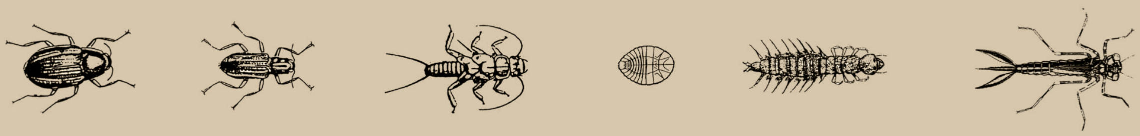
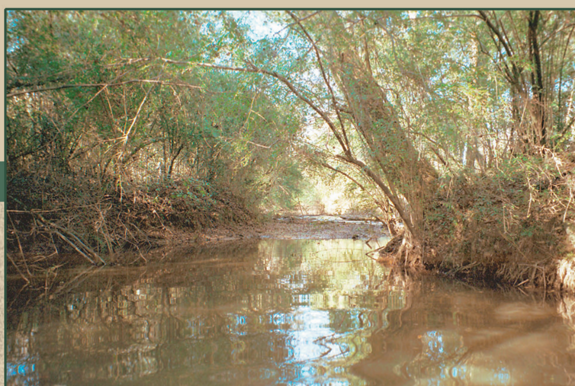
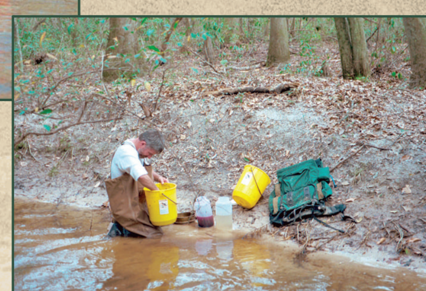
Development and Application of the Mississippi Benthic Index of Stream Quality (M-BISQ)

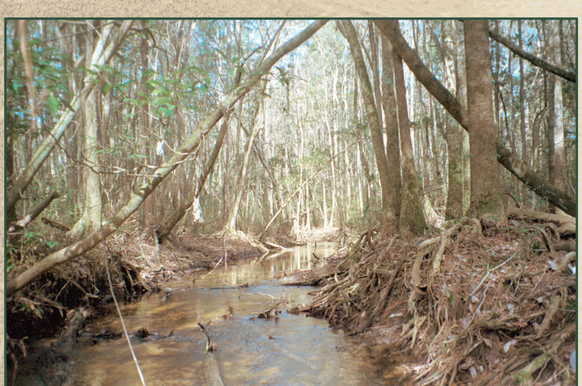




Mississippi Department of Environmental Quality
Office of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39204

June 30, 2003





MDEQ

Development and Application of the Mississippi Benthic Index of Stream Quality (M-BISQ)

Prepared for:

Water Quality Assessment Branch
Mississippi Department of Environmental Quality
2380 Highway 80 West
Jackson, Mississippi 39204

Prepared by:

Tetra Tech, Inc.
10045 Red Run Blvd., Suite 110
Owings Mills, Maryland 21117-6102

June 30, 2003

ABSTRACT

In 2001 Mississippi Department of Environmental Quality initiated development of a geographically calibrated multimetric index for the purpose of re-evaluating §303(d) listed streams found throughout the state except the Mississippi Alluvial Plain. Biological, chemical, physical, and landscape data were collected for over 450 sites during the winter index period (Jan-Mar) of 2001. Sites used for calibrating and testing indices and associated metrics were selected using quantitative landscape, physical, and chemical criteria. They were selected to represent the least-disturbed and most-disturbed conditions. Five site classes (Northwest, Black Belt, Northeast, West and East) were developed for the state based on variability of physical, chemical, and biological characteristics of the streams sampled across the study region. Separate indices were developed for each of these site classes and used to evaluate the impairment status of streams found within each site class. A total of 455 streams were evaluated using the Mississippi Benthic Index of Stream Quality (M-BISQ). This report describes the steps involved in developing the M-BISQ and presents results from each step. Appropriate management uses of final indices as well as possible future analyses are recommended.

EXECUTIVE SUMMARY

The total maximum daily load (TMDL) process requires that water resource systems (such as, streams, rivers, lakes, reservoirs, and wetlands) be evaluated for overall ecological condition and, if assessed as degraded, improved to meet their designated use(s). As of 1999, approximately 700 waterbodies in Mississippi had been listed as degraded (i.e., §303[d] listed), however, little or no quantitative data were used in establishing approximately 550 of these listings. Therefore, the Mississippi Department of Environmental Quality (MDEQ) initiated a project to re-evaluate the state's §303(d) listed streams using biological data along with other physical and chemical information. These data were calibrated according to statistically-based reference points representative of desired least-disturbed conditions, and are summarized in the Mississippi Benthic Index of Stream Quality (M-BISQ). This IBI-type index can be used for assessing the overall ecological condition of sites, as well as contributing to evaluation of the effects of nutrient enrichment, sedimentation, habitat impairment, and land use conversions. The M-BISQ will be used in establishing restoration and remediation goals, tracking the effectiveness of restoration and remediation activities, and developing watershed management strategies.

Developing the M-BISQ involved the following steps: 1) develop database, 2) delineate preliminary site classes, 3) develop criteria for designation of least-disturbed sites (least-disturbed (a) [LDa] and least-disturbed (b) [LDb], where LDb criteria are slightly less stringent), and most-disturbed sites (MD), 4) calculate metrics, 5) delineate final site classes, 6) test metrics, and 7) develop index. In step 1, over 450 stream locations (§303(d) listed and potential LDa streams) were sampled over a 6-7 week period during a winter index period spanning January – March, 2000. Potential LDa sites were selected based on their location in areas of extensive forest cover, or agency knowledge of the stream or watershed. Data collected in the field included field chemistry (pH, water temperature, specific conductance, TDS, turbidity, and dissolved oxygen), water grab samples for laboratory analytical chemistry (COD, TOC, TP, TKN, NH_3, nitrate/nitrite, total alkalinity, and total chlorides), physical habitat (visual-based habitat quality assessment and modified 100-particle Wolman pebble count), and benthic macroinvertebrates (multiple-habitat approach). All data were entered into EDAS (Ecological Data Application System) for data management and analysis. In step 2, 10 preliminary classes were developed based on the variability of physical and chemical parameters among potential LDa sites. In step 3, LDa, LDb, and MD site criteria were developed for each of these preliminary classes. Spatial distribution of biological metric values (calculated in step 4) and multivariate analyses were used to describe the variability of benthic assemblages of the LDa and LDb sites to develop five final site classes, or bioregions. The Northwest bioregion was composed of the northern sections of Level 4 ecoregions 74b and 65e; Black Belt was ecoregion 65a; the Northeast site class was composed of ecoregions 65b, i and j; West bioregion was composed of ecoregions 74a, b, and c; and, the East bioregion was made up of ecoregions 65d, r, and f. The discriminatory ability of biological metrics was statistically evaluated (step 6) through comparisons of LDa and MD site metric values. The best performing metrics within each site class were standardized and incorporated into final indices (step 7) and resulted in five indices (one for each bioregion), each with 6 or 7 metrics, as follows:

BIOREGIONS				
Black Belt	**East**	**Northwest**	**Northeast**	**West**
Metrics				
No. Collector taxa	% Caenidae	No. Chironomidae taxa	% Clingers	Hydropsychidae/ Trichoptera
Beck's Biotic Index	No. Tanytarsini taxa	% Clingers	% Diptera	Beck's Biotic Index
No. Plecoptera taxa	% Filterers	% Ephemeroptera (no Caenidae)	% Filterers	No. Sprawler taxa
Total taxa	Beck's Biotic Index	No. Filterer taxa	% Tanytarsini	% EPT (no Caenidae)
No. Sprawler taxa	Hilsenhoff Biotic Index	Beck's Biotic Index	Hilsenhoff Biotic Index	No. Coleoptera taxa
No. Coleoptera taxa	% EPT (no Caenidae)	Hilsenhoff Biotic Index	No. Trichoptera taxa	No. Predator taxa
% Caenidae	% Clingers	% Tanytarsini		

Discrimination efficiencies (DEs) for the five indices, which describe the ability of an index to detect impairment (higher percents = better detection ability), ranged from 89-100%; the average DE was 92%. A comprehensive quality assurance/quality control (QA/QC) program was maintained that included training, field and laboratory audits, a series of QC checks with documented results. This report includes a data quality assessment that partitions variability and attempts to isolate error sources. Index scores will be used for assessing the status of §303(d)-listed streams (i.e., whether listing or de-listing should occur), and as an indicator to be used in long-term stream and watershed monitoring.

ACKNOWLEDGMENTS

This work was completed under contractual agreement number MDEQ-01-ID-001 FTN/WLBE between the Mississippi Department of Environmental Quality and the FTN & Associates/WLBE Joint Venture (Work order number 01-0001 FTN/WLBE-003). The primary authors of this report were David W. Bressler and James B. Stribling of Tetra Tech, Inc. (Owings Mills, Maryland). Matt Hicks was the MDEQ (Jackson, Mississippi) Project Manager and David Loch was the MDEQ QA Project Manager. Along with Matt and David, Randy Reed, Jeff Thomas, and Kevin Pigott provided solid technical and management review and input.

Fieldwork was conducted by Chip Bray, Charles Cockrell, David Felder, Matt Hicks, Pete Howard, David Loch, Kevin Pigott, and Barbara Viskup of MDEQ; Lindsey Lewis and Robert Gregory of FTN & Associates (Little Rock, Arkansas); Deion Quinn of CivilTech, Inc. (Jackson, Mississippi); and Marcus Bowersox, David Bressler, Nathan Goodman, and Kristen Pavlik of Tetra Tech. Harold Bishop, Coleman Leach, Paul Grantham and Cliff Hornbeak of MDEQ's Office of Land and Water Resources performed tape-down and flow measurements. Laboratory sorting/subsampling was conducted by Mike Beiser, Allan Bennett, Chip Bray, Greg Clark, Charles Cockrell, Emily Cotton, Jenny Geraci-Ulmer, Sean Jackson, Barrott Lambdon, Eric Pederson, Richard Peets, Allison Sherman, Brandy Smith, Jermaine Travis, Chuck Thompson, Katherine Williams, Natalie Young, and Nicole Young of MDEQ; and by Chad Barbour, Carmela Biddle, Carolina Gallardo, Matt Geiman, Colin Hill, Corinne Marino, and Mandy Richardson of Tetra Tech. Mike Winnell of Freshwater Benthic Services, Inc. (Petoskey, Michigan) performed all primary taxonomic identifications. Alice Dossett and Richard Peets of MDEQ performed taxonomic quality control. Erik Leppo of Tetra Tech provided primary database management efforts, and customized the architecture of the Ecological Data Application System (EDAS) to MDEQ's program. John Brandon and Natalie Guedon of MDEQ and Barun Pani of Cyber Citizen, Inc., provided technical input for EDAS migration to MDEQ. Gary Hennington (Information Management Systems, Inc.) and Nona Yates (MDEQ) conducted extensive GIS analyses. Ed Decker, Jim Harrison, and David Melgaard (USEPA Region 4, Atlanta, GA), Pat Downey (FTN & Associates), Leslie Barkley, Mike Beiser, Chip Bray, David Felder, Henry Folmar, Matt Hicks, Kevin Pigott, Dave Loch, Randy Reed, Jeff Thomas, and Doug Upton (MDEQ), and Charlie Cooper and Sam Testa (USDA-ARS National Sedimentation Laboratory, Oxford, MS) provided comments on site classification and index development. Hoke Howard of USEPA Region 4 provided study design advice. Esther C. Peters and Susan Adair of Tetra Tech Inc. (Fairfax, Virginia), prepared the Quality Assurance Project Plan, and executed most QC activities, including all field and laboratory audits. Brenda Decker and Linda Shook of Tetra Tech, Inc. provided clerical and administrative support.

Table of Contents

Table of Contents (Continued)

List of Tables

List of Figures

List of Figures (Continued)

1. INTRODUCTION

1.1 Background on MDEQ biological assessment program and current status

Section 303(d) of the Clean Water Act (CWA) of 1972 requires that restoration and remediation strategies be developed for degraded waterbodies (NRC 2001). Those strategies typically include calculation of total maximum daily loads (TMDLs) for individual stressors (pollutants) affecting the condition of the waterbody. The initial step in the TMDL process is the determination of waterbody impairment and listing of the waterbodies. Because the initial listing process for Mississippi involved use of low quality data, or no data at all, the state undertook a program to develop a more reliable biological assessment methodology to confirm waterbody listing or the need for de-listing. Since the initial listing of Mississippi waterbodies more reliable field sampling, laboratory processing, and data analysis methods have evolved. This has, in large part, arisen from the need to address the CWA's goal of protecting, restoring, and enhancing the biological integrity of aquatic ecosystems, and the need to use consistent, reliable, and defensible data for water resources management and regulatory purposes.

The definition of impairment by natural resource management or regulatory agencies is typically based on attainment or non-attainment of numeric water quality standards associated with a waterbody's designated use. If those standards are not met (or attained), then the waterbody is considered to be degraded. Since all waters of the U. S. are designated for aquatic life use (ALU), indicators that reflect overall biological condition (such as a properly-calibrated multimetric index) are appropriate for evaluating impairment or non-impairment.

One of the questions that arises in any biological monitoring and assessment activity is related to the uncertainty that may be associated with the data and interpretive results. Sampling and analysis protocols used to develop assessments are in themselves a series of steps or methods, each providing samples, data, or statistical results to the next, eventually leading to an assessment of the site, stream, or watershed. There is always a certain amount of sampling or measurement error associated with each step of the process (Taylor 1988, Diamond et al. 1996). To allow Mississippi DEQ to begin to evaluate and report uncertainty associated with these biological assessments, they have designed and instituted a new strategy that includes partitioning of data collection and analysis procedures so that variance can be characterized and potential error sources identified and corrected.

The purpose of this project was two-fold: 1) develop an Index of Biological Integrity (IBI)-type indicator for use in describing the impairment status of wadeable streams and rivers in all ecoregions of Mississippi except the Mississippi Alluvial Plain (Delta), and 2) re-evaluate the impairment status of the state's 303(d)-listed streams and provide listing/de-listing recommendations. This report describes the development of a geographically calibrated biological index for Mississippi streams which will be used to develop impairment ratings for 465 sites (including ~300, §303[d] streams) throughout the state. Methods for developing the index, results of site classification and index calibration, bioregional summaries, and recommendations for stream management are presented.

1.2 Background on multimetric indices

Biological assemblages including benthic macroinvertebrates, periphyton, and fish have all been successfully used for monitoring stream conditions (Karr et al. 1986, Hill 1997, Southerland and Stribling 1995). In particular, benthic macroinvertebrate assemblages have been effective for bioassessment because they:

- are good indicators of localized conditions because they are relatively sedentary
- integrate the effects of many short-term environmental variations because most species have a life cycle of several months to several years
- are made up of species that constitute a broad range of trophic levels and pollution tolerances
- can be sampled easily, requiring few people and inexpensive gear, and resulting in minimal detrimental effect on the resident biota
- serve as a primary food source for fish
- are abundant and diverse in most streams

Biological integrity, defined as the ability of a system "*to support and maintain a balanced, integrated, adaptive community of organisms having a composition, diversity, and functional organization comparable with that of natural habitats of the region*" (Frey 1977, Karr and Dudley 1981, Karr et al. 1986, Gibson et al. 1996), has been acknowledged by scientific and regulatory agencies as an important component of natural resource protection (Schneider 1992).

A multimetric index of biological integrity (IBI, Karr et al. 1986), when calibrated according to the natural variation across a study region (Omernik 1987, Omernik and Griffith 1991), provides an objective approach for evaluating the ecological condition of waterbodies. Biological measures may exhibit variability (Karr and Chu 1999), however, assemblage-level indices more closely approximate actual biotic community composition (Buikema and Voshell 1993) than measures such as presence/absence of indicator species, single species toxicity tests, or estimates of population or abundance (Hughes et al. 1998).

Variously called rapid bioassessment protocols (RBP), the Invertebrate Community Index (ICI), the Benthic IBI (B-IBI), the Stream Condition Index (SCI) (among others), indices of biological integrity have been developed for many regions of North America (Barbour et al. 1999, Ohio EPA 1989, Kerans and Karr 1994, Barbour et al. 1996), and have been commonly used for assessing water resource quality (e.g., Karr 1991, Southerland and Stribling 1995, Gibson et al. 1996).). Geographically-calibrated, biological, multimetric indices for assessment of ecological conditions have been endorsed by the U.S. EPA (Gibson et al. 1996), the National Water Quality Monitoring Council (formerly, the Intergovernmental Task Force on Monitoring Water Quality) (ITFM 1995), and are currently used by over 42 states (Davis et al. 1996). The goal of the State of Mississippi is to use biological condition, physical habitat quality, and chemical conditions as indicators of ecological health, and for ecological health to be the basis of evaluating water resource quality. Other states have found multimetric indices to be robust in detecting where there is a problem, and where more detailed, diagnostic testing is warranted (McCarron and Frydenborg 1997), such as water column and sediment toxicity and analytical chemistry.

For a multimetric index to function properly, least-disturbed conditions must be established as a baseline to which study stream conditions are compared. Least disturbed (a) (LDa) sites are considered those that are least degraded in a study region as defined by landscape, physical, and chemical characteristics (Hughes et al. 1986). The composite biological conditions found at a suite of LDa sites are the reference conditions to which study data are compared (Gibson et al. 1996, Barbour et al. 1996). The database of LDa sites and the analyses performed in developing and calibrating LDa conditions provide a systematic framework for assessing ecological impairment of streams.

There are essentially seven steps in developing a multimetric index, however, the steps are often iterative. Developing the database (step 1) involves selecting sites, field sampling, laboratory processing, structuring the data management system, entering data, quality assurance procedures and any other activities necessary for assembling the data so that they can be analyzed. Determining preliminary site classes (Step 2), is the process of delineating naturally variable regions according to abiotic data (e.g., physical and chemical data). Step 3 develops LDa and LDb site criteria that are stratified according to the geographic framework of the site classes. Selecting LDa and LDb sites in this way ensures that non-degraded waterbodies with naturally high or low levels of particular physical or chemical parameters are not excluded from the reference pool. Step 4 is calculation of metrics that describe components of benthic assemblages including richness, composition, trophic, habit, and tolerance. The fifth step involves geographic calibration of metrics and indices through development of bioregions. Multivariate and visually based statistics are used to evaluate the variability of biological assemblages found at LDa and LDb sites. For each naturally variable region, metrics are tested for stressor discrimination efficiency (step 6), scored (i.e., standardized), and assembled into bioregion-specific indices (step 7).

2. METHODS

The analytical framework used in site classification, final metric selection, biological index development, and development of scoring criteria follows that used in other states and regions (Barbour et al. 1996, Maxted et al. 1998, Stribling et al. 1998), while being calibrated to Mississippi's ecological potential and database.

The approach used in constructing an IBI follows seven basic steps:

- Develop database
- Determine preliminary regional site classes
- Establish numeric criteria for LDa and MD sites
- Compile and calculate candidate metrics
- Determine naturally occurring bioregional delineations
- Test metrics
- Combine metrics into index

2.1 Develop database

2.1.1 Develop QAPP

A comprehensive Quality Assurance Project Plan (QAPP) was developed and approved by USEPA Region 4 prior to sampling and analysis to ensure that data of sufficient quantity and quality were collected and assessed to allow the MDEQ to meet its needs (MDEQ 2001). The QAPP includes a general framework for the entire project and detailed standard operating procedures (SOPs) for all of the field sampling, laboratory data analysis, data entry, data management, and quality control (QC) activities. It follows the framework outlined in USEPA (1999).

2.1.2 Site Selection

A total of 463 nontidal stream locations distributed throughout the state except the Mississippi Alluvial Plain were visited over an 8-week span during the winter index period (January – March) (Figure 2-1; Appendix F). Most of these sites were sampled for benthic macroinvertebrates, physical habitat, and chemistry; in some cases certain data were not collected due to adverse conditions. Approximately 300 sites were from Mississippi's §303(d) list (Table 2-1). Two types of sites were selected specifically for purposes of developing the index: (1) potential LDa sites with a low percentage of managed* land use; and (2) sites located in areas containing known and potentially severe stressor sources (MD sites). Other sites were located in areas of more moderate stressor inputs. Some of the potential LDa and MD sites were also §303(d)-listed waterbodies. Efforts were made to locate a sufficient number of sampling sites in as many ecoregions and watersheds as possible to aid in describing the spatial variability of the biological, physical, and chemical characteristics of Mississippi's streams and watersheds.

*Managed land use is defined as altered landscape (agriculture, silviculture, mining, urban, residential, commercial, or industrial)

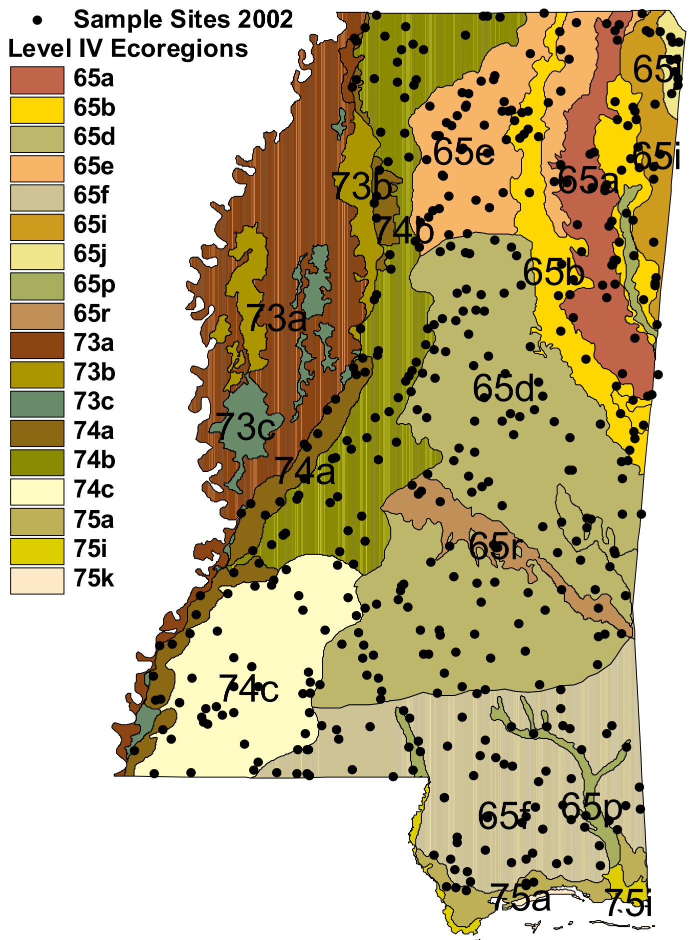


Figure 2-1. Level 4 ecoregions (Chapman et al. 2001 [draft]) overlain by sample sites.

2.1.3 Site Reconnaissance

Approximately 75 percent of the sites selected were visited by MDEQ staff prior to sampling to collect preliminary data on site locations, hazards, and potential sampling locations. The wadeability, representativeness, and accessibility of sites were noted. General physical habitat and surrounding environment was described; latitude/longitude coordinates were recorded using a Global Positioning System (GPS). Any extra equipment that would be needed by field teams was noted, as well as any other outstanding features at the site.

Table 2-1. Number of sites sampled and their use in different analyses.

	Number of Sites*	Reason(s) for Sampling and Analysis
All Sites	463	o listed on 1998 CWA 303(d) list as degraded; or o potential LDa sites; or o known stressor sites
Potential LDa Sites	272	o land use/land cover of upstream drainage areas (GIS calculation of cover types using data from MS Land Cover Project)
Final LDa and LDb Sites	146	o sites meet specific, quantitative target levels of physical and chemical measurements (calculated from field-collected data)

*note that the number of potential LDa sites is a subset of all sites, and final LDa/LDb is a subset of the potential LDa sites

2.1.4 Sample Collection/Data Generation

2.1.4.1 *Benthic Macroinvertebrates*

For benthic macroinvertebrates, 525 samples were collected from 455 sites. To limit seasonal variability, all benthic macroinvertebrate sampling occurred within a restricted time frame (index period) of January–March. An additional, randomly chosen 70 samples were collected for QC purposes (MDEQ 2001).

Field sampling was completed in accordance with MDEQ-SOP-FLD-007, "Macroinvertebrate Collection in Low Gradient Glide/Pool Streams: Aquatic Dip Net - 20-Jab Method" (Appendix H [MDEQ 2001]). A list of equipment and expendable supplies used in the field is provided in Table 7 of MDEQ (2001). All samples were collected from multiple habitats using a D-frame net with 800 × 900 micron mesh net. Productive habitats including gravel/cobble, undercut banks and root material, snags/woody debris, and submerged aquatic vegetation, were sampled in the proportion in which they occurred (area-based) within the 100m reaches. Of the 20 total jabs used for the entire benthic collection process, 15 were proportionally-allocated to the above habitats. The other five jabs were allocated to sandy bottom substrate. If all of the 15 jabs allocated to productive habitats could not be used (i.e., these habitats were rare or absent) the remaining jabs were reallocated to the sandy bottom substrate habitats.

2.1.4.2 *Water Chemistry*

Instream chemical data (dissolved oxygen, pH, temperature, specific conductance, TDS, and turbidity) were collected from 453 sites using a multiprobe and turbidimeter in accordance with

MDEQ-SOP-FLD-004, "Operation of the Hydrolab DataSonde 4, YSI 6-Series Water Quality Multiprobe/Surveyor 4 and 610 Display Unit, and Hach Model 2100P Portable Turbidimeter" (Appendix F [MDEQ 2001]). Wet chemistry grab samples were collected from 459 sites using two 1-liter (squat quart) HDPE bottles according to MDEQ-SOP-FLD-005, "Water Quality Grab Sampling of Wadeable Streams and Shallow Surface Waters" (Appendix F [MDEQ 2001]) and analyzed in the lab for COD, TOC, TP, TKN, NH_3, nitrate/nitrite, total alkalinity, and total chlorides. Duplicate grab samples were collected at 48 randomly selected sites for a total of 507 grab samples.

2.1.4.3 *Physical Habitat and Hydrology*

Water surface elevation was obtained by lowering a plumb bob from the nearest bridge and recording the distance from the water surface to a reference point on the bridge (MDEQ-SOP-FLD-003, "Stream Stage Measurements (Tape Down Procedure)" - Appendix D [MDEQ 2001]). Physical habitat was evaluated at 463 sites using MDEQ-SOP-FLD-006, "Habitat Assessment for Low-Gradient Glide/Pool Streams" (Appendix G [MDEQ 2001]). Ten habitat parameters describing instream habitat, bank, and riparian conditions were visually assessed and rated on a scale from 0 to 20 with 0 being the poorest habitat and 20 being optimal. Habitat assessments were performed on the same 100-meter reach from which macroinvertebrate samples were collected. Care was taken to avoid disturbing the sampling habitat prior to macroinvertebrate sampling. The locations of the sites were recorded by sketching a map, recording the GPS coordinates, and taking at least one photograph of the location. In addition, habitat assessments were performed at 70 randomly chosen sites (same as biological QC sites). Inorganic substrate particle size distribution was assessed by performing a modified Wolman pebble count according to MDEQ-SOP-FLD-008, "Modified Wolman Pebble Count" (Appendix I [MDEQ 2001]).

2.1.4.4 *Landscape*

Drainage areas to the 463 sample sites were delineated with ESRI's ArcGIS 8.1 GIS using digital elevation models (DEM) and the National Hydrography Dataset (NHD). Land use/land cover (LULC) percentages within the drainage areas were calculated from the 1997 Mississippi Land Cover Project data (MDEQ 1997). LULC percentages within a variety of different-sized riparian corridors (50, 100, and 200 m wide; areas 1km upstream and whole drainage) were calculated. Site elevation and stream gradient data were also developed from DEMs.

2.1.5 Sample Processing

One of the chemistry grab samples was preserved using 5 mL of 5N[*] H_2SO_4 and both samples were chilled on ice immediately after collection through delivery to the lab (Appendix F [MDEQ 2001]). The preserved sample was analyzed for COD, TOC, and nutrients (TP, TKN, NH_3 and Nitrite + Nitrate). The unpreserved sample was analyzed for total alkalinity and total chlorides.

The benthic macroinvertebrate samples were field-preserved in 95 percent denatured ethanol with internal and external labeling (Appendix H [MDEQ 2001]). Methods of laboratory processing were based on Barbour et al. (1999). Biological laboratory sample processing

[*] Normal

involved two steps. The initial or primary sample processing step included sorting, sub-sampling, and sorting rechecks. Standardized 200-organism sub-samples were completed in the laboratory using a Caton gridded screen (MDEQ-SOP-LAB-001, "Laboratory Sorting and Sub-Sampling" [Appendix J [MDEQ 2001]). Sub-samples were shipped to the taxonomist using the procedures in MDEQ-SOP-LAB-002, "Macroinvertebrate Shipping" (Appendix K [MDEQ 2001]). The secondary or final phase processing included taxonomic identification and verification procedures, tabulation, and enumeration and is detailed in MDEQ-SOP-LAB-003, "Macroinvertebrate Taxonomy" (Appendix L [MDEQ 2001]). Identifications were primarily to genus level with selected taxa to species, family, or higher.

2.1.6 Data Entry

Biological, habitat, and water quality data were entered or loaded into EDAS (Ecological Data Application System, version 3.0 [Tetra Tech 2000]), which is on a Microsoft Access 97 platform, and has been customized for the MDEQ Biological Monitoring Program. Data, metadata, and other ancillary information reside in a series of relational tables including: stations, samples, benthic taxa, chemistry, habitat, and others. Laboratory analytical chemistry results were received from the MDEQ chemistry lab in electronic format (Excel spreadsheets) and were imported into EDAS. Locational, physical habitat, and ancillary watershed characterization data were entered directly from field datasheets. Biological data (taxonomic and enumeration results) were entered directly from handwritten datasheets. All data entered were compared directly with hand-written datasheets by someone who did not do the primary data entry for QC purposes.

2.1.7 Tolerance Value Development

Stressor tolerance values (TV) are ratings assigned to taxa intended to reflect their capacity to withstand adverse environmental changes (TVs are further defined in Section 2.4). Tolerance values (TVs) were developed for benthic macroinvertebrate taxa found as part of this project (Appendix A). A suite of stressor gradients was developed using principal components analysis (PCA) and represented various combinations of data from 32 physical, chemical, and landscape variables. The stressor gradient was selected that was most highly correlated with NMDS axis scores and index scores (tolerance metrics excluded). To confirm that the appropriate PCA axis was chosen as the stressor gradient, NMDS scores were regressed against different PCA axes. PCA axis 1 was most highly correlated with the NMDS axes that explained the greatest amount of variation in the biological data. This PCA axis was scaled so that relative taxa abundance values could be directly related to the stressor gradient to determine taxon-specific tolerance values. Reciprocal averaging was used to select tolerance values based on the point along the PCA axis where the highest relative abundances occurred. If taxa occurred at <15 sites in this dataset, they were assigned TVs using previously-documented values from MDEQ.

2.2 Determine Preliminary Site Classes

Detection of changes in the benthic macroinvertebrate assemblage due to anthropogenic stressors must occur independently of inherent differences due to natural factors. Therefore, natural variability in the physical and chemical site characteristics of the data were investigated before evaluating biological heterogeneity. The geographic framework for delineating regions of *relatively* uniform natural features was Level 4 ecoregions (Figure 2-1; Table 2-2). Ecoregions are delineations of areas with similar climate, geology, soils, vegetation, topography, and hydrology (Omernik 1987), and have been accepted as a geographic framework for delineating regions of relatively homogeneous natural conditions (e.g., Barbour et al. 1996). Using Level 4 ecoregions as a framework, physical and chemical data, collected during this project allowed for further refinement of groupings called site classes.

Table 2-2. Ecoregions and subecoregions of Mississippi (Omernik 1987, Chapman et al. 2001).

Name	Numeric Designation
Blackland Prairie	65a
Flatwoods/Blackland Prairie Margins	65b
Southern Hilly Coastal Gulf Plain	65d
Northern Hilly Coastal Gulf Plain	65e
Southern Pine Plains and Hills	65f
Fall Line Hills	65i
Transition Hills	65j
Southeastern Floodplains and Low Terraces	65p
Jackson Prairie	65r
Mississippi Alluvial Plain	73
Bluff Hills	74a
Loess Plains	74b
Rolling Plains	74c
Gulf Coastal Flatwoods	75a

The first step in developing the preliminary site classes was to select potential LDa sites throughout the state based on the percentage of natural land use found within site drainage areas and riparian corridors. Land use/land cover (LULC) criteria were geographically-stratified so physically and chemically distinct areas would have references sites representative of a range of conditions. To be considered a potential LDa site, only one of the LULC target levels had to be met. LULC target levels were derived from professional judgement about responses of stream conditions to human influence. In areas where extensive landscape modification was predominant, the 75th percentile of natural riparian land use (50m wide, 1km long corridors) was used to specify criteria, or target levels. The variability of chemical parameters including conductivity, alkalinity, pH, nutrients, COD, TOC, and turbidity and physical parameters including total habitat scores, individual habitat scoring components, and substrate size (developed from pebble count data) among these least disturbed sites was investigated using box and whisker plots, GIS analysis, and Principal Components Analysis (PCA). The relationship of elevation and stream gradient to possible variation in physical and chemical parameters was also investigated. The ecoregions were combined or segregated to form the preliminary site classes according to the variability observed among chemical and physical characteristics.

2.3 Select Least-Disturbed and Most-Disturbed Sites

Criteria for selecting LDa and MD sites were established for each preliminary site class. Thresholds were determined for the physical and chemical parameters so that sites could be categorized by status, i.e., as “LDa”, “LDb”, “other”, and “MD”, in order of increasing anthropogenic stress. The purpose of designating quantitative thresholds is to enhance the defensibility of site classes. The suite of potential LDa sites (selected in step 2 using LULC criteria) was refined using quantitative physical and chemical criteria stratified according to the preliminary site classes. The physical and chemical parameters that were used for selecting LDa sites were those which appeared, based on the preliminary classification, to show substantial variation across the state (i.e., those that dictated the delineation of the preliminary classes). This process is intended to identify sufficient number of LDa sites to be representative of least disturbed conditions within each site class.

For a site to be considered “LDa” or “LDb”, it must meet all of the criteria. To classify for LDa status, sites in areas with extensive landscape modification only had to satisfy land use *or* habitat target levels as opposed to other regions of the state which had to meet both land use *and* habitat target levels. None of the sites used for site class delineation were specifically known to be impaired, i.e., the state had no previous monitored data indicating non-support of aquatic life use, though not all of these sites may have been previously monitored. LDb sites were selected to increase the number of sites to use for developing the final site classes (bioregions). Physical habitat was the only parameter for which LDb criteria were relaxed. LDa and LDb criteria for water chemistry and physical habitat were developed as follows:

- Water chemistry

  LDa and LDb sites: 5^{th} or 95^{th} percentile value of potential LDa distribution + 90% confidence interval (CI) (only available for grab sample data, not for *in situ*; developed from precision estimates calculated from duplicate and repeat sampling – see Appendix B)

- Physical habitat

  LDa sites: 25^{th} percentile value of potential LDa distribution + 90% CI
  LDb sites: 25^{th} percentile value of potential LDa distribution (no CI)

- Land Use/Land Cover

  LDa and LDb sites: by proportion of land cover as forested, most frequently ≥ 60% or ≥ 70% (this is the same criterion used for preliminary site classification).

The criterion for physical habitat was more stringent than the chemical parameters because physical degradation of streams and watersheds is known to be predominant throughout the region.

Sites were classified as MD by satisfying *any* of the several criteria for that class; however, if land use criteria were exceeded, to be classified as MD a site also had to exceed a habitat criterion equal to the 25th percentile of the entire site distribution (without CI included). LULC data were approximately nine years old so requiring low habitat scores when LULC indicated degradation ensured that the MD sites were selected.

MD site LULC, physical, and chemical criteria were developed as follows:

- Water chemistry

  Established through basic knowledge of acceptable environmental levels

- Physical habitat

  25th percentile of the entire site distribution minus the 90 percent CI.
  25th percentile of the entire site distribution (without CI included) for sites that exceeded LULC criteria.

- Land use

  Range of highest percentages of disturbed land use/cover within drainage areas and riparian corridors representing most disturbed.

2.4 Compile and Calculate Candidate Metrics

Candidate metrics for testing and potential inclusion in the final biotic index were selected from previous studies throughout the U.S. (Gibson et al. 1996, Stribling et al. 1998, Barbour et al, 1996). Metrics, defined as

> *"calculated terms or enumerated values representing some aspects of biological assemblage structure, function, or other measurable characteristic that change in predictable ways with increased human influence"* (Fausch et al. 1990, Barbour et al. 1995, 1999, U. S. EPA 1997),

fall into six categories in the MDEQ dataset: taxonomic richness, composition, habit, tolerance/intolerance, feeding group and diversity. A total of 84 metrics within the six categories were calculated and considered for inclusion in the index. The general ecological meanings associated with each category are discussed below.

Taxonomic Richness. Metrics in this category are counts of the distinct number of taxa within selected taxonomic groups. High taxa richness usually correlates with increasing health of the assemblage and suggests that niche space, habitat, and food sources are adequate to support survival and propagation of many species. Metrics in this category may be focused on overall taxa richness (e.g., total taxa) or richness within particular groups (e.g., EPT taxa, Insect taxa, Chironomidae taxa).

Composition. These metrics are based on the proportion of individuals in a sample belonging to a specified taxonomic group. Expressed as percentages, these metrics reveal the relative abundance of different groups of benthic macroinvertebrates, each of which may respond differently to environmental conditions and community dynamics.

Tolerance/Intolerance. Tolerance of a taxon is based on its ability to survive short- and long-term exposure to physicochemical stressors that result from chemical pollution, hydrologic alteration, or habitat degradation. Tolerance metrics characterize the relative sensitivity of the assemblage to perturbation by measuring numbers of pollution tolerant and intolerant taxa or percent composition. Different taxa are assigned tolerance values that are incorporated into indices such as the Hilsenhoff Biotic Index (HBI) or the North Carolina Biotic Index (NCBI) or metrics such as % intolerant organisms. Tolerance values developed as part of this project were used for calculating tolerance metrics.

Feeding Group. The functional feeding group designation for an organism reflects the dominant mode of feeding, not the specific nutritional source or benefits (Cummins and Klug 1979, Anderson and Cargill 1987, Merritt and Cummins 1996, Wallace and Webster 1996). Designations for each taxon include scrapers, predators, collector-gatherers, collector-filterers, shredders, and others. Specialized feeders, such as scrapers, are more sensitive organisms and are thought to be well represented in healthy streams. Generalists, such as collectors, have a broader range of acceptable food materials than specialists (Cummins and Klug 1979), and thus are more tolerant to pollution which may alter food sources.

Habit. These metrics describe morphological adaptations for maintaining position and moving about in the aquatic environment (Merrit and Cummins 1996). Habit categories include movement and positioning mechanisms such as swimmers, clingers, sprawlers, climbers, and burrowers.

Diversity. These metrics measure the relative representation of each taxon (or evenness) as a percentage of the most common taxa. Low evenness or high percent dominance by few taxa is an indication that environmental conditions favor a limited type of organism, which suggests the presence of stressors.

2.5 Develop Bioregional Delineations

Before human-induced changes in biological assemblages can be detected, the natural variation among assemblages must be understood. Variability in the macroinvertebrate assemblage may result from natural variability in the physical and chemical site characteristics across a geographic range. Much of the natural variability can be accounted for by dividing the area into ecological regions such as the preliminary site classes developed in step 2 and level 3 and 4 ecoregions (Omernik 1987). To calibrate the final index, however, it is necessary to assess natural biological variability, which does not necessarily coincide with abiotic variations.

The goal of any classification scheme is to form groupings that minimize within-group variability and maximize among-group variability. Two primary techniques, ordination and comparison of metric distributions, were used to justify separating or combining data from preliminary site classes and ecoregions into regions of relative biological homogeneity (bioregions). To minimize human-influenced biological variability, only LDa and LDb sites selected in step 3 were used to develop bioregions.

Alternative classification schemes were examined with multivariate ordination of the LDa and LDb sites based on their species composition, following methods outlined in Jongman et al. (1987) and Ludwig and Reynolds (1988). Ordination is a category of methods for reducing the dimensionality of multivariate information (many species in many sites) by placing sites or species in an order. The ordination method that we used, non-metric multidimensional scaling (NMDS), arranges sites along axes so points close together correspond to sites with similar taxonomic composition and abundance and points farthest apart are most dissimilar (Jongman et al. 1987). This approach is more robust in producing separation of classes than other ordination methods (e.g., Kenkel and Orloci 1986, Reynoldson et al. 1997). The most widely used technique is based on an ordination algorithm that produces dimensions explaining variation in the data, with the first explaining the most, continuing with the second in descending amounts of explained variation (Kruskal 1964; Kenkel and Orloci 1986). Values are plotted as two- or three-dimensional graphs depending on the perspectives that best illustrate site classes or similarity groupings. For this analysis, the Bray-Curtis percent dissimilarity coefficient was used:

$$BC = \left({}^{2W}\!\big/_{(A+B)} \right)$$

where W is the sum of common taxa abundances and A and B are the sums of taxa abundances in individual sample units. A pair of samples with identical taxa abundances would have a coefficient of 0 and a pair of samples with no taxa in common would have a coefficient of 1. This ordination method has been shown to be robust for ordination of species composition (e.g., Kenkel and Orloci 1986, Ludwig and Reynolds 1988), and has been used successfully for classification of stream communities (e.g., Barbour et al.1996; Reynoldson et al. 1995; Stribling et al. 1998).

The site-by-site matrix of Bray-Curtis dissimilarity coefficients was used in the NMDS ordinations (McCune and Mefford 1995, Kruskal 1964). An acceptable ordination should have a stress coefficient (measuring the goodness-of-fit of the ordination to the original data) of less than 20%. Stress is lowered as additional dimensions are allowed in the ordination and three axes are commonly required. The final NMDS configuration was plotted (as a scatterplot in two dimensions) to identify groupings of sites with similar taxa composition (low Bray-Curtis dissimilarity). When plotted points are labeled by site characteristics (e.g., preliminary site classes or ecoregions) the association between taxa composition and site characteristics can be visualized. Preliminary site classes or ecoregion groupings that overlap in the ordination plots could be combined into bioregions for subsequent analysis.

The second technique used to evaluate potential bioregions was assessment of box and whisker diagrams of metric distributions from LDa and LDb sites (Figure 2-2). Similar distributions of metrics (medians, inter-quartile ranges and overall ranges) between ecoregions indicate similar biotic assemblages and justify aggregation of ecoregions into a single bioregion. Likewise, substantial differences in distributions suggest distinct bioregions.

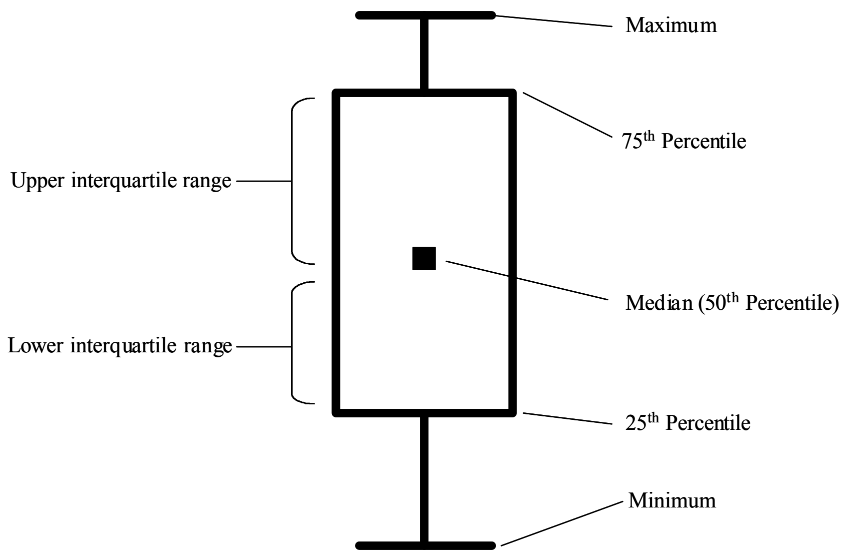


Figure 2-2. Example of box-and-whisker plot and its components

2.6 Test Metrics

The ability of metrics to detect impairment was assessed in two ways. Box-and-whisker plots were used to visually assess the ability of the metrics to distinguish between LDa and MD sites. This type of plot displays the median (central point), maximum and minimum values (whiskers), and 25th and 75th percentiles (box) of the LDa and MD site population. Decisions regarding the distinction of the populations of sites were made based on the degree of similarity between LDa and MD site distributions.

Discrimination efficiencies (DE) were used to quantitatively assess the ability of metrics to detect impairment. The DE is a numerical description of the degree of separation between metric value distributions of LDa and MD sites and is calculated as:

$$DE = 100 \times \frac{a}{b}$$

where a = the number of MD samples scoring below the 25th percentile of the LDa distribution and b = the total number of MD samples. A higher DE indicates better performance of a metric, or a better ability to distinguish between LDa and MD conditions. Most metrics decrease as stress increases; in these cases the 25th percentile of the LDa distribution (as described above) is used as the threshold. However, for metrics that increase with stress (e.g., HBI, % tolerant taxa), MD sites are classified correctly if the value is above the 75th percentile of the LDa distribution.

Within each bioregion, DEs were calculated for all metrics that show a clear response to stressors; those metrics that had unintelligible differences between distributions of LDa and MD sites in any of the bioregions were not considered as viable candidates for inclusion in the index and were therefore dropped from further analysis. Those metrics that responded to stress in opposite directions between bioregions were also dropped from the analysis. Therefore, metrics were not used in index formulation for several reasons:

1) obscure ecological meaning
2) lack of, or only weak, response to presence of stressors
3) irrelevance to ecosystems being studied
4) redundancy to other metrics being used (see step 7)

Exclusion of metrics occurred during different portions of the development process, particularly Steps 6 and 7.

2.7 Combine Metrics into Candidate Indices

A multimetric index is a simple additive approach for combining metric value information from different types of biological metrics into a single numeric assessment value. The process begins with metric scoring, then with averaging of the best performing (highest DEs) and most meaningful metrics.

2.7.1 Metric Scoring

To combine metrics into an index, metric values were standardized (i.e., scored) on a 100-point scale. The metric scoring strategy that was used in this analysis rated the metric values on a percentage scale from the least possible metric value to the highest observed metric value. For those metrics that decrease in value with stress (e.g., Tanytarsini taxa, EPT taxa, Beck's Biotic Index), the 95th percentile of the entire site distribution was considered the best value (i.e., the standard) to eliminate unusual outliers and avoid skewing the resultant scores. Metric values greater than or equal to this standard were given a score of 100, while those values less than the standard were scored as a percentage of the standard as follows:

$$score = \left(\frac{x}{x_{95} - x_{\min}} \right) \times 100 \;\; for \; x \leq x_{95}$$

where x is the metric value; x_{95} is the 95th percentile of the entire site distribution; and $x_{\min}$ is the minimum possible value (usually 0).

For those metrics that increase with stress (e.g., HBI, % Caenidae), the 5th percentile of the entire site distribution was used as the standard. All values less than or equal to this standard were given a score of 100. Values greater than the standard were scored as the percentage of the range from the maximum (worst) value to the 5th percentile (best) value:

$$score = \left(\frac{x_{\max} - x}{x_{\max} - x_5} \right) \times 100 \ \ for \ \ x \geq x_5$$

where x_5 is the 5th percentile value; and x_{max} is the maximum possible value (e.g., 100% for percentage metrics; 10 for HBI). For richness metrics the maximum observed value was used.

2.7.2 Index Selection

To avoid redundant information in the index, correlation analysis (Pearson Product Moment) was performed on all metrics. Those metrics with a correlation coefficient > 0.9 were considered redundant and were not used together in any index formulation. Metrics with correlation coefficients > 0.8 were used together only when absolutely necessary, for example, when no other metrics were available in a particular category.

Several test index formulations were made from suites of the best-performing metrics in each bioregion and from as many metric categories as practical. The index was calculated as an average of the proposed metric scores and a DE for the index was calculated as it was for each individual metric. Box and whisker plots of index scores for LDa and MD sites were also used to evaluate index performance. Configurations included metrics from six metric categories (taxonomic richness, composition, habit, feeding group, diversity and tolerance). Separate indices were developed for each of the five bioregions. Index configurations that had the highest DEs were chosen as final indices. When potential indices had the same DEs, separation of interquartile ranges, the presence of commonly used metrics, and the robustness of the configuration (i.e., the number of metrics) were used to decide on the final index configuration. Furthermore, metrics within index configurations were assessed with regard to whether the difference in LDa and MD metric values was ecologically meaningful (e.g., a difference of one taxon for a richness metric may not be important).

Precision of the five final indices was evaluated using the repeat and duplicate sample data. Precision estimates including root mean square error (RMSE), coefficient of variability (CV), and detectable differences (90% confidence intervals) were calculated for each index (Appendix B). Precision values of index scores for duplicate and repeat samples were similar to one another, therefore, these data were combined to derive an overall precision estimate for all replicated samples.

3. RESULTS

3.1 Database

All landscape, LULC, physical habitat, chemistry, and biological data assembled for this study are housed in the Mississippi EDAS (Microsoft Access 97) and are presented in Appendix F. Table 3-1 summarizes land use/land cover percentages for the five different bioregions by aggregated categories of land use. Out of 562 total taxa (Appendix C), new tolerance values were derived for 324 taxa. Another 149 taxa for which PCA-based tolerance values could not be developed (due to low numbers of organisms) were assigned tolerance values from previous lists (Appendix A).

3.2 Preliminary Site Classes

Using quantitative drainage area and riparian land use data calculated from GIS land use coverages (MDEQ 1997), 272 potential LDa sites were selected throughout the state (Table 2-1; Table 3-2). Based on box and whisker plots, PCA, and GIS analysis of a preliminary suite of potential LDa sites, the state was divided into six preliminary site classes. Upon selection of the potential LDa sites (i.e., the 272 described previously) the state was divided into nine preliminary site classes, excluding the Alluvial Plain. Chemical and physical parameters important to the class delineation included ammonia, chemical oxygen demand, chlorides, nitrate-nitrite, pH, specific conductance, TKN, TOC, TP, total habitat score, instream habitat, morphological habitat and average slope. The PCA loadings presented in Table 3-3 describe the variables that weighed most heavily on the PCA axis scores used for developing the preliminary site classes (Figure 3-1). A tenth preliminary site class was created from the northern part of site class 3 (Figure 3-2). Most of the class boundaries coincided with ecoregional boundaries; however, in several cases class boundaries cut through ecoregions or divided level 3 ecoregions along level 4 ecoregional lines (Figure 3-2, Table 3-4).

3.3 Criteria for Selecting Least -Disturbed and Most-Disturbed Sites

From the initial list of 463 sites, using the land use, physical and chemical target levels 83 LDa sites (Figure 3-3) and 63 LDb sites were selected for a total of 146 final LDa and LDb sites (Table 2-1; Table 3-2; Appendix F). A total of 72 MD sites were selected from the 10 preliminary site classes (Table 3-5; Figure 3-3; and Appendix F).

3.4 Candidate Metrics

A total of 84 metrics in six metric categories were calculated (Appendix F). Metrics were calculated using the lowest taxonomic level, usually genus. Metrics were also calculated using species level data (for those taxa identified to this level) but were not statistically different from genus-level metrics. Composition metrics were the largest category (N=31) and habit, trophic, and diversity metrics were the smallest groups (N=10, 10, and 1, respectively).

Table 3-1. Summary LULC for drainage areas and riparian corridors for five bioregions.

Bioregion	Land Use Category*	Complete Drainage Area	All Channels 100m Wide Corridors	1km Upstream Only 100m Wide Corridors	1km Upstream Only 50m Wide Corridors
Black Belt (n=26)					
	Forest	23.3	21.4	12.2	13.2
	Wetland	1.0	1.7	8.7	9.8
	Urban	3.0	1.8	10.1	9.4
	Agriculture	55.8	55.8	52.8	50.4
	Miscellaneous	16.9	19.4	16.1	17.2
East (n=205)					
	Forest	52.7	59.0	51.8	53.6
	Wetland	3.8	7.3	20.8	21.5
	Urban	1.1	0.7	1.2	1.0
	Agriculture	23.9	15.9	12.2	9.7
	Miscellaneous	18.5	17.1	14.0	14.2
Northeast (n=37)					
	Forest	34.9	29.7	19.1	19.3
	Wetland	1.1	2.6	7.2	7.3
	Urban	1.0	0.5	0.4	0.4
	Agriculture	47.8	51.2	61.5	60.6
	Miscellaneous	15.2	16.0	11.9	12.4
Northwest (n=91)					
	Forest	33.6	28.1	13.9	14.1
	Wetland	0.5	1.2	3.0	3.1
	Urban	1.0	0.5	0.5	0.5
	Agriculture	49.6	53.9	70.5	69.6
	Miscellaneous	15.3	16.3	12.0	12.7
West (n=96)					
	Forest	51.0	53.0	42.7	43.5
	Wetland	1.0	2.9	10.3	11.9
	Urban	1.5	1.0	0.9	0.8
	Agriculture	29.9	26.4	30.7	26.9
	Miscellaneous	16.7	16.7	15.5	17.0

*Forest and wetland are considered "natural" uses; urban and agricultural considered "managed". "Miscellaneous" constitutes small percentages of a variety of land uses.

Table 3-2. Land use, physical, and chemical criteria used to select LDa and LDb sites for the 10 preliminary site classes. LULC = land use and land cover.

Preliminary Site Class	LULC Criteria							Physical and Chemical Criteria															Number of Sites		
	Natural LULC				High Density																				
	Drainage Area	Riparian (100 m wide, whole drainage long)	Riparian (100 m wide, 1 km long)	Riparian (50 m wide, 1 km long)	Drainage Area	Riparian (100 m wide, whole drainage long)	Riparian (100 m wide, 1 km long)	Total Habitat Score (>=) - Reference	Total Habitat Score (>=) - SubReference	Ammonia (mg/L) (<=)	Chemical Oxygen Demand (mg/L) (<=)	Chlorides (mg/L) (<=)	Dissolved Oxygen (mg/L) (>=)	Nitrate/Nitrite (mg/L) (<=)	pH (<=)	pH (>=)	Specific Conductance (uS/cm) (<=)	Alkalinity (mg/L) (<=)	Total Kjieldahl Nitrogen (mg/L) (<=)	Total Organic Carbon (mg/L) (<=)	Total Phosphorus (mg/L) (<=)	NPDES proximity (km)	Reference sites	Subreference. Sites	Ref + Subref. Sites
1	>60%	>70%	>70%		<3	<3	<3	157	133	0.31	22.45	5.08	4.00	0.45	7.30	5.49	88.00	23.52	0.91	6.33	0.10	>5	7	5	12
2				>50%*	<3	<3	<3	101*	101*	0.26	39.45	17.08	4.00	0.79	7.73	7.47	386.00	141.82	1.29	8.33	0.12	>5	3	0	3
3	>60%	>70%	>70%		<3	<3	<3	155	131	0.37	24.45	7.18	4.00	0.28	5.30	7.00	179.00	23.12	1.22	8.33	0.13	>5	15	9	24
4				>17%*	<3	<3	<3	106*	106*	0.40	24.45	9.08	4.00	1.96	6.90	6.20	102.00	31.22	1.76	6.33	0.34	>5	4	0	4
5				>67%*	<3	<3	<3	133	109*	1.53	60.45	13.78	4.00	0.97	8.12	5.59	372.00	160.82	4.10	18.33	0.55	>5	1	5	6
6	>60%	>70%	>70%		<3	<3	<3	121	97	0.30	20.45	481.48	4.00	0.47	8.28	6.64	1942.00	375.82	1.03	5.33	0.22	>5	4	7	11
7	>60%	>70%	>70%		<3	<3	<3	136	112	0.37	45.45	36.48	4.00	0.59	7.39	5.84	163.90	21.82	1.20	12.33	0.19	>5	21	8	29
8	>60%	>70%	>70%		<3	<3	<3	144	120	0.44	48.45	50.68	4.00	1.55	7.52	5.34	246.00	43.82	1.83	14.33	0.53	>5	12	13	25
9	>60%	>70%	>70%		<3	<3	<3	151	127	0.32	48.45	11.58	4.00	0.33	6.43	4.38	124.00	11.82	1.34	17.33	0.11	>5	11	12	23
10	>51	>46	>46	>53	<3	<3	<3	119	95	0.33	20.45	5.48	4.00	0.36	5.82	7.25	145.00	24.92	0.80	5.33	0.15	>5	5	4	9
																						TOTALS	83	63	146

*These classes are in highly modified areas of the landscape, therefore, criteria had to be relaxed so that reference sites could be selected. For these areas the LULC level *OR* the habitat level had to be met as opposed to the other classes where both the LULC *AND* the habitat levels had to be met to be considered a reference site.

**Level IV ecoregion 65e was initially considered a modified area and LULC criteria were relaxed to include potential reference sites. However, upon investigation of chemical and physical characteristics this ecoregion grouped with others that were not highly modified and, therefore, it was grouped in the same class as these.

Table 3-3. Principal Components Analysis loadings on first two axes used for developing preliminary site classes.

Parameter	Factor 1	Factor 2
Total Habitat Score	-0.81	0.13
Instream Habitat Score	-0.65	0.16
Morphological Habitat Score	-0.73	-0.05
Drainage Area ($km^{2)}$	-0.03	-0.17
Average Slope	0.11	0.68
Elevation (m)	-0.16	-0.17
pH	0.69	0.18
Log Ammonia (mg/L)	0.19	-0.49
Log Chlorides (mg/L)	0.60	0.02
Log Dissolved Oxygen (mg/L)	0.31	0.32
Log Nitrate/Nitrite (mg/L)	0.27	-0.29
Log Specific Conductance (uS/cm)	0.76	0.03
Log Total Kjieldahl Nitrogen (mg/L)	0.03	-0.82
Log Total Organic Carbon (mg/L)	-0.13	-0.73
Log Total Phosphorus (mg/L)	0.49	-0.45
ArcSin Square Root Silt/Clay	0.12	-0.51
ArcSin Square Root Sand	-0.18	0.32
ArcSin Square Root Gravel	0.10	0.43

3.5 Bioregional Delineations

Non-metric multidimensional scaling (NMDS) of taxonomic composition data from LDa and LDb sites suggested two bioregions roughly representing the western and eastern halves of the state (Figures 3-4 and 3-5). Metric value distribution across the state also suggested two bioregions (Appendix E). The exception to the east/west division was level 4 ecoregion 65a (Blackland Prairie) which was biologically more similar to the western section of the state than the east. The bioregional delineations followed preliminary class boundaries with the exception of class 7, which was divided between the two bioregions along the level 3 ecoregional boundary (Figure 3-4).

However, due to unique landscape characteristics in several areas of the state, the initial two bioregions were re-organized into five (Figure 3-6). The Northwest bioregion, is made up of preliminary site classes 4 and 10. Although classes 4 and 10 were initially in two different bioregions, when compared directly to one another they were not substantially different (Figure 3-7). Physiographic uniqueness suggested utility to maintaining the Northeast (preliminary class 1) and Black Belt (preliminary class 2) as distinct bioregions. The low number of LDa and LDb sites in these areas (n = 12 and 3, respectively) may have prevented being able to distinguish any biological differences from other areas. Field experience, as well as physical and chemical variability of the areas suggest that biological differences probably exist, therefore, these areas were delineated as distinct bioregions. For purposes of site assessment it was deemed better to compare study sites to LDa conditions in these particular regions rather than LDa conditions from the larger bioregions to which the Northeast and Black Belt bioregions initially belonged.

The southern portions of the initial two bioregions were reorganized as distinct bioregions. As expected, NMDS ordinations show overlap of the five bioregions (Figure 3-8). Table 3-4 shows the nesting of the Level 4 ecoregions within the preliminary site classes and final bioregions. Bioregional boundaries coincide with Level 3 and 4 ecoregional boundaries with a few exceptions.

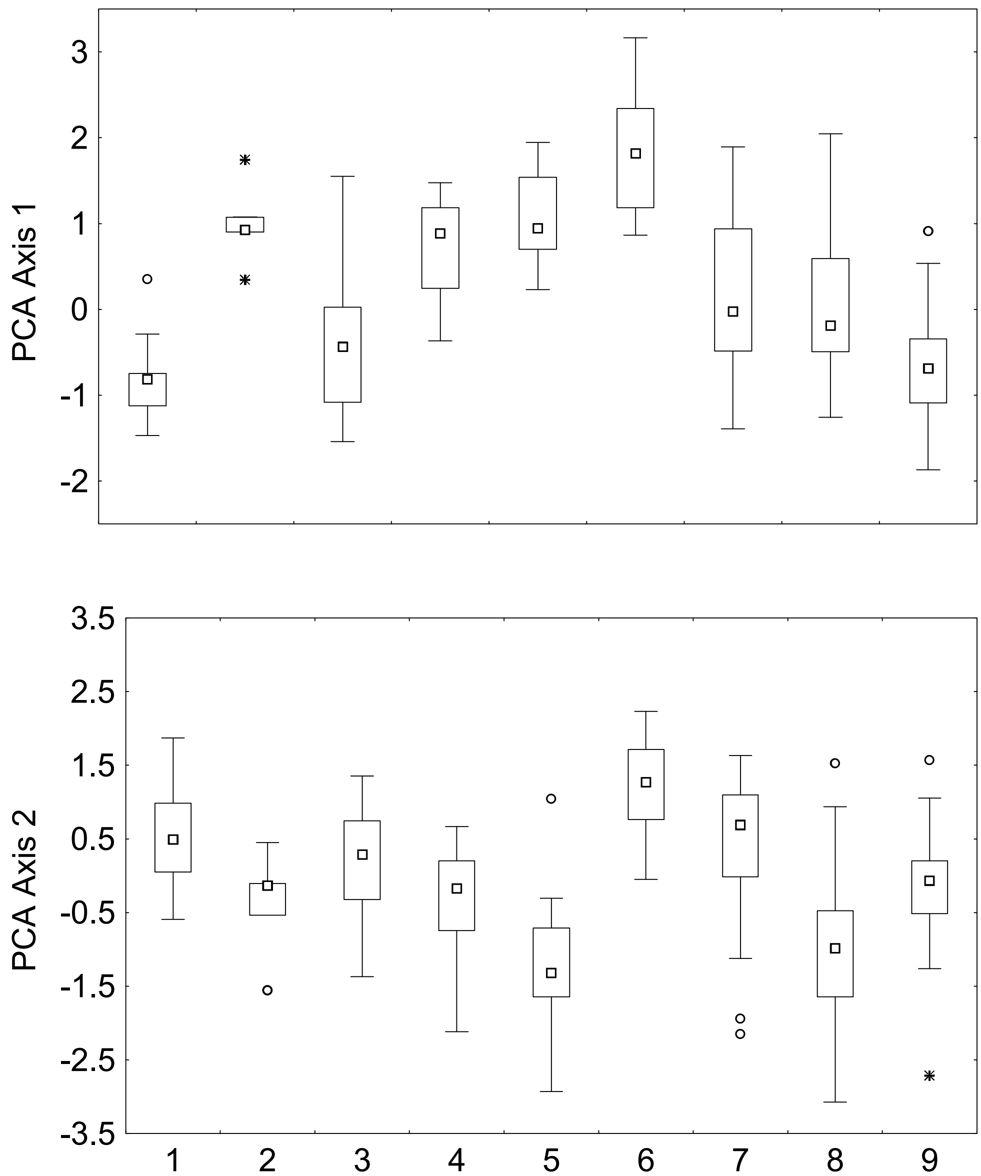


Figure 3-1. Distribution of PCA axes 1 and 2 among nine preliminary site classes. One additional class was added upon further analysis.

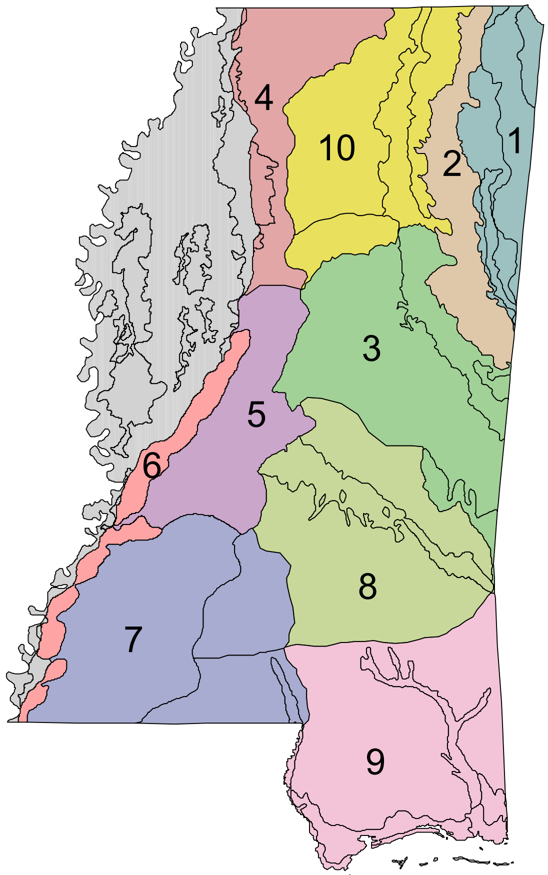


Figure 3-2. Map of 10 preliminary site classes developed based on patterns in physical and chemical data from potential LDa sites.

3.6 Metric Performance

Metric response to stressors in the five bioregions varied as represented by discrimination efficiencies (DE). Metrics were least efficient in the West, where the highest DE was 75 percent (Hydropsychidae/Trichoptera) and most efficient in the Black Belt where 14 metrics had DEs of 100 percent (Table 3-6). Overall, tolerance metrics performed the best (based on the number of metrics with high DEs) (Table 3-6). Other metrics that had consistently high DEs for most of the bioregions were the composition metrics: % Caenidae, % Ephemeroptera (no Caenidae) and % EPT (no Caenidae); the richness metrics: Tanytarsini taxa, Insect taxa, Chironomidae taxa and Total taxa; the habit metrics: % Clinger, Clinger taxa, and Sprawler taxa; and the trophic metrics: Filterer taxa, Collector taxa, and Predator taxa (Table 3-6; Appendix E).

Redundancy was tested among those metrics with the highest DEs and those with r-value > 0.80 were excluded from indices (Appendix F). Clinger metrics (i.e., Clinger taxa and % Clinger) and % Caenidae were often redundant with tolerance metrics (r >0.80). EPT metrics were often redundant (r >0.80) with individual E, P, or T metrics.

Table 3-4. Relationship of bioregions to preliminary site classes, ecoregions, and sample sites.

Bioregion	Preliminary Site Class	Level 4 Ecoregion	Number of Sites
Black Belt	2	65a	26
East	3	65b*	205
		65d*	
	7	65d*	
		65f	
		65p*	
	8	65d	
		65r	
	9	65f	
		75a	
Northwest	4	74a*	91
		74b*	
	10	65b*	
		65e	
Northeast	1	65b*	37
		65e	
		65i	
		65j	
		65p*	
West	5	74b*	96
	6	74a*	
	7	74c	

* Indicates that Level 4 ecoregion is split between either site classes or bioregions

Table 3-5. Land use/land cover (LULC), physical, and chemical criteria used to select MD sites for the 10 preliminary site classes.

Preliminary Site Class	LULC Criteria							Physical and Chemical Criteria							No. of sites
	Managed LULC				High Density Urban										
	Drainage Area	Riparian (100 m wide, whole drainage long)	Riparian (100 m wide, 1 km long)	Riparian (50 m wide, 1 km long)	Drainage Area	Riparian (100 m wide, whole drainage long)	Riparian (100 m wide, 1 km long)	Total Habitat Score 1 (<=)	Total Habitat Score 2 (<=)*	Ammonia (mg/L) (>=)	Nitrate/Nitrite (mg/L) (>=)	Total Kjieldahl Nitrogen (mg/L) (>=)	Total Phosphorus (mg/L) (>=)	Dissolved Oxygen (mg/L) (<)	
1	85	75	75		10	10	10	85	133	5	10	5	1	4	9
2	90	90	90		10	10	10	43	104	5	10	5	1	4	4
3	75	65	65		10	10	10	67	91	5	10	5	1	4	8
4	90	90		90	10	10	10	62	86	5	10	5	1	4	6
5	75	65		65	10	10	10	59	83	5	10	5	1	4	8
6	60	50	50		10	10	10	63	87	5	10	5	1	4	5
7	60	50	50		10	10	10	86	110	5	10	5	1	4	9
8	60	50	50		10	10	10	96	120	5	10	5	1	4	6
9	60	50	50		10	10	10	102	126	5	10	5	1	4	3
10	75	65	65		10	10	10	57	81	5	10	5	1	4	14
													TOTAL		72

*When a site exceeded one of the managed LULC criteria it had to also have a total habitat score lower than TOTHAB2 (25th percentile of the entire distribution [CI not used]) to be considered degraded

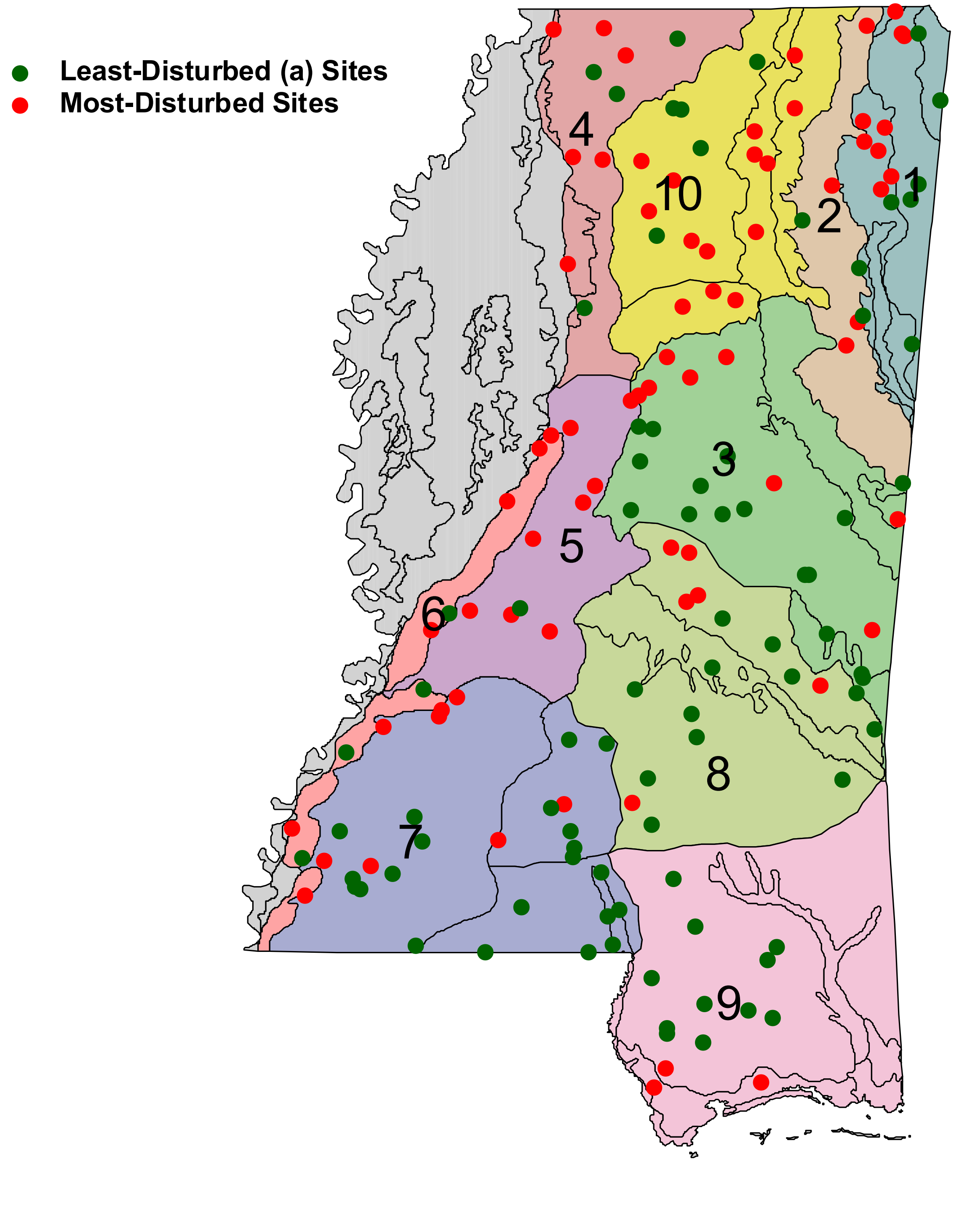


Figure 3-3. LDa and MD sites overlain on the 10 preliminary site classes.

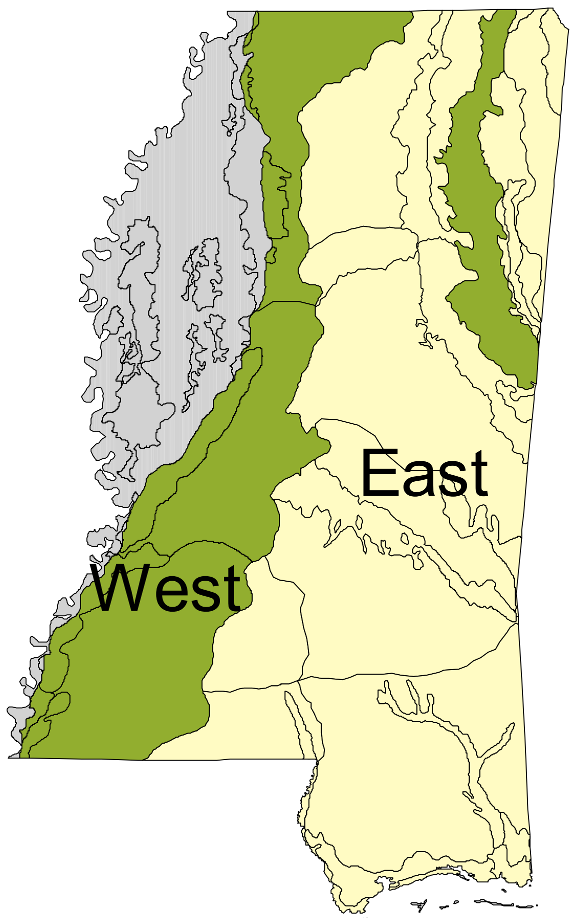


Figure 3-4. Map of initial division of state into two bioregions based on NMDS and box and whisker analyses.

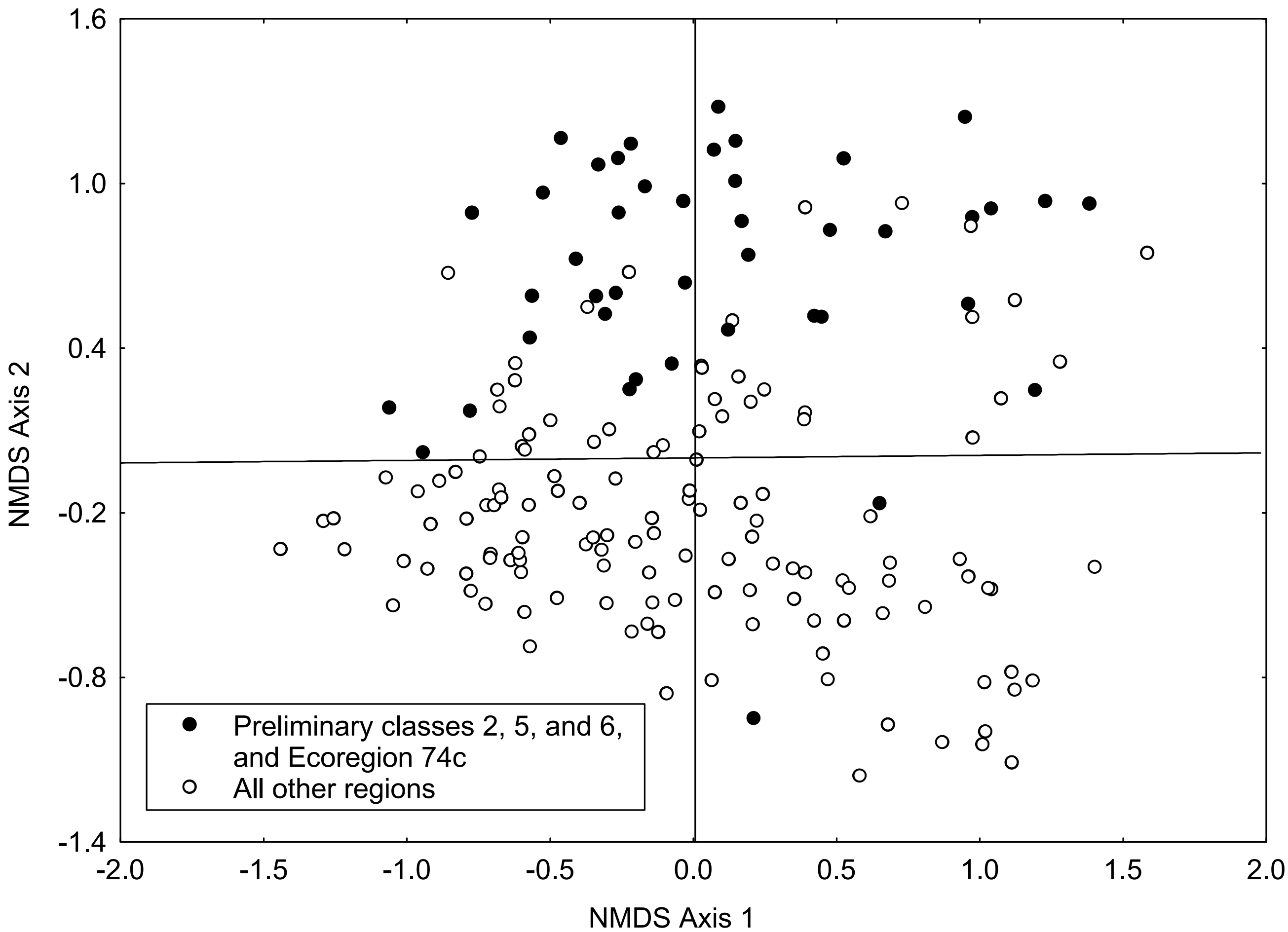


Figure 3-5. NMDS plot of axes 1 and 2 showing first grouping of sites into two bioregions across the state.

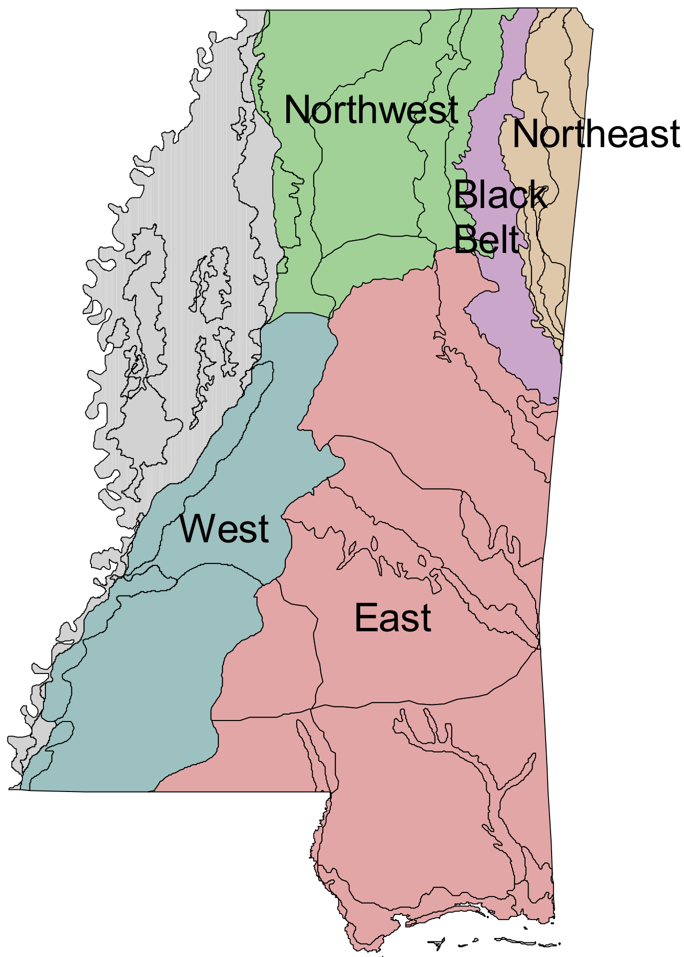


Figure 3-6. Final bioregional delineation developed based on NMDS ordination and box and whisker analyses.

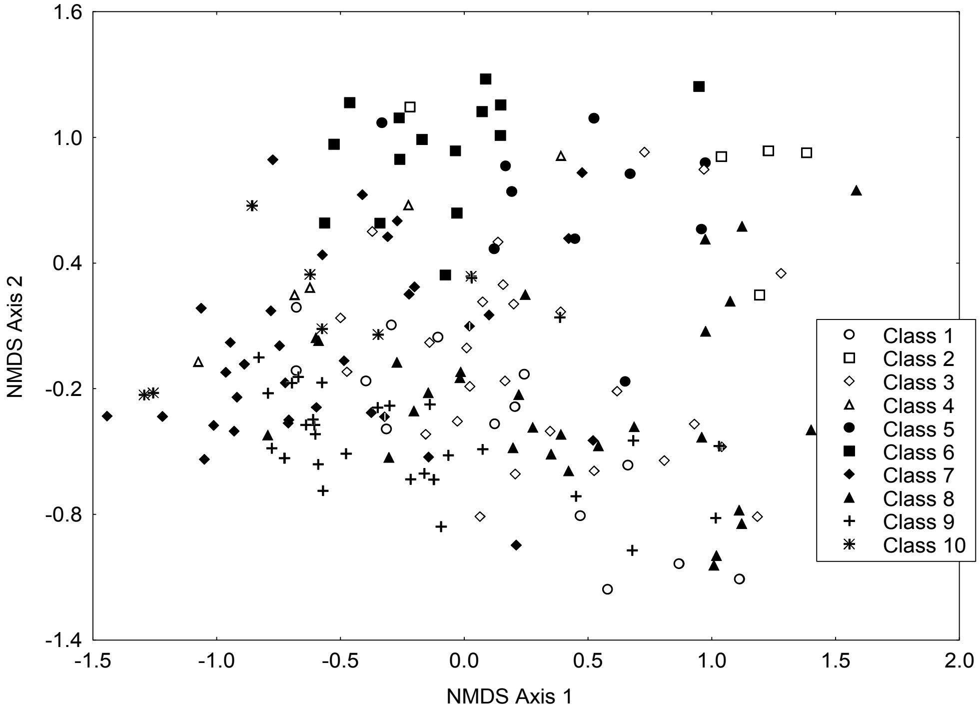


Figure 3-7. NMDS axes 1 and 2 scores grouped according to the 10 preliminary site classes.

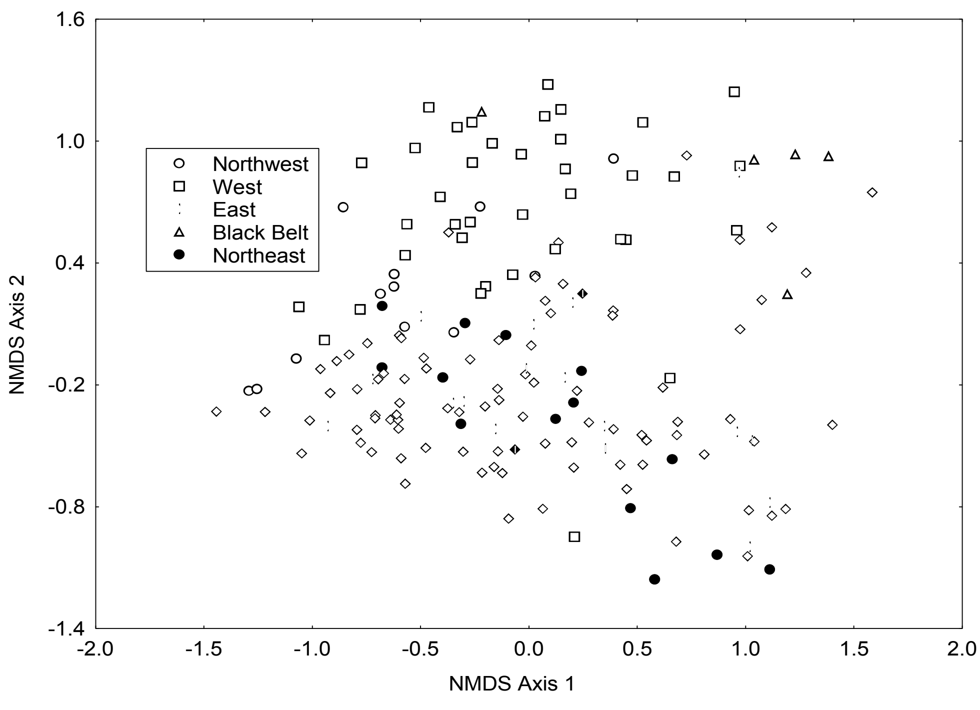


Figure 3-8. NMDS plot of axes 1 and 2 showing final grouping of sites in the five bioregions.

3.7 Biological Index Composition and Performance

Multiple index configurations for each of the five bioregions were tested to find the metric combination that resulted in the highest DEs. The suite of indices presented in Table 3-7 is a subset of the approximately 20-30 indices per bioregion that were actually tested. All of the indices tested in the Black Belt had DEs of 100 percent so the separation between interquartile ranges was used to distinguish between the indices (Appendix E). In the East, two indices had DEs of 89 percent; configuration 4 was chosen because it was composed of two commonly used tolerance metrics (HBI and Beck's) and was more robust being composed of 7 as opposed to the 5 metrics in configuration 1. In the Northwest region, index configuration 4 had the highest DE and also was composed of the most metrics. Three configurations in the Northeast had the same DEs so the separation of interquartile ranges was used to select the final index for this bioregion (Appendix E). Additionally, the tolerance metric (HBI) in configuration 4 was used in some of the other bioregion indices so it was chosen instead of the % Tolerant and Intolerant taxa metrics in configurations 2 and 3. Two index configurations in the West bioregion had 90 percent DEs and interquartile ranges were similar; however, configuration 4 seemed to show a slightly better separation between LDa and MD sites (Appendix E). Box and whisker plots for index configurations for other bioregions are presented in Appendix E. Box and whisker plots for final indices selected for each bioregion are presented in Figure 3-9.

Final M-BISQ scores for each bioregion area presented in Appendix G and descriptive statistics of the indices and metrics used in the indices are presented in Table 3-8. The confidence interval for repeat and duplicate samples combined was ±10.0 units, or points, on a 100-point scale (Table 3-9) (see Appendix B for descriptions of precision calculations). Site specific relative percent difference (RPD) calculations are presented in Appendix F.

3.8 Quality Assurance/Quality Control (QA/QC) and the Assessment of Data Quality

Overall variability (= total uncertainty, or error) of data from any measurement system results from accumulation of error from multiple sources (Taylor 1988, Clark and Whitfield 1994, Taylor and Kuyatt 1994, and Diamond et al. 1996). Error can generally be divided into two types: systematic and random. Systematic error is the type of variability that results from a method and its application or mis-application; it is composed of bias that can, in part, be mediated by using an appropriate quality assurance program. Random error results from the sample itself or the population from which it is derived, and can only partly be controlled through a careful sampling design. It is often not possible to separate the effects of the two types of error, and they can directly influence each other (Taylor 1988). The overall magnitude of error associated with a dataset is known as data quality; how statements of data quality are made and communicated, are critical for data users and decision makers to properly evaluate the extent to which they should rely on technical, scientific, information (Peters 1988, Costanza et al. 1992).

Table 3-6. Discrimination efficiencies (DEs) of all metrics tested within each bioregion. See Appendix F for metric definitions.

