | 15      | 9       | 08/15/79 | 6.0     | 17.0       | 6.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0.0          | 0.0   | 0.0 |

Table 5: Fish Metrics

| STNAME                     | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|----------------------------|---------|---------|----------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| STUDYCOD                   | STATION | STADATE | ENDDATE  | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
| Potomac River              | 15      | 9       | 08/25/82 | 8.0     | 10.0       | 1.0     | 0.0     | 0.0      | 0.0   | 0.0     | 10       | 21    |
| Potomac River              | 15      | 9       | 09/09/81 | 15.0    | 14.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 16       | 31    |
| Potomac River              | 15      | 9       | 09/16/87 | 25.0    | 10.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 5        | 35    |
| Potomac River              | 15      | 9       | 09/19/79 | 12.0    | 10.0       | 0.0     | 4.0     | 0.0      | 0.0   | 4.0     | 16       | 28    |
| Potomac River              | 15      | 9       | 09/28/89 | 4.0     | 8.0        | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 3        | 14    |
| Potomac River              | 15      | 9       | 10/03/84 | 17.0    | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 14       | 18    |
| Potomac River              | 15      | 9       | 10/18/83 | 11.0    | 7.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 6        | 20    |
| Potomac River              | 15      | 9       | 10/24/79 | 1.0     | 10.0       | 2.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 13    |
| Potomac River              | 15      | 9       | 10/24/85 | 34.0    | 329.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 134      | 363   |
| Potomac River              | 15      | 9       | 10/26/89 | 21.0    | 0.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 17       | 21    |
| Potomac River              | 15      | 9       | 11/05/81 | 3.0     | 81.0       | 1.0     | 2.0     | 1.0      | 0.0   | 2.0     | 70       | 89    |
| Potomac River              | 15      | 9       | 11/08/83 | 4.0     | 6.0        | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 4        | 12    |
| Potomac River              | 15      | 9       | 11/10/86 | 1.0     | 54.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 9        | 55    |
| Potomac River              | 15      | 9       | 11/16/87 | 3.0     | 23.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 26    |
| Potomac River              | 15      | 9       | 11/19/79 | 0.0     | 10.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 4        | 10    |
| Potomac River              | 15      | 9       | 11/20/80 | 0.0     | 54.0       | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 39       | 57    |
| Potomac River              | 15      | 9       | 12/04/86 | 4.0     | 334.0      | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 97       | 339   |
| Potomac River              | 15      | 9       | 12/08/87 | 1.0     | 5.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 3        | 6     |
| Potomac River              | 15      | 9       | 12/09/82 | 1.0     | 34.0       | 0.0     | 2.0     | 0.0      | 0.0   | 2.0     | 24       | 38    |
| Potomac River              | 15      | 9       | 12/10/80 | 3.0     | 19.0       | 0.0     | 7.0     | 0.0      | 0.0   | 7.0     | 26       | 29    |
| Potomac River              | 15      | 9       | 12/10/84 | 0.0     | 1.0        | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 0        | 1     |
| Potomac River              | 15      | 9       | 12/12/85 | 0.0     | 6.0        | 0.0     | 1.0     | 0.0      | 0.0   | 1.0     | 3        | 7     |
| Potomac River              | 15      | 9       | 12/17/79 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River              | 15      | 9       | 12/27/83 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Potomac River              | 11      | 9       | 01/01/75 | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Savage River               | 6       | 4       | 01/01/82 | 0.0     | 4.0        | 0.0     | 0.0     | 3.0      | 0.0   | 0.0     | 0        | 7     |
| South Branch Potomac River | 5       | 10      | 01/01/80 | 5.0     | 14.0       | 0.0     | 0.0     | 0.0      | 0.0   | 0.0     | 1        | 19    |
| South Branch Potomac River | 5       | 10      | 01/01/82 | 5.0     | 665.0      | 7.0     | 30.0    | 0.0      | 0.0   | 30.0    | 158      | 708   |
| South Branch Potomac River | 5       | 10      | 01/01/83 | 23.0    | 748.0      | 8.0     | 16.0    | 0.0      | 0.0   | 16.0    | 102      | 796   |
| South Branch Potomac River | 5       | 10      | 01/01/84 | 87.0    | 1,259.0    | 6.0     | 18.0    | 0.0      | 0.0   | 18.0    | 133      | 1,371 |
| South Branch Potomac River | 5       | 10      | 01/01/85 | 6.0     | 102.0      | 6.0     | 4.0     | 0.0      | 0.0   | 4.0     | 3        | 121   |
| South Branch Potomac River | 5       | 10      | 01/01/86 | 9.0     | 40.0       | 1.0     | 0.0     | 0.0      | 0.0   | 1.0     | 12       | 51    |
| South Branch Potomac River | 5       | 10      | 09/20/88 | 35.0    | 167.0      | 2.0     | 5.0     | 0.0      | 0.0   | 5.0     | 38       | 214   |
| South Branch Potomac River | 6       | 11      | 01/01/82 | 5.0     | 665.0      | 7.0     | 30.0    | 0.0      | 0.0   | 30.0    | 158      | 708   |