Northwest			West			East			Black Belt			Northeast		
Category	Metric	DE	Category	Metric	DE	Category	Metric	DE	Category	Metric	DE	Category	Metric	DE
Composition	CAENIPCT	95.0	Composition	HYD2TRI	75.0	Tolerance	NEWMHBI	94.7	Tolerance	BECKSBI	100.0	Composition	DIPPCT	88.9
Tolerance	NEWPTOL	95.0	Tolerance	INTOLPCT	75.0	Tolerance	NEWBECK	89.5	Trophic	CLLCTTAX	100.0	Trophic	FILTRPCT	88.9
Tolerance	NEWPINTO	91.7	Composition	EPTPCTNC	60.0	Tolerance	TOLERPCT	89.5	Habit	CLNGRTAX	100.0	Composition	NC_TANY%	88.9
Composition	ENOCAEN%	90.0	Tolerance	NEWBECK	60.0	Tolerance	NEWINTTX	88.9	Richness	CRMOLTAX	100.0	Habit	CLNGRPCT	77.8
Habit	SPRWLPCT	90.0	Trophic	SHREDTAX	60.0	Tolerance	NEWPINTO	88.9	Richness	DIPTAXNC	100.0	Tolerance	HBI	77.8
Tolerance	NEWMHBI	85.0	Habit	SPRWLTAX	60.0	Habit	CLNGRTAX	84.2	Richness	DIPTAXR2	100.0	Tolerance	NEWMHBI	77.8
Tolerance	NEWTOLTA	85.0	Richness	COLEOTAX	55.0	Tolerance	HBI	84.2	Composition	EPTPCTNC	100.0	Composition	TANYTPCT	77.8
Composition	TANYTPCT	85.0	Richness	PREDTAXR	55.0	Tolerance	BECKSBI	78.9	Richness	INSCTTAX	100.0	Richness	TANYTTAX	77.8
Tolerance	NEWINTTX	83.3	Composition	CAENIPCT	50.0	Composition	CAENIPCT	78.9	Tolerance	INTOLPCT	100.0	Tolerance	TOLERTAX	77.8
Composition	CHIROPCT	80.0	Trophic	SCRAPPCT	50.0	Richness	EPTTAXR2	78.9	Tolerance	INTOLTAX	100.0	Tolerance	NEWPTOL	66.7
Habit	CLNGRPCT	80.0	Composition	BAET2EPH	45.0	Tolerance	INTOLTAX	78.9	Tolerance	NEWBECK	100.0	Trophic	SHREDTAX	66.7
Composition	EPTPCTNC	80.0	Richness	CHIROTAX	45.0	Tolerance	NEWPTOL	78.9	Composition	PLECOPCT	100.0	Habit	SPRWLPCT	66.7
Tolerance	HBI	80.0	Tolerance	HBI	45.0	Tolerance	NEWTOLTA	78.9	Richness	PLECOTAX	100.0	Tolerance	TOLERPCT	66.7
Tolerance	NEWBECK	80.0	Richness	ORTHOTAX	45.0	Tolerance	INTOLPCT	73.7	Habit	SPRWLTAX	100.0	Composition	CAENIPCT	55.6
Tolerance	TOLERPCT	80.0	Tolerance	TOLERPCT	45.0	Habit	CLNGRPCT	68.4	Habit	SWMMRPCT	100.0	Richness	CHIROTAX	55.6
Richness	CHIROTAX	75.0	Richness	TOTALTAX	45.0	Composition	EPTPCTNC	68.4	Tolerance	TOLERPCT	100.0	Composition	HYD2TRI	55.6
Habit	CLNGRTAX	75.0	Tolerance	NEWINTTX	42.1	Trophic	FILTRTAX	68.4	Richness	TOTALTAX	100.0	Trophic	SHREDPCT	55.6
Richness	DIPTAXR2	75.0	Tolerance	NEWPINTO	42.1	Composition	PLECOPCT	68.4	Composition	AMPHPCT	75.0	Composition	TNYT2CHI	55.6
Trophic	FILTRTAX	75.0	Habit	BRRWRTAX	40.0	Richness	PLECOTAX	68.4	Composition	CAENIPCT	75.0	Richness	TRICHTAX	55.6
Tolerance	INTOLTAX	75.0	Composition	CHIROPCT	40.0	Trophic	FILTRPCT	63.2	Richness	CHIROTAX	75.0	Tolerance	NEWINTTX	50.0
Composition	TNYT2CHI	73.7	Composition	DIPPCT	40.0	Composition	NC_TANY%	63.2	Composition	COLEOPCT	75.0	Tolerance	NEWPINTO	50.0
Richness	CRMOLTAX	70.0	Composition	EPTPCT	40.0	Composition	TANYTPCT	63.2	Richness	COLEOTAX	75.0	Composition	CHIROPCT	44.4
Composition	DIPPCT	70.0	Trophic	FILTRTAX	40.0	Richness	TANYTTAX	63.2	Composition	CRMOLPCT	75.0	Habit	CLNGRTAX	44.4
Composition	DOM1PCT	70.0	Richness	INSCTTAX	40.0	Composition	DIPPCT	57.9	Richness	EPTTAXR2	75.0	Richness	DIPTAXR2	44.4
Composition	DOM2PCT	70.0	Tolerance	INTOLTAX	40.0	Composition	CHIROPCT	52.6	Composition	GASTRPCT	75.0	Richness	EPTTAXR2	44.4
Trophic	FILTRPCT	70.0	Tolerance	NEWMHBI	40.0	Trophic	CLLCTPCT	52.6	Richness	ORTHOTAX	75.0	Trophic	FILTRTAX	44.4
Richness	INSCTTAX	70.0	Habit	CLMBRTAX	35.0	Composition	ENOCAEN%	52.6	Composition	PREDPCT	75.0	Richness	INSCTTAX	44.4
Composition	NONINPCT	70.0	Composition	COLEOPCT	35.0	Richness	INSCTTAX	52.6	Richness	PREDTAXR	75.0	Tolerance	NEWBECK	44.4
Diversity	SHAN_2	70.0	Tolerance	NEWTOLTA	35.0	Richness	ORTHOTAX	52.6	Composition	DIPPCTNC	50.0	Tolerance	NEWTOLTA	44.4

Table 3-6 (cont'd). Discrimination efficiencies (DEs) of all metrics tested within each bioregion. See Appendix F for metric definitions.

Northwest			West			East			Black Belt			Northeast		
Habit	BRRWRTAX	65.0	Diversity	SHAN_2	35.0	Habit	SPRWLPCT	52.6	Composition	DOM2PCT	50.0	Composition	NONINPCT	44.4
Trophic	CLLCTPCT	65.0	Composition	TRICHPCT	35.0	Habit	SPRWLTAX	52.6	Richness	EPHEMTAX	50.0	Richness	ORTHOTAX	44.4
Trophic	CLLCTTAX	65.0	Richness	TRICHTAX	35.0	Composition	TNYT2CHI	52.6	Composition	EPTPCT	50.0	Habit	SWMMRTAX	44.4
Composition	NC_TANY%	65.0	Tolerance	BECKSBI	30.0	Tolerance	TOLERTAX	52.6	Composition	HYD2EPT	50.0	Composition	TRICHPCT	44.4
Composition	PREDPCT	65.0	Composition	HYD2EPT	30.0	Richness	TOTALTAX	52.6	Composition	HYD2TRI	50.0	Habit	BRRWRTAX	33.3
Richness	PREDTAXR	65.0	Tolerance	NEWPTOL	30.0	Composition	DIPPCTNC	47.4	Composition	NC_TANY%	50.0	Richness	DIPTAXNC	33.3
Trophic	SHREDPCT	65.0	Composition	NONINPCT	30.0	Composition	HYD2TRI	47.4	Tolerance	NEWPTOL	50.0	Composition	ENOCAEN%	33.3
Trophic	SHREDTAX	65.0	Composition	PREDPCT	30.0	Trophic	SHREDPCT	47.4	Trophic	SCRAPTAX	50.0	Composition	EPTPCTNC	33.3
Richness	TANYTTAX	65.0	Trophic	SHREDPCT	30.0	Composition	TRICHPCT	47.4	Diversity	SHAN_2	50.0	Tolerance	INTOLTAX	33.3
Tolerance	INTOLPCT	60.0	Composition	TNYT2CHI	30.0	Richness	TRICHTAX	47.4	Trophic	SHREDPCT	50.0	Richness	PLECOTAX	33.3
Richness	ORTHOTAX	60.0	Composition	DIPPCTNC	25.0	Richness	CHIROTAX	42.1	Habit	SPRWLPCT	50.0	Tolerance	BECKSBI	22.2
Richness	TOTALTAX	60.0	Richness	DIPTAXR2	25.0	Richness	DIPTAXR2	42.1	Composition	CHIROPCT	25.0	Composition	DIPPCTNC	22.2
Composition	TRICHPCT	60.0	Composition	DOM1PCT	25.0	Richness	EPHEMTAX	42.1	Trophic	CLLCTPCT	25.0	Composition	DOM1PCT	22.2
Composition	AMPHPCT	55.0	Composition	DOM2PCT	25.0	Richness	PREDTAXR	42.1	Habit	CLNGRPCT	25.0	Composition	DOM2PCT	22.2
Richness	EPTTAXR2	55.0	Composition	EPHEMPCT	25.0	Diversity	SHAN_2	42.1	Composition	DIPPCT	25.0	Richness	EPHEMTAX	22.2
Composition	PLECOPCT	55.0	Richness	EPHEMTAX	25.0	Trophic	SHREDTAX	42.1	Composition	DOM1PCT	25.0	Composition	PLECOPCT	22.2
Richness	PLECOTAX	55.0	Composition	ISOPCT	25.0	Composition	EPTPCT	36.8	Composition	EPHEMPCT	25.0	Diversity	SHAN_2	22.2
Tolerance	TOLERTAX	55.0	Composition	NC_TANY%	25.0	Composition	ISOPCT	36.8	Trophic	FILTRPCT	25.0	Habit	SWMMRPCT	22.2
Tolerance	BECKSBI	50.0	Trophic	SCRAPTAX	25.0	Trophic	SCRAPTAX	36.8	Trophic	FILTRTAX	25.0	Richness	TOTALTAX	22.2
Composition	CRMOLPCT	50.0	Habit	SWMMRPCT	25.0	Habit	SWMMRPCT	36.8	Tolerance	HBI	25.0	Habit	CLMBRPCT	11.1
Richness	DIPTAXNC	50.0	Composition	TANYTPCT	25.0	Composition	DOM1PCT	31.6	Tolerance	NEWMHBI	25.0	Composition	CRMOLPCT	11.1
Richness	TRICHTAX	50.0	Habit	BRRWRPCT	20.0	Composition	DOM2PCT	31.6	Tolerance	NEWTOLTA	25.0	Richness	CRMOLTAX	11.1
Composition	CRCH2CHI	47.4	Trophic	CLLCTPCT	20.0	Composition	HYD2EPT	31.6	Composition	NONINPCT	25.0	Composition	EPHEMPCT	11.1
Habit	BRRWRPCT	45.0	Trophic	CLLCTTAX	20.0	Composition	PREDPCT	31.6	Composition	OLIGOPCT	25.0	Composition	EPTPCT	11.1
Richness	EPHEMTAX	45.0	Habit	CLNGRPCT	20.0	Trophic	SCRAPPCT	31.6	Trophic	SCRAPPCT	25.0	Composition	HYD2EPT	11.1
Habit	SPRWLTAX	45.0	Habit	CLNGRTAX	20.0	Habit	BRRWRTAX	26.3	Trophic	SHREDTAX	25.0	Tolerance	INTOLPCT	11.1
Habit	CLMBRPCT	40.0	Richness	DIPTAXNC	20.0	Composition	COLEOPCT	26.3	Habit	SWMMRTAX	25.0	Composition	OLIGOPCT	11.1
Habit	CLMBRTAX	40.0	Richness	EPTTAXR2	20.0	Composition	ODONPCT	26.3	Composition	BAET2EPH	0.0	Composition	AMPHPCT	0.0
Composition	DIPPCTNC	40.0	Trophic	FILTRPCT	20.0	Composition	BAET2EPH	21.1	Composition	BIVALPCT	0.0	Composition	BAET2EPH	0.0
Habit	SWMMRTAX	35.0	Composition	ODONPCT	20.0	Richness	COLEOTAX	21.1	Habit	BRRWRPCT	0.0	Composition	BIVALPCT	0.0

Table 3-6 (cont'd). Discrimination efficiencies (DEs) of all metrics tested within each bioregion. See Appendix F for metric definitions.

Northwest			West			East			Black Belt			Northeast		
Composition	HYD2TRI	30.0	Composition	OLIGOPCT	20.0	Composition	CRMOLPCT	21.1	Habit	BRRWRTAX	0.0	Habit	BRRWRPCT	0.0
Composition	OLIGOPCT	30.0	Habit	CLMBRPCT	15.0	Richness	OLIGOTAX	21.1	Composition	CCO2CHIR	0.0	Composition	CCO2CHIR	0.0
Trophic	SCRAPPCT	25.0	Richness	CRMOLTAX	15.0	Habit	BRRWRPCT	15.8	Habit	CLMBRPCT	0.0	Trophic	CLLCTPCT	0.0
Richness	COLEOTAX	20.0	Habit	SPRWLPCT	15.0	Trophic	CLLCTTAX	15.8	Habit	CLMBRTAX	0.0	Trophic	CLLCTTAX	0.0
Richness	OLIGOTAX	20.0	Habit	SWMMRTAX	15.0	Richness	CRMOLTAX	15.8	Composition	CORBPCT	0.0	Habit	CLMBRTAX	0.0
Habit	SWMMRPCT	20.0	Richness	TANYTTAX	15.0	Richness	DIPTAXNC	15.8	Composition	CRCH2CHI	0.0	Composition	COLEOPCT	0.0
Composition	COLEOPCT	15.0	Tolerance	TOLERTAX	15.0	Composition	EPHEMPCT	15.8	Composition	ENOCAEN%	0.0	Richness	COLEOTAX	0.0
Composition	EPHEMPCT	15.0	Composition	CRMOLPCT	10.0	Habit	SWMMRTAX	15.8	Composition	ISOPCT	0.0	Composition	CORBPCT	0.0
Composition	EPTPCT	10.0	Richness	OLIGOTAX	5.0	Composition	NONINPCT	10.5	Composition	ODONPCT	0.0	Composition	CRCH2CHI	0.0
Composition	HYD2EPT	10.0	Composition	AMPHPCT	0.0	Composition	OLIGOPCT	10.5	Richness	OLIGOTAX	0.0	Composition	GASTRPCT	0.0
Trophic	SCRAPTAX	10.0	Composition	BIVALPCT	0.0	Composition	AMPHPCT	0.0	Composition	ORTH2CHI	0.0	Composition	ISOPCT	0.0
Composition	CCO2CHIR	5.6	Composition	CCO2CHIR	0.0	Composition	BIVALPCT	0.0	Composition	TANYTPCT	0.0	Composition	ODONPCT	0.0
Composition	ISOPCT	5.0	Composition	CORBPCT	0.0	Composition	CCO2CHIR	0.0	Richness	TANYTTAX	0.0	Richness	OLIGOTAX	0.0
Composition	BAET2EPH	0.0	Composition	CRCH2CHI	0.0	Habit	CLMBRPCT	0.0	Composition	TNYT2CHI	0.0	Composition	ORTH2CHI	0.0
Composition	BIVALPCT	0.0	Composition	ENOCAEN%	0.0	Habit	CLMBRTAX	0.0	Tolerance	TOLERTAX	0.0	Composition	PREDPCT	0.0
Composition	CORBPCT	0.0	Composition	GASTRPCT	0.0	Composition	CORBPCT	0.0	Composition	TRICHPCT	0.0	Richness	PREDTAXR	0.0
Composition	GASTRPCT	0.0	Composition	ORTH2CHI	0.0	Composition	CRCH2CHI	0.0	Richness	TRICHTAX	0.0	Trophic	SCRAPPCT	0.0
Composition	ODONPCT	0.0	Composition	PLECOPCT	0.0	Composition	GASTRPCT	0.0	Tolerance	NEWINTTX		Trophic	SCRAPTAX	0.0
Composition	ORTH2CHI	0.0	Richness	PLECOTAX	0.0	Composition	ORTH2CHI	0.0	Tolerance	NEWPINTO		Habit	SPRWLTAX	0.0

Table 3-7. Index configurations and DEs for five bioregions in Mississippi. Four potential index configurations (index #) are presented for each bioregion. The final index configuration chosen for each bioregion is in bold.

	Bioregion	Black Belt				East				Northwest				Northeast				West			
	Index #	1	2	3	**4**	1	2	3	**4**	1	2	3	**4**	1	2	3	**4**	1	2	3	**4**
Metric	DE	100	100	100	**100**	89	84	79	**89**	85	85	80	**90**	78	89	89	**89**	90	50	55	**90**
Burrower taxa																				x	
% Caenidae		x		x	**x**	x		x	**x**	x					x				x		
% Chironomidae											x										
Chironomidae taxa										x		x	**x**	x		x				x	
Collector taxa		x			**x**																
% Clinger							x	x	**x**	x	x		**x**	x		x	**x**				
Clinger taxa			x	x		x						x									
% Coleoptera			x																		
Coleoptera taxa					**x**													x			**x**
% Diptera																x	**x**			x	
Diptera taxa (no Chironomidae)		x		x																	
Diptera taxa			x								x										
Ephemeroptera (no Caenidae)										x	x		**x**								
% EPT (no Caenidae)			x						**x**									x	x		**x**
EPT taxa							x	x													
% Filterer						x			**x**							x	**x**				
Filterer taxa							x	x		x	x	x	**x**								
Hydropsychida/Trichoptera															x			x			**x**
Insect taxa		x		x															x		
Beck's Biotic Index		x			**x**				**x**			x	**x**					x		x	**x**
Hilsenhoff Biotic Index									**x**				**x**	x			**x**		x		
Intolerant taxa							x	x								x					
% Tolerant taxa								x			x	x			x						
% Intolerant taxa						x												x			
NC_Tany%							x							x							
% Plecoptera			x																		
Plecoptera taxa		x		x	**x**																
Predator taxa				x														x			**x**
% Scraper																				x	
% Shredder			x											x	x						
Shredder taxa																			x		
% Sprawler															x						
Sprawler taxa					**x**													x	x		**x**
% Swimmer		x																			
% Tanytarsini										x		x	**x**			x	**x**				
Tanytarsini taxa						x	x		**x**						x					x	
Total taxa				x	**x**																
Trichoptera taxa																	**x**				

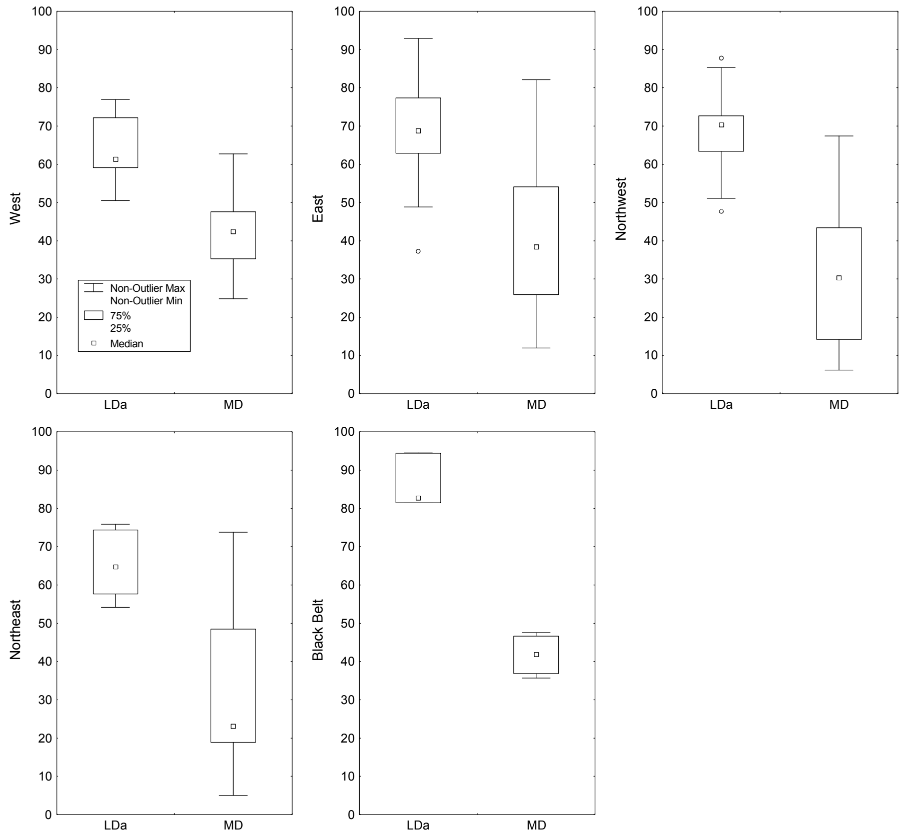


Figure 3-9. Comparison of LDa and MD index distributions within each bioregion. The wider the separation between box plots, the greater the discriminatory ability of the index.

One goal of the agency was to produce biological assessments using credible, technically defensible, and scientifically rigorous data (MDEQ 2001). Consequently, a comprehensive plan for ensuring the collection of such data was developed prior to project initiation (MDEQ 2001), and followed U. S. Environmental Protection Agency requirements for developing project plans (USEPA 1999). The Quality Assurance Project Plan (QAPP) describes, in detail, the procedures that are used for data collection, the technical rationale behind the procedures, and the series of activities and reporting procedures that will be used to document and communicate data quality. There are at least five data quality characteristics: precision, accuracy, representativeness, completeness, and comparability; assessments can be either quantitative or qualitative (Table 3-10). A stream assessment (in particular, a biological assessment) is a series of methods taken together as a protocol (Diamond et al. 1996, Barbour et al. 1999). The purpose of this section is to provide users of this report with an assessment of the data quality for each of the steps of the assessment process. Because detailed descriptions of methods are provided in the QAPP, and briefly in section 2.0 of this report, only specific critical methods information is presented below. If a particular data quality characteristic is not applicable (NA) to a method or protocol component, it is indicated as such.

Table 3-8. Descriptive statistics for metric values and M-BISQ scores for all sites from the five bioregions.

Metrics and Index	Number of Sites	Minimum	5th %ile	25th %ile	Median	75th %ile	95th %ile	Maximum
Black Belt								
Beck's Biotic Index	26	0.0	0.0	1.0	2.5	7.0	10.0	11.0
Total taxa	26	13.0	14.7	22.6	28.2	31.0	39.5	44.1
Plecoptera taxa	26	0.0	0.0	0.0	0.0	1.0	3.0	3.0
Coleoptera taxa	26	1.0	1.0	2.0	3.6	4.9	6.0	6.7
% Caenidae	26	0.0	0.0	2.3	25.6	55.6	66.1	73.8
Collector taxa	26	6.0	6.8	8.8	10.6	13.8	17.0	17.9
Sprawler taxa	26	3.0	3.5	5.8	7.6	9.0	11.8	11.8
Index	26	30.2	35.0	44.9	50.0	69.0	83.5	94.5
East								
Beck's Biotic Index	204	0.0	3.0	11.0	18.0	26.0	38.0	43.0
Hilsenhoff Biotic Index	204	2.3	3.1	3.8	4.3	5.0	6.7	8.6
Tanytarsini taxa	204	0.0	0.0	1.0	2.0	3.6	4.9	6.0
% Caenidae	204	0.0	0.0	0.0	0.0	1.0	14.7	70.7
% EPT (no Caenidae)	204	0.0	0.0	6.8	13.2	21.5	38.7	90.3
% Filterer	204	0.0	2.0	14.1	26.9	41.0	58.0	81.2
% Clinger	204	0.0	5.3	36.2	52.9	66.2	80.9	87.8
M-BISQ	204	10.9	27.9	51.0	63.7	71.7	83.7	92.2
Northwest								
Beck's Biotic Index	91	0.0	1.0	5.0	8.0	14.0	25.0	31.0
Hilsenhoff Biotic Index	91	3.5	3.8	5.2	6.4	7.9	8.9	9.6
Chironomidae taxa	91	0.0	4.9	9.2	13.0	16.0	21.1	23.9
% Tanytarsini	91	0.0	0.0	0.5	3.0	10.1	30.9	46.3
Ephemeroptera (no Caenidae)	91	0.0	0.0	0.9	2.7	11.6	34.9	51.7
Filterer taxa	91	0.0	0.0	2.0	3.8	4.9	6.0	7.0
% Clinger	91	0.0	1.3	9.1	27.4	50.6	68.2	79.1
M-BISQ	91	6.0	9.5	26.2	40.1	59.3	81.3	87.8
Northeast								
Hilsenhoff Biotic Index	37	2.6	3.1	3.8	4.1	5.1	8.5	8.9
Trichoptera taxa	37	0.0	0.0	1.0	2.0	4.0	8.3	9.0
% Diptera	37	9.0	22.6	52.2	65.8	72.9	93.7	96.0
% Tanytarsini	37	0.0	0.0	2.4	6.9	22.3	41.0	45.1
% Filterer	37	0.0	0.5	12.9	32.3	45.7	89.1	92.0
% Clinger	37	3.3	4.3	37.2	55.7	66.2	93.3	95.5
M-BISQ	37	4.8	11.5	44.7	54.0	61.1	74.4	75.4
West								
Beck's Biotic Index	96	0.0	3.0	6.0	9.0	14.0	25.0	29.0
Coleoptera taxa	96	0.0	1.0	2.9	4.0	5.7	7.4	9.0
% EPT (no Caenidae)	96	0.0	0.0	2.1	7.2	16.0	39.5	80.5
Predator taxa	96	2.9	5.0	7.9	9.8	11.9	15.1	16.8
Sprawler taxa	96	4.0	4.9	7.0	8.9	11.2	14.1	18.0
Hydropsycidae/Trichoptera	96	0.0	0.0	0.0	55.1	94.5	100.0	100.0
M-BISQ	96	25.0	30.3	38.6	50.0	59.5	77.5	88.3

Table 3-9. Precision statistics for metric values and index scores from biological repeat and duplicate sites. RPD values of 200 were excluded from the median RPD calculation to minimize the influence of low metric values which tend to skew the statistic.

	Repeat Samples (BR, n=34)					Duplicate Samples (BD, n=36)					Repeat + Duplicate Samples (n=70)				
Index and Metrics	Mean	Estimated Standard Deviation (RMSE)	Coefficient of Variation (%)	Detectable Difference (90% confidence)	Median RPD	Mean	Estimated Standard Deviation (RMSE)	Coefficient of Variation (%)	Detectable Difference (90% confidence)	Median RPD	Mean	Estimated Standard Deviation (RMSE)	Coefficient of Variation (%)	Detectable Difference (90% confidence)	Median RPD
Index	59.6	6.2	10.4	10.2	12.6	55.3	6.0	10.8	9.8	7.8	57.4	6.1	10.6	10.0	10.5
Beck's Biotic Index	17.4	4.2	24.0	6.8	22.9	17.4	3.3	19.3	5.5	16.9	17.4	3.8	21.7	6.2	22.0
Hilsenhoff Biotic Index	5.2	0.4	8.2	0.7	7.3	5.1	0.4	8.3	0.7	4.4	5.1	0.4	8.2	0.7	5.9
Total taxa	40.0	7.0	17.4	11.4	17.6	40.3	5.3	13.3	8.8	12.8	40.1	6.2	15.4	10.2	14.3
Plecoptera taxa	1.7	1.0	59.3	1.7	48.6	2.0	1.0	52.9	1.7	22.3	1.8	1.0	55.9	1.7	39.8
Trichoptera taxa	2.7	1.3	48.3	2.1	37.8	2.5	1.5	60.0	2.5	40.0	2.6	1.4	54.3	2.3	38.1
Chironomidae taxa	14.5	3.6	24.6	5.8	24.9	14.4	2.9	20.2	4.8	19.3	14.5	3.2	22.5	5.3	22.7
Tanytarsini taxa	2.6	0.9	35.3	1.5	27.2	2.6	0.8	30.9	1.3	30.8	2.6	0.9	33.1	1.4	28.6
Coleoptera taxa	3.7	1.4	36.7	2.2	42.9	3.5	1.3	37.6	2.2	34.7	3.6	1.3	37.1	2.2	40.0
% Diptera	47.9	11.2	23.4	18.4	30.2	47.9	9.4	19.6	15.4	13.4	47.9	10.3	21.5	16.9	18.2
% Tanytarsini	12.0	6.9	57.8	11.4	32.9	11.8	4.8	41.0	7.9	44.4	11.9	6.0	50.1	9.8	41.9
% Ephemeroptera (no Caenidae)	8.8	4.6	52.5	7.5	46.2	7.2	3.6	49.5	5.9	40.6	8.0	4.1	51.5	6.8	45.4
% Caenidae	9.1	4.1	45.1	6.7	36.3	8.8	6.0	67.6	9.8	47.0	9.0	5.1	57.3	8.4	41.9
% EPT (no Caenidae)	17.2	7.9	46.1	13.0	41.8	14.6	6.1	41.8	10.0	29.2	15.9	7.1	44.4	11.6	36.8
% Filterer	22.4	9.1	40.7	14.9	39.5	20.6	8.2	40.1	13.5	28.7	21.5	8.7	40.4	14.2	35.7
Collector taxa	15.2	3.4	22.3	5.6	20.2	15.3	3.2	21.1	5.3	24.5	15.2	3.3	21.7	5.4	24.1
Filterer taxa	4.8	1.2	25.3	2.0	22.9	4.6	1.2	25.8	1.9	29.0	4.7	1.2	25.5	1.9	28.4
Predator taxa	9.6	2.3	23.8	3.8	27.1	10.3	2.6	24.9	4.2	21.8	10.0	2.4	24.4	4.0	24.5
% Clinger	43.3	13.3	30.7	21.8	28.3	41.1	8.6	20.9	14.1	17.7	42.2	11.1	26.4	18.3	20.0
Sprawler taxa	10.4	2.9	28.2	4.8	26.3	10.1	2.0	19.9	3.3	22.2	10.3	2.5	24.5	4.1	23.4
Hydropsychida/Trichoptera	38.7	26.3	67.9	43.1	15.4	39.5	29.7	75.1	48.7	10.8	39.1	28.1	71.8	46.0	13.3

Table 3-10. Error partitioning framework for biological assessment protocols. Performance characteristics may be quantitative (QN), qualitative (QL), or not applicable (na). Those characteristics in bold were addressed in this project.

Component Method or Activity	Performance Characteristics				
	Precision	**Accuracy**	**Bias**	**Representativeness**	**Completeness**
1. Field Sampling	**QN**	na	**QL**	**QL**	**QN**
2. Laboratory Sorting/ Subsampling	QN	QN	**QN**	QN/**QL**	na
3. Taxonomy	**QN**	**QN**	QL	na	na
4. Enumeration	**QN**	QN	QL	na	na
5. Data Entry	QN	**QN**	na	na	na
6. Metric calculation (e. g., Data Reduction)	na	**QN**	QL	na	na
7. Final Index and Site Assessment	**QN**/QL	**QN**	QL	**QL**	**QN**

Prior to initiation of fieldwork, all field and laboratory personnel reviewed standard operating procedures (SOPs) for activities they would be performing. Training workshops were held where all field and laboratory procedures were reviewed and demonstrated.

3.8.1 Field Sampling

3.8.1.1 Benthic Macroinvertebrates

Method overview. This sampling activity was performed with a long handled D-frame net (800 × 900 micron mesh) and a controlled level of effort (20 jabs) to sample multiple habitats over a 100m stream reach. Two types of duplicate samples were taken. After sampling the primary reach, a field team sampled a reach that was adjacent to it; this was termed a bioduplicate (BD). A field team would be assigned to resample a reach after another team had completed the primary sample; this was termed a biorepeat (BR). All sites for which duplicate and repeat sampling occurred were selected at random from the initial master site list. The designed rate of repeat sampling was approximately 15% (or 70 out of 475 sites); there were to be 35 BD samples, and 35 BR samples. The final totals were 36 and 34, respectively.

Precision was quantitatively evaluated in three ways: 1) the consistency of each of the field teams from one sample to the next in the same stream; 2) the consistency of the method when applied by two *different* field teams at the same site; and 3) comparison of the two types of precision estimates

1) Intra-team consistency (reproducibility of a result)

Intra-team RPD (bioduplicates) for teams 1, 2, 4, 6, and 7 ranged from a median of 23-29% across all metrics (Figure 3-10), slightly higher than inter-team comparisons but with a much smaller spread. Twelve of 20 metrics had a median RPD spread of <20% among at least 3 of the 5 teams; they were: No. Chironomidae Taxa, No. Collector Taxa, No. Coleoptera Taxa, percent Diptera, percent Ephemeroptera without Caenidae, percent EPT without Caenidae, No. Filterer Taxa, HBI, Hydropsychidae/Trichoptera, No. Plecoptera Taxa, No. Predator Taxa, No. Tanytarsini Taxa, and Total Taxa. The highest intra-team RPDs were exhibited by percent Caenidae, percent Filterers, percent Tanytarsini, and No. Trichoptera Taxa.

2) Inter-team consistency (method precision)

Inter-team RPD (biorepeats) for teams 1, 2, 4, 6, and 7 ranged from 16-27%, slightly lower than for intra-team comparisons but with a larger spread. All metrics had at least three teams within a 20 percentage point spread (Figure 3-11). The largest overall spreads for inter-team comparisons (i. e., differences among teams overall) for metrics were percent Ephemeroptera without Caenidae, percent Filterers, No. Plecoptera Taxa, No. Tanytarsini Taxa, and No. Trichoptera Taxa.

3) Comparability of precision estimates developed using BR vs. BD

BR and BD sample pairs produced similar results. RPD across all teams showed substantial precision (=repeatability) for most of the metrics (Figure 3-10 and 3-11). CVs across all sample pairs for all teams exhibited good inter- and intra-team comparability (Table 3-9, Figure 3-12). The former seemed slightly worse than the latter, with the CV being slightly larger on 13 of the 20 metrics. The metrics with the highest CVs (>50%) (i. e., least precise) were No. Plecoptera Taxa (BR and BD), percent Tanytarsini (BR), percent Ephemeroptera (no Caenidae) (BR), No. Trichoptera Taxa (BD), percent Caenidae (BD), and Hydropsychidae/Trichoptera (BR and BD). The M-BISQ had an overall CV of 10.3 when inter-team and intra-team sample pairs were combined.

Overall, variability reflected seems to be low and acceptable; the majority of the metrics have RPD < 30%. We recommend that an MQO be established for each metric and the overall M-BISQ for use in future data quality assessments. It should be noted that the two teams, 3 and 5, had several changes in personnel over the sampling period, and had very few, if any BD or BR samples.

Accuracy is not directly applicable for field sampling in this project because it would require knowledge of all target organisms at a sampling location, which is not feasible with invertebrates. (NA)

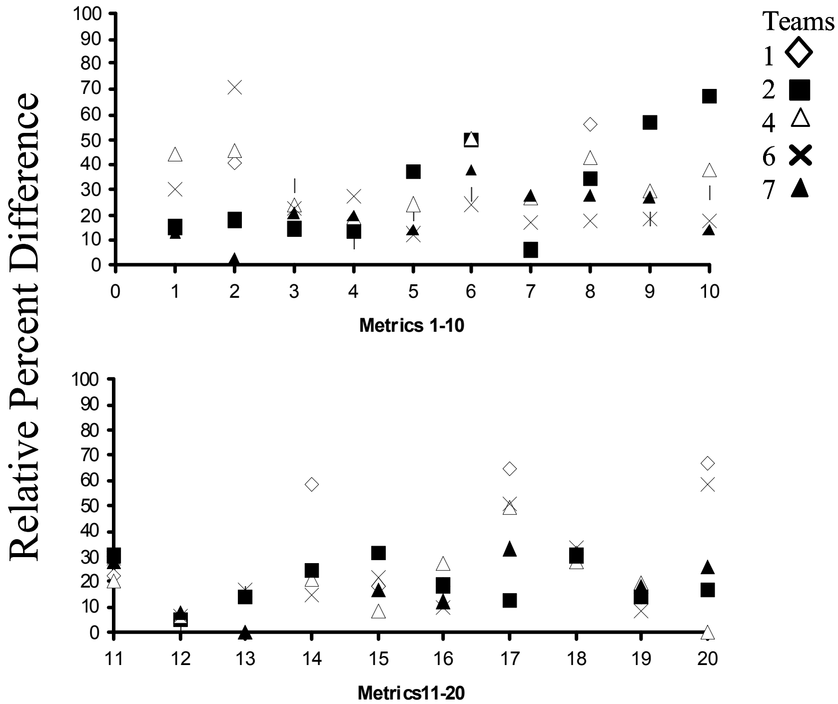


Figure 3-10. Intra-team relative percent difference (RPD) of individual metrics (bioduplicates).

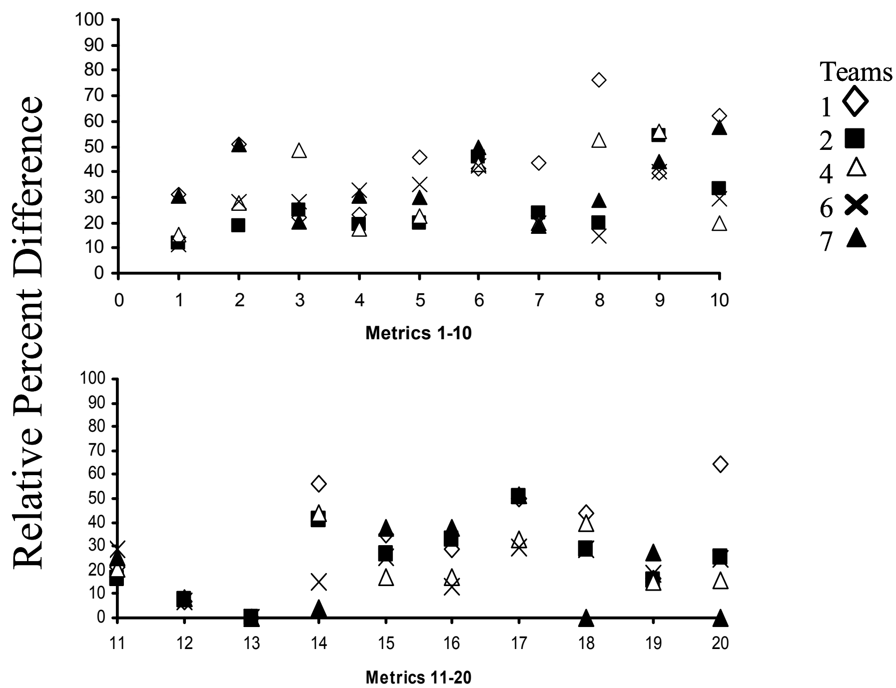


Figure 3-11. Inter-team relative percent difference (RPD) of individual metrics (biorepeats).

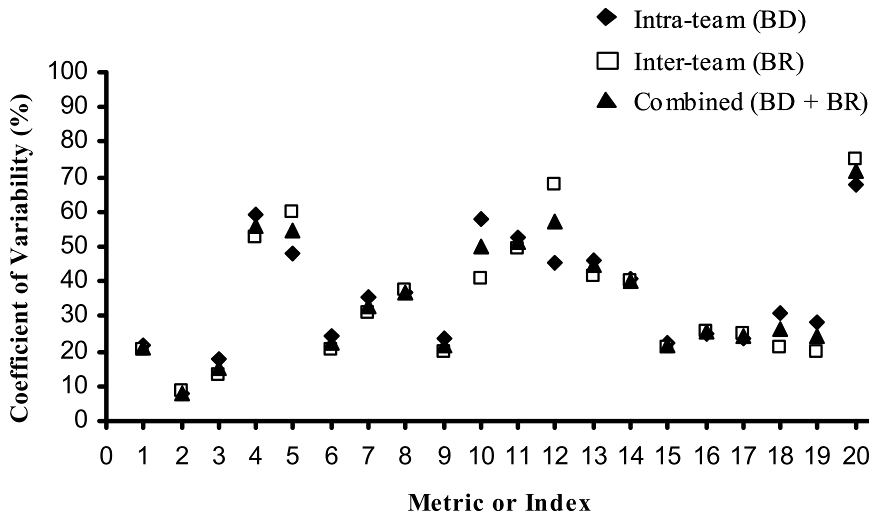


Figure 3-12. Comparison of CV across all metrics and the index using repeat sampling.

Bias control is attempted by allocating sampling effort among multiple habitats in proportion to their occurrence in the stream. The intent is to avoid over-sampling rare habitats and under-sampling abundant habitats.

Representativeness of the sampling approach is inherent in its design. The method targets multiple sub habitats (undercut banks, snags/woody debris, leaf litter, riffles, macrophyte beds, and sandy bottom), and, with the exception of sandy bottom, allocates sampling effort among the habitats in rough proportion to their occurrence through the 100m reach. This sampling approach is designed to produce a multi-taxon sample that reflects the benthic macroinvertebrate assemblage that the stream physical habitat has the capacity to support.

Completeness. There was a total of 475 sites for which sampling was planned for which the following sampling and data analyses were planned: benthic macroinvertebrates, field chemistry, laboratory analytical chemistry, physical habitat assessment, and pebble counts. Percent completeness for each is given in Table 3-11.

Table 3-11. Percent completeness of field sampling for different sample types.

Type of Sample	Number of Sites/Samples		Completeness (%)
	Planned	Sampled	
Benthic macroinvertebrates	475	455	95.8
Field Chemistry	475	453	95.4
Laboratory Chemistry	475	460	96.8
Physical Habitat	475	463	97.5
Pebble Count	475	463	97.5

3.8.1.2 Chemical

Method overview. Field duplicate grab samples were taken at 48 sites by six different field teams; the MDEQ Chemistry Laboratory performed all analytical procedures. All sample handling and laboratory analysis was performed as specified in the QA Project Plan (MDEQ 2001).

Precision. This characteristic was evaluated separately with reference to field collection and laboratory procedures. The precision of the laboratory analyses was evaluated by comparing value differences (range) between two duplicate values with an upper control limit (UCL) for that difference; the UCL was exceeded the UCL six times (Table 3-12) and is a rate considered acceptable. Field precision was characterized by calculating RPD for the field duplicates (Figure 3-13).

Table 3-12. Laboratory chemistry analytes and the number of control limit exeedences.

Analyte	UCL	No. Exceeding
Chloride (Cl)	0.3	1
Nitrate-Nitrate (N-N)	0.05, 0.12	0
Ammonia (NH_3)	0.1	2
Total Kjeldahl Nitrogen (TKN)	0.2	1
Total Phosphorus (TP)	0.06, 0.2	1
Alkalinity ($CaCO_3$)	3, 16	1
Chemical Oxygen Demand (COD)	8	0
Total Organic Carbon (TOC)	1	0

Analytes with greatest field consistency were alkalinity, chlorides, TOC, and N-N; the most variable (= lowest consistency) were NH_3, TKN, TP, and COD.

Accuracy. MDEQ uses percent recovery as assessment of the accuracy of chemical analysis, although it has been used as a measure of bias. Percent recovery for both reference standards and spiked duplicate samples never fell outside the range of 80-120%.

Bias. See accuracy above.

Representativeness. In part, this characteristic is demonstrated by comparison of duplicated grab samples. Non-representativeness of a sample would exhibit a larger number of exeedences than shown in Table 3-12.

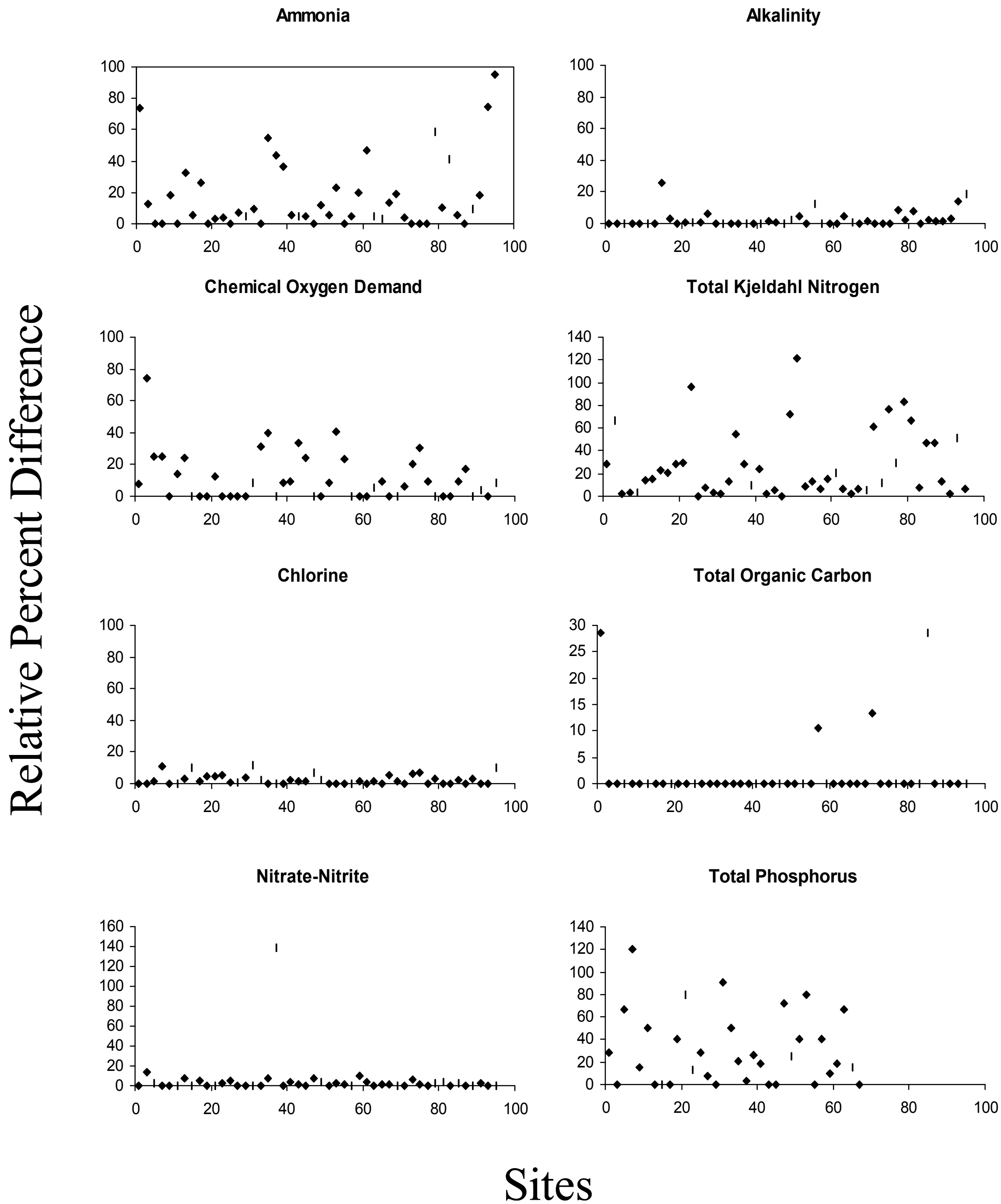


Figure 3-13. RPD of duplicate grab samples taken for laboratory analytical chemistry at 48 stream sites by six different field teams.

Completeness. Four hundred fifty three (453) chemistry grab samples out of 475 planned were taken, for a completeness of 96.8% (Table 3-11).

3.8.1.3 Physical

Method overview. The procedure for assessing physical habitat quality is based on that endorsed by the U. S. EPA (Barbour et al. 1999); it is visual-based and focuses on rating or scoring 10 different habitat components along a continuum of conditions. Each parameter is scored on a continuous scale of 0-20, with 0 being the worst condition, or most degraded; and 20 being the best condition, or most natural. This analysis evaluated inter-team variability by examining the difference in paired scores for 34 sites that were visited by a second (or repeat) team.

Precision. Overall inter-team RPD of the total habitat score at individual sites ranged from 0 (perfect agreement) to 41% (n=34) (Figure 3-14), with a median of 16%. Across all sample pairs, the CV was 11.2% and the 90% confidence interval was 23.6 (on a 200-point scale) (Figure 3-15). Five individual parameters had a CV>30% (bottom substrate/available cover, pool variability, sediment deposition, channel flow status, and bank stability). Only two had CV<20% (channel alteration, riparian vegetative zone width). Most of the total habitat RPD from field teams ranged from 0-25%, although some were occasionally as high as 35-40% (Figure 3-16).

Accuracy. Not applicable.

Bias. The level of bias with this method can be substantial if the operator is undertrained or has a minimum of experience. The level of training and experience among the field teams was naot equivalent and likely directly influenced the variability of the final habitat scores.

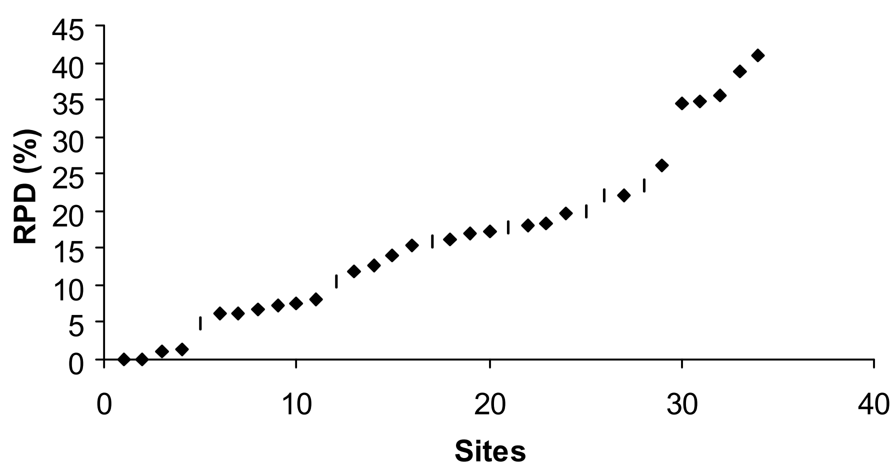


Figure 3-14. Inter-team relative percent difference (RPD) for physical habitat assessment at 34 sites.

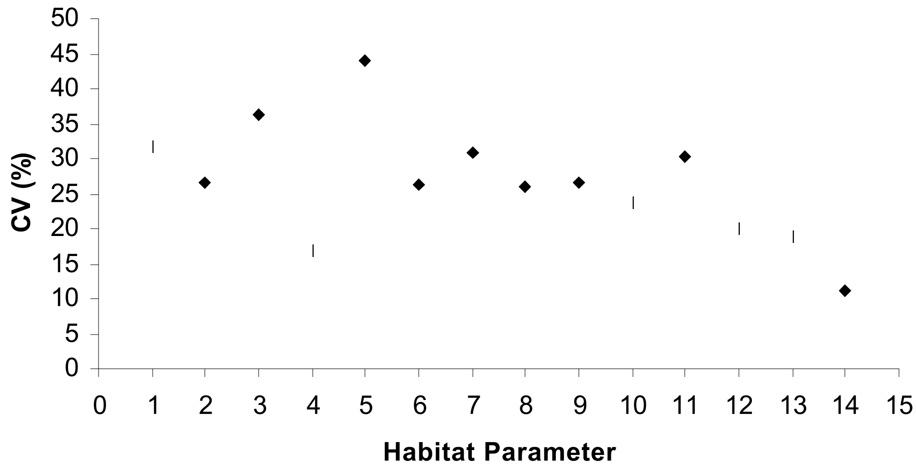


Figure 3-15. Coefficient of variability (CV) of repeated habitat assessment of 34 sites. Parameters 9-13 are split by right and left banks, and are thus, each scored on a 10-point scale individually. Parameter 14 is the aggregated total score.

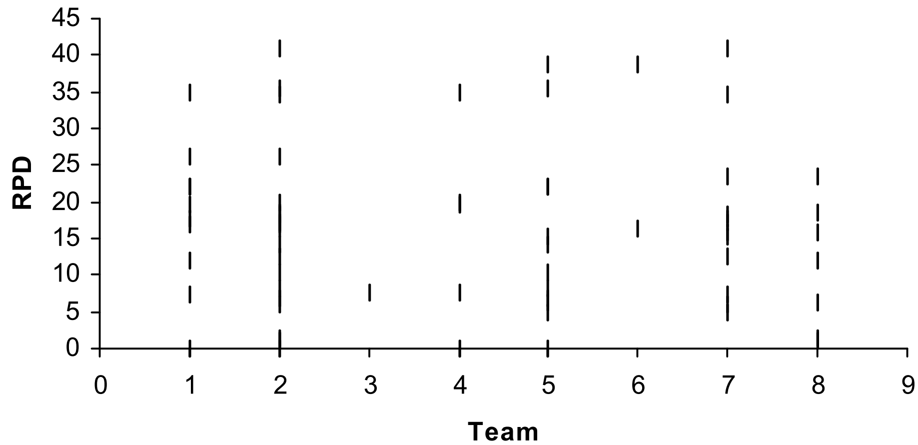


Figure 3-16. Range of intra-team relative percent differences (RPD) by field teams for total physical habitat scores.

Representativeness. This characteristic was not tested, but is intended to simultaneously represent the structural complexity of the stream channel morphology, its capacity to dissipate erosive flow energies, and its overall relative value as habitat for the stream biota.

Completeness. 463 habitat assessments were completed out of 475 planned for a completion rate of 97.5% (Table 3-11).

3.8.2 Laboratory Sorting and Subsampling

Method overview. The subsampling method involved using a 30-square Caton gridded screen, which allows separation of physically-defined amounts of sample material (leaf litter detritus, substrate particles) from the total sample, and then separation/removal of the organisms from that material. Enough gridded squares of material were removed and sorted, in turn, to reach the target number of organisms (200), by the rough count. Once the sort was complete, experienced laboratory personnel examined the remaining detritus to ensure that no organisms had been missed. If missed specimens were found, they were counted and recorded on the subsampling bench sheets. Each sample resulted in 3 "post-sorting" containers: 1) the 200-organism subsample, 2) the unsorted sample remains, and 3) the sample pickate (sort residue).

Precision of sorting and subsampling was not specifically evaluated; the performance characteristic is judged to be not applicable.

Accuracy of subsampling is directly (inversely) related to bias. Specifically, accuracy is not applicable to subsampling or sorting.

Bias of subsampling is evaluated using a performance characteristic similar to % recovery used in analytical chemistry laboratories, called % sorting efficiency, or PSE. An index is not calculated if the final count by the taxonomist is <160 and all 30 grids are sorted (i.e., the entire sample).

Inter-laboratory QC: A set of 54 samples randomly selected by MDEQ was shipped to a separate laboratory. These 54 pickate samples represented 10% of the 535 samples processed by the MDEQ laboratory. The pickate samples were received and examined for any specimens, according to MDEQ-SOP-LAB-001. They were initially assumed to be completely void of benthic macroinvertebrates. The QC laboratory performed sort re-checks under the same conditions as were used in the MDEQ Laboratory, no magnification (naked eye only), and additional artificial lighting, only if necessary. If organisms were found, they were removed and placed in a vial containing approximately 80% ethanol, and labeled with all of the originally required label data, and designated "pickate recoveries". When the pickate check was completed, the number of recoveries was noted on a data sheet. *Sorting efficiency* for a sample was calculated as:

$$\frac{A}{A+B}x100$$

where, A is the number of organisms found by the original sorter, and B is the number of missed organisms recovered by the QC laboratory sort checker. The laboratory sorting/subsampling measurement quality objective (MQO) for this project was to have a database *where ≤10% of the samples overall have a sort efficiency of <90%.*

Results. Thirteen (13) of the 54 samples failed; that is a 24% rate of failure of the 90% sorting efficiency threshold. This rate of failure exceeds the threshold by over 14 percentage points. Figure 3-17 is a control chart of the resulting sorting efficiencies from the 54 pickate samples.

The next step was to determine whether any pattern existed in the failures. Several potential factors were examined that may have effected the final sort efficiency: primary and secondary sorters, primary and secondary sort checkers, number of samples processed by individual sorters or checkers, number of grids sorted, date/day of subsampling start on a sample, and whether or not QC checks were performed on a sample. In some cases, sample sorting was begun by one sorter, but was completed by another, and those samples are shown as being completed by multiple laboratory staff. Likewise, the in-house QC check of the pickate occasionally had multiple staff checking the sort residue of a single sample.

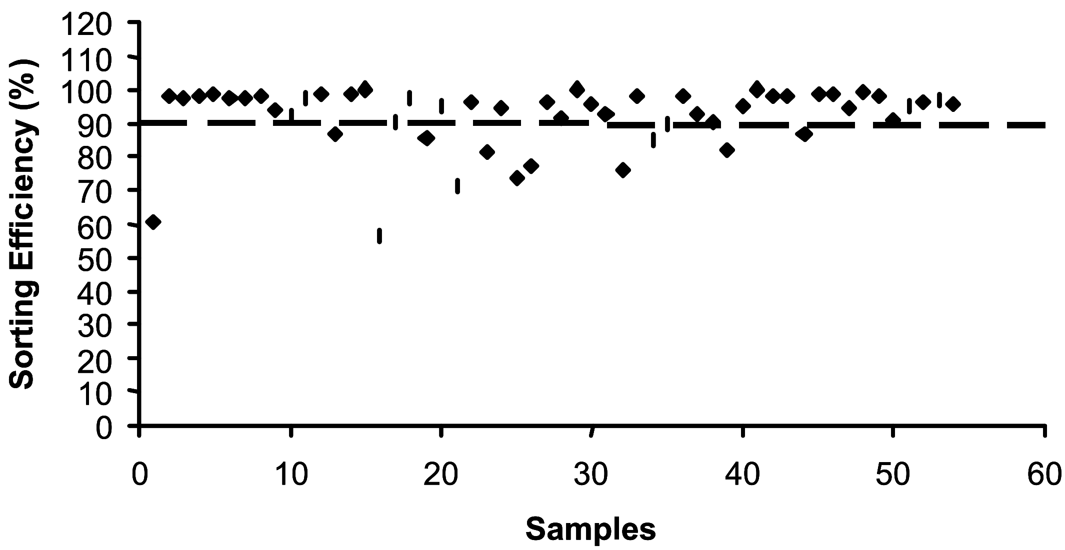


Figure 3-17. Control chart comparing per sample sorting efficiencies with the 90% threshold established for this project.

There did not appear to be a discernable pattern among the results of the checks. With the rate of sort efficiency failures being 24%, higher than the measurement quality objective of 10%, a corrective action was implemented. The corrective action required that the sort residue for all remaining samples be checked, and any specimen recoveries be added to the samples.

Corrective Action. The QC laboratory was tasked with picking all remaining organisms from each of the pickate samples, having them processed for taxonomic identification, and combining the results with the original sample data.

There were a total of 12,988 organisms found (termed "pickate recoveries") in the 515 pickate samples for an average of 25.2 missed organisms per sample. Examining the number of grids picked during the subsampling procedure, 62 samples had all 30 grids picked (in other terms, the entire sample), or 12% of the entire dataset. In the original re-check of the 10% randomly selected pickate samples, it was noted that there seemed to be a tendency for increasing sorting efficiency failure as larger numbers of grids were sorted. Examining the entire dataset exhibits a similar pattern: for samples requiring 10 or fewer grids to reach the 200 organism subsample target, there was a 24% rate of failure; for those requiring greater than 10 (up to 30), 59% of the samples failed. This could possibly be explained by efforts to expedite reaching the target by rapid picking of only larger, more obvious organisms, and potentially overlooking more numerous, smaller ones. An additional possible explanation would be placing too much material (i. e., too many grids'-worth of detritus) into the sorting tray at one time, thus reducing the ability of the sorter to see the organisms; or that samples supposedly requiring more material to be sorted would be related to the smaller density of organisms in the sample, thus resulting in impatience developing in the sorter. Figure 3-18 shows the breakdown of the number of grids initially sorted to reach the target number. There was also no pattern of failure apparent relative to subsampling being performed early or late in the subsampling period.

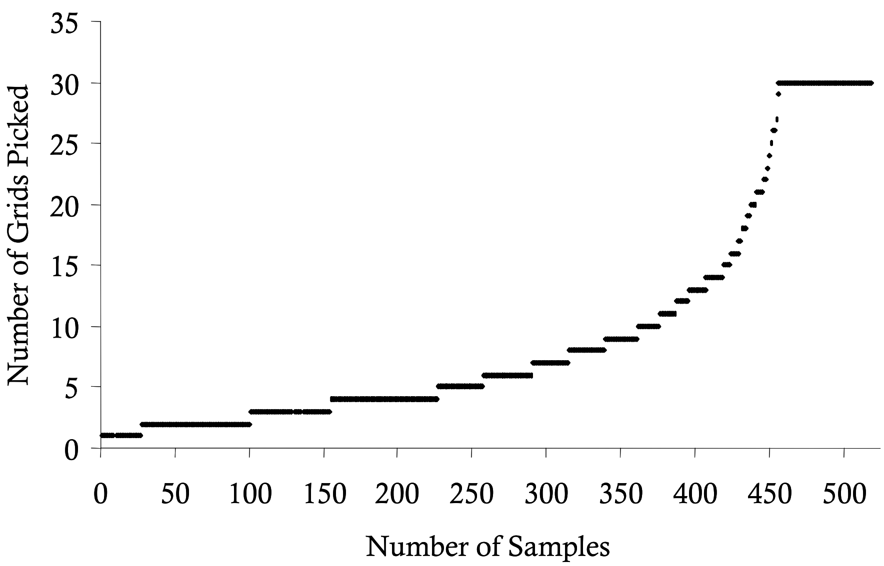


Figure 3-18. Number of grids required to attain the 200 organism subsample target level.

For 278 samples, addition of the pickate recoveries to the original subsamples resulted in a sample total in excess of 240 (200 organism target plus 20%), some even up to 1000. Rarefaction was used on "taxa richness"-based metrics to computer subsample to 240 organisms. These metrics included those that require counts of numbers of different taxa (either taxonomic, such as No. of Ephemeroptera taxa; functional-feeding-group-based, such as No. of filterer taxa; or habit-based, such as No. of clinger taxa).

Representativeness. Two aspects of the sample handling and laboratory processing method in part, ensure representativeness. First, the initial laboratory handling of the sample, specifically the effort to thoroughly mix the sample in a bucket by swirling in a water-filled bucket, and, second, the randomization process for original selection of grids for sorting. An important aspect of subsampling representativeness would be whether those samples where the 200 organisms level was attained in a low number of grids (e.g., 1 or 2). If the sample was well mixed prior to spreading, it is possible that the selected grid(s) are not characteristic of the sample overall.

There were 25 and 72 samples that attained the subsampling target in 1 and 2 grids, respectively. This was not evaluated.

Completeness. Not applicable.

3.8.3 Taxonomic Identification and Enumeration

Method overview. Identifications were performed by a taxonomic laboratory (Freshwater Benthic Services, Inc.) using the most up-to-date technical literature. Taxonomy was performed to hierarchical levels as specified in the MDEQ QAPP (MDEQ 2001), mostly to genus, some to species, and others to higher levels (i. e., tribe, subfamily, family, order, or class). Ten percent (10%) of the project samples (n=535) were randomly chosen by MDEQ for re-identification, resulting in 54 samples. Once the primary identifications were completed for all 54 samples, the vials and slides were shipped in return to the MDEQ lab. They were sent with site information only (i. e., without identifications), thus representing blind samples. The MDEQ lab performed re-identifications. Another aspect of sample processing that is related to and affected by taxonomy is enumeration, or the direct counts of individuals in a sample, both in total and separated by individual taxa.

Precision. The 54 randomly-selected samples are the properties that were measured using two different "methods", the taxonomists. Enumeration is performed simultaneously with identification.

<u>Enumeration</u>. Final specimen counts for samples are dependent on the taxonomic identifications (ID), not the rough counts obtained during the initial sorting activity. Comparison of counts uses "Percent Difference", where

$$\left(\left| Lab1 - Lab2 \right| \Big/ Lab1 + Lab2 \right) \text{ x } 100$$

Although there were several samples where total counts are substantially different, most differences were low (Figure 3-19), with a mean of 4.7%. Different counts seemed to have mostly originated from differences in slide-mounted worms and midges, some apparently having cleared to the point of not being visible to the second lab. There were a number of instances where specimens were lost or misplaced during sample handling. Overall, the differences in counts, while initially problematic, does not appear to present a serious problem with the lab processing. Nonetheless, procedures should be investigated that would allow maintenance of sample integrity during both initial and follow-up processing.

<u>Taxonomy</u>. Side-by-side comparison between the taxonomic results delivered by the two labs was performed. The process entailed examination of the list of names for each sample and the number of organisms each lab found for each name. For each sample, the number of agreements was determined, divided by the number of comparisons, and subtracted from 1 to give *percent taxonomic disagreement*, or PTD. Precision of taxonomic identification was assessed by

comparing genus-level taxonomic results from two independent taxonomists, and was calculated as:

$$PTD = \left[1 - \left(\frac{comp_{pos}}{comp_{tot}}\right)\right] \times 100$$

where $comp_{pos}$ is the number of agreements, and $comp_{tot}$ is the total number of taxonomic comparisons. The lower the PTD value, the more similar are sample taxonomic results, and the greater is the overall taxonomic precision.

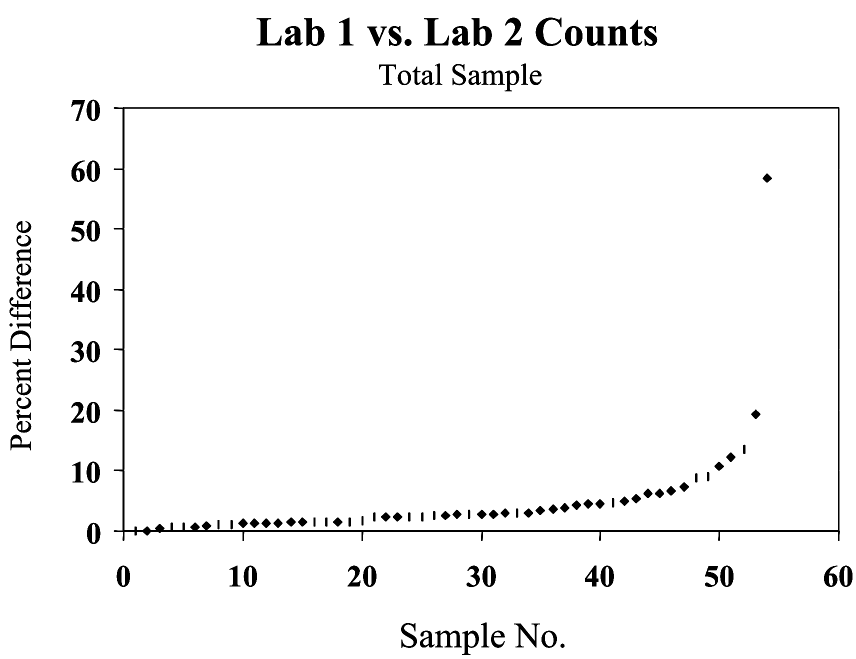


Figure 3-19. Comparison of sample enumeration for 54 samples by two laboratories. The mean difference is 4.7%.

This number quantifies the precision with which the taxonomic database is developed. The original comparison resulted in a mean PTD of 26%, well above the project goal (measurement quality objective) of <15% for the overall dataset. Further examination of the lists revealed several areas of consistent disagreement, which, if combined or aggregated to higher taxonomic levels, would substantially lower the rate of disagreement. Several of these combinations were performed and the PTD calculated for each (Figure 3-20). By aggregating selected chironomid, amphipod, and oligochaete taxa in Composite 5 mean PTD improved from 26% in the original to

11% in the fifth scenario. The groups and taxonomic levels where there seemed to have been the more frequent and major disagreements between the two labs are:

- Amphipoda genera
- Oligochaeta genera
- Chironomidae
    - Psilometriocnemus vs. Hydrobaenus vs. Parametriocnemus
    - Cricotopus vs. Orthocladius vs. Cricotopus/Orthocladius
    - Polypedilum species
    - Rheotanytarsus vs. Paratanytarsus

The original taxonomy was used in all analyses.

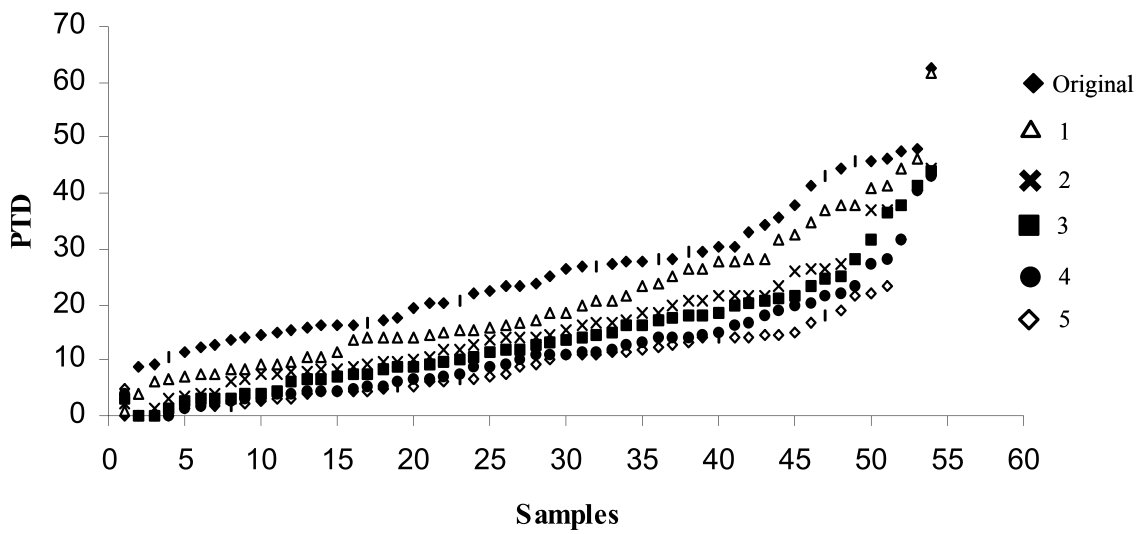


Figure 3-20. Percent taxonomic disagreement (PTD) between two laboratories for five different scenarios of aggregating identifications to higher taxonomic levels.

Accuracy. Definition of accuracy requires specification of an analytical truth (Taylor 1988, Clark and Whitfield 1994). For taxonomy that could be 1) the most up-to-date technical literature/keys, 2) an identified reference collection verified by specialists in different taxonomic groups, or 3) specimen by specimen comparison with museum-based type specimens. All taxonomy in this project was completed using technical literature specified in the QAPP (MDEQ 2001). The reference collection assembled by Freshwater Benthic Services, Inc. for this project contains specimens representing 562 total taxa, and is housed in the MDEQ Biology Laboratory, Pearl, Mississippi. Specialists in several groups will verify selected individuals of different taxa, as decided upon by the Biology Laboratory staff. Option 3 is not feasible, nor considered necessary, for this project.

Bias. This type of error in taxonomy would be problematic if there were consistent misinterpretation of technical keys, misunderstanding of morphological features, or poor processing of samples (including slide mounts of Chironomidae and Oligochaeta). Occasional problems with poor slide mounts were noted, but the extent to which these effected error in the taxonomic analysis was not evaluated.

Representativeness. Not applicable.

Completeness. Completeness of taxonomic analyses is dependent on how well the taxonomist is able to determine the identity of individual specimens, and the frequency of attainment of the targeted hierarchical level. For example, if the final resulting ID for a specimen was at the family level, where the QAPP called for genus level as the target, then that could be said to be a non-complete identification for that taxon. The reason it was left at a more coarse level might have been that it was an early instar with underdeveloped morphological features, or a damaged or poorly mounted specimen. This aspect of the taxonomy was not evaluated.

3.8.4 Data Entry

Method Overview. All data were entered into EDAS (Ecological Data Application System, version 3.0, MSAccess 97, customized for MDEQ). Data types entered included header information, comments, Section 1 riparian zone/instream features, sediment/substrate, water quality, habitat types, habitat assessment, pebble count, taxonomic data, and analytical and field chemistry. There were a total of 377 data entries per site/sample, and 201,695 total for the project (n=535 samples).

Precision. Not applicable.

Accuracy. The accuracy of the data entry was checked by direct comparison of original datasheets (handwritten in the field or laboratory) with printouts from the database. All data entries (100%) were checked by an individual *other than* the primary data entry technician. Notations on the initial printouts were kept when data entry errors were discovered, and marked when corrections were made in the database. To develop an estimate of the rate of data entry error, 50 sites were randomly selected and the (corrected) errors totaled. There were a total of 279 errors discovered and corrected during this QC check, a rate of 1.5%. The incidence of error was greatest for the pebble count data (15.3%); and the rate of error least for sediment/substrate; habitat types; and analytical and field chemistry (0%). All errors were corrected.

Bias. Not applicable.

Representativeness. Not applicable.

Completeness. Not applicable.

3.8.5 Metric Calculation

Method Overview. In structuring the biological portion of the database, it was necessary to relate several sources of non-primary, or secondary, data to each taxon. Three tables were developed that organized tolerance values, functional feeding groups, and habit, and are contained within EDAS. Tolerance values were developed as described in Section 2.1.7 and Appendix A. Functional feeding group and habit designations were taken primarily from Merritt and Cummins (1996) and Barbour et al. (1999). Eighty-two metrics were calculated for each of 524 samples using structured queries in EDAS.

Precision. Not Applicable.

Accuracy. A subset of metric values was hand-calculated using only the taxonomic and enumeration data, and then comparing them to those that resulted from the EDAS queries. The purpose of this QC activity is to ensure that the metric calculation queries are performing operations as intended. It resulted in 695 metric values being recalculated by hand out of 42,968 values. If differences were found, each value was checked for error in the calculation process (hand calculator vs. computer algorithm), and corrections made.

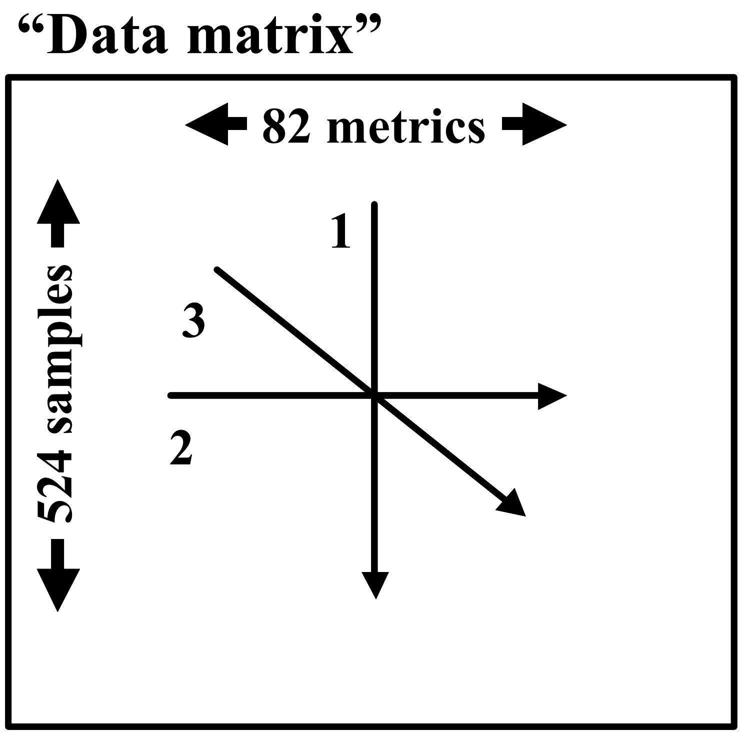
The framework for this QC procedure goes through three steps, and resulted in pattern that was a combination of systematic and random characteristics (Figure 3-21). Step 1 selected one metric for a multiple samples (systematic, every third sample, 154 calculations); Step 2 was a recalculation of 82 metrics for a single site/sample (82 calculations); and Step 3 was "diagonal" through the dataset, so that every site had at least one metric calculated, some had multiple values calculated (459 calculations). For Step 1 the HBI calculation was selected as it represents one of the more complicated queries with greater potential for error. Site 357 was randomly selected for Step 2. The pool of samples to check (n=454) excluded organism re-identifications, field duplicates, and field replicates.

Step 1. Of the 154 calculations 19 were labeled as incorrect (12.3%). Upon calculation by a second individual 11 calculations were found to be correct and the other 8 were correct to three significant digits. Corrective Action: None.

Step 2. Eight of 82 calculations had errors (9.7%) and it was determined that there were problems in the database calculations tied to tolerance values. The core metrics affected were Beck's Biotic Index, Hilsenhoff Biotic Index, and Percent Tolerant Individuals. Corrective Action: The queries were corrected in the database and these new values were then subjected to the same QC check. The re-check of the miscalculated metric values confirmed that the problems were corrected.

Step 3. Six values of 454 were labeled as being in error (1.3%). Upon calculation by a second individual only 4 calculations were found to be in error. The affected metrics and samples were % Non Insects (Site 20), % EPT no caenids (Sites 184 and 261), and % Ephemeroptera no caenids (Site 335). In each of these cases, one individual of the genus Haemonais (a worm) was incorrectly mapped to the genus level ID for Habrophlebiodes (a mayfly). The genus Haemonais occurs in the database as 3 different identifications (Haemonais, Haemonais waldvogeli, and

Haemonais variant) in a total of 38 instances in 37 different samples. The mapping error was fixed in the database. This caused the only minor discrepancies in the calculations. The initial sites/metrics



***Hand calculate*:**

1. **one metric through all samples**
2. **all 82 metrics for one sample**
3. **diagonally through matrix, 33% of metrics (every third value)**

Figure 3-21. Pattern for selecting cells in the data matrix to recalculate by hand; it results in 414 values out of 31,030 being recalculated. This QC check procedure ensures that the interaction between metric calculation queries and raw data is performing as expected.

A total of 695 calculations were checked out of a possible 42,968 (1.6%). Of the 695 calculations checked 11 had errors (1.6%) that were subsequently corrected.

Bias. Not Applicable.

Representativeness. Not Applicable.

Completeness. Not Applicable.

3.8.6 Final Index (M-BISQ) and Site Assessment

Method Overview. The final index is an aggregation of metrics. Two kinds of repeat sampling (intra-team bioduplicates and inter-team biorepeats) provided data to calculate estimates of variance or precision (relative percent difference, coefficient of variability, and detectable difference) at both the metric and index levels. Objective definition of MD sites, and testing the capacity for metrics and indices to detect those sites as degraded (using discrimination efficiency) is characterization of index accuracy.

Precision. Table 3-8 and Figure 3-12 show the results of all repeat sampling on metric and overall index precision. Ten metrics demonstrated good precision (repeatability) with CV<30%; they are: Beck's Biotic Index, Hilsenhoff Biotic Index, Total Taxa, No. Chironomidae Taxa, Percent Diptera, No. Collector Taxa, No. Filter Taxa, No. Predator Taxa, Percent Clingers, and No. Sprawler Taxa. Six metrics had a CV>50% (No. Plecoptera Taxa, No. Trichoptera Taxa, Percent Tanytarsini, Percent Caenidae, and Hydropsychidae/Trichoptera). The overall index had a CV of 10.3% and a 90% confidence interval of ±10.0 index units.

Accuracy. The analytical truth used for calculating accuracy of the M-BISQ was the number of sites designated as "MD" using physical and chemical data. The percentage of designations where MD sites were correctly identified as degraded by the M-BISQ is the discrimination efficiency (DE) (see sections 2.6 and 2.7.2 for discussion of DE). If an index correctly categorized all sites as biologically degraded, it can be said to have an accuracy of 100%; 15 out of 30 would be an accuracy of 50%; and so forth. Thus, accuracy calculations must be performed for each site class since the analytical truth is the set of MD sites designated for each class. The accuracy of the M-BISQ is 90% for the Northwest bioregion, 100% for the Black Belt, 89% for the Northeast, and 90% for the West and East bioregions, respectively (Table 3-6).

Bias. An artifact of calculating DE is that high values (e. g., between 95-100%) can be associated with low numbers of MD sites. That is, if a dataset has a high number of MD sites, and also a high DE, confidence can be placed in the result. Conversely, if a high DE is obtained with a low number of sites, the result should be accepted only with lower confidence. The Black Belt and the Northeast bioregions only had 26 and 37 sites, and DEs of 100 and 89.

Representativeness. These biological assessments must be discussed first in terms of scale: areal and site-specific. In this dataset, the percentage of sites within a watershed, bioregion, or across the state, should not be considered representative of all streams or watersheds within that group. A large proportion of the streams (if not all of them) were selected based on some existing knowledge, expected land cover conditions, or their status relative to Mississippi's §303(d) list of impaired waters. For these stream assessments to be considered representative of a broader area than the stream itself, and thus be able to be combined into a mean or median watershed (or other areal) condition, the site selection process would need to be random or stratified-random.

However, they can be considered representative of the individual stream because of the manner in which samples were taken, that is, the field collection procedure is designed to sample the benthic macroinvertebrate fauna the stream physical habitat has the capacity to support (see section 3.8.1.1). Sampling effort is not intentionally skewed toward an individual habitat type; it is distributed across specific habitat types in proportion to their occurrence within a reach. Also, direct interpretation of the results is in the context of best attainable conditions within a regional stream type.

The index score was not calculated if the final count for a subsample was <160 organisms and all 30 grids had been sorted (i.e., the entire sample). This is intended to minimize the bias that may be associated with performing assessments with inadequate samples and data.

Completeness. Biological assessments were completed for 95% of the 455 streams sampled. Inadequate numbers of organisms (<160) prevented assessments from being completed at 22 sites.

4. BIOREGIONAL SUMMARIES

4.1 East

The East bioregion, composed of seven ecoregions (Table 3-4), is the largest of the five bioregions and had the most sample sites (205 sites) (Figure 2-1). Physical habitat and chemistry are variable within this bioregion as evidenced by the number of preliminary site classes that are contained with this bioregion (Table 3-4). In particular, the southern part of the bioregion is characterized by an abundance of low pH blackwater streams. Chemical parameters including, COD, NN, TKN, TOC, and TP were highest in the central part of this bioregion. Generally, however, the loam and clay soils tend to be leached and, thus, most areas have low fertility (ADEM/MDEQ, 1995). Stream substrate consisted of higher amounts of gravel in the southwestern part of the east bioregion, while silt/clay was prominent in the central region. Overall, though, sand was the most prevalent substrate type (Median = 66%) (Appendix F). Surrounding natural land uses were more abundant and physical habitat was of higher quality in the east bioregion than the other bioregions (Figure 4-1 and Figure 4-2). The highest index scores in this bioregion were found in the southern half with the exception of the streams in the coastal region in the far south which had low index scores. Biologically-impacted sites were more abundant in the northern part of the bioregion.

The most degraded site in the east bioregion was Lewis Creek (site 174), which had a M-BISQ score of 11 (Appendix G). This stream is located in the northwest part of the bioregion and has a highly modified riparian zone made up of 74 percent managed land uses (i.e., anthropogenic land uses) (Appendix F). The least degraded stream found in the east bioregion was Tilton Creek (site 464), which had an M-BISQ score of 92. Located in the southern half of this bioregion, this stream had high quality habitat (177) and abundant gravel (56%) (Appendix F). Several LDa sites in the east bioregion had relatively low index scores. These sites included the Strong River (site 319; M-BISQ = 49) and Pinishook Creek (site 272; M-BISQ = 49) located in the southern, middle, and northern areas of this bioregion, respectively.

Dead Tiger Creek (site 521) and Scooba Creek (site 566) had low M-BISQ scores (33 and 28, respectively) but high habitat scores (129 and 146, respectively). Standing Pine Creek (site 262) and Pretty Branch (site 396), both of which were classed as MD sites, had high M-BISQ scores (70 and 80, respectively) but poor habitat quality. Nine samples from this bioregion had insufficient data and thus could not be assessed[1] (Appendix G).

4.2 West

The West bioregion (Figure 3-6) is represented by ecoregions 74a, 74c and the southern half of 74b and contained 96 sample sites (Table 3-4). The northern part of this bioregion is more heavily human-influenced, mostly in the form of agricultural lands, than the southern part. This northern section is the preliminary site class 5 which was designated as a separate site class because of differences in chemical and physical characteristics. Additional biological data for LDa sites from this region may suggest that it should be designated as a separate bioregion.

---

[1] Samples contained less than the 160-organism target level for site assessment. Index scores were calculated but results were not be used for evaluation of impairment.

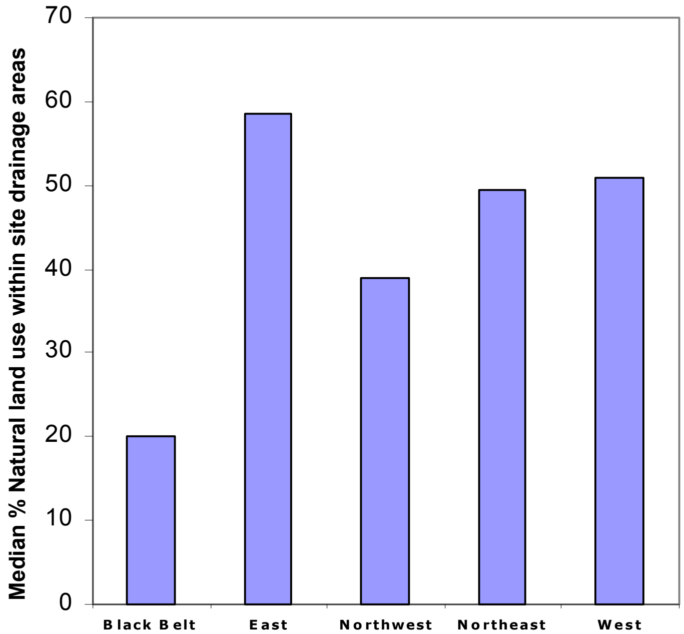


Figure 4-1. Median percent natural land use (i.e., forest and wetland) found in the five bioregions.

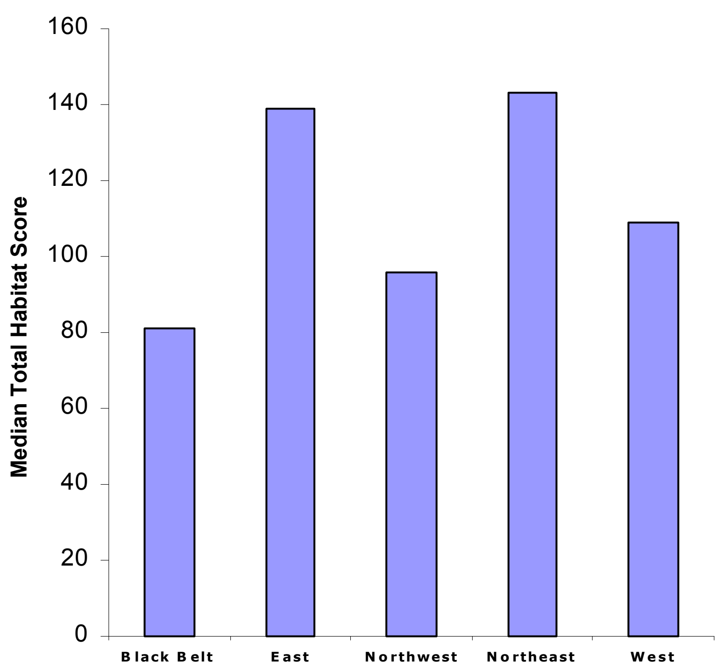


Figure 4-2. Median total habitat scores from five bioregions.

Qualitative field observations of physical and biological conditions at and around sites in this region suggest that this region may be distinct from the rest of the west bioregion, however, present data do not support that conclusion. The southern section of this bioregion has more forested areas, however, logging and associated runoff and erosion in some national forests poses a threat to stream integrity. The western portion of this bioregion has higher levels of chlorides, specific conductance, alkalinity, and pH than the rest of the bioregion. These elevated chemical measurements are likely due to inputs of brine historically used in oil drilling common to this region. Chemical parameters including TOC, TKN, COD, and N+N were all higher in the north likely due to the prominence of agricultural lands in this region. Habitat quality was lower in the north and silt/clay substrate was prominent. Gravel substrate was also more abundant in the southern and far western parts than in the northern half. Sand was the most prevalent substrate found in this bioregion (median = 52%) (Appendix F).

The most impacted site in the west bioregion was Hays Creek (site 163; M-BISQ = 25) located in the far northeastern portion of the bioregion (Table 3-4). The stream was surrounded by mostly agricultural lands and had poor habitat quality (Appendix F). The least degraded site in this bioregion was Brushy Creek (site 371; M-BISQ = 88), located in the southern half of the bioregion. This stream had a moderate habitat score (108); however, gravel was an abundant component of the substrate (41%). Bayou Pierre (site 357) and Porter Creek (site 300) both located in the central part of the bioregion, were classified as MD sites because of a large proportion of managed land within riparian corridors and low habitat scores; however, these sites had relatively high M-BISQ scores (57 and 62, respectively). It is possible that these surrounding land uses may have improved since the land use data layer was developed or that the habitat was lower than what the scores suggested (i.e., scores were at the lower range of the ± 24 point confidence interval). Ford's Creek (site 327) and Big Creek (site 305) both had high habitat scores but low M-BISQ scores (both 38). Three LDa sites including the East Fork Amite River (site 553) located in the south, and Dowd Creek (site 362) and Limekiln Creek (site 298) both located in the central part of the bioregion, had relatively low index scores (M-BISQ=57, 52, and 52, respectively). Four samples in this bioregion had insufficient biological data (<160 organism count), therefore, M-BISQ scores could not be used for assessment (Appendix G).