**Table 5: Fish Metrics**

| STRNAME                    | STUDYCOD | STATION | STADATE  | ENDDATE | SUNFISH | CYPRINIDAE | SUCKERS | PERCHES | SCULPINS | TROUT | DARTERS | TOLERANT | TOTAL |
|----------------------------|----------|---------|----------|---------|---------|------------|---------|---------|----------|-------|---------|----------|-------|
| Tributary to Finey Creek   | 2        | P2      | 04/01/90 | 13.0    | 173.0   | 0.0        | 4.0     | 0.0     | 0.0      | 4.0   | 0.0     | 138      | 193   |
| Tributary to Finey Creek   | 2        | P2      | 04/01/91 | 14.0    | 257.0   | 40.0       | 20.0    | 1.0     | 0.0      | 20.0  | 0.0     | 281      | 335   |
| Tributary to Finey Creek   | 2        | P2      | 09/01/90 | 20.0    | 496.0   | 17.0       | 32.0    | 0.0     | 0.0      | 32.0  | 0.0     | 472      | 576   |
| Tributary to Finey Creek   | 2        | P2      | 09/01/91 | 10.0    | 330.0   | 5.0        | 3.0     | 0.0     | 0.0      | 3.0   | 0.0     | 312      | 406   |
| <hr/>                      |          |         |          |         |         |            |         |         |          |       |         |          |       |
| Watts Branch               | 13       | W1      | 10/02/90 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Watts Branch               | 13       | W2      | 10/02/90 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Watts Branch               | 13       | W3      | 10/16/91 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Watts Branch               | 13       | W4      | 10/25/91 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Watts Branch               | 13       | W5      | 10/25/91 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| Watts Branch               | 13       | W6      | 10/25/91 | 1.0     | 56.0    | 1.0        | 1.0     | 0.0     | 0.0      | 0.0   | 1.0     | 49       | 59    |
| Watts Branch               | 13       | W7      | 10/28/91 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0.0     | 0        | 0     |
| Watts Branch               | 13       | W8      | 10/28/91 | 1.0     | 44.0    | 9.0        | 1.0     | 0.0     | 0.0      | 1.0   | 0.0     | 33       | 55    |
| Watts Branch               | 13       | W9      | 10/28/91 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.0   | 0.0     | 0        | 0     |
| <hr/>                      |          |         |          |         |         |            |         |         |          |       |         |          |       |
| West Branch Antietam Creek | 10B      | 1       | 06/01/77 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| West Branch Antietam Creek | 10B      | 2       | 06/01/77 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |
| West Branch Antietam Creek | 10B      | 3       | 06/01/77 | 0.1     | 0.1     | 0.1        | 0.1     | 0.1     | 0.1      | 0.1   | 0.0     | 0        | 0     |



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**Appendix D**

**Station Locations**



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| STATION | STUDYCOD | LATITUDE | LONGITUDE | STREAM_NAM                 |
|---------|----------|----------|-----------|----------------------------|
| 13      | 1        | 39.4200  | -77.7400  | Antietam Creek             |
| 12      | 1        | 39.4500  | -77.7300  | Antietam Creek             |
| 11      | 1        | 39.4800  | -77.7000  | Little Antietam Creek      |
| 10      | 1        | 39.5400  | -77.7100  | Beaver Creek               |
| 9       | 1        | 39.5400  | -77.7100  | Antietam Creek             |
| 8       | 1        | 39.6000  | -77.7100  | Antietam Creek             |
| 7       | 1        | 39.6100  | -77.7100  | Antietam Creek             |
| 6       | 1        | 39.6500  | -77.6900  | Antietam Creek             |
| 5       | 1        | 39.6500  | -77.6900  | Marsh Run                  |
| 4       | 1        | 39.6500  | -77.6600  | Antietam Creek             |
| 3       | 1        | 39.6700  | -77.6500  | Antietam Creek             |
| 2       | 1        | 39.7200  | -77.6100  | Antietam Creek             |
| 1       | 1        | 39.7800  | -77.5900  | West Branch Antietam Ck    |
| P1      | 2        | 39.7200  | -77.1000  | Piney Creek                |
| P2      | 2        | 39.7000  | -77.1300  | Tributary to Piney Creek   |
| P3      | 2        | 39.7000  | -77.1300  | Piney Creek                |
| P4      | 2        | 39.7000  | -77.1500  | Piney Creek                |
| P5      | 2        | 39.6700  | -77.1700  | Piney Creek                |
| P6      | 2        | 39.6600  | -77.2200  | Piney Creek                |
| A1      | 2        | 39.7300  | -77.1500  | Alloway Creek              |
| A2      | 2        | 39.7100  | -77.1900  | Alloway Creek              |
| A3      | 2        | 39.7000  | -77.2000  | Alloway Creek              |
| P1      | 2        | 39.7200  | -77.1000  | Piney Creek                |
| P2      | 2        | 39.7000  | -77.1300  | Tributary to Piney Creek   |
| P3      | 2        | 39.7000  | -77.1300  | Piney Creek                |
| P4      | 2        | 39.7000  | -77.1500  | Piney Creek                |
| P5      | 2        | 39.6700  | -77.1700  | Piney Creek                |
| P6      | 2        | 39.6600  | -77.2200  | Piney Creek                |
| A1      | 2        | 39.7300  | -77.1500  | Alloway Creek              |
| A2      | 2        | 39.7100  | -77.1900  | Alloway Creek              |
| A3      | 2        | 39.7000  | -77.2000  | Alloway Creek              |
| 22      | 3        | 39.4800  | -79.0700  | Savage River               |
| 23      | 3        | 39.5000  | -79.0900  | Savage River               |
| 25      | 3        | 39.5000  | -79.0900  | Savage River               |
| 26      | 3        | 39.4900  | -79.1000  | Savage River               |
| 27      | 3        | 39.5900  | -79.1000  | Popular Lick Run           |
| 28      | 3        | 39.5500  | -79.1400  | Big Run                    |
| 29      | 3        | 39.5000  | -79.1600  | Spring Lick Run            |
| 30      | 3        | 39.6000  | -79.0700  | Blue Lick Run              |
| 45      | 3        | 39.3000  | -79.3200  | Potomac River              |
| 46      | 3        | 39.4700  | -79.0700  | North Branch Potomac River |
| 47      | 3        | 39.5300  | -78.6100  | North Branch Potomac River |

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| STATION | STUDYCOD | LATITUDE | LONGITUDE | STREAM_NAM               |
|---------|----------|----------|-----------|--------------------------|
| 48      | 3        | 39.5400  | -78.4600  | Potomac River            |
| 49      | 3        | 39.2500  | -79.4200  | Laural Run               |
| 50      | 3        | 39.3500  | -79.3000  | Trout Run                |
| 51      | 3        | 39.3500  | -79.2900  | Laural Run               |
| 52      | 3        | 39.3400  | -79.2700  | Laural Run               |
| 53      | 3        | 39.3700  | -79.2600  | South Prong Lostland Run |
| 54      | 3        | 39.3900  | -79.2900  | South Prong Lostland Run |
| 55      | 3        | 39.3800  | -79.2600  | North Prong Lostland Run |
| 56      | 3        | 39.4000  | -79.2600  | North Prong Lostland Run |
| 57      | 3        | 39.4000  | -79.2100  | Wolfden Run              |
| 58      | 3        | 39.7000  | -78.6800  | Evitts Creek             |
| 59      | 3        | 39.6100  | -78.5600  | Town Creek               |
| 60      | 3        | 39.6900  | -78.4500  | Fifteen Mile Creek       |
| 61      | 3        | 39.5000  | -79.0500  | Georges Creek            |
| 62      | 3        | 39.5200  | -79.0200  | Georges Creek            |
| 63      | 3        | 39.5500  | -79.0000  | Georges Creek            |
| 64      | 3        | 39.5900  | -78.9500  | Georges Creek            |
| 65      | 3        | 39.6200  | -78.9400  | Georges Creek            |
| 66      | 3        | 39.5200  | -79.0300  | Mill Run                 |
| 67      | 3        | 39.5300  | -79.0200  | Moores Run               |
| 68      | 3        | 39.5200  | -79.0200  | Unnamed trib             |
| 69      | 3        | 39.5300  | -79.0200  | Butcher Run              |
| 70      | 3        | 39.5600  | -79.0200  | Laural Run               |
| 71      | 3        | 39.5800  | -78.9900  | Koontz Run               |
| 72      | 3        | 39.6000  | -78.9600  | Squirrel Neck Run        |
| 73      | 3        | 39.6100  | -78.9700  | Woodland Creek           |
| 74      | 3        | 39.6300  | -78.9700  | Staub Run                |
| 75      | 3        | 39.6000  | -78.9200  | Matthew Run              |
| 76      | 3        | 39.6400  | -78.9600  | Winebrenner Run          |
| 77      | 3        | 39.6300  | -78.9400  | Winebrenner Run          |
| 78      | 3        | 39.6500  | -78.9400  | Sandspring Run           |
| 79      | 3        | 39.6600  | -78.9400  | Sandspring Run           |
| 80      | 3        | 39.7200  | -78.7700  | Wills Creek              |
| 81      | 3        | 39.6700  | -78.7900  | Wills Creek              |
| 82      | 3        | 39.6700  | -78.7800  | Wills Creek              |
| 83      | 3        | 39.6600  | -78.7800  | Wills Creek              |
| 84      | 3        | 39.6700  | -78.8100  | Braddock Run             |
| 85      | 3        | 39.6400  | -78.8900  | Braddock Run             |
| 86      | 3        | 39.6300  | -78.9000  | Braddock Run             |
| 87      | 3        | 39.6900  | -78.7900  | Jennings Run             |
| 88      | 3        | 39.7000  | -78.8500  | Jennings Run             |
| 89      | 3        | 39.7000  | -78.8800  | Dutch Hollow Branch      |
| 90      | 3        | 39.7000  | -78.9000  | Dutch Hollow Branch      |
| 91      | 3        | 39.6900  | -78.8900  | Jennings Run             |