4.3 Northwest

This area of the state has experienced many years of intensive and widespread farming, deforestation, and direct alterations to stream channels (Thorne 1997, Watson et al. 1997, Van Wilson 1997, and Shields et al. 1998). Many streams in this region (Figure 3-6) are entrenched due to extensive and severe downcutting that resulted from historic channelization of major rivers. Ongoing channel adjustment is apparent throughout the region and is evidenced by severe incisions, widespread bank instability and mass wasting, channel widening, and alternate aggradation and degradation of stream bottoms (Shields et al. 1998, Thorne 1997). As part of these geomorphic processes, headcuts are migrating upstream in many watersheds, and extreme in-channel bank and bed erosion is leading to several hundred thousand tons of sediment being mobilized (Simon and Darby 1997, Grissenger and Murphy 1986). The scarcity of LDa quality sites in this region made it difficult to assess natural variability among the different sites;; however, as more data from sites in this bioregion are collected, it may be possible to detect natural variation and further refine the current bioregion. Chemical parameters, including TP, COD, TKN, N+N, and specific conductance, were highest in the northwest bioregion. Specific conductance was highest in the far eastern portion of this bioregion. Habitat conditions were poorest in the east and gravel substrate was more abundant in the far western part of this bioregion. Sand was the most abundant substrate (median = 74%) (Appendix F). The biologically least- disturbed streams are found in the center of the bioregion, while the most degraded are found in the east, northwest, and south.

The most degraded site was McIvor Canal (site 89; M-BISQ = 6) located in the western half of this bioregion. This stream was surrounded by mostly managed land and had poor habitat quality (Appendix F). The least disturbed site was Little Spring Creek (site 34; M-BISQ = 88) located in the central part of the bioregion. This stream had high quality habitat (142) and had a high percentage of natural land use within riparian corridors. Several MD sites including Little Tallahatchie River (site 55), Yocona River (site 112), and Hudson Creek (site 87) had relatively high M-BISQ scores (67, 64, and 61, respectively). All of these sites had high percentages of anthropogenic land uses within riparian corridors and relatively low total habitat scores. Two LDa sites, Hickahala Creek (site 18) located in the north and Cane Creek (site 158) located in the south, had relatively low index scores (M-BISQ = 50 and 47, respectively).

Duncans Creek (site 110) had one of the lowest M-BISQ scores (14) in this bioregion, however, habitat was relatively high (116). White's Creek (site 3) also had a high habitat score (150), but low M-BISQ score (31). Pigeon Roost Creek (site 13) and Clear Creek (site 86) both had high M-BISQ scores (74 and 72, respectively), however, habitat scores were low (92 and 85, respectively). Five samples from this bioregion could not be assessed due to low organism numbers (Table 3-4).

4.4 Black Belt

The Blackland Prairie (ecoregion 65a), or Black Belt, is distinctly different from other areas in this part of the state (Figure 3-6), and is characterized by chalk bedrock with a thin soil overburden (Hicks and Haynes 2000). Flat agricultural lands, catfish ponds, and channelized, highly entrenched streams characterize this bioregion. The soils are composed of chalks and marls making them dark and nutrient rich. Historically, streams in this region have been recorded as having high turbidity and alkalinity, which was supported by field and analytical chemistry gathered in this study. Conductivity and alkalinity were higher in this bioregion than in surrounding areas and habitat quality was generally poor (Figure 4-2). Sand was the most prevalent substrate (median = 38%), however, silt/clay was also abundant (median = 35%).

The most impaireded stream was Hang Kettle Creek (site 195; M-BISQ = 30) located in centrally (Appendix G). This stream, like many in this bioregion, was surrounded by agricultural lands and had poor physical habitat (Appendix F). Additionally, the substrate was composed of mostly silt/clay (85%). The three LDa sites in this bioregion were the three best sites as measured by index scores in this bioregion. Two of these, Tallabinella Creek (site 129; M-BISQ=84) and Spring Creek (site 196; M-BISQ=94), both located in the central area, had large sections of stream bed that were composed of hard pan clay. The other LDa stream, Ash Creek (site 285; M-BISQ=82), is located in the far south near the border with the east bioregion.

Catalpa Creek (site 207) had one of the highest habitat scores in the Black Belt bioregion; however, the M-BISQ score was one of the lowest (35). Trim Cane Creek (site 188), Chiwapa Creek (site 568), and Tuscumbia River Canal (site 548) all had low habitat scores but had some of the highest M-BISQ scores (73, 72, and 64, respectively). Three sites in the Black Belt had insufficient biological data (i.e., sample numbers less than 160 organisms) and, thus, could not be assessed (Appendix G).

4.5 Northeast

The Northeast bioregion (Figure 3-6) is composed of ecoregions 65b, i, and j, and is characterized by rolling hills and transitional areas to the Blackland Prairie. The far northeast portion of this bioregion has the most topographic relief and the streams contain more gravel and cobble than others in the state (median = 19%). The rest of the bioregion is flatter with more agricultural lands with streams exhibiting poorer habitat, less gravel and cobble, and more sand. Overall, sand was the most prevalent substrate (median = 60%) (Appendix F). Most of the sites with high index scores are located in the east, while most of the degraded sites are located in the west.

The most disturbed stream in the Northeast bioregion was Twentymile Creek (site 80; index = 5) located along the border with the Black Belt bioregion. This site was surrounded by mostly anthropogenic land and had poor habitat quality (Appendix F). The least degraded site was an unnamed tributary to the Tennessee-Tombigbee waterway (site 65; index=75) located in the northeastern section of this bioregion. This site had a high percentage of surrounding natural land and a high physical habitat score relative to other sites in the Northeast (Appendix F).

Indian Creek (site 66) had high quality habitat but a low M-BISQ score (29). Little Yellow Creek (site 64) had poor habitat quality and was classified as a MD site, however, the M-BISQ score was one of the highest in this bioregion (73). One site in this bioregion could not be assessed due to low organism numbers (Appendix G). One LDa site, Yellow Creek (site 205), located in the southern portion of this bioregion, had a fairly low M-BISQ score (54).

4.6 Importance of Error

For the sites where habitat quality and M-BISQ score did not appear to correspond (e.g., high index, low habitat) it is important to recognize that error in habitat assessments or biological sampling or processing may be a factor contributing to discrepancies. QA/QC procedures were used to reduce error, however, precision estimates such as the 90% confidence interval show variability between habitat and biological data. In cases where the maximum variability in index and/or habitat variability occurs, habitat and index scores may not correspond, simply due to this variability. For instance, in cases where habitat score was high but index score was low, it is possible the habitat score was at the high end of the ±24, 90% confidence interval (Table 3-9) and that the M-BISQ score was at the low end of ±10.0 confidence interval resulting in a discrepancy due at least in part to expected data variability, as opposed to an ecological effect such as chemical stress.

5. DISCUSSION

5.1 Shortcomings of indices

Index performance may also be related to the quality and quantity of LDa and MD sites found in each bioregion. The Black Belt and Northeast bioregions, in particular, have few LDa sites, which could inhibit selection of the most discriminating metrics because of the potential for random error among LDa or MD sites. The more sites available for investigating metric performance, the less potential there is for a few sites to influence the overall LDa and MD site metric value distributions. Quality of LDa sites may also influence the performance of metrics and indices in areas such as the Northwest bioregion where LDa sites represent "best attainable" conditions, as opposed to more natural conditions. The intensity of degradation found at MD sites can also affect our ability to select the most efficient metrics. In bioregions such as the East, where highly degraded sites are relatively rare, the difference between LDa and MD sites may not be as great as in other areas. This occurrence can make it more difficult to evaluate the discriminatory ability of metrics and, thus, more difficult to choose the best metrics.

Despite these types of shortcomings in metric and index performance, the data presented in this report indicate that the indices in all bioregions were able to detect impairment. All five indices exhibited distinct separations between LDa and MD sites indicating they were performing correctly; however, the distance of separation varied among bioregions (Figure 3-9). The strength of separation between LDa and MD boxplots is *directly* affected by how good the LDa sites are, and, how bad the MD sites are. Because there are ranges of variability in both, there will be differences in the magnitude of separation

5.2 Potential future analyses

To confirm that current indices were selected appropriately and that they are correctly identifying degraded streams an independent dataset should be evaluated. It is recommended that the data from the approximately 100 wadeable stream sites sampled in 2002 be evaluated using the same techniques used in this study as a confirmation of the metrics and indices used for evaluating streams sampled in 2001. This process would involve calculating the appropriate metrics and indices for each sample and comparing DEs to those from the original study.

Tolerance values, bioregions, and indices should all be evaluated for potential revisions as more data are collected. As more data from LDa sites become available, additional biological variations across the state may be evident and may indicate that current bioregions should be divided or re-combined to represent natural variation in biotic assemblages. If new bioregions are developed, additional indices may also then become necessary. Additionally, indices may need to be refined as metric performance characteristics are further analyzed using data from new LDa and MD sites. Tolerance values can also be refined as more physical and chemical data are collected and as stressor gradients are refined.

5.3 Management recommendations

In addition to its focus on use in evaluating streams for CWA §303(d) purposes, the M-BISQ can be used in various other resource management and regulatory activities including: helping to prioritize streams by severity of stressor loads; identifying stressor sources; and providing objective, ecologically-based methods for judging the effectiveness of restoration, TMDL, chemical controls, and other management activities. An important component to developing effective restoration practices is to identify the most critical stressors in degraded waters. This stressor identification process can be performed using the M-BISQ along with abiotic data and should be the next step following §303(d) listing/de-listing. Once stressors have been identified, management activities (e.g., TMDLs) can be geared to address particular stressors. The M-BISQ can then be used to evaluate the effectiveness of management practices.

As monitoring programs continue to gather information over time, databases used to develop and refine biological criteria expand. This means that, potentially, new LDa sites are added, previously under-represented regions of the state become better understood, and definition of MD conditions are refined. The process established here for updating the stream biological database should be repeated with future sampling data. As more data are collected an increased understanding of the natural variability of Mississippi streams and watersheds can be developed. This information should be used to refine LDa and MD criteria, bioregional boundaries, tolerance values, and M-BISQ organization.

6. Literature Cited

ADEM/MDEQ. 1995. Alabama/Mississippi Pilot Reference Site Project, 1990-1994. Alabama Department of Environmental Management, Field Operations Division, Ecological Studies Section; Mississippi Department of Environmental Quality, Office of Pollution Control, Biological Services Section.

Anderson, N. H. and A. S. Cargill. 1987. Nutritional Ecology of Aquatic Detritivorous Insects. Chapter 30, IN F. Slansky and J. Rodriguez (editors), *Nutritional Ecology of Insects, Mites, Spiders and Related Invertebrates*. John Wiley and Sons, New York, NY. 1016 pp.

Barbour, M.T., J.B. Stribling, and J.R. Karr. 1995. Multimetric approach for establishing biocriteria and measuring biological condition. Pages 63-77, IN W.S. Davis and T.P. Simon (editors). Biological Assessment and Criteria. Tools for water resource planning and decisionmaking. Lewis Publishers, Boca Raton, FL.

Barbour, M.T., J. Gerritsen, G.E. Griffith, R. Frydenborg, E. McCarron, J.S. White, and M.L. Bastian. 1996. A framework for biological criteria for Florida strams using benthic macroinvertebrates. Journal of the North American Benthological Society 15(2): 185-211.

Barbour, M. T., J. Gerritsen, B. D. Snyder, and J. B. Stribling. 1999. Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish. Second Edition. EPA/841-B-99-002. U. S. Environmental Protection Agency, Office of Water. Washington, DC.

Buikema, A. L. and J. R. Voshell. 1993. Toxicity studies of freshwater benthic macroinvertebrates. Pages 344-398, IN, D. M. Rosenberg and V. H. Resh (editors). *Freshwater Biomonitoring and Benthic Macroinvertebrates*, Chapter 10. Chapman and Hall, NY.

Chapman, S., J. Omernik, M. Beiser and D. Johnson. 2001. Draft: Ecoregions of Mississippi. U.S. EPA, National Health and Environmental Effects Research Laboratory, Corvallis, OR. [ftp://ftp.epa.gov/wed/ecoregions/ms/ms_eco.e00].

Clark, M. J. R. and P. H. Whitfield. 1994. Conflicting perspectives about detection limits and about the censoring of environmental data. Water Resources Bulletin 30(6): 1063-1079.

Costanza, R., S.O. Funtowicz, and J.R. Ravetz. 1992. Assessing and communicating data quality in policy-relevant research. Environmental Management 16(1): 121-131.

Cummins, K. W. and M. J. Klug. 1979. Feeding ecology of stream invertebrates. Annual Review of Ecology and Systematics 10: 147-172.

Davis, W. S., B. D. Snyder, J. B. Stribling, and C. Stoughton. 1996. Summary of State Biological Assessment Programs for Streams and Wadeable Rivers. EPA 230-R-96-007. U. S. Environmental Protection Agency; Office of Policy, Planning, and Evaluation. Washington, DC.

Diamond, J. M., M. T. Barbour, and J. B. Stribling. 1996. Characterizing and comparing bioassessment methods and their results: a perspective. Journal of the North American Benthological Society 15(4): 713-727.

Fausch, K. D., J. Lyons, J. R. Karr, and P. L. Angermeier. 1990. Fish communities as indicators of environmental degradation. Pp. 123-144, IN S. M. Adams (editor). *Biological Indicators of Stress in Fish*. American Fisheries Society Symposium 8, Bethesda, MD.

Frey, D. G. 1977. Biological integrity of water – an historical approach. Pages 127-140, IN R. K. Ballentine and L. J. Guarraia (editors). *The Integrity of Water*. Proceedings of a Symposium, March 10-12, 1975, U. S. Environmental Protection Agency, Washington, DC.

Gibson, G.A., M.T. Barbour, J.B. Stribling, J. Gerritsen, and J.R. Karr. 1996. *Biological criteria: Technical guidance for streams and rivers*. EPA/822-B-94-001. U.S. EPA, Office of Science and Technology, Washington, DC.

Grissinger, E. H. and J. B. Murphey. 1986. Bank and bed adjustments in a Yazoo bluffline tributary. pp. 1003-1012, *In* Wang, S. S. Y., H. W. Shen, and L. Z. Ding. Proceedings of the Third International Symposium on River Sedimentation. The University of Mississippi, University, MS.

Hicks, M.B. and C.G. Haynes. 2000. An annotated list of Trichoptera in the Black Belt prairie region of West centeral Alabama. Entomological News 111(3): 215-222.

Hill, B.H. 1997. The use of periphyton assemblage data in an index of biotic integrity. Bulletin of the North American Benthological Society 14: 158.

Hughes, R.M., D.P. Larsen, and J.M. Omernik. 1986. Regional reference sites: a method for assessing stream potentials. Environmental Management 10: 629-635.

Hughes, R. M., P. R. Kaufmann, A. T. Herlihy, T. M. Kincaid, L. Reynolds, and D. P. Larsen. 1998. A process for developing and evaluating indices of fish assemblage integrity. Canadian Journal of Fisheries and Aquatic Sciences 55: 1618-1631.

ITFM (Intergovernmental Task Force on Monitoring Water Quality). 1995. The Strategy for Improving Water-Quality Monitoring in the United States. Technical Appendixes. Final Report of the Intergovernmental Task Force on Monitoring Water Quality. U. S. Geological Survey OFR 95-742. Reston, VA.

Jongman, R.H.G., C.J.F. ter Braak, and O.F.R. van Tongeren, editors. 1987. Data Analysis in Community and Landscape Ecology. Pudoc Wageningen, Netherlands.

Karr, J. R. 1991. Biological integrity: A long-neglected aspect of water resource management. Ecological Applications 1: 66-84.

Karr, J. R., and E. W. Chu. 1999. *Restoring Life in Running Waters. Better Biological Monitoring*. Island Press. Washington, DC. 206 pp.

Karr, J. R., K. D. Fausch, P. L. Angermeier, P. R. Yant, and I. J. Schlosser. 1986. Assessment of biological integrity in running waters: A method and its rationale. Illinois Natural History Survey, Champaign, Illinois. Special Publication 5.

Karr, J. R., and D. R. Dudley. 1981. Ecological perspectives on water quality goals. Environmental Management 5: 55-68.

Kenkel, N.C. and L. Orloci. 1986. Applying metric and nonmetric multidimensional scaling to ecological studies: some new results. Ecology 67: 919-928.

Kerans, B. L., and J. R. Karr. 1994. Development and testing of a benthic index of biotic integrity (B-IBI) for rivers of the Tennessee Valley. Ecological Applications 4(4): 768-785.

Kruskal, J.B. 1964. Nonmetric multidimensional scaling: a numerical method. Psychometrika 29: 115-129.

Ludwig, J.A. and J.F. Reynolds. 1988. Statistical Ecology: A Primer on Methods and Computing. John Wiley & Sons, NY.

Maxted, J., M.T. Barbour, J. Gerritsen, V. Poretti, N. Primrose, A. Silvia, D. Penrose, and R. Renfrow. 2000. Assessment framework for mid-Atlantic coastal plain streams using benthic macroinvertebrates. Journal of the North American Benthological Society 19(1):128-144.

McCarron, E. and R. Frydenborg. 1997. The Florida bioassessment program: an agent of change. Human and Ecological Risk Assessment 3(6): 967-977.

McCune, B., and M.J. Mefford. 1995. PC-ORD. Multivariate Analysis of Ecological Data, Version 2.0. MjM Software Design, Gleneden Beach, OR, USA.

MDEQ. 1997. Mississippi Land Cover Project. Prepared by the Space Remote Sensing Center. Stennis Space Center. Stoneville, MS. For Mississippi Department of Environmental Quality. Jackson, MS. (For further information, contact Mr. Gary Hennington [601-961-5183]).

MDEQ. 2001. Quality Assurance Project Plan for 303(d) List Assessment and Calibration of the Index of Biological Integrity for Wadeable Streams in Mississippi. February 15, 2001. Mississippi Department of Environmental Quality, Jackson, MS.

Merritt, R.W. and K.W. Cummins. 1996. *An Introduction to the Aquatic Insects of North America*. 3rd edition. Kendall/Hunt Publishing Co., Dubuque, IA.

National Research Council (NRC). 2001. *Assessing the TMDL Approach to Water Quality Management*. National Academy Press, Washington, C. 109 pp.

Ohio Environmental Protection Agency. 1989. *Addendum to biological criteria for the protection of aquatic life, volume II: users manual for biological field assessment of Ohio surface water.* Ohio EPA, Division of Water Quality Planning and Assessment, Ecological Assessment Section, Columbus, OH.

Omernik, J. M. 1987. Ecoregions of the conterminous United States. Annals of the Association of American Geographers 77(1): 118-125.

Omernik, J. M. and G. E. Griffith. 1991. Ecological regions versus hydrologic units: frameworks for managing water quality. Journal of Soil and Water Conservation 46(5): 334-340.

Peters, J. A. 1988. Quality Control Infusion into Stationary Source Sampling. Chapter 22, pages 317-333, IN Lawrence H. Keith (editor), *Principles of Environmental Sampling*. ACS Professional Reference Book. American Chemical Society. Columbus, OH.

Reynoldson, T.B., R.C. Bailey, K.E. Day, and R.H. Norris. 1995. Biological guidelines for freshwater sediment based on **BE**nthic **A**ssessment of **S**edimen**T** (the BEAST) using multivariate approach for predicting biological state. Australian Journal of Ecology (1995) 20: 198-219.

Reynoldson, T.B., R.H. Norris, V.H. Resh, K.E. Day, and D.M. Rosenberg. 1997. The reference condition: A comparison of multimetric and multivariate approaches to assess water-quality impairment using benthic macroinvertebrates. Journal of the North American Benthological Society 16: 833-852.

Schneider, E. D. 1992. Monitoring for Ecological Integrity: the State of the Art. Pages 1403-1419, IN D. H. McKenzie, D. E. Hyatt, and V. J. McDonald (editors). *Ecological Indicators. Proceedings of the International Symposium on Ecological Indicators*. October 16-19, in Ft. Lauderdale, Florida. Elsevier Science Publishers, Ltd. Essex, England.

Shields, F. D., Jr., S. S. Knight, and C. M. Cooper. 1998. Rehabilitation of aquatic habitats in warmwater streams damaged by channel incision in Mississippi. Hydrobiologia 382: 63-86.

Simon, A. and S. E. Darby. 1997. Disturbance, channel evolution and erosion rates: Hotophia Creek, Mississippi. pp. 476-481, IN Wang, S. S. Y., E. J. Langendoen, and F. D. Sheilds, Jr. (editors). *Management of Landscapes Disturbed by Channel Incision: Stabilization, Rehabilitation, and Restoration.* University of Mississippi, University, MS. ISBN 0-937099-05-08.

Southerland, M. T. and J. B. Stribling. 1995. Status of Biological Criteria Development and Implementation. Chapter 7, pages 81-96, IN W. S. Davis and T. P. Simon (editors), *Biological Assessment and Criteria. Tools for Water Resource Planning and Decision Making*. Lewis Publishers, Boca Raton, FL.

Stribling, J. B., B. K. Jessup, J. S. White, D. Boward, and M. Hurd. 1998. *Development of a Benthic Index of Biotic Integrity for Maryland Streams*. CBWD-MANTA - EA-98-3. Maryland Department of Natural Resources, Chesapeake Bay and Watershed Programs. Monitoring and Non-Tidal Assessment Division Annapolis, MD.

Taylor, John K. 1988. Defining the Accuracy, Precision, and Confidence Limits of Sample Data. Chapter 6, pages 102-107, IN Lawrence H. Keith (editor), *Principles of Environmental Sampling*. ACS Professional Reference Book. American Chemical Society. Columbus, OH.

Taylor, B. N. and C. E. Kuyatt. 1994. Guidelines for evaluating and expressing the uncertainty of NIST measurement results. NIST Technical Note 1297. National Institute of Standards and Technology, U.S. Department of Commerce, Washington, DC. 24 pp.

Tetra Tech, Inc. 2000. Ecological Data Application System (EDAS). A User's Manual. Prepared by Tetra Tech, Inc., Owings Mills, Maryland, Prepared for USEPA, Office of Water and Oceans and Wetlands, Washington, DC. *(For more information on this report, contact Robert King [USEPA] at 202-566-1177).*

Thorne, C. R. 1997. Fluvial processes and channel evolution in the incised rivers of north-central Mississippi. pp. 23-34, IN Wang, S. S. Y., E. J. Langendoen, and F. D. Sheilds, Jr. (editors). *Management of Landscapes Disturbed by Channel Incision: Stabilization, Rehabilitation, and Restoration.* University of Mississippi, University, MS. ISBN 0-937099-05-08.

U. S. EPA. 1997. Monitoring Guidance for Determining the Effectiveness of Nonpoint Source Controls. U. S. Environmental Protection Agency, Office of Water. EPA 841-B-96-004.

U.S. EPA. 1999. EPA Requirements for Quality Assurance Project Plans. EPA QA/R-5. U.S. Environmental Protection Agency. QA Division. Washington, DC. Interim Final. November.

Van Wilson, K. 1997. Geomorphic response to channel modifications of Skuna River in north Mississippi. pp. 482-487, IN Wang, S. S. Y., E. J. Langendoen, and F. D. Sheilds, Jr. (editors). *Management of Landscapes Disturbed by Channel Incision: Stabilization, Rehabilitation, and Restoration.* University of Mississippi, University, MS. ISBN 0-937099-05-08.

Wallace, J. B. and J. R. Webster. 1996. The role of macroinvertebrates in stream ecosystem function. Annual Review of Entomology 41: 115-139.

Watson, C. C., N. K. Raphelt, and D. S. Biedenharn. 1997. Historical background of erosion problems in the Yazoo Basin. pp. 115-119, IN Wang, S. S. Y., E. J. Langendoen, and F. D. Sheilds, Jr. (editors). *Management of Landscapes Disturbed by Channel Incision: Stabilization, Rehabilitation, and Restoration.* University of Mississippi, University, MS. ISBN 0-937099-05-08.

APPENDIX A

DEVELOPMENT OF TOLERANCE VALUES

Development of tolerance values for benthic macroinvertebrates in Mississippi

INTRODUCTION

Tolerance values are intended to describe the sensitivity of benthic macroinvertebrates to stressors and have been incorporated into various indices to help describe overall stream conditions (Chutter 1972, Hilsenhoff 1982, Lenat 1993). Chutter's (1972) tolerance values were empirically developed based on a previous knowledge of how macroinvertebrates responded to stressors. Lenat (1993) assigned tolerance values based on the occurrence of taxa at sites which had already received water quality ratings. For instance, taxa that were frequently observed at sites that had been previously listed as having good water quality were assigned low tolerance values (indicating sensitivity to pollution) and taxa that were often observed at sites previously listed as having poor water quality were assigned high tolerance values (indicating insensitivity to pollution). This approach by Lenat (1993) was intended to reduce the bias associated with tolerance values that were based on professional judgment (e.g., Chutter 1972). Hilsenhoff (1982) assigned tolerance values based on the frequency of occurrence of species in streams with varying water quality. Therefore, taxa that only occurred in streams of high water quality were assigned low tolerance values, while taxa found primarily in poor water quality streams were assigned high tolerance values.

Accuracy is defined as "the extent to which a given measurement agrees with the standard value for that measurement" (Random House 1996), or the nearness of some measurement to a true value (Taylor 1988). Thus, the consideration of whether an indicator (= measurement) accurately reflects the presence of stressors depends on the definition of those stressors (= true value), the definition of a site as stressed (e.g., true value = no. of stressor sites), or the definition of a stressor gradient (= true value) along which the presence/absence and abundance of a taxon determines its tolerance designation.

Previous approaches for developing tolerance values have often used the presence/absence of known stressor-sensitive taxa (e.g., mayflies, stoneflies, and caddisflies [EPT]) to determine the degradation status of a site (Lenat 1993). If a waterbody produced a large number of EPT taxa it was judged to be in good condition, and co-occurring taxa were assigned tolerance values that were similarly low (indicating stressor sensitivity). That is, EPT were used to define the analytical truth. However, if mayflies, stoneflies, and caddisflies are not well-represented among the native stream fauna of a region, then their absence from a stream ample does not necessarily mean the stream is in bad condition. Thus, this approach could lead to development of spurious tolerance values. In Mississippi, only 28% of the organisms collected as part of the current IBI-development project were of the orders Ephemeroptera, Plecoptera, or Trichoptera. Due to the composition and distributional characteristics of the Mississippi streams benthic macroinvertebrate fauna, and the comprehensive availability of physical, chemical, and land use/land cover data, it was necessary to use an objective approach for tolerance value designation. In this paper, we develop a stressor gradient and calculate tolerance values for individual taxa based on their distribution along this gradient. Our TVs were based on the most prevalent influences on stream integrity found throughout the state including agricultural land uses and physical habitat quality

METHODS

Tolerance values were developed based on the response of individual taxa to stressor gradients. This process involved the following steps: 1) development of the stressor gradient; 2) regression of relative abundance of individual taxa versus stressor gradient; 3) scaling of stressor gradient; and 4) calculation of tolerance values.

Developing stressor gradient

Stressor gradients were developed using Principal Component Analysis (PCA). Various PCA axes were derived using combinations of physical, chemical, and landscape data that, based on professional judgement, were considered to be direct or indirect stressors (Table A-1). PCA incorporates several multiple stressor variables into one synthetic axis. It allows multiple variables to be expressed by a single factor. PCA is a multivariate extension of linear regression, therefore, the PCA axes that are derived represent continuous gradients which can be correlated with other variables. Various stressor gradients that represented different combinations of the suite of potential stressors were developed and the one that showed the most linear gradient of stress was used for developing the tolerance values.

Although most taxa were expected to exhibit a unimodal response (Figure A-1) to the stressor gradient, linear responses and random scatter were also possible outcomes. Taxa that are sensitive to stress were expected to be abundant at the lower end of the stressor gradient; taxa that are tolerant of stress were likely to be abundant at the high end of the stressor gradient; and taxa the are moderately sensitive to stress were expected to be most abundant in the middle range of the stressor gradient or to be evenly distributed across the gradient. The latter case may indicate that this taxon is sensitive to particular stressors but insensitive to others which may warrant developing tolerance values for different types of stress.

To ensure that the PCA axis that we chose as the stressor gradient was the one most closely associated with benthic taxa abundances we regressed the M-BISQ scores (with tolerance value metrics excluded) against the PCA axes. We also performed nonmetric multidimensional scaling (NMDS) on the raw benthic data and evaluated the correlation of the NMDS axes with various PCA axes. NMDS scores represent the similarity of benthic assemblages among sites (Appendix D). Therefore, correlations of NMDS scores with stressor gradients is another way to assess relationships of benthic assemblages with abiotic factors. This process ensured that PCA axis 1 was the most important stressor gradient that was most closely related to taxa abundances. The importance of NMDS axes was indicated by NMDS coefficients of determination that described the extent to which the NMDS axes explained variations in the benthic data.

Scaling of stressor gradient

Once a PCA axis was chosen as the stressor gradient it was scaled so that relative taxa abundance values could be directly related to the stressor gradient to determine a tolerance value. The following equation was used to convert PCA axis scores to tolerance values:

$$TV = 10 - \left(\frac{PCA\ Axis\ Score - PCA\ Min.Value}{PCA\ Max.Value - PCA\ Min.Value} \right)$$

Using this equation, tolerance values were set on a scale of 0 to 10, where 0 is least tolerant and 10 is most tolerant.

Calculation of tolerance values

A reciprocal averaging (abundance weighted average) approach was used to calculate the tolerance value for each taxon:

$$Taxon\ \ TV = \frac{\sum (RA \times Scaled\ \ PCA\ \ Score\ [TV\,])}{\sum RA}$$

where RA=Relative Abundance (arc sine square root converted). This type of average gives more weight to the tolerance values (scaled PCA scores) that have the highest relative abundances and minimizes the influence of tolerance values that have low associated relative abundances. This procedure ensured that when relative taxon abundance data were not distributed normally along the PCA axis, tolerance values were selected based on highest relative abundance (Figure A-1).

Tolerance values were calculated only for taxa that occurred at $\geq$3 percent of the sites (N=15) so that we could be relatively sure that the patterns observed were due to actual responses of benthic taxa to stressors. Once taxon-specific tolerance values were calculated they were scaled using the 2nd and 98th percentiles so that tolerance values would be distributed throughout the 10 point scale. After scaling, any values that were below zero or exceeded 10 were set at 0 and 10, respectively.

Comparison of TV values

The tolerance values calculated here were compared to the previous values used for taxa found in Mississippi. The sources of the previously used tolerance values included the Alabama Department of Environmental Management (AL DEM), North Carolina Division of Environmental Management, and the US EPA Rapid Bioassessment Protocols. Scatterplots of the two groups of tolerance values were plotted to visualize the correlation.

RESULTS

The PCA axis (Axis 1; Table A-2) that was used as the stressor gradient was loaded most heavily by the land use (drainage area and riparian) and physical parameters (instream, morphological, riparian/bank condition, and total habitat); nitrate+nitrite, total phosphorus, and specific conductance were the most heavily weighted chemical parameters. Table A-2 shows the correlations (R-values) of axis scores versus variable values. The R-values describe how heavily each variable weighs on a particular PCA axis score.

M-BISQ scores were most highly correlated with PCA axis 1 (i.e., the one used for developing stressor gradient) suggesting that this axis was the one most closely related to benthic taxa tolerance to stress (Table A-3). Additionally, PCA axis 1 was the most highly correlated of all PCA axes with the two most important NMDS axes (1 and 3) (Table A-3). Both of these NMDS axes showed the same trend with regard to tolerant and intolerant organisms. The correlation of these NMDS axes with PEA axis 1 suggests that this axis represented the most prevalent stressors and was the most appropriate one to use as the stressor gradient.

After stressor gradient scaling and reciprocal averaging procedures, tolerance values were derived for 324 of the 562 total taxa found during the sampling effort (Table A-4). Order-level tolerance value descriptive statistics are presented in Table A-5. Most orders have median tolerance values near the middle of the 0-10 tolerance scale. Tolerance values of dipterans range throughout the scale, while megalopterans had a narrow range. Plecopterans and trichopterans had the lowest median tolerance values and amphipods had the highest.

Our tolerance values were significantly correlated with previous tolerance values used by MDEQ suggesting that, generally, the two sets of tolerance values were reflecting similar patterns in pollution tolerance among benthic macroinvertebrates in Mississippi (Figure A-2). The tolerance values developed here performed as well, or better, than previous MDEQ tolerance values as represented by discrimination efficiencies of tolerance metrics such as Hilsenhoff Biotic Index and Beck's Biotic Index (Figure A-3).

CONCLUSIONS

Although the tolerance values derived here performed well, they could be improved in a variety of ways. As more biological data become available, tolerance values for rare taxa (i.e., those that occurred at <15 sites) should be derived. Additionally, as more physical and chemical data become available it may be possible to develop tolerance values that are specific to certain types of stressors such as nutrient enrichment, sedimentation, or toxic inputs.

LITERATURE CITED

ADEQ. 1998. Development and testing of a biological index for warmwater streams of Arizona. Arizona Department of Environmental Quality, Water Quality Division, Phoenix, Arizona.

Chutter, F.M. 1972. An empirical biological index of the quality of water in South African streams and rivers. Water Research 6: 19-30.

Hilsenhoff, W.L. 1982. Using a biotic index to evaluate water quality in streams. Wisconsin Department of Natural Resources, Technical Bulletin No. 132.

Lenat, D.R. 1993. A biotic index for the southeastern United States: derivation and list of tolerance values, with criteria for assigning water-quality ratings. J. N. Am. Benthol. Soc. 12(3): 279-290.

Random House. 1996. Webster's Encyclopedia Unabridged Dictionary of the English Language. Gramercy Books, Random House Value Publishing. New York, NY.

Taylor, J.K. 1988. Defining the Accuracy, Precision, and Confidence Limits of Sample Data. Chapter 6, pages 102-107. IN Lawrence H. Keith (editor), *Principles of Environmental Sampling.* ACS Professional Reference Book. American Chemical Society. Columbus, Ohio.

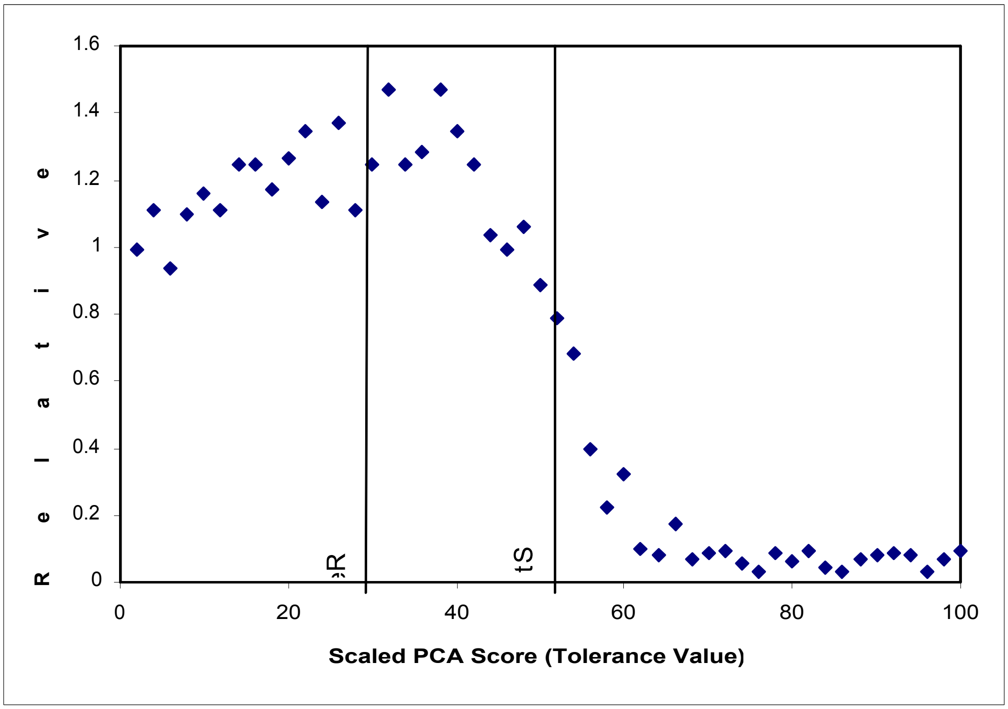


Figure A-1. Relative abundance (arc sine square root transformed) vs scaled PCA score (TV). Tolerance value derived using the reciprocal averaging method is ~ 20 units (on 100 unit scale) lower than the tolerance value derived by straight averaging of relative abundance values.

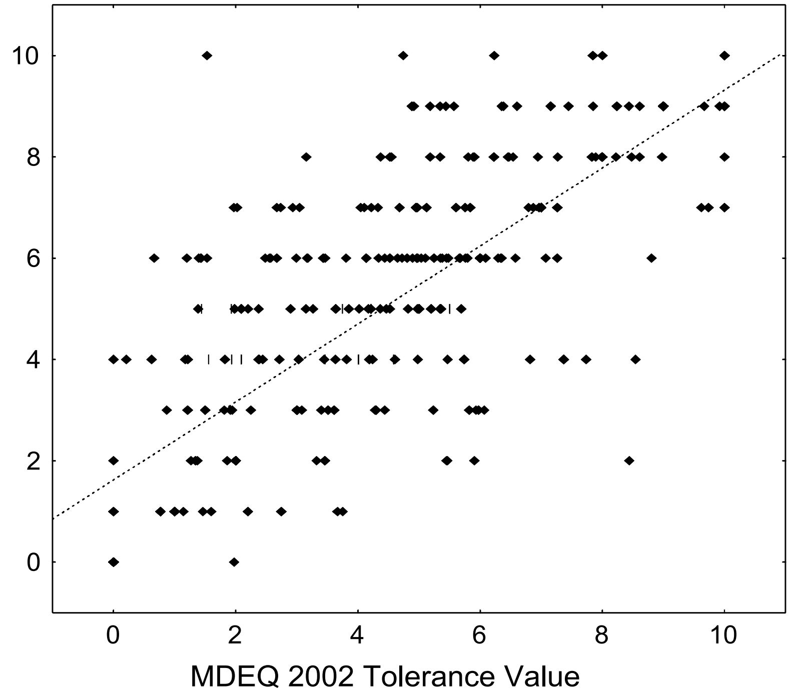


Figure A-2. Scatterplot of TVs used previously by MDEQ versus new tolerance values derived using stressor gradient.

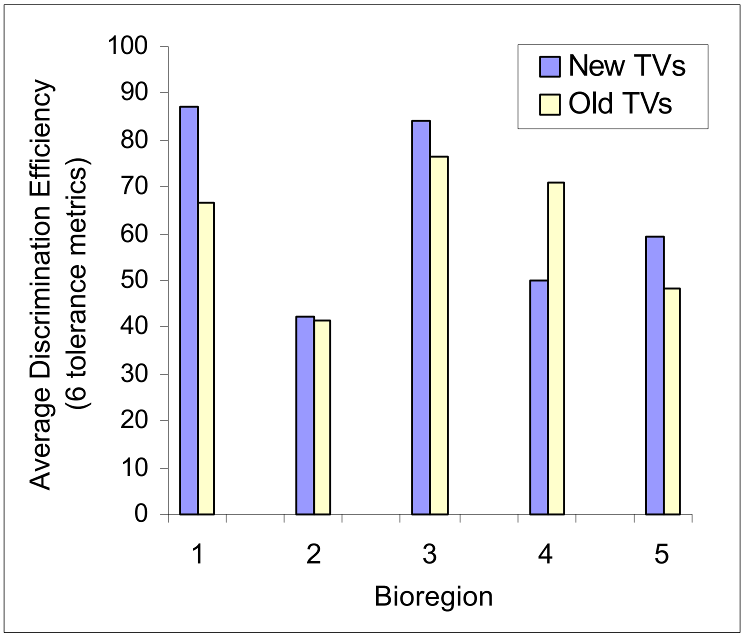


Figure A-3. Comparison of averaged discrimination efficiencies for six tolerance metrics using new and old tolerance values.

Table A-1. Land use, physical, and chemical parameters used in developing stressor gradient.

Physical	**Chemical**	**Landscape**
Instream Habitat Scores • Epifaunal Substrate • Pool Substrate • Sediment Deposition	Nutrients • COD • TOC • TP • TKN • NH_3-N • $NO_2 + NO_3$	Drainage Area LULC Percentages • % Forest • % Agriculture • % Urban
Morphological Scores • Pool Variability • Channel Alteration • Channel Sinuosity • Channel Flow Status	Toxics • Total Chlorides	Riparian Corridor Land Use Percentages • % Forest • % Agriculture • % Urban
Bank and Riparian Scores • Bank Vegetative Protection • Bank Stability • Riparian Vegetative Zone Width	Others • Alkalinity • DO • pH • Temperature • Conductivity	
Inorganic Substrate Composiiton • Median Particle Size • % Silt/Clay • % Sand • % Gravel/Cobble		

Table A-2. Correlations coefficients (r-values) representing the correlation between PCA axis scores and variable values. The higher the r-value the more weight a particular variable contributes to an axis score.

Variable	Axis 1	Axis 2	Axis 3
Forest (in drainage area)	0.84	-0.23	0.39
Natural (in drainage area)	0.87	-0.24	0.34
Urban (in drainage area)	-0.37	-0.46	-0.35
Agriculture (in drainage area)	-0.84	0.31	-0.22
Managed (in drainage area)	-0.87	0.25	-0.34
Forest (riparian - 100 m wide, whole drainage long)	0.89	-0.24	0.20
Natural (riparian - 100 m wide, whole drainage long)	0.94	-0.25	0.11
Urban (riparian - 100 m wide, whole drainage long)	-0.35	-0.45	-0.33
Agriculture (riparian - 100 m wide, whole drainage long)	-0.90	0.30	-0.02
Managed (riparian - 100 m wide, whole drainage long)	-0.93	0.26	-0.10
Forest (riparian - 100 m wide, 1 km long)	0.71	-0.10	-0.12
Natural (riparian - 100 m wide, 1 km long)	0.79	-0.16	-0.36
Urban (riparian - 100 m wide, 1 km long)	-0.25	-0.35	-0.21
Agriculture (riparian - 100 m wide, 1 km long)	-0.75	0.24	0.38
Managed (riparian - 100 m wide, 1 km long)	-0.79	0.15	0.36
Ammonia (log)	-0.32	-0.39	-0.30
Chemical Oxygen Demand (log)	0.14	-0.31	-0.46
Chlorides (log)	-0.24	-0.65	0.12
Nitrate/Nitrite (log)	-0.64	0.03	-0.26
Specific Conductance (log)	-0.42	-0.74	0.23
Alkalinity (log)	-0.46	-0.60	0.19
Total Dissolved Solids (log)	-0.42	-0.74	0.24
Total Kjieldahl Nitrogen (log)	-0.30	-0.37	-0.52
Total phosphorus (log)	-0.44	-0.46	-0.25
Turbidity (log)	-0.47	-0.15	-0.02
Instream Habitat	0.53	0.15	-0.49
Morphological Habitat	0.61	0.12	-0.51
Riparian Habitat	0.62	0.14	-0.32
Total Habitat	0.70	0.16	-0.52
Silt/Clay (asin sqrt)	-0.25	-0.10	-0.19
Sand (asin sqrt)	0.24	0.16	0.31

Table A-3. Correlations (r-values) of PCA axes with M-BISQ scores (minus tolerance metrics) and NMDS axes. Marked correlations are significant at $p<0.05$.

Variable	PCA 1	PCA 2	PCA 3	PCA 4	PCA 5	PCA 6
M-BISQ	**0.47**	**0.14**	**-0.18**	**0.11**	**-0.15**	0.06
NMS 1	**0.38**	**0.21**	-0.05	**0.33**	**-0.12**	**0.19**
NMS 3	**0.54**	**0.28**	**-0.28**	**-0.15**	0.03	**-0.09**

Table A-4. Genus, family, and order level tolerance values developed using abiotic stressor gradient. Source column indicates the agency and year in which tolerance values were developed. MDEQ 2002 values are those that were generated using stressor gradient.

FinalID	TV	Source
Ablabesmyia	5.0	This study
Ablabesmyia annulata	2.0	NC SOP 97
Ablabesmyia janta	7.0	NC SOP 97
Ablabesmyia mallochi	5.0	This study
Ablabesmyia peleenses	6.0	USEPA 1990 Draft
Ablabesmyia rhamphe	4.6	This study
Acanthocephala		
Acentrella	3.0	AL SOP 99
Acerpenna	5.9	This study
Acilius		
Acroneuria	0.0	This study
Aeshnidae	5.4	This study
Agabus	8.0	NC SOP 97
Agarodes	0.0	NC SOP 97
Agnetina	0.0	NC SOP 97
Allocapnia	5.9	This study
Alloperla	1.0	NC SOP 97
Amphinemura	4.4	This study
Amphipoda	7.4	This study
Anax	4.0	AL SOP 99
Anchytarsus	4.0	NC SOP 97/RBP2 1999
Ancylidae	4.0	This study
Ancyronyx variegatus	4.3	This study
Anisocentropus pyraloides	2.0	NC SOP 97/RBP2 2000
Apsectrotanypus	0.0	NC SOP 97/RBP2 2000
Arcteonais lomondi	6.0	USEPA 1990 Draft
Argia	6.5	This study
Asellidae	5.4	This study
Asheum beckae	6.0	AL SOP 99
Atherix	2.0	RBP2 99
Aulodrilus	5.0	This study
Axarus	2.0	AL SOP 99
Baetidae	5.5	This study
Baetis	3.6	This study
Baetisca	0.9	This study
Basiaeschna janata	7.0	NC SOP 97
Beloneuria	0.0	NC SOP 97
Berosus	8.6	This study
Bidessonotus		
Bittacomorpha		

Table A-4 (cont'd). Genus, family, and order level tolerance values developed using abiotic stressor gradient. Source column indicates the agency and year in which tolerance values were developed. MDEQ 2002 values are those that were generated using stressor gradient.

FinalID	TV	Source
Bivalvia	6.0	This study
Bothrioneurum vejdovskyanum		
Boyeria	4.3	This study
Boyeria vinosa	5.4	This study
Brachycentrus	2.0	NC SOP 97
Brachycera:Muscomorpha		
Branchiobdellidae	6.0	USEPA 1990 Draft
Branchiura sowerbyi	10.0	This study
Bratislavia		
Brillia	2.9	This study
Bryophaenocladius		
Caecidotea	4.9	This study
Caenidae	9.7	This study
Caenis	9.7	This study
Calopterygidae	5.2	This study
Calopteryx	5.6	This study
Cambaridae	6.3	This study
Capniidae	5.9	This study
Ceraclea	3.0	USEPA 1990 Draft
Ceratopogonidae	4.6	This study
Ceratopsyche	1.6	This study
Cernotina	1.2	This study
Chaetogaster	6.0	USEPA 90
Chaoboridae	9.0	This study
Chaoborus	8.0	AL SOP 99
Chauliodes	9.0	AL SOP 99
Chelifera	7.0	AL SOP 99
Chernovskiia		
Cheumatopsyche	5.8	This study
Chimarra	1.2	This study
Chironomidae	4.8	This study
Chironomini	4.5	This study
Chironomus	7.8	This study
Chloroperlidae	1.8	This study
Chlorotabanus		
Chrysops	5.0	This study
Cladopelma	3.0	NC SOP 97
Cladotanytarsus	3.8	This study
Climacia	8.0	NC SOP 97
Clinotanypus	4.5	This study

Table A-4 (cont'd). Genus, family, and order level tolerance values developed using abiotic stressor gradient. Source column indicates the agency and year in which tolerance values were developed. MDEQ 2002 values are those that were generated using stressor gradient.

FinalID	TV	Source
Clioperla clio	3.7	This study
Coelotanypus	8.0	NC SOP 97
Coenagrion		
Coenagrionidae	7.0	This study
Collembola	8.0	This study
Conchapelopia	8.2	This study
Copelatus	9.0	AL SOP 99
Coptotomus	9.0	NC SOP 97
Corbiculidae	6.1	This study
Cordulegaster	5.0	NC SOP 97
Cordulegasteridae		
Corduliinae	3.6	This study
Corduliinae/Macromiinae Unid		
Corixidae	9.0	AL SOP 99
Corydalidae	3.6	This study
Corydalus	3.7	This study
Corynoneura	3.2	This study
Corynoneura/Thienemanniella	2.6	This study
Crangonyctidae	7.3	This study
Crangonyctidae Unid	7.3	This study
Crangonyx	6.9	This study
Cricotopus	5.7	This study
Cricotopus bicinctus	5.8	This study
Cricotopus tremulus		
Cricotopus/Orthocladius	5.8	This study
Cryptochironomus	5.4	This study
Cryptotendipes	6.0	NC SOP 97
Culicidae	8.0	AL SOP 99
Cura		
Cura foremanii	8.5	This study
Cymbiodyta		
Cyphon	6.6	This study
Cyrnellus	5.0	USEPA 90
Cyrnellus fraternus	7.0	NC SOP 97
Demicryptochironomus	2.0	NC SOP 97
Dero	6.6	This study
Desmopachria	4.0	AL SOP 99
Dicrotendipes	6.9	This study
Didymops	2.0	AL SOP 99
Dineutus	4.5	This study

Table A-4 (cont'd). Genus, family, and order level tolerance values developed using abiotic stressor gradient. Source column indicates the agency and year in which tolerance values were developed. MDEQ 2002 values are those that were generated using stressor gradient.

FinalID	TV	Source
Diplectrona	2.0	AL SOP 99
Diplocladius	10.0	This study
Diptera Unid	4.6	This study
Dixa	3.0	RBP2 99
Dixella	2.0	AL SOP 99
Dixidae		
Djalmabatista	3.4	This study
Dolichopodidae	5.3	This study
Dromogomphus	2.7	This study
Dubiraphia	4.5	This study
Dugesia	5.5	This study
Dugesia tigrina	5.6	This study
Dytiscidae	3.4	This study
Eccoptura		
Eccoptura xanthenes	3.0	NC SOP 97
Eclipidrilus	4.4	This study
Ectopria	4.0	AL SOP 99
Einfeldia	4.3	This study
Elmidae	4.3	This study
Empididae	7.0	NC SOP 97
Enallagma	7.9	This study
Enchytraeidae	4.9	This study
Endochironomus	10.0	This study
Enochrus	8.0	RBP2 99
Ephemerella	3.3	This study
Ephemerellidae	1.3	This study
Ephemeridae Unid	2.4	This study
Ephemeroptera Unid	7.2	MDEQ 2002
Ephydridae	6.0	AL SOP 99
Epicordulia princeps		
Epoicocladius	0.0	NC SOP 97
Erioptera	4.6	This study
Erpetogomphus	4.0	AL SOP 99
Erpobdellidae	8.0	AL SOP 99
Erythemis	9.0	AL SOP 99
Eukiefferiella	6.1	This study
Eurylophella	0.6	This study
Fittkauimyia serta		
Fossaria	3.0	RBP2 99
Gammarus	9.0	AL SOP 99

Table A-4 (cont'd). Genus, family, and order level tolerance values developed using abiotic stressor gradient. Source column indicates the agency and year in which tolerance values were developed. MDEQ 2002 values are those that were generated using stressor gradient.

FinalID	TV	Source
Gastropoda	5.8	This study
Gastropoda Unid	5.8	This study
Glossiphoniidae	9.0	AL SOP 99
Glossosomatidae	0.0	AL SOP 99
Glyptotendipes	9.9	This study
Goeldichironomus	10.0	AL SOP 99
Gomphidae	5.3	This study
Gomphus	5.2	This study
Gomphus Diff	5.2	This study
Gonielmis dietrichi		
Gonomyia	4.3	This study
Gymnometriocnemus	7.0	RBP2 99
Gyrinus	5.5	This study
Haemonais	5.7	This study
Haemonais variant		
Haemonais waldvogeli	5.1	This study
Hagenius brevistylus	4.0	NC SOP 97
Haliplus	8.0	NC SOP 97
Haplotaxis cf gordioides		
Harnischia	8.0	RBP2 99
Harnischia complex		
Harnischia complex Genus C		
Helichus	5.0	This study
Helius genus nr.		
Helochares	4.0	AL SOP 99
Helocordulia	4.0	NC SOP 97
Helopelopia	3.2	This study
Helopicus	0.0	NC SOP 97
Hemerodromia	4.2	This study
Heptagenia	2.0	NC SOP 97
Heptageniidae	4.6	This study
Hetaerina	4.2	This study
Heterotrissocladius	4.2	This study
Hexagenia	2.4	This study
Hexatoma	0.0	This study
Hirudinea	7.8	This study
Hyalella	6.8	This study
Hybomitra		
Hydaticus	9.0	AL SOP 99
Hydra	5.0	USEPA 1990 Draft

Table A-4 (cont'd). Genus, family, and order level tolerance values developed using abiotic stressor gradient. Source column indicates the agency and year in which tolerance values were developed. MDEQ 2002 values are those that were generated using stressor gradient.

FinalID	TV	Source
Hydracarina	4.4	This study
Hydrobaenus	10.0	This study
Hydrobiidae	3.9	This study
Hydrocanthus	7.0	NC SOP 97
Hydrochus	6.0	NC SOP 97
Hydrophilidae	7.9	This study
Hydroporus	8.0	NC SOP 97
Hydropsyche	3.0	This study
Hydropsychidae	5.2	This study
Hydroptila	3.8	This study
Hydroptilidae	3.5	This study
Hydrovatus	4.0	AL SOP 99
Hygrotus	4.0	AL SOP 99
Ilyodrilus	10.0	This study
Ironoquia	7.0	AL SOP 99
Ischnura	9.7	This study
Isochaetides		
Isonychia	1.9	This study
Isoperla	3.7	This study
Isopoda	5.4	This study
Kiefferulus	4.7	This study
Labrundinia	2.4	This study
Laccophilus	10.0	RBP2 99
Larsia	9.0	NC SOP 97
Lauterborniella agrayloides		
Lepidoptera	6.0	RBP2 99
Leptoceridae	1.9	This study
Leptophlebia	5.0	This study
Leptophlebiidae	2.7	This study
Leucrocuta	1.0	USEPA 1990 Draft
Leuctra	0.0	NC SOP 97
Libellula	10.0	This study
Libellulidae	7.2	This study
Libellulinae		
Limnephilidae	1.5	This study
Limnodrilus	8.6	This study
Limnophila	0.2	This study
Limnophyes	8.5	This study
Limonia	9.0	NC SOP 97
Lioporeus		

Table A-4 (cont'd). Genus, family, and order level tolerance values developed using abiotic stressor gradient. Source column indicates the agency and year in which tolerance values were developed. MDEQ 2002 values are those that were generated using stressor gradient.

FinalID	TV	Source
Lirceus	7.3	This study
Lopescladius	1.0	NC SOP 97
Lumbricidae	8.3	This study
Lumbriculidae	5.1	This study
Lumbriculus	4.6	This study
Lymnaeidae	9.6	This study
Lype		
Macromia	4.9	This study
Macromia glabratus		
Macromiidae	3.0	USEPA 90
Macromiinae	3.0	This study
Macronychus glabratus	2.4	This study
Macrostemum	3.0	NC SOP 97
Matus		
Megascolecidae		
Meropelopia (=Conchapelopia)	7.0	RBP2 99
Mesocrictopus		
Mesosmittia		
Micrasema	0.0	AL SOP 99
Microcylloepus	1.9	This study
Micropsectra	1.5	This study
Microtendipes	1.4	This study
Microtendipes pedellus	1.4	This study
Microtendipes rydalensis	1.4	This study
Microvelia	6.0	AL SOP 99
Molanna	4.0	AL SOP 99
Molophilus	5.0	AL SOP 99
Monodiamesa	7.0	USEPA 1990 Draft
Nais	7.8	This study
Nanocladius	4.7	This study
Nasiaeschna pentacantha	8.0	RBP2 99
Natarsia	6.2	This study
Nectopsyche	5.4	This study
Nematoda	6.0	This study
Nematomorpha		
Nemertea	5.9	This study
Nemouridae	5.8	This study
Nemouridae Unid	5.8	This study
Neoephemera		
Neoperla	0.0	This study

Table A-4 (cont'd). Genus, family, and order level tolerance values developed using abiotic stressor gradient. Source column indicates the agency and year in which tolerance values were developed. MDEQ 2002 values are those that were generated using stressor gradient.

FinalID	TV	Source
Neophylax	2.0	NC SOP 97
Neoplea		
Neoporus	3.1	This study
Neureclipsis	2.7	This study
Neurocordulia	5.0	NC SOP 97
Neurocordulia prob.		
Nigronia	5.0	AL SOP 99
Nilotanypus	3.0	NC SOP 97
Nilothauma	5.0	NC SOP 97
Nyctiophylax	0.0	This study
Odontomesa	5.0	AL SOP 99
Oecetis	2.4	This study
Oligochaeta	6.2	This study
Omisus	4.0	AL SOP 99
Ophiogomphus	5.0	NC SOP 97
Optioservus	2.0	NC SOP 97
Orthocladiinae	5.7	This study
Orthocladiinae Unid	5.7	This study
Orthocladiinae Unid Diff	4.0	AL SOP 99
Orthocladius	8.8	This study
Orthocladius lignicola		
Orthocladius O.	7.1	This study
Ostrocerca		
Oxyethira	1.3	This study
Pachydiplax	8.0	USEPA 90
Pachydiplax longipennis		
Pagastiella	0.0	This study
Palaemonetes	7.0	NC SOP 97
Palaemonidae	2.0	This study
Parachaetocladius	0.0	NC SOP 97
Parachironomus	9.0	NC SOP 97
Paracladopelma	5.0	NC SOP 97
Paragnetina		
Parakiefferiella	2.0	This study
Paralauterborniella	4.2	This study
Paralauterborniella nigrohalterale	8.0	USEPA 1990 Draft
Paraleptophlebia	0.0	NC SOP 97
Paramerina	4.0	NC SOP 97
Parametriocnemus	3.1	This study
Paraphaenocladius	1.2	This study

Table A-4 (cont'd). Genus, family, and order level tolerance values developed using abiotic stressor gradient. Source column indicates the agency and year in which tolerance values were developed. MDEQ 2002 values are those that were generated using stressor gradient.

FinalID	TV	Source
Paraponyx	5.0	USEPA 1990 Draft
Paratanytarsus	5.9	This study
Paratendipes	1.9	This study
Pedicia	4.0	USEPA 1990 Draft
Pelecypoda		
Peltodytes	8.2	This study
Pericoma	4.0	AL SOP 99
Perlesta	1.8	This study
Perlidae	0.8	This study
Perlinella	2.0	USEPA 90
Perlodidae	3.5	This study
Phaenonotum		
Phaenopsectra	6.3	This study
Philopotamidae	1.2	This study
Phylocentropus	6.0	NC SOP 97
Physella	8.0	NC SOP 97
Physidae	6.5	This study
Piguetiella		
Pilaria	3.0	This study
Pisidium	7.0	RBP2 99
Planariidae	5.7	This study
Planorbidae	6.1	This study
Plathemis	3.0	USEPA 1990 Draft
Plauditus		
Plecoptera Unid	3.5	This study
Pleuroceridae	3.0	AL SOP 99
Polycentropodidae	2.1	This study
Polycentropus	1.9	This study
Polypedilum	4.1	This study
Polypedilum albicorne	2.5	This study
Polypedilum angulum	1.4	This study
Polypedilum aviceps	1.8	This study
Polypedilum fallax	2.6	This study
Polypedilum flavum		
Polypedilum halterale	2.7	This study
Polypedilum illinoense	6.4	This study
Polypedilum obtusum	4.7	This study
Polypedilum obtusum/flavum	5.7	This study
Polypedilum ophiodes		
Polypedilum scalaenum	3.2	This study

Table A-4 (cont'd). Genus, family, and order level tolerance values developed using abiotic stressor gradient. Source column indicates the agency and year in which tolerance values were developed. MDEQ 2002 values are those that were generated using stressor gradient.

FinalID	TV	Source
Polypedilum simulans/digitifer	5.0	This study
Polypedilum tritum	4.4	This study
Pomatiopsidae		
Potamothrix		
Potthastia	6.0	NC SOP 97
Potthastia longimana		
Prionocyphon		
Pristina	9.0	NC SOP 97
Pristinella	7.0	NC SOP 97
Procladius	5.2	This study
Procloeon/Centroptilum	7.7	This study
Progomphus	6.5	This study
Promoresia elegans	2.0	NC SOP 97
Prostoia		
Protoptila	1.0	USEPA 1990 Draft
Pseudochironomus	4.4	This study
Pseudocloeon	3.4	This study
Pseudolimnophila	2.0	This study
Pseudorthocladius	1.1	This study
Pseudosmittia	5.5	This study
Psilotreta	0.0	NC SOP 97
Psychoda	9.0	NC SOP 97
Psychomyiidae		
Pteronarcyidae		
Pteronarcys	1.0	NC SOP 97
Ptilostomis	3.0	This study
Pycnopsyche	1.4	This study
Quistradrilus		
Quistradrilus multisetosus	10.0	USEPA 1990 Draft
Ranatra	7.0	NC SOP 97
Rheocricotopus	2.7	This study
Rheopelopia	2.0	AL SOP 99
Rheosmittia	7.0	NC SOP 97
Rheotanytarsus	3.3	This study
Rhithrogena	0.0	RBP2 99
Rhyacodrilus		
Rhyacophila	0.0	AL SOP 99
Rhyacophilidae		
Robackia claviger	2.0	NC SOP 97
Robackia demeijerei	3.0	NC SOP 97

Table A-4 (cont'd). Genus, family, and order level tolerance values developed using abiotic stressor gradient. Source column indicates the agency and year in which tolerance values were developed. MDEQ 2002 values are those that were generated using stressor gradient.

FinalID	TV	Source
Saetheria	7.0	AL SOP 99
Sciaridae	4.2	This study
Serratella	2.2	This study
Sialis	4.1	This study
Simuliidae	3.5	This study
Simuliidae Unid	4.0	AL SOP 99
Sisyra		
Slavina		
Slavina appendiculata	6.0	USEPA 1990 Draft
Smittia	8.4	This study
Somatochlora	8.4	This study
Sparganophilidae	6.1	This study
Sperchopsis	5.0	RBP2 99
Sperchopsis tessellata	1.2	This study
Sphaeriidae	5.3	This study
Spirosperma	1.5	This study
Staphylinidae		
Stelechomyia perpulchra		
Stempellina	2.0	This study
Stempellinella	1.5	This study
Stenacron	6.0	This study
Stenacron prob.	6.0	This study
Stenelmis	4.8	This study
Stenochironomus	1.5	This study
Stenonema	4.2	This study
Stenus		
Stictochironomus	5.1	This study
Stilocladius	1.0	AL SOP 99
Stratiomyidae	6.0	AL SOP 99
Strophopteryx		
Stygobromus		
Stylaria		
Stylaria lacustris	9.0	NC SOP 97
Stylogomphus		
Stylurus	5.0	AL SOP 99
Sublettea		
Sublettea coffmani	1.0	NC SOP 97
Suphisellus		
Synorthocladius	4.0	NC SOP 97
Synurella	8.5	This study

Table A-4 (cont'd). Genus, family, and order level tolerance values developed using abiotic stressor gradient. Source column indicates the agency and year in which tolerance values were developed. MDEQ 2002 values are those that were generated using stressor gradient.

FinalID	TV	Source
Tabanidae Unid	5.2	This study
Tabanus	7.4	This study
Taeniopterygidae	2.1	This study
Taeniopteryx	2.1	This study
Tanyderidae		
Tanypodinae	5.8	This study
Tanypus	9.0	NC SOP 97
Tanytarsini	3.6	This study
Tanytarsus	3.5	This study
Tetragoneuria		
Thermonectus		
Thienemanniella	4.0	This study
Thienemannimyia	5.8	This study
Tipula	4.9	This study
Tipulidae	4.2	This study
Triaenodes	0.7	This study
Tribelos	2.9	This study
Trichoceridae		
Trichoptera	3.8	This study
Tricorythodes	2.2	This study
Trissopelopia		
Tropisternus	6.4	
Tubificidae	7.3	This study
Turbellaria	6.8	This study
Tvetenia	2.2	This study
Unionidae	5.0	AL SOP 99
Unniella multivirga	0.0	This study
Varichaetodrilus		
Viviparidae	6.0	RBP2 99
Xenochironomus xenolabis	0.0	USEPA 1990 Draft
Xylotopus par	6.0	NC SOP 97
Zavreliella marmorata	6.0	AL SOP 99
Zavrelimyia	5.6	This study

Table A-5. Tolerance values summarized by common orders found throughout Mississippi.

Taxa Group	Valid N	Mean	Median	Minimum	Maximum	Lower Quartile	Upper Quartile	Quartile Range	Std.Dev.
All Taxa	324	4.6	4.6	0.0	10.0	3.0	5.9	2.9	2.3
Diptera	120	4.5	4.5	0.0	10.0	3.1	5.7	2.7	2.2
Trichoptera	33	2.8	2.1	0.0	9.7	1.5	3.5	2.0	1.9
Ephemeroptera	30	4.0	3.9	0.6	9.7	2.2	5.5	3.3	2.2
Odonata	30	5.8	5.3	2.7	10.0	4.9	7.0	2.1	1.8
Plecoptera	25	2.6	2.1	0.0	5.9	0.8	3.7	2.9	1.9
Coleoptera	21	4.8	4.5	1.2	8.6	3.4	5.5	2.1	2.0
Amphipoda	8	7.4	7.3	6.8	8.5	7.1	7.4	0.3	0.5
Isopoda	4	5.8	5.4	4.9	7.3	5.2	6.4	1.2	1.0
Megaloptera	4	3.8	3.7	3.6	4.1	3.6	3.9	0.3	0.2

APPENDIX B

CALCULATING PRECISION ESTIMATES

Appendix B

Calculating precision using replicated samples

The repeat (34 sites) and duplicate (36 sites) samples were used for QC purposes such as illuminating problems with sampling team or equipment and for developing precision estimates for habitat assessments and biological index scores (MDEQ 2001). The precision of repeat samples represents the ability of different teams to produce similar habitat and biological data. Precision of duplicate samples was intended to represent the inherent variability found in the habitat assessment and biological collection methods but may also be affected by differences between the adjacent reaches on which the duplicate samples were performed. Detectable differences (90% confidence intervals) for metrics and indices were calculated from RMSE values that were calculated using combined repeat and duplicate samples. Confidence intervals (90%) around metrics and final index scores were calculated from RMSE values (see Table 3-9).

Precision of the ten habitat assessment parameters, total habitat score**,** biological metrics, and final index, was assessed using Root Mean Square Error (RMSE), coefficient of variability (CV), and Relative Percent Difference (RPD) calculations.

Root Mean Square Error

Root mean square error (RMSE), also called standard error of estimate, is an estimate of the standard deviation of a population of observations and is calculated by:

$$RMSE = \sqrt{\frac{\sum_{j=1}^{k}\sum_{i=1}^{n_j}(y_{ij} - \bar{y}_j)^2}{\sum df_{1\ldots k}}}$$

where y_{ij} is the ith individual observation in group j, j = 1…k (Zar 1999). It should be emphasized that the denominator in this operation is the sum of the degrees of freedom (df) for each group of replicated samples. Discussion of RMSE can be simplified when the samples consistently have two replicates. In this case, the sum of the degrees of freedom is the number of sample pairs. The formula can then be summarized as the average standard deviation for all sample pairs.

Coefficient of Variability

RMSE is scale dependent, therefore, it is difficult to compare the precision of metric values, which are on several different scales, using this statistic. To allow comparison of the precision of different metrics the coefficient of variability (CV) was calculated. This statistic is a unitless measure calculated from the RMSE of metric values as follows

$$CV = \frac{RMSE}{\overline{X}} \times 100$$

where $\overline{}$ is the mean of metric values for all samples used in the RMSE calculation. Similarly to RMSE of metric scores, CV serves to standardize the metric value RMSE so that precision of metrics that are on different scales can be compared.

Relative Percent Difference (RPD)

Relative percent differences (RPDs) were calculated for the individual habitat scores, total habitat scores, individual metrics, and final index from the repeat and duplicate samples using the equation:

$$RPD = \left(\frac{|A - B|}{A + B} \times 2 \right) \times 100$$

where A is the metric or index value of the first sample and B is the metric or index value of the second sample. Because they are expressed as percentages, RPD values from different metrics can be directly compared. RPD represents precision as the difference between the duplicate metric values from each site. Lower RPDs indicate greater precision. However, RPD values can be deceptive because differences between low metric values result in high RPDs. This occurrence is particularly evident when metric values are 0; in this case, regardless of the second metric value, the RPD for the sample pair will always equal 200.

Detectable Differences

Detectable differences are confidence intervals around the corresponding habitat, metric, or index value calculated by multiplying RMSE (an estimate of standard deviation) by the appropriate t-table value based on the desired confidence level. The detectable differences define, with a particular level of confidence, the range around the observed mean (of metrics or indices) in which the true mean is likely to be found. For instance, the 90 percent detectable difference (i.e., p = 0.10) for a single observation is calculated by multiplying the RMSE value by 1.64 (from a standard t- table [Zarr 1999]). Multiple composited samples from individual sites will increase precision (i.e., reduce detectable difference).

LITERATURE CITED

MDEQ. 2001. Quality Assurance Project Plan for 303(d) List Assessment and Calibration of the Index of Biological Integrity for Wadeable Streams in Mississippi. February 15, 2001. Mississippi Department of Environmental Quality. Jackson, MS.

Zarr, J.H. 1999. Biostatistical Analysis, Fourth Edition. Prentice Hall, Upper Saddle River, NJ.

APPENDIX C

MASTER TAXA LIST

Appendix C. Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
Cnidaria				
	Hydrozoa			
		Hydroida		
			Hydridae	
				Hydra
Platyhelminthes				
	Turbellaria			
		Tricladida		
			Planariidae	
				Dugesia
			Dugesiidae	
				Cura
Nemertea				
Nematomorpha				
Annelida				
	Oligochaeta			
		Arhynchobdellida		
			Erpobdellidae	
		Haplotaxida		
			Enchytraeidae	
			Lumbricidae	
			Megascolecidae	
			Naididae	
				Arcteonais
				Bratislavia
				Chaetogaster
				Dero
				Haemonais
				Nais
				Pristina
				Pristinella
				Slavina
				Stylaria
			Sparganophilidae	
			Tubificidae	
				Aulodrilus
				Bothrioneurum
				Branchiura
				Ilyodrilus
				Isochaetides
				Limnodrilus
				Potamothrix

Appendix C (cont'd). Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
				Quistradrilus
				Rhyacodrilus
				Spirosperma
		Lumbriculida		
			Lumbriculidae	
				Eclipidrilus
				Lumbriculus
	Hirudinea			
		Branchiobdellida		
			Branchiobdellidae	
		Rhynchobdellida		
			Glossiphoniidae	
Mollusca				
	Bivalvia			
		Veneroida		
			Corbiculidae	
			Pisidiidae	
				Pisidium
		Unionoida		
			Unionidae	
	Gastropoda			
		Basommatophora		
			Physidae	
				Physella
				Physa
			Ancylidae	
				Ferrissia
			Lymnaeidae	
				Fossaria
			Planorbidae	
		Heterostropha		
			Valvatidae	
		Neotaenioglossa		
			Hydrobiidae	
			Pleuroceridae	
		Architaenioglossa		
			Viviparidae	

Appendix C (cont'd). Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
Arthropoda				
	Crustacea			
		Amphipoda		
			Crangonyctidae	
				Crangonyx
			Gammaridae	
				Gammarus
				Stygobromus
				Synurella
			Hyalellidae	
				Hyalella
		Decapoda		
			Camabridae	
			Palaemonidae	
				Palaemonetes
		Isopoda		
			Asellidae	
				Caecidotea
				Lirceus
	Arachnida			
		Acari		
				"Hydracarina"
	Insecta			
		Odonata: Zygoptera		
			Calopterygidae	
				Calopteryx
				Hetaerina
			Coenagrionidae	
				Argia
				Enallagma
				Ischnura
		Odonata: Anisoptera		
			Aeshnidae	
				Anax
				Basiaeschna
				Boyeria
				Nasiaeschna
			Cordulegasteridae	
				Cordulegaster
			Corduliidae	
				Epitheca (Epicordulia)
				Epitheca (Tetragoneuria)

Appendix C (cont'd). Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
			Gomphidae	
				Dromogomphus
				Erpetogomphus
				Gomphus
				Hagenius
				Ophiogomphus
				Progomphus
				Stylogomphus
				Stylurus
			Libellulidae	
				Didymops
				Epicordulia
				Erythemis
				Helocordulia
				Libellula
				Macromia
				Miathyria
				Neurocordulia
				Pachydiplax
				Pachydiplax
				Perithemis
				Plathemis
				Somatochlora
				Sympetrum
			Macromiidae	
		Ephemeroptera		
			Baetidae	
				Acentrella
				Acerpenna
				Baetis
				Plauditus
				Procloeon
				Procloeon/Centroptilum
				Pseudocloeon
			Baetiscidae	
				Baetisca
			Caenidae	
				Caenis
			Ephemerellidae	
				Ephemerella
				Eurylophella
				Serratella

Appendix C (cont'd). Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
			Ephemeridae	
				Hexagenia
			Heptageniidae	
				Heptagenia
				Leucrocuta
				Rhithrogena
				Stenacron
				Stenonema
			Leptophlebiidae	
				Leptophlebia
				Paraleptophlebia
			Neoephemeridae	
				Neoephemera
			Oligoneuriidae	
				Isonychia
			Siphlonuridae	
			Trichorythidae	
				Tricorythodes
		Plecoptera		
			Capniidae	
				Allocapnia
			Chloroperlidae	
				Alloperla
				Perlesta
				Perlinella
			Leuctridae	
				Leuctra
			Nemouridae	
				Amphinemura
				Prostoia
			Perlidae	
				Acroneuria
				Agnetina
				Beloneuria
				Eccoptura
				Neoperla
				Paragnetina
			Perlodidae	
				Clioperla
				Helopicus
				Isoperla
			Pteronarcyidae	

Appendix C (cont'd). Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
				Pteronarcys
			Taeniopterygidae	
				Strophopteryx
				Taeniopteryx
		Heteroptera		
			Veliidae	
				Microvelia
			Pleidae	
				Neoplea
			Nepidae	
				Ranatra
		Megaloptera		
			Corydalidae	
				Chauliodea
				Corydalus
				Nigronia
			Sisyridae	
				Climacia
				Sisyra
			Sialidae	
				Sialias
		Coleoptera: Adephaga		
			Gyrinidae	
				Dineutus
				Gyrinus
			Haliplidae	
				Haliplus
				Peltodytes
			Dytiscidae	
				Acilius
				Agabus
				Bidessonotus
				Copelatus
				Coptotomus
				Desmopachria
				Hydaticus
				Hydroporus
				Hydrovatus
				Hygrotus
				Laccophilus
				Lioporeus
				Matus

Appendix C (cont'd). Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
				Neoporus
				Thermonectus
			Noteridae	
				Hydrocanthus
				Suphisellus
		Coleoptera: Myxophaga		
			Sphaeriidae	
		Coleoptera: Polyphaga		
			Hydrophilidae	
				Berosus
				Cymbiodyta
				Enochrus
				Helochares
				Helophorus
				Hydrochus
				Phaenonotum
				Sperchopsis
				Tropisternus
			Staphylinidae	
				Stenus
			Psephenidae	
				Ectopria
				Psephenus
			Dryopidae	
				Helichus
			Scirtidae	
				Cyphon
				Prionocyphon
			Elmidae	
				Ancyronyx
				Dubiraphia
				Gonielmis
				Macronychus
				Microcylloepus
				Optioservus
				Promoresia
				Stenelmis
			Ptilodactylidae	
				Anchytarsus
		Trichoptera		
			Philopotamidae	
				Chimarra

Appendix C (cont'd). Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
				Dolophilodes
			Psychomiidae	
				Cernotina
				Lype
			Polycentropodidae	
				Cyrnellus
				Neureclipsis
				Nyctiophylax
				Polycentropus
			Dipseudopsidae	
				Phylocentropus
			Hydropsychidae	
				Cheumatopsyche
				Diplectrona
				Hydropsyche
				Macrostemum
			Rhyacophilidae	
				Rhyacophila
			Glossosomatidae	
				Protoptila
			Hydroptilidae	
				Hydroptila
				Oxyethira
			Phryganeidae	
				Ptilostomis
			Brachycentridae	
				Brachycentrus
				Micrasema
			Lepidostomatidae	
				Lepidostoma
			Limnephilidae	
				Ironoquia
				Neophylax
				Pycnopsyche
			Sericostomatidae	
				Agarodes
			Odontoceridae	
				Psilotreta
			Molannidae	
				Molanna
			Calamoceratidae	
				Anisocentropus

Appendix C (cont'd). Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
			Leptoceridae	
				Ceraclea
				Nectopsyche
				Oecetis
				Setodes
				Triaenodes
		Diptera		
			Empididae	
				Hemerodromia
				Chelifera
			Ephydridae	
			Dolichopodidae	
			Chaoboridae	
				Chaoborus
			Ceratopogonidae	
			Athericidae	
				Atherix
			Culicidae	
			Dixidae	
				Dixa
				Dixella
			Chironomidae	
				Ablabesmyia
				Ablabesmyia (Karelia)
				Ablabesmyia annulata
				Ablabesmyia janta
				Ablabesmyia mallochi
				Ablabesmyia peleenses
				Ablabesmyia rhamphe
				Apsectrotanypus
				Asheum beckae
				Axarus
				Brillia
				Chironomus
				Cladopelma
				Cladotanytarsus
				Clinotanypus
				Coelotanypus
				Conchapelopia
				Constempellina
				Corynoneura
				Cricotopus

Appendix C (cont'd). Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
				Cryptochironomus
				Cryptotendipes
				Demicryptochironomus
				Dicrotendipes
				Diplocladius
				Djalmabatista
				Einfeldia
				Endochironomus
				Epoicocladius
				Eukiefferiella
				Fittkauimyia
				Fittkauimyia serta
				Glyptotendipes
				Goeldichironomus
				Gymnometriocnemus
				Harnischia
				Helopelopia
				Heterotrissocladius
				Hydrobaenus
				Kiefferulus
				Labrundinia
				Larsia
				Lauterborniella
				Lauterborniella agrayloides
				Limnophyes
				Lopescladius
				Meropelopia
				Mesosmittia
				Micropsectra
				Microtendipes
				Microtendipes pedellus
				Microtendipes rydalensis
				Monodiamesa
				Nanocladius
				Natarsia
				Nilotanypus
				Nilothauma
				Odontomesa
				Omisus
				Orthocladius
				Orthocladius lignicola
				Pagastiella

Appendix C (cont'd). Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
				Parachaetocladius
				Parachironomus
				Paracladopelma
				Parakiefferiella
				Paralauterborniella
				Paralauterborniella nigrohalterale
				Paramerina
				Parametriocnemus
				Paraphaenocladius
				Paratanytarsus
				Paratendipes
				Phaenopsectra
				Polypedilum
				Polypedilum angulum
				Polypedilum aviceps
				Polypedilum convictum
				Polypedilum fallax
				Polypedilum halterale
				Polypedilum illinoense
				Polypedilum obtusum
				Polypedilum ophiodes
				Polypedilum scalaenum
				Polypedilum simulans/digitifer
				Polypedilum tritum
				Potthastia
				Procladius
				Psectrocladius
				Pseudochironomus
				Pseudorthocladius
				Pseudosmittia
				Psilometriocnemus
				Rheocricotopus
				Rheocricotopus robacki
				Rheopelopia
				Rheosmittia
				Rheotanytarsus
				Robackia
				Robackia claviger
				Robackia demeijerei
				Saetheria
				Smittia
				Stelechomyia

Appendix C (cont'd). Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
				Stelechomyia perpulchra
				Stempellina
				Stempellinella
				Stenochironomus
				Stictochironomus
				Stilocladius
				Sublettea
				Sublettea coffmani
				Synorthocladius
				Tanypus
				Tanytarsus
				Thienemanniella
				Thienemannimyia
				Tribelos
				Trissopelopia
				Tvetenia
				Unniella
				Unniella multivirga
				Xenochironomus
				Xenochironomus xenolabis
				Xylotopus
				Xylotopus par
				Zavrelia
				Zavreliella
				Zavreliella marmorata
				Zavrelimyia
			Psychodidae	
				Psychoda
				Pericoma
			Simuliidae	
			Stratiomyidae	
			Tabanidae	
				Chlorotabanus
				Chrysops
				Hybomitra
				Tabanus
			Tipulidae	
				Erioptera
				Gonomyia
				Helius
				Hexatoma
				Limnophila

Appendix C (cont'd). Master list of 562 benthic macroinvertebrate taxa found during sampling for this project.

Phylum	Class	Order	Family	Genus/Species
				Limonia
				Molophilus
				Ormosia
				Pedicia
				Pilaria
				Pseudolimnophila
				Tipula
			Trichoceridae	

APPENDIX D

NON-METRIC MULTIDIMENSIONAL SCALING (NMDS)

APPENDIX D

Nonmetric Multidimensional Scaling (NMDS) with PC-ORD software (McCune and Mefford 1997)

<u>Benthic Data Preparation</u>

Rare taxa do not contribute appreciably to ordination analysis. If taxa occur in few or single samples, they are inconsequential to most Bray Curtis coefficient calculations. Individuals of rare taxa often occur singly or in small numbers within a sample. Small relative abundances do not greatly affect Bray Curtis coefficients. Thus, attempts were made to eliminate rare taxa or to combine such taxa with similar organisms for this procedure. The taxa matrices: initially used no species level identifications; grouped species at the genus level; and eliminated rare species. Genus level identifications were further grouped to eliminate rare taxa according to the following rules.

Taxa were combined at a higher taxonomic level for the following reasons:

- considerable number of samples have family level or higher identifications
- genus level data was evenly and infrequently (< 5 samples) dispersed between samples
- 1 dominant genera and few other identifications at genus or family level (< 5 samples each).

Taxon enumerations were eliminated if identification was at family level (or higher) and useful genus level data existed for the same family **or** < 5 occurrences among the reference samples and there was no opportunity to combine with other taxa. Taxa matrices are relativized on the total individual count (each taxon is enumerated as a percentage of the entire sample).

<u>NMDS Ordination</u>

The NMDS ordination is run using Bray-Curtis distances. The Bray-Curtis distance metric uses the commonness and uniqueness of taxa and individuals in two samples to calculate a distance between the two samples, short distances signify similar community composition. The Bray-Curtis coefficient (BC) is calculated as follows:

$$BC = 1 - \left(2W / (A + B) \right)$$

where W is the sum of common taxa abundances and A and B are the sums of taxa abundances in individual sample units.

The NMDS ordination is a 2 or 3 dimensional map of each sample with respect to all other samples, using these distances to organize the map. The map must bend some of the distances that do not fit exactly - this is quantified as the "stress" of the NMDS plot. It is desirable to use as few dimensions as possible and to have a stress less than 20 units. The NMDS was therefore attempted with 2 dimensions first (the stress was greater than 20 units) and then with 3 dimensions (stress = 16.9 units).

Because the distances are dependent on relative abundance of each taxa, those samples with similar taxa composition are closely grouped in the NMDS plot (e.g., samples consisting predominantly of blackflies will appear in one section of the plot while those with few blackflies and many caenid mayflies will appear elsewhere in a group). Samples with high diversity and evenness tend to group in the middle of the plot. Samples with only a few dominant taxa tend to fall along the fringes of the plot.

The relative taxa abundances, community metrics, and environmental characteristics of each sample in the NMDS plot can be correlated to the unitless ordination axes. Each sample can be identified categorically (membership within a region, subecoregion, etc.). Site classification is an effort to define simple categories or characteristics of the samples that show similar biological composition (i.e., finding groups of samples in the NMDS plot that have similar and explainable environmental conditions).

LITERATURE CITED

McCune, B. and M.J. Mefford. 1997. PC-ORD. Multivariate Analysis of Ecological Data, Version 3.0, MjM Software Design, Gleneden Beach, OR.

APPENDIX E

METRIC AND INDEX FIGURES

Figure E-1. Metric values among two potential bioregions. Left boxes are the west bioregion and right boxes are the east. Metric value distribution, as well as NMDS analyses, were used in developing initial two bioregional delineation.

Figure E-2. Metric values among two potential bioregions. Left boxes are the west bioregion and right boxes are the east. Metric value distribution, as well as NMDS analyses, were used in developing initial two bioregional delineation.

Figure E-3. Metric values among two potential bioregions. Left boxes are the west bioregion and right boxes are the east. Metric value distribution, as well as NMDS analyses, were used in developing initial two bioregional delineation

Figure E-4. Metric values among two potential bioregions. Left boxes are the west bioregion and right boxes are the east. Metric value distribution, as well as NMDS analyses, were used in developing initial two bioregional delineation.

Figure E-5. Metric values among two potential bioregions. Left boxes are the west bioregion and right boxes are the east. Metric value distribution, as well as NMDS analyses, were used in developing initial two bioregional delineation.

Figure E-6. Distribution of metric values among reference (left boxes) and stressor sites (right boxes) in the Black Belt bioregion.

Figure E-7. Distribution of metric values among reference (left boxes) and stressor sites (right boxes) in the East bioregion.

Figure E-8. Distribution of metric values among reference (left boxes) and stressor sites (right boxes) in the Northwest bioregion.

Figure E-9. Distribution of metric values among reference (left boxes) and stressor sites (right boxes) in the Northeast bioregion.

Figure E-10. Distribution of metric values among reference (left boxes) and stressor sites (right boxes) in the West bioregion.

Figure E-11. Distribution of scores of candidate indices among reference (left boxes) and stressor sites (right boxes) in the Black Belt bioregion.

Figure E-12. Distribution of scores of candidate indices among reference (left boxes) and stressor sites (right boxes) in the East bioregion.

Figure E-13. Distribution of scores of candidate indices among reference (left boxes) and stressor sites (right boxes) in the Northwest bioregion.

Figure E-14. Distribution of scores of candidate indices among reference (left boxes) and stressor sites (right boxes) in the Northeast bioregion.

Figure E-15. Distribution of scores of candidate indices among reference (left boxes) and stressor sites (right boxes) in the West bioregion.

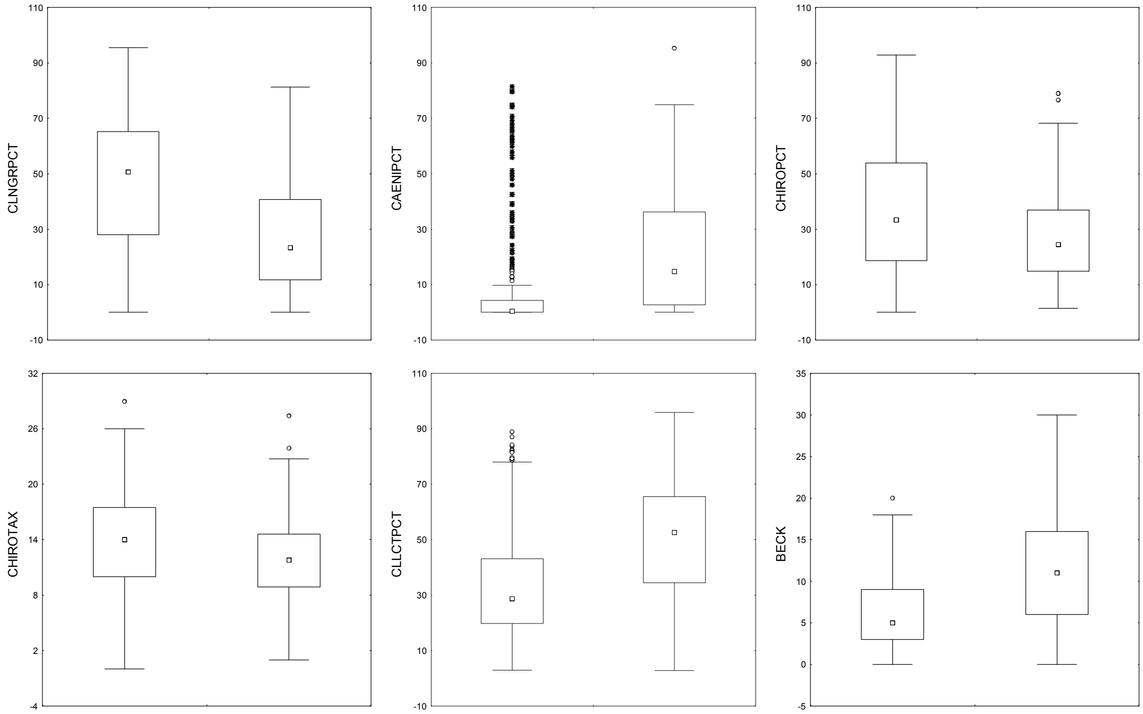


Figure E-1. Metric values among two potential bioregions. Left boxes are the west bioregion and right boxes are the east. Metric value distribution, as well as NMDS analyses, were used in developing initial two bioregional delineation.