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| STATION | STUDYCOD | LATITUDE | LONGITUDE | STREAM_NAM                 |
|---------|----------|----------|-----------|----------------------------|
| 92      | 3        | 39.7100  | -78.8400  | North Branch Jennings Run  |
| 22      | 3        | 39.4800  | -79.0700  | Savage River               |
| 23      | 3        | 39.5000  | -79.0900  | Savage River               |
| 24      | 3        | 39.5000  | -79.1200  | Savage River               |
| 25      | 3        | 39.5500  | -79.1200  | Savage River               |
| 26      | 3        | 39.4900  | -79.1000  | Savage River               |
| 27      | 3        | 39.5900  | -79.1000  | Popular Lick Run           |
| 28      | 3        | 39.5500  | -79.1400  | Big Run                    |
| 29      | 3        | 39.5000  | -79.1600  | Spring Lick Run            |
| 30      | 3        | 39.6000  | -79.0700  | Blue Lick Run              |
| 44      | 3        | 39.2100  | -79.4700  | North Branch Potomac River |
| 45      | 3        | 39.3000  | -79.3200  | Potomac River              |
| 46      | 3        | 39.4700  | -79.0700  | North Branch Potomac River |
| 47      | 3        | 39.5300  | -78.6100  | North Branch Potomac River |
| 49      | 3        | 39.2500  | -79.4200  | Laural Run                 |
| 50      | 3        | 39.3500  | -79.3000  | Trout Run                  |
| 51      | 3        | 39.3500  | -79.2900  | Laural Run                 |
| 52      | 3        | 39.3400  | -79.2700  | Laural Run                 |
| 53      | 3        | 39.3700  | -79.2600  | South Prong Lostland Run   |
| 55      | 3        | 39.3800  | -79.2600  | North Prong Lostland Run   |
| 56      | 3        | 39.4000  | -79.2600  | North Prong Lostland Run   |
| 57      | 3        | 39.4000  | -79.2100  | Wolfden Run                |
| 58      | 3        | 39.7000  | -78.6800  | Evitts Creek               |
| 59      | 3        | 39.6100  | -78.5600  | Town Creek                 |
| 60      | 3        | 39.6900  | -78.4500  | Fifteen Mile Creek         |
| 61      | 3        | 39.5000  | -79.0500  | Georges Creek              |
| 62      | 3        | 39.5200  | -79.0200  | Georges Creek              |
| 63      | 3        | 39.5500  | -79.0000  | Georges Creek              |
| 64      | 3        | 39.5900  | -78.9500  | Georges Creek              |
| 66      | 3        | 39.5200  | -79.0300  | Mill Run                   |
| 67      | 3        | 39.5300  | -79.0200  | Moores Run                 |
| 68      | 3        | 39.5200  | -79.0200  | Unnamed trib               |
| 70      | 3        | 39.5600  | -79.0200  | Laural Run                 |
| 71      | 3        | 39.5800  | -78.9900  | Koontz Run                 |
| 76      | 3        | 39.6400  | -78.9600  | Winebrenner Run            |
| 77      | 3        | 39.6300  | -78.9400  | Winebrenner Run            |
| 78      | 3        | 39.6500  | -78.9400  | Sandspring Run             |
| 79      | 3        | 39.6600  | -78.9400  | Sandspring Run             |
| 80      | 3        | 39.7200  | -78.7700  | Wills Creek                |
| 81      | 3        | 39.6700  | -78.7900  | Wills Creek                |
| 82      | 3        | 39.6700  | -78.7800  | Wills Creek                |
| 83      | 3        | 39.6600  | -78.7800  | Wills Creek                |
| 84      | 3        | 39.6700  | -78.8100  | Braddock Run               |
| 85      | 3        | 39.6400  | -78.8900  | Braddock Run               |

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| STATION | STUDYCOD | LATITUDE | LONGITUDE | STREAM_NAM                 |
|---------|----------|----------|-----------|----------------------------|
| 87      | 3        | 39.6900  | -78.7900  | Jennings Run               |
| 88      | 3        | 39.7000  | -78.8500  | Jennings Run               |
| 89      | 3        | 39.7000  | -78.8800  | Dutch Hollow Branch        |
| 90      | 3        | 39.7000  | -78.9000  | Dutch Hollow Branch        |
| 91      | 3        | 39.6900  | -78.8900  | Jennings Run               |
| 92      | 3        | 39.7100  | -78.8400  | North Branch Jennings Run  |
| 1       | 4        | 39.8400  | -77.2200  | Rock Creek                 |
| 2       | 4        | 39.7900  | -77.2100  | Rock Creek                 |
| 3       | 4        | 39.7100  | -77.2200  | Monocacy River             |
| 4       | 4        | 39.6800  | -77.2400  | Monocacy River             |
| 5       | 4        | 39.6900  | -77.3200  | Tom's Creek                |
| 6       | 4        | 39.7100  | -77.3200  | Flat Run                   |
| 7       | 4        | 39.7000  | -77.3000  | Flat Run                   |
| 8       | 4        | 39.6700  | -77.3000  | Tom's Creek                |
| 9       | 4        | 39.6400  | -77.2800  | Tom's Creek                |
| 10      | 4        | 39.6200  | -77.3000  | Monocacy River             |
| 11      | 4        | 39.6100  | -77.2400  | Big Pipe Creek             |
| 12      | 4        | 39.5900  | -77.2400  | Little Pipe Creek          |
| 13      | 4        | 39.5800  | -77.3100  | Monocacy River             |
| 14      | 4        | 39.5900  | -77.4000  | Hunting Creek              |
| 15      | 4        | 39.5500  | -77.3700  | Hunting Creek              |
| 16      | 4        | 39.5100  | -77.3800  | Monocacy River             |
| 17      | 4        | 39.4800  | -77.3800  | Glade Creek                |
| 18      | 4        | 39.4500  | -77.3700  | Monocacy River             |
| 19      | 4        | 39.4300  | -77.3800  | Monocacy River             |
| 20      | 4        | 39.4200  | -77.3900  | Carroll Creek              |
| 21      | 4        | 39.4100  | -77.3700  | Monocacy River             |
| 22      | 4        | 39.4000  | -77.3700  | Monocacy River             |
| 23      | 4        | 39.3700  | -77.3900  | Monocacy River             |
| 24      | 4        | 39.3300  | -77.4100  | Monocacy River             |
| 25      | 4        | 39.2900  | -77.4100  | Bennett Creek              |
| 26      | 4        | 39.2400  | -77.4400  | Monocacy River             |
| 2       | 5        | 39.4400  | -79.1100  | North Branch Potomac River |
| 4       | 5        | 39.4800  | -79.0600  | North Branch Potomac River |
| 5       | 5        | 39.4500  | -78.9800  | North Branch Potomac River |
| 6       | 5        | 39.5700  | -78.8400  | North Branch Potomac River |
| 7       | 5        | 39.6500  | -78.7700  | North Branch Potomac River |
| 8       | 5        | 39.6200  | -78.7800  | North Branch Potomac River |
| 9       | 5        | 39.5400  | -78.6100  | North Branch Potomac River |
| 10      | 5        | 39.5000  | -78.5800  | South Branch Potomac River |
| 1       | 5        | 39.3900  | -79.1800  | North Branch Potomac River |
| 2       | 5        | 39.4400  | -79.1100  | North Branch Potomac River |
| 3       | 5        | 39.4700  | -79.0800  | North Branch Potomac River |
| 4       | 5        | 39.4800  | -79.0600  | North Branch Potomac River |

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| STATION | STUDYCOD | LATITUDE | LONGITUDE | STREAM_NAM                 |
|---------|----------|----------|-----------|----------------------------|
| 5       | 5        | 39.4500  | -78.9800  | North Branch Potomac River |
| 6       | 5        | 39.5700  | -78.8400  | North Branch Potomac River |
| 7       | 5        | 39.6500  | -78.7700  | North Branch Potomac River |
| 8       | 5        | 39.6200  | -78.7800  | North Branch Potomac River |
| 9       | 5        | 39.5400  | -78.6100  | North Branch Potomac River |
| 10      | 5        | 39.5000  | -78.5800  | South Branch Potomac River |
| 11      | 5        | 39.5400  | -78.4600  | North Branch Potomac River |
| 1       | 6        | 39.3900  | -79.1800  | North Branch Potomac River |
| 2       | 6        | 39.4400  | -79.1100  | North Branch Potomac River |
| 3       | 6        | 39.4700  | -79.0800  | North Branch Potomac River |
| 4       | 6        | 39.4800  | -79.0700  | Savage River               |
| 5       | 6        | 39.4800  | -79.0800  | Savage River               |
| 6       | 6        | 39.4800  | -79.0600  | North Branch Potomac River |
| 7       | 6        | 39.4500  | -78.9800  | North Branch Potomac River |
| 8       | 6        | 39.5700  | -78.8400  | North Branch Potomac River |
| 9       | 6        | 39.6500  | -78.7700  | North Branch Potomac River |
| 10      | 6        | 39.6200  | -78.7800  | North Branch Potomac River |
| 11      | 6        | 39.5000  | -78.5800  | South Branch Potomac River |
| 12      | 6        | 39.5400  | -78.4600  | North Branch Potomac River |
| 1       | 6        | 39.3900  | -79.1800  | North Branch Potomac River |
| 2       | 6        | 39.4400  | -79.1100  | North Branch Potomac River |
| 3       | 6        | 39.4700  | -79.0800  | North Branch Potomac River |
| 4       | 6        | 39.4800  | -79.0700  | Savage River               |
| 6       | 6        | 39.4800  | -79.0600  | North Branch Potomac River |
| 7       | 6        | 39.4500  | -78.9800  | North Branch Potomac River |
| 8       | 6        | 39.5700  | -78.8400  | North Branch Potomac River |
| 9       | 6        | 39.6500  | -78.7700  | North Branch Potomac River |
| 10      | 6        | 39.6200  | -78.7800  | North Branch Potomac River |
| 11      | 6        | 39.5000  | -78.5800  | South Branch Potomac River |
| 12      | 6        | 39.5400  | -78.4600  | North Branch Potomac River |
| 1       | 8        | 39.1300  | -77.0100  | Northwest Branch           |
| 2       | 8        | 39.1000  | -77.0400  | Northwest Branch           |
| 3       | 8        | 39.0600  | -77.0300  | Northwest Branch           |
| 4       | 8        | 39.0300  | -77.0000  | Northwest Branch           |
| 5       | 8        | 39.0000  | -77.0200  | Sligo Creek                |
| 6       | 8        | 39.0700  | -76.9800  | Paint Branch               |
| 7       | 8        | 39.0500  | -76.9800  | Paint Branch               |
| 11      | 8        | 39.0800  | -76.9300  | Little Paint Branch        |
| 12      | 8        | 39.0700  | -76.9400  | Little Paint Branch        |
| 13      | 8        | 39.0600  | -76.9500  | Little Paint Branch        |
| 14      | 8        | 39.1300  | -77.0100  | Northwest Branch           |
| 1       | 9        | 39.7100  | -77.6200  | Antietam Creek             |
| 2       | 9        | 39.6700  | -77.6500  | Antietam Creek             |
| 3       | 9        | 39.6100  | -77.7100  | Antietam Creek             |