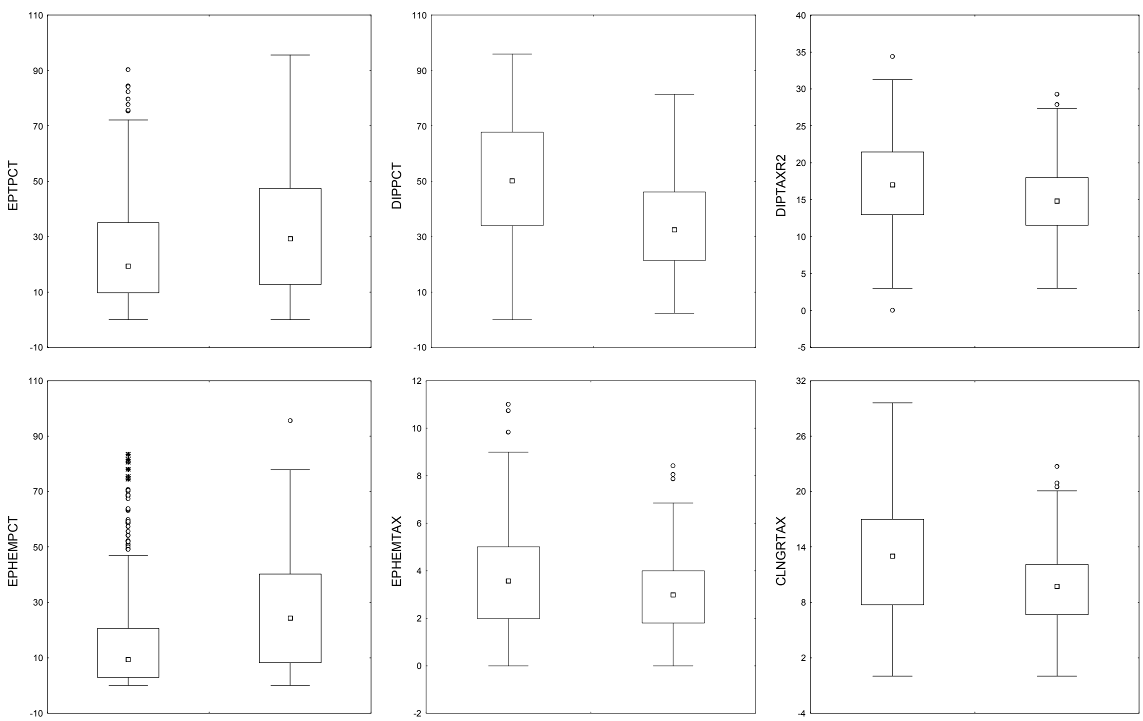


Figure E-2. Metric values among two potential bioregions. Left boxes are the west bioregion and right boxes are the east. Metric value distribution, as well as NMDS analyses, were used in developing initial two bioregional delineation.

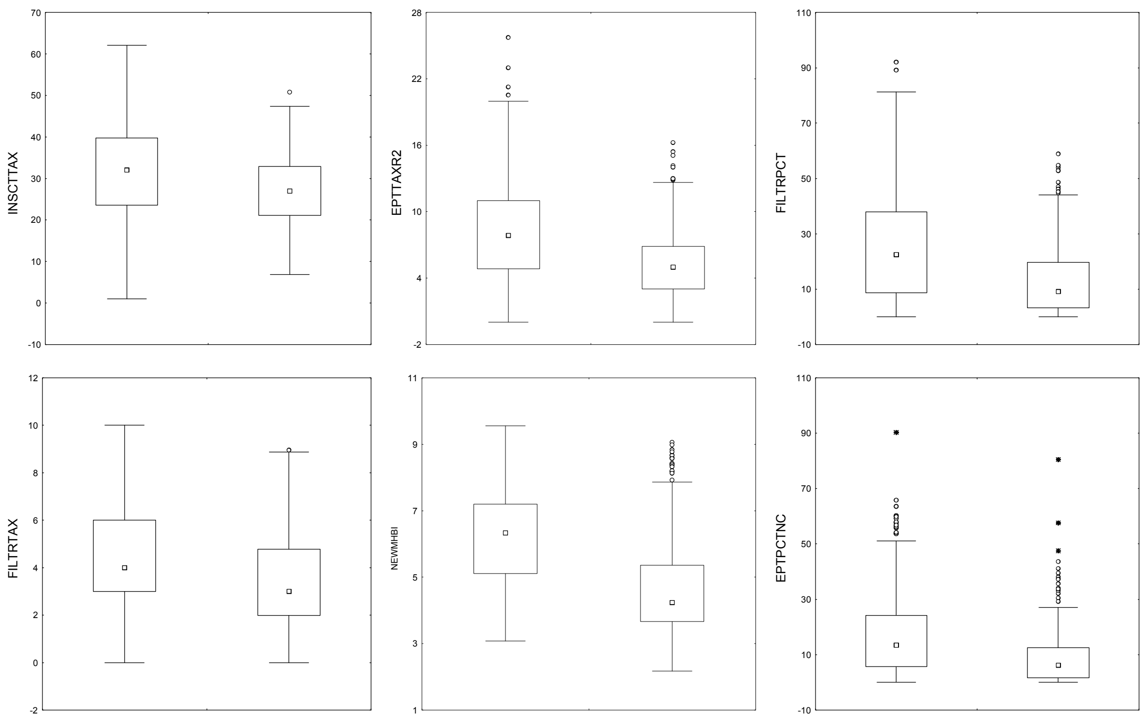


Figure E-3. Metric values among two potential bioregions. Left boxes are the west bioregion and right boxes are the east. Metric value distribution, as well as NMDS analyses, were used in developing initial two bioregional delineation

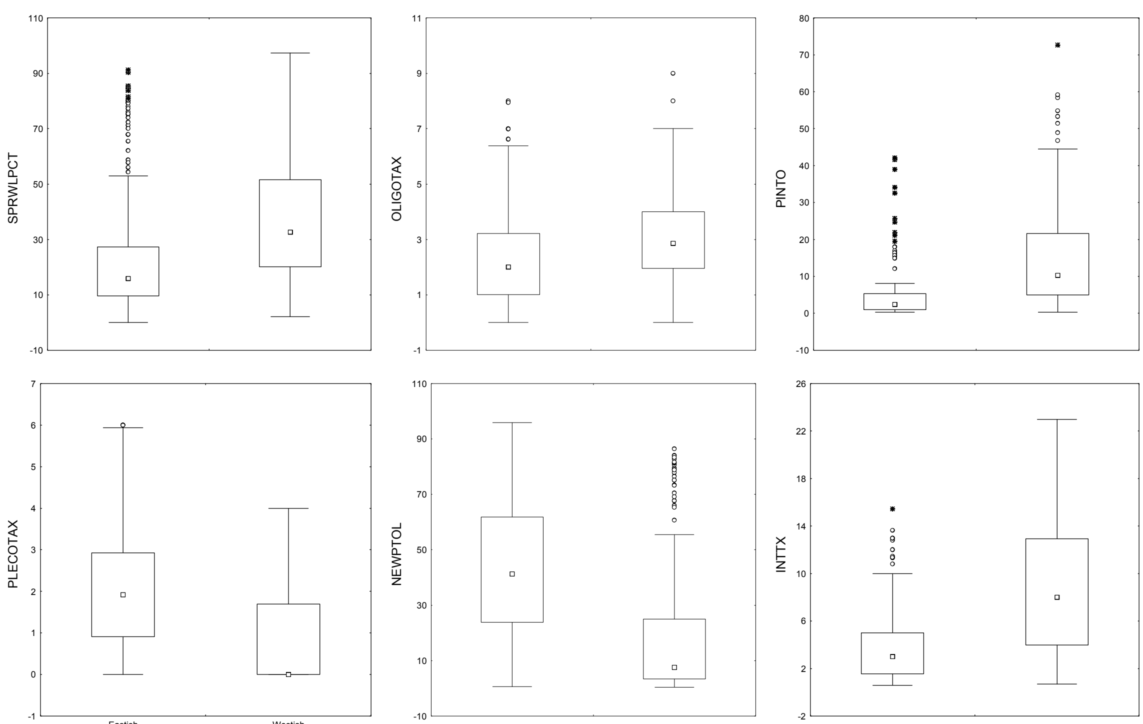


Figure E-4. Metric values among two potential bioregions. Left boxes are the west bioregion and right boxes are the east. Metric value distribution, as well as NMDS analyses, were used in developing initial two bioregional delineation.

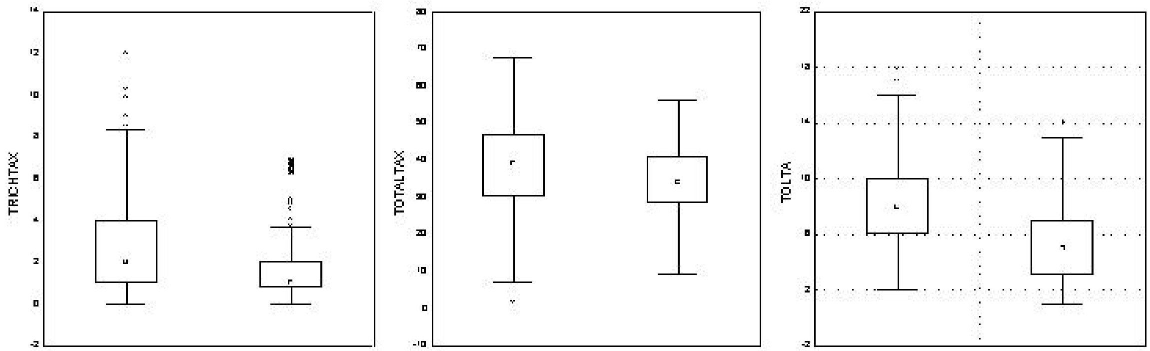


Figure E-5. Metric values among two potential bioregions. Left boxes are the west bioregion and right boxes are the east. Metric value distribution, as well as NMDS analyses, were used in developing initial two bioregional delineation.

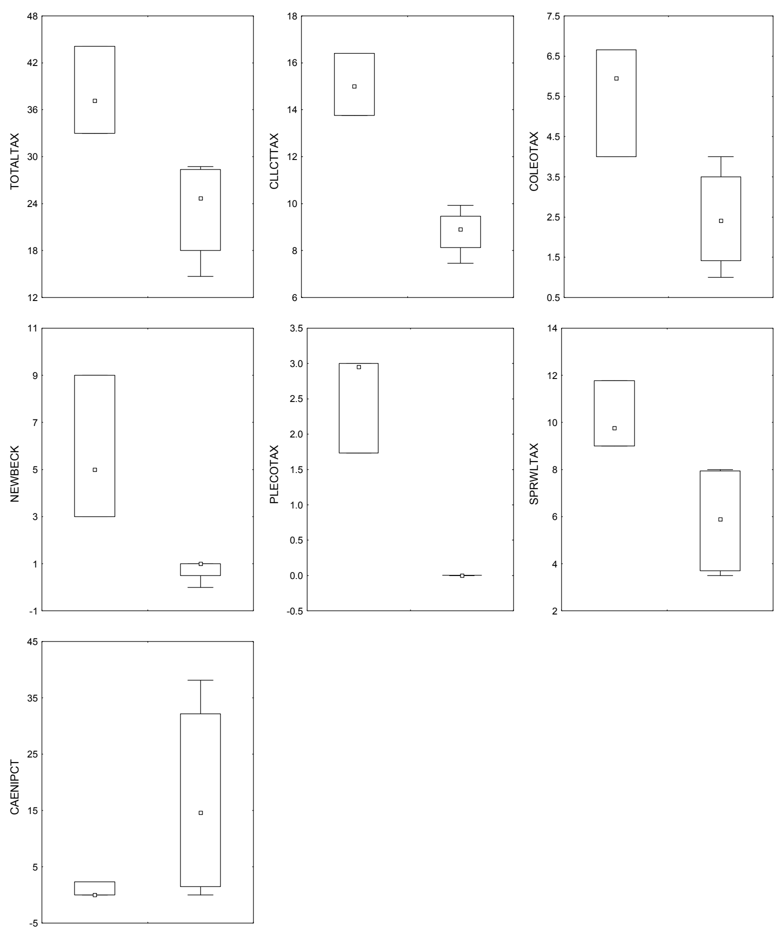


Figure E-6. Distribution of metric values among LDa (left boxes) and MD sites (right boxes) in the Black Belt bioregion

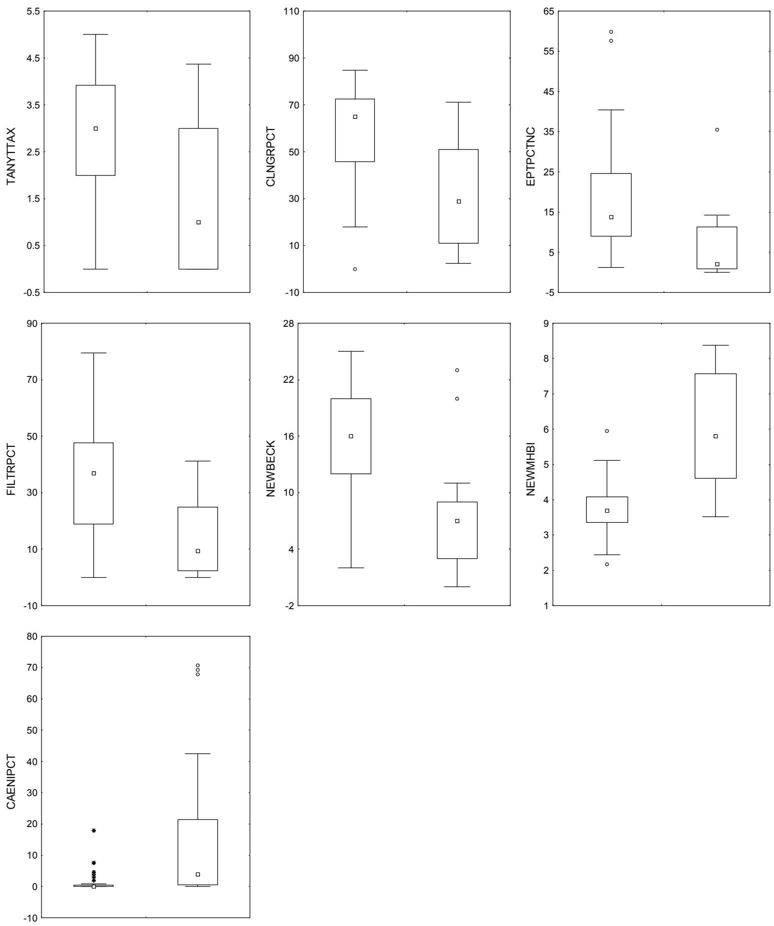


Figure E-7. Distribution of metric values among LDa (left boxes) and MD sites (right boxes) in the East bioregion.

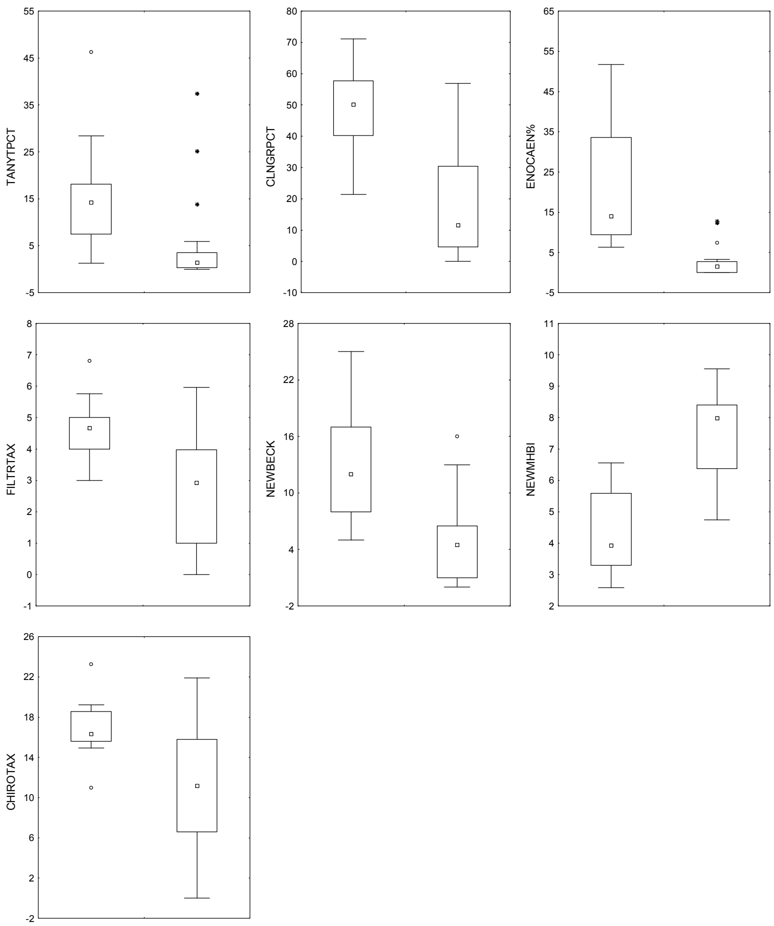


Figure E-8. Distribution of metric values among LDa (left boxes) and MD sites (right boxes) in the Northwest bioregion.

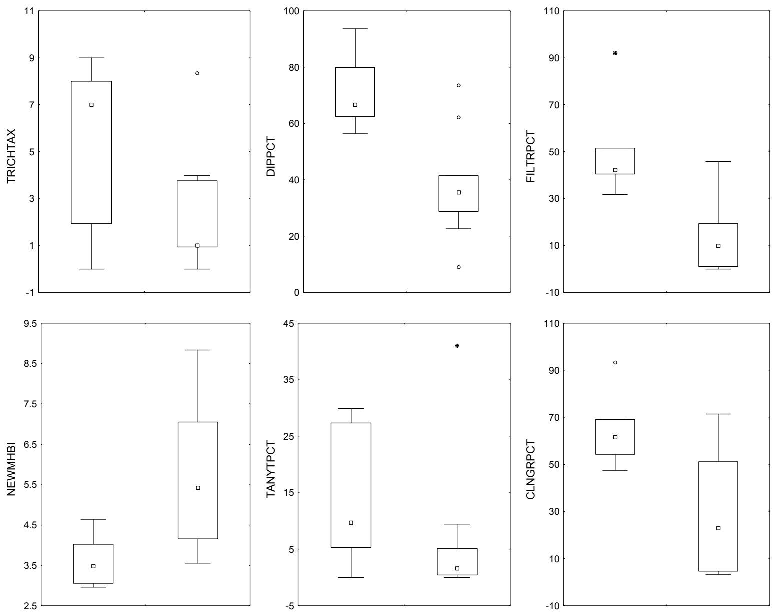


Figure E-9. Distribution of metric values among LDa (left boxes) and MD sites (right boxes) in the Northeast bioregion.

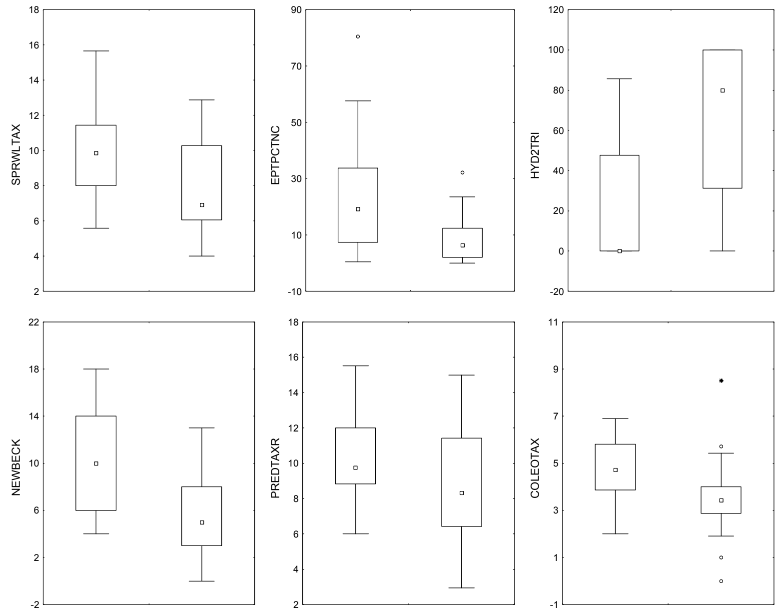


Figure E-10. Distribution of metric values among LDa (left boxes) and MD sites (right boxes) in the West bioregion.

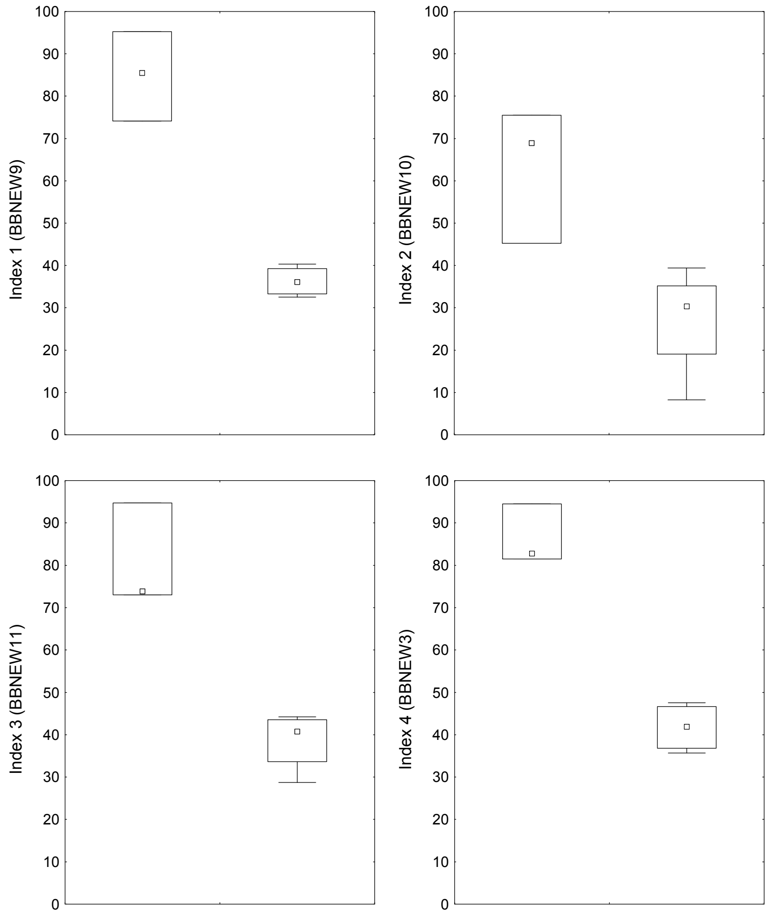


Figure E-11. Distribution of scores of candidate indices among LDa (left boxes) and MD sites (right boxes) in the Black Belt bioregion.

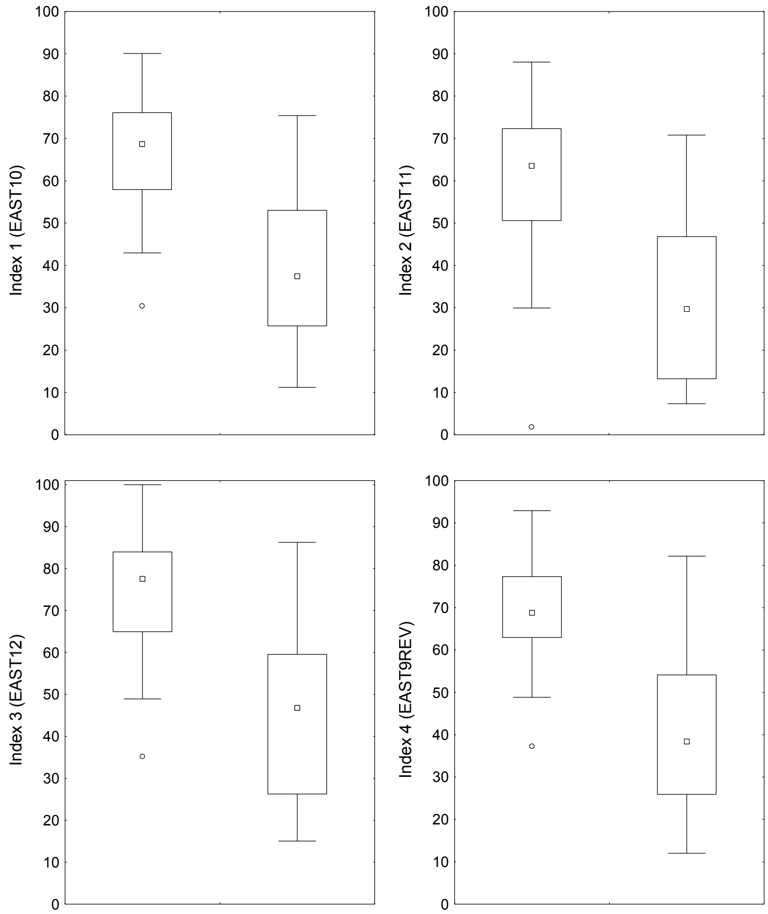


Figure E-12. Distribution of scores of candidate indices among LDa (left boxes) and MD sites (right boxes) in the East bioregion.

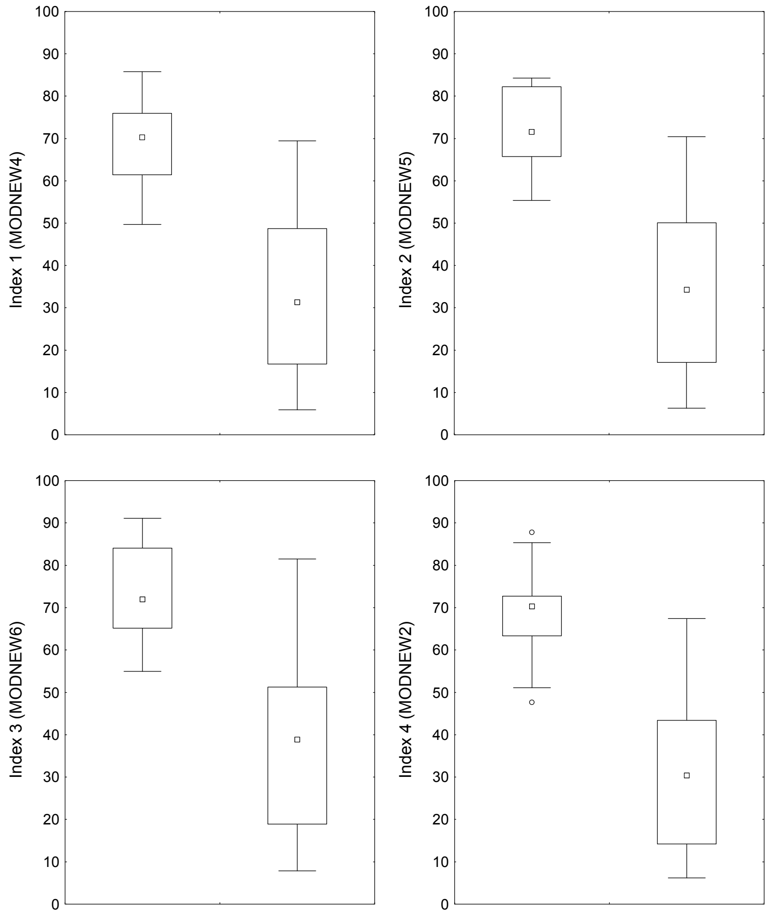


Figure E-13. Distribution of scores of candidate indices among LDa (left boxes) and MD sites (right boxes) in the Northwest bioregion.

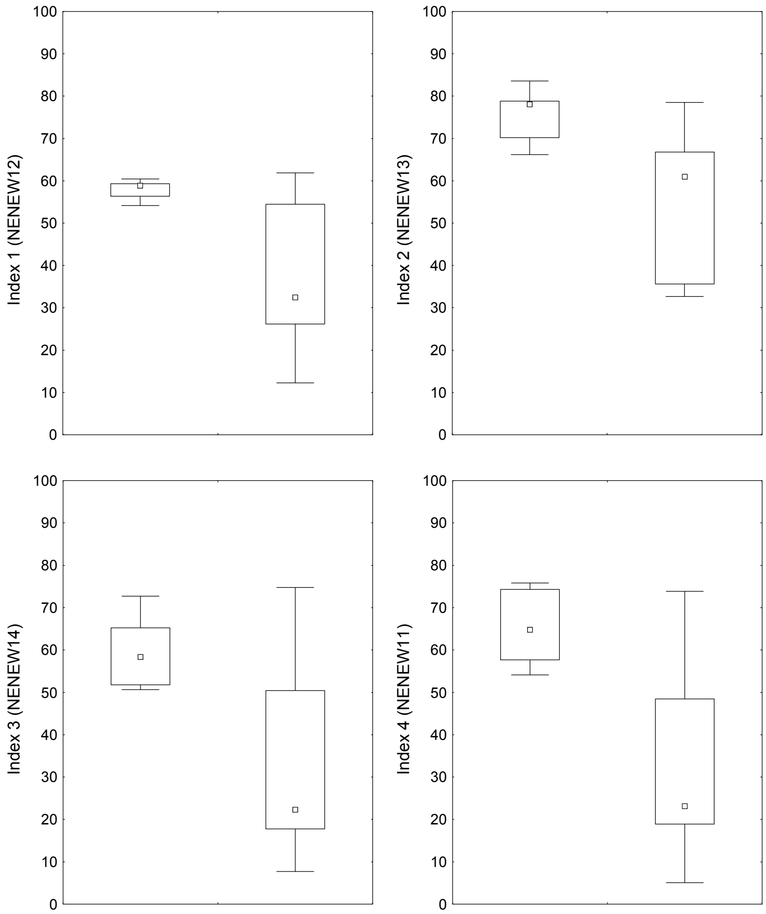


Figure E-14. Distribution of scores of candidate indices among LDa (left boxes) and MD sites (right boxes) in the Northeast bioregion.

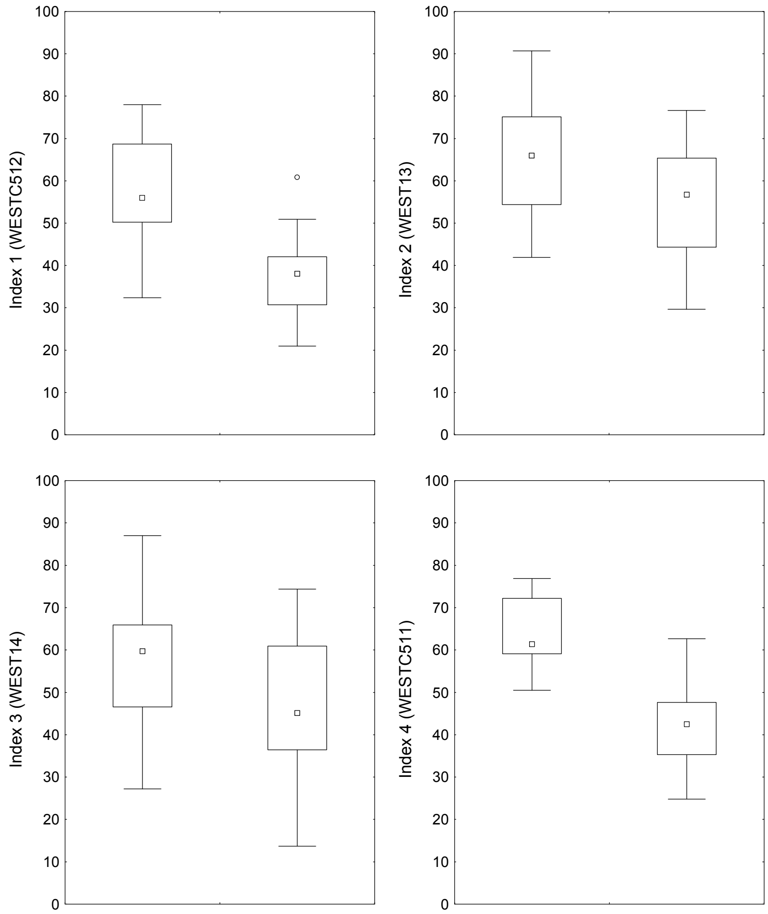


Figure E-15. Distribution of scores of candidate indices among LDa (left boxes) and MD sites (right boxes) in the West bioregion.

APPENDIX F

DATA TABLES

Table F-1. Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
1	Jackson Creek	nr Banks	34.860944	-90.196667	24	0.56	59.00	4	74a	NW
2	Johnson Creek	nr Walls @ Baldwin Rd.	34.914306	-90.131167	41	0.49	67.00	4	74a	NW
3	White's Creek	nr Banks @ Wetonga Lane	34.842778	-90.184528	9	0.51	67.00	4	74a	NW
5	Arkabutula Creek	nr Savage	34.644361	-90.180889	256	0.55	60.00	4	74a	NW
6	Strayhorn Creek	nr Savage (@Hwy 314)	34.604194	-90.207028	125	0.82	60.00	4	74a	NW
7	Horn Lake Creek	nr Southaven at State Line	34.983556	-90.057278	84	0.48	73.00	4	74b	NW
9	Hurricane Creek	nr Nesbit	34.873056	-90.000056	38	0.59	79.00	4	74b	NW
10	Camp Creek	nr Pleasant Hill	34.921306	-89.870417	84	0.42	91.00	4	74b	NW
11	Camp Creek Canal	nr Hernando	34.800000	-88.890417	2	1.13	152.00	10	65e	NW
13	Pigeon Roost Creek	nr Cockrum	34.830222	-89.821667	591	0.78	79.00	4	74b	NW
14	Short Fork Creek	nr Hernando	34.800889	-89.896000	46	0.59	77.00	4	74b	NW
15	Red Banks Creek	nr Cockrum	34.801528	-89.759083	95	0.78	86.00	4	74b	NW
16	Beartail Creek	nr Coldwater	34.733583	-89.926000	94	0.65	73.00	4	74b	NW
17	Arkabutla Creek	at Hogfoot Road	34.650528	-90.066194	193	0.51	64.00	4	74b	NW
18	Hickahala Creek	at Hwy 305	34.641306	-89.805139	114	0.73	89.00	4	74b	NW
19	Hickahala Creek	nr Senatobia	34.632111	-89.923083	317	0.75	77.00	4	74b	NW
20	James-Wolf Canal	at Hwy 4	34.614139	-89.819056	90	0.98	89.00	4	74b	NW
23	Senatobia Creek	at Hunter's Church Road	34.549139	-89.876806	48	0.81	89.00	4	74b	NW
24	Greasy Creek	at Childress Road	34.508333	-89.717778	32	1.21	76.00	10	65e	NW
26	Early Grove Creek	nr Slayden	34.974667	-89.376694	16	1.02	130.00	4	74b	NW
27	Mt. Tena Creek	nr Lamar	34.973500	-89.353000	22	0.90	136.00	4	74b	NW
28	Grays Creek	at Michigan City	34.970583	-89.274944	90	0.80	131.00	4	74b	NW
30	Coldwater River	at Hwy 311	34.876444	-89.494000	190	0.81	117.00	4	74b	NW
31	Oaklimeter Creek	at hwy 349	34.644222	-89.311972	117	1.34	104.00	10	65e	NW
32	Tippah River	at Hwy 78	34.665333	-89.307833	643	1.42	104.00	10	65e	NW
33	Oak Chewalla Creek	at Hwy 310	34.579917	-89.513083	49	1.37	80.00	10	65e	NW
34	Little Spring Creek	at Hwy 310	34.572139	-89.473528	68	1.30	75.00	10	65e	NW
35	Big Spring Creek	at Pott's Camp Road	34.635083	-89.396194	100	1.13	112.00	10	65e	NW
36	Grahm Mill Creek	nr Abbeyville	34.501444	-89.490583	25	1.31	91.00	10	65e	NW
37	Lee Creek	north of Abbeyville	34.512083	-89.488861	50	1.09	86.00	10	65e	NW
39	Mill Creek	nr Cornersville (CR18)	34.526806	-89.247306	51	1.38	91.00	10	65e	NW
40	Little Mud Creek	at Hwy 30	34.479944	-89.099944	32	0.80	103.00	10	65b	NW
41	Lockes Creek	at Hwy 30	34.469722	-89.137278	71	0.92	105.00	10	65b	NW

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
42	Unnamed Trib	near Etta at Hwy 355	34.429861	-89.186111	3	0.92	106.00	10	65b	NW
43	Berry Branch	nr College Hill	34.402500	-89.579000	13	1.64	101.00	10	65e	NW
44	Hurricane Creek	nr Hwy 7	34.457944	-89.543556	43	1.08	92.00	10	65e	NW
45	Puskus Creek	at Hwy 30	34.408194	-89.376222	14	1.40	122.00	10	65e	NW
46	Cypress Creek	at CR 244	34.475778	-89.262972	150	1.28	91.00	10	65e	NW
47	Little Tallahatchie River	at Hwy 30	34.480639	-89.221944	1352	0.84	72.00	10	65e	NW
48	Mitchell Creek	at Hwy 30	34.484639	-89.201056	30	1.02	91.00	10	65e	NW
49	Porters Creek	nr Hopewell	34.989361	-88.991833	14	1.41	152.00	10	65e	NW
50	Muddy Creek	at Tiplersville	34.892972	-88.898278	124	0.99	135.00	10	65b	NW
51	Shelby Creek	nr Whitten Town	34.775611	-89.082500	28	1.79	125.00	10	65e	NW
52	Little Hatchie River	nr Peoples	34.749000	-88.834528	72	0.85	147.00	10	65e	NW
55	Little Tallahatchie River	nr Molino	34.577667	-88.893611	62	1.85	121.00	10	65e	NW
56	Cane Creek	near New Albany	34.523083	-88.975111	77	1.03	107.00	10	65b	NW
58	Chambers Creek	at Kendrick	34.980722	-88.372889	12	0.83	129.00	1	65e	NE
60	Picken's Branch	nr Iuka (CR241)	34.856500	-88.193056	17	1.00	152.00	1	65j	NE
61	Bridge Creek	nr Corinth (Hwy 45)	34.893500	-88.546250	79	0.54	122.00	2	65a	BB
62	Elam Creek	at Corinth (Hwy 72)	34.924389	-88.519833	28	0.40	128.00	2	65a	BB
63	Caney Creek	nr Doskie	34.889944	-88.342722	23	1.64	141.00	1	65i	NE
64	Little Yellow Creek	nr Doskie	34.879056	-88.325806	47	1.53	140.00	1	65i	NE
65	unnamed trib to Tenn-Tom	nr Doskie (CR 274)	34.885639	-88.257306	16	1.88	142.00	1	65j	NE
66	Indian Creek	at Iuka	34.832306	-88.181083	18	0.70	152.00	1	65j	NE
67	Mill Creek	nr Iuka	34.827250	-88.140250	11	1.71	145.00	1	65j	NE
68	Parmicha Creek	nr Biggersville	34.842111	-88.529861	35	0.55	128.00	2	65a	BB
69	Little Cripple Deer Creek	nr Midway (CR 957)	34.734972	-88.196028	18	0.51	156.00	1	65j	NE
70	Pennywinkle Creek	nr Iuka (CR 995 (CR 163 on DeLorme))	34.743056	-88.155833	13	0.82	152.00	1	65j	NE
73	Cripple Deer Creek	nr State Line	34.674611	-88.171361	66	0.87	152.00	1	65j	NE
74	Bear Creek	nr Dennis	34.563167	-88.189278	65	0.76	148.00	1	65j	NE
75	Bear Creek	nr Tishomingo at Hwy 30	34.636667	-88.153383	108	0.97	148.00	1	65j	NE
76	unnamed trib to Cedar Creek	nr Tish. SP (CR 85)	34.605472	-88.149944	10	1.98	151.00	1	65j	NE
77	Donivan Creek	nr kirkville	34.521722	-88.547222	18	1.22	114.00	1	65b	NE
79	Rock Creek	at Natchez Trace	34.510111	-88.296639	52	1.42	118.00	1	65i	NE
80	Twentymile Creek	nr Pratts (100m DS from Natchez Trace crossing)	34.430972	-88.540000	376	0.75	91.00	1	65b	NE
81	Big Brown Creek	at Natchez Trace	34.493194	-88.436639	220	1.03	103.00	1	65b	NE

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
82	Little Brown Creek	at Natchez Trace	34.471722	-88.423944	136	1.06	98.00	1	65b	NE
83	Mackey's Creek	upstream from Walker's Bridge Landing	34.430972	-88.417222	56	0.85	106.00	1	65b	NE
85	Hotopha Creek	at Hwy 35	34.363361	-89.878306	93	1.02	67.00	4	74b	NW
86	Clear Creek	at Hwy 6	34.353250	-89.656500	23	1.34	91.00	10	65e	NW
87	Hudson Creek	at Hwy 6	34.356194	-89.676806	23	0.75	91.00	10	65e	NW
88	Toby Tubby Creek	nr Oxford	34.420611	-89.613861	82	1.08	72.00	10	65e	NW
89	McIvor Canal	at Curtis Road (at light Barnical Road)	34.370556	-90.030472	166	0.68	62.00	4	74b	NW
91	Long Creek	at Benson Road	34.214528	-89.980361	203	0.75	61.00	4	74b	NW
92	Long Creek	at Eureka Road	34.236389	-89.847444	24	0.72	87.00	4	74b	NW
93	Bynum Creek	at Hwy 315	34.227667	-89.739250	33	0.95	85.00	10	65e	NW
96	unnamed trib to Yocona River	at Crowder Pope Road	34.172556	-90.036167	10	0.50	60.00	4	74a	NW
98	Otoucalofa Creek	nr Water Valley (Hwy 315)	34.140528	-89.635472	217	1.06	74.00	10	65e	NW
99	Town Creek	at Water Valley	34.144250	-89.639167	10	1.20	85.00	10	65e	NW
101	N Fk Tillatoba Creek	at Hwy 35 (at Teasdale Rd.)	34.036833	-90.051972	117	0.90	54.00	4	74a	NW
102	Tillatoba Creek	at Hwy 35	33.998861	-90.063500	280	0.99	52.00	4	74a	NW
103	Turkey Creek	nr Coffeeville at Hwy 330	33.969483	-89.662283	178	1.03	70.00	10	65e	NW
104	Ascalmore Creek	at Hwy 35 (At Ascalmore Creek Rd.)	33.920194	-90.054889	74	1.31	56.00	4	74a	NW
105	Okachickima Creek	nr Bryant	33.930033	-89.724933	19	1.65	70.00	10	65e	NW
106	Cypress Creek	at Hwy 7	33.961550	-89.698056	54	1.24	70.00	10	65e	NW
107	Organ Creek	at Hwy 7	33.900633	-89.778233	46	1.47	70.00	10	65e	NW
108	Lappatubby Creek	at CR 47	34.383222	-89.098222	177	0.55	101.00	10	65b	NW
109	Mud Creek	at Hwy 346	34.358639	-89.128250	70	0.62	104.00	10	65b	NW
110	Duncans Creek	at CR 836	34.337556	-89.152694	24	0.88	110.00	10	65b	NW
111	Burney Branch	nr Oxford	34.288556	-89.507889	38	1.18	97.00	10	65e	NW
112	Yocona River	at Hwy 7	34.274222	-89.518417	190	1.36	86.00	10	65e	NW
113	Duncan's Creek	at Hwy 346	34.328583	-89.236556	3	0.78	132.00	10	65e	NW
114	Yocona River	at Hwy 331	34.259528	-89.357111	313	0.94	107.00	10	65e	NW
115	Turkey Creek	nr Pine Valley (@ Turkey Creek Rd.)	34.038500	-89.601611	80	0.96	86.00	10	65e	NW
116	Skuna River Canal	at Hwy 32	34.053278	-89.096111	175	0.58	89.00	10	65b	NW
117	Persimmon Creek	nr Bruce	34.015833	-89.426750	60	1.29	91.00	10	65e	NW
118	Lucknuck Creek	at Hwy 32	34.054278	-89.260694	70	0.97	86.00	10	65e	NW
119	Skuna River Canal	at Hwy 9	33.975361	-89.344028	604	0.78	80.00	10	65e	NW
120	Cowpen Creek	nr Old Hwy 8 (CR 61) (@ Old State Hwy 8)	33.836222	-89.598222	13	1.85	71.00	10	65e	NW

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
121	Johnson-Coles Creek	at Old Hwy 8	33.839472	-89.482111	17	1.16	77.00	10	65d	NW
123	Lappatubby Creek	at Hwy 15 nr Ecru	34.344806	-89.032083	116	0.66	110.00	10	65b	NW
126	unnamed trib to Town Creek	at Tupelo	34.249667	-88.708028	40	0.55	80.00	2	65a	BB
127	Goodfood Creek	nr Goodfood	34.111972	-88.935889	10	1.05	118.00	10	65e	NW
129	Tallabinella Creek	at Natchez Trace	34.102778	-88.860250	22	1.05	107.00	2	65a	BB
131	Tubbalubba Creek	nr Pine Grove (150m DS from Alt Hwy 45 crossing)	34.076556	-88.699278	34	0.72	76.00	2	65a	BB
133	Town Creek	at Hwy 45 nr Amory	34.056667	-88.621917	1606	0.76	61.00	2	65a	BB
135	Chuquatonchee Creek	at CR 406	33.886472	-88.794306	340	1.06	80.00	2	65a	BB
136	Twentymile Creek	nr Mantachie	34.396111	-88.471667	408	0.75	86.00	1	65b	NE
137	Cummings Creek	at Cumming Street	34.283611	-88.407000	68	1.08	86.00	1	65b	NE
140	Mantachie Creek	at Peppertown Road	34.229000	-88.455056	170	0.83	80.00	1	65b	NE
141	Green Creek	at Van Buren Road	34.174278	-88.405861	15	1.24	74.00	1	65b	NE
142	Greenwood Creek	nr Evergreen (300m US from Cummings Rd crossing near Evergreen)	34.169667	-88.516639	19	0.61	87.00	1	65b	NE
143	Bull Mnt Creek	at Horn's Crossing Creek	34.183111	-88.308361	379	1.48	87.00	1	65i	NE
146	unnamed trib to Bull Mnt Creek	at Hwy 23	34.118250	-88.314583	16	1.78	91.00	1	65i	NE
149	Weaver Creek	at Becker (200m US of Hwy 25 road crossing)	33.943917	-88.486417	108	1.89	65.00	1	65p	NE
151	Mattuby Creek	at Hwy 45	33.870667	-88.598250	237	0.58	62.00	2	65a	BB
152	Wolf Creek	nr Aberdeen	33.899361	-88.575694	46	0.53	74.00	1	65b	NE
153	Halfway Creek	at Greenbriar Road	33.904500	-88.447556	33	1.69	75.00	1	65b	NE
155	Big Sand Creek	nr Greenwood	33.520750	-90.050472	297	1.37	48.00	4	74b	NW
156	Riverdale Creek	nr Grenada	33.802983	-89.809817	49	1.09	55.00	4	74b	NW
157	Batupan Bogue	at Hwy 8	33.768222	-89.782000	617	1.61	55.00	4	74b	NW
158	Cane Creek	nr Holcomb	33.733067	-89.968900	52	1.03	67.00	4	74b	NW
159	Potacocowa Creek	at Hwy 35	33.654083	-89.956750	124	1.28	55.00	4	74b	NW
160	Pelucia Creek	at Airport Road	33.495250	-90.062583	169	1.60	59.00	4	74b	NW
161	Abiaca Creek	at Pine Bluff Road	33.340556	-90.150722	256	1.34	60.00	5	74b	WEST
162	Coila Creek	at Blackhawk Road	32.373833	-90.875333	100	1.23	59.00	6	74a	WEST
163	Hays Creek	nr Vaiden	33.340667	-89.729361	224	0.81	91.00	5	74b	WEST
164	Peachahala Creek	nr Vaiden	33.262972	-89.744139	129	1.07	82.00	5	74b	WEST
165	Butputter Creek	nr Gore Springs	33.772150	-89.589400	20	2.09	78.00	10	65d	NW
166	Topashaw Creek Canal	at Hwy8/9 (175m US from CR 481)	33.804611	-89.313444	253	1.35	76.00	10	65d	NW
167	Little Topishaw Creek	nr Hohenlinden	33.723917	-89.174944	21	1.52	102.00	10	65d	NW
168	Redgrass Creek	at Redgrass Road	33.747717	-89.651700	15	1.36	80.00	10	65d	NW

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
169	Horse Pen Creek	at Cadaretta Road	33.742317	-89.495417	41	1.40	81.00	10	65d	NW
170	Sabougla Creek Canal	nr Dentontown	33.737883	-89.472433	215	1.59	83.00	10	65d	NW
171	Wolf Creek	at CR 252	33.547778	-89.490167	20	1.32	116.00	3	65d	EAST
172	Little Black Creek	nr Eupora (200 m US from Hwy 82 Rd. crossing)	33.528722	-89.253389	82	1.21	110.00	3	65d	EAST
173	Calabrella Creek	nr Pellez (200 m from CR 65 crossing)	33.522917	-89.397972	111	1.46	107.00	3	65d	EAST
174	Lewis Creek	nr Winona	33.394694	-89.641944	76	0.95	95.00	3	65d	EAST
175	Mulberry Creek	nr Sibleyton (~100m US from Salem Rd crossing)	33.527111	-89.546750	32	1.02	113.00	3	65d	EAST
176	Wolf Creek	nr Sibleyton (350 m DS of Hwy 82 Rd crossing)	33.436917	-89.511056	109	1.22	101.00	3	65d	EAST
177	Big Bywy Canal		33.442000	-89.430333	473	1.31	101.00	3	65d	EAST
178	McCurtain Creek	nr Eupora (150 m nr. Eupora)	33.433194	-89.377556	104	1.71	106.00	3	65d	EAST
179	Poplar Creek	nr Poplar Springs (150m US from Watson Rd. crossing)	33.385944	-89.557222	197	1.15	100.00	3	65d	EAST
180	unnamed trib to Poplar Creek	at Hwy 407	33.314417	-89.479694	15	1.55	122.00	3	65d	EAST
181	Topashaw Creek Canal	nr Atlanta (250m US from CR 471 crossing)	33.768250	-89.205417	119	1.60	89.00	10	65d	NW
182	Houlka Creek	at Siloam-Una Road	33.741944	-88.767500	563	0.82	61.00	10	65b	NW
183	Sand Creek	at Hwy 46	33.676389	-88.897111	14	1.41	76.00	3	65b	EAST
184	Spring Creek	nr Sapa (200m US of CR 132)	33.572639	-89.152611	56	0.76	116.00	3	65d	EAST
185	Line Creek	at Hwy 50	33.597861	-88.822000	420	0.75	59.00	3	65b	EAST
187	Long Branch	nr Oktibbeha Co. Lake (200m DS of Wade Rd.)	33.512278	-88.917056	19	0.47	71.00	3	65b	EAST
188	Trim Cane Creek	at Hwy 389 nr Starkville	33.519194	-88.842500	271	0.69	61.00	2	65a	BB
190	Hollis Creek	at New Prospect Road (150m DS of Poorhouse Rd. crossing)	33.401333	-88.828222	8	0.78	91.00	2	65a	BB
191	Cypress Creek	at Hwy 25	33.327944	-88.904361	112	0.76	71.00	3	65b	EAST
193	James Creek	nr Aberdeen	33.788694	-88.535000	101	0.54	56.00	2	65a	BB
195	Hang Kettle Creek	at Strong Road (@ Basinger Rd.)	33.695528	-88.566861	25	0.49	64.00	2	65a	BB
196	Spring Creek	nr Strong	33.695306	-88.556389	14	0.58	66.00	2	65a	BB
197	McKinley Creek	at Hwy 45	33.717028	-88.446056	93	1.33	53.00	1	65p	NE
198	Town Creek	at Vinton Road	33.668000	-88.580694	39	0.54	58.00	2	65a	BB
200	Town Creek	at West Point at Old Tibbie Road	33.569472	-88.643111	21	0.27	60.00	2	65a	BB
202	Spring Creek	nr Stephen	33.572694	-88.563000	19	0.36	58.00	2	65a	BB
204	Cooper Creek	nr Steens	33.601778	-88.307056	43	1.04	55.00	1	65b	NE
205	Yellow Creek	above Lux confluence at Gunshot Road	33.575361	-88.314444	74	1.11	46.00	1	65b	NE
206	Yellow Creek	at Lynn Creek Road	33.179917	-88.748750	93	1.24	67.00	3	65b	EAST
207	Catalpa Creek	nr Clay/Lowndes Co. line	33.498972	-88.618667	280	0.68	56.00	2	65a	BB
209	McCrary Creek	at Columbus	33.487333	-88.390833	47	0.63	49.00	1	65b	NE

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
210	South Branch	at Black Prairie WMA off Hwy 45	32.366889	-88.532583	53	0.53	59.00	3	65d	EAST
214	Kincaid Creek	at Hwy 69	33.356833	-88.303650	2	0.85	58.00	1	65i	NE
216	James Creek	at Hwy 792	33.288900	-88.445366	73	0.41	55.00	2	65a	BB
218	Harland Creek	at New Hope Road	33.100528	-90.173500	161	1.26	55.00	6	74a	WEST
219	Tesheva Creek	nr Eden	32.977667	-90.299056	163	1.40	41.00	6	74a	WEST
220	Piney Creek	at Rebecca Road	32.912500	-90.351528	172	1.39	52.00	6	74a	WEST
221	Short Creek	at Hwy 3 (Short Ck Rd.)	32.792278	-90.409250	37	1.47	56.00	6	74a	WEST
222	Cypress Creek	nr Myrleville	32.755417	-90.226333	43	0.76	78.00	5	74b	WEST
223	#N/A	#N/A	32.714217	-90.205650	30	0.45	74.00	5	74b	WEST
224	#N/A	#N/A	32.737444	-90.496056	119	1.84	35.00	6	74a	WEST
225	Perry Creek	nr Tinsley	32.722583	-90.472083	47	1.77	44.00	6	74a	WEST
226	#N/A	#N/A	32.664444	-90.316667	19	1.05	62.00	5	74b	WEST
227	#N/A	#N/A	32.671111	-90.301528	94	0.94	60.00	5	74b	WEST
228	Fannegusha Creek	north of Hwy12	33.191639	-90.133639	228	1.19	54.00	6	74a	WEST
229	Bophumpa Creek	at Hwy 17	33.204611	-90.042278	30	1.25	73.00	5	74b	WEST
230	Fannegusha Creek	at Hwy 17	33.226500	-90.039528	99	1.13	75.00	5	74b	WEST
231	Black Creek	nr Lexington	33.117194	-90.123222	271	1.40	50.00	6	74a	WEST
232	Fannegusha Creek	nr Howard	33.138750	-90.192500	280	1.37	45.00	6	74a	WEST
233	Howard Creek	nr Durant	33.125778	-89.829278	25	1.19	84.00	5	74b	WEST
234	Apookta Creek	nr Durant	33.113222	-89.764278	242	1.21	82.00	3	65d	EAST
235	Jourdan Creek	nr Durant	33.167778	-89.801592	47	1.05	79.00	5	74b	WEST
236	Indian Creek	nr Vaiden	33.098472	-89.850167	5	0.84	82.00	5	74b	WEST
237	Box Creek/Green's Creek	nr Goodman	32.981361	-89.911972	60	1.03	71.00	5	74b	WEST
238	Long Creek	nr Sallis	33.014389	-89.832528	154	0.98	75.00	3	65d	EAST
239	Tackett Creek	nr Pickens	32.912944	-89.973944	31	0.82	72.00	5	74b	WEST
240	Senesha Creek	nr Goodman (@CR 4002)	32.922917	-89.798222	120	1.45	75.00	3	65d	EAST
241	Big Cypress Creek	at Hwy 432	32.880028	-90.058222	148	0.72	75.00	5	74b	WEST
242	Rambo Creek	nr Madison/Leake Co. Lin	32.876333	-89.735556	15	1.42	91.00	3	65d	EAST
243	Ellison Creek	at Fowler Road	32.771583	-90.105611	34	0.63	73.00	5	74b	WEST
244	Hobuck Creek	at Stump Bridge Road (150m US of bridge)	32.753667	-89.925917	88	0.74	70.00	5	74b	WEST
247	Scoobachita Creek	nr Hwy 35	33.222194	-89.623611	58	1.43	98.00	3	65d	EAST
248	Zilpha Creek	nr Vaiden	33.233611	-89.694139	244	1.30	86.00	3	65d	EAST

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
249	Yockanookany River	at Hyw 411	33.201389	-89.354056	351	0.98	125.00	3	65d	EAST
250	Lobutcha Creek	at Bethany Ebeneezer Road	33.104806	-89.248972	98	1.11	134.00	3	65d	EAST
251	Cole Creek	at Cole Creek Road	33.153333	-89.444944	73	1.11	120.00	3	65d	EAST
252	Tibby Creek	at Hwy 407	32.213333	-89.326778	135	0.96	132.00	8	65r	EAST
253	Atwood Creek	nr Kosciusko	33.086806	-89.685806	39	1.52	92.00	3	65d	EAST
254	Lobutcha Creek	at Hwy 19	32.981611	-89.382972	352	1.22	126.00	3	65d	EAST
255	Jofuska Creek	at Hwy 19	32.897222	-89.221028	30	1.91	122.00	3	65d	EAST
256	Lobutcha Creek	at Mars Hill Road (moved to Hwy 125)	32.863667	-89.443028	640	1.26	110.00	3	65d	EAST
257	Lukfapa Creek	nr Edinburg	32.861972	-89.272194	41	1.92	115.00	3	65d	EAST
259	Tuscotameta Creek	nr Tuckers Crossing	32.651806	-89.569722	1304	0.81	101.00	8	65d	EAST
261	unnamed trib to Pearl River	at Carthage (Blanch Road)	32.720083	-89.534472	22	1.16	104.00	8	65d	EAST
262	Standing Pine Creek	at Hwy 488	32.696944	-89.439083	140	1.16	106.00	8	65d	EAST
263	Noxubee River	at Sturgis Road (75m US from Pigeon Roost bridge crossing)	33.248889	-89.094167	40	2.12	120.00	3	65d	EAST
265	Hughes Creek	nr Louisville	33.063972	-89.044528	29	0.52	137.00	3	65d	EAST
268	Tallahaga Creek	at Hwy 490	32.989222	-89.014861	226	0.74	128.00	3	65d	EAST
269	Noxapater Creek	nr Stallo	32.918583	-89.069389	120	0.90	121.00	3	65d	EAST
272	Pinishook Creek	nr Arlington	32.883389	-89.160944	95	1.25	121.00	3	65d	EAST
273	Owl Creek	at Hwy 491 (at Hwy 21)	32.851450	-88.944800	50	0.67	128.00	3	65d	EAST
275	unnamed trib to Kentawka Canal	at Frog Level Road	32.787139	-89.198028	22	1.49	113.00	3	65d	EAST
276	Land Creek	at Hwy 495	32.773500	-88.851033	28	0.59	143.00	3	65d	EAST
280	Macedonia Creek	at Hwy 45	33.034950	-88.565000	136	1.73	46.00	3	65b	EAST
281	Plum Creek	nr Macon	33.102933	-88.523283	69	0.29	52.00	2	65a	BB
282	Bogue Chitto Creek	nr Dinsmore	33.093389	-88.302433	127	0.46	40.00	2	65a	BB
284	Shuqualak Creek	nr Calyx	32.963700	-88.461750	98	0.52	42.00	3	65b	EAST
285	Ash Creek	at Paulette Road	32.984117	-88.369500	17	0.56	46.00	2	65a	BB
286	Woodward Creek	at MS/AL state line	32.989267	-88.344950	110	0.51	44.00	3	65b	EAST
287	Wahalak Creek	at old Hwy 45	32.895817	-88.538183	75	1.56	57.00	3	65b	EAST
288	Straight Creek	at Hwy 39	32.838650	-88.660433	27	2.61	99.00	3	65d	EAST
289	Shy Hammock Creek	at Hwy 16	32.832450	-88.396100	35	0.48	55.00	3	65b	EAST
290	Bodka Creek	nr Electric Mills	32.761533	-88.451700	63	0.37	52.00	3	65b	EAST
291	Bliss Creek	at Hwy 61	32.425171	-90.823304	28	2.53	36.00	6	74a	WEST
292	Clear Creek	nr Bovina	32.365217	-90.728267	80	1.22	40.00	6	74a	WEST

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
293	Hamer Bayou	nr Vicksburg	32.177056	-90.807389	29	1.78	30.00	5	74b	WEST
295	Big Sand Creek	at Nathcez Trace	32.116500	-90.765917	62	1.92	30.00	6	74a	WEST
296	Beaver Creek	nr Mechanicsburg	32.561567	-90.496050	26	1.53	59.00	6	74a	WEST
297	Bogue Chitto Creek	nr Nevada	32.432167	-90.331750	80	0.70	61.00	5	74b	WEST
298	Limekiln Creek	at Hwy 49 (nr Pochahontas)	32.464367	-90.288017	89	1.00	64.00	5	74b	WEST
299	Cox Creek	nr Edwards	32.469433	-90.521833	39	0.82	52.00	5	74b	WEST
300	Porter Creek	nr Edwards	32.451944	-90.539194	40	0.91	50.00	5	74b	WEST
301	Bear Creek	nr Youngton	32.437200	-90.637100	78	1.29	44.00	6	74a	WEST
302	unnamed trib to Pearl River	at Southport	32.286944	-90.219306	30	0.60	84.00	5	74b	WEST
303	Bakers Creek	nr Edwards	32.271861	-90.604333	366	0.71	36.00	5	74b	WEST
304	Fourteen Mile Creek	nr Edwards	32.263417	-90.620194	617	0.69	36.00	5	74b	WEST
305	Big Creek	at Terry Road	32.177556	-90.273833	65	0.52	80.00	5	74b	WEST
306	Five Mile Creek	nr Newman	32.215667	-90.691750	109	1.08	29.00	5	74b	WEST
307	Rhodes Creek	nr Rosemary	32.105750	-90.284222	88	0.68	76.00	7	74c	WEST
309	Tilda Bogue Creek	nr Canton (US from bridge on Hwy 16)	32.660111	-90.035889	63	0.90	59.00	5	74b	WEST
310	Fannegusha Creek	at Hwy 25	32.530167	-89.826000	171	0.45	91.00	8	65r	EAST
311	Coffee Bogue	at Hwy 25	32.581111	-89.732806	208	0.36	90.00	8	65r	EAST
312	Hurricane Creek	at Fleming Road	32.494139	-89.773306	28	0.51	94.00	8	65r	EAST
313	Red Cane Creek	at Weaver Road	32.480028	-89.789028	20	0.59	98.00	8	65r	EAST
315	Hanging Moss Creek	at Jackson (Ridgewood Rd. @ Chatham Village Apts.)	32.364278	-90.140111	46	0.58	82.00	5	74b	WEST
316	Eutaeutachee Creek	at Hwy 80	31.308139	-89.839861	68	1.01	106.00	7	65f	EAST
317	Richland Creek	at Old Pearson Road (W. Petros Rd)	32.233278	-90.118083	306	0.69	83.00	5	74b	WEST
318	Steen Creek	nr Sinai (@ White St/White Rd.)	32.113611	-90.187861	211	0.77	74.00	5	74b	WEST
319	Strong River	at Hwy 541	32.122000	-89.714083	462	0.73	98.00	8	65d	EAST
321	Schockaloe Creek	at Pea Ridge Road	32.572361	-89.480778	156	0.48	107.00	8	65d	EAST
322	Sipsey Creek	at Hwy 21	32.541556	-89.356833	192	1.04	113.00	8	65d	EAST
323	Tallabogue Creek	nr Hwy 35/ at King Road	32.488500	-89.457694	103	0.54	118.00	8	65d	EAST
324	Hontokalo Creek	at Hwy 21	32.517306	-89.397778	148	0.69	113.00	8	65d	EAST
325	Conehatta Creek	at Hwy 489	32.416667	-89.275583	134	0.93	119.00	8	65d	EAST
326	Sugar Bogue	at Hwy 13	32.443222	-89.652000	23	0.25	128.00	8	65r	EAST
327	Ford's Creek	at Hwy 61	31.191444	-91.289444	44	1.58	43.00	7	74c	WEST
328	Cedar Creek	nr Theadville (at Morton Marathon Road)	32.201639	-89.300139	19	0.87	122.00	8	65r	EAST

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
329	West Tallahalla Creek	(@ Morton Marathon Rd.)	32.201972	-89.316194	64	0.66	115.00	8	65r	EAST
330	Caney Creek	at Hwy 481	32.203332	-89.599139	86	0.59	114.00	8	65r	EAST
331	Okatibbee Creek	nr Rio	32.602028	-88.839833	83	1.38	115.00	3	65d	EAST
332	Houston Creek	nr Rio	32.603028	-88.861111	32	1.07	119.00	3	65d	EAST
335	Potterchitto Creek	at Hwy 503	32.310139	-89.026056	319	0.91	94.00	8	65d	EAST
336	Chunky River	at Chunky	32.327028	-88.908250	963	1.14	80.00	3	65d	EAST
337	Okatibbee Creek	at Meridian at Old Hwy 80	32.351861	-88.755417	608	1.25	87.00	3	65d	EAST
338	#N/A	#N/A	32.344417	-88.726444	190	1.50	87.00	3	65d	EAST
339	Okatibbee Creek	nr Arundel (east of Arundel)	32.299722	-88.753667	883	1.38	85.00	3	65d	EAST
341	Chunky River	nr Enterprise (@ Dunns Falls)	32.229306	-88.821611	1330	1.32	80.00	3	65d	EAST
343	Bostick Branch	at Stonewall Burlington Denim Plant	32.131306	-88.791889	3	0.59	76.00	8	65d	EAST
344	Big Red Creek	nr Meridian AFB	32.557583	-88.530667	42	1.19	65.00	3	65d	EAST
345	Blackwater Creek	at Moore Road	32.641483	-88.537900	124	1.59	66.00	3	65d	EAST
346	Piwticfaw Creek	at Hwy 45	32.648167	-88.497611	247	1.75	58.00	3	65d	EAST
348	Alamuchee Creek	at MS/AL state line	32.366222	-88.415444	78	1.92	61.00	3	65d	EAST
349	Irby Mill Creek	at BW Johnson Road	32.180306	-88.584694	10	2.02	118.00	3	65d	EAST
350	Long Creek	nr Sykes at Hwy 18	32.096889	-88.611861	194	1.86	87.00	8	65d	EAST
353	Annas Bottom	at Quitman Road	31.678417	-91.366167	8	3.05	28.00	6	74a	WEST
354	Fairchild's Creek	at Churchhill Road	31.690278	-91.292444	63	1.47	30.00	6	74a	WEST
355	St. Catherine Creek	nr Nathcez	31.517972	-91.405361	188	1.42	30.00	6	74a	WEST
356	Kennison Creek	nr Willows	32.064694	-90.920444	19	1.94	45.00	6	74a	WEST
357	Bayou Pierre (downstream)	at Hwy 18	32.001083	-90.686583	971	1.33	44.00	7	74c	WEST
358	unnamed trib to Bayou Pierre	nr Carlisle	31.993389	-90.790222	21	0.97	47.00	7	74c	WEST
359	James Creek	at Rodney Road	31.941944	-91.120500	59	1.82	30.00	6	74a	WEST
360	Little Bayou Pierre	at Hwy 18 (Natchez Trace)	31.953889	-90.959306	760	1.12	22.00	7	74c	WEST
362	Dowd Creek	at Rodney Road	31.845361	-91.147222	10	2.25	60.00	6	74a	WEST
363	South Fork Coles Creek	at CR 553	31.743639	-91.183694	269	1.69	28.00	7	74c	WEST
364	North Fork Coles Creek	at Frazier Road (Stonington Rd.)	31.755111	-91.017833	95	1.61	45.00	7	74c	WEST
365	Middle Fork Homochitto River	nr Perth	31.621222	-90.913139	72	1.32	91.00	7	74c	WEST
367	Fifteen Mile Creek	at Fifteen Mile Creek Road	31.575500	-90.804183	46	1.40	91.00	7	74c	WEST
368	White Oak Creek	at Carpenter	32.029889	-90.676806	505	0.98	45.00	7	74c	WEST
369	Tallahalla Creek	at Hwy 27	32.082417	-90.596667	185	0.89	48.00	7	74c	WEST

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
370	Turkey Creek	at Dentville Road	31.949167	-90.519222	95	1.57	69.00	7	74c	WEST
371	Brushy Creek	at Hwy 27	31.936889	-90.216028	61	1.42	70.00	7	74c	WEST
373	Bayou Pierre (upstream)	at Old Port Gibson Road	31.868944	-90.491556	405	1.21	67.00	7	74c	WEST
375	Bahala Creek (Russell Creek)	nr Sand Hill (@ Martinsville Rd.)	31.764694	-90.355778	20	1.22	91.00	7	74c	WEST
376	Little Bahala Creek	Timberlane Road	31.693778	-90.256944	115	1.18	81.00	7	65d	EAST
378	Bogue Chitto	at Hwy 84	31.546920	-90.461437	9	0.50	121.00	7	74c	WEST
379	Dabbs Creek	at Gum Springs Road	31.998500	-89.890722	160	0.88	86.00	8	65d	EAST
380	Campbell Creek	at Campbell's Creek (Rd.)	32.011361	-89.881306	143	0.90	85.00	8	65d	EAST
381	Limestone Creek	Old River Road (125 m US of Old River Road)	31.882917	-90.119167	98	1.18	71.00	7	65d	EAST
382	Big Creek	at Bearcat Road	31.905611	-90.042778	109	1.13	83.00	7	65d	EAST
383	Riles Creek	at Hwy 43	31.925389	-89.910306	67	1.72	79.00	7	65d	EAST
384	Riles Creek	at Lee Boggan Road	31.889417	-89.852972	33	1.52	112.00	7	65d	EAST
385	Copiah Creek	at Hwy 27	31.846889	-90.165361	195	1.46	60.00	7	74c	WEST
387	Skiffer Creek	nr Jaynesville (200 m of Mt. Olive Rd crossing)	31.770750	-89.774667	27	1.08	157.00	8	65d	EAST
388	Pegies Creek	north of Oma (150m US of Hwy 27)	31.759167	-90.151528	29	1.08	69.00	7	65d	EAST
390	Bahala Creek	south of Oma (200m US from Unnamed road)	31.690778	-90.124333	404	1.10	60.00	7	65d	EAST
393	#N/A	#N/A	31.645056	-89.755611	154	1.22	107.00	8	65d	EAST
394	Dry Creek	at Hwy 84	31.640611	-89.727417	44	1.09	106.00	8	65d	EAST
395	Fair River	at Hwy 27	31.617972	-90.130861	267	1.33	58.00	7	65d	EAST
396	Pretty Branch	nr Ferguson (150m US of Mill Rd. crossing)	31.635389	-90.063528	65	1.38	80.00	7	65d	EAST
397	Halls Creek	at Hwy 587	31.534806	-90.099444	113	1.34	60.00	7	65d	EAST
398	Silver Creek	at Hwy 43	31.516417	-90.032500	418	1.56	56.00	7	65d	EAST
399	Oakahay Creek	nr. Raleigh at Hwy 18	32.048889	-89.571639	145	0.82	112.00	8	65d	EAST
400	Leaf River	nr Sylvareena at Hwy 18	32.013528	-89.432972	367	1.20	86.00	8	65d	EAST
401	West Tallahala	nr Sylvareena at Smith Co 99	32.021444	-89.320167	352	0.72	89.00	8	65d	EAST
403	Keys Mill Creek	nr Leaf River	31.917667	-89.403444	10	2.28	88.00	8	65d	EAST
404	Okatoma Creek	nr Mt. Olive (250m US of Cherry Bridge Rd.)	31.766500	-89.660694	249	1.12	94.00	8	65d	EAST
405	Leonards Mill Creek	nr Mt. Olive (75-100m US of Rock Hill Rd crossing)	31.740444	-89.651722	11	1.81	108.00	8	65d	EAST
406	Oakahay Creek	nr. Hot Coffee on Hwy 37	31.744167	-89.444944	639	1.17	59.00	8	65d	EAST
407	Okatoma Creek	nr Collins at Hwy 84	31.652472	-89.558861	424	1.21	73.00	8	65d	EAST
408	Oakey Woods Creek	at Hwy 588	31.619333	-89.348833	145	1.29	54.00	8	65d	EAST
409	West Bouie Creek	at Sumrail Road	31.545028	-89.630000	75	1.04	62.00	8	65d	EAST

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
410	Souinlovey Creek	nr Pachuta at Hwy 513	32.171028	-88.932694	230	1.02	102.00	8	65d	EAST
412	Castaffa Creek	at Hwy 11 nr Barnett	31.976778	-88.908111	17	2.16	99.00	8	65r	EAST
413	Tallahala Creek	nr Heidleberg (@ Hwy 528)	31.966361	-89.115194	262	1.24	101.00	8	65d	EAST
414	Horse Branch	nr Heidleberg	31.867611	-89.011222	8	1.03	101.00	8	65d	EAST
416	Tallahoma Creek	nr Moss	31.797722	-89.174778	304	1.09	70.00	8	65d	EAST
417	Tallahala	nr Laurel	31.657167	-89.137972	635	1.19	60.00	8	65d	EAST
418	Buckatunna Creek	nr Sykes at Hwy 18 (@ Hwy 514)	32.162667	-88.578972	185	1.48	99.00	3	65d	EAST
419	Chickasawhay River	at DeSoto	31.975806	-88.705472	3310	1.30	61.00	8	65d	EAST
420	Five Mile Creek	nr Crandall	31.941833	-88.521778	29	0.96	81.00	8	65d	EAST
421	Hortons Mill Creek	at Boice and Hwy 45	31.744278	-88.651972	16	2.61	61.00	8	65d	EAST
422	Coldwater Creek	at Tokio Frost Bridge	31.748333	-88.547278	19	1.85	72.00	8	65d	EAST
423	Yellow Creek	nr Boice (@ Old River Rd.)	31.730917	-88.688333	107	1.46	67.00	8	65d	EAST
424	Maynor Creek	nr Clara	31.586306	-88.694833	57	1.34	46.00	8	65d	EAST
427	Sandy Creek	at Deerfield Road	31.383889	-91.244361	131	1.71	30.00	7	74c	WEST
428	Second Creek	at Hutchins Landing Road	31.391278	-91.388389	142	1.66	30.00	6	74a	WEST
429	Crooked Creek	on Natchez-Rosetta Road	31.383889	-91.244361	64	1.22	29.00	7	74c	WEST
430	Buffalo River - downstream	at lower Woodville Road (Sanders Fork Rd.)	31.238778	-91.341111	526	1.38	24.00	7	74c	WEST
431	Millbrook Creek	at Millbrook Road	31.129167	-91.508500	17	2.25	30.00	6	74a	WEST
434	Bayou Sara	at Wyoming Road	31.008611	-91.389889	86	1.25	58.00	7	74c	WEST
438	Mcgehee Creek	at Holland Road	31.470519	-90.763149	155	1.47	67.00	7	74c	WEST
439	Richardson Creek	at Bunkley Road	31.362944	-91.019944	33	0.99	56.00	7	74c	WEST
440	Middle Fork Homochitto River	nr Meadville at Hwy 84/98	31.469889	-90.909417	406	1.32	60.00	7	74c	WEST
441	Dry Creek	at Natchez-Rosetta Road (Perry Town Rd.)	31.308389	-91.108944	23	1.17	48.00	7	74c	WEST
444	Tar Creek	just off Hwy CR 563	31.277889	-91.095361	18	1.49	59.00	7	74c	WEST
445	Ziegler Creek	at Freewood Road	31.351917	-91.078972	6	0.56	60.00	7	74c	WEST
446	Brushy Creek	at Homochitto Road	31.321667	-90.979806	83	1.24	52.00	7	74c	WEST
447	Caston Creek	at Oxford Road	31.333556	-90.911500	17	1.65	76.00	7	74c	WEST
448	West Fork Amite River (upper)	at CR 24	31.169111	-90.845194	270	0.76	87.00	7	74c	WEST
449	Cars Creek	nr Liberty	31.073139	-90.758389	23	0.63	76.00	7	74c	WEST
450	Thompson Creek -main stem	at Whittaker Road	31.016194	-91.168111	57	1.11	60.00	7	74c	WEST
451	Big Creek	at Big Creek Road	31.434750	-90.492278	115	0.73	115.00	7	74c	WEST
452	Bogue Chitto	south of Hartman	31.495056	-90.443917	157	0.61	114.00	7	74c	WEST

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
453	Boone Creek	Pricedale Road (at Hwy 583)	31.482056	-90.389000	31	0.62	117.00	7	65d	EAST
454	Bogue Chitto	at Bogue Chitto Road SE	31.437833	-90.446167	406	0.70	111.00	7	74c	WEST
455	Beaver Creek	nr Johnstons Station	31.337000	-90.452111	20	0.81	109.00	7	74c	WEST
456	Little Tangipahoa River (upper)	at Hwy 98	31.222944	-90.475472	22	1.01	113.00	7	74c	WEST
457	Clear Creek	nr Hwy 44 (on Beardon Ln.)	31.269417	-90.373917	45	1.04	91.00	7	65f	EAST
458	Leatherwood Creek	at Leatherwood Road	31.198389	-90.272944	84	0.87	81.00	7	65f	EAST
459	Topisaw Creek	at Brent Road	31.249472	-90.285889	365	0.85	82.00	7	65f	EAST
460	Little Tangipahoa River (lower)	at Hwy 48	31.143639	-90.455778	104	0.84	91.00	7	65f	EAST
462	Tickfaw River (upper)	at CR 584 (Hwy 584)	31.023833	-90.644139	109	0.78	81.00	7	65f	EAST
463	White Sand Creek	at River Road	31.450778	-90.010083	350	1.42	51.00	7	65d	EAST
464	Tilton Creek	at Hwy 587	31.409250	-90.018750	105	1.58	55.00	7	65d	EAST
465	Holiday Creek	at Hwy 13/43	31.346056	-89.878639	201	1.35	47.00	7	65f	EAST
466	McGee Creek	S of Darbun (@ Buckbridge Rd.)	31.266944	-90.084139	116	0.66	104.00	7	65f	EAST
467	Tenmile Creek	at Hwy 35	31.158167	-89.848444	105	1.68	43.00	7	65f	EAST
468	Upper Little Creek	at Hwy 13/43	31.188139	-89.790667	295	1.28	40.00	7	65f	EAST
469	Lower Little Creek	at Hwy 43	31.132500	-89.775667	311	1.40	40.00	7	65p	EAST
470	Magee's Creek	at Hwy 27 (350 m US on county Rd. At Hwy 27)	31.041583	-90.189278	556	0.78	60.00	7	65f	EAST
471	E Fk Pushepatapa Creek	at state line (@ Vincetown Rd.)	31.004278	-89.939806	111	0.99	74.00	7	65f	EAST
472	Clear Creek	at Hwy 43	31.038417	-89.823278	107	1.31	34.00	7	65f	EAST
474	Black Creek	at Broome Road	31.440750	-89.672083	16	0.62	107.00	8	65d	EAST
475	Shelton Creek	at Delk Road	31.458861	-89.383306	26	1.14	61.00	9	65f	EAST
476	Bowie Creek	nr Hattiesburg at Hwy 49	31.434417	-89.434556	777	1.08	47.00	9	65f	EAST
477	Monroe Creek	at Monroe Road	31.316825	-89.523639	30	1.15	85.00	9	65f	EAST
478	Leaf River	nr Palmer at Sims Bridge	31.263778	-89.224472	4617	1.10	32.00	9	65p	EAST
479	Lower Little Creek *	at Columbia-Purvis Road (at Caney Church Road)	31.162417	-89.608278	147	1.43	50.00	9	65f	EAST
480	Black Creek	Nr Purvis at Hwy11	31.192556	-89.381167	435	1.26	58.00	9	65f	EAST
481	Big Creek	at Rockhill-Brooklyn Road	31.066000	-89.269556	81	1.01	44.00	9	65f	EAST
482	Beaver Dam Branch	nr Purvis	31.113750	-89.412389	8	0.85	84.00	9	65f	EAST
483	Little Black Creek	nr Rockhill (~ 150m US of Rockhill-Brooklynn Rd.)	31.103528	-89.316167	198	1.03	50.00	9	65f	EAST
484	#N/A	#N/A	31.056500	-89.218500	909	1.15	38.00	9	65f	EAST
485	Red Creek	nr Lumberton at Hwy 11	31.010750	-89.451222	41	0.91	76.00	9	65f	EAST
487	Bogue Homo	at Ovett	31.480806	-89.047278	689	0.97	49.00	8	65d	EAST

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

Station #	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
489	West Little Thompson Creek	@ Forest Rd. 2062	31.454444	-88.922444	24	1.06	53.00	9	65f	EAST
492	Thompson Creek	nr Richton	31.356889	-88.923833	449	0.93	37.00	9	65f	EAST
493	Bogue Homo Creek	nr New Agusta (250m US of Old Augusta road crossing)	31.261444	-89.007917	344	0.99	32.00	9	65p	EAST
494	Leaf River	nr Mahned	31.226556	-89.088444	4817	1.06	30.00	9	65p	EAST
495	Thompson Creek	nr Hintonville	31.267083	-88.907722	538	1.00	30.00	9	65f	EAST
496	Gaines Creek	nr Beaumont	31.254306	-88.865250	307	1.09	27.00	9	65f	EAST
497	Atkinson Creek	nr McLain at Confluence of Leaf River	31.141833	-88.800389	451	3.53	18.00	9	65f	EAST
498	Cypress Creek	at Janice (~ 200m US of Hwy 29 road crossing)	31.026500	-89.017056	131	1.14	40.00	9	65f	EAST
500	Beaver Dam Creek	nr Janice at Hwy 29	30.972278	-89.058444	171	1.10	34.00	9	65f	EAST
502	Whisky Creek	on Salem Road (Leaf Road)	30.990000	-88.861000	27	1.12	34.00	9	65f	EAST
504	Mason Creek	at Jonathan	31.268639	-88.611333	88	1.07	39.00	9	65f	EAST
505	Meadow Creek	nr Leaksville	31.149750	-88.524917	46	1.72	16.00	9	65p	EAST
506	Big Creek	nr Vernal (Jonathan Road)	31.224306	-88.642611	182	1.15	26.00	9	65f	EAST
507	Brushy Creek	nr Shipman	30.941556	-88.453833	125	1.75	42.00	9	65f	EAST
508	Little Hell Creek	at Stanford Lake Road (at Ford's Creek Road)	30.894111	-89.632000	39	0.94	52.00	9	65f	EAST
510	W. Hobolochitto Creek	at Ford's Creek Road	30.894528	-89.632389	74	0.94	52.00	9	65f	EAST
511	Murder Creek	at Silver Run Road	30.788972	-89.373917	57	1.10	44.00	9	65f	EAST
513	East Hobolochitto Creek	Mcneill-Steephollow Road	30.660444	-89.556667	169	0.91	30.00	9	65f	EAST
514	Moran Creek	nrMcNeil	30.685194	-89.554111	36	1.06	37.00	9	65f	EAST
515	West Hobolochitto Creek	nr Ozona	30.592972	-89.694222	534	0.88	15.00	9	75a	EAST
516	Crane Creek	nr Sellers (at Crane Creek Road)	30.622194	-89.381111	98	0.97	28.00	9	65f	EAST
517	East Hobolochitto Creek	at Hwy 11	30.572000	-89.595944	241	0.97	19.00	9	65f	EAST
518	Mill Creek	at Hwy 43	30.517389	-89.565611	23	0.85	19.00	9	65f	EAST
519	Turtleskin Creek	nr Santa Rosa	30.430361	-89.618361	27	0.16	12.00	9	75a	EAST
520	Catahoula Creek	nr Santa Rosa	30.406333	-89.500639	522	0.61	3.00	9	75a	EAST
521	Dead Tiger Creek	nr Santa Rosa	30.422500	-89.559028	35	0.21	9.00	9	75a	EAST
522	Black Creek	nr Wiggins at Hwy 26	30.854722	-88.914500	354	1.19	18.00	9	65f	EAST
523	Red Creek	nr Ramsey Springs (at Hwy 15)	30.777583	-88.865000	950	0.94	18.00	9	65f	EAST
524	Flint Creek	nr Whites Crossing at Hwy 26	30.844806	-89.078472	66	1.25	45.00	9	65f	EAST
525	Red Creek	at Perkinston at Hwy 49	30.794111	-89.139167	575	0.92	34.00	9	65f	EAST
526	Wolf River	at Silver Run	30.726750	-89.037222	433	1.11	36.00	9	65f	EAST
527	Tenmile Creek	at Perkinston-Silverun Road	30.761556	-89.159556	36	1.13	45.00	9	65f	EAST

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
529	Tchoutacabouffa River	nr Latimer	30.562139	-88.885806	151	0.77	9.00	9	65f	EAST
530	Biloxi River	nr Wortham at Old Hwy 49 (250m US)	30.569056	-89.138500	243	0.95	11.00	9	65f	EAST
531	Saucier Creek	at Saucier/Fairly Road	30.604917	-89.097472	94	0.81	23.00	9	65f	EAST
532	Tuxachanie Creek	nr Biloxi at Old Hwy 15 (300 m US of White Plains Road, nr Biloxi)	30.545361	-88.953444	215	0.85	10.00	9	65f	EAST
533	Little Biloxi River	Shaw Road (100m US of Carlton-Cuevas Rd. crossing	30.551694	-89.225361	113	0.80	26.00	9	65f	EAST
535	Bernard Bayou	nr New Hope (off Canal Rd.)	30.444667	-89.137778	27	0.73	10.00	9	75a	EAST
536	Flat Branch	at Orange Grove (~ 100m US of DeDeaux road crossing	30.450583	-89.095417	32	0.70	6.00	9	75a	EAST
537	#N/A	#N/A	30.431556	-89.137778	42	0.36	6.00	9	75a	EAST
538	Black Creek	nr Vestry at Hwy 57	30.798167	-88.773778	1941	1.14	12.00	9	65p	EAST
539	Little Cedar Creek	at Hwy 613	30.843361	-88.531500	15	0.98	62.00	9	65f	EAST
540	Red Creek	at Vestry	30.737639	-88.784222	1134	0.95	9.00	9	65f	EAST
541	Big Cedar Creek	nr Harleston at Hwy 63	30.719972	-88.588250	161	1.07	12.00	9	65f	EAST
542	Indian Creek	nr Basin	30.769611	-88.636028	27	1.25	16.00	9	65f	EAST
543	Moungers Creek	nr Vancleave (Busby Rd.)	30.636250	-88.695750	43	0.85	22.00	9	65f	EAST
544	Bluff Creek	nr Vancleave at Water Park	30.532333	-88.688583	143	0.81	3.00	9	65f	EAST
545	Luxapalilla Creek	at Gunshot Road	33.559750	-88.317278	21	1.15	46.00	1	65b	NE
546	Buttahatchie River	at Bartahatchie Road	33.790164	-88.315337	321	1.78	68.00	1	65i	NE
547	Hatchie River	nr Walnut at Hwy 72	34.940250	-88.786444	697	1.46	120.00	10	65e	NW
548	Tuscumbia River Canal	nr Corinth at Hwy 72	34.930889	-88.596861	711	0.67	119.00	2	65a	BB
549	Bowie Creek	nr Sumrall at Hwy 589	31.473556	-89.524278	619	1.08	49.00	8	65d	EAST
550	Chickasawhay River	nr Shubuta	31.877694	-88.687417	3747	1.28	52.00	8	65r	EAST
551	Escatawpa River	nr Agricola at CR 612	30.825417	-88.447833	89	1.28	21.00	9	65f	EAST
552	Strong River	nr D'lo at Old Hwy 49	31.978139	-89.895806	1090	0.92	84.00	8	65d	EAST
553	East Fork Amite River	nr Gillsburg	31.029861	-90.788500	578	0.73	55.00	7	74c	WEST
554	Tangipahoa River	at Osyka at hwy 584	31.015000	-90.464694	408	0.80	71.00	7	65f	EAST
555	Bull Mnt Creek	at Tremont at Hwy 178	34.247583	-88.269500	72	1.58	91.00	1	65i	NE
556	Sucarnoochee River	nr Porterville at Hwy 45	32.699950	-88.486800	349	1.99	58.00	3	65b	EAST
557	Betsy Creek	nr Vaiden	33.362278	-89.695361	16	1.00	98.00	3	65d	EAST
558	unnamed trib to Big Black	nr Durant	33.066778	-89.864639	17	1.17	79.00	5	74b	WEST
559	Bates Creek	nr Jeanette	31.510583	-91.169611	5	1.85	76.00	7	74c	WEST
560	Whites Creek	nr Doloroso (Hutchins Landing Rd.)	31.397139	-91.354722	6	1.96	45.00	6	74a	WEST
561	Cypress Creek	nr Crosby (unnamed dirt rd off of H street)	31.267167	-91.070056	6	1.56	60.00	7	74c	WEST

Table F-1 (cont'd). Site locations, geographical data, and landscape information for all sites sampled.