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| STATION | STUDYCOD | LATITUDE | LONGITUDE | STREAM_NAM                 |
|---------|----------|----------|-----------|----------------------------|
| 4       | 9        | 39.4500  | -77.7300  | Antietam Creek             |
| 1       | 10B      | 39.8400  | -77.5700  | West Branch Antietam Creek |
| 2       | 10B      | 39.8300  | -77.5700  | West Branch Antietam Creek |
| 3       | 10B      | 39.7600  | -77.6000  | West Branch Antietam Creek |
| 4       | 10B      | 39.7400  | -77.5800  | East Branch Antietam Creek |
| 5       | 10B      | 39.7300  | -77.6000  | East Branch Antietam Creek |
| 6       | 10B      | 39.7200  | -77.6100  | Antietam Creek             |
| 1       | 10B      | 39.8400  | -77.5700  | West Branch Antietam Creek |
| 2       | 10B      | 39.8300  | -77.5700  | West Branch Antietam Creek |
| 3       | 10B      | 39.7600  | -77.6000  | West Branch Antietam Creek |
| 4       | 10B      | 39.7400  | -77.5800  | East Branch Antietam Creek |
| 5       | 10B      | 39.7300  | -77.6000  | East Branch Antietam Creek |
| 6       | 10B      | 39.7200  | -77.6100  | Antietam Creek             |
| 1       | 10a      | 39.7700  | -77.3800  | Unnamed Trib               |
| 2       | 10a      | 39.7600  | -77.3800  | Unnamed Trib               |
| 3       | 10a      | 39.7700  | -77.3900  | Toms Creek                 |
| 4       | 10a      | 39.7500  | -77.3800  | Toms Creek                 |
| 5       | 10a      | 39.7400  | -77.3700  | Toms Creek                 |
| 6       | 10a      | 39.7300  | -77.3700  | Toms Creek                 |
| 1       | 10c      | 39.7600  | -77.7800  | Conococheaque Creek        |
| 1       | 10F      | 39.9400  | -78.0000  | Big Cove Creek             |
| 2       | 10F      | 39.9300  | -78.0000  | Big Cove Creek             |
| 3       | 10F      | 39.9200  | -78.0100  | Big Cove Creek             |
| 1       | 10F      | 39.9400  | -78.0000  | Big Cove Creek             |
| 3       | 10F      | 39.9200  | -78.0100  | Big Cove Creek             |
| 1       | 10D      | 39.8200  | -77.2200  | Rock Creek                 |
| 1       | 10E      | 39.7200  | -77.6000  | East Branch Antietam Creek |
| 1       | 11       | 39.3000  | -79.3100  | North Branch Potomac River |
| 2       | 11       | 39.4800  | -79.0700  | North Branch Potomac River |
| 3       | 11       | 39.4500  | -78.9600  | North Branch Potomac River |
| 4       | 11       | 39.6400  | -78.8000  | North Branch Potomac River |
| 5       | 11       | 39.5600  | -78.7200  | North Branch Potomac River |
| 6       | 11       | 39.5400  | -78.6100  | North Branch Potomac River |
| 7       | 11       | 39.5400  | -78.4600  | Potomac River              |
| 8       | 11       | 39.6200  | -78.3800  | Potomac River              |
| 9       | 11       | 39.6900  | -78.1900  | Potomac River              |
| 10      | 11       | 39.6000  | -77.9900  | Potomac River              |
| 11      | 11       | 39.6000  | -77.8300  | Potomac River              |
| 12      | 11       | 39.5500  | -77.6800  | Potomac River              |
| 13      | 11       | 39.5000  | -77.7700  | Potomac River              |
| 14      | 11       | 39.3600  | -77.7400  | Potomac River              |
| 15      | 11       | 39.3100  | -77.6300  | Potomac River              |
| 16A     | 11       | 39.2300  | -77.4600  | Potomac River              |
| 16B     | 11       | 39.2200  | -77.4600  | Potomac River              |

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| STATION | STUDYCOD | LATITUDE | LONGITUDE | STREAM_NAM                 |
|---------|----------|----------|-----------|----------------------------|
| 17      | 11       | 39.1500  | -77.5200  | Potomac River              |
| 18      | 11       | 39.0700  | -77.3400  | Potomac River              |
| 3       | 11       | 39.4500  | -78.9600  | North Branch Potomac River |
| 4       | 11       | 39.6400  | -78.8000  | North Branch Potomac River |
| 5       | 11       | 39.5600  | -78.7200  | North Branch Potomac River |
| 6       | 11       | 39.5400  | -78.6100  | North Branch Potomac River |
| 7       | 11       | 39.5400  | -78.4600  | Potomac River              |
| 8       | 11       | 39.6200  | -78.3800  | Potomac River              |
| 9       | 11       | 39.6900  | -78.1900  | Potomac River              |
| 10      | 11       | 39.6000  | -77.9900  | Potomac River              |
| 11      | 11       | 39.6000  | -77.8300  | Potomac River              |
| 12      | 11       | 39.5500  | -77.8800  | Potomac River              |
| 13      | 11       | 39.5000  | -77.7700  | Potomac River              |
| 14      | 11       | 39.3600  | -77.7400  | Potomac River              |
| 15      | 11       | 39.3100  | -77.6300  | Potomac River              |
| 16A     | 11       | 39.2300  | -77.4600  | Potomac River              |
| 16B     | 11       | 39.2200  | -77.4600  | Potomac River              |
| 17      | 11       | 39.1500  | -77.5200  | Potomac River              |
| 18      | 11       | 39.0700  | -77.3400  | Potomac River              |
| PBGHLP1 | 12       | 39.0700  | -77.2100  | Piney Branch               |
| PBGHLP2 | 12       | 39.0600  | -77.2100  | Piney Branch               |
| PBGR1   | 12       | 39.0500  | -77.2300  | Piney Branch               |
| PBGR2   | 12       | 39.0400  | -77.2300  | Piney Branch               |
| P1      | 13       | 39.0500  | -77.2300  | Piney Branch               |
| P2      | 13       | 39.0700  | -77.2100  | Piney Branch               |
| P3      | 13       | 39.0500  | -77.2300  | Piney Branch               |
| P4      | 13       | 39.0600  | -77.2100  | Piney Branch               |
| P5      | 13       | 39.0500  | -77.2200  | Piney Branch               |
| P6      | 13       | 39.0500  | -77.2300  | Piney Branch               |
| P7      | 13       | 39.0500  | -77.2300  | Piney Branch               |
| P8      | 13       | 39.0600  | -77.2100  | Piney Branch               |
| P9      | 13       | 39.0700  | -77.2100  | Piney Branch               |
| P10     | 13       | 39.0700  | -77.2100  | Piney Branch               |
| W1      | 13       | 39.0500  | -77.2000  | Watts Branch               |
| W2      | 13       | 39.0900  | -77.1700  | Watts Branch               |
| W3      | 13       | 39.0500  | -77.2300  | Watts Branch               |
| W4      | 13       | 39.0900  | -77.1700  | Watts Branch               |
| W5      | 13       | 39.1100  | -77.1700  | Watts Branch               |
| W6      | 13       | 39.1100  | -77.1700  | Watts Branch               |
| W7      | 13       | 39.0500  | -77.2000  | Watts Branch               |
| W8      | 13       | 39.0500  | -77.2000  | Watts Branch               |
| W9      | 13       | 39.0500  | -77.2000  | Watts Branch               |
| M1      | 13       | 39.0700  | -77.2900  | Muddy Branch               |
| M2      | 13       | 39.1100  | -77.2400  | Muddy Branch               |

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| STATION | STUDYCOD | LATITUDE | LONGITUDE | STREAM_NAM    |
|---------|----------|----------|-----------|---------------|
| M3      | 13       | 39.1100  | -77.2400  | Muddy Branch  |
| M4      | 13       | 39.0800  | -77.2600  | Muddy Branch  |
| M5      | 13       | 39.0700  | -77.2900  | Muddy Branch  |
| M6      | 13       | 39.0700  | -77.2900  | Muddy Branch  |
| PBCL    | 14       | 39.0700  | -77.2100  | Piney Branch  |
| PBGR    | 14       | 39.0500  | -77.2300  | Piney Branch  |
| RBC     | 14       | 39.0900  | -77.2400  | Rich Branch   |
| WBAC    | 14       | 39.1100  | -77.1700  | Watts Branch  |
| WBGL    | 14       | 39.0600  | -77.2000  | Watts Branch  |
| MBAW    | 14       | 39.1100  | -77.2400  | Muddy Branch  |
| MBER    | 14       | 39.0700  | -77.2900  | Muddy Branch  |
| 1       | 15       | 39.2300  | -77.4600  | Potomac River |
| 2       | 15       | 39.2300  | -77.4600  | Potomac River |
| 3       | 15       | 39.2300  | -77.4600  | Potomac River |
| 4       | 15       | 39.2300  | -77.4600  | Potomac River |
| 5       | 15       | 39.2300  | -77.4500  | Potomac River |
| 6       | 15       | 39.2200  | -77.4500  | Potomac River |
| 7       | 15       | 39.2200  | -77.4600  | Potomac River |
| 8       | 15       | 39.2200  | -77.4600  | Potomac River |
| 9       | 15       | 39.2200  | -77.4600  | Potomac River |
| 10      | 15       | 39.2100  | -77.4600  | Potomac River |
| 11      | 15       | 39.2100  | -77.4700  | Potomac River |
| 12      | 15       | 39.2100  | -77.4700  | Potomac River |
| 13      | 15       | 39.2000  | -77.4700  | Potomac River |
| 14      | 15       | 39.2000  | -77.4700  | Potomac River |
| 15      | 15       | 39.2000  | -77.4700  | Potomac River |
| 16      | 15       | 39.1900  | -77.4700  | Potomac River |
| 17      | 15       | 39.1900  | -77.4800  | Potomac River |
| 18      | 15       | 39.1900  | -77.4800  | Potomac River |
| 19      | 15       | 39.1800  | -77.4800  | Potomac River |
| 20      | 15       | 39.1800  | -77.4800  | Potomac River |
| 21      | 15       | 39.1800  | -77.4900  | Potomac River |
| 22      | 15       | 39.1800  | -77.4900  | Potomac River |
| 23      | 15       | 39.1800  | -77.4900  | Potomac River |
| 24      | 15       | 39.1800  | -77.5000  | Potomac River |
| 25      | 15       | 39.1700  | -77.5000  | Potomac River |
| 26      | 15       | 39.1700  | -77.5000  | Potomac River |
| 27      | 15       | 39.1700  | -77.5200  | Potomac River |
| 28      | 15       | 39.1700  | -77.5200  | Potomac River |
| 29      | 15       | 39.1600  | -77.5200  | Potomac River |
| 30      | 15       | 39.1600  | -77.5200  | Potomac River |
| 201     | 15       | 39.2200  | -77.4600  | Potomac River |
| 202     | 15       | 39.2200  | -77.4600  | Potomac River |
| 203     | 15       | 39.2200  | -77.4600  | Potomac River |