	Station	Location	Latitude (DD)	Longitude (DD)	Drainage Area (km^2)	Average Slope	Elevation (m)	Level IV Ecoregion	Preliminary Site Class	Bioregion
562	Minnehaha Creek	nr Magnolia at Hwy 51 (S. Prewett St.)	31.143361	-90.464167	18	0.84	91.00	7	65f	EAST
563	Tangipahoa River	nr Magnolia at Hwy 51 (@ Muddy Springs Rd.)	31.143583	-90.517250	172	0.73	89.00	7	65f	EAST
564	Bala Chitto Creek	nr Osyka at State Line Road	31.004444	-90.448833	147	0.71	65.00	7	65f	EAST
565	Terry's Creek	nr Osyka at Hwy 584	31.017000	-90.526889	59	0.92	67.00	7	65f	EAST
566	Scooba Creek	nr Electric Mills	32.799183	-88.459283	55	0.64	57.00	3	65b	EAST
567	Mud Creek	nr Tupelo at Hwy 178	34.261611	-88.684972	261	0.77	87.00	2	65a	BB
568	Chiwapa Creek	nr Pontotoc (Woodland Rd - CR 75)	34.195944	-88.897972	140	0.88	91.00	2	65a	BB
569	Cowpenna Creek	at Nettleton at Hwy 6	34.089917	-88.609944	8	0.58	67.00	2	65a	BB
600	Hickory Creek	at Hwy 43	30.506611	-89.494028	156	0.77	21.00	9	65f	EAST
601	Orphan Creek	@ Hwy 43	30.456417	-89.473250	31	0.50	15.00	9	65f	EAST

Table F-2. Land use/land cover percentages within whole drainage areas and riparian corridors of various dimensions.

		Whole Drainage Area							Riparian (100 m wide, whole drainage long)							Riparian (100 m wide, 1 km long)							Riparian (50 m wide, 1 km long)						
STATIONID	WaterbodyName	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed
1	Jackson Creek	18	1	19	0	77	3	80	19	2	21	0	75	4	78	0	0	0	0	100	0	100	0	0	0	0	100	0	100
2	Johnson Creek	17	0	17	4	70	7	81	19	0	19	2	69	8	79	5	0	5	0	95	0	95	0	0	0	0	100	0	100
3	White's Creek	39	0	40	3	48	8	59	19	0	19	6	72	4	81	28	0	28	27	44	1	72	18	0	18	29	51	1	82
5	Arkabutula Creek	9	0	9	1	88	2	91	8	0	8	0	89	2	92	1	0	1	0	99	0	99	1	0	1	0	99	0	99
6	Strayhorn Creek	19	0	19	0	70	11	81	14	0	14	0	74	12	86	14	0	14	0	85	2	86	17	0	17	0	82	2	83
7	Horn Lake Creek	12	0	12	16	63	8	87	24	0	24	11	53	10	74	33	0	33	0	58	8	67	42	0	42	0	49	9	58
9	Hurricane Creek	9	0	9	4	78	9	91	6	0	7	1	85	7	93	7	2	9	3	83	5	91	10	0	10	3	84	3	90
10	Camp Creek	10	0	11	5	76	7	89	13	0	14	1	74	9	84	1	0	1	0	97	3	99	0	0	0	0	98	1	100
11	Camp Creek Canal	41	0	41	0	30	28	59	37	0	37	0	36	27	63	24	0	24	0	57	19	76	19	0	19	0	63	18	81
13	Pigeon Roost Creek	21	0	22	2	56	21	78	21	0	21	1	59	19	78	7	0	7	0	59	30	89	5	0	5	0	58	31	88
14	Short Fork Creek	12	0	12	2	80	6	88	9	0	9	0	84	6	90	25	0	25	0	53	23	75	19	0	19	0	53	28	81
15	Red Banks Creek	20	0	20	1	59	19	80	18	0	18	1	64	18	82	2	0	2	0	38	60	98	1	0	1	0	29	70	99
16	Beartail Creek	15	0	15	2	78	4	85	15	0	16	0	81	3	84	18	3	21	0	67	0	67	19	0	19	0	64	0	64
17	Arkabutla Creek	6	0	6	1	91	1	93	7	0	7	0	91	2	93	0	0	0	0	100	0	100	0	0	0	0	100	0	100
18	Hickahala Creek	18	0	18	0	62	19	81	12	0	12	0	72	15	87	3	0	3	0	90	7	97	4	0	4	0	92	4	96
19	Hickahala Creek	17	0	17	0	69	13	82	12	0	12	0	77	10	87	10	3	14	0	85	1	86	12	3	15	0	84	1	85
20	James-Wolf Canal	20	0	20	0	64	16	80	11	0	11	0	79	11	89	1	0	1	0	99	0	99	0	0	0	0	100	0	100
23	Senatobia Creek	10	1	12	0	79	9	88	8	0	8	0	81	9	90	0	0	0	0	100	0	100	0	0	0	0	100	0	100
24	Greasy Creek	25	0	25	0	47	27	74	23	0	23	0	49	25	74	26	0	26	0	30	45	74	28	0	28	0	22	50	72
26	Early Grove Creek	3	0	3	0	85	12	97	2	0	2	0	87	11	98	0	0	0	0	100	0	100	0	0	0	0	100	0	100
27	Mt. Tena Creek	10	0	10	0	73	17	90	9	0	9	0	72	19	91	5	0	5	0	69	25	95	1	0	1	0	67	32	99
28	Grays Creek	23	0	23	0	66	10	77	23	0	23	0	63	11	75	0	0	0	0	86	14	100	0	0	0	0	83	17	100
30	Coldwater River	19	6	24	1	59	16	75	19	11	29	1	54	16	70	0	99	99	0	1	0	1	0	99	99	0	1	0	1
31	Oaklimeter Creek	50	0	50	3	34	12	49	35	0	35	2	53	9	64	10	0	10	0	77	12	90	10	0	10	0	79	10	90
32	Tippah River	52	0	52	1	33	13	47	43	0	43	0	41	12	54	35	0	35	2	51	2	55	36	0	36	2	49	0	51
33	Oak Chewalla Creek	36	0	36	0	39	24	63	46	0	46	0	30	23	54	95	0	95	0	3	2	5	97	0	97	0	2	1	3
34	Little Spring Creek	45	0	45	2	32	20	54	61	0	61	1	21	16	38	82	0	82	0	9	9	18	88	0	88	0	5	6	12
35	Big Spring Creek	34	0	34	1	45	20	66	35	0	35	1	41	23	65	32	0	32	0	41	26	68	31	0	31	0	44	25	69
36	Grahm Mill Creek	39	0	39	1	43	14	58	45	0	45	1	30	18	49	49	0	49	0	22	30	51	64	0	64	0	15	21	36
37	Lee Creek	42	0	42	0	45	12	58	48	0	48	0	34	18	52	55	0	55	0	24	21	45	51	0	51	0	23	25	49
39	Mill Creek	51	0	51	0	36	11	47	23	0	23	0	58	14	72	1	0	1	0	98	1	99	1	0	1	0	98	1	99
40	Little Mud Creek	24	0	24	1	60	15	76	16	0	16	1	65	17	83	0	0	0	0	88	12	100	0	0	0	0	89	11	100
41	Lockes Creek	40	0	40	3	44	12	59	23	0	23	2	60	13	74	0	0	0	0	87	12	100	0	0	0	0	90	10	100
42	Unnamed Trib	55	0	55	0	39	6	45	42	0	42	0	55	3	58	0	0	0	0	90	9	100	0	0	0	0	96	4	100
43	Berry Branch	40	0	40	0	50	10	60	31	0	31	0	54	16	69	5	0	5	0	95	0	95	1	0	1	0	99	0	99
44	Hurricane Creek	52	0	52	2	30	13	46	58	0	58	2	21	15	38	91	0	91	0	6	4	9	94	0	94	0	3	2	6
45	Puskus Creek	82	0	82	0	11	8	18	80	0	80	0	9	10	19	66	0	66	0	14	20	34	72	0	72	0	15	13	28
46	Cypress Creek	67	0	67	0	21	11	32	59	1	60	0	24	14	39	63	2	64	0	27	8	36	67	2	68	0	26	6	32
47	Little Tallahatchie River	30	0	30	1	58	11	70	23	0	23	0	64	12	77	6	0	6	0	85	8	94	6	0	6	0	85	9	93
48	Mitchell Creek	49	0	49	0	39	11	50	33	0	33	0	51	14	65	23	0	23	0	67	10	77	27	0	27	0	62	11	73
49	Porters Creek	51	0	51	0	29	16	45	45	0	45	0	29	16	44	30	0	30	0	64	6	70	28	0	28	0	67	5	72
50	Muddy Creek	27	0	27	0	62	10	72	15	0	15	0	73	9	82	8	0	8	0	60	32	92	8	0	8	0	54	37	92
51	Shelby Creek	68	0	68	0	15	17	31	66	0	66	0	15	17	32	91	0	91	0	9	0	9	90	0	90	0	10	0	10
52	Little Hatchie River	33	0	33	0	55	11	66	33	0	33	0	52	14	66	34	0	34	0	33	33	66	31	0	31	0	35	35	69

Table F-2 (cont'd). Land use/land cover percentages within whole drainage areas and riparian corridors of various dimensions.

		Whole Drainage Area							Riparian (100 m wide, whole drainage long)							Riparian (100 m wide, 1 km long)							Riparian (50 m wide, 1 km long)						
STATIONID	WaterbodyName	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed
55	Little Tallahatchie River	61	0	61	0	30	9	39	54	0	54	0	36	8	44	2	0	2	0	93	5	98	1	0	1	0	97	2	99
56	Cane Creek	40	0	40	0	49	10	59	32	0	32	0	54	12	66	5	0	5	0	64	31	95	2	0	2	0	64	34	98
58	Chambers Creek	50	0	50	1	25	23	49	52	0	52	1	28	19	47	26	0	26	0	20	54	74	27	0	27	0	15	58	73
60	Picken's Branch	49	0	49	3	32	16	51	53	0	53	2	26	19	47	99	0	99	0	0	1	1	100	0	100	0	0	0	0
61	Bridge Creek	16	0	16	16	52	15	83	18	0	18	9	52	20	80	7	0	7	27	51	15	93	9	0	9	23	51	17	91
62	Elam Creek	19	0	19	25	40	15	80	17	0	17	15	46	20	81	1	0	1	56	38	5	99	1	0	1	53	42	4	99
63	Caney Creek	51	0	51	0	26	23	49	60	0	60	0	21	20	40	21	0	21	0	67	12	79	23	0	23	0	68	9	77
64	Little Yellow Creek	54	0	54	1	26	20	46	49	0	49	0	28	22	51	30	0	30	0	48	22	70	41	0	41	0	43	16	59
65	unnamed trib to Tenn-Tom	63	0	63	0	23	14	37	65	0	65	0	25	10	35	63	0	63	0	20	17	37	65	0	65	0	14	21	35
66	Indian Creek	34	0	35	15	34	15	65	37	0	37	16	29	17	62	27	0	27	0	54	14	68	35	0	35	0	50	14	64
67	Mill Creek	63	0	63	0	27	9	36	62	0	62	0	28	9	37	56	0	56	0	30	13	44	57	0	57	0	27	17	43
68	Parmicha Creek	22	0	22	1	58	18	78	20	0	20	1	62	18	80	24	0	24	0	48	28	76	34	0	34	0	34	31	66
69	Little Cripple Deer Creek	42	0	42	1	41	15	57	41	0	41	1	40	15	56	21	0	21	0	68	11	79	24	0	24	0	66	10	76
70	Pennywinkle Creek	53	0	53	2	31	15	47	45	0	45	2	26	26	55	43	0	43	0	28	29	57	52	0	52	0	19	29	48
73	Cripple Deer Creek	51	1	52	0	32	15	48	53	4	57	0	29	14	43	60	20	81	0	8	12	19	57	26	83	0	9	8	17
74	Bear Creek	22	0	23	1	69	7	77	29	1	30	0	59	9	69	30	0	30	0	43	22	65	37	0	37	0	39	18	56
75	Bear Creek	35	0	36	0	56	7	64	44	1	45	0	46	7	53	43	0	43	0	50	6	56	55	0	55	0	39	4	43
76	unnamed trib to Cedar Creek	67	0	67	0	26	7	33	85	0	85	0	8	7	15	93	0	93	0	4	4	7	94	0	94	0	3	3	6
77	Donivan Creek	42	0	42	0	38	20	58	37	0	37	0	44	17	61	4	0	4	0	91	5	96	6	0	6	0	93	1	94
79	Rock Creek	47	0	47	0	39	14	53	53	0	53	0	34	13	47	59	0	59	0	35	7	41	65	0	65	0	28	8	35
80	Twentymile Creek	20	0	20	2	60	17	79	15	0	15	1	65	18	84	4	0	4	0	74	17	91	2	0	2	0	71	17	88
81	Big Brown Creek	45	0	45	0	39	16	55	34	0	34	0	50	15	65	0	0	0	0	91	9	100	0	0	0	0	88	12	100
82	Little Brown Creek	52	1	53	0	30	17	47	43	1	44	0	41	15	56	34	6	40	0	56	3	59	32	4	35	0	61	3	64
83	Mackey's Creek	50	19	69	0	20	11	30	43	31	74	0	16	10	25	32	50	82	0	17	1	18	29	58	86	0	14	0	14
85	Hotopha Creek	29	0	29	2	50	19	71	22	0	22	3	56	17	76	4	0	4	0	96	0	96	1	0	1	0	99	0	99
86	Clear Creek	33	0	33	0	51	17	67	17	0	17	0	69	14	83	1	0	1	1	98	0	99	0	0	0	1	99	0	100
87	Hudson Creek	45	0	45	0	39	16	55	30	0	30	0	50	19	70	3	0	3	9	79	10	97	1	0	1	9	74	16	99
88	Toby Tubby Creek	39	0	39	5	41	15	61	39	0	39	2	42	17	61	49	0	49	0	29	22	51	56	0	56	0	24	20	44
89	McIvor Canal	14	0	14	2	77	7	86	11	0	11	1	79	9	89	3	0	3	0	97	0	97	1	0	1	0	99	0	99
91	Long Creek	19	0	19	2	67	12	81	17	0	18	1	68	13	82	1	0	1	0	97	1	99	0	0	0	0	99	1	100
92	Long Creek	27	0	27	0	47	26	73	26	0	26	0	46	28	74	0	0	0	0	99	1	100	0	0	0	0	100	0	100
93	Bynum Creek	31	0	31	0	41	28	69	22	0	22	0	50	28	78	3	0	3	0	76	21	97	2	0	2	0	73	26	98
96	unnamed trib to Yocona River	36	0	36	0	60	4	64	25	0	25	0	70	6	75	4	0	4	0	96	0	96	1	0	1	0	99	0	99
98	Otoucalofa Creek	43	0	43	0	37	20	57	34	0	34	0	43	23	66	8	0	8	0	91	0	92	5	0	5	0	95	0	95
99	Town Creek	22	0	22	32	36	11	78	21	0	21	27	38	14	79	0	0	0	54	45	2	100	0	0	0	47	53	0	100
101	N Fk Tillatoba Creek	24	0	24	1	67	7	75	20	0	21	0	69	8	78	5	0	5	0	94	2	95	5	0	5	0	95	0	95
102	Tillatoba Creek	35	0	35	2	50	12	64	32	0	32	1	54	12	66	34	4	38	2	60	0	62	36	5	41	1	57	0	59
103	Turkey Creek	46	0	46	0	31	22	54	43	0	43	0	32	24	57	38	0	38	0	21	41	62	48	0	48	0	15	37	52
104	Ascalmore Creek	39	0	39	0	47	13	60	26	0	26	0	54	17	71	9	0	9	0	81	10	91	7	0	7	0	82	12	93
105	Okachickima Creek	59	0	59	2	11	27	41	51	0	51	2	12	34	48	21	0	21	5	22	52	79	19	0	19	5	19	58	81
106	Cypress Creek	35	0	35	0	51	12	64	20	0	20	0	69	8	77	64	0	64	0	10	26	36	71	0	71	0	6	23	29
107	Organ Creek	68	0	68	0	13	18	31	59	0	59	0	17	22	39	5	0	5	0	82	13	95	2	0	2	0	84	14	98
108	Lappatubby Creek	18	0	18	1	71	10	82	14	0	14	0	75	11	85	4	0	4	0	91	5	96	5	0	5	0	90	5	95
109	Mud Creek	17	0	17	0	74	9	83	17	0	17	0	74	9	83	0	0	0	0	100	0	100	0	0	0	0	99	1	100

Table F-2 (cont'd). Land use/land cover percentages within whole drainage areas and riparian corridors of various dimensions.

		Whole Drainage Area							Riparian (100 m wide, whole drainage long)							Riparian (100 m wide, 1 km long)							Riparian (50 m wide, 1 km long)						
STATIONID	WaterbodyName	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed
110	Duncans Creek	29	0	29	0	62	9	71	21	0	21	0	69	9	78	20	0	20	0	75	5	80	21	0	21	0	75	4	79
111	Burney Branch	33	0	33	17	35	14	66	35	0	35	4	42	16	63	0	0	0	0	69	31	100	0	0	0	0	64	36	100
112	Yocona River	43	0	43	5	35	16	56	39	0	39	1	38	20	59	0	0	0	3	85	13	100	0	0	0	3	82	15	100
113	Duncan's Creek	22	0	22	0	47	31	78	32	0	32	0	53	15	68	1	0	1	0	79	19	99	0	0	0	0	77	23	100
114	Yocona River	43	2	45	0	37	15	53	35	5	39	0	42	15	58	13	60	73	0	12	15	26	15	58	73	0	10	15	25
115	Turkey Creek	49	0	49	0	27	23	51	47	0	47	0	26	27	53	44	0	44	0	21	35	56	56	0	56	0	14	30	44
116	Skuna River Canal	17	0	17	0	72	8	80	15	1	16	0	74	8	82	0	0	0	0	98	2	100	0	0	0	0	99	1	100
117	Persimmon Creek	41	0	41	0	42	16	58	33	0	33	0	49	16	65	7	0	7	0	88	6	93	5	0	5	0	87	8	95
118	Lucknuck Creek	54	0	54	0	28	18	46	46	0	46	0	34	20	54	7	0	7	0	88	5	93	11	0	11	0	82	7	89
119	Skuna River Canal	28	0	28	0	60	12	72	22	0	22	0	66	12	78	1	0	1	0	97	3	99	1	0	1	0	97	2	99
120	Cowpen Creek	64	0	64	0	9	27	36	41	0	41	0	21	39	59	19	0	19	0	25	56	81	13	0	13	0	20	67	87
121	Johnson-Coles Creek	55	0	55	0	17	27	45	53	0	53	0	21	26	47	5	0	5	0	68	27	95	8	0	8	0	61	31	92
123	Lappatubby Creek	22	0	22	1	65	12	78	18	0	18	0	69	13	82	0	0	0	0	94	6	100	0	0	0	0	94	6	100
126	unnamed trib to Town Creek	5	0	5	37	48	10	94	7	0	7	33	48	12	93	0	0	0	74	26	0	100	0	0	0	78	22	0	100
127	Goodfood Creek	51	0	51	0	37	12	49	53	0	53	0	35	12	47	8	0	8	0	92	0	92	4	0	4	0	96	0	96
129	Tallabinella Creek	36	0	36	0	47	17	64	26	0	26	0	52	22	74	0	0	0	0	67	33	100	0	0	0	0	60	40	100
131	Tubbalubba Creek	11	0	11	0	74	14	89	5	0	5	0	79	16	95	0	0	0	12	88	0	100	0	0	0	10	90	0	100
133	Town Creek	23	0	23	3	60	13	76	18	0	18	2	64	14	80	7	1	8	14	66	12	92	7	2	9	13	65	12	91
135	Chuquatonchee Creek	36	0	36	0	47	14	61	31	0	31	0	50	15	65	23	0	23	0	77	0	77	22	0	22	0	78	0	78
136	Twentymile Creek	20	0	21	2	60	17	79	16	0	16	1	65	17	84	3	0	3	0	85	6	91	2	0	2	0	80	6	86
137	Cummings Creek	61	1	61	0	20	17	38	66	1	67	0	14	17	31	47	18	65	0	15	19	33	45	12	57	0	15	28	43
140	Mantachie Creek	32	0	32	1	51	15	67	24	0	24	1	62	13	76	15	0	15	0	85	0	85	9	0	9	0	91	0	91
141	Green Creek	67	2	69	0	14	16	31	69	7	76	0	12	11	24	76	17	93	0	2	5	7	76	18	94	0	1	5	6
142	Greenwood Creek	29	0	29	0	45	25	70	27	0	27	0	49	23	72	56	0	56	0	39	6	44	57	0	57	0	36	8	43
143	Bull Mnt Creek	49	5	55	1	31	13	45	41	14	56	1	31	12	44	8	87	95	0	0	4	4	7	88	95	0	0	5	5
146	unnamed trib to Bull Mnt Creek	85	1	86	0	7	7	14	87	2	89	0	6	5	11	78	11	90	0	10	0	10	77	14	91	0	9	0	9
149	Weaver Creek	66	3	70	0	20	11	30	65	9	75	0	12	13	25	62	14	77	0	11	13	23	65	23	88	0	4	7	12
151	Mattuby Creek	10	0	10	2	71	17	90	14	0	14	1	58	27	86	25	0	25	0	46	29	75	32	0	32	0	36	32	68
152	Wolf Creek	38	0	39	0	43	17	60	41	0	42	0	35	20	55	87	0	87	0	11	2	13	90	0	90	0	9	0	10
153	Halfway Creek	60	1	61	0	26	13	39	69	3	72	0	13	14	28	72	0	72	0	21	8	28	80	0	80	0	16	4	20
155	Big Sand Creek	46	1	46	2	27	23	53	41	2	43	1	25	27	54	1	35	36	0	46	18	64	0	36	36	0	42	21	64
156	Riverdale Creek	22	3	25	4	50	21	75	19	4	23	0	59	18	77	0	49	49	0	48	2	50	0	48	48	0	49	2	51
157	Batupan Bogue	41	2	43	1	31	26	57	31	5	36	1	36	26	63	1	26	28	0	71	1	72	2	14	16	0	83	1	84
158	Cane Creek	44	2	46	0	43	11	54	43	5	48	0	37	14	52	8	36	43	0	55	2	57	5	43	47	0	51	2	53
159	Potacocowa Creek	47	0	48	0	33	18	51	45	0	45	0	31	20	51	18	0	18	0	66	16	82	19	0	19	0	65	16	81
160	Pelucia Creek	52	2	54	0	26	20	45	45	6	51	0	23	22	46	32	24	56	0	35	10	44	36	31	67	0	24	9	33
161	Abiaca Creek	45	2	47	0	39	14	52	40	7	47	0	35	15	50	6	22	27	0	64	7	72	6	27	33	0	59	7	65
162	Coila Creek	43	2	45	0	42	12	54	42	7	50	0	35	13	48	0	28	28	0	61	11	72	0	36	36	0	52	11	64
163	Hays Creek	20	1	22	3	48	27	78	15	3	18	2	52	28	82	0	61	61	0	22	17	39	0	70	70	0	15	15	30
164	Peachahala Creek	28	0	28	1	37	34	72	28	1	29	0	38	32	71	9	35	44	0	19	38	56	3	58	61	0	12	27	39
165	Butputter Creek	45	0	45	0	25	31	55	21	0	21	0	36	43	79	5	0	5	0	56	38	95	4	0	4	0	50	46	96
166	Topashaw Creek Canal	43	0	43	0	36	21	57	34	0	34	0	48	17	65	7	0	7	0	76	17	93	8	0	8	0	71	21	92
167	Little Topishaw Creek	69	0	69	0	12	19	31	61	0	61	0	16	23	39	27	0	27	0	13	60	73	28	0	28	0	6	66	72
168	Redgrass Creek	46	0	46	0	25	28	54	37	0	37	0	39	24	63	18	0	18	0	70	12	82	20	0	20	0	74	7	80

Table F-2 (cont'd). Land use/land cover percentages within whole drainage areas and riparian corridors of various dimensions.

		Whole Drainage Area							Riparian (100 m wide, whole drainage long)							Riparian (100 m wide, 1 km long)							Riparian (50 m wide, 1 km long)						
STATIONID	WaterbodyName	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed
169	Horse Pen Creek	44	0	44	0	31	25	56	35	0	35	0	46	19	65	0	0	0	0	89	11	100	0	0	0	0	88	12	100
170	Sabougla Creek Canal	39	0	39	0	38	22	61	32	0	32	0	48	20	68	0	0	0	0	88	12	100	0	0	0	0	79	21	100
171	Wolf Creek	58	0	58	0	16	27	42	45	0	45	0	24	31	55	61	0	61	0	9	30	39	62	0	62	0	4	34	38
172	Little Black Creek	37	2	38	1	34	25	60	32	3	35	0	40	22	63	1	9	9	0	71	11	82	0	6	6	0	81	14	94
173	Calabrella Creek	51	0	51	0	25	25	49	49	0	49	0	29	23	51	70	0	70	0	10	19	30	73	0	73	0	8	19	27
174	Lewis Creek	34	1	36	1	34	29	64	22	4	26	1	49	24	74	0	36	36	0	64	0	64	0	36	36	0	64	0	64
175	Mulberry Creek	37	0	37	0	30	34	63	29	0	29	0	42	30	71	9	0	9	0	80	11	92	7	0	7	0	84	10	93
176	Wolf Creek	46	0	46	0	25	29	54	42	0	42	0	28	30	58	26	4	30	0	35	35	70	27	8	35	0	26	39	65
177	Big Bywy Canal	53	3	56	0	22	23	44	51	6	57	0	20	23	43	47	24	71	0	12	17	29	48	25	73	0	10	17	27
178	McCurtain Creek	55	0	55	0	21	24	45	62	0	62	0	15	23	38	91	0	91	0	3	6	9	92	0	92	0	3	5	8
179	Poplar Creek	47	8	55	0	22	24	45	38	19	57	0	21	21	42	16	48	64	0	13	23	36	18	54	72	0	8	20	28
180	unnamed trib to Poplar Creek	69	0	69	0	10	21	31	71	0	71	0	7	22	29	54	2	56	0	7	37	44	60	2	62	0	4	34	38
181	Topashaw Creek Canal	48	0	48	0	32	20	51	37	0	37	0	44	18	62	8	0	8	0	58	34	92	8	0	8	0	50	42	92
182	Houlka Creek	32	3	35	1	42	22	64	29	5	34	0	42	23	66	0	14	14	0	86	0	86	0	11	11	0	89	0	89
183	Sand Creek	77	0	77	0	6	17	23	81	0	81	0	6	13	19	53	0	53	0	36	10	47	53	0	53	0	32	15	47
184	Spring Creek	55	0	55	0	20	25	45	60	0	60	0	13	27	40	29	1	29	0	7	64	71	26	1	27	0	3	70	73
185	Line Creek	35	10	44	0	30	25	55	32	14	46	0	30	24	54	41	13	55	0	25	20	45	42	14	56	0	23	22	44
187	Long Branch	60	0	60	0	17	23	40	67	0	67	0	9	24	33	70	0	70	0	8	22	30	78	0	78	0	4	18	22
188	Trim Cane Creek	46	0	46	1	26	26	53	46	1	46	0	25	26	52	47	9	56	0	20	25	44	50	9	59	0	13	28	41
190	Hollis Creek	29	1	30	24	27	19	70	37	0	37	10	25	28	63	60	0	60	0	19	21	40	50	0	50	0	19	31	50
191	Cypress Creek	56	8	64	0	17	19	36	51	17	69	0	14	17	31	75	25	100	0	0	0	0	69	31	100	0	0	0	0
193	James Creek	7	4	11	3	76	10	89	7	8	15	1	71	13	85	4	14	18	0	74	8	82	3	19	22	0	71	7	78
195	Hang Kettle Creek	15	0	15	2	70	13	85	20	0	20	2	60	19	80	11	0	11	0	58	31	89	10	0	10	0	56	34	90
196	Spring Creek	43	0	43	0	35	22	57	69	0	69	0	22	8	31	86	0	86	0	4	10	14	94	0	94	0	0	6	6
197	McKinley Creek	42	4	45	0	44	10	55	46	7	54	0	33	13	46	18	67	84	0	7	8	16	21	69	90	0	1	8	10
198	Town Creek	1	4	5	0	75	20	95	1	9	10	0	68	22	90	0	0	0	0	18	82	100	0	0	0	0	5	95	100
200	Town Creek	8	4	12	19	41	27	87	13	5	18	14	29	35	78	4	62	66	0	15	19	34	3	71	74	0	10	16	26
202	Spring Creek	1	1	2	0	77	21	98	3	5	8	0	65	27	92	0	22	22	0	47	31	78	0	40	40	0	31	29	60
204	Cooper Creek	34	0	34	0	47	18	65	58	0	58	0	18	24	42	87	0	87	0	3	9	13	94	0	94	0	0	6	6
205	Yellow Creek	25	18	42	0	43	14	58	35	33	68	0	17	15	32	49	26	75	0	13	10	23	56	27	82	0	9	5	14
206	Yellow Creek	88	0	88	0	6	7	12	90	0	90	0	4	6	10	92	0	92	0	0	8	8	94	0	94	0	0	6	6
207	Catalpa Creek	17	4	21	2	43	33	79	17	8	25	1	37	37	75	10	53	63	0	1	36	37	17	50	66	0	0	34	34
209	McCrary Creek	39	3	42	5	33	19	57	49	9	57	2	21	19	42	18	0	18	0	52	30	82	21	0	21	0	40	39	79
210	South Branch	9	3	13	0	43	44	87	10	6	15	0	31	53	84	0	43	43	0	24	33	57	0	53	53	0	13	34	47
214	Kincaid Creek	45	4	49	0	33	15	48	42	13	55	0	28	17	45	37	21	58	0	23	19	42	43	34	77	0	5	18	23
216	James Creek	3	12	16	0	60	23	84	5	22	26	0	43	29	72	4	51	55	0	32	13	45	5	55	61	0	24	15	39
218	Harland Creek	52	1	54	0	36	11	46	48	6	54	0	34	12	46	37	21	57	0	15	27	43	33	23	56	0	15	30	44
219	Tesheva Creek	48	2	50	0	41	10	50	40	4	44	0	46	9	55	3	35	38	0	61	1	62	0	35	35	0	64	1	65
220	Piney Creek	60	0	60	0	32	7	39	49	1	49	0	43	7	50	26	6	33	0	64	3	67	19	7	26	0	72	2	74
221	Short Creek	79	2	81	4	10	5	19	78	9	87	2	7	4	13	25	73	97	0	0	3	3	14	83	97	0	0	3	3
222	Cypress Creek	18	3	20	1	72	6	80	28	8	37	0	59	4	63	30	46	76	0	20	4	24	34	54	88	0	10	2	12
223	Deer Creek	9	2	11	1	82	6	89	11	8	19	0	75	6	81	7	32	39	0	61	0	61	8	46	54	0	46	0	46
224	Oneil Creek	76	0	76	0	14	9	24	72	0	72	0	17	10	28	57	2	60	0	24	17	40	54	3	58	0	25	17	42
225	Perry Creek	82	0	82	0	10	9	18	79	0	79	0	11	9	20	63	0	63	0	14	22	37	61	0	61	0	19	21	39

Table F-2 (cont'd). Land use/land cover percentages within whole drainage areas and riparian corridors of various dimensions.

		Whole Drainage Area							Riparian (100 m wide, whole drainage long)							Riparian (100 m wide, 1 km long)							Riparian (50 m wide, 1 km long)						
STATIONID	WaterbodyName	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed
226	Indian Creek	44	3	47	0	42	11	53	43	12	54	0	31	15	46	0	67	67	0	33	0	33	0	83	83	0	17	0	17
227	Walesheba Creek	44	1	45	1	44	11	55	47	2	49	0	43	8	51	0	59	59	0	41	0	41	0	64	64	0	36	0	36
228	Fannegusha Creek	44	2	47	0	35	18	53	39	9	48	0	35	17	52	20	15	35	0	60	3	63	22	16	38	0	57	4	60
229	Bophumpa Creek	48	4	51	0	32	17	48	45	18	63	0	22	14	36	38	21	59	0	35	0	35	42	19	61	0	33	0	33
230	Fannegusha Creek	41	1	43	0	31	26	57	34	5	39	0	35	25	61	21	5	26	0	74	0	74	21	7	28	0	72	0	72
231	Black Creek	48	1	49	1	26	24	51	47	5	53	1	22	24	47	57	17	74	0	19	6	25	61	22	82	0	13	3	17
232	Fannegusha Creek	46	3	49	0	35	16	51	41	11	51	0	33	15	48	20	20	40	0	57	2	59	21	23	44	0	52	3	55
233	Howard Creek	47	0	47	2	22	30	53	47	0	47	2	21	30	53	48	0	48	0	10	42	52	46	0	46	0	7	47	54
234	Apookta Creek	49	0	49	0	24	26	50	45	2	47	0	27	25	52	42	11	52	0	34	13	47	43	14	57	0	28	15	43
235	Jourdan Creek	40	0	40	2	22	36	60	38	0	38	1	25	36	62	11	0	11	0	82	7	89	13	0	13	0	74	13	87
236	Indian Creek	24	0	24	3	34	40	76	34	0	34	0	16	50	66	68	0	68	0	0	32	32	79	0	79	0	0	21	21
237	Box Creek/Green's Creek	34	0	34	2	26	37	65	36	0	36	2	23	38	63	3	0	3	0	41	56	97	6	0	6	0	33	60	94
238	Long Creek	34	2	36	0	31	32	63	33	5	38	0	30	31	60	0	56	56	0	35	9	44	0	67	67	0	29	4	33
239	Tackett Creek	7	0	7	2	64	25	90	4	0	4	0	65	23	89	4	0	4	0	76	20	96	4	0	4	0	70	26	96
240	Senesha Creek	57	0	57	0	16	27	42	60	0	60	0	13	26	39	62	0	62	0	12	26	38	63	0	63	0	12	25	37
241	Big Cypress Creek	20	3	23	0	61	16	77	24	5	29	0	54	17	71	0	51	51	0	41	8	49	0	60	60	0	34	6	40
242	Rambo Creek	75	0	75	0	2	23	25	82	0	82	0	1	17	18	91	0	91	0	0	9	9	98	0	98	0	0	2	2
243	Ellison Creek	24	1	24	0	65	9	75	26	5	30	0	60	9	69	6	0	6	0	73	21	94	3	0	3	0	65	32	97
244	Hobuck Creek	39	0	39	0	27	34	61	46	0	46	0	22	32	54	58	0	58	0	26	16	42	66	0	66	0	21	13	34
247	Scoobachita Creek	66	0	66	0	12	22	34	60	0	60	0	16	25	40	66	0	66	0	19	14	34	68	0	68	0	13	18	32
248	Zilpha Creek	61	0	61	0	15	24	39	60	0	60	0	16	25	40	82	0	82	0	8	10	18	85	0	85	0	5	10	15
249	Yockanookany River	49	4	54	0	24	22	46	47	11	57	0	22	20	42	4	62	66	1	12	21	34	4	62	66	0	12	21	34
250	Lobutcha Creek	70	0	70	0	12	19	30	77	0	77	0	5	18	23	92	0	92	0	3	5	8	94	0	94	0	0	5	6
251	Cole Creek	62	0	62	0	13	25	38	75	0	75	0	6	19	25	86	3	89	0	3	8	11	91	3	94	0	1	6	6
252	Tibby Creek	56	4	60	0	21	19	40	54	9	63	0	21	16	37	0	91	91	0	0	9	9	0	93	93	0	0	7	7
253	Atwood Creek	59	0	59	0	16	24	40	61	0	61	0	11	23	34	89	0	89	0	3	7	10	92	0	92	0	1	5	6
254	Lobutcha Creek	61	6	67	0	13	20	33	60	13	73	0	9	18	27	68	15	83	0	11	6	17	69	14	83	0	10	7	17
255	Jofuska Creek	67	0	67	0	14	19	33	62	0	62	0	18	19	38	84	0	84	0	4	13	16	86	0	86	0	4	10	14
256	Lobutcha Creek	58	6	63	0	15	22	37	58	10	68	0	11	21	32	43	27	70	0	18	12	30	45	25	71	0	17	12	29
257	Lukfapa Creek	69	0	69	0	11	21	31	63	0	63	0	14	23	37	54	0	54	0	11	35	46	53	0	53	0	12	36	47
259	Tuscotameta Creek	42	11	53	1	26	20	47	41	21	61	0	19	20	38	26	55	82	0	10	7	17	26	57	82	0	8	7	16
261	unnamed trib to Pearl River	40	1	42	6	24	27	58	44	5	48	5	21	25	52	23	58	81	7	12	0	19	29	67	96	3	2	0	4
262	Standing Pine Creek	42	3	44	0	31	24	55	37	7	44	0	27	28	55	42	37	79	0	7	13	21	49	40	89	0	3	7	11
263	Noxubee River	78	0	78	0	6	15	21	78	0	78	0	5	13	18	97	0	97	0	0	3	3	97	0	97	0	0	3	3
265	Hughes Creek	34	0	34	9	33	22	64	43	0	43	5	24	26	55	29	0	29	0	32	39	71	37	0	37	0	26	37	63
268	Tallahaga Creek	39	9	48	2	27	22	51	37	17	54	1	22	22	45	20	7	27	0	41	25	66	26	3	29	0	41	24	65
269	Noxapater Creek	41	10	51	0	28	21	49	37	23	60	0	20	19	39	8	56	64	0	10	27	36	2	73	76	0	4	20	24
272	Pinishook Creek	52	12	64	0	20	16	36	45	26	71	0	15	12	27	5	61	66	0	1	0	1	5	46	51	0	0	0	0
273	Owl Creek	35	12	47	0	33	20	52	35	19	55	0	22	23	44	2	70	72	0	13	16	28	2	66	68	0	12	21	32
275	unnamed trib to Kentawka Canal	67	0	67	0	21	12	33	75	0	75	0	15	10	25	86	0	86	0	0	14	14	90	0	90	0	0	10	10
276	Land Creek	45	13	58	0	26	15	42	45	26	71	0	15	14	29	19	78	97	0	3	0	3	12	86	98	0	2	0	2
280	Macedonia Creek	71	0	71	0	12	17	29	76	0	76	0	9	15	24	84	3	87	0	0	13	13	90	4	95	0	0	5	5
281	Plum Creek	4	0	4	0	78	15	93	8	1	8	0	69	19	88	10	5	15	0	52	33	85	12	6	17	0	42	40	83
282	Bogue Chitto Creek	4	3	7	0	81	11	92	10	7	17	0	69	13	82	11	1	11	0	80	7	87	13	2	15	0	74	10	84

Table F-2 (cont'd). Land use/land cover percentages within whole drainage areas and riparian corridors of various dimensions.

		Whole Drainage Area							Riparian (100 m wide, whole drainage long)							Riparian (100 m wide, 1 km long)							Riparian (50 m wide, 1 km long)						
STATIONID	WaterbodyName	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed
284	Shuqualak Creek	47	4	51	0	26	23	49	44	8	52	0	22	26	48	2	89	91	0	8	1	9	1	94	95	0	5	1	5
285	Ash Creek	23	6	29	0	65	5	69	21	16	36	0	58	3	61	8	85	93	0	7	0	7	1	93	94	0	6	0	6
286	Woodward Creek	4	2	6	0	88	6	93	6	6	12	0	80	7	87	65	19	84	0	5	10	15	63	24	87	0	4	9	13
287	Wahalak Creek	77	0	77	0	7	16	23	80	0	80	0	4	16	20	98	0	98	0	1	1	2	98	0	98	0	1	1	2
288	Straight Creek	79	0	79	0	9	11	21	81	0	81	0	8	10	19	41	0	41	0	22	37	59	35	0	35	0	22	43	65
289	Shy Hammock Creek	29	0	29	0	55	14	68	30	0	30	0	49	15	64	5	0	5	0	64	31	95	4	0	4	0	50	46	96
290	Bodka Creek	75	2	77	1	4	18	23	74	8	82	0	1	17	18	50	41	91	0	5	4	9	33	59	92	0	3	5	8
291	Bliss Creek	86	1	87	3	7	3	13	86	4	90	2	5	3	10	2	51	53	12	27	7	47	0	61	61	13	21	5	39
292	Clear Creek	75	1	76	1	17	5	23	75	5	80	1	11	6	18	38	0	38	0	39	22	62	39	0	39	0	37	24	61
293	Hamer Bayou	62	0	62	0	28	7	36	59	0	59	0	28	7	35	40	0	40	0	60	0	60	31	0	31	0	69	0	69
295	Big Sand Creek	70	0	70	0	19	11	30	68	0	68	0	19	13	32	88	0	88	0	12	0	12	84	0	84	0	16	0	16
296	Beaver Creek	74	1	74	0	13	13	26	64	3	67	0	17	16	33	7	55	62	0	24	13	38	1	60	61	0	22	17	39
297	Bogue Chitto Creek	20	13	33	6	41	20	67	20	26	46	5	32	17	54	3	3	6	0	84	10	94	5	3	7	0	82	11	93
298	Limekiln Creek	37	1	38	0	36	22	58	35	4	38	0	34	20	54	0	91	91	6	2	1	9	0	96	96	4	0	0	4
299	Cox Creek	24	2	26	0	56	17	73	20	6	26	0	50	20	69	12	1	13	0	38	49	87	10	1	12	0	41	47	88
300	Porter Creek	22	2	24	0	54	22	75	25	6	31	0	41	25	66	23	56	79	0	12	9	21	21	66	88	0	5	7	12
301	Bear Creek	87	3	89	0	7	3	11	80	11	91	0	5	4	9	12	52	63	0	22	14	37	2	66	68	0	14	18	32
302	unnamed trib to Pearl River	14	1	14	60	15	10	85	21	2	23	56	13	8	77	22	0	22	44	32	2	78	32	0	32	44	24	0	68
303	Bakers Creek	27	2	29	6	46	19	70	35	5	40	4	37	18	59	17	0	17	0	69	13	83	23	0	23	0	54	23	77
304	Fourteen Mile Creek	26	1	28	4	49	19	72	34	3	37	3	40	19	62	23	0	23	0	60	17	77	27	0	27	0	50	23	73
305	Big Creek	22	0	22	5	50	22	77	29	0	29	4	44	22	70	72	0	72	0	6	22	28	81	0	81	0	3	16	19
306	Five Mile Creek	38	0	38	0	41	20	62	42	0	42	0	34	23	58	71	0	71	0	11	18	29	84	0	84	0	5	11	16
307	Rhodes Creek	22	0	22	1	52	24	77	36	0	36	0	37	25	63	24	0	24	0	38	38	76	26	0	26	0	28	46	74
309	Tilda Bogue Creek	20	0	20	0	52	27	79	31	0	31	0	38	31	68	29	0	29	0	40	31	71	35	0	35	0	25	40	65
310	Fannegusha Creek	22	11	33	0	51	16	67	19	25	43	0	43	14	57	12	57	69	0	23	7	31	10	63	73	1	19	8	27
311	Coffee Bogue	57	9	66	0	22	11	33	51	23	73	0	17	9	26	13	63	76	0	17	7	24	14	70	84	0	8	8	16
312	Hurricane Creek	32	10	42	0	34	23	58	25	21	46	0	33	22	54	10	88	98	0	2	0	2	7	93	100	0	0	0	0
313	Red Cane Creek	14	2	16	0	75	9	84	14	6	20	0	65	15	80	11	64	75	0	14	10	25	5	83	88	0	6	6	12
315	Hanging Moss Creek	24	0	24	23	33	19	76	28	1	29	16	31	23	70	9	0	9	73	0	18	91	7	0	7	69	0	24	93
316	Eutaeutachee Creek	52	1	53	2	28	17	46	52	3	55	1	27	16	44	11	87	98	0	2	0	2	5	94	99	0	1	0	1
317	Richland Creek	39	10	50	3	27	20	49	39	21	60	2	21	16	39	44	55	99	0	1	0	1	40	60	100	0	0	0	0
318	Steen Creek	43	0	43	1	34	20	56	53	0	53	1	26	18	46	65	0	65	0	30	5	35	76	0	76	0	21	3	24
319	Strong River	55	8	63	1	19	16	36	56	15	71	0	14	14	28	29	49	78	0	12	10	22	33	50	84	0	5	11	16
321	Schockaloe Creek	49	10	59	0	22	18	41	49	21	70	0	12	18	30	33	60	93	0	0	7	7	30	61	92	0	0	8	8
322	Sipsey Creek	36	11	47	0	30	23	53	32	21	52	0	21	27	48	1	99	100	0	0	0	0	0	100	100	0	0	0	0
323	Tallabogue Creek	48	0	48	1	28	23	52	62	0	62	0	22	15	37	74	0	74	0	15	10	26	81	0	81	0	9	10	19
324	Hontokalo Creek	36	17	52	3	29	16	47	34	30	64	0	21	15	36	18	82	100	0	0	0	0	21	79	100	0	0	0	0
325	Conehatta Creek	53	6	59	0	19	21	41	55	9	64	0	16	20	35	6	87	92	0	1	7	8	4	90	95	0	0	5	5
326	Sugar Bogue	86	0	87	0	6	7	13	89	2	91	0	4	5	9	42	20	62	0	25	13	38	45	23	68	0	14	18	32
327	Ford's Creek	78	0	78	1	11	10	22	78	0	78	0	13	9	22	43	0	43	0	50	7	57	33	0	33	0	59	8	67
328	Cedar Creek	59	20	78	0	10	11	22	40	43	83	0	10	6	17	6	92	98	0	2	0	2	2	97	99	0	1	0	1
329	West Tallahalla Creek	45	15	60	0	30	10	40	41	24	64	0	27	9	36	2	98	100	0	0	0	0	0	100	100	0	0	0	0
330	Caney Creek	68	6	75	1	10	15	25	69	14	82	0	6	12	18	2	92	94	0	6	0	6	1	97	98	0	2	0	2
331	Okatibbee Creek	63	0	63	0	19	19	37	72	0	72	0	9	19	28	42	0	42	0	25	32	58	49	0	49	0	22	29	51

Table F-2 (cont'd). Land use/land cover percentages within whole drainage areas and riparian corridors of various dimensions.

		Whole Drainage Area							Riparian (100 m wide, whole drainage long)							Riparian (100 m wide, 1 km long)							Riparian (50 m wide, 1 km long)						
STATIONID	WaterbodyName	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed
332	Houston Creek	65	0	65	0	17	18	35	80	0	80	0	6	13	20	95	0	95	0	0	5	5	95	0	95	0	0	5	5
335	Potterchitto Creek	51	6	56	2	24	17	43	52	11	63	1	18	16	36	0	93	93	0	7	0	7	0	95	95	0	5	0	5
336	Chunky River	51	4	55	1	24	20	45	55	7	62	1	18	19	37	7	72	79	5	6	5	15	8	71	79	4	3	3	11
337	Okatibbee Creek	53	4	56	1	24	15	41	57	7	64	1	18	14	33	58	15	73	0	8	19	27	62	13	76	0	6	18	24
338	Sowashee Creek	42	2	44	21	26	7	54	42	5	47	16	26	8	50	20	0	20	35	22	23	80	28	0	28	39	17	16	72
339	Okatibbee Creek	51	3	54	6	24	13	43	55	6	61	4	19	13	36	56	9	66	4	11	18	34	61	8	69	3	8	19	30
341	Chunky River	55	3	58	1	21	18	41	58	6	64	1	16	17	34	36	36	72	3	7	4	14	33	34	67	2	5	3	11
343	Bostick Branch	50	0	50	5	31	11	48	48	0	48	8	27	13	48	12	0	12	36	36	16	88	15	0	15	28	40	17	85
344	Big Red Creek	61	10	71	4	14	11	29	57	24	81	1	5	10	17	1	88	88	0	10	1	12	0	97	97	0	3	0	3
345	Blackwater Creek	69	0	69	0	16	15	31	74	0	74	0	13	13	26	84	13	96	0	3	1	4	79	16	96	0	4	0	4
346	Piwticfaw Creek	58	2	60	0	20	20	40	65	3	67	0	15	18	33	0	80	80	0	11	9	20	0	78	78	0	9	13	22
348	Alamuchee Creek	61	9	70	0	19	11	30	58	15	73	0	13	14	27	12	82	94	0	0	4	4	4	91	96	0	0	3	3
349	Irby Mill Creek	62	12	73	0	19	8	27	46	40	87	0	10	3	13	26	74	100	0	0	0	0	16	84	100	0	0	0	0
350	Long Creek	50	11	61	0	28	9	37	45	25	70	0	16	9	25	13	67	79	0	21	0	21	16	72	88	0	12	0	12
353	Annas Bottom	90	0	90	0	3	7	10	90	0	90	0	2	8	10	73	0	73	0	7	20	27	81	0	81	0	5	15	19
354	Fairchild's Creek	72	0	72	1	21	6	28	81	0	81	0	12	7	18	64	0	64	0	3	33	36	68	0	68	0	3	30	32
355	St. Catherine Creek	62	0	62	9	23	5	38	71	0	71	4	19	6	28	37	4	41	4	25	30	59	43	2	45	5	16	35	55
356	Kennison Creek	89	0	89	0	5	7	11	81	0	81	0	8	11	19	54	0	54	0	35	11	46	35	0	35	0	46	19	65
357	Bayou Pierre (downstream)	59	0	59	1	21	19	41	64	0	64	1	17	18	35	39	0	39	0	34	26	61	33	0	33	0	31	36	67
358	unnamed trib to Bayou Pierre	80	0	80	0	14	6	20	86	0	86	0	8	6	14	99	0	99	0	0	1	1	100	0	100	0	0	0	0
359	James Creek	90	0	91	0	7	3	9	91	0	91	0	6	4	9	75	8	82	0	0	18	18	53	15	68	0	0	32	32
360	Little Bayou Pierre	59	0	59	0	28	13	41	68	0	68	0	20	12	32	68	0	68	0	21	11	32	80	0	80	0	13	7	20
362	Dowd Creek	83	0	83	0	12	5	17	92	0	92	0	2	6	8	76	0	76	0	10	14	24	70	0	70	0	10	20	30
363	South Fork Coles Creek	78	0	78	0	15	7	22	78	0	78	0	14	7	21	84	0	84	0	15	1	16	81	0	81	0	19	0	19
364	North Fork Coles Creek	73	0	73	0	16	12	27	78	0	78	0	13	9	22	54	0	54	0	14	32	46	57	0	57	0	5	37	43
365	Middle Fork Homochitto River	71	0	71	0	20	9	29	71	0	71	0	19	10	29	68	0	68	0	17	16	32	69	0	69	0	14	17	31
367	Fifteen Mile Creek	67	0	67	0	15	18	33	67	0	67	0	13	21	33	68	0	68	0	1	31	32	60	0	60	0	1	39	40
368	White Oak Creek	41	0	41	1	36	22	58	49	0	49	0	29	21	51	44	0	44	0	41	15	56	54	0	54	0	32	14	46
369	Tallahalla Creek	33	0	33	1	43	23	66	39	0	39	0	38	22	60	60	0	60	0	26	13	40	71	0	71	0	18	11	29
370	Turkey Creek	54	0	54	2	22	21	45	60	0	60	2	14	22	37	35	0	35	0	40	25	65	26	0	26	0	30	44	74
371	Brushy Creek	50	1	50	1	29	19	49	58	2	60	0	22	17	39	42	50	92	0	8	1	8	39	56	96	0	4	0	4
373	Bayou Pierre (upstream)	54	0	55	1	25	19	45	61	1	62	1	19	17	37	48	0	48	0	12	40	52	33	0	33	0	9	58	67
375	Bahala Creek (Russell Creek)	58	0	58	0	21	20	41	69	0	69	0	16	16	31	63	0	63	0	21	15	37	65	0	65	0	18	17	35
376	Little Bahala Creek	43	1	44	0	30	23	53	47	2	49	0	24	24	48	2	92	94	0	0	6	6	1	94	95	0	0	5	5
378	Bogue Chitto	29	0	29	24	25	22	71	42	0	42	9	24	24	58	83	0	83	7	0	10	17	84	0	84	6	1	9	16
379	Dabbs Creek	66	0	66	1	15	18	34	79	0	79	0	8	13	21	83	0	83	0	8	10	18	84	0	84	0	9	7	16
380	Campbell Creek	55	0	55	0	25	19	44	66	0	66	0	16	17	33	100	0	100	0	0	0	0	100	0	100	0	0	0	0
381	Limestone Creek	73	0	73	0	13	13	27	79	0	79	0	10	11	21	89	0	89	0	5	5	11	91	0	91	0	4	5	9
382	Big Creek	62	0	62	0	19	18	37	70	0	70	0	14	15	30	88	0	88	0	8	4	12	92	0	92	0	7	1	8
383	Riles Creek	52	0	52	0	30	18	47	66	0	66	0	16	17	33	76	0	76	0	8	11	19	77	0	77	0	4	12	16
384	Riles Creek	54	0	54	0	29	17	46	70	0	70	0	15	14	29	91	0	91	0	9	0	9	94	0	94	0	6	0	6
385	Copiah Creek	49	0	49	1	33	17	51	52	1	52	1	27	19	47	37	54	90	0	2	8	10	36	56	92	0	2	6	8
387	Skiffer Creek	39	0	39	0	43	18	61	43	0	43	0	38	19	57	22	0	22	0	72	6	78	26	0	26	0	67	7	74
388	Pegies Creek	58	5	63	0	23	14	37	67	4	71	0	17	12	29	11	61	72	0	28	0	28	12	65	77	0	23	0	23

Table F-2 (cont'd). Land use/land cover percentages within whole drainage areas and riparian corridors of various dimensions.

		Whole Drainage Area							Riparian (100 m wide, whole drainage long)							Riparian (100 m wide, 1 km long)							Riparian (50 m wide, 1 km long)						
STATIONID	WaterbodyName	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed
390	Bahala Creek	46	8	54	0	25	20	45	50	11	61	0	18	20	38	44	40	84	0	9	7	16	46	39	85	0	8	7	15
393	Bowie Creek	41	0	41	0	43	16	59	50	0	50	0	33	17	50	32	0	32	0	50	18	68	35	0	35	0	48	18	65
394	Dry Creek	36	0	36	0	44	19	63	35	0	36	0	37	24	61	51	0	51	0	31	18	49	58	0	58	0	22	20	42
395	Fair River	54	2	56	0	26	17	44	63	2	65	0	18	17	34	1	79	80	0	0	18	18	0	71	71	0	0	26	26
396	Pretty Branch	61	0	61	0	18	21	39	73	0	73	0	11	16	27	55	0	55	0	23	22	45	58	0	58	0	22	20	42
397	Halls Creek	50	0	50	0	31	19	50	63	0	63	0	18	19	37	37	22	59	0	11	28	38	40	23	63	0	7	30	37
398	Silver Creek	46	1	47	0	34	19	53	54	1	55	0	25	20	45	2	70	72	0	27	1	28	1	74	75	0	25	0	25
399	Oakahay Creek	70	0	71	0	17	13	29	76	1	76	0	12	11	24	80	4	84	0	1	15	16	84	6	90	0	2	9	10
400	Leaf River	56	8	64	1	18	18	36	53	15	68	0	14	18	31	12	88	100	0	0	0	0	9	91	100	0	0	0	0
401	West Tallahala	45	19	63	0	23	14	36	38	32	70	0	17	12	30	13	85	98	0	1	1	2	13	87	99	0	0	1	1
403	Keys Mill Creek	70	0	71	0	16	13	29	86	0	86	0	8	5	14	89	0	89	0	11	1	11	90	0	90	0	10	0	10
404	Okatoma Creek	38	0	38	2	41	19	62	53	0	53	1	25	22	47	51	0	51	1	22	26	49	56	0	56	0	20	24	44
405	Leonards Mill Creek	57	0	57	0	30	13	43	74	0	74	0	15	11	26	59	0	59	0	31	10	41	70	0	70	0	22	8	30
406	Oakahay Creek	58	1	59	0	24	17	41	69	1	70	0	14	15	29	66	15	81	0	3	16	19	71	15	86	0	1	13	14
407	Okatoma Creek	44	0	44	2	36	18	56	60	0	60	1	21	18	39	52	0	52	3	29	16	48	57	0	57	2	27	14	43
408	Oakey Woods Creek	50	0	50	0	35	14	50	67	1	67	0	18	14	32	44	16	61	0	20	20	39	46	20	66	0	17	17	34
409	West Bouie Creek	33	0	33	0	45	21	67	46	0	46	0	35	19	54	91	0	91	0	2	7	9	96	0	96	0	1	4	4
410	Souinlovey Creek	52	1	53	0	27	19	46	59	2	61	0	20	19	39	98	0	98	0	0	2	2	99	0	99	0	0	1	1
412	Castaffa Creek	65	2	67	5	9	19	33	60	7	66	15	4	15	34	75	3	78	0	8	14	22	75	1	76	0	7	17	24
413	Tallahala Creek	71	1	71	0	12	16	28	76	1	77	0	9	14	23	88	3	91	0	4	5	9	89	4	93	0	1	6	7
414	Horse Branch	59	2	60	2	22	16	40	55	2	57	1	24	18	43	89	0	89	0	6	5	11	89	0	89	0	7	4	11
416	Tallahoma Creek	61	1	61	0	21	17	38	68	1	69	0	15	16	31	53	0	53	0	47	0	47	52	0	52	0	48	0	48
417	Tallahala	62	1	64	2	17	16	36	70	2	72	1	12	15	27	61	1	62	3	8	14	24	63	2	65	3	4	15	22
418	Buckatunna Creek	50	12	62	0	28	9	37	45	21	66	0	22	11	33	18	82	100	0	0	0	0	12	88	100	0	0	0	0
419	Chickasawhay River	55	4	59	2	22	16	40	59	6	65	2	16	15	33	53	15	68	4	12	12	28	56	13	69	4	10	11	25
420	Five Mile Creek	61	6	66	0	25	8	34	57	10	67	0	22	11	33	19	81	100	0	0	0	0	10	90	100	0	0	0	0
421	Hortons Mill Creek	69	0	69	0	18	12	30	70	0	70	1	12	16	29	71	1	71	9	11	9	29	79	0	79	9	4	8	21
422	Coldwater Creek	60	0	60	2	25	13	40	70	1	71	0	14	15	29	88	9	97	0	0	3	3	90	10	100	0	0	0	0
423	Yellow Creek	60	3	62	0	25	12	38	60	10	70	0	15	15	30	51	0	51	0	11	38	49	62	0	62	0	3	35	38
424	Maynor Creek	50	6	56	2	31	9	41	46	17	63	1	19	8	28	21	79	100	0	0	0	0	18	82	100	0	0	0	0
427	Sandy Creek	76	0	76	0	14	10	24	79	0	79	0	12	8	20	52	0	52	0	35	13	48	57	0	57	0	29	14	43
428	Second Creek	68	0	68	1	26	5	32	74	0	74	1	19	5	25	38	0	38	0	60	2	62	53	0	53	0	45	2	47
429	Crooked Creek	82	0	83	0	11	6	17	73	0	73	0	19	8	27	46	1	48	0	34	18	52	53	1	54	0	29	17	46
430	Buffalo River - downstream	74	1	76	0	14	10	24	74	2	76	0	12	12	24	33	16	48	0	36	16	52	29	15	44	0	37	19	56
431	Millbrook Creek	93	0	93	0	5	3	7	84	0	84	0	10	6	16	59	0	59	0	41	0	41	54	0	54	0	46	0	46
434	Bayou Sara	65	0	65	1	25	9	35	75	0	75	0	18	7	25	3	0	3	0	60	37	97	0	0	0	0	56	44	100
438	Mcgehee Creek	61	0	61	0	20	18	39	64	0	64	0	17	19	36	54	0	54	0	21	25	46	52	0	52	0	24	24	48
439	Richardson Creek	96	0	96	0	1	3	4	97	0	97	0	1	2	3	68	0	68	0	15	17	32	71	0	71	0	15	14	29
440	Middle Fork Homochitto River	74	0	74	0	15	11	26	72	0	72	0	16	12	27	52	0	52	0	24	24	48	54	0	54	0	19	27	46
441	Dry Creek	88	0	88	0	4	7	12	89	0	89	0	4	6	11	82	1	83	0	1	16	17	90	0	90	0	1	9	10
444	Tar Creek	87	0	87	0	5	8	13	89	0	89	0	3	8	11	83	0	83	0	1	16	17	82	0	82	0	0	18	18
445	Ziegler Creek	85	0	85	0	3	12	15	85	0	85	0	1	14	15	81	0	81	0	0	19	19	83	0	83	0	0	17	17
446	Brushy Creek	90	0	90	0	4	6	10	91	0	91	0	5	4	9	65	0	65	0	31	4	35	56	0	56	0	43	1	44
447	Caston Creek	64	0	64	0	18	17	36	78	0	78	0	10	11	22	94	0	94	0	4	2	6	97	0	97	0	3	0	3

Table F-2 (cont'd). Land use/land cover percentages within whole drainage areas and riparian corridors of various dimensions.

		Whole Drainage Area							Riparian (100 m wide, whole drainage long)							Riparian (100 m wide, 1 km long)							Riparian (50 m wide, 1 km long)						
STATIONID	WaterbodyName	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed
448	West Fork Amite River (upper)	48	0	48	0	33	19	52	55	0	55	0	29	16	45	55	0	55	0	25	20	45	62	0	62	0	15	23	38
449	Cars Creek	54	0	54	0	32	14	46	64	0	64	0	23	13	36	71	0	71	0	22	7	29	74	0	74	0	19	7	26
450	Thompson Creek -main stem	50	0	51	0	36	13	49	60	0	60	0	26	14	40	57	0	57	0	22	21	43	64	0	64	0	20	16	36
451	Big Creek	48	0	49	1	33	18	51	58	0	58	0	24	18	42	61	0	61	0	2	37	39	63	0	63	0	1	36	37
452	Bogue Chitto	38	0	38	7	35	19	61	50	0	50	2	30	19	50	80	0	80	4	3	8	16	77	0	77	4	2	6	12
453	Boone Creek	35	0	35	0	46	18	65	50	0	50	0	29	20	49	43	0	43	0	29	28	57	54	0	54	0	20	25	46
454	Bogue Chitto	44	0	45	3	34	18	55	55	0	55	1	25	18	45	63	0	63	1	10	24	35	66	0	66	1	7	22	31
455	Beaver Creek	47	0	47	2	30	18	50	58	0	58	1	14	23	38	74	0	74	0	1	6	8	39	0	39	0	0	3	4
456	Little Tangipahoa River (upper)	41	0	41	12	31	17	59	59	0	59	2	25	12	39	63	0	63	8	3	26	37	82	0	82	6	0	12	18
457	Clear Creek	40	0	40	6	34	19	59	66	0	66	2	16	15	33	50	0	50	0	17	33	50	58	0	58	0	4	38	42
458	Leatherwood Creek	45	0	45	0	37	19	55	63	0	63	0	21	15	37	81	0	81	0	19	0	19	81	0	81	0	19	0	19
459	Topisaw Creek	44	0	44	0	36	21	56	54	0	54	0	26	20	46	88	0	88	0	4	8	12	84	0	84	0	6	10	16
460	Little Tangipahoa River (lower)	27	3	31	11	38	20	69	36	9	45	6	27	20	53	35	19	55	10	15	19	44	44	19	63	10	11	16	37
462	Tickfaw River (upper)	48	3	52	0	32	16	48	52	8	61	0	27	13	39	66	33	99	0	0	1	1	66	34	100	0	0	0	0
463	White Sand Creek	43	2	45	0	36	19	55	51	2	53	0	27	20	47	27	73	100	0	0	0	0	34	66	100	0	0	0	0
464	Tilton Creek	59	0	59	0	23	17	41	75	0	75	0	12	13	25	86	10	96	0	0	4	4	87	11	98	0	0	2	2
465	Holiday Creek	47	0	47	0	36	16	52	60	1	61	0	22	16	38	7	87	93	0	7	0	7	5	87	92	0	8	0	8
466	McGee Creek	33	0	33	0	49	18	67	50	0	50	0	37	13	50	84	0	84	0	12	5	16	94	0	94	0	3	3	6
467	Tenmile Creek	36	0	37	0	47	16	63	52	1	53	0	30	17	47	4	68	73	8	7	13	27	4	76	81	9	2	7	19
468	Upper Little Creek	49	2	51	0	32	16	48	68	2	70	0	16	13	30	24	70	94	0	6	0	6	32	67	99	0	1	0	1
469	Lower Little Creek	50	1	51	0	21	27	48	69	1	69	0	10	16	26	48	10	58	0	24	18	42	64	20	83	0	5	11	17
470	Magee's Creek	33	5	37	0	47	15	63	42	8	51	0	33	16	49	80	0	80	0	14	6	20	85	0	85	0	10	5	15
471	E Fk Pushepatapa Creek	32	3	34	0	52	14	66	43	7	51	0	34	15	49	58	32	89	0	0	11	11	59	31	90	0	0	10	10
472	Clear Creek	56	2	58	0	24	18	42	68	4	72	0	13	15	28	39	46	85	0	9	0	9	41	51	92	0	4	0	4
474	Black Creek	36	0	36	0	45	20	64	54	0	54	0	30	16	46	96	0	96	0	4	0	4	100	0	100	0	0	0	0
475	Shelton Creek	47	0	47	0	34	19	53	69	0	69	0	16	16	31	57	0	57	0	37	5	43	59	0	59	0	36	5	41
476	Bowie Creek	46	0	46	0	35	18	53	59	0	59	0	23	16	40	52	0	52	0	26	18	44	55	0	55	0	22	17	39
477	Monroe Creek	52	0	52	0	29	19	48	77	0	77	0	13	9	23	89	0	89	0	4	7	11	93	0	93	0	0	7	7
478	Leaf River	49	4	53	1	29	16	46	57	8	64	1	18	15	33	48	18	66	1	17	12	30	50	18	68	1	14	11	26
479	Lower Little Creek *	43	0	43	0	19	35	54	63	0	63	0	7	20	27	52	0	52	0	27	21	48	78	0	78	0	5	16	22
480	Black Creek	48	0	48	0	29	21	50	71	0	71	0	11	13	25	91	1	92	0	2	5	8	95	2	97	0	0	3	3
481	Big Creek	64	1	65	0	17	18	34	71	1	72	0	13	13	26	79	0	79	0	0	21	21	80	0	80	0	0	20	20
482	Beaver Dam Branch	42	0	42	5	33	18	56	80	0	80	1	6	10	17	82	0	82	0	10	8	18	96	0	96	0	2	2	4
483	Little Black Creek	43	0	43	1	30	24	55	66	0	66	1	13	16	29	61	0	61	0	23	17	39	67	0	67	0	18	15	33
484	Black Creek	49	1	50	1	27	22	49	68	2	69	0	12	15	27	77	1	78	0	7	15	21	81	1	82	0	5	13	17
485	Red Creek	32	0	32	1	40	27	67	56	0	57	0	17	25	42	74	0	74	0	20	6	26	73	0	73	0	22	4	27
487	Bogue Homo	56	3	58	1	23	17	41	66	4	70	1	12	15	28	78	0	78	0	12	10	22	78	0	78	0	12	10	22
489	West Little Thompson Creek	87	1	87	0	4	8	13	96	1	96	0	0	3	4	99	0	99	0	0	1	1	99	0	99	0	0	1	1
492	Thompson Creek	70	1	71	0	17	12	29	79	1	80	0	9	11	20	96	1	96	0	0	4	4	99	0	99	0	0	1	1
493	Bogue Homo Creek	66	2	68	0	16	15	31	72	4	76	0	10	12	22	22	78	100	0	0	0	0	13	87	100	0	0	0	0
494	Leaf River	49	4	53	1	28	16	46	56	8	64	1	18	14	33	45	20	66	1	16	11	28	46	20	66	1	13	10	24
495	Thompson Creek	68	1	69	0	18	13	31	78	1	79	0	10	11	21	87	2	90	0	3	6	9	90	2	92	0	3	3	7
496	Gaines Creek	68	0	68	0	21	11	32	77	0	77	0	12	11	23	79	0	79	0	2	19	21	79	0	79	0	0	21	21
497	Atkinson Creek	67	0	67	0	22	11	33	77	0	77	0	12	11	23	86	0	86	0	5	9	14	89	0	89	0	2	9	11

Table F-2 (cont'd). Land use/land cover percentages within whole drainage areas and riparian corridors of various dimensions.

STATIONID	WaterbodyName	Whole Drainage Area							Riparian (100 m wide, whole drainage long)							Riparian (100 m wide, 1 km long)							Riparian (50 m wide, 1 km long)						
		Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed
498	Cypress Creek	82	1	83	0	7	11	17	89	1	90	0	4	6	10	94	0	94	0	4	3	6	95	0	95	0	2	3	5
500	Beaver Dam Creek	76	1	76	1	12	11	24	85	1	86	1	6	8	14	98	0	98	0	0	2	2	98	0	98	0	0	2	2
502	Whisky Creek	85	0	85	0	2	13	15	91	0	91	0	0	9	9	85	0	85	0	4	12	15	89	0	89	0	2	10	11
504	Mason Creek	69	0	69	0	21	10	31	75	0	75	0	13	12	25	62	0	62	0	4	34	38	56	0	56	0	2	42	44
505	Meadow Creek	58	1	59	0	31	10	41	71	3	74	0	14	12	26	90	5	95	0	5	0	5	94	3	97	0	3	0	3
506	Big Creek	63	0	63	0	23	13	36	75	0	75	0	13	12	25	54	0	54	0	23	20	43	63	0	63	0	20	18	37
507	Brushy Creek	45	0	45	0	30	24	55	72	0	72	0	9	19	28	78	0	78	0	0	22	22	84	0	84	0	0	16	16
508	Little Hell Creek	59	7	65	0	11	22	33	55	21	75	0	3	19	22	47	41	88	0	0	12	12	60	38	98	0	0	2	2
510	W. Hobolochitto Creek	61	7	69	0	14	16	30	59	22	81	0	7	9	16	32	39	71	0	11	18	29	31	48	79	0	5	16	21
511	Murder Creek	43	6	49	0	21	30	51	50	16	65	0	10	24	34	100	0	100	0	0	0	0	100	0	100	0	0	0	0
513	East Hobolochitto Creek	58	10	68	2	10	19	31	62	24	86	1	2	11	14	56	41	98	0	0	2	2	53	45	99	0	0	1	1
514	Moran Creek	53	13	65	2	14	18	34	56	28	84	0	3	11	14	58	35	92	0	0	8	8	56	39	95	0	0	5	5
515	West Hobolochitto Creek	50	8	58	0	18	24	41	54	22	76	0	8	15	22	38	41	79	0	5	15	20	43	42	85	0	3	11	14
516	Crane Creek	51	9	60	0	15	25	40	56	23	79	0	5	16	21	66	0	66	0	0	34	34	87	0	87	0	0	13	13
517	East Hobolochitto Creek	57	10	67	2	11	19	33	60	24	84	1	3	11	15	59	37	96	0	0	4	4	56	41	97	0	0	3	3
518	Mill Creek	19	15	34	0	34	32	65	28	39	67	0	13	19	33	33	52	85	0	8	7	15	32	60	91	0	4	5	9
519	Turtleskin Creek	58	9	68	0	17	15	32	54	14	68	0	18	13	32	14	14	28	0	9	64	72	10	21	30	0	1	69	70
520	Catahoula Creek	52	10	61	0	16	22	38	60	19	79	0	6	14	20	59	28	87	0	3	10	13	58	33	91	0	2	7	9
521	Dead Tiger Creek	60	18	78	0	10	12	22	50	37	88	0	4	8	12	63	38	100	0	0	0	0	53	47	100	0	0	0	0
522	Black Creek	78	2	80	0	6	14	19	83	4	86	0	3	9	12	64	20	84	0	2	1	3	60	19	80	0	1	1	2
523	Red Creek	58	6	64	1	16	18	35	64	13	78	0	8	12	21	70	14	84	2	2	10	14	69	15	84	2	2	9	14
524	Flint Creek	56	5	61	2	20	13	35	56	13	69	0	10	7	17	55	20	75	0	0	25	25	48	21	69	0	0	31	31
525	Red Creek	55	7	62	1	18	18	37	63	15	77	1	9	12	22	75	12	87	1	5	7	13	74	11	85	0	6	9	15
526	Wolf River	58	5	63	0	15	21	37	63	14	77	0	6	16	22	80	8	87	0	2	7	9	82	8	90	0	0	6	6
527	Tenmile Creek	74	7	80	0	4	16	20	72	21	93	0	0	7	7	52	42	94	0	1	6	6	48	51	99	0	0	1	1
529	Tchoutacabouffa River	72	0	72	0	5	23	28	82	1	83	0	2	14	17	84	2	85	0	0	0	0	86	2	88	0	0	0	0
530	Biloxi River	75	4	79	0	4	17	21	78	10	88	0	1	10	12	22	53	75	0	12	12	25	18	59	77	0	13	10	23
531	Saucier Creek	83	1	85	1	4	10	15	89	4	93	0	2	5	7	94	0	94	0	4	2	6	98	0	98	0	1	0	2
532	Tuxachanie Creek	72	0	73	0	8	19	27	79	2	81	0	4	14	19	61	14	74	0	6	11	17	62	20	81	0	4	10	14
533	Little Biloxi River	59	3	62	0	11	26	37	67	9	77	0	5	16	21	87	8	95	0	4	1	5	89	11	100	0	0	0	0
535	Bernard Bayou	35	12	47	0	23	27	50	40	23	63	0	14	17	31	28	49	77	0	0	11	11	23	57	80	0	0	10	10
536	Flat Branch	22	5	27	12	26	25	64	26	16	43	7	16	22	45	8	0	8	38	15	40	92	5	0	5	38	12	46	95
537	Turkey Creek	27	15	42	2	16	40	58	27	31	58	2	9	31	42	45	32	77	0	7	16	23	43	40	82	0	4	13	18
538	Black Creek	60	2	62	1	18	19	37	72	3	76	0	8	13	22	70	11	80	0	5	11	16	72	10	82	0	3	10	14
539	Little Cedar Creek	27	0	27	0	39	33	73	59	0	59	0	15	23	39	85	0	85	0	0	15	15	88	0	88	0	0	12	12
540	Red Creek	58	6	64	1	16	19	35	64	13	78	0	7	13	21	68	16	84	2	3	9	14	68	16	84	2	3	8	12
541	Big Cedar Creek	40	0	40	1	33	26	59	67	0	67	0	13	20	33	80	0	80	2	8	10	20	85	1	85	2	5	8	15
542	Indian Creek	44	0	44	1	29	26	56	69	0	69	1	13	17	31	62	0	62	0	4	34	38	80	0	80	0	0	20	20
543	Moungers Creek	61	7	69	0	13	18	31	67	6	73	0	6	19	26	94	0	94	0	0	6	6	98	0	98	0	0	2	2
544	Bluff Creek	66	2	68	0	9	22	31	77	2	79	0	4	16	20	64	23	87	0	2	2	4	62	32	94	0	1	2	3
545	Luxapalilla Creek	19	33	52	0	40	7	47	20	53	73	0	22	5	27	30	30	59	0	17	23	41	43	20	63	0	11	26	37
546	Buttahatchie River	54	14	67	0	21	11	32	41	33	74	0	17	8	25	4	91	95	0	5	0	5	6	91	97	0	3	0	3
547	Hatchie River	45	1	46	0	40	13	53	39	1	40	0	45	14	59	38	0	38	0	32	29	61	35	0	35	0	31	32	63
548	Tuscumbia River Canal	27	1	29	3	52	15	70	25	2	27	2	52	17	71	7	16	22	13	50	15	78	8	18	26	12	47	15	74

Table F-2 (cont'd). Land use/land cover percentages within whole drainage areas and riparian corridors of various dimensions.

STATIONID	WaterbodyName	Whole Drainage Area							Riparian (100 m wide, whole drainage long)							Riparian (100 m wide, 1 km long)							Riparian (50 m wide, 1 km long)						
		Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed	Forest	Wetland	All Natural	Urban	Agriculture	Disturbed	All Managed
549	Bowie Creek	45	0	45	0	37	18	55	57	0	57	0	25	17	42	52	0	52	0	30	16	47	56	0	56	0	26	16	41
550	Chickasawhay River	56	4	60	2	21	15	39	60	7	66	1	16	14	32	54	16	70	4	11	10	26	57	14	71	3	9	10	22
551	Escatawpa River	46	2	48	1	22	27	51	59	6	65	1	8	23	31	33	32	65	0	0	0	0	15	32	47	0	0	0	0
552	Strong River	55	3	58	1	23	17	41	61	6	68	0	16	15	32	65	16	81	0	9	9	19	68	17	85	0	6	9	15
553	East Fork Amite River	51	2	53	0	28	18	46	58	5	63	0	22	15	37	74	2	76	0	18	6	24	78	1	80	0	15	6	20
554	Tangipahoa River	40	3	43	4	34	18	56	45	8	53	2	26	18	45	40	26	66	5	19	10	34	42	28	70	4	17	9	29
555	Bull Mnt Creek	43	6	49	0	39	11	50	33	18	50	0	41	7	49	22	66	88	0	0	11	12	21	64	85	0	0	15	15
556	Sucarnoochee River	64	2	66	0	17	16	33	69	3	72	0	11	15	26	34	38	71	0	10	15	26	29	40	69	0	9	18	27
557	Betsy Creek	23	0	23	0	54	23	77	8	0	8	0	73	20	92	0	0	0	0	69	31	100	0	0	0	0	65	35	100
558	unnamed trib to Big Black	37	0	37	3	23	36	63	29	0	29	3	25	43	71	21	0	21	0	18	61	79	35	0	35	0	15	50	65
559	Bates Creek	68	0	68	0	16	17	32	66	0	66	0	24	10	34	75	0	75	0	25	0	25	84	0	84	0	16	0	16
560	Whites Creek	79	0	79	0	3	19	21	81	0	81	0	4	15	19	61	0	61	0	19	20	39	55	0	55	0	19	26	45
561	Cypress Creek	85	0	85	0	6	9	15	93	0	93	0	2	5	7	77	0	77	1	8	14	23	79	0	79	1	3	17	21
562	Minnehaha Creek	40	0	40	7	30	22	59	52	0	52	3	18	26	47	59	0	59	17	24	0	41	71	0	71	12	18	0	29
563	Tangipahoa River	42	2	44	0	38	16	55	47	4	51	0	31	16	46	1	65	67	0	33	0	33	0	65	65	0	35	0	35
564	Bala Chitto Creek	38	4	42	0	38	20	58	43	11	54	0	27	18	45	71	17	88	0	0	12	12	80	15	95	0	0	5	5
565	Terry's Creek	50	4	54	0	25	20	45	52	12	64	0	17	17	34	49	37	87	0	4	10	13	49	48	96	0	2	2	4
566	Scooba Creek	64	4	68	0	15	17	32	66	11	77	0	10	13	23	0	100	100	0	0	0	0	0	100	100	0	0	0	0
567	Mud Creek	22	0	22	2	60	14	76	19	1	20	1	61	15	78	0	0	0	0	49	51	100	0	0	0	0	37	63	100
568	Chiwapa Creek	41	0	41	2	45	10	57	39	0	39	1	43	13	57	0	0	0	0	98	2	100	0	0	0	0	97	3	100
569	Cowpenna Creek	28	0	28	0	67	5	72	25	1	26	0	70	4	74	5	0	5	0	91	3	95	1	0	1	0	96	3	99
600	Hickory Creek	54	5	59	0	14	26	41	67	11	78	0	5	15	20	68	28	96	0	0	4	4	70	28	99	0	0	1	1
601	Orphan Creek	47	7	54	0	13	33	46	59	12	71	0	4	24	29	34	13	47	0	4	49	53	38	18	55	0	2	43	45

Table F-3. Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
1	Jackson Creek	nr Banks	1	6	2	3	3	0	20	8	8	9	9	1	1	71
2	Johnson Creek	nr Walls @ Baldwin Rd.	2	1	3	11	9	7	20	4	3	6	5	4	3	78
3	White's Creek	nr Banks @ Wetonga Lane	12	14	13	15	10	19	18	7	8	7	8	9	10	150
5	Arkabutula Creek	nr Savage	7	14	10	11	10	12	20	8	8	7	8	2	2	119
6	Strayhorn Creek	nr Savage (@Hwy 314)	5	13	7	11	7	10	20	7	6	5	5	4	4	104
7	Horn Lake Creek	nr Southaven at State Line	5	6	11	18	6	20	20	5	3	4	2	1	0	101
9	Hurricane Creek	nr Nesbit	3	15	6	6	10	13	18	7	8	7	8	4	5	110
10	Camp Creek	nr Pleasant Hill	3	18	7	5	7	6	18	6	8	5	8	2	2	95
11	Camp Creek Canal	nr Hernando	5	11	6	3	1	0	18	6	6	2	2	9	9	78
13	Pigeon Roost Creek	nr Cockrum	5	10	2	5	3	4	18	8	7	7	7	7	9	92
14	Short Fork Creek	nr Hernando	7	11	8	3	6	6	11	8	8	8	8	4	4	92
15	Red Banks Creek	nr Cockrum	3	10	2	6	1	6	18	6	9	6	9	2	5	83
16	Beartail Creek	nr Coldwater	12	14	7	3	10	7	18	8	8	8	8	8	5	116
17	Arkabutla Creek	at Hogfoot Road	7	12	7	7	10	10	16	7	7	7	7	2	2	101
18	Hickahala Creek	at Hwy 305	12	14	7	6	6	11	18	8	8	7	8	5	5	115
19	Hickahala Creek	nr Senatobia	6	11	5	6	1	6	16	8	8	7	7	2	5	88
20	James-Wolf Canal	at Hwy 4	7	13	6	6	7	8	20	8	7	9	9	2	1	103
23	Senatobia Creek	at Hunter's Church Road	5	14	3	9	1	8	20	8	8	6	6	4	3	95
24	Greasy Creek	at Childress Road	7	15	3	18	3	16	18	10	7	7	9	10	9	132
26	Early Grove Creek	nr Slayden	6	7	11	16	6	7	0	5	5	4	4	2	2	75
27	Mt. Tena Creek	nr Lamar	7	7	7	16	6	8	0	7	6	7	6	4	2	83
28	Grays Creek	at Michigan City	12	10	8	11	6	4	13	8	8	8	8	1	1	98
30	Coldwater River	at Hwy 311	12	7	12	18	11	16	18	8	8	6	6	9	9	140
31	Oaklimeter Creek	at hwy 349	5	7	5	11	6	4	6	5	6	6	7	2	3	73
32	Tippah River	at Hwy 78	7	10	7	2	6	6	18	6	6	5	5	3	3	84
33	Oak Chewalla Creek	at Hwy 310	13	12	8	16	6	6	18	8	8	9	9	10	10	133
34	Little Spring Creek	at Hwy 310	12	11	13	18	6	14	18	8	8	8	8	9	9	142
35	Big Spring Creek	at Pott's Camp Road	12	14	9	16	14	15	18	8	7	9	9	9	5	145
36	Grahm Mill Creek	nr Abbeyville	6	4	8	18	16	17	10	2	3	2	2	9	2	99
37	Lee Creek	north of Abbeyville	6	7	7	16	6	7	9	6	6	7	6	10	10	103
39	Mill Creek	nr Cornersville (CR18)	6	10	5	14	3	8	8	3	3	2	2	9	9	82
40	Little Mud Creek	at Hwy 30	7	10	11	13	6	0	9	1	1	1	1	1	1	62
41	Lockes Creek	at Hwy 30	7	10	7	11	3	2	8	8	8	8	8	3	2	85
42	Unnamed Trib	near Etta at Hwy 355	12	4	9	7	12	6	11	5	5	5	5	5	4	90
43	Berry Branch	nr College Hill	3	14	0	3	11	2	20	9	9	9	9	2	2	93
44	Hurricane Creek	nr Hwy 7	18	14	18	15	17	10	18	9	9	9	9	9	9	164
45	Puskus Creek	at Hwy 30	8	14	16	16	6	14	9	8	8	8	8	7	9	131
46	Cypress Creek	at CR 244	6	10	3	3	3	0	18	8	8	8	8	10	10	95
47	Little Tallahatchie River	at Hwy 30	6	10	3	3	3	0	18	6	7	7	7	3	8	81
48	Mitchell Creek	at Hwy 30	7	4	18	16	14	9	10	3	3	4	4	4	4	100
49	Porters Creek	nr Hopewell	7	14	6	15	9	10	16	5	5	7	7	1	1	103
50	Muddy Creek	at Tiplersville	6	7	6	1	6	2	16	4	4	5	5	4	1	67
51	Shelby Creek	nr Whitten Town	17	10	13	16	6	13	13	8	8	7	7	8	9	135

Table F-3 (cont'd). Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
52	Little Hatchie River	nr Peoples	11	7	13	3	14	2	16	6	6	6	6	2	3	95
55	Little Tallahatchie River	nr Molino	6	10	6	2	6	2	18	5	5	5	5	1	1	72
56	Cane Creek	near New Albany	6	10	6	3	6	2	18	6	6	7	7	1	1	79
58	Chambers Creek	at Kendrick	6	10	7	3	3	0	18	3	3	4	4	4	1	66
60	Picken's Branch	nr Iuka (CR241)	18	18	18	15	15	15	10	6	6	7	7	5	10	150
61	Bridge Creek	nr Corinth (Hwy 45)	5	10	11	3	6	0	16	3	3	3	3	2	9	74
62	Elam Creek	at Corinth (Hwy 72)	4	4	6	3	3	4	20	4	5	5	5	1	2	66
63	Caney Creek	nr Doskie	5	10	5	6	3	2	13	5	5	5	5	3	1	68
64	Little Yellow Creek	nr Doskie	5	10	6	6	3	2	16	2	3	3	2	6	6	70
65	unnamed trib to Tenn-Tom	nr Doskie (CR 274)	18	18	18	16	12	17	11	8	8	8	8	10	10	162
66	Indian Creek	at Iuka	18	16	18	10	12	8	11	7	5	7	5	9	6	132
67	Mill Creek	nr Iuka	18	18	20	16	18	14	7	6	6	6	6	10	10	155
68	Parmicha Creek	nr Biggersville	7	10	8	14	6	6	10	5	5	5	5	6	1	88
69	Little Cripple Deer Creek	nr Midway (CR 957)	19	18	18	14	15	17	10	4	4	4	4	2	2	131
70	Pennywinkle Creek	nr Iuka (CR 995 (CR 163 on DeLorme))	18	18	18	16	15	16	8	4	4	4	4	9	9	143
73	Cripple Deer Creek	nr State Line	7	11	11	18	6	18	16	3	5	3	7	9	10	124
74	Bear Creek	nr Dennis	18	18	18	15	15	10	11	7	7	8	8	9	9	153
75	Bear Creek	nr Tishomingo at Hwy 30	13	14	18	16	15	13	18	6	7	5	6	7	7	145
76	unnamed trib to Cedar Creek	nr Tish. SP (CR 85)	20	18	18	18	12	17	11	6	6	6	6	10	10	158
77	Donivan Creek	nr kirkville	5	10	6	14	3	7	16	7	7	7	7	8	3	100
79	Rock Creek	at Natchez Trace	14	16	18	16	12	15	11	6	6	6	6	10	10	146
80	Twentymile Creek	nr Pratts (100m DS from Natchez Trace crossing)	7	7	11	3	6	2	18	2	1	2	2	0	1	62
81	Big Brown Creek	at Natchez Trace	6	7	11	3	9	6	13	3	2	2	2	1	1	66
82	Little Brown Creek	at Natchez Trace	18	7	18	15	11	4	16	9	8	9	9	10	7	141
83	Mackey's Creek	upstream from Walker's Bridge Landing	12	11	13	16	11	11	18	6	6	4	4	9	9	130
85	Hotopha Creek	at Hwy 35	5	10	2	5	7	8	18	5	6	5	6	3	6	86
86	Clear Creek	at Hwy 6	12	10	5	6	3	6	13	8	6	7	5	2	2	85
87	Hudson Creek	at Hwy 6	6	14	6	6	3	4	8	5	5	5	5	2	2	71
88	Toby Tubby Creek	nr Oxford	18	14	16	18	10	16	16	6	7	7	8	9	9	154
89	McIvor Canal	at Curtis Road (at light Barnical Road)	7	18	8	3	6	0	11	7	7	5	5	1	1	79
91	Long Creek	at Benson Road	5	17	7	3	10	2	7	8	9	7	9	1	2	87
92	Long Creek	at Eureka Road	5	13	7	13	10	9	13	7	7	6	5	2	5	102
93	Bynum Creek	at Hwy 315	6	13	5	13	11	6	16	8	8	5	7	2	3	103
96	unnamed trib to Yocona River	at Crowder Pope Road	5	19	7	14	18	7	8	6	8	5	8	2	2	109
98	Otoucalofa Creek	nr Water Valley (Hwy 315)	5	10	5	12	3	4	16	9	8	8	8	1	1	90
99	Town Creek	at Water Valley	5	4	0	3	9	0	18	8	8	8	8	2	2	75
101	N Fk Tillatoba Creek	at Hwy 35 (at Teasdale Rd.)	5	15	9	13	6	8	7	7	8	5	8	4	2	97
102	Tillatoba Creek	at Hwy 35	18	18	8	11	7	6	8	7	7	5	5	6	6	112
103	Turkey Creek	nr Coffeeville at Hwy 330	13	14	12	18	11	14	16	7	8	5	7	10	9	144
104	Ascalmore Creek	at Hwy 35 (At Ascalmore Creek Rd.)	5	18	7	5	7	2	11	3	5	5	6	0	3	77

Table F-3 (cont'd). Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
105	Okachickima Creek	nr Bryant	14	12	14	18	11	12	13	7	6	6	5	8	8	134
106	Cypress Creek	at Hwy 7	7	7	12	16	9	11	10	8	8	5	7	9	9	118
107	Organ Creek	at Hwy 7	6	14	7	18	9	2	15	5	5	8	8	1	2	100
108	Lappatubby Creek	at CR 47	5	10	6	5	3	0	16	6	6	7	7	0	2	73
109	Mud Creek	at Hwy 346	6	4	14	11	9	14	10	5	5	6	6	3	3	96
110	Duncans Creek	at CR 836	6	4	10	16	14	18	16	7	3	6	3	9	4	116
111	Burney Branch	nr Oxford	17	15	6	10	1	6	9	6	6	6	6	8	5	101
112	Yocona River	at Hwy 7	4	7	0	1	1	0	20	4	3	5	5	2	2	54
113	Duncan's Creek	at Hwy 346	14	18	18	11	12	11	8	4	4	4	4	10	10	128
114	Yocona River	at Hwy 331	7	7	18	18	6	18	10	3	3	2	2	9	9	112
115	Turkey Creek	nr Pine Valley (@ Turkey Creek Rd.)	17	11	16	16	6	16	15	8	8	5	5	9	9	141
116	Skuna River Canal	at Hwy 32	3	4	6	3	14	0	18	4	5	6	7	0	0	70
117	Persimmon Creek	nr Bruce	3	1	3	3	20	0	11	8	8	8	8	2	2	77
118	Lucknuck Creek	at Hwy 32	7	4	9	16	9	15	11	8	8	6	6	7	7	113
119	Skuna River Canal	at Hwy 9	6	10	6	6	3	6	10	4	4	6	6	3	3	73
120	Cowpen Creek	nr Old Hwy 8 (CR 61) (@ Old State Hwy 8)	3	11	6	6	9	6	16	8	8	8	9	10	10	110
121	Johnson-Coles Creek	at Old Hwy 8	5	14	8	6	6	4	16	8	9	8	8	9	2	103
123	Lappatubby Creek	at Hwy 15 nr Ecru	5	10	7	6	3	2	11	6	4	6	6	4	0	70
126	unnamed trib to Town Creek	at Tupelo	6	4	6	5	14	4	11	4	3	4	5	0	1	67
127	Goodfood Creek	nr Goodfood	5	10	3	15	1	17	13	3	3	3	3	3	10	89
129	Tallabinella Creek	at Natchez Trace	5	7	10	16	6	16	10	4	4	5	5	9	7	104
131	Tubbalubba Creek	nr Pine Grove (150m DS from Alt Hwy 45 crossing)	6	1	11	15	17	6	16	2	2	1	1	3	3	84
133	Town Creek	at Hwy 45 nr Amory	7	10	11	3	6	4	15	3	3	1	1	3	3	70
135	Chuquatonchee Creek	at CR 406	12	10	9	5	9	4	18	1	1	4	4	4	4	85
136	Twentymile Creek	nr Mantachie	6	7	11	3	6	4	11	3	3	1	1	0	0	56
137	Cummings Creek	at Cumming Street	6	7	3	15	6	4	16	3	4	2	3	3	6	78
140	Mantachie Creek	at Peppertown Road	7	7	11	3	6	6	16	2	3	3	3	6	7	80
141	Green Creek	at Van Buren Road	17	7	18	20	14	15	20	9	9	9	9	10	7	164
142	Greenwood Creek	nr Evergreen (300m US from Cummings Rd crossing near Evergreen)	12	7	18	16	6	6	16	3	3	2	2	9	9	109
143	Bull Mnt Creek	at Horn's Crossing Creek	18	14	16	18	17	18	20	9	9	9	9	10	10	177
146	unnamed trib to Bull Mnt Creek	at Hwy 23	12	7	16	18	11	15	16	3	5	5	6	9	9	132
149	Weaver Creek	at Becker (200m US of Hwy 25 road crossing)	12	16	18	16	14	11	18	7	7	6	6	9	9	149
151	Mattuby Creek	at Hwy 45	6	11	13	11	9	10	10	2	2	2	2	2	2	82
152	Wolf Creek	nr Aberdeen	18	18	13	16	20	16	18	6	6	6	5	10	10	162
153	Halfway Creek	at Greenbriar Road	13	7	18	16	11	11	16	6	6	7	6	9	7	133
155	Big Sand Creek	nr Greenwood	3	14	0	3	6	6	16	7	7	8	5	2	10	87
156	Riverdale Creek	nr Grenada	5	7	7	18	6	14	8	6	4	5	5	1	8	94
157	Batupan Bogue	at Hwy 8	7	7	6	3	6	6	10	1	1	3	1	6	6	63
158	Cane Creek	nr Holcomb	6	11	11	18	6	13	16	5	7	6	6	9	4	118
159	Potacocowa Creek	at Hwy 35	2	4	0	5	17	4	18	9	9	8	5	10	9	100

Table F-3 (cont'd). Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
160	Pelucia Creek	at Airport Road	6	14	5	2	3	6	18	5	8	5	8	8	10	98
161	Abiaca Creek	at Pine Bluff Road	3	12	0	11	10	6	15	8	8	8	6	9	9	105
162	Coila Creek	at Blackhawk Road	14	12	5	18	10	13	10	5	5	7	7	9	9	124
163	Hays Creek	nr Vaiden	12	7	7	6	6	6	9	3	3	2	2	2	2	67
164	Peachahala Creek	nr Vaiden	7	13	12	16	6	10	15	6	5	6	5	3	1	105
165	Butputter Creek	nr Gore Springs	13	11	9	16	11	4	18	8	7	8	6	0	0	111
166	Topashaw Creek Canal	at Hwy8/9 (175m US from CR 481)	5	7	11	3	6	0	16	1	1	1	1	3	3	58
167	Little Topishaw Creek	nr Hohenlinden	6	4	16	15	14	12	13	1	1	0	0	3	9	94
168	Redgrass Creek	at Redgrass Road	4	7	0	16	15	4	11	5	5	5	5	0	0	77
169	Horse Pen Creek	at Cadaretta Road	13	10	8	18	11	4	8	3	5	7	7	5	3	102
170	Sabougla Creek Canal	nr Dentontown	6	7	11	2	3	2	15	4	0	2	9	1	2	64
171	Wolf Creek	at CR 252	6	8	13	5	17	4	13	8	8	4	8	6	9	109
172	Little Black Creek	nr Eupora (200 m US from Hwy 82 Rd. crossing)	2	7	2	3	1	2	11	1	2	1	1	3	6	42
173	Calabrella Creek	nr Pellez (200 m from CR 65 crossing)	12	7	16	20	11	17	16	5	5	3	3	10	10	135
174	Lewis Creek	nr Winona	5	11	11	6	6	10	20	6	6	2	2	9	9	103
175	Mulberry Creek	nr Sibleyton (~100m US from Salem Rd crossing)	7	7	6	16	6	6	16	2	2	3	3	1	1	76
176	Wolf Creek	nr Sibleyton (350 m DS of Hwy 82 Rd crossing)	7	6	8	15	16	11	18	7	5	5	5	9	10	122
177	Big Bywy Canal		6	6	11	3	3	2	18	1	1	2	2	9	3	67
178	McCurtain Creek	nr Eupora (150 m nr. Eupora)	12	7	11	16	9	6	15	5	8	5	8	9	9	120
179	Poplar Creek	nr Poplar Springs (150m US from Watson Rd. crossing)	7	7	11	15	9	10	18	2	1	1	1	6	9	97
180	unnamed trib to Poplar Creek	at Hwy 407	13	14	16	20	11	16	15	4	6	5	7	9	9	145
181	Topashaw Creek Canal	nr Atlanta (250m US from CR 471 crossing)	6	7	2	3	1	1	13	3	7	2	5	0	0	50
182	Houlka Creek	at Siloam-Una Road	7	7	9	5	6	4	18	5	5	5	5	2	5	83
183	Sand Creek	at Hwy 46	12	7	2	15	6	6	13	6	6	6	4	9	3	95
184	Spring Creek	nr Sapa (200m US of CR 132)	17	10	18	20	17	16	18	9	9	9	9	9	9	170
185	Line Creek	at Hwy 50	5	7	6	16	6	18	18	1	2	2	2	6	6	95
187	Long Branch	nr Oktibbeha Co. Lake (200m DS of Wade Rd.)	5	4	2	15	17	7	16	1	1	3	3	4	6	84
188	Trim Cane Creek	at Hwy 389 nr Starkville	7	7	11	11	6	6	11	1	0	0	0	3	9	72
190	Hollis Creek	at New Prospect Road (150m DS of Poorhouse Rd. crossing)	7	1	6	15	19	6	19	6	6	6	6	3	7	107
191	Cypress Creek	at Hwy 25	12	10	16	16	17	16	18	6	9	6	7	9	7	149
193	James Creek	nr Aberdeen	4	11	6	9	6	6	7	1	1	0	0	4	4	59
195	Hang Kettle Creek	at Strong Road (@ Basinger Rd.)	6	8	6	3	12	0	9	1	1	3	1	4	1	55
196	Spring Creek	nr Strong	12	12	8	18	6	18	18	4	4	8	5	9	9	131
197	McKinley Creek	at Hwy 45	19	20	18	16	17	19	16	8	8	7	7	10	10	175
198	Town Creek	at Vinton Road	4	8	3	5	6	2	9	2	2	1	1	0	0	43
200	Town Creek	at West Point at Old Tibbie Road	5	11	0	3	3	0	16	2	2	4	4	9	2	61
202	Spring Creek	nr Stephen	1	6	0	11	1	6	16	7	7	8	8	5	4	80

Table F-3 (cont'd). Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
204	Cooper Creek	nr Steens	18	20	18	16	12	19	10	4	4	3	3	10	10	147
205	Yellow Creek	above Lux confluence at Gunshot Road	13	18	18	16	15	16	18	7	6	7	6	9	9	158
206	Yellow Creek	at Lynn Creek Road	14	13	13	16	9	13	11	6	6	2	2	10	10	125
207	Catalpa Creek	nr Clay/Lowndes Co. line	7	12	13	12	14	16	16	7	8	8	7	5	2	127
209	McCrary Creek	at Columbus	13	18	9	16	11	12	10	8	8	6	7	1	7	126
210	South Branch	at Black Prairie WMA off Hwy 45	5	9	0	6	12	18	10	5	5	4	3	9	9	95
214	Kincaid Creek	at Hwy 69	15	16	15	18	15	13	16	6	6	8	8	5	2	143
216	James Creek	at Hwy 792	4	4	6	16	14	11	13	5	5	9	9	5	8	109
218	Harland Creek	at New Hope Road	6	10	6	5	7	10	10	5	3	9	5	4	8	88
219	Tesheva Creek	nr Eden	7	14	8	16	7	13	8	1	3	1	4	9	4	95
220	Piney Creek	at Rebecca Road	6	6	8	7	3	8	7	6	4	9	9	2	1	76
221	Short Creek	at Hwy 3 (Short Ck Rd.)	11	11	6	16	9	12	7	5	5	5	5	3	9	104
222	Cypress Creek	nr Myrleville	3	6	11	14	6	12	15	1	1	1	1	9	3	83
223	Deer Creek	nr Scotland	7	6	0	16	3	6	8	6	7	6	6	9	9	89
224	Oneil Creek	at Hwy 3	3	7	3	16	1	18	7	5	3	5	3	9	2	82
225	Perry Creek	nr Tinsley	11	14	8	16	7	16	7	3	5	3	5	10	3	108
226	Indian Creek	nr Dover	6	9	6	16	6	17	10	1	1	1	1	7	8	89
227	Walesheba Creek	nr Dover	3	4	11	16	6	11	11	1	1	1	1	2	6	74
228	Fannegusha Creek	north of Hwy12	5	6	11	6	7	7	9	3	3	7	9	2	1	76
229	Bophumpa Creek	at Hwy 17	12	11	7	16	6	11	7	6	5	4	5	9	7	106
230	Fannegusha Creek	at Hwy 17	5	10	7	15	7	6	10	2	1	1	1	2	3	70
231	Black Creek	nr Lexington	6	7	13	6	7	4	18	5	5	8	8	3	7	97
232	Fannegusha Creek	nr Howard	7	11	7	5	7	2	13	3	3	7	7	7	7	86
233	Howard Creek	nr Durant	12	7	8	13	6	11	11	5	5	4	4	4	4	94
234	Apookta Creek	nr Durant	12	7	12	16	10	13	10	4	4	3	3	4	4	102
235	Jourdan Creek	nr Durant	6	7	9	15	6	10	10	4	5	5	4	3	1	85
236	Indian Creek	nr Vaiden	5	1	7	16	17	12	13	4	4	4	4	3	7	97
237	Box Creek/Green's Creek	nr Goodman	7	10	12	16	6	10	8	2	3	3	3	1	2	83
238	Long Creek	nr Sallis	12	11	12	18	9	16	16	3	3	4	4	9	4	121
239	Tackett Creek	nr Pickens	6	7	6	14	6	6	16	4	4	3	3	3	5	83
240	Senesha Creek	nr Goodman (@CR 4002)	6	7	11	6	6	4	18	4	5	6	6	2	1	82
241	Big Cypress Creek	at Hwy 432	12	8	12	18	6	16	18	4	4	4	4	9	9	124
242	Rambo Creek	nr Madison/Leake Co. Lin	15	17	18	20	6	20	20	9	9	8	8	10	10	170
243	Ellison Creek	at Fowler Road	6	12	8	14	7	10	9	5	5	6	6	5	3	96
244	Hobuck Creek	at Stump Bridge Road (150m US of bridge)	6	11	11	18	9	19	15	4	1	4	0	9	7	114
247	Scoobachita Creek	nr Hwy 35	19	17	18	20	6	20	18	8	8	3	3	10	10	160
248	Zilpha Creek	nr Vaiden	18	16	20	18	6	19	20	9	9	6	6	9	9	165

Table F-3 (cont'd). Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
249	Yockanookany River	at Hyw 411	9	14	10	3	6	6	20	8	8	6	7	1	2	100
250	Lobutcha Creek	at Bethany Ebeneezer Road	13	11	13	20	6	20	18	9	9	8	8	10	10	155
251	Cole Creek	at Cole Creek Road	6	13	10	15	16	6	20	8	9	3	3	10	10	129
252	Tibby Creek	at Hwy 407	8	11	12	20	11	19	18	8	8	5	4	10	10	144
253	Atwood Creek	nr Kosciusko	18	14	20	20	11	20	18	9	9	5	6	7	7	164
254	Lobutcha Creek	at Hwy 19	17	13	18	20	9	20	18	9	9	6	5	10	10	164
255	Jofuska Creek	at Hwy 19	6	14	15	16	3	12	18	10	10	5	5	10	10	134
256	Lobutcha Creek	at Mars Hill Road (moved to Hwy 125)	16	15	15	20	9	20	20	8	8	5	9	8	10	163
257	Lukfapa Creek	nr Edinburg	14	14	20	20	11	20	20	9	9	9	9	6	7	168
259	Tuscotameta Creek	nr Tuckers Crossing	12	10	12	16	6	12	18	2	2	3	5	9	9	116
261	unnamed trib to Pearl River	at Carthage (Blanch Road)	6	4	13	1	14	0	18	3	3	5	5	0	0	72
262	Standing Pine Creek	at Hwy 488	6	14	6	11	0	2	18	2	2	2	2	9	9	83
263	Noxubee River	at Sturgis Road (75m US from Pigeon Roost bridge crossing)	7	7	6	16	3	10	10	3	3	3	3	10	10	91
265	Hughes Creek	nr Louisville	6	14	12	20	6	20	20	6	8	7	7	3	4	133
268	Tallahaga Creek	at Hwy 490	3	6	11	1	11	2	20	5	5	2	3	1	1	71
269	Noxapater Creek	nr Stallo	13	9	11	18	11	19	20	9	9	9	9	10	10	157
272	Pinishook Creek	nr Arlington	17	16	11	20	9	20	20	9	9	8	8	10	10	167
273	Owl Creek	at Hwy 491 (at Hwy 21)	6	9	2	18	14	14	1	8	8	8	8	10	10	116
275	unnamed trib to Kentawka Canal	at Frog Level Road	6	12	6	16	3	8	18	9	9	6	6	10	10	119
276	Land Creek	at Hwy 495	12	14	0	16	19	16	1	9	9	9	9	7	10	131
280	Macedonia Creek	at Hwy 45	13	14	11	16	14	8	18	9	9	9	9	10	8	148
281	Plum Creek	nr Macon	1	1	0	18	16	2	18	2	6	9	9	0	9	91
282	Bogue Chitto Creek	nr Dinsmore	3	1	6	16	14	12	9	3	7	9	8	8	5	101
284	Shuqualak Creek	nr Calyx	14	13	14	16	9	6	15	8	8	7	4	10	8	132
285	Ash Creek	at Paulette Road	11	14	3	20	16	14	10	4	4	7	6	10	7	126
286	Woodward Creek	at MS/AL state line	5	1	11	16	14	15	16	5	3	9	9	10	8	122
287	Wahalak Creek	at old Hwy 45	13	13	13	18	9	12	16	8	8	6	6	9	10	141
288	Straight Creek	at Hwy 39	15	11	15	18	14	16	18	9	9	7	8	7	9	156
289	Shy Hammock Creek	at Hwy 16	2	1	0	16	17	1	18	2	2	9	9	9	2	88
290	Bodka Creek	nr Electric Mills	13	13	11	18	11	10	15	8	6	8	4	10	10	137
291	Bliss Creek	at Hwy 61	13	12	9	16	9	10	11	6	7	6	7	2	3	111
292	Clear Creek	nr Bovina	7	9	12	18	3	14	4	2	3	3	3	3	6	87
293	Hamer Bayou	nr Vicksburg	12	12	14	16	10	11	7	6	5	5	5	5	1	109
295	Big Sand Creek	at Nathcez Trace	16	7	13	14	6	6	6	9	9	8	8	10	10	122
296	Beaver Creek	nr Mechanicsburg	14	11	11	18	9	11	3	6	6	4	2	9	9	113
297	Bogue Chitto Creek	nr Nevada	7	6	9	3	9	2	18	3	3	5	5	1	1	72
298	Limekiln Creek	at Hwy 49 (nr Pochahontas)	14	13	11	18	11	15	8	6	6	7	7	9	9	134

Table F-3 (cont'd). Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
299	Cox Creek	nr Edwards	13	14	11	16	6	4	4	7	7	3	3	7	0	95
300	Porter Creek	nr Edwards	3	4	11	14	6	10	11	1	1	1	1	9	10	82
301	Bear Creek	nr Youngton	14	8	14	18	6	11	6	8	8	7	7	7	9	123
302	unnamed trib to Pearl River	at Southport	12	10	13	2	11	2	16	4	4	8	8	1	1	92
303	Bakers Creek	nr Edwards	6	16	6	16	12	13	15	6	6	4	4	4	5	113
304	Fourteen Mile Creek	nr Edwards	5	7	12	16	7	12	8	4	5	4	6	6	5	97
305	Big Creek	at Terry Road	12	12	11	18	12	18	9	6	6	5	5	7	9	130
306	Five Mile Creek	nr Newman	11	11	8	16	6	10	7	9	7	8	6	9	6	114
307	Rhodes Creek	nr Rosemary	7	6	11	16	11	11	16	8	6	6	6	9	7	120
309	Tilda Bogue Creek	nr Canton (US from bridge on Hwy 16)	6	6	11	18	14	20	16	3	2	4	4	5	5	114
310	Fannegusha Creek	at Hwy 25	13	12	7	16	9	13	11	7	7	7	7	9	9	127
311	Coffee Bogue	at Hwy 25	11	8	11	18	6	19	20	9	9	5	5	9	9	139
312	Hurricane Creek	at Fleming Road	6	9	0	16	9	12	20	7	7	6	6	7	7	112
313	Red Cane Creek	at Weaver Road	7	11	3	18	18	16	16	7	7	6	6	10	10	135
315	Hanging Moss Creek	at Jackson (Ridgewood Rd. @ Chatham Village Apts.)	5	7	0	1	15	0	18	7	7	3	5	1	1	70
316	Eutaeutachee Creek	at Hwy 80	3	11	9	16	16	9	18	2	2	5	5	9	9	114
317	Richland Creek	at Old Pearson Road (W. Petros Rd)	6	7	9	18	10	10	10	7	7	6	6	6	10	112
318	Steen Creek	nr Sinai (@ White St/White Rd.)	13	14	18	16	14	12	15	7	6	7	6	7	9	144
319	Strong River	at Hwy 541	17	13	12	18	6	19	20	10	10	4	5	9	9	152
321	Schockaloe Creek	at Pea Ridge Road	7	11	7	11	10	8	18	8	5	9	6	10	10	120
322	Sipsey Creek	at Hwy 21	18	15	16	18	17	11	20	3	3	4	4	9	9	147
323	Tallabogue Creek	nr Hwy 35/ at King Road	6	9	11	16	3	7	18	7	8	6	6	3	7	107
324	Hontokalo Creek	at Hwy 21	17	16	15	20	18	4	20	6	8	6	8	10	10	158
325	Conehatta Creek	at Hwy 489	17	17	18	18	17	14	18	8	8	9	9	10	10	173
326	Sugar Bogue	at Hwy 13	7	9	2	16	18	14	18	8	8	6	6	10	10	132
327	Ford's Creek	at Hwy 61	13	14	8	16	7	15	8	9	10	8	9	9	9	135
328	Cedar Creek	nr Theadville (at Morton Marathon Road)	6	11	8	18	14	16	20	8	8	8	8	9	9	143
329	West Tallahalla Creek	(@ Morton Marathon Rd.)	7	8	13	18	15	18	16	5	5	8	7	9	9	138
330	Caney Creek	at Hwy 481	5	12		18	14	10	16	3	3	7	7	10	10	115
331	Okatibbee Creek	nr Rio	18	17	20	20	14	19	20	7	8	7	6	7	8	171
332	Houston Creek	nr Rio	19	16	18	20	14	20	20	9	9	8	8	7	9	177
335	Potterchitto Creek	at Hwy 503	19	17	18	20	6	20	20	9	8	9	9	10	9	174
336	Chunky River	at Chunky	18	9	20	20	18	20	20	10	10	9	9	10	10	183
337	Okatibbee Creek	at Meridian at Old Hwy 80	17	13	18	18	14	19	20	8	9	9	8	7	9	169
338	Sowashee Creek	nr Meridian	7	4	8	20	17	19	20	9	8	7	8	7	7	141
339	Okatibbee Creek	nr Arundel (east of Arundel)	5	6	11	15	11	16	20	8	7	6	6	9	7	127
341	Chunky River	nr Enterprise (@ Dunns Falls)	18	6	20	20	18	20	20	9	10	9	9	9	10	178

Table F-3 (cont'd). Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
343	Bostick Branch	at Stonewall Burlington Denim Plant	11	11	11	6	6	11	20	7	7	8	8	1	1	108
344	Big Red Creek	nr Meridian AFB	19	13	14	19	14	18	14	9	9	8	9	10	10	166
345	Blackwater Creek	at Moore Road	13	11	13	18	11	12	13	9	9	9	9	10	10	147
346	Piwticfaw Creek	at Hwy 45	12	10	7	18	14	13	18	8	8	6	6	9	9	138
348	Alamuchee Creek	at MS/AL state line	15	14	13	20	6	20	20	7	7	6	6	8	8	150
349	Irby Mill Creek	at BW Johnson Road	19	15	16	20	6	20	20	9	9	9	9	9	10	171
350	Long Creek	nr Sykes at Hwy 18	19	14	18	20	6	20	20	10	10	9	9	8	7	170
353	Annas Bottom	at Quitman Road	13	11	11	14	14	14	9	5	5	5	5	6	9	121
354	Fairchild's Creek	at Churchhill Road	11	11	12	15	7	18	9	4	6	3	4	9	9	118
355	St. Catherine Creek	nr Nathcez	5	7	6	13	1	11	7	3	5	4	5	3	1	71
356	Kennison Creek	nr Willows	7	14	13	16	7	17	6	4	6	4	4	7	4	109
357	Bayou Pierre (downstream)	at Hwy 18	6	7	11	15	7	7	8	6	2	6	1	9	9	94
358	unnamed trib to Bayou Pierre	nr Carlisle	11	7	7	16	9	11	13	9	9	9	9	9	7	126
359	James Creek	at Rodney Road	4	10	3	16	6	11	6	9	7	8	6	10	10	106
360	Little Bayou Pierre	at Hwy 18 (Natchez Trace)	7	10	12	15	6	7	9	2	3	3	3	3	5	85
362	Dowd Creek	at Rodney Road	19	18	18	16	15	18	7	7	4	7	4	9	9	151
363	South Fork Coles Creek	at CR 553	13	18	9	16	12	15	8	8	6	8	6	9	9	137
364	North Fork Coles Creek	at Frazier Road (Stonington Rd.)	12	12	10	15	12	12	7	9	9	7	7	9	9	130
365	Middle Fork Homochitto River	nr Perth	6	14	8	16	7	7	8	9	9	8	8	10	10	120
367	Fifteen Mile Creek	at Fifteen Mile Creek Road	19	11	18	18	15	13	8	6	6	7	6	9	9	145
368	White Oak Creek	at Carpenter	6	11	7	3	7	2	11	3	3	4	4	3	4	68
369	Tallahalla Creek	at Hwy 27	6	1	7	15	10	10	7	8	8	8	7	9	8	104
370	Turkey Creek	at Dentville Road	12	10	8	16	10	7	15	9	7	9	7	7	8	125
371	Brushy Creek	at Hwy 27	11	14	8	14	8	4	9	9	6	7	6	9	3	108
373	Bayou Pierre (upstream)	at Old Port Gibson Road	11	14	11	13	12	11	8	7	7	6	8	9	3	120
375	Bahala Creek (Russell Creek)	nr Sand Hill (@ Martinsville Rd.)	7	14	14	9	6	6	13	5	4	5	4	3	0	90
376	Little Bahala Creek	Timberlane Road	8	11	8	16	10	7	8	4	5	4	4	6	1	92
378	Bogue Chitto	at Hwy 84	14	10	16	16	9	11	10	9	9	8	8	9	9	138
379	Dabbs Creek	at Gum Springs Road	12	14	11	15	10	5	16	7	8	5	5	9	9	126
380	Campbell Creek	at Campbell's Creek (Rd.)	12	16	13	17	16	10	15	6	4	8	3	9	3	132
381	Limestone Creek	Old River Road (125 m US of Old River Road)	12	11	18	16	7	4	11	8	7	7	6	9	6	122
382	Big Creek	at Bearcat Road	13	3	18	20	18	15	18	9	9	8	8	9	6	154
383	Riles Creek	at Hwy 43	12	18	10	15	10	13	10	9	4	8	4	9	3	125
384	Riles Creek	at Lee Boggan Road	19	17	18	15	15	13	16	6	10	7	9	3	10	158
385	Copiah Creek	at Hwy 27	7	7	8	14	7	13	18	5	2	5	3	7	6	102
387	Skiffer Creek	nr Jaynesville (200 m of Mt. Olive Rd crossing)	5	8	6	15	14	2	18	5	6	6	6	8	8	107
388	Pegies Creek	north of Oma (150m US of Hwy 27)	13	7	8	15	7	3	13	6	6	6	6	9	9	108

Table F-3 (cont'd). Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
390	Bahala Creek	south of Oma (200m US from Unnamed road)	7	14	6	15	3	11	13	1	1	2	2	9	7	91
393	Bowie Creek	nr Mt Carmel Hwy 84	8	7	16	16	11	16	16	4	4	6	4	6	9	123
394	Dry Creek	at Hwy 84	6	10	3	14	11	2	6	4	5	5	5	7	4	82
395	Fair River	at Hwy 27	17	18	7	15	15	17	20	7	7	7	7	6	6	149
396	Pretty Branch	nr Ferguson (150m US of Mill Rd. crossing)	6	10	3	13	10	12	10	4	4	4	6	0	3	85
397	Halls Creek	at Hwy 587	17	16	9	14	12	14	20	5	5	6	6	6	5	135
398	Silver Creek	at Hwy 43	12	15	13	16	6	18	20	9	9	9	9	8	8	152
399	Oakahay Creek	nr. Raleigh at Hwy 18	12	7	11	15	14	11	10	6	4	5	3	3	7	108
400	Leaf River	nr Sylvareena at Hwy 18	9	9	20	18	12	19	20	10	10	9	8	10	7	161
401	West Tallahala	nr Sylvareena at Smith Co 99	12	11	13	16	9	14	18	4	4	5	5	9	9	129
403	Keys Mill Creek	nr Leaf River	12	12	14	16	11	13	16	8	8	8	8	9	9	144
404	Okatoma Creek	nr Mt. Olive (250m US of Cherry Bridge Rd.)	18	7	17	15	6	11	18	9	9	8	8	9	7	142
405	Leonards Mill Creek	nr Mt. Olive (75-100m US of Rock Hill Rd crossing)	18	16	17	15	12	8	18	9	9	9	9	9	6	155
406	Oakahay Creek	nr. Hot Coffee on Hwy 37	17	18	18	16	16	18	8	3	5	3	5	1	9	137
407	Okatoma Creek	nr Collins at Hwy 84	13	10	11	16	14	17	15	6	7	6	6	7	8	136
408	Oakey Woods Creek	at Hwy 588	12	14	13	15	12	8	15	8	8	8	8	9	10	140
409	West Bouie Creek	at Sumrail Road	13	15	18	20	11	16	13	7	7	7	6	7	9	149
410	Souinlovey Creek	nr Pachuta at Hwy 513	17	16	20	18	14	19	20	9	9	6	6	10	10	174
412	Castaffa Creek	at Hwy 11 nr Barnett	16	15	2	16	3	19	20	10	8	9	9	9	3	139
413	Tallahala Creek	nr Heidleberg (@ Hwy 528)	16	11	12	16	9	17	20	8	8	4	6	7	9	143
414	Horse Branch	nr Heidleberg	12	11	3	5	11	6	20	7	8	6	6	1	1	97
416	Tallahoma Creek	nr Moss	12	10	8	16	9	11	18	3	6	6	6	9	9	123
417	Tallahala	nr Laurel	7	10	14	15	11	8	18	6	3	6	6	9	3	116
418	Buckatunna Creek	nr Sykes at Hwy 18 (@ Hwy 514)	16	14	18	18	14	20	20	9	8	7	7	6	6	163
419	Chickasawhay River	at DeSoto	17	11	18	16	18	17	20	10	10	9	9	8	8	171
420	Five Mile Creek	nr Crandall	19	15	12	20	9	20	20	8	8	7	7	3	3	151
421	Hortons Mill Creek	at Boice and Hwy 45	12	14	3	14	6	7	8	8	8	8	7	3	3	101
422	Coldwater Creek	at Tokio Frost Bridge	12	14	10	16	11	12	11	8	8	8	8	10	10	138
423	Yellow Creek	nr Boice (@ Old River Rd.)	20	17	20	20	17	20	20	7	8	9	10	7	9	184
424	Maynor Creek	nr Clara	12	16	13	18	14	14	15	6	7	6	7	2	7	137
427	Sandy Creek	at Deerfield Road	7	7	7	14	1	18	7	9	9	8	7	9	7	110
428	Second Creek	at Hutchins Landing Road	12	10	9	14	7	9	10	9	9	8	8	5	5	115
429	Crooked Creek	on Natchez-Rosetta Road	6	7	7	15	7	14	8	7	7	7	7	9	5	106
430	Buffalo River - downstream	at lower Woodville Road (Sanders Fork Rd.)	7	7	5	16	3	18	7	8	7	5	7	9	8	107
431	Millbrook Creek	at Millbrook Road	7	10	5	15	7	8	7	9	9	9	9	10	5	110
434	Bayou Sara	at Wyoming Road	7	11	7	16	7	8	8	9	9	8	9	8	9	116
438	Mcgehee Creek	at Holland Road	13	10	12	16	12	7	16	9	9	9	9	9	9	140

Table F-3 (cont'd). Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
439	Richardson Creek	at Bunkley Road	5	7	3	16	3	16	9	2	2	2	2	6	3	76
440	Middle Fork Homochitto River	nr Meadville at Hwy 84/98	5	7	3	14	1	11	6	6	8	6	8	9	10	94
441	Dry Creek	at Natchez-Rosetta Road (Perry Town Rd.)	14	14	18	16	12	18	6	6	6	6	6	9	9	140
444	Tar Creek	just off Hwy CR 563	13	16	16	16	9	18	8	8	8	6	6	10	10	144
445	Ziegler Creek	at Freewood Road	5	10	11	15	6	14	18	4	4	7	7	9	9	119
446	Brushy Creek	at Homochitto Road	6	10	5	15	3	8	6	9	4	9	4	10	10	99
447	Caston Creek	at Oxford Road	20	18	10	20	15	19	10	9	9	8	8	10	10	166
448	West Fork Amite River (upper)	at CR 24	13	16	12	18	14	19	15	6	7	6	8	9	7	150
449	Cars Creek	nr Liberty	12	18	13	18	10	19	8	4	4	4	4	9	6	129
450	Thompson Creek -main stem	at Whittaker Road	9	13	7	16	7	14	6	7	9	7	7	9	7	118
451	Big Creek	at Big Creek Road	7	8	11	16	6	11	16	3	2	3	2	9	9	103
452	Bogue Chitto	south of Hartman	7	9	11	16	6	16	13	5	3	5	3	10	10	114
453	Boone Creek	Pricedale Road (at Hwy 583)	5	10	11	16	6	17	16	3	1	3	1	10	9	108
454	Bogue Chitto	at Bogue Chitto Road SE	13	17	18	16	12	17	9	7	2	7	1	9	6	134
455	Beaver Creek	nr Johnstons Station	12	14	8	15	12	17	10	7	4	7	5	10	10	131
456	Little Tangipahoa River (upper)	at Hwy 98	12	18	11	18	6	18	11	1	2	1	2	10	10	120
457	Clear Creek	nr Hwy 44 (on Beardon Ln.)	19	19	18	18	15	18	15	9	9	9	9	9	9	176
458	Leatherwood Creek	at Leatherwood Road	20	16	18	18	18	19	20	10	9	8	9	10	9	184
459	Topisaw Creek	at Brent Road	13	14	15	15	15	14	20	5	6	3	7	7	7	141
460	Little Tangipahoa River (lower)	at Hwy 48	17	14	15	16	16	16	20	6	6	5	6	6	5	148
462	Tickfaw River (upper)	at CR 584 (Hwy 584)	7	10	16	16	6	16	11	4	4	5	5	10	7	117
463	White Sand Creek	at River Road	14	15	10	16	12	16	20	10	10	10	9	10	10	162
464	Tilton Creek	at Hwy 587	20	18	20	20	17	20	20	8	7	7	7	7	6	177
465	Holiday Creek	at Hwy 13/43	16	16	9	16	12	16	18	8	8	8	7	9	9	152
466	McGee Creek	S of Darbun (@ Buckbridge Rd.)	18	16	13	18	16	20	20	9	10	7	9	9	10	175
467	Tenmile Creek	at Hwy 35	20	18	15	20	15	20	20	8	8	10	10	7	5	176
468	Upper Little Creek	at Hwy 13/43	17	18	13	16	16	17	20	8	7	7	7	6	6	158
469	Lower Little Creek	at Hwy 43	19	16	18	18	17	19	20	9	8	10	9	9	7	179
470	Magee's Creek	at Hwy 27 (350 m US on county Rd. At Hwy 27)	19	17	16	12	16	14	20	9	6	10	4	10	9	162
471	E Fk Pushepatapa Creek	at state line (@ Vincetown Rd.)	19	15	18	20	15	20	20	8	9	8	7	9	9	177
472	Clear Creek	at Hwy 43	18	15	18	18	15	14	7	6	7	6	7	10	10	151
474	Black Creek	at Broome Road	12	10	8	15	9	12	15	6	6	6	6	10	10	125
475	Shelton Creek	at Delk Road	12	14	14	18	14	18	18	8	8	8	8	10	10	160
476	Bowie Creek	nr Hattiesburg at Hwy 49	19	19	12	16	12	16	9	6	4	5	3	8	7	136
477	Monroe Creek	at Monroe Road	14	14	18	16	18	19	20	9	9	9	9	10	10	175
478	Leaf River	nr Palmer at Sims Bridge	12	16	16	15	7	11	10	6	4	7	5	9	9	127
479	Lower Little Creek *	at Columbia-Purvis Road (at Caney Church Road)	18	20	18	18	16	10	16	9	9	9	9	10	9	171

Table F-3 (cont'd). Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
480	Black Creek	Nr Purvis at Hwy11	18	16	18	16	15	19	16	9	8	8	7	10	9	169
481	Big Creek	at Rockhill-Brooklyn Road	13	16	18	15	12	13	14	6	7	7	8	9	9	147
482	Beaver Dam Branch	nr Purvis	19	15	18	18	17	19	18	9	9	9	9	6	10	176
483	Little Black Creek	nr Rockhill (~ 150m US of Rockhill-Brooklynn Rd.)	18	20	15	16	15	8	13	9	9	9	9	7	9	157
484	Black Creek	nr Brooklyn at Hwy 49	13	17	16	20	12	11	13	9	6	9	7	10	6	149
485	Red Creek	nr Lumberton at Hwy 11	12	11	11	18	14	19	18	6	6	7	7	9	9	147
487	Bogue Homo	at Ovett	7	10	14	16	11	10	18	7	7	6	6	9	4	125
489	West Little Thompson Creek	@ Forest Rd. 2062	12	14	10	18	14	16	18	6	6	7	7	10	10	148
492	Thompson Creek	nr Richton	12	14	12	16	12	9	18	8	8	7	7	8	9	140
493	Bogue Homo Creek	nr New Agusta (250m US of Old Augusta road crossing)	12	16	16	15	10	6	12	6	7	8	6	8	4	126
494	Leaf River	nr Mahned	6	7	11	15	15	10	15	3	7	4	7	9	9	118
495	Thompson Creek	nr Hintonville	13	18	18	18	18	20	7	4	7	3	6	9	9	150
496	Gaines Creek	nr Beaumont	6	4	8	16	11	11	16	9	10	8	10	10	10	129
497	Atkinson Creek	nr McLain at Confluence of Leaf River	5	7	6	16	3	16	10	5	5	5	6	10	10	104
498	Cypress Creek	at Janice (~ 200m US of Hwy 29 road crossing)	18	18	11	16	16	10	18	8	9	8	9	10	10	161
500	Beaver Dam Creek	nr Janice at Hwy 29	12	7	18	18	15	13	18	7	7	8	8	10	10	151
502	Whisky Creek	on Salem Road (Leaf Road)	8	8	11	18	6	19	18	3	3	3	3	10	4	114
504	Mason Creek	at Jonathan	15	15	11	18	6	18	15	4	4	4	4	10	9	133
505	Meadow Creek	nr Leaksville	18	14	11	11	9	6	18	9	9	9	9	10	10	143
506	Big Creek	nr Vernal (Jonathan Road)	5	10	6	16	3	17	11	8	8	7	8	10	9	118
507	Brushy Creek	nr Shipman	14	15	16	16	6	12	18	9	9	8	8	10	10	151
508	Little Hell Creek	at Stanford Lake Road (at Ford's Creek Road)	18	14	13	18	11	14	13	5	5	7	7	7	7	139
510	W. Hobolochitto Creek	at Ford's Creek Road	19	12	18	20	12	19	15	5	6	6	7	7	8	154
511	Murder Creek	at Silver Run Road	17	16	16	18	17	14	20	9	9	9	9	10	10	174
513	East Hobolochitto Creek	Mcneill-Steephollow Road	18	15	14	18	15	14	18	7	7	7	7	10	10	160
514	Moran Creek	nrMcNeil	17	16	16	18	17	19	18	9	8	9	8	10	10	175
515	West Hobolochitto Creek	nr Ozona	14	13	12	16	14	13	9	6	6	5	6	9	9	132
516	Crane Creek	nr Sellers (at Crane Creek Road)	18	19	18	20	18	19	18	9	9	9	9	10	10	186
517	East Hobolochitto Creek	at Hwy 11	13	14	16	18	14	18	9	5	6	6	7	7	7	140
518	Mill Creek	at Hwy 43	12	14	12	12	12	8	6	4	4	4	4	9	9	110
519	Turtleskin Creek	nr Santa Rosa	12	12	6	16	11	10	18	7	6	7	6	7	7	125
520	Catahoula Creek	nr Santa Rosa	13	14	9	18	11	14	13	7	7	8	7	9	9	139
521	Dead Tiger Creek	nr Santa Rosa	19	14	9	18	18	11	18	9	9	9	9	10	10	163
522	Black Creek	nr Wiggins at Hwy 26	12	10	11	15	10	8	18	9	9	8	9	9	9	137
523	Red Creek	nr Ramsey Springs (at Hwy 15)	11	10	11	18	7	11	15	0	4	4	5	6	9	111
524	Flint Creek	nr Whites Crossing at Hwy 26	18	14	16	15	9	12	16	9	9	9	9	9	7	152
525	Red Creek	at Perkinston at Hwy 49	6	10	6	16	7	15	18	1	1	4	1	9	9	103
526	Wolf River	at Silver Run	15	20	18	16	18	12	16	9	9	9	9	10	10	171

Table F-3 (cont'd). Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
527	Tenmile Creek	at Perkinston-Silverun Road	18	7	18	19	18	12	18	9	9	9	9	9	9	164
529	Tchoutacabouffa River	nr Latimer	5	7	8	16	6	15	10	6	6	6	6	10	10	111
530	Biloxi River	nr Wortham at Old Hwy 49 (250m US)	0	1	0	16	18	6	16	7	7	9	9	9	9	107
531	Saucier Creek	at Saucier/Fairly Road	1	6	11	15	18	4	10	6	7	7	7	9	9	110
532	Tuxachanie Creek	nr Biloxi at Old Hwy 15 (300 m US of White Plains Road, nr Biloxi)	13	10	18	16	12	11	10	9	8	9	9	10	6	141
533	Little Biloxi River	Shaw Road (100m US of Carlton-Cuevas Rd. crossing	12	7	16	15	12	7	18	9	9	8	7	9	6	135
535	Bernard Bayou	nr New Hope (off Canal Rd.)	11	7	8	15	6	10	18	4	6	8	9	7	6	115
536	Flat Branch	at Orange Grove (~ 100m US of DeDeaux road crossing	0	0	0	0	18	1	20	0	0	10	10	1	1	61
537	Turkey Creek	at Canal Road (150m US)	12	11	16	15	13	7	18	9	9	9	9	9	9	146
538	Black Creek	nr Vestry at Hwy 57	12	11	12	16	9	17	16	5	6	6	4	7	9	130
539	Little Cedar Creek	at Hwy 613	19	15	10	16	6	14	18	8	8	8	8	10	10	150
540	Red Creek	at Vestry	13	13	12	16	11	16	15	5	7	7	6	9	7	137
541	Big Cedar Creek	nr Harleston at Hwy 63	7	10	16	16	6	16	18	8	8	8	8	10	10	141
542	Indian Creek	nr Basin	14	14	18	16	6	17	18	7	7	7	7	9	9	149
543	Moungers Creek	nr Vancleave (Busby Rd.)	13	14	16	16	6	15	16	4	4	4	4	10	9	131
544	Bluff Creek	nr Vancleave at Water Park	5	7	6	16	3	18	11	7	7	7	7	10	10	114
545	Luxapalilla Creek	at Gunshot Road	14	18	20	18	16	18	18	7	7	7	8	9	7	167
546	Buttahatchie River	at Bartahatchie Road	18	14	15	18	15	16	20	6	6	5	6	7	6	152
547	Hatchie River	nr Walnut at Hwy 72	12	11	13	8	11	6	18	2	2	5	5	10	10	113
548	Tuscumbia River Canal	nr Corinth at Hwy 72	3	7	6	3	1	0	18	1	1	1	1	10	10	62
549	Bowie Creek	nr Sumrall at Hwy 589	12	18	12	16	10	17	18	7	7	7	7	9	9	149
550	Chickasawhay River	nr Shubuta	11	6	9	16	17	19	20	8	9	2	2	3	9	131
551	Escatawpa River	nr Agricola at CR 612	12	11	10	16	6	17	10	6	6	7	6	9	7	123
552	Strong River	nr D'lo at Old Hwy 49	18	14	12	10	14	7	11	7	4	7	8	7	3	122
553	East Fork Amite River	nr Gillsburg	12	18	20	18	16	17	9	4	8	4	8	3	9	146
554	Tangipahoa River	at Osyka at hwy 584	20	17	16	20	14	18	20	6	8	8	9	7	7	170
555	Bull Mnt Creek	at Tremont at Hwy 178	18	18	20	18	18	18	20	6	6	5	6	4	9	166
556	Sucarnoochee River	nr Porterville at Hwy 45	12	10	11	18	9	14	14	5	5	7	5	10	1	121
557	Betsy Creek	nr Vaiden	15	15	5	11	3	7	20	5	5	5	5	0	1	97
558	unnamed trib to Big Black	nr Durant	12	7	6	13	11	8	18	5	5	5	5	4	2	101
559	Bates Creek	nr Jeanette	19	16	18	15	15	14	8	6	7	6	7	10	10	151
560	Whites Creek	nr Doloroso (Hutchins Landing Rd.)	18	14	12	15	15	15	7	6	7	7	6	7	7	136
561	Cypress Creek	nr Crosby (unnamed dirt rd off of H street)	14	14	18	18	10	18	10	8	8	7	7	10	10	152
562	Minnehaha Creek	nr Magnolia at Hwy 51 (S. Prewett St.)	16	18	18	16	15	19	18	9	9	9	9	3	6	165
563	Tangipahoa River	nr Magnolia at Hwy 51 (@ Muddy Springs Rd.)	20	16	18	16	16	19	20	9	9	8	6	6	7	170
564	Bala Chitto Creek	nr Osyka at State Line Road	20	18	18	16	15	16	18	5	9	5	9	6	10	165
565	Terry's Creek	nr Osyka at Hwy 584	6	10	11	16	6	16	13	7	4	8	5	9	1	112

Table F-3 (cont'd). Site-specific physical habitat assessment scores for 10 individual parameters and total habitat.

STATIONID	WaterbodyName	Location	BSUBAVCO	PSUBCHAR	PVAR	CHANALT	SEDDEP	CHANSIN	CHFLOSTA	BVEGLB	BVEGRB	BSTABLB	BSTABRB	RIPVEGLB	RIBVEGRB	TOTAL_HAB
566	Scooba Creek	nr Electric Mills	14	13	3	20	14	18	16	5	5	9	9	10	10	146
567	Mud Creek	nr Tupelo at Hwy 178	6	7	6	12	6	6	15	1	1	2	2	3	3	70
568	Chiwapa Creek	nr Pontotoc (Woodland Rd - CR 75)	5	10	6	5	3	2	16	5	5	6	6	1	0	70
569	Cowpenna Creek	at Nettleton at Hwy 6	12	7	6	15	6	7	16	4	4	6	6	3	3	95
600	Hickory Creek	at Hwy 43	13	17	10	16	12	15	8	7	7	7	8	9	9	138
601	Orphan Creek	@ Hwy 43	18	13	8	16	11	12	16	6	5	8	7	9	8	137

Table F-4. Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM	COD	CHL	DO_SAT	DO_MG	NN	PH	SAMP DEP	SP COND	ALK	TDS	TKN	TOC	TP	TURB	WAT TEMP
			mg/l as N	mg/l	mg/l	%	mg/l	mg/l as N	SU	ft	umho/ cm	mg/l	mg/l	mg/l as N	mg/l	mg/l	NTU	deg C
1	Jackson Creek	nr Banks	0.2	16.0	4.0	114.0	15.1	0.6	7.9	0.5	218.0	168.0	141.7	0.7	4.0	0.1	21.0	5.3
2	Johnson Creek	nr Walls @ Baldwin Rd.	0.6	21.0	6.8	100.1	13.9	1.1	7.2	0.5	114.0	46.9	74.1	2.0	7.0	0.4	74.0	2.2
3	White's Creek	nr Banks @ Wetonga Lane	0.1	10.0	3.9	113.1	14.8	1.8	7.8	0.5	374.0	209.0	243.1	0.2	2.0	0.1	7.0	5.0
5	Arkabutula Creek	nr Savage	0.2	13.0	8.6	102.0	13.7	1.9	7.2	0.5	111.0	44.0	72.2	0.8	3.0	0.2	43.0	4.0
6	Strayhorn Creek	nr Savage (@Hwy 314)	0.2	15.0	5.6	94.9	13.5	1.5	7.5	0.5	131.0	61.0	85.2	0.8	4.0	0.2	29.0	1.2
7	Horn Lake Creek	nr Southaven at State Line	0.2	19.0	4.2	97.2	13.5	0.9	6.7	0.5	80.0	29.4	52.0	1.5	6.0	0.3	111.0	2.2
9	Hurricane Creek	nr Nesbit	0.1	12.0	6.5	98.1	13.4	1.9	6.9	0.5	102.0	20.5	66.3	0.9	4.0	0.2	122.0	2.7
10	Camp Creek	nr Pleasant Hill	8.9	33.0	24.6	81.0	10.3	0.7	7.4	0.5	272.0	87.7	176.8	10.6	9.0	0.5	23.0	5.6
11	Camp Creek Canal	nr Hernando	4.0	21.0	15.4	93.6	11.7	1.1	7.4	0.5	181.0	51.6	117.7	5.8	6.0	0.7	29.0	6.2
13	Pigeon Roost Creek	nr Cockrum	0.2	10.0	3.8	103.3	11.7	0.6	7.3	0.5	49.0	15.3	31.9	0.4	1.0	0.1	21.0	10.3
14	Short Fork Creek	nr Hernando	0.1	19.0	8.6	84.8	11.2	1.6	6.8	0.5	87.0	19.1	56.6	0.9	5.0	0.1	31.0	3.6
15	Red Banks Creek	nr Cockrum	0.1	10.0	5.5	105.6	12.3	1.1	7.0	0.5	71.0	20.2	46.2	0.3	2.0	0.0	15.0	10.0
16	Beartail Creek	nr Coldwater	0.3	10.0	7.8	94.0	11.8	1.7	6.8	0.5	71.0	22.7	46.2	0.4	1.0	0.1	11.0	6.5
17	Arkabutla Creek	at Hogfoot Road	0.3	10.0	10.6	103.8	13.2	1.7	7.1	0.5	139.0	49.1	90.4	0.4	1.0	0.1	28.0	6.3
18	Hickahala Creek	at Hwy 305	0.1	10.0	4.6	107.7	11.5	0.6	6.2	0.5	47.0	14.6	30.6	0.2	1.0	0.0	11.0	12.8
19	Hickahala Creek	nr Senatobia	0.1	10.0	5.4	106.0	12.5	0.8	7.1	0.5	52.0	16.7	33.8	0.2	1.0	0.1	12.0	9.6
20	James-Wolf Canal	at Hwy 4	0.3	10.0	6.8	107.0	12.4	1.3	6.5	0.5	75.0	21.6	48.8	0.4	1.0	0.1	13.0	10.1
23	Senatobia Creek	at Hunter's Church Road	0.1	10.0	8.7	104.0	11.8	3.3	6.2	0.5	82.0	15.1	53.3	0.1	1.0	0.1	6.0	9.7
24	Greasy Creek	at Childress Road	0.1	10.0	3.4	98.8	12.3	0.5	6.7	0.5	25.0	15.7	16.3	0.1	1.0	0.0	8.0	6.8
26	Early Grove Creek	nr Slayden																
27	Mt. Tena Creek	nr Lamar																
28	Grays Creek	at Michigan City	0.2	10.0	2.5	103.8	11.58	0.8	7.4	0.3	38.0	10.0	24.7	0.2	1.0	0.0	10.1	10.5
30	Coldwater River	at Hwy 311	0.2	10.0	2.4	91.9	11.02	0.4	6.8	1.5	40.0	10.9	26.0	0.2	1.0	0.0	13.0	7.6
31	Oaklimeter Creek	at hwy 349	0.2	10.0	4.8	103.4	13.27	0.3	7.3	0.5	93.0	21.6	60.5	0.5	3.0	0.0	15.0	4.8
32	Tippah River	at Hwy 78	0.1	10.0	3.8	104.0	12.33	0.3	6.6	1.5	83.0	15.9	54.0	0.3	3.0	0.0	22.0	7.9
33	Oak Chewalla Creek	at Hwy 310	0.2	10.0	2.1	97.5	11.55	0.3	6.4	0.5	31.0	11.1	20.2	0.4	1.0	0.1	37.7	8.3
34	Little Spring Creek	at Hwy 310	0.2	10.0	2.1	114.6	13.54	0.2	6.7	1.5	30.0	10.7	19.5	0.3	1.0	0.0	11.4	8.1
35	Big Spring Creek	at Pott's Camp Road	0.2	10.0	2.4	103.7	12.83	0.4	7.3	0.5	37.0	10.0	24.1	0.2	1.0	0.0	9.6	6.5
36	Grahm Mill Creek	nr Abbeyville	0.2	10.0	3.2	105.1	12.05	0.3	6.7	0.8	64.5	10.0	41.9	0.3	2.0	0.0	9.9	9.4
37	Lee Creek	north of Abbeyville	0.2	10.0	3.2	104.9	13.04	0.1	7.0	0.3	39.0	10.0	25.4	0.2	2.0	0.1	13.4	6.1
39	Mill Creek	nr Cornersville (CR18)	0.2	10.0	4.5	104.3	13.00	0.2	7.1	0.2	50.0	23.1	32.5	0.4	3.0	0.0	18.0	6.0
40	Little Mud Creek	at Hwy 30	0.2	10.0	12.7			0.5				10.0		0.4	3.0	0.0	15.0	

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
41	Lockes Creek	at Hwy 30	0.2	13.0	6.6			0.6				10.0		0.5	4.0	0.0	16.0	
42	Unnamed Trib	near Etta at Hwy 355	0.2	10.0	6.6	103.8	13.46	0.4	6.6	0.5	157.0	10.0	102.1	0.2	2.0	0.0	8.0	4.5
43	Berry Branch	nr College Hill	0.3	10.0	17.9	93.2	9.89	0.8	6.1	0.3	117.3	10.0	76.3	0.3	3.0	0.1	371.0	11.7
44	Hurricane Creek	nr Hwy 7	0.1	10.0	2.3	120.1	13.25	0.3	5.8	0.8	19.9	10.0	12.9	0.1	1.0	0.0	10.0	7.7
45	Puskus Creek	at Hwy 30	0.2	10.0	2.1	100.2	13.29	0.1	5.9	0.5	38.0	10.0	24.7	0.3	3.0	0.0	10.0	3.5
46	Cypress Creek	at CR 244	0.2	10.0	2.8	102.4	12.98	0.2	6.9	0.6	48.0	12.2	31.2	0.4	3.0	0.0	18.0	5.3
47	Little Tallahatchie River	at Hwy 30	0.3	10.0	11.6	103.0	13.43	0.6	7.5	1.3	232.0	52.6	150.8	0.4	2.0	0.1	19.0	4.2
48	Mitchell Creek	at Hwy 30	0.2	10.0	3.2	103.1	14.06	0.1	6.7	0.2	61.0	10.1	39.7	0.3	3.0	0.0	20.0	2.5
49	Porters Creek	nr Hopewell	0.3	10.0	2.1	102.6	12.93	0.3	6.7	0.3	32.0	10.0	20.8	0.4	3.0	0.0	16.4	5.5
50	Muddy Creek	at Tiplersville	0.2	12.0	6.4	34.3	4.20	0.5	7.0	1.5	162.0	18.3	105.3	0.6	4.0	0.0	15.2	5.8
51	Shelby Creek	nr Whitten Town	0.1	14.0	2.0	107.3	12.68	0.1	6.0	0.8	31.0	10.0	20.2	0.4	5.0	0.0	23.2	8.0
52	Little Hatchie River	nr Peoples	0.2	10.0	3.6	117.5	14.40	0.3	7.0	0.8	79.0	17.2	51.4	0.7	3.0	0.0	21.7	6.6
55	Little Tallahatchie River	nr Molino	0.2	10.0	3.2	114.3	13.46	0.3	7.3	0.3	75.0	22.3	48.8	0.4	2.0	0.0	27.3	8.2
56	Cane Creek	near New Albany	0.2	10.0	4.6	107.0	13.11	0.4	7.3	1.0	123.0	39.6	80.0	0.5	4.0	0.1	31.4	6.9
58	Chambers Creek	at Kendrick	0.1	19.0	3.6	102.1	13.92	0.2	6.5	0.3	54.0	10.0	35.1	0.4	3.0	0.0	17.0	2.5
60	Picken's Branch	nr Iuka (CR241)	0.1	10.0	2.1	101.0	12.03	0.4	6.4	0.5	35.0	10.0	22.8	0.1	1.0	0.0	10.0	7.8
61	Bridge Creek	nr Corinth (Hwy 45)	0.5	13.0	41.6	99.6	12.61	3.6	7.1	0.5	394.0	70.1	256.1	1.3	5.0	0.2	12.0	5.3
62	Elam Creek	at Corinth (Hwy 72)	0.8	20.0	21.2	98.7	13.46	0.6	7.3	1.5	367.0	100.0	238.6	1.1	6.0	0.1	15.0	2.4
63	Caney Creek	nr Doskie	0.1	10.0	1.7	102.6	13.87	0.1	6.3	0.3	16.0	10.0	10.4	0.4	3.0	0.1	5.0	2.8
64	Little Yellow Creek	nr Doskie	0.1	11.0	2.0	106.0	13.91	0.1	6.9	0.3	30.0	10.0	19.5	0.2	2.0	0.0	7.0	4.0
65	unnamed trib to Tenn-Tom	nr Doskie (CR 274)	0.2	10.0	1.9	101.1	12.51	0.1	6.3	1.0	28.0	10.0	18.2	0.2	2.0	0.0	10.0	6.3
66	Indian Creek	at Iuka	1.1	22.0	5.4	94.1	12.01	0.3	7.0	0.6	107.0	36.9	69.6	2.1	5.0	0.2	13.0	5.1
67	Mill Creek	nr Iuka	0.1	10.0	1.7	104.1	12.07	0.3	6.5	0.2	26.0	10.0	16.9	0.1	1.0	0.0	3.0	8.9
68	Parmicha Creek	nr Biggersville	0.1	13.0	5.9	109.3	13.6	0.4	7.2	0.5	110.0	27.4	71.5	0.5	4.0	0.0	16.0	6.0
69	Little Cripple Deer Creek	nr Midway (CR 957)	0.1	10.0	2.5	97.7	12.9	0.4	6.4	1.0	40.0	10.0	26.0	0.4	3.0	0.4	12.0	3.7
70	Pennywinkle Creek	nr Iuka (CR 995 (CR 163 on DeLorme))	0.1	10.0	1.9	102.0	13.23	0.2	6.0	1.0	27.0	10.0	17.6	0.3	2.0	0.0	10.0	4.4
73	Cripple Deer Creek	nr State Line	0.1	10.0	2.3	87.4	10.84	0.0	5.8	2.0	32.0	10.0	20.8	0.4	4.0	0.1	7.0	6.2
74	Bear Creek	nr Dennis	0.2	10.0	3.0	112.0	12.54	1.2	6.9	0.5	62.0	13.3	40.3	0.3	2.0	0.0	15.7	10.4
75	Bear Creek	nr Tishomingo at Hwy 30	0.2	10.0	3.1	94.6	10.9	1.1		0.5	63.0	11.7	41.0	0.6	2.0	0.1	21.1	9.2
76	unnamed trib to Cedar Creek	nr Tish. SP (CR 85)	0.1	10.0	1.7	106.1	13.97	0.4	6.0	0.8	22.0	10.0	14.3	0.2	2.0	0.0	4.0	3.8
77	Donivan Creek	nr kirkville	0.1	10.0	3.5	108.2	13.27	0.3	6.5	0.3	58.0	10.0	37.7	0.5	3.0	0.1	7.0	6.6
79	Rock Creek	at Natchez Trace	0.1	10.0	2.4	111.3	14.22	0.2	6.4	0.5	33.0	10.0	21.5	0.3	2.0	0.1	7.0	5.0

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/ cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
80	Twentymile Creek	nr Pratts (100m DS from Natchez Trace crossing)	0.2	10.0	5.3	102.4	11.32	0.5	7.5	1.2	221.0	71.6	143.7	0.2	4.0	0.0	29.0	10.9
81	Big Brown Creek	at Natchez Trace	0.1	10.0	3.3	102.2	12.04	0.2	6.4	3.0	64.0	10.0	41.6	0.2	3.0	0.1	22.0	8.2
82	Little Brown Creek	at Natchez Trace	0.2	14.0	2.1	96.9	10.69	0.2	5.8	0.3	55.0	10.0	35.8	0.2	4.0	0.0	36.0	11.0
83	Mackey's Creek	upstream from Walker's Bridge Landing	0.1	12.0	3.2	97.1	10.85	0.1	6.8	1.5	60.0	13.9	39.0	0.5	4.0	0.1	13.3	10.4
85	Hotopha Creek	at Hwy 35	0.2	10.0	5.4	100.0	14.2	0.5	6.8	0.5	71.0	17.7	46.2	0.6	3.0	0.1	24.0	3.0
86	Clear Creek	at Hwy 6	0.1	10.0	3.3	104.0	10.60	0.7	6.2	0.5	30.4	10.0	19.8	0.1	1.0	0.0	14.0	14.2
87	Hudson Creek	at Hwy 6	0.1	10.0	5.6	122.0	13.00	0.9	6.0	0.3	48.3	10.0	31.4	0.1	1.0	0.0	8.0	12.2
88	Toby Tubby Creek	nr Oxford	0.2	10.0	4.1	96.3	11.40	0.2	6.4	0.5	36.4	14.2	23.7	0.4	2.0	0.0	16.0	8.0
89	McIvor Canal	at Curtis Road (at light Barnical Road)	0.2	10.0	6.6	109.2	13.29	1.0	7.1	0.3	76.2	24.2	49.5	0.1	1.0	0.0	6.0	6.2
91	Long Creek	at Benson Road	0.2	10.0	6.9	106.1	12.03	0.6	7.3	0.5	80.0	23.7	52.0	0.3	2.0	0.1	14.0	9.5
92	Long Creek	at Eureka Road	0.1	10.0	3.8	94.1	11.68	0.3	5.9	0.5	39.6	10.5	25.7	0.4	3.0	0.0	32.0	6.2
93	Bynum Creek	at Hwy 315	0.1	10.0	3.0	95.0	11.56	0.5	5.7	0.5	37.5	10.0	24.4	0.3	3.0	0.0	34.0	7.4
96	unnamed trib to Yocona River	at Crowder Pope Road	0.2	10.0	5.8	109.0	11.95	0.9	7.5	0.3	73.9	14.9	48.0	0.1	2.0	0.0	13.0	10.8
98	Otoucalofa Creek	nr Water Valley (Hwy 315)	0.2	10.0	4.3	106.2	11.94	0.2	7.2	0.5	49.3	10.0	32.0	0.3	2.0	0.0	23.0	10.1
99	Town Creek	at Water Valley	0.2	10.0	4.7	105.4	10.38	0.8	7.0	0.5	110.6	33.5	71.9	0.2	1.0	0.0	23.0	16.2
101	N Fk Tillatoba Creek	at Hwy 35 (at Teasdale Rd.)	0.2	10.0	4.9	111.9	11.30	0.6	7.6	0.8	84.1	28.1	54.7	0.8	4.0	0.1	36.0	15.0
102	Tillatoba Creek	at Hwy 35	0.2	11.0	5.2	95.2	10.50	0.2	7.5	0.8	75.0	24.0	48.8	0.2	4.0	0.1	32.0	10.6
103	Turkey Creek	nr Coffeeville at Hwy 330	0.3	10.0	3.0	38.0	4.59	0.3	6.3	1.6	52.0	10.0	33.8	0.3	3.0	0.0		4.7
104	Ascalmore Creek	at Hwy 35 (At Ascalmore Creek Rd.)	0.2	10.0	3.9	104.7	11.79	0.4	7.3	0.5	89.9	36.1	58.4	0.3	3.0	0.1	44.0	10.3
105	Okachickima Creek	nr Bryant	0.2	15.0	2.6	34.1	4.46	0.1	5.2	0.9	45.0	10.0	29.3	0.6	4.0	0.1	34.0	3.7
106	Cypress Creek	at Hwy 7	0.3	10.0	4.3	64.5	8.02	0.3	6.2	1.9	54.0	10.0	35.1	0.3	4.0	0.1	73.0	6.0
107	Organ Creek	at Hwy 7	0.2	15.0	3.0	33.9	4.03	0.1	6.4	2.0	51.0	10.0	33.2	0.1	6.0	0.0		8.8
108	Lappatubby Creek	at CR 47	0.3	10.0	16.3			0.5		1.5		78.1		0.6	3.0	0.1	14.0	
109	Mud Creek	at Hwy 346	0.2	13.0	45.5	94.2	11.86	0.4	6.8	0.3	511.9	11.6	332.7	0.2	4.0	0.0	12.0	5.6
110	Duncans Creek	at CR 836	0.2	10.0	7.1	87.7	11.11	0.1	7.4		91.3	15.5	59.4	0.5	4.0	0.1	33.0	5.4
111	Burney Branch	nr Oxford	0.4	10.0	6.5	123.7	16.24	1.4	6.1	0.5	81.5	20.7	53.0	1.3	2.0	0.2	32.0	3.6
112	Yocona River	at Hwy 7	0.2	10.0	3.7	129.2	15.07	0.3	5.9	0.8	44.9	10.0	29.2	0.8	5.0	0.1	42.0	3.9
113	Duncan's Creek	at Hwy 346	0.2	10.0	5.7	79.2	10.87	0.3	6.7	0.1	78.8	14.6	51.2	0.4	4.0	0.0	28.0	2.7

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
114	Yocona River	at Hwy 331	0.2	11.0	5.0	84.4	10.63	0.1	6.3	1.5	64.1	10.0	41.7	0.4	5.0	0.0	19.0	5.4
115	Turkey Creek	nr Pine Valley (@ Turkey Creek Rd.)	0.2	10.0	3.5	102.2	11.44	0.1	7.1	0.3	55.6	10.0	36.1	0.4	4.0	0.0	17.0	10.1
116	Skuna River Canal	at Hwy 32	0.2	10.0	33.8	104.1	11.14	0.6	7.7	0.3	376.7	21.8	244.9	0.4	4.0	0.1	18.0	12.9
117	Persimmon Creek	nr Bruce	0.2	10.0	6.4	111.5	11.21	0.1	7.3	0.3	97.4	13.6	63.3	0.9	4.0	0.0	25.0	15.5
118	Lucknuck Creek	at Hwy 32	0.4	10.0	4.4			0.1		1.0		13.2		0.4	3.0	0.0	26.0	
119	Skuna River Canal	at Hwy 9	0.2	10.0	19.6			0.3		0.5		14.6		0.3	3.0	0.0	28.0	
120	Cowpen Creek	nr Old Hwy 8 (CR 61) (@ Old State Hwy 8)	0.2	10.0	3.3	89.3	10.85	0.2	7.2	0.8	32.2	10.0	20.9	0.5	3.0	0.0	13.0	7.2
121	Johnson-Coles Creek	at Old Hwy 8	0.2	11.0	3.9	93.5	10.95	0.1	6.9		41.2	10.0	26.8	0.3	5.0	0.0	19.0	8.6
123	Lappatubby Creek	at Hwy 15 nr Ecru	0.3	10.0	15.5	92.5	11.35	0.4	7.5	0.5	240.3	71.7	156.2	0.5	3.0	0.1	11.0	6.6
126	unnamed trib to Town Creek	at Tupelo	0.2	10.0	8.8	119.9	13.21	0.5	7.8	0.5	398.0	150.0	258.7	0.5	4.0	0.0	9.0	11.0
127	Goodfood Creek	nr Goodfood	0.1	20.0	2.6	103.0	11.63	0.1	7.6	0.3	145.0	73.3	94.3	0.1	2.0	0.0	14.0	10.0
129	Tallabinella Creek	at Natchez Trace	0.1	13.0	4.0	105.6	12.13	0.2	7.7	0.3	218.0	62.5	141.7	0.3	3.0	0.1	12.0	9.2
131	Tubbalubba Creek	nr Pine Grove (150m DS from Alt Hwy 45 crossing)	0.2	15.0	4.5	104.6	13.04	0.6	7.8	0.7	253.0	87.4	164.5	0.4	5.0	0.0	30.0	5.9
133	Town Creek	at Hwy 45 nr Amory	0.2	26.0	5.4	109.5	12.1	0.5	7.6	1.5	215.0	74.1	139.8	0.9	5.0	0.1	51.1	11.5
135	Chuquatonchee Creek	at CR 406	0.2	10.0	3.7	102.4	11.35	0.2	7.5	1.0	154.0	52.1	100.1	0.7	4.0	0.1	39.0	10.7
136	Twentymile Creek	nr Mantachie	0.3	10.0	5.4	105.9	11.48	0.4	7.4	3.5	195.0	66.1	126.8	0.7	6.0	0.1	24.0	11.7
137	Cummings Creek	at Cumming Street	0.2	10.0	2.1	99.7	10.15	0.1	5.9	1.1	28.0	10.0	18.2	0.4	3.0	0.0	30.0	14.5
140	Mantachie Creek	at Peppertown Road	0.2	10.0	3.9	102.8	11.71	0.3	6.5	1.8	78.0	11.7	50.7	0.2	4.0	0.0	54.0	9.6
141	Green Creek	at Van Buren Road	0.2	11.0	2.1	99.7	12.0	0.2	6.4	1.1	31.0	10.0	20.2	0.2	5.0	0.0	15.0	7.3
142	Greenwood Creek	nr Evergreen (300m US from Cummings Rd crossing near Evergreen)	0.2	20.0	2.7	97.6	12.05	0.2	6.0	0.4	44.0	10.0	28.6	0.5	7.0	0.0	39.0	6.4
143	Bull Mnt Creek	at Horn's Crossing Creek	0.2	10.0	2.3	96.7	11.29	0.2	6.3	2.0	27.0	10.0	17.6	0.2	2.0	0.0	11.0	8.6
146	unnamed trib to Bull Mnt Creek	at Hwy 23	0.2	10.0	1.6	97.1	10.19	0.1	5.7	0.8	24.0	10.0	15.6	0.2	2.0	0.0	17.0	13.2
149	Weaver Creek	at Becker (200m US of Hwy 25 road crossing)	0.2	10.0	2.1	99.7	11.57	0.1	6.1	1.7	27.0	10.0	17.6	0.2	3.0	0.0	21.0	8.9
151	Mattuby Creek	at Hwy 45	0.3	16.0	13.4	89.8	9.71	0.5	7.6	0.8	316.1	94.1	205.5	0.8	6.0	0.1	29.0	11.6
152	Wolf Creek	nr Aberdeen	0.2	17.0	3.8	94.3	10.40	0.1	7.3	0.5	88.0	21.7	57.2	0.6	6.0	0.1	13.0	11.1
153	Halfway Creek	at Greenbriar Road	0.2	10.0	2.1	82.1	8.53	0.1	5.5	1.8	26.0	10.0	16.9	0.5	4.0	0.1	17.0	13.6
155	Big Sand Creek	nr Greenwood	0.2	10.0	3.4	90.3	9.74	0.2	6.5	0.5	54.9	12.9	35.7	0.7	5.0	0.1	50.0	11.9
156	Riverdale Creek	nr Grenada	0.3	10.0	9.5	47.2	5.92	0.7	5.8	0.8	144.0	24.4	93.6	0.3	4.0	0.1	36.0	4.6

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/ cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
157	Batupan Bogue	at Hwy 8	0.2	10.0	2.9	101.3	10.72	0.2	6.7	1.0	57.0	10.0	37.1	0.7	5.0	0.1	65.7	12.8
158	Cane Creek	nr Holcomb	0.2	12.0	3.5	111.2	14.08	0.3	6.3	2.3	63.0	12.6	41.0	0.2	4.0	0.1	66.0	5.2
159	Potacocowa Creek	at Hwy 35	0.2	24.0	3.4	95.6	10.95	0.2	6.7	0.8	46.7	10.0	30.4	0.8	5.0	0.1	44.0	9.6
160	Pelucia Creek	at Airport Road	0.2	10.0	3.1	105.4	10.05	0.2	6.6	0.5	50.6	16.8	32.9	0.6	4.0	0.1	54.0	14.1
161	Abiaca Creek	at Pine Bluff Road	0.2	13.0	4.2	93.2	9.51	0.2	6.7	0.5	77.1	31.2	50.1	0.4	4.0	0.2	112.0	14.7
162	Coila Creek	at Blackhawk Road	0.3	10.0	3.5	100.2	11.61	0.2	6.7	1.0	90.0	37.7	58.5	0.7	3.0	0.6		8.9
163	Hays Creek	nr Vaiden	0.1	12.0	10.7	110.4	13.72	0.8	7.0	0.5	122.0	17.9	79.3	0.8	4.0	0.1	29.1	6.8
164	Peachahala Creek	nr Vaiden	0.1	16.0	6.1	101.3	12.70	0.5	6.6	1.5	75.0	13.4	48.8	0.9	5.0	0.1	41.1	5.9
165	Butputter Creek	nr Gore Springs	0.1	12.0	6.5	110.0	13.06	0.4	6.5	1.6	73.0	10.0	47.5	0.4	3.0	0.0	16.0	8.4
166	Topashaw Creek Canal	at Hwy8/9 (175m US from CR 481)	0.2	10.0	9.2	103.7	11.94	0.4	6.7	1.6	180.0	10.0	117.0	0.2	4.0	0.1	117.0	9.1
167	Little Topishaw Creek	nr Hohenlinden	0.2	10.0	4.3	101.1	12.88	0.1	6.6	0.4	98.0	10.0	63.7	0.2	3.0	0.0		5.1
168	Redgrass Creek	at Redgrass Road	0.2	11.0	4.6	106.2	14.08	0.3	5.3	0.7	92.0	10.0	59.8	0.4	3.0	0.0	9.0	4.3
169	Horse Pen Creek	at Cadaretta Road	0.1	12.0	7.0	16.7	2.03	0.3	6.4	0.5	100.0	15.9	65.0	0.3	3.0	0.1	24.0	6.2
170	Sabougla Creek Canal	nr Dentontown	0.2	10.0	6.9	110.4	13.72	0.3	5.6	2.3	80.0	13.3	52.0	0.4	2.0	0.1	30.0	6.4
171	Wolf Creek	at CR 252	0.2	10.0	3.1	86.5	9.77	0.4	7.8	0.5	48.8	10.0	31.7	0.4	3.0	0.0	10.0	9.1
172	Little Black Creek	nr Eupora (200 m US from Hwy 82 Rd. crossing)	0.2	11.0	5.2	108.0	13.39	0.1	6.7	0.4	55.0	10.0	35.8	0.4	5.0	0.0	47.0	6.2
173	Calabrella Creek	nr Pellez (200 m from CR 65 crossing)	0.1	14.0	3.8	97.5	10.64	0.2	6.5	0.4	46.0	10.0	29.9	0.5	3.0	0.0	27.0	11.5
174	Lewis Creek	nr Winona	0.2	10.0	5.8	99.6	12.02	0.4	6.4	2.0	68.0	11.0	44.2	0.2	4.0	0.0	22.0	6.1
175	Mulberry Creek	nr Sibleyton (~100m US from Salem Rd crossing)	0.3	13.0	5.6	106.8	11.75	0.7	6.7	0.4	61.0	10.0	39.7	0.5	3.0	0.0	36.0	10.7
176	Wolf Creek	nr Sibleyton (350 m DS of Hwy 82 Rd crossing)	0.2	16.0	3.4	96.9	10.51	0.2	6.7	0.6	44.0	10.0	28.6	0.3	4.0	0.0	49.0	11.8
177	Big Bywy Canal		0.8	10.0	5.6	97.9	11.13	0.1	7.0	0.5	74.0	12.4	48.1	1.4	5.0	0.1	27.1	9.8
178	McCurtain Creek	nr Eupora (150 m nr. Eupora)	0.2	14.0	3.6	92.1	10.35	0.1	6.5	0.9	37.0	10.0	24.1	0.3	5.0	0.0	30.0	10.2
179	Poplar Creek	nr Poplar Springs (150m US from Watson Rd. crossing)	0.2	10.0	3.7	97.9	12.69	0.1	6.3	1.5	46.0	10.0	29.9	0.2	4.0	0.1	19.0	4.4
180	unnamed trib to Poplar Creek	at Hwy 407	0.2	15.0	2.6	95.8	12.53	0.0	6.2	1.2	29.0	10.0	18.9	0.2	5.0	0.1	22.0	4.1
181	Topashaw Creek Canal	nr Atlanta (250m US from CR 471 crossing)	0.2	10.0	7.7	102.8	13.33	0.3	6.5	0.4	194.0	10.0	126.1	0.2	3.0	0.0	25.0	4.4

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
182	Houlka Creek	at Siloam-Una Road	0.1	17.0	6.3	110.5	12.19	0.2	7.6	1.0	172.0	53.6	111.8	0.6	4.0	0.1	24.3	11.4
183	Sand Creek	at Hwy 46	0.2	10.0	2.3	108.2	13.81	0.1	6.8	0.8	90.0	10.0	58.5	0.2	4.0	0.0	12.0	5.2
184	Spring Creek	nr Sapa (200m US of CR 132)	0.1	21.0	6.1	92.6	11.13	0.0	6.9	0.7	56.0	10.0	36.4	0.8	10.0	0.1	33.0	7.4
185	Line Creek	at Hwy 50	0.2	10.0	5.1	94.0	10.66	0.1	7.0	2.5	123.0	16.6	80.0	0.6	5.0	0.1	22.0	9.8
187	Long Branch	nr Oktibbeha Co. Lake (200m DS of Wade Rd.)	0.2	17.0	2.7	93.0	9.18	0.2	6.0	0.6	45.0	10.0	29.3	0.3	6.0	0.0	55.0	16.0
188	Trim Cane Creek	at Hwy 389 nr Starkville	0.1	14.0	7.8			0.2		1.0		24.6		0.5	6.0	0.1	31.0	
190	Hollis Creek	at New Prospect Road (150m DS of Poorhouse Rd. crossing)	0.3	40.0	14.5	89.2	9.34	4.8	7.1	0.8	316.0	77.3	205.4	2.7	8.0	0.9	27.0	13.3
191	Cypress Creek	at Hwy 25	0.2	11.0	5.2	95.4	10.31	0.1	6.0	1.4	138.0	10.0	89.7	0.3	5.0	0.0	32.0	11.8
193	James Creek	nr Aberdeen	0.7	17.0	10.8	84.7	9.17	0.6	7.5	0.5	288.5	82.8	187.5	1.1	5.0	0.2	40.0	12.1
195	Hang Kettle Creek	at Strong Road (@ Basinger Rd.)	0.2	16.0	12.2	92.9	10.04	0.0	8.0	0.3	232.5	76.0	151.1	0.6	6.0	0.1	11.0	11.4
196	Spring Creek	nr Strong	0.2	34.0	6.6	110.3	12.04	0.0	7.5	1.5	113.0	22.7	73.5	0.4	4.0	0.1	13.5	11.7
197	McKinley Creek	at Hwy 45	0.2	16.0	3.6	93.2	10.15	0.2	7.1	0.5	37.7	10.0	24.5	0.4	5.0	0.0	10.0	11.6
198	Town Creek	at Vinton Road	0.2	11.0	9.7	105.2	10.67	1.5	8.1	0.5	439.1	102.0	285.4	0.8	5.0	0.3	11.0	14.8
200	Town Creek	at West Point at Old Tibbie Road	5.0		402.0	73.7	7.42	14.3	7.4	0.3	201.6	221.0	131.0	6.8	15.0	7.2	11.0	15.3
202	Spring Creek	nr Stephen	0.2	16.0	9.9	76.5	8.46	0.4	7.8	0.3	285.6	97.4	185.6	0.8	6.0	0.2	19.0	11.1
204	Cooper Creek	nr Steens	0.1	10.0	4.6	95.5	11.88	0.4	5.9	0.5	41.4	10.0	26.9	0.5	5.0	0.0	10.0	6.4
205	Yellow Creek	above Lux confluence at Gunshot Road	0.2	10.0	1.0	89.7	9.99	0.0	5.9	3.0	24.0	10.0	15.6	0.5	5.0	0.0	9.0	10.6
206	Yellow Creek	at Lynn Creek Road	0.2	10.0	6.7	106.1	13.19	0.1	5.8	2.9	179.0	10.0	116.4	0.2	2.0	0.0	24.0	7.0
207	Catalpa Creek	nr Clay/Lowndes Co. line	0.2	16.0	8.9	88.7	9.96	0.2	7.7	0.3	386.0	140.0	250.9	0.5	6.0	0.1	10.0	9.9
209	McCrary Creek	at Columbus	0.2	10.0	6.1	109.2	11.66	0.4	7.2	0.5	70.0	11.5	45.5	0.3	3.0	0.0	9.0	12.5
210	South Branch	at Black Prairie WMA off Hwy 45	0.2	11.0	6.2	98.4	9.66	0.1	7.9	0.5	470.0	157.0	305.5	0.4	4.0	0.0	15.0	16.6
214	Kincaid Creek	at Hwy 69	0.2	10.0	3.4	102.1	12.72	0.2	5.5	1.4	51.0	10.0	33.2	0.2	2.0	0.0	5.0	6.1
216	James Creek	at Hwy 792	0.2	15.0	16.6	110.0	13.20	0.8	7.5	1.4	372.0	108.0	241.8	1.0	6.0	0.1	20.0	8.5
218	Harland Creek	at New Hope Road	0.2	10.0	5.4	104.0	12.20	0.1	7.1	1.0	197.0	81.4	128.1	0.3	3.0	0.1	41.2	8.5
219	Tesheva Creek	nr Eden	0.2	18.0	9.9	116.0	12.57	0.8	7.6	0.5	323.0	103.0	210.0	1.0	4.0	0.2	55.3	12.3
220	Piney Creek	at Rebecca Road	0.2	14.0	8.8	133.2	13.39	0.2	8.1	0.5	436.0	184.0	283.4	0.8	4.0	0.1	33.3	15.2
221	Short Creek	at Hwy 3 (Short Ck Rd.)	0.2	11.0	5.0	113.5	12.95	0.2	8.0	0.8	431.0	191.0	280.2	0.3	4.0	0.1	19.0	9.2
222	Cypress Creek	nr Myrleville	0.3	22.0	7.8	90.1	10.82	0.9	7.0	0.8	122.0	36.0	79.3	0.5	9.0	0.2	85.0	7.5

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
223	Deer Creek	nr Scotland	0.2	27.0	6.0	87.7	10.76	0.5	6.1	1.0	84.0	16.0	54.6	1.5	9.0	0.3	98.0	7.6
224	Oneil Creek	at Hwy 3	0.1	13.0	296.0	117.7	11.27	0.0	8.2	0.4	1331.0	194.0	865.2	0.3	5.0	0.1	13.0	17.4
225	Perry Creek	nr Tinsley	0.1	15.0	481.0	118.8	11.68	0.0	8.1	0.3	1942.0	214.0	1262.3	0.2	4.0	0.1	6.0	15.9
226	Indian Creek	nr Dover	0.3	22.0	6.5	99.5	10.02	0.2	7.6	1.5	189.0	74.6	122.9	0.9	10.0	0.3	65.0	14.9
227	Walesheba Creek	nr Dover	0.4	19.0	5.0	95.8	9.93	0.4	7.3	1.2	123.0	44.3	80.0	1.3	12.0	0.4	95.0	13.7
228	Fannegusha Creek	north of Hwy12	0.2	10.0	6.5	111.9	11.88	0.4	7.1	1.0	146.0	42.5	94.9	0.2	2.0	0.1	21.0	12.9
229	Bophumpa Creek	at Hwy 17	0.1	10.0	4.7	95.3	11.93	0.3	7.1	0.5	84.0	16.3	54.6	0.3	2.0	0.1	45.2	5.3
230	Fannegusha Creek	at Hwy 17	0.3	10.0	4.7	88.9	11.10	0.2	6.6	1.0	79.0	15.5	51.4	0.3	3.0	0.1	64.0	5.8
231	Black Creek	nr Lexington	0.2	10.0	5.8	107.5	12.0	0.2	6.6	1.5	114.0	30.6	74.1	0.4	2.0	0.1	28.9	10.5
232	Fannegusha Creek	nr Howard	0.2	10.0	6.0	100.7	12.23	0.4	6.9	0.8	173.0	63.6	112.5	0.4	2.0	0.1	27.9	6.9
233	Howard Creek	nr Durant	0.1	10.0	5.7	115.2	14.2	0.1	6.5	1.0	67.0	16.3	43.6	0.4	3.0	0.1	58.2	6.3
234	Apookta Creek	nr Durant	0.2	10.0	4.9	100.4	12.60	0.1	6.8	2.0	83.0	13.1	54.0	0.5	3.0	0.0	20.9	5.7
235	Jourdan Creek	nr Durant	0.1	11.0	5.0	108.0	14.07	0.1	6.9	1.5	66.0	15.0	42.9	0.5	4.0	0.1	30.9	4.2
236	Indian Creek	nr Vaiden	0.1	14.0	10.8	107.2	13.47	0.0	6.5	1.0	64.0	10.8	41.6	0.4	4.0	0.1	286.0	5.7
237	Box Creek/Green's Creek	nr Goodman	0.2	15.0	8.4	99.9	12.13	0.1	6.8	1.5	93.0	16.8	60.5	0.7	5.0	0.1	46.0	7.1
238	Long Creek	nr Sallis	0.3	12.0	5.2	98.0	11.97	0.1	6.7	1.5	59.0	10.6	38.4	0.5	5.0	0.1	24.7	6.9
239	Tackett Creek	nr Pickens	0.3	23.0	4.3	88.6	11.24	0.3	6.7	0.5	60.0	12.6	39.0	1.2	7.0	0.2	77.7	5.3
240	Senesha Creek	nr Goodman (@CR 4002)	0.2	12.0	4.1	105.0	12.72	0.0	6.6	1.0	48.0	10.0	31.2	0.5	5.0	0.0	17.7	7.2
241	Big Cypress Creek	at Hwy 432	0.2	15.0	8.0	97.4	11.39	0.4	7.1	1.0	96.0	20.3	62.4	0.9	5.0	0.1	41.8	8.6
242	Rambo Creek	nr Madison/Leake Co. Lin	0.2	10.0	3.6	94.4	12.39	0.0	6.3	0.2	35.0	10.0	22.8	0.2	4.0	0.0	17.0	3.9
243	Ellison Creek	at Fowler Road	0.3	14.0	5.6	108.9	10.97	0.4	6.9	0.3	79.0	15.2	51.4	1.8	8.0	0.3		15.1
244	Hobuck Creek	at Stump Bridge Road (150m US of bridge)	0.2	36.0	6.3	88.7	12.7	0.0	6.1	0.5	89.0	28.9	57.9	0.7	8.0	0.1	28.0	0.8
247	Scoobachita Creek	nr Hwy 35	0.1	10.0	2.7	100.0	12.43	0.1	6.4	1.5	43.0	10.0	28.0	0.1	3.0	0.0	12.0	6.1
248	Zilpha Creek	nr Vaiden	0.3	10.0	2.8	92.0	11.85	0.1	6.3	1.5	40.0	12.1	26.0	0.4	4.0	0.1	16.0	4.6
249	Yockanookany River	at Hyw 411	0.1	17.0	4.7	98.9	12.5	0.1	6.4	0.5	48.0	10.0	31.2	0.8	5.0	0.1	22.0	7.2
250	Lobutcha Creek	at Bethany Ebeneezer Road	0.2	15.0	3.2	84.1	10.10	0.0	5.7	0.7	38.0	10.0	24.7	0.5	7.0	0.0	14.0	7.4
251	Cole Creek	at Cole Creek Road	0.2	15.0	2.4	91.6	10.98	0.0	5.9	0.2	28.0	10.0	18.2	0.4	8.0	0.0	12.1	7.5
252	Tibby Creek	at Hwy 407	0.3	16.0	3.3	90.4	10.92	0.2	6.1	1.0	37.0	10.0	24.1	0.6	6.0	0.1	18.3	7.2
253	Atwood Creek	nr Kosciusko	0.1	10.0	2.8	99.0	12.5	0.0	6.4	0.3	34.0	10.0	22.1	0.1	4.0	0.0	13.0	5.5
254	Lobutcha Creek	at Hwy 19	0.1	19.0	3.1	89.5	11.8	0.0	5.8	1.0	40.0	10.0	26.0	0.6	7.0	0.1	10.0	6.7
255	Jofuska Creek	at Hwy 19	0.1	10.0	3.6	99.0	11.83	0.3	6.3	0.5	37.0	10.0	24.1	0.1	5.0	0.1	14.0	7.7
256	Lobutcha Creek	at Mars Hill Road (moved to Hwy 125)	0.1	17.0	3.2	100.6	12.1	0.1	6.0	1.0	43.0	10.0	28.0	0.6	6.0	0.1	19.0	8.4