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| STATION | STUDYCOD | LATITUDE | LONGITUDE | STREAM_NAM           |
|---------|----------|----------|-----------|----------------------|
| 204     | 15       | 39.2200  | -77.4600  | Potomac River        |
| 205     | 15       | 39.2100  | -77.4700  | Potomac River        |
| 206     | 15       | 39.2100  | -77.4700  | Potomac River        |
| 207     | 15       | 39.2100  | -77.4700  | Potomac River        |
| 208     | 15       | 39.2100  | -77.4800  | Potomac River        |
| 209     | 15       | 39.2000  | -77.4800  | Potomac River        |
| 210     | 15       | 39.2000  | -77.4800  | Potomac River        |
| 211     | 15       | 39.2000  | -77.4800  | Potomac River        |
| 212     | 15       | 39.1900  | -77.4800  | Potomac River        |
| 213     | 15       | 39.1900  | -77.4800  | Potomac River        |
| S1L2A   | 16       | 39.6000  | -77.9100  | Potomac River        |
| S1L2B   | 16       | 39.6000  | -77.9100  | Potomac River        |
| S3R4A   | 16       | 39.5900  | -77.8300  | Potomac River        |
| S3R4B   | 16       | 39.5900  | -77.8300  | Potomac River        |
| S3L2A   | 16       | 39.5900  | -77.8300  | Potomac River        |
| S3L2B   | 16       | 39.5900  | -77.8300  | Potomac River        |
| S4L4A   | 16       | 39.5800  | -77.8300  | Potomac River        |
| S4L4B   | 16       | 39.5800  | -77.8300  | Potomac River        |
| S5L1A   | 16       | 39.5700  | -77.8400  | Potomac River        |
| S5L1B   | 16       | 39.5700  | -77.8400  | Potomac River        |
| S6L2A   | 16       | 39.4900  | -77.7800  | Potomac River        |
| S6L2B   | 16       | 39.4900  | -77.7800  | Potomac River        |
| S8L5A   | 16       | 39.2400  | -77.4800  | Potomac River        |
| S8L5B   | 16       | 39.2400  | -77.4800  | Potomac River        |
| S9L3A   | 16       | 39.2200  | -77.4600  | Potomac River        |
| S9L3B   | 16       | 39.2200  | -77.4600  | Potomac River        |
| S10L4A  | 16       | 39.2000  | -77.4700  | Potomac River        |
| S10L4B  | 16       | 39.2000  | -77.4700  | Potomac River        |
| S11L4A  | 16       | 39.1900  | -77.4800  | Potomac River        |
| S11L4B  | 16       | 39.1900  | -77.4800  | Potomac River        |
| S12L4A  | 16       | 39.1500  | -77.5200  | Potomac River        |
| S12L4B  | 16       | 39.1500  | -77.5200  | Potomac River        |
| S13R7A  | 16       | 39.0700  | -77.4300  | Potomac River        |
| S13R7B  | 16       | 39.0700  | -77.4300  | Potomac River        |
| 13      | 16       | 39.2400  | -77.4400  | Monocacy River       |
| 1       | 17       | 39.1319  | -77.1322  | Rock Creek           |
| 2       | 17       | 39.1133  | -77.1306  | Rock Creek           |
| 2A      | 17       | 39.1136  | -77.1292  | Crabbs Branch        |
| 3       | 17       | 39.1128  | -77.1306  | Rock Creek           |
| 4       | 17       | 39.1094  | -77.1286  | Rock Creek           |
| 4A      | 17       | 39.1069  | -77.1297  | Southlawn stream     |
| 5       | 17       | 39.1061  | -77.1256  | Rock Creek           |
| 6       | 17       | 39.1019  | -77.1239  | Rock Creek           |
| 2       | 18       | 39.4300  | -79.1100  | North Branch Potomac |

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| STATION | STUDYCOD | LATITUDE | LONGITUDE | STREAM_NAM           |
|---------|----------|----------|-----------|----------------------|
| 3       | 18       | 39.4400  | -79.1100  | North Branch Potomac |
| 7       | 18       | 39.4600  | -79.1000  | North Branch Potomac |
| 8       | 18       | 39.4700  | -79.1100  | North Branch Potomac |
| 9       | 18       | 39.4700  | -79.0800  | North Branch Potomac |
| 11      | 18       | 39.4700  | -79.0700  | North Branch Potomac |
| 12      | 18       | 39.4800  | -79.0700  | North Branch Potomac |
| PSB1    | 19       | 39.4500  | -78.6600  | South Branch Potomac |
| S1      | 19       | 39.3100  | -77.7500  | Shenandoah River     |
| PSB56   | 19       | 39.1000  | -78.9600  | South Branch Potomac |
| P47     | 19       | 39.5200  | -77.8900  | Opequon Creek        |

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