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/ cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
257	Lukfapa Creek	nr Edinburg	0.2	12.0	2.8	94.5	11.28	0.1	5.9	0.5	36.0	10.0	23.4	0.3	5.0	0.0	10.0	7.7
259	Tuscotameta Creek	nr Tuckers Crossing	0.2	10.0	6.6	94.3	10.24	0.7	7.0	1.0	83.0	15.0	54.0	1.2	10.0	0.5	32.5	11.8
261	unnamed trib to Pearl River	at Carthage (Blanch Road)	0.7	30.0	4.8	96.8	12.01	0.9	5.2	0.5	58.2	11.4	37.8	1.1	13.0	0.1	66.0	6.1
262	Standing Pine Creek	at Hwy 488	0.2	17.0	4.6	104.5	12.51	0.4	6.4	0.5	49.7	10.0	32.3	0.6	6.0	0.1	27.0	7.6
263	Noxubee River	at Sturgis Road (75m US from Pigeon Roost bridge crossing)	0.2	10.0	3.6	99.2	10.19	0.0	6.8	0.6	66.0	10.0	42.9	0.2	3.0	0.0	27.0	14.1
265	Hughes Creek	nr Louisville	0.6	15.0	10.4	91.6	10.55	2.8	6.8	0.5	135.0	31.1	87.8	1.1	7.0	0.2	21.0	9.1
268	Tallahaga Creek	at Hwy 490	0.3	21.0	4.4	93.7	11.23	0.1	6.2	0.4	54.0	10.0	35.1	0.5	8.0	0.1	18.0	7.5
269	Noxapater Creek	nr Stallo	0.3	25.0	4.0	87.8	9.8	0.0	5.9	1.0	43.0	10.0	28.0	0.6	8.0	0.1	15.0	13.7
272	Pinishook Creek	nr Arlington	0.3	19.0	3.5	89.0	10.25	0.1	5.9	1.0	36.0	10.0	23.4	0.5	8.0	0.1	21.0	9.2
273	Owl Creek	at Hwy 491 (at Hwy 21)	0.2	25.0	4.6	87.0	11.52	0.0	5.0	1.2	62.0	10.0	40.3	0.6	9.0	0.0	32.0	5.6
275	unnamed trib to Kentawka Canal	at Frog Level Road	0.2	10.0	6.3	90.2	10.94	0.2	6.5	0.1	81.0	11.1	52.7	0.3	5.0	0.1	17.0	7.0
276	Land Creek	at Hwy 495	0.2	24.0	5.1	83.5	10.13	0.0	5.7	1.9	52.0	10.0	33.8	0.5	9.0	0.0	23.0	9.9
280	Macedonia Creek	at Hwy 45	0.2	10.0	5.1	107.6	12.33	0.1	7.8	2.6	111.0	10.0	72.2	0.2	2.0	0.0	14.0	9.9
281	Plum Creek	nr Macon	0.3	14.0	18.2	112.7	11.93	1.8	7.3	1.5	300.0	65.2	195.0	0.6	7.0	0.1	120.0	12.9
282	Bogue Chitto Creek	nr Dinsmore	0.1	10.0	25.3	120.8	13.27	0.8	7.7	0.8	442.0	105.0	287.3	0.7	6.0	0.1	20.0	11.2
284	Shuqualak Creek	nr Calyx	0.2	17.0	19.6	102.2	11.61	0.1	7.0	2.3	291.0	71.7	189.2	0.4	6.0	0.0	31.0	10.3
285	Ash Creek	at Paulette Road	0.2	17.0	11.0	109.2	12.46	0.2	7.5	1.0	242.0	77.9	157.3	0.2	8.0	0.1	26.0	10.2
286	Woodward Creek	at MS/AL state line	0.1	13.0	9.0	115.7	13.06	0.7	6.7	1.3	187.0	56.0	121.6	0.1	7.0	0.1	127.0	10.0
287	Wahalak Creek	at old Hwy 45	0.4	10.0	3.7	110.0	12.71	0.3	6.6	1.2	90.0	10.0	58.5	1.2	5.0	0.0	48.0	9.4
288	Straight Creek	at Hwy 39	0.3	10.0	2.4	110.9	12.78	0.1	5.8	0.6	31.0	10.0	20.2	0.8	2.0	0.0	26.0	9.5
289	Shy Hammock Creek	at Hwy 16	0.3	19.0	9.1	110.5	12.76	0.1	6.7	0.7	199.0	64.7	129.4	1.0	10.0	0.1	44.0	9.2
290	Bodka Creek	nr Electric Mills	0.2	11.0	3.2	102.6	11.27	0.2	6.1	1.6	47.0	10.0	30.6	0.5	5.0	0.0	16.0	12.0
291	Bliss Creek	at Hwy 61	0.2	10.0	7.4	96.4	11.10	0.5	7.6	0.8	684.0	341.0	444.6	0.2	1.0	0.1	9.0	9.1
292	Clear Creek	nr Bovina	0.2	10.0	6.0	96.5	11.29	0.2	7.4	0.5	548.0	246.0	356.2	0.4	3.0	0.1	37.0	8.9
293	Hamer Bayou	nr Vicksburg	0.1	12.0	5.4	115.1	13.5	0.0	7.9	0.8	372.0	159.0	241.8	0.3	4.0	0.1	10.2	8.4
295	Big Sand Creek	at Nathcez Trace	0.2	11.0	5.2	92.8	11.24	0.1	7.7	0.3	106.0	22.2	68.9	0.2	3.0	0.1	18.0	7.1
296	Beaver Creek	nr Mechanicsburg	0.2	10.0	5.8	104.3	12.84	0.0	8.1	0.5	528.0	235.0	343.2	0.3	4.0	0.1	16.0	6.7
297	Bogue Chitto Creek	nr Nevada	0.5	10.0	7.7	120.1	12.03	0.4	7.1	1.0	140.0	38.9	91.0	1.5	9.0	0.3	167.0	15.3
298	Limekiln Creek	at Hwy 49 (nr Pochahontas)	0.2	20.0	6.8	93.2	10.55	0.1	6.1	1.9	143.0	32.9	93.0	1.0	6.0	0.1	69.0	10.9
299	Cox Creek	nr Edwards	0.2	30.0	7.8	100.9	11.76	0.1	7.4	0.8	247.0	92.0	160.6	1.1	8.0	0.5	173.0	8.6

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
300	Porter Creek	nr Edwards	1.5	38.0	8.9	85.5	9.1	0.9	7.3	1.0	191.0	66.5	124.2	3.8	18.0	0.5	126.0	12.5
301	Bear Creek	nr Youngton	0.2	10.0	5.2	118.7	14.59	0.1	8.1	0.8	538.0	254.0	349.7	0.5	4.0	0.2	39.0	6.8
302	unnamed trib to Pearl River	at Southport	1.5	18.0	14.7	101.7	12.74	0.4	7.9	0.5	320.5	64.7	208.3	1.9	5.0	0.3	51.3	5.8
303	Bakers Creek	nr Edwards	0.4	35.0	10.3	84.5	10.93	1.0	8.1	1.5	191.0	55.3	124.2	1.7	9.0	0.3	77.8	4.5
304	Fourteen Mile Creek	nr Edwards	0.4	44.0	9.6	86.6	11.45	0.8	7.6	1.5	170.0	46.6	110.5	1.9	9.0	0.3	80.9	3.7
305	Big Creek	at Terry Road	0.8	25.0	12.0	106.4	14.37	0.5	7.9	0.5	229.0	47.2	148.9	1.7	7.0	0.2	52.7	2.9
306	Five Mile Creek	nr Newman	0.2	26.0	4.8	71.6	10.29	0.2	7.5	0.3	87.0	25.8	56.6	0.9	9.0	0.2	65.7	4.5
307	Rhodes Creek	nr Rosemary	0.3	14.0	11.1	108.7	15.5	0.3	8.0	1.5	150.0	25.2	97.5	0.8	6.0	0.1	29.9	1.1
309	Tilda Bogue Creek	nr Canton (US from bridge on Hwy 16)	0.2	55.0	7.9	84.8	11.4	0.4	6.5	1.5	130.0	14.7	84.5	1.1	9.0	0.1	56.0	3.2
310	Fannegusha Creek	at Hwy 25	0.2	33.0	4.3	98.6	11.29	0.3	7.7	0.5	62.0	13.5	40.3	1.2	11.0	0.1	45.8	10.5
311	Coffee Bogue	at Hwy 25	0.2	64.0	3.9	84.8	9.0	0.4	6.2	1.0	55.0	12.1	35.8	0.6	16.0	0.1	27.0	13.1
312	Hurricane Creek	at Fleming Road	0.2	41.0	6.4	91.2	10.43	1.8	5.6	0.5	69.5	10.0	45.2	1.7	17.0	0.2	67.0	3.9
313	Red Cane Creek	at Weaver Road	0.4	33.0	6.7	80.0	8.70	1.2	5.9	0.5	76.0	12.2	49.4	1.2	11.0	0.1	50.0	6.5
315	Hanging Moss Creek	at Jackson (Ridgewood Rd. @ Chatham Village Apts.)	0.7	21.0	11.8	101.9	13.4	0.3	7.5	1.5	245.0		159.3	1.1	5.0	0.1	32.0	3.9
316	Eutaeutachee Creek	at Hwy 80	0.3	71.0	13.1	91.0	12.58	0.9	5.1	0.5	163.9	18.3	106.5	1.2	12.0	0.4	64.0	2.9
317	Richland Creek	at Old Pearson Road (W. Petros Rd)	0.3	34.0	8.8	81.8	11.25	0.3	5.6	1.0	163.6	21.4	106.3	1.0	9.0	0.1	36.0	1.1
318	Steen Creek	nr Sinai (@ White St/White Rd.)	0.6	24.0	13.3	99.3	13.43	0.4	7.4	1.0	173.0	22.8	112.5	1.0	6.0	0.3	20.0	2.8
319	Strong River	at Hwy 541	0.3	28.0	7.2	91.3	10.1	0.5	6.8	1.0	110.0	21.0	71.5	1.1	12.0	0.3	36.0	12.1
321	Schockaloe Creek	at Pea Ridge Road	0.2	43.0	3.6	90.3	10.89	0.4	6.0	0.5	49.7	10.0	32.3	1.0	14.0	0.2	17.0	6.4
322	Sipsey Creek	at Hwy 21	0.3	17.0	5.5	101.4	13.02	1.0	6.0	0.8	64.6	10.0	42.0	0.7	7.0	0.2	23.0	5.5
323	Tallabogue Creek	nr Hwy 35/ at King Road	0.2	27.0	16.0	85.7	11.08	5.2	6.3	0.8	175.8	24.1	114.3	1.6	10.0	1.0	28.0	4.9
324	Hontokalo Creek	at Hwy 21	0.2	33.0	9.9	92.0	11.50	1.5	6.8	0.5	120.7	26.2	78.5	1.6	11.0	1.7	33.0	5.9
325	Conehatta Creek	at Hwy 489	0.2	25.0	4.6	115.3	14.79	0.4	5.9	0.5	58.3	10.0	37.9	0.7	9.0	0.0	13.0	4.3
326	Sugar Bogue	at Hwy 13	0.1	26.0	3.1	82.2	10.57	0.0	5.6	0.5	35.2	10.0	22.9	0.7	12.0	0.0	10.0	4.5
327	Ford's Creek	at Hwy 61	0.3	12.0	11.3	108.1	12.37	0.1	7.0	0.2	106.0	15.6	68.9	0.4	4.0	0.1	18.0	9.4
328	Cedar Creek	nr Theadville (at Morton Marathon Road)	0.2	24.0	3.8	86.4	9.53	0.0	6.5	0.5	48.0	10.0	31.2	0.3	10.0	0.0	26.0	11.0
329	West Tallahalla Creek	(@ Morton Marathon Rd.)	0.1	23.0	5.6	86.1	9.64	0.0	6.8	0.5	86.4	20.4	56.2	0.3	10.0	0.0	31.0	10.6
330	Caney Creek	at Hwy 481	0.1	38.0	4.5	115.2	14.32	0.4	5.3	0.5	57.6	10.0	37.4	0.6	13.0	0.1	41.0	4.1

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
331	Okatibbee Creek	nr Rio	0.1	15.0	4.2	93.0	11.6	0.1	6.1	0.5	50.0	10.0	32.5	0.5	4.0	0.1	30.0	6.5
332	Houston Creek	nr Rio	0.1	15.0	4.1	92.9	11.4	0.2	6.4	0.5	59.0	10.0	38.4	0.7	5.0	0.1	16.0	6.9
335	Potterchitto Creek	at Hwy 503	0.4	19.0	6.2	89.8	11.0	0.3	6.5	1.5	96.0	20.4	62.4	1.3	7.0	0.1	20.0	8.2
336	Chunky River	at Chunky	0.1	17.0	5.7	92.9	10.8	0.2	6.8	0.5	83.0	21.3	54.0	0.9	6.0	0.1	23.0	8.9
337	Okatibbee Creek	at Meridian at Old Hwy 80	0.2	14.0	4.6	91.5	9.7	0.0	6.2	1.0	58.0	10.0	37.7	0.2	5.0	0.0	53.0	13.3
338	Sowashee Creek	nr Meridian	0.4	11.0	7.4	91.7	11.5	0.2	6.5	1.0	154.0	26.9	100.1	0.7	4.0	0.1	14.0	6.1
339	Okatibbee Creek	nr Arundel (east of Arundel)	0.3	15.0	4.8	95.0	10.9	0.3	6.9	1.0	104.0	20.8	67.6	0.7	5.0	0.1	38.0	9.4
341	Chunky River	nr Enterprise (@ Dunns Falls)	0.2	13.0	4.7	95.5	9.7	0.2	6.7	0.5	81.0	11.4	52.7	0.3	6.0	0.0	25.0	14.3
343	Bostick Branch	at Stonewall Burlington Denim Plant	0.3	22.0	6.7	88.9	9.5	0.3	6.5	0.5	94.0	18.4	61.1	0.9	5.0	0.1	6.0	12.6
344	Big Red Creek	nr Meridian AFB	0.1	10.0	2.9	94.7	10.73	0.1	4.6	1.8	64.0	10.0	41.6	0.1	5.0	0.0	14.0	9.9
345	Blackwater Creek	at Moore Road	0.1	10.0	3.5	103.4	12.19	0.1	5.5	2.3	56.0	10.0	36.4	0.1	4.0	0.0	17.0	8.4
346	Piwticfaw Creek	at Hwy 45	0.1	10.0	2.9	106.9	11.19	0.1	7.3	1.5	45.0	10.0	29.3	0.5	4.0	0.1	28.7	13.3
348	Alamuchee Creek	at MS/AL state line	0.1	10.0	4.0	98.3	12.1	0.0	6.4	0.5	78.0	11.3	50.7	0.4	3.0	0.1	20.0	8.2
349	Irby Mill Creek	at BW Johnson Road	0.2	10.0	2.8	92.9	10.4	0.0	5.3	0.5	40.0	10.0	26.0	0.5	6.0	0.0	4.0	10.3
350	Long Creek	nr Sykes at Hwy 18	0.2	10.0	3.3	89.9	10.2	0.0	5.8	1.0	44.0	10.0	28.6	0.7	7.0	0.1	16.0	10.0
353	Annas Bottom	at Quitman Road	0.2	10.0	22.8	120.8	12.39	0.2	7.4	0.5	808.0	374.0	525.2	0.2	1.0	0.1	7.0	14.2
354	Fairchild's Creek	at Churchhill Road	0.1	10.0	119.0	101.6	11.65	0.2	7.3	0.5	1035.0	349.0	672.8	0.1	1.0	0.1	4.0	9.2
355	St. Catherine Creek	nr Nathcez	0.1	10.0	202.0	114.0	14.15	0.1	8.1	0.5	1128.0	265.0	733.2	0.1	2.0	0.1	5.0	6.0
356	Kennison Creek	nr Willows	0.2	10.0	5.4	99.2	12.48	0.1	7.5	0.5	265.0	94.9	172.3	0.3	4.0	0.1	9.1	5.7
357	Bayou Pierre (downstream)	at Hwy 18	0.2	12.0	6.3	111.8	10.79	0.2	7.1	2.0	68.0	12.2	44.2	0.4	6.0	0.1	24.0	17.3
358	unnamed trib to Bayou Pierre	nr Carlisle	0.1	25.0	8.1	104.6	14.44	0.1	7.6	0.3	82.0	10.7	53.3	0.6	7.0	0.1	82.8	2.2
359	James Creek	at Rodney Road	0.2	12.0	5.1	113.2	12.30	0.2	8.0	0.8	587.0	296.0	381.6	0.2	2.0	0.1	19.6	11.6
360	Little Bayou Pierre	at Hwy 18 (Natchez Trace)	0.1	10.0	10.4	107.3	10.68	0.0	7.0	1.5	121.0	23.2	78.7	0.3	4.0	0.1	46.8	15.8
362	Dowd Creek	at Rodney Road	0.1	10.0	6.1	103.5	12.59	0.1	8.3	0.5	600.0	314.0	390.0	0.1	2.0	0.1	1.0	6.8
363	South Fork Coles Creek	at CR 553	0.2	10.0	62.0	106.9	12.89	0.1	7.7	0.5	380.0	80.2	247.0	0.2	3.0	0.1	10.0	7.4
364	North Fork Coles Creek	at Frazier Road (Stonington Rd.)	0.2	23.0	11.7	103.8	13.31	0.1	6.8	0.6	99.0	11.0	64.4	0.2	4.0	0.0	19.0	4.8
365	Middle Fork Homochitto River	nr Perth	0.2	10.0	8.6	114.7	12.32	0.1	7.0	0.3	68.0	10.0	44.2	0.2	2.0	0.0	7.0	12.2
367	Fifteen Mile Creek	at Fifteen Mile Creek Road	0.2	10.0	5.6	91.2	10.18	0.2	6.4	0.8	55.0	10.0	35.8	0.4	4.0	0.1	23.0	10.3

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
368	White Oak Creek	at Carpenter	0.2	10.0	13.8	123.5	12.38	0.0	7.2	0.8	153.0	21.3	99.5	0.4	4.0	0.1	42.8	15.3
369	Tallahalla Creek	at Hwy 27	0.1	30.0	7.4	104.8	13.42	0.2	7.5	0.3	74.0	11.3	48.1	1.1	10.0	0.2	137.0	4.9
370	Turkey Creek	at Dentville Road	0.2	13.0	5.6	100.9	12.44	0.2	7.0	0.5	56.0	10.0	36.4	0.5	5.0	0.1	33.3	6.4
371	Brushy Creek	at Hwy 27	0.2	10.0	7.1	97.0	13.13	0.2	7.4	2.2	58.0	10.0	37.7	0.3	3.0	0.1	17.0	2.8
373	Bayou Pierre (upstream)	at Old Port Gibson Road	0.2	18.0	7.2	98.4	12.26	0.5	7.1	1.0	67.0	10.0	43.6	0.7	7.0	0.1	46.0	6.0
375	Bahala Creek (Russell Creek)	nr Sand Hill (@ Martinsville Rd.)	0.1	13.0	5.7	104.1	11.05	0.0	6.4	0.5	54.0	10.0	35.1	0.2	4.0	0.1	15.6	13.1
376	Little Bahala Creek	Timberlane Road	0.2	24.0	6.6	100.6	13.09	0.2	7.4	0.5	56.0	10.0	36.4	0.7	7.0	0.1	20.6	4.3
378	Bogue Chitto	at Hwy 84	0.7	14.0	9.4	81.4	9.90	0.3	6.4	0.5	103.0	18.8	67.0	1.3	5.0	0.1	32.0	7.7
379	Dabbs Creek	at Gum Springs Road	0.3	43.0	5.5	97.8	13.6	0.4	7.0	0.3	69.0	10.0	44.9	0.8	10.0	0.0	21.0	1.9
380	Campbell Creek	at Campbell's Creek (Rd.)	0.3	43.0	5.6	97.1	13.8	0.4	7.1	0.7	75.0	10.0	48.8	0.9	10.0	0.1	18.0	1.1
381	Limestone Creek	Old River Road (125 m US of Old River Road)	0.1	14.0	5.1	101.2	12.30	0.1	6.5	1.2	51.0	10.0	33.2	0.7	5.0	0.1	17.0	7.0
382	Big Creek	at Bearcat Road	0.1	16.0	6.1	96.8	11.47	0.2	6.5	1.7	62.0	10.0	40.3	0.6	6.0	0.1	17.0	8.0
383	Riles Creek	at Hwy 43	0.3	15.0	3.8	106.3	12.8	0.3	7.3	0.3	33.0	11.9	21.5	0.3	2.0	0.0	7.0	7.4
384	Riles Creek	at Lee Boggan Road	0.3	15.0	3.4	100.1	11.2	0.2	7.3	1.1	27.0	10.0	17.6	0.3	1.0	0.0	4.0	10.5
385	Copiah Creek	at Hwy 27	0.2	11.0	6.1	96.7	11.97	0.4	7.2	1.4	60.0	10.0	39.0	0.4	4.0	0.2	29.0	6.2
387	Skiffer Creek	nr Jaynesville (200 m of Mt. Olive Rd crossing)	0.1	11.0	5.7	80.5	9.17	0.5	6.2	0.4	49.0	11.6	31.9	0.7	4.0	0.1	25.0	9.8
388	Pegies Creek	north of Oma (150m US of Hwy 27)	0.3	14.0	4.6	100.8	12.67	0.2	6.5	0.3	47.0	10.0	30.6	0.3	6.0	0.1	22.0	5.6
390	Bahala Creek	south of Oma (200m US from Unnamed road)	0.1	12.0	7.3	101.4	11.58	0.2	6.8	0.8	61.0	11.8	39.7	0.5	4.0	0.1	15.0	9.5
393	Bowie Creek	nr Mt Carmel Hwy 84	0.2	18.0	3.3	99.5	11.46	0.3	6.4	2.4	28.0	13.9	18.2	0.2	1.0	0.0	15.0	9.2
394	Dry Creek	at Hwy 84	0.2	10.0	3.6	67.1	8.4	0.0	6.5	0.2	43.0	12.0	28.0	0.4	2.0	0.0	12.0	5.9
395	Fair River	at Hwy 27	0.1	27.0	4.9	93.5	11.9	0.2	6.2	0.5	44.0	10.0	28.6	0.7	7.0	0.1	31.0	5.5
396	Pretty Branch	nr Ferguson (150m US of Mill Rd. crossing)	0.2	10.0	3.7	97.7	12.02	0.1	7.2	1.2	37.0	10.0	24.1	0.2	2.0	0.2	8.0	6.4
397	Halls Creek	at Hwy 587	0.1	17.0	4.4	97.9	12.4	0.3	6.7	0.5	44.0	10.0	28.6	0.7	4.0	0.1	10.0	6.3
398	Silver Creek	at Hwy 43	0.1	10.0	8.1	99.6	10.8	0.2	6.3	0.5	49.0	10.0	31.9	0.3	2.0	0.0	7.0	11.9
399	Oakahay Creek	nr. Raleigh at Hwy 18	0.4	45.0	6.8	97.0	13.7	1.1	7.1	1.1	108.0	10.0	70.2	0.9	10.0	0.2	17.0	1.3
400	Leaf River	nr Sylvareena at Hwy 18	0.2	23.0	5.1	95.7	10.11	0.1	6.7	1.0	110.0	23.3	71.5	0.7	8.0	0.1	40.0	13.3
401	West Tallahala	nr Sylvareena at Smith Co 99	0.2	10.0	5.3	113.4	12.3	0.1	7.5	1.3	7.9	18.3	5.1	1.0	7.0	0.1	44.0	12.3
403	Keys Mill Creek	nr Leaf River	0.2	10.0	4.3	110.3	13.3	0.3	6.0	0.5	34.0	10.0	22.1	0.2	4.0	0.0	4.7	7.2

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
404	Okatoma Creek	nr Mt. Olive (250m US of Cherry Bridge Rd.)	0.1	14.0	7.1	91.5	10.78	0.5	6.4	0.7	57.0	10.0	37.1	0.8	4.0	0.1	12.0	8.7
405	Leonards Mill Creek	nr Mt. Olive (75-100m US of Rock Hill Rd crossing)	0.2	15.0	3.4	95.3	11.72	0.3	6.5	0.9	37.0	10.0	24.1	0.2	5.0	0.1	11.0	6.5
406	Oakahay Creek	nr. Hot Coffee on Hwy 37	0.1	22.0	6.4	91.2	9.55	0.4	6.5	2.5	71.0	10.0	46.2	0.7	9.0	0.1	18.0	13.3
407	Okatoma Creek	nr Collins at Hwy 84	0.4	19.0	6.5	90.0	9.34	0.4	6.8	2.5	78.0	13.7	50.7	1.2	8.0	0.2	19.0	13.7
408	Oakey Woods Creek	at Hwy 588	0.2	17.0	4.5	102.2	11.45	0.2	5.9	1.0	37.0	10.0	24.1	0.5	8.0	0.0	7.9	10.5
409	West Bouie Creek	at Sumrail Road	0.1	20.0	6.1	90.1	10.13	0.3	6.3	0.7	48.0	10.0	31.2	0.8	7.0	0.1	9.0	10.2
410	Souinlovey Creek	nr Pachuta at Hwy 513	0.2	25.0	4.3	92.3	10.0	0.1	6.8	1.0	118.0	32.4	76.7	0.7	9.0	0.1	21.0	12.6
412	Castaffa Creek	at Hwy 11 nr Barnett	0.2	11.0	8.8	93.2	8.91	0.1	6.3	0.3	82.0	10.0	53.3	0.2	4.0	0.0	17.0	15.8
413	Tallahala Creek	nr Heidleberg (@ Hwy 528)	0.2	18.0	5.1	84.1	8.2	0.1	6.3	1.0	68.0	10.0	44.2	0.6	6.0	0.0	37.0	16.7
414	Horse Branch	nr Heidleberg	0.2	11.0	129.0	91.3	9.2	0.0	7.0	0.5	563.0	42.0	366.0	0.3	5.0	0.3	14.0	14.5
416	Tallahoma Creek	nr Moss	0.3	27.0	9.6	102.3	10.17	0.7	6.7	2.3	102.0	10.8	66.3	0.8	8.0	0.3	27.1	15.7
417	Tallahala	nr Laurel	0.3	28.0	11.6	97.3	10.0	0.3	6.5	1.3	109.0	15.1	70.9	0.8	9.0	0.1	24.5	14.1
418	Buckatunna Creek	nr Sykes at Hwy 18 (@ Hwy 514)	0.2	18.0	3.9	90.5	9.5	0.0	6.1	1.0	43.0	10.0	28.0	0.4	6.0	0.1	32.0	14.8
419	Chickasawhay River	at DeSoto	0.2	20.0	6.7	92.3	9.2	0.2	6.8	1.0	102.0	16.0	66.3	0.9	6.0	0.1	37.0	16.4
420	Five Mile Creek	nr Crandall	0.2	10.0	32.4	99.2	11.0	0.1	6.3	0.5	163.0	10.0	106.0	0.8	12.0	0.1	23.0	11.9
421	Hortons Mill Creek	at Boice and Hwy 45	0.2	10.0	63.9	104.0	12.8	0.1	7.5	1.0	404.0	47.2	262.6	0.2	3.0	0.0	5.7	6.4
422	Coldwater Creek	at Tokio Frost Bridge	0.2	10.0	4.4	100.6	12.13	0.3	7.6	1.0	246.0	86.2	159.9	0.2	3.0	0.1	4.0	7.2
423	Yellow Creek	nr Boice (@ Old River Rd.)	0.2	19.0	50.2	93.1	9.9	0.2	6.9	0.5	201.0	11.0	130.7	0.5	6.0	0.1	8.0	13.5
424	Maynor Creek	nr Clara	0.2	27.0	5.6	98.1	11.08	0.0	5.3	1.5	41.0	10.0	26.7	0.5	10.0	0.0	20.3	10.1
427	Sandy Creek	at Deerfield Road	0.2	10.0	84.5	101.1	12.20	0.2	6.6	1.0	325.0	17.7	211.3	0.2	2.0	0.1	21.0	7.2
428	Second Creek	at Hutchins Landing Road	0.1	10.0	201.0	106.1	11.88	0.2	7.8	0.3	852.0	105.0	553.8	0.1	2.0	0.1	9.0	10.2
429	Crooked Creek	on Natchez-Rosetta Road	0.2	15.0	20.1	98.1	11.58	0.0	6.4	0.4	140.0	13.7	91.0	0.2	5.0	0.1	43.0	8.1
430	Buffalo River - downstream	at lower Woodville Road (Sanders Fork Rd.)	0.1	10.0	9.8	110.9	12.47	0.1	7.0	0.8	80.0	13.2	52.0	0.3	3.0	0.1	18.0	10.1
431	Millbrook Creek	at Millbrook Road	0.2	10.0	11.3	106.2	14.25	0.0	8.0	0.5	405.0	178.0	263.3	0.3	2.0	0.1	2.0	3.1
434	Bayou Sara	at Wyoming Road	0.1	10.0	7.6	106.9	13.31	0.1	7.2	0.6	73.0	21.5	47.5	0.1	2.0	0.1	2.0	6.0
438	Mcgehee Creek	at Holland Road	0.2	10.0	4.0	94.8	10.76	0.1	6.4		39.0	10.0	25.4	0.2	2.0	0.0	5.0	9.8
439	Richardson Creek	at Bunkley Road	0.2	16.0	28.4	104.2	11.42	0.0	6.8	0.2	134.0	10.0	87.1	0.5	7.0	0.1	24.0	11.3
440	Middle Fork Homochitto River	nr Meadville at Hwy 84/98	0.2	10.0	28.8	104.6	11.39	0.1	6.6	0.3	129.0	10.6	83.9	0.1	2.0	0.0	7.0	11.6

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
441	Dry Creek	at Natchez-Rosetta Road (Perry Town Rd.)	0.1	40.0	20.3	99.5	11.58	0.0	6.6	1.0	112.0	10.0	72.8	0.1	6.0	0.1	23.0	8.7
444	Tar Creek	just off Hwy CR 563	0.1	12.0	13.0	101.5	11.82	0.0	6.4	1.0	74.0	10.0	48.1	0.1	4.0	0.1	7.0	8.7
445	Ziegler Creek	at Freewood Road	0.1	39.0	22.1	84.6	10.21	0.1	6.1	0.5	112.0	10.0	72.8	0.7	15.0	0.1	60.0	7.3
446	Brushy Creek	at Homochitto Road	0.2	10.0	4.9	107.0	11.14	0.1	6.4	0.5	45.0	10.0	29.3	0.2	3.0	0.0	9.0	13.6
447	Caston Creek	at Oxford Road	0.2	10.0	8.6	94.1	11.19	0.1	6.5		56.0	10.0	36.4	0.2	3.0	0.0	5.0	7.9
448	West Fork Amite River (upper)	at CR 24	0.2	10.0	3.9	94.9	9.67	0.2	6.7	2.0	39.0	10.0	25.4	0.6	3.0	0.1	13.0	14.5
449	Cars Creek	nr Liberty	0.2	34.0	5.2	95.2	10.41	0.1	6.5	0.5	50.0	10.7	32.5	1.3	13.0	0.1	20.0	11.4
450	Thompson Creek -main stem	at Whittaker Road	0.1	11.0	9.2	105.8	12.58	0.1	6.8	0.3	73.0	15.7	47.5	0.3	2.0	0.1	8.0	7.8
451	Big Creek	at Big Creek Road	0.2	21.0	5.4	80.7	8.69	0.1	6.3	1.5	45.0	10.0	29.3	0.4	7.0	0.1	19.0	12.0
452	Bogue Chitto	south of Hartman	0.3	15.0	12.6	85.6	9.49	1.1	6.7	0.5	106.0	20.0	68.9	0.9	8.0	0.2	20.0	12.7
453	Boone Creek	Pricedale Road (at Hwy 583)	0.3	14.0	7.5	87.9	9.22	0.3	6.1	2.0	54.0	10.0	35.1	1.1	7.0	0.1	26.0	13.1
454	Bogue Chitto	at Bogue Chitto Road SE	0.2	10.0	6.9	87.4	9.03	0.4	6.7	1.5	61.0	12.6	39.7	0.6	5.0	0.1	13.0	13.9
455	Beaver Creek	nr Johnstons Station	0.2	12.0	3.9	97.4	10.11	0.0	6.6	0.5	36.0	10.0	23.4	0.5	6.0	0.0	7.0	13.7
456	Little Tangipahoa River (upper)	at Hwy 98	0.2	23.0	5.7	93.2	9.78	0.0	6.3	0.4	47.0	10.0	30.6	0.6	9.0	0.1	15.0	13.2
457	Clear Creek	nr Hwy 44 (on Beardon Ln.)	0.2	11.0	6.1	100.1	11.7	0.5	7.2	0.5	61.0	10.3	39.7	0.2	2.0	0.1	3.0	8.7
458	Leatherwood Creek	at Leatherwood Road	0.1	10.0	3.4	97.9	11.5	0.0	6.2	0.5	33.0	10.0	21.5	0.2	1.0	0.1	2.0	8.0
459	Topisaw Creek	at Brent Road	0.1	66.0	6.7	102.1	11.4	0.2	6.3	0.5	46.0	10.0	29.9	0.3	2.0	0.1	3.0	10.4
460	Little Tangipahoa River (lower)	at Hwy 48	1.3	30.0	13.0	79.7	9.9	1.2	7.1	0.5	149.0	30.6	96.9	2.8	5.0	0.5	12.0	6.0
462	Tickfaw River (upper)	at CR 584 (Hwy 584)	0.2	10.0	5.5	92.2	9.91	0.2	6.3	0.8	42.0	10.0	27.3	0.3	4.0	0.0	7.0	12.1
463	White Sand Creek	at River Road	0.1	10.0	3.5	99.7	11.7	0.3	6.2	0.5	31.0	10.0	20.2	0.3	2.0	0.1	7.0	10.0
464	Tilton Creek	at Hwy 587	0.1	10.0	2.8	100.0	11.1	0.2	6.5	0.5	25.0	10.0	16.3	0.3	1.0	0.1	1.0	11.2
465	Holiday Creek	at Hwy 13/43	0.1	12.0	4.5	100.3	11.7	0.4	6.3	0.5	35.0	10.0	22.8	0.4	3.0	0.1	4.0	8.5
466	McGee Creek	S of Darbun (@ Buckbridge Rd.)	0.4	18.0	4.8	79.5	9.4	0.4	5.8	0.5	55.0	11.0	35.8	0.8	4.0	0.1	10.0	8.7
467	Tenmile Creek	at Hwy 35	0.1	11.0	3.4	98.1	10.2	0.5	6.2	0.5	28.0	10.0	18.2	0.2	1.0	0.1	3.0	13.4
468	Upper Little Creek	at Hwy 13/43	0.1	15.0	5.5	95.8	11.3	0.2	6.2	0.5	42.0	10.0	27.3	0.4	4.0	0.1	8.0	8.1
469	Lower Little Creek	at Hwy 43	0.2	16.0	4.3	94.8	10.0	0.1	5.7	0.5	32.0	10.0	20.8	0.5	5.0	0.1	7.0	13.0
470	Magee's Creek	at Hwy 27 (350 m US on county Rd. At Hwy 27)	0.1	10.0	5.2	91.4	10.5	0.3	6.3	1.0	45.0	10.0	29.3	0.3	2.0	0.1	4.0	9.3

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
471	E Fk Pushepatapa Creek	at state line (@ Vincetown Rd.)	0.1	10.0	27.8	91.8	10.1	0.6	6.1	1.0	107.0	10.0	69.6	0.3	1.0	0.1	2.0	11.2
472	Clear Creek	at Hwy 43	0.1	10.0	36.0	100.8	11.80	0.1	5.8	0.8	125.3	10.0	81.4	0.3	3.0	0.0	4.0	8.5
474	Black Creek	at Broome Road	0.1	22.0	4.2	83.0	9.85	0.2	5.9	0.8	48.0	10.0	31.2	0.4	8.0	0.1	5.0	8.3
475	Shelton Creek	at Delk Road	0.2	25.0	4.1	102.1	12.51	0.5	5.8	1.0	37.0	10.0	24.1	0.6	8.0	0.1	10.3	6.6
476	Bowie Creek	nr Hattiesburg at Hwy 49	0.2	10.0	3.8	99.1	9.49	0.2	6.3	1.5	36.0	10.0	23.4	0.4	5.0	0.0	8.0	17.4
477	Monroe Creek	at Monroe Road	0.1	23.0	4.5	88.2	10.54	0.1	5.1	0.8	29.4	10.0	19.1	0.5	7.0	0.0	2.0	7.5
478	Leaf River	nr Palmer at Sims Bridge	0.5	18.0	10.3	98.3	10.44	0.3	6.7	1.0	88.0	13.5	57.2	1.2	6.0	0.1	16.0	12.8
479	Lower Little Creek *	at Columbia-Purvis Road (at Caney Church Road)	0.1	29.0	3.6	107.0	12.53	0.1	6.3	0.5	21.9	10.0	14.2	0.1	5.0	0.0	2.0	9.3
480	Black Creek	Nr Purvis at Hwy11	0.2	19.0	10.7	87.8	9.05	0.1	6.1	2.5	91.0	10.0	59.2	0.9	9.0	0.1	8.0	14.0
481	Big Creek	at Rockhill-Brooklyn Road	0.2	26.0	4.3	98.6	12.22	0.1	5.6	0.6	109.0	10.0	70.9	0.6	10.0	0.0	17.0	6.6
482	Beaver Dam Branch	nr Purvis	0.1	16.0	6.1	86.4	10.52	0.1	5.5	0.5	41.5	10.0	27.0	0.4	5.0	0.0	2.0	6.9
483	Little Black Creek	nr Rockhill (~ 150m US of Rockhill-Brooklynn Rd.)	0.2	18.0	4.9	104.1	12.80	0.1	5.9	0.9	116.0	10.0	75.4	0.3	6.0	0.0	4.0	6.5
484	Black Creek	nr Brooklyn at Hwy 49	0.1	19.0	7.7	100.3	11.59	0.1	6.4	2.7	303.0	10.0	197.0	0.5	7.0	0.0	8.0	9.0
485	Red Creek	nr Lumberton at Hwy 11	0.2	24.0	7.7	84.1	8.26	0.1	6.1	6.1	58.0	10.0	37.7	0.7	11.0	0.0	8.0	16.2
487	Bogue Homo	at Ovett	0.3	36.0	30.5	86.4	8.70	0.1	6.3	2.0	152.0	10.5	98.8	0.8	12.0	0.0	8.9	15.1
489	West Little Thompson Creek	@ Forest Rd. 2062	0.2	39.0	3.0	84.1	10.51	0.0	4.7	1.5	35.0	10.0	22.8	0.5	15.0	0.0	9.7	5.9
492	Thompson Creek	nr Richton	0.2	39.0	5.4	91.2	10.18	0.0	5.0	1.5	43.0	10.0	28.0	0.7	17.0	0.0	8.0	10.8
493	Bogue Homo Creek	nr New Agusta (250m US of Old Augusta road crossing)	0.1	29.0	22.8	99.3	11.01	0.1	6.4	0.4	368.0	10.0	239.2	0.7	10.0	0.1	10.0	10.7
494	Leaf River	nr Mahned	0.4	17.0	9.7	95.3	10.26	0.3	6.7	2.1	86.0	13.9	55.9	1.1	6.0	0.1	15.0	12.1
495	Thompson Creek	nr Hintonville	0.1	43.0	6.1	88.3	9.08	0.0	5.2	1.5	48.0	10.0	31.2	0.8	17.0	0.0	7.0	14.1
496	Gaines Creek	nr Beaumont	0.2	27.0	5.9	100.2	9.78	0.0	6.0	0.5	49.0	10.0	31.9	0.6	11.0	0.0	9.0	16.5
497	Atkinson Creek	nr McLain at Confluence of Leaf River	0.2	12.0	4.7	103.7	12.85	0.1	5.9	0.6	44.0	10.0	28.6	0.2	6.0	0.0	6.0	6.2
498	Cypress Creek	at Janice (~ 200m US of Hwy 29 road crossing)	0.2	26.0	3.7	103.8	12.58	0.0	4.6	1.0	37.0	10.0	24.1	0.4	11.0	0.0	5.0	7.1
500	Beaver Dam Creek	nr Janice at Hwy 29	0.1	18.0	5.9	98.3	10.90	0.2	5.7	0.8	94.0	10.0	61.1	0.2	4.0	0.1	5.0	10.8
502	Whisky Creek	on Salem Road (Leaf Road)	0.2	17.0	4.6	93.2	10.90	0.0	5.1	0.5	37.0	10.0	24.1	0.3	9.0	0.0	4.0	8.5
504	Mason Creek	at Jonathan	0.2	33.0	4.4	96.6	11.52	0.0	4.9	1.0	47.0	10.0	30.6	0.5	14.0	0.0	3.0	7.7
505	Meadow Creek	nr Leaksville	0.1	10.0	3.2	103.7	11.81	0.1	4.5	1.2	45.0	10.0	29.3	0.1	6.0	0.0	2.0	9.6

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
506	Big Creek	nr Vernal (Jonathan Road)	0.2	19.0	4.4	107.3	12.05	0.1	5.7	1.0	48.0	10.0	31.2	0.3	8.0	0.0	6.0	10.2
507	Brushy Creek	nr Shipman	0.1	15.0	4.2	93.1	10.16	0.1	4.9	2.2	39.0	10.0	25.4	0.1	7.0	0.0	2.0	11.5
508	Little Hell Creek	at Stanford Lake Road (at Ford's Creek Road)	0.1	25.0	5.7	98.0	10.60	0.0	6.5	0.5	38.1	10.0	24.8	0.5	7.0	0.0	4.0	10.7
510	W. Hobolochitto Creek	at Ford's Creek Road	0.2	22.0	6.0	89.1	8.85	0.0	5.6	1.0	41.0	10.0	26.7	0.6	10.0	0.1	5.0	15.7
511	Murder Creek	at Silver Run Road	0.1	21.0	1.0	90.6	9.86	0.1	6.3	0.5	36.0	10.0	23.4	1.2	6.0	0.0	7.0	11.1
513	East Hobolochitto Creek	Mcneill-Steephollow Road	0.1	28.0	8.0	105.3	12.62	0.0	5.2	0.5	65.9	10.0	42.8	0.4	10.0	0.1	2.0	7.4
514	Moran Creek	nrMcNeil	0.1	26.0	7.1	101.2	11.38	0.1	5.4	0.5	44.5	10.0	28.9	0.5	7.0	0.0	2.0	7.8
515	West Hobolochitto Creek	nr Ozona	0.3	25.0	7.5	93.2	8.64	0.0	6.5	1.0	57.0	10.0	37.1	0.5	9.0	0.0	5.0	19.0
516	Crane Creek	nr Sellers (at Crane Creek Road)	0.2	21.0	5.3	95.8	11.70	0.1	4.6	0.5	41.6	10.0	27.0	0.4	8.0	0.0	5.0	7.4
517	East Hobolochitto Creek	at Hwy 11	0.2	32.0	8.6	90.7	8.65	0.0	5.6	1.0	63.0	10.0	41.0	0.6	10.0	0.0	3.0	17.6
518	Mill Creek	at Hwy 43	0.2	21.0	7.2	95.8	11.39	0.2	4.6	0.8	55.9	10.0	36.3	0.4	8.0	0.0	7.0	8.3
519	Turtleskin Creek	nr Santa Rosa	0.2	69.0	9.4	34.1	3.17	0.0	4.5	0.5	51.0	10.0	33.2	1.1	25.0	0.1	15.0	19.0
520	Catahoula Creek	nr Santa Rosa	0.2	24.0	7.9	93.3	8.79	0.1	5.8	0.5	48.0	10.0	31.2	0.4	8.0	0.0	3.0	18.2
521	Dead Tiger Creek	nr Santa Rosa	0.3	72.0	9.2	60.8	5.70	0.0	4.4	0.5	54.0	10.0	35.1	1.1	24.0	0.0	7.0	18.4
522	Black Creek	nr Wiggins at Hwy 26	0.1	22.0	4.9	103.6	12.31	0.1	6.1	1.3	40.0	10.0	26.0	0.3	6.0	0.0	5.0	7.9
523	Red Creek	nr Ramsey Springs (at Hwy 15)	0.2	18.0	6.7	99.2	12.09	0.1	5.8	1.5	49.0	10.0	31.9	0.3	8.0	0.0	8.0	6.8
524	Flint Creek	nr Whites Crossing at Hwy 26	0.3	22.0	6.0	85.7	8.86	0.5	5.3	1.4	124.0	10.0	80.6	0.6	9.0	0.0	8.0	13.9
525	Red Creek	at Perkinston at Hwy 49	0.1	41.0	13.0	99.3	11.56	0.1	6.1	1.8	78.0	10.0	50.7	0.5	6.0	0.1	6.0	8.7
526	Wolf River	at Silver Run	0.2	30.0	6.0	100.2	9.76	0.0	5.9	1.0	43.0	10.0	28.0	0.5	8.0	0.1	4.0	16.7
527	Tenmile Creek	at Perkinston-Silverun Road	0.1	23.0	4.7	96.9	11.30	0.1	4.4	1.1	59.0	10.0	38.4	0.7	7.0	0.0	2.0	8.6
529	Tchoutacabouffa River	nr Latimer	0.2	10.0	4.8	103.2	11.51	0.0	4.5	1.3	45.0	10.0	29.3	0.2	7.0	0.0	6.0	10.5
530	Biloxi River	nr Wortham at Old Hwy 49 (250m US)	0.1	15.0	1.0	99.8		0.0	5.7	2.4	53.0	10.0	34.5	0.3	5.0	0.0	3.0	8.2
531	Saucier Creek	at Saucier/Fairly Road	0.1	14.0	4.7	102.5	12.12	0.0	5.6	1.2	46.0	10.0	29.9	0.2	4.0	0.1	3.0	8.1
532	Tuxachanie Creek	nr Biloxi at Old Hwy 15 (300 m US of White Plains Road, nr Biloxi)	0.1	14.0	4.7	97.3	11.62	0.0	4.3	1.7	52.0	10.0	33.8	0.3	6.0	0.1	2.0	7.7
533	Little Biloxi River	Shaw Road (100m US of Carlton-Cuevas Rd. crossing	0.2	22.0	5.5	94.8	10.79	0.0	4.7	1.9	48.0	10.0	31.2	0.4	6.0	0.0	5.0	9.7

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/ cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
535	Bernard Bayou	nr New Hope (off Canal Rd.)	0.1	18.0	9.7	97.2	11.29	0.1	6.1	1.0	70.0	10.0	45.5	0.4	6.0	0.1	5.0	8.8
536	Flat Branch	at Orange Grove (~ 100m US of DeDeaux road crossing	0.1	13.0	11.1	93.3	10.86	0.1	6.7	0.3	125.0	33.8	81.3	0.5	5.0	0.1	7.0	8.7
537	Turkey Creek	at Canal Road (150m US)	0.1	10.0	11.1	83.1	9.79	0.1	4.8	1.5	71.0	10.0	46.2	0.5	7.0	0.1	9.0	8.2
538	Black Creek	nr Vestry at Hwy 57	0.2	29.0	7.1	99.3	10.0	0.1	6.2	2.0	53.0	10.0	34.5	0.5	8.0	0.0	7.0	15.1
539	Little Cedar Creek	at Hwy 613	0.2	10.0	4.2	88.6	8.90	0.8	5.3	0.5	31.0	10.0	20.2	0.2	3.0	0.0	1.0	15.2
540	Red Creek	at Vestry	0.2	16.0	8.7	95.7	9.31	0.1	6.2	1.5	54.0	10.0	35.1	0.5	6.0	0.0	5.0	16.7
541	Big Cedar Creek	nr Harleston at Hwy 63	0.2	10.0	4.6	96.5	10.24	0.3	5.5	1.2	35.0	10.0	22.8	0.2	4.0	0.0	3.0	12.7
542	Indian Creek	nr Basin	0.1	10.0	4.3	93.5	9.63	0.4	5.3	1.0	36.0	10.0	23.4	0.1	4.0	0.0	2.0	14.0
543	Moungers Creek	nr Vancleave (Busby Rd.)	0.1	16.0	4.6	96.0	11.08	0.0	4.4	1.0	43.0	10.0	28.0	0.3	8.0	0.1	4.0	9.1
544	Bluff Creek	nr Vancleave at Water Park	0.2	12.0	4.3	99.2	11.28	0.0	5.1	1.0	34.0	10.0	22.1	0.2	7.0	0.0	5.0	9.7
545	Luxapalilla Creek	at Gunshot Road	0.2	10.0	2.9	99.8	11.09	0.1	6.4	3.0	34.0	10.0	22.1	0.4	4.0	0.0	7.0	10.6
546	Buttahatchie River	at Bartahatchie Road																
547	Hatchie River	nr Walnut at Hwy 72	0.2	10.0	3.1	94.7	11.35	0.3	6.3	1.5	55.0	11.7	35.8	0.3	3.0	0.0	19.9	7.5
548	Tuscumbia River Canal	nr Corinth at Hwy 72	0.1	18.0	8.6	100.1	12.58	0.5	6.9	2.0	109.0	22.1	70.9	0.9	4.0	0.1	21.0	5.6
549	Bowie Creek	nr Sumrall at Hwy 589	0.3	12.0	4.2	97.5	9.56	0.2	6.2	1.3	34.0	10.0	22.1	0.5	5.0	0.0	8.8	16.3
550	Chickasawhay River	nr Shubuta	0.2	18.0	6.6	101.3	10.3	0.2	6.9	1.0	104.0	16.7	67.6	0.5	6.0	0.1	41.0	16.0
551	Escatawpa River	nr Agricola at CR 612	0.2	19.0	4.8	98.4	9.78	0.1	5.2	1.5	36.0	10.0	23.4	0.3	6.0	0.0	3.0	15.7
552	Strong River	nr D'lo at Old Hwy 49	0.3	37.0	7.3	102.6	13.6	0.8	6.9	0.3	96.0	10.0	62.4	1.0	7.0	0.1	20.0	3.7
553	East Fork Amite River	nr Gillsburg	0.3	10.0	5.3	93.1	9.53	0.2	6.6	1.5	45.0	10.0	29.3	0.4	3.0	0.0	14.0	14.3
554	Tangipahoa River	at Osyka at hwy 584	0.2	13.0	9.5	98.5	10.4	0.4	7.0	1.0	67.0	12.3	43.6	0.6	2.0	0.1	8.0	11.1
555	Bull Mnt Creek	at Tremont at Hwy 178	0.2	10.0	2.1	101.7	11.80	0.3	6.3	2.0	25.0	10.0	16.3	0.3	1.0	0.0	9.0	8.9
556	Sucarnoochee River	nr Porterville at Hwy 45	0.1	10.0	3.1	106.0	12.06	0.1	5.4	4.2	48.0	10.0	31.2	0.1	2.0	0.0	11.0	11.1
557	Betsy Creek	nr Vaiden	0.1	10.0	10.8	100.3	12.51	1.2	6.5	0.5	101.0	11.9	65.7	0.1	3.0	0.1	21.0	5.9
558	unnamed trib to Big Black	nr Durant	0.1	10.0	6.3	95.1	12.20	0.2	6.4	1.5	83.0	12.8	54.0	0.3	3.0	0.1	29.1	5.0
559	Bates Creek	nr Jeanette	0.3	10.0	8.9	101.7	13.58	0.0	6.7	0.3	78.0	10.0	50.7	0.3	3.0	0.1	36.0	3.3
560	Whites Creek	nr Doloroso (Hutchins Landing Rd.)	0.1	10.0	57.7	74.0	8.49	0.0	7.2	0.4	500.0	136.0	325.0	0.1	2.0	0.1	18.0	9.2
561	Cypress Creek	nr Crosby (unnamed dirt rd off of H street)	0.1	14.0	4.9	102.2	12.92	0.0	6.0	0.5	48.0	10.0	31.2	0.5	5.0	0.1	15.0	5.4
562	Minnehaha Creek	nr Magnolia at Hwy 51 (S. Prewett St.)	0.2	14.0	4.1	93.0	11.2	0.3	7.2	0.5	34.0	10.0	22.1	0.3	1.0	0.0	6.0	7.4

Table F-4 (cont'd). Site-specific in situ and analytical water chemistry data.

STATIONID	WaterbodyName	Location	AMM mg/l as N	COD mg/l	CHL mg/l	DO_SAT %	DO_MG mg/l	NN mg/l as N	PH SU	SAMP DEP ft	SP COND umho/cm	ALK mg/l	TDS mg/l	TKN mg/l as N	TOC mg/l	TP mg/l	TURB NTU	WAT TEMP deg C
563	Tangipahoa River	nr Magnolia at Hwy 51 (@ Muddy Springs Rd.)	0.1	14.0	16.5	92.8	10.7	0.0	6.2	0.5	81.0	10.0	52.7	0.5	3.0	0.1	6.0	9.3
564	Bala Chitto Creek	nr Osyka at State Line Road	0.1	10.0	3.8	97.4	10.9	0.1	7.0	1.0	35.0	10.0	22.8	0.5	2.0	0.1	3.0	10.8
565	Terry's Creek	nr Osyka at Hwy 584	0.2	10.0	5.0	89.4	9.82	0.1	6.3	1.5	39.0	10.0	25.4	0.4	5.0	0.0	10.0	11.2
566	Scooba Creek	nr Electric Mills	0.2	13.0	5.3	109.5	11.99	0.2	6.1	1.4	93.0	18.0	60.5	0.6	5.0	0.0	11.0	12.2
567	Mud Creek	nr Tupelo at Hwy 178	0.3	10.0	9.2	106.2	12.91	0.6	7.6	0.8	199.0	59.2	129.4	0.7	5.0	0.1	23.0	6.9
568	Chiwapa Creek	nr Pontotoc (Woodland Rd - CR 75)	0.3	10.0	7.1			0.3		0.5		69.1		0.7	3.0	0.1		
569	Cowpenna Creek	at Nettleton at Hwy 6	0.2	16.0	5.1	101.4	12.67	0.2	6.9	1.2	84.0	12.4	54.6	0.2	7.0	0.0	39.0	5.9
600	Hickory Creek	at Hwy 43	0.2	24.0	7.3	96.7	10.01	0.0	5.9	0.5	48.0	10.0	31.2	0.5	7.0	0.0	4.0	13.8
601	Orphan Creek	@ Hwy 43	0.3	28.0	7.6	65.4	6.46	0.0	5.4	0.5	42.0	10.0	27.3	0.5	9.0	0.0	6.0	16.0

Table F-5. Site-specific percentages of inorganic substrate particle sizes calculated based on modified Wolman pebble count data.

Station #	Station	SILTCLAY	SAND	HPCLAY	GRAVEL	COBBLE	BOULDER	BEDROCK
1	Jackson Creek	100	0	0	0	0	0	0
2	Johnson Creek	91	9	0	0	0	0	0
3	White's Creek	38	33	12	17	0	0	0
5	Arkabutula Creek	19	37	5	39	0	0	0
6	Strayhorn Creek	0	64	10	26	0	0	0
7	Horn Lake Creek	94	6	0	0	0	0	0
9	Hurricane Creek	13	40	4	43	0	0	0
10	Camp Creek	8	29	8	51	4	0	0
11	Camp Creek Canal	22	77	1	0	0	0	0
13	Pigeon Roost Creek	9	83	8	0	0	0	0
14	Short Fork Creek	32	37	1	30	0	0	0
15	Red Banks Creek	4	84	12	0	0	0	0
16	Beartail Creek	13	79	8	0	0	0	0
17	Arkabutla Creek	10	22	0	68	0	0	0
18	Hickahala Creek	8	74	18	0	0	0	0
19	Hickahala Creek	0	100	0	0	0	0	0
20	James-Wolf Canal	6	91	3	0	0	0	0
23	Senatobia Creek	0	79	2	19	0	0	0
24	Greasy Creek	9	91	0	0	0	0	0
26	Early Grove Creek	0	0	0	0	0	0	0
27	Mt. Tena Creek	0	0	0	0	0	0	0
28	Grays Creek	17	83	0	0	0	0	0
30	Coldwater River	49	51	0	0	0	0	0
31	Oaklimeter Creek	7	93	0	0	0	0	0
32	Tippah River	9	91	0	0	0	0	0
33	Oak Chewalla Creek	29	71	0	0	0	0	0
34	Little Spring Creek	29	67	4	0	0	0	0
35	Big Spring Creek	16	84	0	0	0	0	0
36	Grahm Mill Creek	43	27	23	7	0	0	0
37	Lee Creek	7	90	3	0	0	0	0
39	Mill Creek	5	93	2	0	0	0	0
40	Little Mud Creek	40	54	4	2	0	0	0
41	Lockes Creek	30	69	0	1	0	0	0
42	Unnamed Trib	41	20	10	29	0	0	0
43	Berry Branch	0	100	0	0	0	0	0
44	Hurricane Creek	43	57	0	0	0	0	0
45	Puskus Creek	4	96	0	0	0	0	0
46	Cypress Creek	1	99	0	0	0	0	0
47	Little Tallahatchie River	11	88	0	1	0	0	0
48	Mitchell Creek	49	15	35	1	0	0	0
49	Porters Creek	44	56	0	0	0	0	0
50	Muddy Creek	34	51	15	0	0	0	0
51	Shelby Creek	19	81	0	0	0	0	0
52	Little Hatchie River	58	33	8	1	0	0	0
55	Little Tallahatchie River	13	87	0	0	0	0	0
56	Cane Creek	31	69	0	0	0	0	0
58	Chambers Creek	15	57	23	5	0	0	0
60	Picken's Branch	3	40	0	53	4	0	0
61	Bridge Creek	31	31	38	0	0	0	0
62	Elam Creek	47	22	23	6	2	0	0
63	Caney Creek	9	91	0	0	0	0	0

Table F-5 (cont'd). Site-specific percentages of inorganic substrate particle sizes calculated based on modified Wolman pebble count data.

Station #	Station	SILTCLAY	SAND	HPCLAY	GRAVEL	COBBLE	BOULDER	BEDROCK
64	Little Yellow Creek	9	85	6	0	0	0	0
65	unnamed trib to Tenn-Tom	1	42	0	47	5	0	5
66	Indian Creek	1	52	0	45	1	0	1
67	Mill Creek	6	13	0	78	1	0	2
68	Parmicha Creek	29	60	0	11	0	0	0
69	Little Cripple Deer Creek	0	33	0	66	1	0	0
70	Pennywinkle Creek	5	30	0	53	2	0	10
73	Cripple Deer Creek	54	42	0	4	0	0	0
74	Bear Creek	18	14	0	68	0	0	0
75	Bear Creek	15	65	0	19	1	0	0
76	unnamed trib to Cedar Creek	1	46	0	53	0	0	0
77	Donivan Creek	25	75	0	0	0	0	0
79	Rock Creek	1	52	0	33	13	1	0
80	Twentymile Creek	18	82	0	0	0	0	0
81	Big Brown Creek	40	60	0	0	0	0	0
82	Little Brown Creek	9	91	0	0	0	0	0
83	Mackey's Creek	12	88	0	0	0	0	0
85	Hotopha Creek	1	82	17	0	0	0	0
86	Clear Creek	10	90	0	0	0	0	0
87	Hudson Creek	8	92	0	0	0	0	0
88	Toby Tubby Creek	4	96	0	0	0	0	0
89	McIvor Canal	20	58	0	22	0	0	0
91	Long Creek	5	95	0	0	0	0	0
92	Long Creek	4	96	0	0	0	0	0
93	Bynum Creek	22	78	0	0	0	0	0
96	unnamed trib to Yocona River	14	15	0	71	0	0	0
98	Otoucalofa Creek	3	97	0	0	0	0	0
99	Town Creek	30	70	0	0	0	0	0
101	N Fk Tillatoba Creek	0	70	0	30	0	0	0
102	Tillatoba Creek	6	57	0	37	0	0	0
103	Turkey Creek	0	0	0	0	0	0	0
104	Ascalmore Creek	31	31	0	38	0	0	0
105	Okachickima Creek	28	72	0	0	0	0	0
106	Cypress Creek	10	89	0	1	0	0	0
107	Organ Creek	10	88	0	1	0	1	0
108	Lappatubby Creek	5	89	3	3	0	0	0
109	Mud Creek	63	12	25	0	0	0	0
110	Duncans Creek	34	17	49	0	0	0	0
111	Burney Branch	5	95	0	0	0	0	0
112	Yocona River	1	99	0	0	0	0	0
113	Duncan's Creek	23	15	9	53	0	0	0
114	Yocona River	13	87	0	0	0	0	0
115	Turkey Creek	0	100	0	0	0	0	0
116	Skuna River Canal	47	6	47	0	0	0	0
117	Persimmon Creek	100	0	0	0	0	0	0
118	Lucknuck Creek	9	48	43	0	0	0	0
119	Skuna River Canal	14	85	0	1	0	0	0
120	Cowpen Creek	13	87	0	0	0	0	0
121	Johnson-Coles Creek	18	82	0	0	0	0	0

Table F-5 (cont'd). Site-specific percentages of inorganic substrate particle sizes calculated based on modified Wolman pebble count data.

Station #	Station	SILTCLAY	SAND	HPCLAY	GRAVEL	COBBLE	BOULDER	BEDROCK
123	Lappatubby Creek	9	78	0	13	0	0	0
126	unnamed trib to Town Creek	8	16	73	3	0	0	0
127	Goodfood Creek	11	61	24	1	1	1	1
129	Tallabinella Creek	8	54	38	0	0	0	0
131	Tubbalubba Creek	30	32	38	0	0	0	0
133	Town Creek	20	80	0	0	0	0	0
135	Chuquatonchee Creek	40	60	0	0	0	0	0
136	Twentymile Creek	30	70	0	0	0	0	0
137	Cummings Creek	20	80	0	0	0	0	0
140	Mantachie Creek	29	71	0	0	0	0	0
141	Green Creek	4	96	0	0	0	0	0
142	Greenwood Creek	16	84	0	0	0	0	0
143	Bull Mnt Creek	20	80	0	0	0	0	0
146	unnamed trib to Bull Mnt Creek	12	79	9	0	0	0	0
149	Weaver Creek	19	61	1	19	0	0	0
151	Mattuby Creek	65	31	0	4	0	0	0
152	Wolf Creek	27	63	0	10	0	0	0
153	Halfway Creek	6	93	0	1	0	0	0
155	Big Sand Creek	0	93	0	7	0	0	0
156	Riverdale Creek	26	74	0	0	0	0	0
157	Batupan Bogue	4	96	0	0	0	0	0
158	Cane Creek	23	47	0	30	0	0	0
159	Potacocowa Creek	0	0	100	0	0	0	0
160	Pelucia Creek	5	85	0	10	0	0	0
161	Abiaca Creek	0	98	0	2	0	0	0
162	Coila Creek	6	52	0	42	0	0	0
163	Hays Creek	11	89	0	0	0	0	0
164	Peachahala Creek	41	59	0	0	0	0	0
165	Butputter Creek	47	53	0	0	0	0	0
166	Topashaw Creek Canal	20	80	0	0	0	0	0
167	Little Topishaw Creek	19	47	34	0	0	0	0
168	Redgrass Creek	30	43	0	27	0	0	0
169	Horse Pen Creek	11	88	0	1	0	0	0
170	Sabougla Creek Canal	6	74	0	0	0	20	0
171	Wolf Creek	82	18	0	0	0	0	0
172	Little Black Creek	6	90	4	0	0	0	0
173	Calabrella Creek	21	79	0	0	0	0	0
174	Lewis Creek	52	48	0	0	0	0	0
175	Mulberry Creek	6	92	2	0	0	0	0
176	Wolf Creek	38	53	9	0	0	0	0
177	Big Bywy Canal	20	80	0	0	0	0	0
178	McCurtain Creek	8	83	9	0	0	0	0
179	Poplar Creek	38	58	4	0	0	0	0
180	unnamed trib to Poplar Creek	8	92	0	0	0	0	0
181	Topashaw Creek Canal	6	93	0	1	0	0	0
182	Houlka Creek	22	78	0	0	0	0	0
183	Sand Creek	0	100	0	0	0	0	0
184	Spring Creek	21	61	18	0	0	0	0
185	Line Creek	30	70	0	0	0	0	0

Table F-5 (cont'd). Site-specific percentages of inorganic substrate particle sizes calculated based on modified Wolman pebble count data.

Station #	Station	SILTCLAY	SAND	HPCLAY	GRAVEL	COBBLE	BOULDER	BEDROCK
187	Long Branch	56	11	30	3	0	0	0
188	Trim Cane Creek	37	48	8	7	0	0	0
190	Hollis Creek	8	56	29	7	0	0	0
191	Cypress Creek	47	53	0	0	0	0	0
193	James Creek	51	36	0	13	0	0	0
195	Hang Kettle Creek	85	12	0	3	0	0	0
196	Spring Creek	16	41	43	0	0	0	0
197	McKinley Creek	0	59	0	41	0	0	0
198	Town Creek	100	0	0	0	0	0	0
200	Town Creek	33	67	0	0	0	0	0
202	Spring Creek	78	20	0	2	0	0	0
204	Cooper Creek	3	51	0	46	0	0	0
205	Yellow Creek	21	42	0	37	0	0	0
206	Yellow Creek	58	38	0	4	0	0	0
207	Catalpa Creek	32	58	0	10	0	0	0
209	McCrary Creek	9	36	16	39	0	0	0
210	South Branch	100	0	0	0	0	0	0
214	Kincaid Creek	13	61	0	26	0	0	0
216	James Creek	96	4	0	0	0	0	0
218	Harland Creek	19	52	0	22	1	6	0
219	Tesheva Creek	11	59	7	23	0	0	0
220	Piney Creek	26	44	0	30	0	0	0
221	Short Creek	10	44	5	41	0	0	0
222	Cypress Creek	100	0	0	0	0	0	0
223	#N/A	91	8	0	1	0	0	0
224	#N/A	11	66	6	17	0	0	0
225	Perry Creek	24	34	11	31	0	0	0
226	#N/A	40	49	6	5	0	0	0
227	#N/A	59	5	26	10	0	0	0
228	Fannegusha Creek	1	48	0	41	0	10	0
229	Bophumpa Creek	18	60	0	22	0	0	0
230	Fannegusha Creek	15	64	0	21	0	0	0
231	Black Creek	15	79	0	3	0	3	0
232	Fannegusha Creek	13	77	0	10	0	0	0
233	Howard Creek	6	90	4	0	0	0	0
234	Apookta Creek	19	63	18	0	0	0	0
235	Jourdan Creek	33	63	4	0	0	0	0
236	Indian Creek	47	0	53	0	0	0	0
237	Box Creek/Green's Creek	18	80	1	1	0	0	0
238	Long Creek	21	45	34	0	0	0	0
239	Tackett Creek	21	73	3	3	0	0	0
240	Senesha Creek	18	46	36	0	0	0	0
241	Big Cypress Creek	100	0	0	0	0	0	0
242	Rambo Creek	3	97	0	0	0	0	0
243	Ellison Creek	33	32	11	24	0	0	0
244	Hobuck Creek	83	9	0	8	0	0	0
247	Scoobachita Creek	8	92	0	0	0	0	0
248	Zilpha Creek	12	88	0	0	0	0	0
249	Yockanookany River	27	73	0	0	0	0	0
250	Lobutcha Creek	57	43	0	0	0	0	0
251	Cole Creek	68	32	0	0	0	0	0

Table F-5 (cont'd). Site-specific percentages of inorganic substrate particle sizes calculated based on modified Wolman pebble count data.

Station #	Station	SILTCLAY	SAND	HPCLAY	GRAVEL	COBBLE	BOULDER	BEDROCK
252	Tibby Creek	100	0	0	0	0	0	0
253	Atwood Creek	58	42	0	0	0	0	0
254	Lobutcha Creek	58	42	0	0	0	0	0
255	Jofuska Creek	18	82	0	0	0	0	0
256	Lobutcha Creek	34	66	0	0	0	0	0
257	Lukfapa Creek	17	83	0	0	0	0	0
259	Tuscotameta Creek	100	0	0	0	0	0	0
261	unnamed trib to Pearl River	84	16	0	0	0	0	0
262	Standing Pine Creek	1	99	0	0	0	0	0
263	Noxubee River	4	96	0	0	0	0	0
265	Hughes Creek	13	87	0	0	0	0	0
268	Tallahaga Creek	50	50	0	0	0	0	0
269	Noxapater Creek	67	21	12	0	0	0	0
272	Pinishook Creek	17	83	0	0	0	0	0
273	Owl Creek	26	67	0	7	0	0	0
275	unnamed trib to Kentawka Canal	36	64	0	0	0	0	0
276	Land Creek	0	0	0	0	0	0	0
280	Macedonia Creek	50	50	0	0	0	0	0
281	Plum Creek	88	12	0	0	0	0	0
282	Bogue Chitto Creek	88	12	0	0	0	0	0
284	Shuqualak Creek	35	65	0	0	0	0	0
285	Ash Creek	54	39	0	7	0	0	0
286	Woodward Creek	95	5	0	0	0	0	0
287	Wahalak Creek	33	67	0	0	0	0	0
288	Straight Creek	16	48	33	3	0	0	0
289	Shy Hammock Creek	96	4	0	0	0	0	0
290	Bodka Creek	97	3	0	0	0	0	0
291	Bliss Creek	17	74	0	9	0	0	0
292	Clear Creek	22	46	0	32	0	0	0
293	Hamer Bayou	19	52	1	28	0	0	0
295	Big Sand Creek	1	66	0	33	0	0	0
296	Beaver Creek	23	36	0	41	0	0	0
297	Bogue Chitto Creek	20	8	72	0	0	0	0
298	Limekiln Creek	0	0	0	0	0	0	0
299	Cox Creek	0	0	0	0	0	0	0
300	Porter Creek	1	46	53	0	0	0	0
301	Bear Creek	24	5	0	11	0	0	60
302	unnamed trib to Pearl River	5	34	2	16	0	43	0
303	Bakers Creek	9	49	3	39	0	0	0
304	Fourteen Mile Creek	19	56	0	25	0	0	0
305	Big Creek	2	66	24	8	0	0	0
306	Five Mile Creek	12	84	0	4	0	0	0
307	Rhodes Creek	2	50	48	0	0	0	0
309	Tilda Bogue Creek	68	0	30	2	0	0	0
310	Fannegusha Creek	91	3	6	0	0	0	0
311	Coffee Bogue	56	36	8	0	0	0	0
312	Hurricane Creek	0	0	0	0	0	0	0
313	Red Cane Creek	100	0	0	0	0	0	0
315	Hanging Moss Creek	61	24	2	12	0	1	0

Table F-5 (cont'd). Site-specific percentages of inorganic substrate particle sizes calculated based on modified Wolman pebble count data.

Station #	Station	SILTCLAY	SAND	HPCLAY	GRAVEL	COBBLE	BOULDER	BEDROCK
316	Eutaeutachee Creek	73	27	0	0	0	0	0
317	Richland Creek	21	79	0	0	0	0	0
318	Steen Creek	1	34	57	8	0	0	0
319	Strong River	45	55	0	0	0	0	0
321	Schockaloe Creek	46	54	0	0	0	0	0
322	Sipsey Creek	43	49	0	8	0	0	0
323	Tallabogue Creek	100	0	0	0	0	0	0
324	Hontokalo Creek	45	55	0	0	0	0	0
325	Conehatta Creek	0	100	0	0	0	0	0
326	Sugar Bogue	100	0	0	0	0	0	0
327	Ford's Creek	2	75	0	23	0	0	0
328	Cedar Creek	60	34	0	6	0	0	0
329	West Tallahalla Creek	100	0	0	0	0	0	0
330	Caney Creek	27	73	0	0	0	0	0
331	Okatibbee Creek	34	66	0	0	0	0	0
332	Houston Creek	19	81	0	0	0	0	0
335	Potterchitto Creek	16	84	0	0	0	0	0
336	Chunky River	0	32	0	0	0	0	68
337	Okatibbee Creek	23	77	0	0	0	0	0
338	#N/A	20	29	0	0	0	0	51
339	Okatibbee Creek	44	56	0	0	0	0	0
341	Chunky River	4	12	0	18	0	0	66
343	Bostick Branch	55	45	0	0	0	0	0
344	Big Red Creek	10	90	0	0	0	0	0
345	Blackwater Creek	12	88	0	0	0	0	0
346	Piwticfaw Creek	20	80	0	0	0	0	0
348	Alamuchee Creek	34	66	0	0	0	0	0
349	Irby Mill Creek	6	94	0	0	0	0	0
350	Long Creek	11	89	0	0	0	0	0
353	Annas Bottom	87	13	0	0	0	0	0
354	Fairchild's Creek	48	36	0	16	0	0	0
355	St. Catherine Creek	1	97	0	2	0	0	0
356	Kennison Creek	9	61	2	28	0	0	0
357	Bayou Pierre (downstream)	7	76	4	13	0	0	0
358	unnamed trib to Bayou Pierre	8	55	37	0	0	0	0
359	James Creek	17	74	0	9	0	0	0
360	Little Bayou Pierre	6	87	0	6	0	1	0
362	Dowd Creek	0	33	1	66	0	0	0
363	South Fork Coles Creek	1	61	0	38	0	0	0
364	North Fork Coles Creek	5	34	0	61	0	0	0
365	Middle Fork Homochitto River	10	39	6	45	0	0	0
367	Fifteen Mile Creek	5	30	0	65	0	0	0
368	White Oak Creek	2	79	9	10	0	0	0
369	Tallahalla Creek	15	9	56	19	0	0	1
370	Turkey Creek	0	67	0	33	0	0	0
371	Brushy Creek	9	47	3	41	0	0	0
373	Bayou Pierre (upstream)	15	61	0	24	0	0	0
375	Bahala Creek (Russell Creek)	18	75	6	1	0	0	0

Table F-5 (cont'd). Site-specific percentages of inorganic substrate particle sizes calculated based on modified Wolman pebble count data.

Station #	Station	SILTCLAY	SAND	HPCLAY	GRAVEL	COBBLE	BOULDER	BEDROCK
376	Little Bahala Creek	15	75	0	10	0	0	0
378	Bogue Chitto	13	46	0	41	0	0	0
379	Dabbs Creek	7	89	0	4	0	0	0
380	Campbell Creek	40	55	0	5	0	0	0
381	Limestone Creek	10	60	13	17	0	0	0
382	Big Creek	1	64	0	1	0	0	34
383	Riles Creek	7	68	0	23	2	0	0
384	Riles Creek	14	59	0	27	0	0	0
385	Copiah Creek	4	45	2	48	1	0	0
387	Skiffer Creek	0	0	0	0	0	0	0
388	Pegies Creek	0	100	0	0	0	0	0
390	Bahala Creek	15	57	7	21	0	0	0
393	#N/A	23	73	0	4	0	0	0
394	Dry Creek	16	80	0	4	0	0	0
395	Fair River	11	36	0	53	0	0	0
396	Pretty Branch	7	78	0	15	0	0	0
397	Halls Creek	6	44	1	48	1	0	0
398	Silver Creek	24	52	0	24	0	0	0
399	Oakahay Creek	20	80	0	0	0	0	0
400	Leaf River	10	63	27	0	0	0	0
401	West Tallahala	20	80	0	0	0	0	0
403	Keys Mill Creek	11	82	0	7	0	0	0
404	Okatoma Creek	7	91	0	2	0	0	0
405	Leonards Mill Creek	35	53	0	12	0	0	0
406	Oakahay Creek	13	68	0	19	0	0	0
407	Okatoma Creek	18	82	0	0	0	0	0
408	Oakey Woods Creek	6	64	11	19	0	0	0
409	West Bouie Creek	15	85	0	0	0	0	0
410	Souinlovey Creek	8	92	0	0	0	0	0
412	Castaffa Creek	8	92	0	0	0	0	0
413	Tallahala Creek	46	54	0	0	0	0	0
414	Horse Branch	65	35	0	0	0	0	0
416	Tallahoma Creek	10	90	0	0	0	0	0
417	Tallahala	9	91	0	0	0	0	0
418	Buckatunna Creek	10	90	0	0	0	0	0
419	Chickasawhay River	0	0	0	0	0	0	0
420	Five Mile Creek	0	100	0	0	0	0	0
421	Hortons Mill Creek	18	81	0	1	0	0	0
422	Coldwater Creek	15	79	0	6	0	0	0
423	Yellow Creek	6	83	11	0	0	0	0
424	Maynor Creek	2	98	0	0	0	0	0
427	Sandy Creek	1	79	0	20	0	0	0
428	Second Creek	0	82	0	18	0	0	0
429	Crooked Creek	0	94	0	6	0	0	0
430	Buffalo River - downstream	0	97	0	3	0	0	0
431	Millbrook Creek	1	94	0	5	0	0	0
434	Bayou Sara	7	75	0	18	0	0	0
438	Mcgehee Creek	17	25	0	58	0	0	0
439	Richardson Creek	13	74	8	5	0	0	0

Table F-5 (cont'd). Site-specific percentages of inorganic substrate particle sizes calculated based on modified Wolman pebble count data.

Station #	Station	SILTCLAY	SAND	HPCLAY	GRAVEL	COBBLE	BOULDER	BEDROCK
440	Middle Fork Homochitto River	7	86	0	7	0	0	0
441	Dry Creek	1	60	6	33	0	0	0
444	Tar Creek	3	93	0	4	0	0	0
445	Ziegler Creek	5	95	0	0	0	0	0
446	Brushy Creek	3	33	2	62	0	0	0
447	Caston Creek	3	49	0	49	0	0	0
448	West Fork Amite River (upper)	16	61	0	23	0	0	0
449	Cars Creek	18	35	0	47	0	0	0
450	Thompson Creek -main stem	0	64	1	35	0	0	0
451	Big Creek	43	0	56	1	0	0	0
452	Bogue Chitto	75	10	0	15	0	0	0
453	Boone Creek	41	59	0	0	0	0	0
454	Bogue Chitto	23	39	0	37	0	0	0
455	Beaver Creek	1	53	0	46	0	0	0
456	Little Tangipahoa River (upper)	10	47	20	23	0	0	0
457	Clear Creek	9	23	5	63	0	0	0
458	Leatherwood Creek	8	33	1	57	1	0	0
459	Topisaw Creek	7	36	9	48	0	0	0
460	Little Tangipahoa River (lower)	27	17	1	55	0	0	0
462	Tickfaw River (upper)	15	78	0	7	0	0	0
463	White Sand Creek	6	56	0	38	0	0	0
464	Tilton Creek	8	34	2	56	0	0	0
465	Holiday Creek	15	49	0	35	1	0	0
466	McGee Creek	11	25	18	46	0	0	0
467	Tenmile Creek	10	27	0	63	0	0	0
468	Upper Little Creek	22	30	13	35	0	0	0
469	Lower Little Creek	47	32	0	20	0	0	0
470	Magee's Creek	23	24	0	53	0	0	0
471	E Fk Pushepatapa Creek	9	45	13	33	0	0	0
472	Clear Creek	2	79	0	19	0	0	0
474	Black Creek	53	47	0	0	0	0	0
475	Shelton Creek	23	77	0	0	0	0	0
476	Bowie Creek	13	74	0	13	0	0	0
477	Monroe Creek	0	100	0	0	0	0	0
478	Leaf River	12	45	4	39	0	0	0
479	Lower Little Creek *	7	75	0	18	0	0	0
480	Black Creek	9	58	0	33	0	0	0
481	Big Creek	6	63	15	16	0	0	0
482	Beaver Dam Branch	49	51	0	0	0	0	0
483	Little Black Creek	4	58	1	37	0	0	0
484	#N/A	29	53	0	18	0	0	0
485	Red Creek	24	76	0	0	0	0	0
487	Bogue Homo	10	90	0	0	0	0	0
489	West Little Thompson Creek	18	82	0	0	0	0	0
492	Thompson Creek	14	85	0	1	0	0	0
493	Bogue Homo Creek	18	46	0	35	0	0	0

Table F-5 (cont'd). Site-specific percentages of inorganic substrate particle sizes calculated based on modified Wolman pebble count data.

Station #	Station	SILTCLAY	SAND	HPCLAY	GRAVEL	COBBLE	BOULDER	BEDROCK
494	Leaf River	0	74	0	26	0	0	0
495	Thompson Creek	17	33	0	50	0	0	0
496	Gaines Creek	24	0	76	0	0	0	0
497	Atkinson Creek	10	90	0	0	0	0	0
498	Cypress Creek	3	70	0	27	0	0	0
500	Beaver Dam Creek	5	72	18	5	0	0	0
502	Whisky Creek	55	45	0	0	0	0	0
504	Mason Creek	5	95	0	0	0	0	0
505	Meadow Creek	11	88	1	0	0	0	0
506	Big Creek	23	72	5	0	0	0	0
507	Brushy Creek	11	82	6	0	0	0	1
508	Little Hell Creek	2	98	0	0	0	0	0
510	W. Hobolochitto Creek	15	85	0	0	0	0	0
511	Murder Creek	0	100	0	0	0	0	0
513	East Hobolochitto Creek	7	91	0	2	0	0	0
514	Moran Creek	2	98	0	0	0	0	0
515	West Hobolochitto Creek	20	80	0	0	0	0	0
516	Crane Creek	2	84	0	14	0	0	0
517	East Hobolochitto Creek	15	85	0	0	0	0	0
518	Mill Creek	11	88	0	1	0	0	0
519	Turtleskin Creek	62	38	0	0	0	0	0
520	Catahoula Creek	20	80	0	0	0	0	0
521	Dead Tiger Creek	0	100	0	0	0	0	0
522	Black Creek	0	61	0	39	0	0	0
523	Red Creek	0	100	0	0	0	0	0
524	Flint Creek	1	97	0	2	0	0	0
525	Red Creek	7	78	0	15	0	0	0
526	Wolf River	15	57	0	28	0	0	0
527	Tenmile Creek	2	90	7	1	0	0	0
529	Tchoutacabouffa River	6	84	10	0	0	0	0
530	Biloxi River	2	33	63	2	0	0	0
531	Saucier Creek	0	30	50	20	0	0	0
532	Tuxachanie Creek	3	64	20	13	0	0	0
533	Little Biloxi River	3	76	20	1	0	0	0
535	Bernard Bayou	11	89	0	0	0	0	0
536	Flat Branch	0	8	0	0	0	0	92
537	#N/A	25	75	0	0	0	0	0
538	Black Creek	21	79	0	0	0	0	0
539	Little Cedar Creek	19	81	0	0	0	0	0
540	Red Creek	20	80	0	0	0	0	0
541	Big Cedar Creek	0	100	0	0	0	0	0
542	Indian Creek	2	98	0	0	0	0	0
543	Moungers Creek	4	96	0	0	0	0	0
544	Bluff Creek	6	94	0	0	0	0	0
545	Luxapalilla Creek	21	26	0	53	0	0	0
546	Buttahatchie River	17	36	0	47	0	0	0
547	Hatchie River	30	70	0	0	0	0	0
548	Tuscumbia River Canal	17	83	0	0	0	0	0
549	Bowie Creek	7	33	0	60	0	0	0
550	Chickasawhay River	0	0	0	0	0	0	0
551	Escatawpa River	22	78	0	0	0	0	0

Table F-5 (cont'd). Site-specific percentages of inorganic substrate particle sizes calculated based on modified Wolman pebble count data.

Station #	Station	SILTCLAY	SAND	HPCLAY	GRAVEL	COBBLE	BOULDER	BEDROCK
552	Strong River	0	0	0	0	0	0	0
553	East Fork Amite River	14	13	0	73	0	0	0
554	Tangipahoa River	0	0	0	0	0	0	0
555	Bull Mnt Creek	16	40	0	44	0	0	0
556	Sucarnoochee River	15	58	27	0	0	0	0
557	Betsy Creek	10	90	0	0	0	0	0
558	unnamed trib to Big Black	26	62	12	0	0	0	0
559	Bates Creek	1	45	0	54	0	0	0
560	Whites Creek	0	25	0	74	1	0	0
561	Cypress Creek	9	69	0	22	0	0	0
562	Minnehaha Creek	31	22	0	46	1	0	0
563	Tangipahoa River	19	25	5	51	0	0	0
564	Bala Chitto Creek	6	23	2	69	0	0	0
565	Terry's Creek	23	70	0	7	0	0	0
566	Scooba Creek	92	8	0	0	0	0	0
567	Mud Creek	2	98	0	0	0	0	0
568	Chiwapa Creek	26	73	0	1	0	0	0
569	Cowpenna Creek	68	32	0	0	0	0	0
600	Hickory Creek	12	70	2	16	0	0	0
601	Orphan Creek	20	80	0	0	0	0	0

Table F-6. List of LDa and LDb site found throughout the state organized by bioregion.

Station #	Name	Location	Preliminary site class	Bioregion	Status
129	Tallabinella Creek	at Natchez Trace	2	BB	LDa
196	Spring Creek	nr Strong	2	BB	LDa
285	Ash Creek	at Paulette Road	2	BB	LDa
173	Calabrella Creek	nr Pellez	3	EAST	LDb
180	unnamed trib to Poplar Creek	at Hwy 407	3	EAST	LDb
191	Cypress Creek	at Hwy 25	3	EAST	LDb
242	Rambo Creek	nr Madison/Leake Co. Lin	3	EAST	LDa
247	Scoobachita Creek	nr Hwy 35	3	EAST	LDa
248	Zilpha Creek	nr Vaiden	3	EAST	LDa
250	Lobutcha Creek	at Bethany Ebeneezer Road	3	EAST	LDa
251	Cole Creek	at Cole Creek Road	3	EAST	LDb
252	Tibby Creek	at Hwy 407	8	EAST	LDa
253	Atwood Creek	nr Kosciusko	3	EAST	LDa
254	Lobutcha Creek	at Hwy 19	3	EAST	LDa
255	Jofuska Creek	at Hwy 19	3	EAST	LDb
256	Lobutcha Creek	at Mars Hill Road	3	EAST	LDa
257	Lukfapa Creek	nr Edinburg	3	EAST	LDa
272	Pinishook Creek	nr Arlington	3	EAST	LDa
288	Straight Creek	at Hwy 39	3	EAST	LDa
290	Bodka Creek	nr Electric Mills	3	EAST	LDb
313	Red Cane Creek	at Weaver Road	8	EAST	LDb
319	Strong River	at Hwy 541	8	EAST	LDa
325	Conehatta Creek	at Hwy 489	8	EAST	LDa
326	Sugar Bogue	at Hwy 13	8	EAST	LDb
328	Cedar Creek	nr Theadville	8	EAST	LDb
329	West Tallahalla Creek		8	EAST	LDb
331	Okatibbee Creek	nr Rio	3	EAST	LDa
332	Houston Creek	nr Rio	3	EAST	LDa
335	Potterchitto Creek	at Hwy 503	8	EAST	LDa
337	Okatibbee Creek	at Meridian at Old Hwy 80	3	EAST	LDa
345	Blackwater Creek	at Moore Road	3	EAST	LDb
348	Alamuchee Creek	at MS/AL state line	3	EAST	LDb
349	Irby Mill Creek	at BW Johnson Road	3	EAST	LDa
350	Long Creek	nr Sykes at Hwy 18	8	EAST	LDa
379	Dabbs Creek	at Gum Springs Road	8	EAST	LDb
380	Campbell Creek	at Campbell's Creek	8	EAST	LDb
381	Limestone Creek	Old River Road	7	EAST	LDb
382	Big Creek	at Bearcat Road	7	EAST	LDa
383	Riles Creek	at Hwy 43	7	EAST	LDb
384	Riles Creek	at Lee Boggan Road	7	EAST	LDa
395	Fair River	at Hwy 27	7	EAST	LDa
398	Silver Creek	at Hwy 43	7	EAST	LDa
400	Leaf River	nr Sylvareena at Hwy 18	8	EAST	LDa
401	West Tallahala	nr Sylvareena at Smith Co 99	8	EAST	LDb
403	Keys Mill Creek	nr Leaf River	8	EAST	LDa
405	Leonards Mill Creek	nr Mt. Olive	8	EAST	LDa
406	Oakahay Creek	nr. Hot Coffee on Hwy 37	8	EAST	LDb
409	West Bouie Creek	at Sumrail Road	8	EAST	LDa
410	Souinlovey Creek	nr Pachuta at Hwy 512	8	EAST	LDa
412	Castaffa Creek	at Hwy 11 nr Barnett	8	EAST	LDb

Table F-6 (cont'd). List of Lda and LDb site found throughout the state organized by bioregion.

Station #	Name	Location	Preliminary site class	Bioregion	Status
413	Tallahala Creek	nr Heidleberg	8	EAST	LDb
416	Tallahoma Creek	nr Moss	8	EAST	LDb
418	Buckatunna Creek	nr Sykes at Hwy 18	3	EAST	LDa
420	Five Mile Creek	nr Crandall	8	EAST	LDa
423	Yellow Creek	nr Boice	8	EAST	LDa
458	Leatherwood Creek	at Leatherwood Road	7	EAST	LDa
462	Tickfaw River (upper)	at CR 584	7	EAST	LDb
463	White Sand Creek	at River Road	7	EAST	LDa
464	Tilton Creek	at Hwy 587	7	EAST	LDa
465	Holiday Creek	at Hwy 13/43	7	EAST	LDa
467	Tenmile Creek	at Hwy 35	7	EAST	LDa
468	Upper Little Creek	at Hwy 13/43	7	EAST	LDa
471	E Fk Pushepatapa Creek	at state line	7	EAST	LDa
472	Clear Creek	at Hwy 43	7	EAST	LDa
474	Black Creek	at Broome Road	8	EAST	LDb
477	Monroe Creek	at Monroe Road	9	EAST	LDa
482	Beaver Dam Branch	nr Purvis	9	EAST	LDa
487	Bogue Homo	at Ovett	8	EAST	LDb
489	West Little Thompson Creek	0	9	EAST	LDb
492	Thompson Creek	nr Richton	9	EAST	LDb
498	Cypress Creek	at Janice	9	EAST	LDa
500	Beaver Dam Creek	nr Janice at Hwy 29	9	EAST	LDa
507	Brushy Creek	nr Shipman	9	EAST	LDb
510	West Hobolochitto Creek	at Ford's Creek Road	9	EAST	LDa
511	Murder Creek	at Silver Run Road	9	EAST	LDa
513	East Hobolochitto Creek	Mcneill-Steephollow Road	9	EAST	LDa
514	Moran Creek	nr mcneil	9	EAST	LDa
516	Crane Creek	nr Sellers	9	EAST	LDa
517	East Hobolochitto Creek	at Hwy 11	9	EAST	LDb
520	Catahoula Creek	nr Santa Rosa	9	EAST	LDb
522	Black Creek	nr Wiggins at Hwy 26	9	EAST	LDb
526	Wolf River	at Silver Run	9	EAST	LDa
527	Tenmile Creek	at Perkinston-Silverun Road	9	EAST	LDa
533	Little Biloxi River	Shaw Road	9	EAST	LDb
537	Turkey Creek	at Canal Road	9	EAST	LDb
538	Black Creek	nr Vestry at Hwy 57	9	EAST	LDb
540	Red Creek	at Vestry	9	EAST	LDb
541	Big Cedar Creek	nr Harleston at Hwy 63	9	EAST	LDb
564	Bala Chitto Creek	nr Osyka at State Line Road	7	EAST	LDa
565	Terry's Creek	nr Osyka at Hwy 584	7	EAST	LDb
566	Scooba Creek	nr Electric Mills	3	EAST	LDb
600	Hickory Creek	at hwy 43	9	EAST	LDb
60	Picken's Branch	nr Iuka	1	NE	LDb
65	unnamed trib to Tenn-Tom	nr Doskie	1	NE	LDa
67	Mill Creek	nr Iuka	1	NE	LDb
76	unnamed trib to Cedar Creek	nr Tish. SP	1	NE	LDa
141	Green Creek	at Van Buren Road	1	NE	LDa
143	Bull Mnt Creek	at Horn's Crossing Creek	1	NE	LDa
149	Weaver Creek	at Becker	1	NE	LDb
152	Wolf Creek	nr Aberdeen	1	NE	LDa

Table F-6 (cont'd). List of Lda and LDb site found throughout the state organized by bioregion.

Station #	Name	Location	Preliminary site class	Bioregion	Status
153	Halfway Creek	at Greenbriar Road	1	NE	LDb
204	Cooper Creek	nr Steens	1	NE	LDb
205	Yellow Creek	above Lux confluence at Gunshot Road	1	NE	LDa
555	Bull Mnt Creek	at Tremont at Hwy 178	1	NE	LDa
16	Beartail Creek	nr Coldwater	4	NW	LDa
18	Hickahala Creek	at Hwy 305	4	NW	LDa
30	Coldwater River	at Hwy 311	4	NW	LDa
33	Oak Chewalla Creek	at Hwy 310	10	NW	LDa
34	Little Spring Creek	at Hwy 310	10	NW	LDa
37	Lee Creek	north of Abbeyville	10	NW	LDb
45	Puskus Creek	at Hwy 30	10	NW	LDa
49	Porters Creek	nr Hopewell	10	NW	LDb
51	Shelby Creek	nr Whitten Town	10	NW	LDa
106	Cypress Creek	at Hwy 7	10	NW	LDb
115	Turkey Creek	nr Pine Valley	10	NW	LDa
121	Johnson-Coles Creek	at Old Hwy 8	10	NW	LDb
158	Cane Creek	nr Holcomb	4	NW	LDa
221	Short Creek	at Hwy 3	6	WEST	LDb
231	Black Creek	nr Lexington	6	WEST	LDb
241	Big Cypress Creek	at Hwy 432	5	WEST	LDb
244	Hobuck Creek	at Stump Bridge Road	5	WEST	LDb
293	Hamer Bayou	nr Vicksburg	5	WEST	LDb
295	Big Sand Creek	at Nathcez Trace	6	WEST	LDa
296	Beaver Creek	nr Mechanicsburg	6	WEST	LDb
298	Limekiln Creek	at Hwy 49	5	WEST	LDa
301	Bear Creek	nr Youngton	6	WEST	LDa
306	Five Mile Creek	nr Newman	5	WEST	LDb
309	Tilda Bogue Creek	nr Canton	5	WEST	LDb
327	Ford's Creek	at Hwy 61	7	WEST	LDb
356	Kennison Creek	nr Willows	6	WEST	LDb
359	James Creek	at Rodney Road	6	WEST	LDb
362	Dowd Creek	at Rodney Road	6	WEST	LDa
364	North Fork Coles Creek	at Frazier Road	7	WEST	LDb
365	Middle Fork Homochitto River	nr Perth	7	WEST	LDb
367	Fifteen Mile Creek	at Fifteen Mile Creek Road	7	WEST	LDa
428	Second Creek	at Hutchins Landing Road	6	WEST	LDb
431	Millbrook Creek	at Millbrook Road	6	WEST	LDb
434	Bayou Sara	at Wyoming Road	7	WEST	LDb
438	Mcgehee Creek	at Holland Road	7	WEST	LDa
441	Dry Creek	at Natchez-Rosetta Road	7	WEST	LDa
444	Tar Creek	just off Hwy CR 563	7	WEST	LDa
447	Caston Creek	at Oxford Road	7	WEST	LDa
553	East Fork Amite River	nr Gillsburg	7	WEST	LDa
559	Bates Creek	nr Janette	7	WEST	LDa
560	Whites Creek	nr Doloroso	6	WEST	LDa
561	Cypress Creek	nr Crosby	7	WEST	LDa

Table F-7. List of MD sites found throughout the state organized by bioregion.

Station #	Name	Location	Preliminary Site Class	Bioregion	Status
62	Elam Creek	at Corinth (Hwy 72)	2	BB	MD
126	unnamed trib to Town Creek	at Tupelo	2	BB	MD
198	Town Creek	at Vinton Road	2	BB	MD
200	Town Creek	at West Point at Old Tibbie Road	2	BB	MD
172	Little Black Creek	nr Eupora	3	EAST	MD
174	Lewis Creek	nr Winona	3	EAST	MD
175	Mulberry Creek	nr Sibleyton	3	EAST	MD
177	Big Bywy Canal	nr Stewart	3	EAST	MD
210	South Branch	at Black Prairie WMA off Hwy 45	3	EAST	MD
261	unnamed trib to Pearl River	at Carthage	8	EAST	MD
262	Standing Pine Creek	at Hwy 488	8	EAST	MD
268	Tallahaga Creek	at Hwy 490	3	EAST	MD
289	Shy Hammock Creek	at Hwy 16	3	EAST	MD
323	Tallabogue Creek	nr Hwy 35/ at King Road	8	EAST	MD
324	Hontokalo Creek	at Hwy 21	8	EAST	MD
343	Bostick Branch	at Stonewall at Burlington Denim Plant	8	EAST	MD
394	Dry Creek	at Hwy 84	8	EAST	MD
396	Pretty Branch	nr Ferguson	7	EAST	MD
453	Boone Creek	Pricedale Road	7	EAST	MD
518	Mill Creek	at Hwy 43	9	EAST	MD
519	Turtleskin Creek	nr Santa Rosa	9	EAST	MD
536	Flat Branch	at Orange Grove	9	EAST	MD
557	Betsy Creek	nr Vaiden	3	EAST	MD
58	Chambers Creek	at Kendrick	1	NE	MD
63	Caney Creek	nr Doskie	1	NE	MD
64	Little Yellow Creek	nr Doskie	1	NE	MD
77	Donivan Creek	nr kirkville	1	NE	MD
80	Twentymile Creek	nr Pratts	1	NE	MD
81	Big Brown Creek	at Natchez Trace	1	NE	MD
136	Twentymile Creek	nr Mantachie	1	NE	MD
137	Cummings Creek	at Cumming Street	1	NE	MD
140	Mantachie Creek	at Peppertown Road	1	NE	MD
2	Johnson Creek	nr Walls	4	NW	MD
10	Camp Creek	nr Pleasant Hill	4	NW	MD
11	Camp Creek Canal	nr Hernando	10	NW	MD
15	Red Banks Creek	nr Cockrum	4	NW	MD
40	Little Mud Creek	at Hwy 30	10	NW	MD
55	Little Tallahatchie River	nr Melino	10	NW	MD
85	Hotopha Creek	at Hwy 35	4	NW	MD
87	Hudson Creek	at Hwy 6	10	NW	MD
89	McIvor Canal	at Curtis Road	4	NW	MD
99	Town Creek	at Water Valley	10	NW	MD
104	Ascalmore Creek	at Hwy 35	4	NW	MD
108	Lappatubby Creek	at CR 47	10	NW	MD
112	Yocona River	at Hwy 7	10	NW	MD
116	Skuna River Canal	at Hwy 32	10	NW	MD
117	Persimmon Creek	nr Bruce	10	NW	MD
119	Skuna River Canal	at Hwy 9	10	NW	MD
123	Lappatubby Creek	at Hwy 15 nr Ecru	10	NW	MD
166	Topashaw Creek Canal	at Hwy8/9	10	NW	MD

Table F-7 (cont'd). List of MD sites found throughout the state organized by bioregion.

Station #	Name	Location	Preliminary Site Class	Bioregion	Status
170	Sabougla Creek Canal	nr Dentontown	10	NW	MD
181	Topashaw Creek Canal	nr Atlanta	10	NW	MD
163	Hays Creek	nr Vaiden	5	WEST	MD
220	Piney Creek	at Rebecca Road	6	WEST	MD
222	Cypress Creek	nr Myrleville	5	WEST	MD
228	Fannegusha Creek	north of Hwy12	6	WEST	MD
230	Fannegusha Creek	at Hwy 17	5	WEST	MD
232	Fannegusha Creek	nr Howard	6	WEST	MD
237	Box Creek/Green's Creek	nr Goodman	5	WEST	MD
239	Tackett Creek	nr Pickens	5	WEST	MD
292	Clear Creek	nr Bovina	6	WEST	MD
297	Bogue Chitto Creek	nr Nevada	5	WEST	MD
300	Porter Creek	nr Edwards	5	WEST	MD
315	Hanging Moss Creek	at Jackson	5	WEST	MD
355	St. Catherine Creek	nr Nathcez	6	WEST	MD
357	Bayou Pierre (downstream)	at Hwy 18	7	WEST	MD
360	Little Bayou Pierre	at Hwy 18 (Natchez Trace)	7	WEST	MD
368	White Oak Creek	at Carpenter	7	WEST	MD
369	Tallahalla Creek	at Hwy 27	7	WEST	MD
429	Crooked Creek	on Natchez-Rosetta Road	7	WEST	MD
430	Buffalo River - downstream	at lower Woodville Road	7	WEST	MD
439	Richardson Creek	at Bunkley Road	7	WEST	MD

Table F-8. Metric abbreviations and assemblage categories.

Metric Name	Metric Abbreviation	Category
Percent Amphipoda	AMPHPCT	Composition
Baetidae/Ephemeroptera	BAET2EPH	Composition
Percent Bivalvia	BIVALPCT	Composition
Percent Caenidae	CAENIPCT	Composition
Cricotopus, Chironomus, and Orthocladius to Chironomidae	CCO2CHIR	Composition
Percent Chironomidae	CHIROPCT	Composition
Percent Coleoptera	COLEOPCT	Composition
Percent Corbicula	CORBPCT	Composition
Cricotopus and Chironomus to Chironomidae	CRCH2CHI	Composition
Percent Crustacean plus Molluscs	CRMOLPCT	Composition
Percent Diptera	DIPPCT	Composition
Percent Diptera (no Chironomidae)	DIPPCTNC	Composition
Percent 1 Dominant	DOM1PCT	Composition
Percent 2 Dominant	DOM2PCT	Composition
Percent Ephemeroptera (no Caenidae)	ENOCAEN%	Composition
Percent Ephemeroptera	EPHEMPCT	Composition
Percent EPT	EPTPCT	Composition
Percent EPT (no Caenidae)	EPTPCTNC	Composition
Percent Gastropoda	GASTRPCT	Composition
Hydropsychidae/EPT	HYD2EPT	Composition
Hydropsychidae/Trichoptera	HYD2TRI	Composition
Percent Isopoda	ISOPCT	Composition
Percent Diptera plus Tanytarsini	NC_TANY%	Composition
Percent Noninsect	NONINPCT	Composition
Percent Odonata	ODONPCT	Composition
Percent Oligochaeta	OLIGOPCT	Composition
Orthoptera/Chironomidae	ORTH2CHI	Composition
Percent Plecoptera	PLECOPCT	Composition
Tanytarsini Pct	TANYTPCT	Composition
Tanytarsini/Chironomidae	TNYT2CHI	Composition
Percent Trichoptera	TRICHPCT	Composition
Shannon-Weiner Index	SHAN_2	Diversity
Percent Burrower	BRRWRPCT	Habit
No. of Burrower Taxa	BRRWRTAX	Habit
Percent Climber	CLMBRPCT	Habit
No. of Climber Taxa	CLMBRTAX	Habit
Percent Clinger	CLNGRPCT	Habit
No. of Clinger Taxa	CLNGRTAX	Habit
Percent Sprawler	SPRWLPCT	Habit
No. of Sprawler Taxa	SPRWLTAX	Habit
Percent Swimmer	SWMMRPCT	Habit
No. of Swimmer Taxa	SWMMRTAX	Habit
No. of Chironomidae Taxa	CHIROTAX	Richness
No. of Coleoptera Taxa	COLEOTAX	Richness
No. of Crustacean plus Molluscs	CRMOLTAX	Richness
No. of Diptera Taxa (no Chironomidae)	DIPTAXNC	Richness
No. of Diptera Taxa	DIPTAXR2	Richness
No. of Ephemeroptera Taxa	EPHEMTAX	Richness
No. of EPT Taxa	EPTTAXR2	Richness
No. of Insect Taxa	INSCTTAX	Richness
No. of Oligochaeta Taxa	OLIGOTAX	Richness

Table F-8 (cont'd). Metric abbreviations and assemblage categories.

Metric Name	Metric Abbreviation	Category
No. of Orthoptera Taxa	ORTHOTAX	Richness
No. of Plecoptera Taxa	PLECOTAX	Richness
No. of Tanytarsini Taxa	TANYTTAX	Richness
Total No. of Taxa	TOTALTAX	Richness
No. of Trichoptera Taxa	TRICHTAX	Richness
Becks Biotic Index (AL, NC TVs)	BECKSBI	Tolerance
Hilsenhoff Biotic Index (AL, NC TVs)	HBI	Tolerance
Percent Intolerant (AL, NC TVs)	INTOLPCT	Tolerance
No. of Intolerant Taxa (AL, NC TVs)	INTOLTAX	Tolerance
No. of Intolerant Taxa (MS, AL, NC TVs)	M_INTOTX	Tolerance
Percent Intolerant (MS, AL, NC TVs)	M_PINTOL	Tolerance
Percent Tolerant (MS, AL, NC TVs)	M_PTOL	Tolerance
No. of Tolerant Taxa (MS, AL, NC TVs)	M_TOLTAX	Tolerance
Hilsenhoff Biotic Index (New MTVs)	NEWBECK	Tolerance
Becks Biotic Index (New MTVs)	NEWMHBI	Tolerance
Percent Tolerant (AL, NC TVs)	TOLERPCT	Tolerance
No. of Tolerant Taxa (AL, NC TVs)	TOLERTAX	Tolerance
Percent Collector	CLLCTPCT	Trophic
No. of Collector Taxa	CLLCTTAX	Trophic
Percent Filterer	FILTRPCT	Trophic
No. of Filterer Taxa	FILTRTAX	Trophic
Percent Predator	PREDPCT	Trophic
No. of Predator Taxa	PREDTAXR	Trophic
Percent Scraper	SCRAPPCT	Trophic
No. of Scraper Taxa	SCRAPTAX	Trophic
Percent Shredder	SHREDPCT	Trophic
No. of Shredder Taxa	SHREDTAX	Trophic

Table F-9. Site-specific values of metrics used in final indices. Metrics that were calculated but not used in indices are presented at far right.

Station #	WaterbodyName	NEWHBI	NEWBECK	TOTALTAX	PLECOTAX	TRICHTAX	CHIROTAX	TANYTTAX	COLEOTAX	DIPPCT	TANYTPCT	ENOCAEN%	CAENIPCT	EPTPCTNC	FILTRPCT	CLLCTTAX	FILTRTAX	PREDTAXR	CLNGRPCT	SPRWLTAX	HYD2TRI	Metrics not used
2	Johnson Creek	8	5	36	0	2	17	3	2	31	2	2	48	5	6	16	4	6	8	9	80	NEWPINTO
3	White's Creek	7	4	41	0	1	13	2	4	30	2	8	9	10	7	15	3	11	10	9	100	NEWPTOL
5	Arkabutula Creek	7	10	39	0	4	14	3	4	34	3	2	22	8	10	13	5	10	35	11	42	NEWINTTX
6	Strayhorn Creek	9	1	21	0	1	7	0	3	14	0	0	75	1	3	7	2	6	6	7	100	NEWTOLTA
7	Horn Lake Creek	6	2	31	0	0	10	0	1	25	0	0	6	0	15	13	1	11	4	7	0	INSCTTAX
9	Hurricane Creek	8	2	25	1	0	11	0	2	41	0	0	27	3	7	11	2	7	7	11	0	EPTTAXR2
10	Camp Creek	9	1	22	0	1	7	1	1	10	1	0	61	5	6	8	2	6	7	5	100	EPHEMTAX
11	Camp Creek Canal	9	0	17	0	0	7	0	2	14	0	1	74	1	0	7	0	4	5	4	0	DIPTAXR2
13	Pigeon Roost Creek	5	9	28	0	2	14	3	2	71	31	18	2	21	30	10	5	5	79	8	71	DIPTAXNC
14	Short Fork Creek	7	3	30	1	0	12	0	4	39	0	0	16	2	3	11	1	8	5	9	0	ORTHOTAX
15	Red Banks Creek	6	1	23	0	1	11	1	5	58	37	0	33	1	39	7	3	7	49	8	100	OLIGOTAX
16	Beartail Creek	6	7	31	0	2	16	3	0	64	28	7	5	9	25	13	5	7	50	9	80	CRMOLTAX
17	Arkabutla Creek	8	4	28	0	2	9	1	2	27	0	2	36	5	8	9	3	9	22	8	86	SHAN_2
18	Hickahala Creek	6	5	27	0	1	11	3	2	42	8	14	2	15	10	9	5	8	45	8	100	AMPHPCT
19	Hickahala Creek	6	7	28	0	2	13	4	1	50	19	10	27	11	22	10	4	8	45	7	33	BIVALPCT
20	James-Wolf Canal	6	5	37	0	1	16	2	2	56	9	1	16	3	22	15	4	10	36	12	100	CHIROPCT
23	Senatobia Creek	6	2	22	0	1	9	1	1	81	10	2	2	8	43	8	3	6	56	7	100	DIPPCTNC
24	Greasy Creek	6	15	33	2	2	18	4	4	38	15	27	27	29	13	14	4	10	45	10	75	NC_TANY%
28	Grays Creek	5	16	53	0	2	24	3	5	48	13	16	0	17	4	19	4	13	37	15	0	CRCH2CHI
30	Coldwater River	4	24	42	2	7	16	3	0	67	46	12	0	26	53	15	7	7	71	11	58	CCO2CHIR
31	Oaklimeter Creek	8	6	36	1	0	15	2	2	17	3	2	67	4	3	13	2	9	9	11	0	TNYT2CHI
32	Tippah River	7	9	35	3	1	13	2	5	19	4	7	42	24	8	13	4	9	38	10	100	ORTH2CHI
33	Oak Chewalla Creek	5	18	34	1	3	19	4	2	36	16	34	0	36	7	12	3	9	21	12	50	COLEOPCT
34	Little Spring Creek	4	27	39	3	5	16	3	2	35	18	44	0	54	38	15	6	6	59	9	52	CORBPCT
35	Big Spring Creek	4	25	45	5	5	14	3	5	47	26	25	0	38	33	21	7	6	55	9	58	CRMOLPCT
36	Grahm Mill Creek	4	23	37	5	3	22	4	0	75	15	13	0	23	35	18	6	6	58	15	82	EPHEMPCT
37	Lee Creek	5	15	43	3	2	17	4	6	41	13	35	4	43	16	13	5	11	67	13	56	EPTPCT
39	Mill Creek	7	10	38	4	1	14	2	5	28	3	21	34	29	11	13	4	7	39	9	100	GASTRPCT
40	Little Mud Creek	7	1	11	1	0	5	0	2	37	0	0	0	58	0	6	1	1	0	4	0	ISOPCT
41	Lockes Creek	7	8	45	2	0	20	1	5	49	0	1	5	7	5	20	3	10	10	16	0	NONINPCT
42	Unnamed Trib	6	9	29	1	0	11	0	3	29	0	4	0	56	9	12	2	6	14	12	0	ODONPCT
43	Berry Branch	6	4	27	0	0	12	0	2	39	0	0	0	0	1	12	1	3	5	8	0	OLIGOPCT
44	Hurricane Creek	4	29	34	3	5	15	4	1	74	46	10	0	23	57	11	6	7	68	9	63	PLECOPCT
45	Puskus Creek	4	12	29	2	1	17	4	2	43	7	52	0	54	9	13	4	9	58	11	100	TRICHPCT
46	Cypress Creek	7	14	37	2	2	12	4	3	19	7	13	39	16	4	15	2	9	25	7	0	CLLCTPCT
47	Little Tallahatchie River	9	5	24	0	1	10	3	4	18	4	0	74	2	3	10	2	5	8	6	0	PREDPCT
48	Mitchell Creek	6	9	36	2	1	14	1	4	32	1	2	2	33	11	14	3	8	14	10	0	SCRAPPCT
49	Porters Creek	4	15	44	1	2	20	3	4	65	40	11	3	22	55	16	6	10	62	14	94	SHREDPCT
50	Muddy Creek	9	4	24	0	1	5	0	2	6	0	0	50	1	0	8	0	7	2	6	0	SCRAPTAX
51	Shelby Creek	4	27	47	4	1	19	2	4	44	1	19	0	44	3	18	4	18	40	17	0	SHREDTAX
52	Little Hatchie River	6	10	48	1	3	10	2	8	20	1	11	6	13	2	11	4	19	18	8	33	BRRWRPCT
55	Little Tallahatchie River	5	22	55	4	3	22	4	5	33	4	13	16	31	7	18	6	17	43	15	55	CLMBRPCT
56	Cane Creek	8	6	24	1	0	12	3	4	29	10	2	62	2	13	9	3	4	23	8	0	SPRWLPCT
58	Chambers Creek	6	26	53	1	8	12	3	5	23	2	14	9	19	10	14	8	17	28	8	23	SWMMRPCT
60	Picken's Branch	4	36	65	2	4	29	6	4	73	34	5	1	10	21	27	7	17	53	20	29	BRRWRTAX
61	Bridge Creek	8	4	30	0	3	10	2	4	17	5	0	65	3	6	8	3	9	16	9	29	CLMBRTAX
62	Elam Creek	8	0	28	0	0	7	0	4	18	0	0	38	0	3	9	1	7	13	8	0	CLNGRTAX

Table F-9 (cont'd). Site-specific values of metrics used in final indices. Metrics that were calculated but not used in indices are presented at far right.

Station #	WaterbodyName	NEWHBI	NEWBECK	TOTALTAX	PLECOTAX	TRICHTAX	CHIROTAX	TANYTTAX	COLEOTAX	DIPPCT	TANYTPCT	ENOCAEN%	CAENIPCT	EPTPCTNC	FILTRPCT	CLLCTTAX	FILTRTAX	PREDTAXR	CLNGRPCT	SPRWLTAX	HYD2TRI	Metrics not used
63	Caney Creek	4	26	51	3	4	21	3	3	62	5	19	0	26	22	19	7	13	51	13	63	SWMMRTAX
64	Little Yellow Creek	4	25	45	1	4	19	5	5	74	41	15	0	18	46	21	6	11	71	11	25	SAMP
65	unnamed trib to Tenn-Tom	3	38	57	1	9	20	5	4	67	27	11	0	21	47	21	8	14	62	17	22	REP
66	Indian Creek	7	5	37	0	2	16	3	1	66	7	1	1	2	7	13	3	10	17	11	50	BECKSBI
67	Mill Creek	3	31	44	6	3	19	3	3	77	45	7	0	19	2	17	3	12	68	11	25	HBI
68	Parmicha Creek	8	7	31	3	1	6	1	4	28	1	1	39	9	5	13	3	5	12	8	0	DOM1PCT
69	Little Cripple Deer Creek	4	17	52	3	1	24	2	7	70	2	3	3	15	44	22	7	13	49	17	100	DOM2PCT
70	Pennywinkle Creek	4	39	56	3	5	21	4	6	67	13	8	2	21	41	21	9	15	58	16	19	BAET2EPH
73	Cripple Deer Creek	4	11	24	1	1	12	1	2	84	3	0	0	1	65	11	3	2	68	7	0	HYD2EPT
74	Bear Creek	4	19	55	3	1	24	3	3	79	27	8	0	12	32	27	5	9	61	16	0	INTOLPCT
75	Bear Creek	4	21	47	5	1	20	4	4	54	11	26	0	31	15	18	5	11	69	14	100	TOLERPCT
76	unnamed trib to Cedar Creek	3	43	57	5	6	25	4	3	66	7	12	0	24	32	19	7	17	47	16	13	INTOLTAX
77	Donivan Creek	6	10	40	2	1	10	1	6	36	0	0	1	3	13	13	2	13	5	11	0	TOLERTAX
79	Rock Creek	4	32	52	3	5	19	5	3	53	17	25	1	37	36	19	7	16	55	12	21	
80	Twentymile Creek	9	2	28	2	0	7	0	3	9	0	0	60	1	0	11	1	8	3	7	0	
81	Big Brown Creek	7	14	46	4	1	11	1	6	34	1	3	36	11	3	15	4	12	23	7	100	
82	Little Brown Creek	5	23	50	4	4	13	4	5	41	8	18	5	43	12	17	6	17	62	10	93	
83	Mackey's Creek	5	22	55	2	4	19	4	5	69	10	2	5	11	10	18	5	17	56	15	25	
85	Hotopha Creek	8	7	30	0	2	13	1	2	27	2	1	57	2	9	10	3	10	18	9	67	
86	Clear Creek	5	11	43	2	2	14	4	2	34	12	37	1	43	15	14	6	12	53	12	100	
87	Hudson Creek	6	7	35	0	1	16	3	2	60	25	7	15	13	33	14	5	9	48	11	100	
88	Toby Tubby Creek	5	22	42	0	3	17	5	2	41	8	36	0	40	14	14	5	14	66	11	70	
89	McIvor Canal	10	1	9	0	0	3	1	1	3	0	0	95	0	0	2	1	2	1	3	0	
91	Long Creek	7	5	29	0	3	15	3	1	34	23	1	53	5	24	11	3	6	32	11	56	
92	Long Creek	6	14	43	2	2	14	3	4	23	4	17	21	27	7	12	4	15	45	8	67	
93	Bynum Creek	6	20	49	3	1	18	4	3	28	5	9	28	18	9	23	5	14	32	14	100	
96	unnamed trib to Yocona River	7	9	31	1	1	16	2	3	50	8	1	34	2	11	11	5	8	18	14	0	
98	Otoucalofa Creek	6	15	32	3	1	12	2	0	41	6	15	28	23	27	14	5	8	51	8	100	
99	Town Creek	6	3	29	0	0	12	2	2	18	1	0	4	0	8	9	2	11	31	7	0	
101	N Fk Tillatoba Creek	8	7	26	0	2	8	2	1	15	10	1	69	2	12	8	4	8	18	5	25	
102	Tillatoba Creek	7	13	46	1	3	21	4	3	33	6	4	47	10	12	19	5	13	24	20	60	
104	Ascalmore Creek	7	12	41	0	3	18	4	3	38	14	3	21	4	16	13	6	11	30	16	0	
105	Okachickima Creek	6	9	46	1	1	14	2	2	43	2	2	19	3	20	19	3	14	27	11	0	
106	Cypress Creek	7	8	26	0	3	13	3	0	52	4	0	16	9	15	11	4	5	26	8	78	
107	Organ Creek	6	10	44	1	3	17	2	4	47	1	2	27	6	24	17	3	13	30	16	33	
108	Lappatubby Creek	8	7	32	1	2	13	3	5	15	2	2	68	4	3	14	4	4	13	10	50	
109	Mud Creek	8	2	21	1	0	5	0	4	43	0	0	1	6	0	11	0	4	0	7	0	
110	Duncans Creek	9	2	19	0	1	5	2	2	7	1	2	80	3	2	9	2	6	5	5	100	
111	Burney Branch	6	14	39	1	2	18	3	2	47	17	0	8	13	22	11	5	16	51	15	97	
112	Yocona River	5	16	47	4	2	20	4	3	57	6	12	8	24	33	19	4	12	57	14	88	
113	Duncan's Creek	7	11	34	1	1	11	1	5	19	0	3	43	5	9	14	2	8	15	5	0	
114	Yocona River	5	11	41	3	1	15	1	6	78	0	1	5	6	52	15	4	10	58	11	100	
115	Turkey Creek	4	31	52	4	2	23	4	3	64	14	6	4	19	16	22	4	16	57	17	0	
116	Skuna River Canal	9	1	19	1	0	7	0	4	23	0	0	51	8	0	10	0	2	1	6	0	

Table F-9 (cont'd). Site-specific values of metrics used in final indices. Metrics that were calculated but not used in indices are presented at far right.

Station #	WaterbodyName	NEWHBI	NEWBECK	TOTALTAX	PLECOTAX	TRICHTAX	CHIROTAX	TANYTTAX	COLEOTAX	DIPPCT	TANYTPCT	ENOCAEN%	CAENIPCT	EPTPCTNC	FILTRPCT	CLLCTTAX	FILTRTAX	PREDTAXR	CLNGRPCT	SPRWLTAX	HYD2TRI	Metrics not used
117	Persimmon Creek	8	8	25	2	1	12	1	2	28	0	2	61	8	12	12	4	1	17	10	100	
118	Lucknuck Creek	9	14	25	1	3	9	3	2	10	4	1	80	4	5	9	4	9	12	6	29	
119	Skuna River Canal	8	6	35	2	2	11	2	2	27	1	3	56	8	3	12	4	9	10	10	67	
120	Cowpen Creek	6	5	30	1	0	6	0	5	36	0	12	7	13	1	13	1	7	8	6	0	
121	Johnson-Coles Creek	7	4	27	0	2	6	2	3	37	3	3	46	4	30	11	4	5	39	6	50	
123	Lappatubby Creek	9	3	24	0	2	6	1	4	6	0	2	81	3	1	9	2	7	9	7	67	
126	unnamed trib to Town Creek	7	1	29	0	1	10	1	3	42	0	0	26	1	3	10	3	5	28	8	100	
127	Goodfood Creek	6	19	45	3	2	9	2	7	8	1	21	22	29	3	18	5	11	33	8	40	
129	Tallabinella Creek	7	7	33	3	0	9	2	4	11	1	1	0	17	0	15	1	7	6	9	0	
131	Tubbalubba Creek	8	0	22	1	0	4	0	1	12	0	0	2	1	0	12	0	2	1	7	0	
133	Town Creek	7	5	28	1	0	10	2	3	43	7	1	42	1	21	10	3	6	32	6	0	
135	Chuquatonchee Creek	8	7	26	3	0	10	1	1	22	2	1	59	9	6	12	2	4	23	9	0	
136	Twentymile Creek	8	5	29	2	1	8	0	4	29	0	1	58	3	0	13	0	8	4	8	0	
137	Cummings Creek	4	31	53	5	4	17	5	5	41	9	23	0	46	19	19	6	16	66	12	93	
140	Mantachie Creek	7	7	38	0	1	13	2	3	38	3	4	29	5	1	20	1	7	10	9	0	
141	Green Creek	4	25	40	1	7	15	5	4	80	30	1	0	5	42	12	7	14	60	7	17	
142	Greenwood Creek	5	14	47	0	3	16	2	4	53	2	2	9	6	16	20	4	12	33	11	88	
143	Bull Mnt Creek	5	25	48	1	8	16	3	3	63	10	5	11	12	41	18	8	9	54	13	9	
146	unnamed trib to Bull Mnt Creek	4	35	51	3	7	19	3	4	52	6	13	0	29	17	19	7	11	37	14	27	
149	Weaver Creek	4	29	47	3	2	23	5	3	74	29	2	0	8	43	22	5	9	54	11	0	
151	Mattuby Creek	6	3	31	1	0	10	1	5	65	1	0	3	0	31	13	2	4	47	7	0	
152	Wolf Creek	4	2	11	1	0	1	0	2	94	0	0	2	1	92	5	1	4	93	3	0	
153	Halfway Creek	4	19	40	2	4	12	1	5	66	2	5	0	13	50	17	4	7	57	9	0	
155	Big Sand Creek	5	8	28	1	3	9	3	4	58	2	12	13	17	47	9	5	7	64	7	83	
156	Riverdale Creek	8	7	38	0	2	17	2	1	20	1	1	60	3	3	16	3	8	11	12	86	
157	Batupan Bogue	5	9	33	3	2	12	2	1	72	3	4	13	11	49	8	5	10	65	11	100	
158	Cane Creek	7	11	41	2	2	15	1	3	34	4	9	36	17	13	17	5	8	27	13	85	
159	Potacocowa Creek	6	6	25	2	0	7	2	3	36	3	4	27	5	29	10	3	5	38	6	0	
160	Pelucia Creek	5	15	42	1	4	15	3	5	36	7	12	15	34	21	12	4	11	63	13	81	
161	Abiaca Creek	6	9	33	2	3	8	1	2	24	1	27	16	39	14	10	4	8	39	7	93	
162	Coila Creek	6	10	43	0	5	12	3	3	32	15	16	24	22	18	16	7	11	44	8	59	
163	Hays Creek	9	5	24	0	2	7	0	2	13	0	3	75	5	8	12	3	3	12	7	75	
164	Peachahala Creek	6	9	42	2	1	13	3	5	41	5	0	3	2	6	15	3	11	11	13	0	
165	Butputter Creek	9	6	26	2	1	8	2	1	9	1	1	75	3	2	10	2	8	4	7	100	
166	Topashaw Creek Canal	6	0	7	0	0	0	0	0	11	0	0	7	0	0	3	0	2	0	3	0	
167	Little Topishaw Creek	5	11	28	3	2	10	2	3	71	2	3	17	7	46	10	4	7	66	9	86	
168	Redgrass Creek	7	2	27	2	1	5	0	3	11	0	0	0	11	0	8	1	8	3	10	0	
169	Horse Pen Creek	8	6	33	1	0	13	1	2	20	0	2	57	13	3	10	3	11	8	12	0	
170	Sabougla Creek Canal	9	5	25	2	0	7	2	1	6	2	3	75	5	1	13	1	6	4	7	0	
171	Wolf Creek	4	6	15	4	0	3	0	0	84	0	4	4	9	81	6	1	3	85	6	0	
172	Little Black Creek	7	5	28	1	1	10	3	1	39	16	4	19	8	16	11	4	6	29	6	100	
173	Calabrella Creek	5	10	46	5	1	12	2	3	50	6	15	8	20	16	17	3	13	47	12	100	
174	Lewis Creek	8	5	29	1	0	5	0	5	11	0	0	68	1	0	11	0	9	5	4	0	
175	Mulberry Creek	8	12	34	1	0	17	4	3	18	2	1	69	2	5	15	3	9	11	7	0	
176	Wolf Creek	4	22	50	5	2	19	4	6	78	38	3	2	9	41	20	4	13	72	14	50	

Table F-9 (cont'd). Site-specific values of metrics used in final indices. Metrics that were calculated but not used in indices are presented at far right.

Station #	WaterbodyName	NEWHBI	NEWBECK	TOTALTAX	PLECOTAX	TRICHTAX	CHIROTAX	TANYTTAX	COLEOTAX	DIPPCT	TANYTPCT	ENOCAEN%	CAENIPCT	EPTPCTNC	FILTRPCT	CLLCTTAX	FILTRTAX	PREDTAXR	CLNGRPCT	SPRWLTAX	HYD2TRI	Metrics not used
177	Big Bywy Canal	5	15	49	5	3	15	2	4	53	6	4	5	11	25	18	4	13	51	14	75	
178	McCurtain Creek	4	17	41	3	2	16	1	3	48	2	8	1	31	8	16	4	11	57	13	56	
179	Poplar Creek	4	19	45	3	1	15	2	4	33	1	0	4	37	8	18	4	10	43	12	0	
180	unnamed trib to Poplar Creek	4	17	31	3	1	12	2	3	49	4	0	1	22	23	14	4	5	34	10	0	
181	Topashaw Creek Canal	7	9	33	3	1	16	3	3	38	3	1	34	17	8	17	4	4	17	12	100	
182	Houlka Creek	5	5	21	3	0	6	0	1	16	0	2	15	60	2	9	1	4	69	6	0	
183	Sand Creek	5	9	22	3	0	7	1	3	36	3	1	1	39	2	12	1	3	41	5	0	
184	Spring Creek	5	15	36	2	3	6	0	5	44	0	0	0	8	35	12	2	9	37	5	0	
185	Line Creek	5	14	41	4	2	7	0	6	16	0	0	2	35	2	15	1	9	45	9	0	
187	Long Branch	7	5	15	1	0	3	0	0	14	0	1	0	1	4	8	1	1	5	3	0	
188	Trim Cane Creek	7	8	35	2	0	16	2	1	30	2	2	36	7	15	18	2	4	21	12	0	
190	Hollis Creek	6	2	29	0	2	8	0	4	21	0	0	5	8	15	8	4	8	35	6	100	
191	Cypress Creek	4	9	29	2	1	4	0	3	60	0	0	0	14	52	10	2	6	64	6	0	
193	James Creek	7	3	26	0	0	10	0	2	27	0	0	25	0	8	13	3	2	1	7	0	
195	Hang Kettle Creek	9	0	21	0	0	4	1	4	2	1	0	74	0	1	7	1	6	3	4	0	
196	Spring Creek	6	11	44	3	2	10	0	6	37	0	4	0	12	17	14	2	16	18	10	0	
197	McKinley Creek	5	18	46	0	2	17	4	5	60	27	7	17	10	39	19	7	12	53	13	86	
198	Town Creek	7	1	15	0	0	4	0	1	6	0	0	0	0	0	9	0	1	0	4	0	
200	Town Creek	6	1	21	0	1	6	1	2	79	0	0	3	0	1	7	2	5	63	3	100	
202	Spring Creek	8	1	13	0	0	1	0	3	4	0	0	3	0	0	6	0	2	3	3	0	
204	Cooper Creek	4	20	31	5	2	13	1	0	59	0	1	0	35	51	14	3	6	57	10	0	
205	Yellow Creek	4	13	34	3	2	16	3	2	67	5	1	0	13	52	11	4	7	69	10	0	
206	Yellow Creek	6	12	46	3	2	15	1	3	41	1	0	10	11	2	20	2	13	4	15	0	
207	Catalpa Creek	8	2	23	0	0	6	1	2	18	7	1	60	1	7	11	1	4	16	4	0	
209	McCrary Creek	7	2	39	0	1	13	1	3	48	3	3	13	3	19	15	4	10	19	11	100	
210	South Branch	8	3	23	1	0	6	1	3	21	1	0	4	1	1	7	2	2	7	4	0	
214	Kincaid Creek	4	12	26	3	0	11	2	1	67	3	0	0	28	54	14	2	4	76	9	0	
216	James Creek	8	0	24	0	0	3	0	6	43	0	0	0	0	2	8	1	6	2	6	0	
218	Harland Creek	7	15	41	1	4	11	4	5	29	8	5	22	10	12	14	5	12	31	10	53	
219	Tesheva Creek	8	6	29	2	1	9	1	4	9	1	7	60	12	2	9	2	7	13	7	0	
220	Piney Creek	9	6	30	2	1	8	3	4	6	2	1	66	3	2	11	4	8	6	6	100	
221	Short Creek	8	12	34	2	3	12	2	3	20	5	8	56	14	8	8	4	12	21	11	75	
222	Cypress Creek	7	3	31	0	0	9	1	1	15	0	0	0	0	7	11	2	7	1	7	0	
223	Deer Creek	6	1	23	0	0	7	1	3	19	0	0	0	0	38	11	2	5	0	4	0	
224	Oneil Creek	8	6	34	0	2	11	1	4	25	1	1	49	10	12	11	5	7	22	10	89	
225	Perry Creek	7	8	32	1	2	13	2	3	40	1	0	28	4	4	11	3	9	23	8	86	
226	Indian Creek	7	8	42	0	1	18	3	2	43	10	1	23	1	11	20	5	11	21	11	100	
227	Walesheba Creek	7	3	32	0	0	7	1	3	19	2	0	13	0	8	14	3	6	5	7	0	
228	Fannegusha Creek	8	10	35	0	1	8	2	9	15	2	1	39	1	6	11	3	14	24	6	100	
229	Bophumpa Creek	7	16	38	2	2	13	3	4	26	4	16	42	19	3	13	4	12	30	11	75	
230	Fannegusha Creek	6	9	36	1	2	13	2	3	48	1	4	15	22	19	15	4	6	41	7	92	
231	Black Creek	7	8	43	0	2	8	1	7	15	1	3	26	3	0	17	0	15	12	11	0	
232	Fannegusha Creek	6	6	33	0	1	9	3	4	25	14	22	22	32	22	13	5	7	50	5	100	
233	Howard Creek	7	12	46	0	3	14	1	6	26	1	6	23	8	2	16	3	15	19	9	50	
234	Apookta Creek	6	23	57	1	2	23	5	5	47	5	9	14	12	6	23	5	16	30	15	60	
235	Jourdan Creek	8	9	42	0	1	15	3	7	22	4	3	39	4	3	14	3	12	15	11	100	

Table F-9 (cont'd). Site-specific values of metrics used in final indices. Metrics that were calculated but not used in indices are presented at far right.

Station #	WaterbodyName	NEWHBI	NEWBECK	TOTALTAX	PLECOTAX	TRICHTAX	CHIROTAX	TANYTTAX	COLEOTAX	DIPPCT	TANYTPCT	ENOCAEN%	CAENIPCT	EPTPCTNC	FILTRPCT	CLLCTTAX	FILTRTAX	PREDTAXR	CLNGRPCT	SPRWLTAX	HYD2TRI	Metrics not used
236	Indian Creek	7	6	39	1	2	15	3	1	37	13	2	6	6	17	14	5	10	27	10	75	
237	Box Creek/Green's Creek	5	14	48	0	2	23	3	4	52	4	4	3	8	10	25	6	7	47	13	80	
238	Long Creek	4	14	39	2	1	18	4	1	81	47	5	0	8	51	16	4	9	68	11	100	
239	Tackett Creek	7	3	31	0	0	11	1	3	16	2	0	12	0	13	14	2	5	3	6	0	
240	Senesha Creek	4	25	48	0	4	18	3	4	73	40	3	1	6	50	20	3	15	58	13	0	
241	Big Cypress Creek	7	4	27	0	0	8	2	2	30	8	4	7	4	11	9	4	6	12	5	0	
242	Rambo Creek	4	23	40	2	4	8	2	5	72	10	11	0	17	15	10	6	16	66	9	22	
243	Ellison Creek	7	5	31	0	0	12	2	1	37	2	0	14	0	4	14	2	5	8	6	0	
244	Hobuck Creek	5	17	47	1	0	17	3	8	61	4	0	2	1	36	19	5	11	36	9	0	
247	Scoobachita Creek	4	27	41	2	6	11	4	5	75	9	4	2	11	14	15	6	13	75	10	30	
248	Zilpha Creek	4	27	50	2	2	18	3	6	39	4	4	8	33	13	17	5	16	54	14	33	
249	Yockanookany River	5	21	49	2	3	21	5	6	54	22	13	9	16	27	21	5	14	56	15	33	
250	Lobutcha Creek	4	22	47	1	3	19	4	4	82	6	1	0	4	12	20	5	10	25	13	0	
251	Cole Creek	4	15	41	4	3	12	0	4	45	0	0	1	19	44	18	2	12	50	11	0	
252	Tibby Creek	4	15	52	2	2	18	3	3	62	17	3	4	9	44	21	6	9	58	13	50	
253	Atwood Creek	4	23	36	2	4	15	1	4	87	2	1	1	8	20	11	6	9	81	13	56	
254	Lobutcha Creek	4	11	36	2	1	11	1	5	48	2	0	0	11	37	16	3	8	46	7	0	
255	Jofuska Creek	6	18	37	2	2	14	4	4	52	10	7	28	10	10	12	6	10	38	9	50	
256	Lobutcha Creek	5	20	48	4	1	16	3	5	48	9	1	0	15	19	21	5	12	37	8	100	
257	Lukfapa Creek	5	24	48	3	4	15	3	4	43	3	0	18	10	11	15	6	13	37	13	11	
259	Tuscotameta Creek	5	13	44	2	3	12	3	10	60	4	9	1	13	3	17	3	12	53	10	0	
261	unnamed trib to Pearl River	7	1	28	0	1	7	0	1	21	0	0	4	1	2	14	2	6	11	6	100	
262	Standing Pine Creek	5	28	52	1	4	19	4	6	53	19	10	4	13	25	19	8	15	64	13	38	
263	Noxubee River	5	27	59	3	5	24	3	4	56	14	16	10	21	18	22	6	16	40	18	20	
265	Hughes Creek	6	4	33	0	0	11	2	5	45	29	10	22	10	8	13	2	9	46	7	0	
268	Tallahaga Creek	6	12	46	2	0	16	2	4	23	1	5	5	11	4	20	4	10	19	12	0	
269	Noxapater Creek	4	7	32	3	0	13	1	6	78	1	0	0	3	60	14	3	8	64	7	0	
272	Pinishook Creek	5	8	33	2	0	12	1	2	50	1	0	0	8	34	12	3	8	36	6	0	
273	Owl Creek	6	2	15	0	0	4	1	2	7	2	0	0	0	2	8	2	2	2	3	0	
275	unnamed trib to Kentawka Canal	6	5	29	0	1	14	0	1	44	0	0	5	0	14	12	1	6	28	10	0	
280	Macedonia Creek	4	33	68	5	5	19	5	7	35	9	18	1	29	10	22	6	22	43	17	8	
281	Plum Creek	9	2	26	0	0	4	1	5	11	0	0	49	0	0	10	1	4	7	4	0	
282	Bogue Chitto Creek	8	1	30	0	1	9	1	1	63	2	9	6	11	2	17	2	3	13	8	100	
284	Shuqualak Creek	8	7	46	2	0	10	1	8	34	0	2	1	3	4	17	3	8	12	11	0	
285	Ash Creek	8	3	37	2	0	8	0	7	57	0	0	2	3	2	16	1	10	9	12	0	
286	Woodward Creek	8	0	23	0	0	3	0	2	11	0	0	0	0	1	9	1	4	0	6	0	
287	Wahalak Creek	6	3	10	1	1	3	1	1	2	0	0	0	90	1	2	3	1	1	3	0	
288	Straight Creek	4	32	51	4	2	18	4	6	68	5	2	0	14	7	23	3	16	22	14	0	
289	Shy Hammock Creek	8	6	30	1	0	7	0	5	11	0	0	42	0	2	12	1	7	2	8	0	
290	Bodka Creek	6	9	33	2	0	12	1	4	28	0	0	2	3	14	14	3	8	8	9	0	
291	Bliss Creek	7	7	33	0	2	10	1	4	24	1	6	22	16	11	10	3	11	26	9	97	
292	Clear Creek	6	7	35	0	3	13	2	3	36	5	0	0	6	10	11	5	9	37	9	79	
293	Hamer Bayou	7	4	40	0	0	13	1	9	31	1	0	2	0	1	16	2	10	18	9	0	
295	Big Sand Creek	8	6	33	1	0	5	0	7	10	0	4	58	8	0	10	0	9	8	8	0	

Table F-9 (cont'd). Site-specific values of metrics used in final indices. Metrics that were calculated but not used in indices are presented at far right.

Station #	WaterbodyName	NEWHBI	NEWBECK	TOTALTAX	PLECOTAX	TRICHTAX	CHIROTAX	TANYTTAX	COLEOTAX	DIPPCT	TANYTPCT	ENOCAEN%	CAENIPCT	EPTPCTNC	FILTRPCT	CLLCTTAX	FILTRTAX	PREDTAXR	CLNGRPCT	SPRWLTAX	HYD2TRI	Metrics not used
296	Beaver Creek	6	16	53	1	3	20	2	6	27	3	2	1	16	19	22	5	15	30	18	55	
297	Bogue Chitto Creek	6	8	41	1	1	13	2	4	40	10	6	9	7	8	17	3	13	23	11	100	
298	Limekiln Creek	7	8	38	0	1	10	1	4	16	0	0	5	0	3	15	1	10	2	8	0	
299	Cox Creek	8	3	34	0	0	6	0	7	13	0	0	0	0	1	10	1	8	6	5	0	
300	Porter Creek	6	20	51	3	4	11	2	3	14	2	18	3	24	10	17	7	14	15	10	63	
301	Bear Creek	6	11	48	0	3	19	3	6	36	2	2	7	7	7	18	5	15	22	13	86	
302	unnamed trib to Pearl River	7	1	27	0	0	10	0	0	38	0	0	19	0	0	12	0	8	22	8	0	
303	Bakers Creek	8	5	28	0	1	10	2	2	25	7	1	43	2	8	9	3	8	24	7	100	
304	Fourteen Mile Creek	7	4	34	0	1	12	2	4	28	7	3	23	4	11	11	5	8	23	7	100	
305	Big Creek	7	5	40	0	1	11	0	6	22	0	1	10	2	1	14	1	11	5	7	100	
306	Five Mile Creek	7	8	47	1	1	15	1	7	43	1	1	17	3	8	15	2	11	19	12	0	
307	Rhodes Creek	7	6	51	1	1	19	2	6	49	1	1	16	3	3	16	4	16	9	13	100	
309	Tilda Bogue Creek	7	7	37	0	1	12	1	3	64	0	0	1	0	9	17	4	6	10	6	0	
310	Fannegusha Creek	6	5	28	0	0	6	0	2	31	0	0	0	0	7	13	2	4	1	7	0	
311	Coffee Bogue	5	7	33	2	0	7	0	3	47	0	0	1	1	41	15	2	5	39	7	0	
313	Red Cane Creek	7	2	32	0	0	8	2	6	6	1	0	1	0	33	8	2	10	4	7	0	
315	Hanging Moss Creek	8	0	30	0	1	6	0	3	9	0	0	47	0	1	9	2	11	4	6	100	
316	Eutaeutachee Creek	6	3	36	0	0	9	0	4	20	0	0	0	0	18	13	1	8	3	5	0	
317	Richland Creek	7	5	43	0	1	12	1	4	31	1	1	14	1	4	18	4	8	13	7	0	
318	Steen Creek	6	12	37	0	2	11	3	6	26	7	3	11	5	9	15	3	8	28	8	0	
319	Strong River	6	22	48	2	3	15	2	6	34	2	2	8	7	9	19	3	14	52	10	0	
321	Schockaloe Creek	6	7	27	0	0	6	2	2	24	3	0	0	0	19	9	4	6	15	2	0	
322	Sipsey Creek	4	19	50	2	2	16	4	3	62	37	11	1	18	36	21	5	9	52	10	29	
323	Tallabogue Creek	6	14	50	0	3	15	1	6	23	4	0	0	1	9	17	4	10	13	10	33	
324	Hontokalo Creek	4	16	40	0	4	15	1	5	67	9	2	1	13	41	14	4	13	71	15	15	
325	Conehatta Creek	4	8	27	2	0	6	0	2	72	0	0	0	3	68	12	2	6	67	5	0	
326	Sugar Bogue	6	4	30	0	0	4	1	4	20	1	0	1	0	3	13	2	6	6	4	0	
327	Ford's Creek	7	10	33	2	1	12	4	2	32	24	4	50	7	25	10	5	11	33	10	100	
328	Cedar Creek	4	6	17	1	0	5	1	1	42	0	0	0	45	38	11	2	1	84	5	0	
329	West Tallahalla Creek	5	7	23	2	1	2	0	4	23	0	2	1	33	21	10	2	2	55	3	0	
330	Caney Creek	4	14	32	1	2	7	1	4	43	2	8	0	16	29	12	4	5	45	5	50	
331	Okatibbee Creek	4	31	52	4	1	23	4	2	67	26	14	0	19	30	20	6	14	53	15	100	
332	Houston Creek	5	32	58	4	3	25	5	4	41	6	6	0	12	22	26	5	12	18	18	0	
335	Potterchitto Creek	5	19	41	0	2	15	4	5	63	16	4	5	5	48	20	5	7	53	10	50	
336	Chunky River	5	15	32	1	0	10	3	6	57	5	3	0	4	41	14	2	7	56	5	0	
337	Okatibbee Creek	4	18	41	1	4	13	2	5	76	5	5	0	8	45	11	7	12	73	12	20	
338	Sowashee Creek	6	5	33	0	1	14	2	2	48	3	0	0	2	6	8	4	12	30	9	100	
339	Okatibbee Creek	6	16	55	0	4	18	2	5	51	2	5	2	9	8	20	6	13	27	13	75	
341	Chunky River	5	25	47	3	3	15	2	4	42	6	7	0	10	27	18	4	13	38	9	0	
343	Bostick Branch	6	7	41	0	1	17	2	6	55	2	0	21	2	6	15	5	12	38	9	100	
344	Big Red Creek	4	31	46	1	7	15	3	5	51	7	1	0	14	15	18	7	10	21	12	12	
345	Blackwater Creek	3	35	52	3	5	17	3	7	56	16	6	0	15	22	15	7	13	41	15	0	
346	Piwticfaw Creek	4	30	52	3	7	23	4	2	73	20	8	0	17	40	21	8	9	64	12	38	
348	Alamuchee Creek	4	29	55	2	5	21	5	7	54	9	2	2	22	10	20	6	13	45	10	22	
349	Irby Mill Creek	4	37	54	4	6	21	5	6	52	10	11	0	25	21	21	7	12	40	14	18	
350	Long Creek	4	28	44	1	3	13	3	5	69	4	5	0	9	40	15	5	12	65	11	0	

Table F-9 (cont'd). Site-specific values of metrics used in final indices. Metrics that were calculated but not used in indices are presented at far right.

Station #	WaterbodyName	NEWHBI	NEWBECK	TOTALTAX	PLECOTAX	TRICHTAX	CHIROTAX	TANYTTAX	COLEOTAX	DIPPCT	TANYTPCT	ENOCAEN%	CAENIPCT	EPTPCTNC	FILTRPCT	CLLCTTAX	FILTRTAX	PREDTAXR	CLNGRPCT	SPRWLTAX	HYD2TRI	Metrics not used
353	Annas Bottom	8	5	17	0	0	7	2	1	10	1	0	3	0	2	5	2	6	4	6	0	
354	Fairchild's Creek	8	6	32	0	1	11	3	4	36	2	4	32	10	7	13	3	12	22	8	100	
355	St. Catherine Creek	8	4	28	0	1	8	1	5	10	1	0	34	2	3	11	2	9	31	7	100	
356	Kennison Creek	7	6	37	2	1	12	2	5	32	3	2	39	8	3	16	2	8	15	9	100	
357	Bayou Pierre (downstream)	5	12	42	1	2	16	4	5	63	32	0	2	4	33	13	5	15	51	12	67	
358	unnamed trib to Bayou Pierre	9	8	28	0	2	7	2	3	6	1	3	73	4	1	12	2	8	7	6	0	
359	James Creek	8	9	33	1	2	9	2	5	22	4	1	52	9	12	11	5	9	24	8	90	
360	Little Bayou Pierre	5	7	25	1	0	7	1	3	62	1	9	1	21	2	12	3	3	46	4	0	
362	Dowd Creek	7	12	29	3	2	9	1	2	18	1	18	47	23	3	11	4	7	24	9	33	
363	South Fork Coles Creek	7	12	33	2	1	12	3	3	41	15	6	39	11	19	12	4	11	29	12	100	
364	North Fork Coles Creek	7	9	39	1	1	17	4	6	41	16	4	36	7	16	19	5	8	36	11	100	
365	Middle Fork Homochitto River	5	23	42	1	2	21	3	1	59	13	8	20	11	16	18	5	9	47	16	0	
367	Fifteen Mile Creek	5	18	37	2	3	15	2	4	61	23	18	3	23	29	14	6	9	57	11	33	
368	White Oak Creek	7	9	42	1	0	13	4	4	28	13	8	45	8	12	17	2	10	32	7	0	
369	Tallahalla Creek	7	3	22	0	1	8	1	0	41	1	6	22	9	4	9	2	3	15	4	0	
370	Turkey Creek	4	20	35	4	5	10	2	2	53	37	29	5	38	43	10	7	10	59	7	53	
371	Brushy Creek	4	25	52	3	5	16	4	5	41	21	31	4	37	30	16	5	17	53	14	29	
373	Bayou Pierre (upstream)	6	14	41	2	2	12	3	7	32	2	5	4	9	5	13	5	9	40	8	100	
375	Bahala Creek (Russell Creek)	6	13	40	0	2	16	4	5	45	8	1	3	2	15	16	4	9	24	7	0	
376	Little Bahala Creek	4	14	44	3	3	17	3	4	67	43	7	0	15	44	15	6	11	70	11	83	
378	Bogue Chitto	6	7	41	0	2	12	1	6	36	3	2	0	3	3	15	3	12	24	9	100	
379	Dabbs Creek	6	4	38	0	0	10	0	7	20	0	0	0	0	9	16	2	6	11	5	0	
380	Campbell Creek	5	10	41	1	1	8	0	5	40	0	0	0	6	29	14	2	12	33	10	0	
381	Limestone Creek	5	25	49	3	1	19	4	6	49	14	2	6	15	26	21	5	11	46	11	0	
382	Big Creek	4	19	37	4	1	13	2	2	63	3	0	0	13	28	14	3	9	56	8	0	
383	Riles Creek	4	24	53	3	1	22	6	6	58	27	24	1	28	47	25	8	10	66	8	75	
384	Riles Creek	4	24	54	0	4	25	4	3	68	19	10	0	12	39	23	9	11	50	15	60	
385	Copiah Creek	4	15	46	2	4	13	3	6	49	32	19	0	29	39	18	5	12	63	10	42	
388	Pegies Creek	4	22	56	1	5	20	4	4	48	11	6	0	15	23	19	7	15	38	10	17	
390	Bahala Creek	4	18	46	2	2	12	2	6	48	32	25	0	29	39	18	4	11	64	8	67	
393	Bowie Creek	4	36	67	3	7	25	3	8	55	8	18	1	26	24	26	9	15	48	17	17	
394	Dry Creek	5	13	51	0	3	20	4	6	67	22	2	0	4	23	18	3	17	29	9	50	
395	Fair River	3	18	41	2	2	14	2	5	26	3	49	0	60	8	14	6	9	62	10	100	
396	Pretty Branch	4	30	47	3	4	18	3	3	59	18	30	0	35	35	19	8	11	60	14	80	
397	Halls Creek	4	17	40	1	1	20	4	4	68	45	17	0	19	48	14	5	10	71	12	0	
398	Silver Creek	4	35	51	2	9	13	2	6	40	13	18	0	39	37	14	9	15	67	11	62	
399	Oakahay Creek	4	1	25	0	0	7	0	2	85	0	0	0	0	75	13	2	3	75	7	0	
400	Leaf River	5	13	37	4	1	9	1	6	50	4	2	3	21	39	15	3	7	66	7	0	
401	West Tallahala	6	10	43	3	1	9	1	6	16	0	2	6	11	10	14	3	10	14	6	0	
403	Keys Mill Creek	4	32	45	5	1	14	3	6	55	17	31	0	35	15	12	6	18	65	11	0	
404	Okatoma Creek	4	25	48	1	5	14	3	6	48	16	16	0	24	23	12	8	15	70	11	58	
405	Leonards Mill Creek	4	34	54	2	4	26	4	4	79	15	6	0	13	18	22	6	15	44	16	0	
406	Oakahay Creek	4	22	46	2	4	14	2	5	39	7	17	0	26	29	17	8	6	51	12	37	

Table F-9 (cont'd). Site-specific values of metrics used in final indices. Metrics that were calculated but not used in indices are presented at far right.

Station #	WaterbodyName	NEWHBI	NEWBECK	TOTALTAX	PLECOTAX	TRICHTAX	CHIROTAX	TANYTTAX	COLEOTAX	DIPPCT	TANYTPCT	ENOCAEN%	CAENIPCT	EPTPCTNC	FILTRPCT	CLLCTTAX	FILTRTAX	PREDTAXR	CLNGRPCT	SPRWLTAX	HYD2TRI	Metrics not used
407	Okatoma Creek	4	20	45	1	4	10	1	6	47	1	14	0	27	27	16	6	11	61	10	71	
408	Oakey Woods Creek	4	33	46	1	3	20	3	3	72	14	12	0	19	19	20	6	10	59	14	14	
409	West Bouie Creek	5	12	39	2	0	15	2	5	68	4	0	0	4	31	17	4	9	56	11	0	
410	Souinlovey Creek	4	16	29	5	1	7	1	2	80	0	0	0	9	74	14	1	5	83	3	0	
412	Castaffa Creek	4	20	36	4	4	6	2	2	35	13	35	0	48	34	7	7	14	73	5	53	
413	Tallahala Creek	4	18	46	2	2	14	3	5	62	14	8	3	14	45	20	7	7	59	10	20	
414	Horse Branch	5	8	19	2	2	3	0	1	81	0	0	0	4	58	6	1	7	62	5	0	
416	Tallahoma Creek	5	11	32	2	1	9	1	3	32	0	2	1	6	21	14	3	6	32	7	100	
417	Tallahala	6	5	34	1	1	12	1	3	60	3	0	2	1	5	15	3	9	44	9	0	
418	Buckatunna Creek	4	33	55	3	8	14	4	5	51	15	11	0	21	21	22	8	14	42	11	7	
419	Chickasawhay River	5	18	40	0	0	15	3	4	33	3	8	1	8	9	17	4	11	27	10	0	
420	Five Mile Creek	4	10	21	1	1	6	1	2	76	1	0	0	3	71	8	3	6	73	4	0	
421	Hortons Mill Creek	6	22	30	5	3	12	4	2	32	17	29	30	35	18	11	5	9	57	7	25	
422	Coldwater Creek	4	16	32	3	2	14	4	1	63	46	9	1	14	46	13	4	5	65	7	67	
423	Yellow Creek	4	34	51	3	6	14	4	6	61	46	8	0	17	55	15	9	15	66	10	33	
424	Maynor Creek	4	25	34	0	1	21	3	1	84	25	1	1	1	38	15	5	9	50	14	0	
427	Sandy Creek	5	20	44	2	4	11	4	2	35	14	18	12	33	33	17	6	12	52	9	87	
428	Second Creek	6	12	42	1	5	14	4	5	41	9	2	7	8	12	18	4	11	54	11	57	
429	Crooked Creek	7	14	40	1	1	18	5	4	30	6	1	33	2	5	17	4	12	23	10	100	
430	Buffalo River - downstream	4	8	38	2	2	13	2	6	74	41	4	2	7	43	13	4	9	64	11	80	
431	Millbrook Creek	6	10	34	2	1	13	3	2	56	17	2	26	5	20	16	4	8	32	9	100	
434	Bayou Sara	7	10	36	0	0	15	3	4	37	8	11	40	11	6	12	2	11	29	12	0	
438	Mcgehee Creek	4	25	42	2	5	13	3	7	29	9	29	0	58	43	12	9	10	55	9	73	
439	Richardson Creek	5	13	35	1	1	18	4	3	53	32	15	24	16	33	15	5	7	56	12	100	
440	Middle Fork Homochitto River	5	21	48	2	3	17	5	5	49	25	18	4	21	27	20	4	13	48	13	50	
441	Dry Creek	6	10	40	1	1	16	3	4	30	4	0	9	19	9	13	3	14	8	11	0	
444	Tar Creek	5	29	53	0	3	27	5	3	57	12	8	19	12	13	23	6	16	31	16	0	
445	Ziegler Creek	5	11	37	0	0	10	2	9	21	3	0	0	0	43	16	2	12	5	7	0	
446	Brushy Creek	4	23	47	3	4	20	3	5	34	9	37	5	48	20	18	5	15	34	18	79	
447	Caston Creek	3	24	44	1	5	15	3	5	43	20	29	0	41	29	14	8	12	58	10	48	
448	West Fork Amite River (upper)	4	27	56	2	6	18	2	6	65	32	12	0	20	46	21	7	10	68	13	19	
449	Cars Creek	5	9	37	0	0	13	1	5	57	10	0	3	0	45	19	3	6	45	9	0	
450	Thompson Creek -main stem	4	12	33	2	2	13	4	2	40	30	25	10	37	45	9	5	12	50	9	96	
451	Big Creek	4	13	31	0	1	10	3	2	78	54	5	0	8	55	11	3	9	61	5	0	
452	Bogue Chitto	5	14	45	0	2	16	2	6	48	6	3	1	7	15	17	5	14	45	12	88	
453	Boone Creek	5	13	44	0	2	14	3	8	51	26	8	1	9	26	14	6	13	48	7	50	
454	Bogue Chitto	4	14	38	2	4	8	2	5	57	30	10	0	17	37	11	6	6	72	5	56	
455	Beaver Creek	5	14	46	0	3	21	3	4	66	9	0	2	10	24	19	4	14	48	13	85	
456	Little Tangipahoa River (upper)	6	13	42	0	0	14	2	7	34	1	0	11	0	8	17	2	11	10	8	0	
457	Clear Creek	3	22	40	0	8	10	2	7	23	16	47	0	54	41	12	7	8	53	5	23	
458	Leatherwood Creek	4	18	43	1	4	19	2	3	73	50	5	0	12	58	14	6	12	69	11	14	
459	Topisaw Creek	5	12	37	0	3	12	3	3	75	13	10	0	15	28	11	6	7	70	7	33	

Table F-9 (cont'd). Site-specific values of metrics used in final indices. Metrics that were calculated but not used in indices are presented at far right.

Station #	WaterbodyName	NEWHBI	NEWBECK	TOTALTAX	PLECOTAX	TRICHTAX	CHIROTAX	TANYTTAX	COLEOTAX	DIPPCT	TANYTPCT	ENOCAEN%	CAENIPCT	EPTPCTNC	FILTRPCT	CLLCTTAX	FILTRTAX	PREDTAXR	CLNGRPCT	SPRWLTAX	HYD2TRI	Metrics not used
460	Little Tangipahoa River (lower)	6	5	28	0	1	10	2	3	31	8	3	0	14	20	10	4	7	41	5	100	
462	Tickfaw River (upper)	4	21	48	2	4	13	3	5	70	50	10	0	15	50	11	5	18	71	9	0	
463	White Sand Creek	4	25	47	1	7	15	2	3	48	17	30	0	38	50	13	10	14	62	10	22	
464	Tilton Creek	3	36	43	5	6	11	4	7	30	17	31	0	58	40	11	9	11	85	6	76	
465	Holiday Creek	4	28	48	2	5	14	2	3	47	28	13	0	36	58	17	10	12	73	11	85	
466	McGee Creek	5	15	35	0	4	17	4	4	59	19	3	0	18	43	10	7	9	59	8	81	
467	Tenmile Creek	3	33	47	5	8	15	4	3	49	28	26	0	40	39	14	10	10	65	8	43	
468	Upper Little Creek	5	27	45	2	7	15	4	5	47	13	15	0	24	19	13	9	8	40	10	33	
469	Lower Little Creek	3	39	52	3	6	23	5	4	63	36	14	0	25	31	22	8	13	57	14	33	
470	Magee's Creek	5	25	48	1	5	16	3	5	49	12	9	0	12	33	16	9	11	46	11	43	
471	E Fk Pushepatapa Creek	4	29	48	1	5	19	4	4	67	39	15	0	21	48	18	9	11	62	9	47	
472	Clear Creek	5	17	30	4	3	7	2	3	16	11	18	0	28	21	7	7	5	30	5	100	
474	Black Creek	4	22	43	0	3	21	3	2	74	24	5	0	7	20	18	4	11	35	11	0	
475	Shelton Creek	3	39	50	0	7	21	4	3	69	19	15	0	22	24	17	7	13	48	13	0	
476	Bowie Creek	4	20	41	3	4	10	2	9	59	30	14	0	24	53	13	8	6	81	8	55	
477	Monroe Creek	3	31	42	2	6	20	3	1	80	29	5	0	14	30	16	7	9	77	10	0	
478	Leaf River	5	18	47	0	5	16	2	3	54	5	9	0	16	14	12	8	15	35	13	73	
479	Lower Little Creek *	4	42	55	3	9	18	4	4	75	16	6	0	14	27	16	8	18	63	16	17	
480	Black Creek	4	28	48	2	4	12	3	8	33	4	21	0	28	29	17	8	9	54	10	73	
481	Big Creek	4	29	58	2	5	16	3	8	39	8	8	0	22	19	18	4	16	43	12	33	
482	Beaver Dam Branch	4	26	35	2	4	13	4	4	82	13	8	0	13	33	13	6	8	80	9	30	
483	Little Black Creek	4	38	57	6	6	16	3	7	52	17	20	0	33	25	20	10	15	62	14	70	
484	Black Creek	4	22	46	3	2	13	2	6	60	6	18	0	21	45	17	6	10	65	11	50	
485	Red Creek	5	15	39	0	2	14	3	5	46	9	2	9	13	31	13	5	10	42	10	97	
487	Bogue Homo	5	18	34	1	1	13	1	5	71	18	2	0	4	27	10	3	12	40	9	0	
489	West Little Thompson Creek	4	15	39	0	1	13	0	3	57	0	0	0	1	27	16	2	8	21	11	0	
492	Thompson Creek	4	10	27	0	1	7	0	3	60	0	0	0	0	41	10	2	8	42	6	0	
493	Bogue Homo Creek	4	23	52	2	3	20	2	5	67	21	8	0	12	39	21	5	15	57	16	33	
494	Leaf River	5	14	42	0	5	15	2	1	70	11	5	0	8	13	15	6	10	51	8	50	
495	Thompson Creek	4	24	43	3	4	16	5	2	66	15	13	0	23	27	18	7	9	53	12	46	
496	Gaines Creek	4	14	32	0	2	14	2	4	90	7	2	0	3	54	16	2	5	70	8	0	
497	Atkinson Creek	4	29	51	4	6	20	4	4	67	22	8	2	19	26	16	6	13	58	14	30	
498	Cypress Creek	4	2	2	0	1	0	0	0	0	0	0	0	25	0	1	0	0	0	0	0	
500	Beaver Dam Creek	3	30	35	4	7	10	3	2	68	21	13	0	26	28	11	9	9	74	7	17	
502	Whisky Creek	4	16	34	0	1	15	2	2	39	3	0	0	0	8	18	3	5	6	9	0	
504	Mason Creek	4	18	47	1	2	11	2	4	48	2	1	1	3	31	21	4	9	37	6	50	
505	Meadow Creek	3	21	44	0	5	19	4	4	75	19	4	0	9	38	14	4	15	60	12	0	
506	Big Creek	4	43	64	2	10	20	2	7	56	8	18	1	27	19	23	9	22	29	17	31	
507	Brushy Creek	3	30	47	1	3	23	5	2	82	46	7	0	9	46	22	6	14	64	13	0	
508	Little Hell Creek	4	27	41	3	6	17	2	4	78	25	1	1	8	58	15	6	9	77	10	18	
510	W. Hobolochitto Creek	4	11	31	1	1	13	2	1	91	4	0	1	1	80	15	3	6	82	8	0	
511	Murder Creek	2	22	29	1	5	10	3	3	84	17	3	0	7	76	11	5	4	84	4	0	
513	East Hobolochitto Creek	4	16	41	2	0	20	2	4	79	29	0	0	9	42	17	4	10	65	10	0	
514	Moran Creek	3	25	39	1	3	18	5	2	81	54	9	0	11	44	16	6	8	77	7	0	

Table F-9 (cont'd). Site-specific values of metrics used in final indices. Metrics that were calculated but not used in indices are presented at far right.

Station #	WaterbodyName	NEWHBI	NEWBECK	TOTALTAX	PLECOTAX	TRICHTAX	CHIROTAX	TANYTTAX	COLEOTAX	DIPPCT	TANYTPCT	ENOCAEN%	CAENIPCT	EPTPCTNC	FILTRPCT	CLLCTTAX	FILTRTAX	PREDTAXR	CLNGRPCT	SPRWLTAX	HYD2TRI	Metrics not used
515	West Hobolochitto Creek	4	17	37	1	6	11	3	4	67	33	13	0	18	38	12	6	6	68	7	50	
516	Crane Creek	4	31	46	1	7	18	3	3	68	25	7	0	18	39	16	7	7	61	9	0	
517	East Hobolochitto Creek	4	26	43	2	5	20	5	6	75	35	0	0	8	35	12	7	14	67	9	7	
518	Mill Creek	5	3	26	1	1	4	0	3	31	0	2	1	14	26	6	3	6	38	5	100	
519	Turtleskin Creek	6	13	26	0	0	13	1	2	25	1	0	0	0	2	14	2	2	8	7	0	
520	Catahoula Creek	4	23	40	2	5	18	5	4	70	26	9	0	15	26	15	7	9	74	12	29	
521	Dead Tiger Creek	6	2	17	0	0	5	0	2	27	0	0	0	0	22	6	1	2	25	4	0	
522	Black Creek	4	22	36	3	3	11	2	2	37	4	18	0	25	30	14	7	6	49	8	88	
523	Red Creek	4	27	28	3	4	6	1	6	30	3	6	0	13	7	11	3	6	79	8	25	
524	Flint Creek	3	37	48	2	3	16	4	6	45	9	23	0	33	14	16	5	12	61	10	0	
525	Red Creek	3	12	28	1	4	8	1	3	28	17	59	0	64	23	7	4	7	34	7	64	
526	Wolf River	3	27	37	2	8	15	3	2	58	31	4	0	27	55	10	8	10	81	7	6	
527	Tenmile Creek	3	34	46	3	6	24	3	1	81	34	1	0	15	45	17	6	15	67	13	6	
529	Tchoutacabouffa River	4	42	55	1	9	19	3	5	65	18	10	0	16	26	22	7	14	50	16	9	
530	Biloxi River	4	8	13	2	1	5	2	1	75	40	5	0	20	50	3	4	2	70	3	0	
531	Saucier Creek	3	12	23	2	3	7	2	3	57	7	13	0	38	18	5	6	5	66	3	75	
532	Tuxachanie Creek	4	31	42	1	5	20	3	3	64	21	4	7	15	31	17	5	11	51	13	0	
533	Little Biloxi River	4	23	34	2	4	15	4	1	70	40	5	0	13	41	14	4	8	68	6	0	
535	Bernard Bayou	5	9	27	0	2	10	2	6	61	33	1	12	3	35	7	3	11	68	9	83	
536	Flat Branch	6	2	8	0	0	4	0	0	93	0	0	1	0	4	4	1	0	64	1	0	
537	Turkey Creek	5	10	36	0	1	11	2	8	46	7	0	9	0	15	12	3	12	28	5	0	
538	Black Creek	4	22	34	4	5	8	2	3	71	15	12	0	22	56	8	8	11	88	7	42	
539	Little Cedar Creek	3	39	51	4	8	18	5	5	68	35	16	0	25	34	17	8	16	76	10	17	
540	Red Creek	4	19	34	2	3	11	2	4	80	38	6	0	10	46	11	5	9	84	9	33	
541	Big Cedar Creek	3	39	50	3	3	24	6	4	76	38	7	0	11	43	25	4	13	67	15	0	
542	Indian Creek	3	38	51	3	7	17	5	5	63	26	8	0	21	34	16	6	18	66	10	4	
543	Moungers Creek	4	17	30	1	3	14	3	0	73	21	1	0	8	33	14	5	6	43	4	7	
544	Bluff Creek	3	21	34	0	4	13	3	4	78	8	4	0	9	8	12	4	13	31	8	8	
545	Luxapalilla Creek	4	7	14	1	2	4	2	1	96	3	0	0	1	89	5	4	2	96	3	50	
546	Buttahatchie River	4	12	24	3	1	10	2	3	79	24	11	0	15	58	7	5	6	84	6	0	
547	Hatchie River	4	16	42	1	3	18	3	4	76	19	10	0	13	43	16	7	9	73	13	80	
548	Tuscumbia River Canal	8	9	28	1	3	11	2	6	14	6	3	66	6	8	9	3	8	23	9	71	
549	Bowie Creek	3	16	30	2	5	7	2	6	64	6	12	0	21	66	9	7	6	82	4	71	
550	Chickasawhay River	4	19	51	2	5	16	2	7	23	1	4	2	9	8	18	6	16	22	13	50	
551	Escatawpa River	3	40	53	4	10	19	4	5	47	11	10	0	36	34	20	8	18	66	14	22	
553	East Fork Amite River	3	20	34	3	7	6	2	5	55	5	15	0	34	53	8	9	6	74	6	71	
554	Tangipahoa River	5	10	43	0	3	10	3	5	59	34	11	0	19	43	16	6	10	66	9	94	
555	Bull Mnt Creek	4	31	46	2	8	13	3	6	56	22	6	1	24	42	14	10	10	65	9	20	
556	Sucarnoochee River	3	38	48	4	7	14	2	6	46	21	22	0	34	38	18	9	11	78	14	46	
557	Betsy Creek	9	3	18	0	1	7	1	1	24	0	0	71	0	11	6	2	5	12	6	100	
558	unnamed trib to Big Black	7	7	37	0	0	10	0	6	21	0	0	4	0	3	12	2	10	5	9	0	
559	Bates Creek	6	9	20	2	0	10	2	3	13	1	0	0	80	2	5	3	6	11	8	0	
560	Whites Creek	8	7	37	1	0	13	1	6	29	3	0	33	1	5	16	2	10	7	10	0	
561	Cypress Creek	4	25	49	0	2	21	5	5	74	17	5	3	6	14	20	7	11	36	14	0	
562	Minnehaha Creek	3	15	30	0	4	13	3	1	45	13	3	0	47	61	11	8	6	78	5	19	

Table F-9 (cont'd). Site-specific values of metrics used in final indices. Metrics that were calculated but not used in indices are presented at far right.

Station #	WaterbodyName	NEWHBI	NEWBECK	TOTALTAX	PLECOTAX	TRICHTAX	CHIROTAX	TANYTTAX	COLEOTAX	DIPPCT	TANYTPCT	ENOCAEN%	CAENIPCT	EPTPCTNC	FILTRPCT	CLLCTTAX	FILTRTAX	PREDTAXR	CLNGRPCT	SPRWLTAX	HYD2TRI	Metrics not used
563	Tangipahoa River	4	12	30	0	3	11	3	3	71	21	6	0	9	50	11	9	2	69	6	67	
564	Bala Chitto Creek	4	21	42	0	5	12	3	5	62	44	12	0	18	55	10	9	10	65	8	26	
565	Terry's Creek	4	13	39	1	1	15	4	5	72	30	6	0	8	30	13	6	12	62	8	0	
566	Scooba Creek	7	10	26	3	1	9	0	1	16	0	3	15	6	4	13	1	4	10	8	0	
567	Mud Creek	8	2	19	0	0	10	1	2	21	2	0	66	0	2	10	1	3	12	6	0	
568	Chiwapa Creek	8	10	34	0	2	16	3	5	25	8	0	56	1	9	16	5	8	24	11	50	
569	Cowpenna Creek	7	5	40	0	1	10	0	4	37	0	0	2	0	2	16	2	13	4	9	0	
600	Hickory Creek	4	23	39	1	7	17	3	3	70	13	2	0	18	31	15	8	7	70	10	76	
601	Orphan Creek	4	15	30	2	0	14	2	2	41	21	7	0	10	21	13	2	8	38	8	0	

Table F-10a. Correlations (Pearson product-moment R values) among candidate index metrics in the Black Belt bioregion (n=26).

	NEWBECK	TOTALTAX	INSCTTAX	EPTTAXR2	PLECOTAX	DIPTAXR2	CHIROTAX	DIPTAXNC	ORTHOTAX	COLEOTAX	CRMOLTAX	AMPHPCT	COLEOPCT	CRMOLPCT	CAENIPCT	EPTPCTNC	GASTRPCT	PLECOPCT	PREDPCT	CLLCTTAX	PREDTAXR	SWMMRPCT	CLNGRTAX	SPRWLTAX	BECKSBI	INTOLPCT	TOLERPCT	INTOLTAX
NEWBECK	1.00	0.66	0.81	0.80	0.61	0.72	0.64	0.46	0.63	0.30	-0.18	-0.17	0.23	-0.25	0.19	0.52	-0.22	0.47	0.44	0.47	0.57	0.32	0.73	0.65	0.74	0.62	-0.13	0.71
TOTALTAX	0.66	1.00	0.92	0.62	0.48	0.77	0.63	0.60	0.67	0.48	0.21	-0.44	0.48	-0.39	-0.14	0.49	0.07	0.38	0.58	0.70	0.78	0.41	0.47	0.81	0.68	0.58	-0.01	0.64
INSCTTAX	0.81	0.92	1.00	0.72	0.45	0.87	0.78	0.51	0.68	0.48	-0.12	-0.49	0.44	-0.51	0.10	0.46	-0.08	0.33	0.57	0.63	0.76	0.35	0.70	0.83	0.70	0.54	0.06	0.67
EPTTAXR2	0.80	0.62	0.72	1.00	0.68	0.57	0.56	0.22	0.59	0.09	-0.10	-0.28	0.03	-0.31	0.22	0.73	-0.13	0.54	0.32	0.42	0.42	0.10	0.79	0.68	0.75	0.60	0.02	0.70
PLECOTAX	0.61	0.48	0.45	0.68	1.00	0.38	0.22	0.49	0.50	0.10	0.22	0.08	0.12	0.07	-0.09	0.74	-0.23	0.90	0.24	0.46	0.26	0.24	0.38	0.52	0.85	0.88	-0.37	0.82
DIPTAXR2	0.72	0.77	0.87	0.57	0.38	1.00	0.92	0.53	0.83	0.16	-0.10	-0.38	0.23	-0.40	0.06	0.34	-0.13	0.28	0.30	0.75	0.46	0.15	0.55	0.83	0.68	0.46	-0.09	0.65
CHIROTAX	0.64	0.63	0.78	0.56	0.22	0.92	1.00	0.17	0.74	0.03	-0.25	-0.50	0.14	-0.53	0.27	0.27	0.00	0.16	0.16	0.62	0.32	0.00	0.64	0.75	0.56	0.31	0.08	0.54
DIPTAXNC	0.46	0.60	0.51	0.22	0.49	0.53	0.17	1.00	0.49	0.34	0.28	0.14	0.28	0.12	-0.43	0.26	-0.33	0.37	0.42	0.57	0.48	0.40	0.00	0.49	0.52	0.52	-0.40	0.48
ORTHOTAX	0.63	0.67	0.68	0.59	0.50	0.83	0.74	0.49	1.00	0.06	0.13	-0.22	0.17	-0.22	-0.05	0.47	-0.14	0.41	0.08	0.81	0.21	0.09	0.41	0.86	0.79	0.54	-0.23	0.73
COLEOTAX	0.30	0.48	0.48	0.09	0.10	0.16	0.03	0.34	0.06	1.00	-0.02	-0.23	0.69	-0.20	-0.04	0.01	-0.02	0.05	0.56	0.03	0.65	0.37	0.32	0.28	0.18	0.18	0.10	0.16
CRMOLTAX	-0.18	0.21	-0.12	-0.10	0.22	-0.10	-0.25	0.28	0.13	-0.02	1.00	0.13	0.04	0.36	-0.43	0.14	0.32	0.19	-0.06	0.32	-0.06	0.06	-0.43	0.09	0.16	0.18	-0.16	0.09
AMPHPCT	-0.17	-0.44	-0.49	-0.28	0.08	-0.38	-0.50	0.14	-0.22	-0.23	0.13	1.00	-0.20	0.89	-0.46	0.04	-0.28	0.21	-0.26	-0.14	-0.35	0.15	-0.49	-0.31	-0.14	0.12	-0.76	-0.08
COLEOPCT	0.23	0.48	0.44	0.03	0.12	0.23	0.14	0.28	0.17	0.69	0.04	-0.20	1.00	-0.14	-0.12	0.04	0.23	0.05	0.58	0.16	0.58	0.59	0.06	0.32	0.20	0.25	-0.08	0.18
CRMOLPCT	-0.25	-0.39	-0.51	-0.31	0.07	-0.40	-0.53	0.12	-0.22	-0.20	0.36	0.89	-0.14	1.00	-0.52	0.07	-0.04	0.23	-0.27	-0.12	-0.37	0.12	-0.55	-0.30	-0.16	0.12	-0.73	-0.10
CAENIPCT	0.19	-0.14	0.10	0.22	-0.09	0.06	0.27	-0.43	-0.05	-0.04	-0.43	-0.46	-0.12	-0.52	1.00	-0.16	-0.25	-0.13	-0.06	-0.20	-0.06	-0.32	0.50	-0.01	0.03	-0.17	0.61	0.02
EPTPCTNC	0.52	0.49	0.46	0.73	0.74	0.34	0.27	0.26	0.47	0.01	0.14	0.04	0.04	0.07	-0.16	1.00	0.02	0.81	0.29	0.43	0.28	0.26	0.41	0.47	0.69	0.82	-0.34	0.69
GASTRPCT	-0.22	0.07	-0.08	-0.13	-0.23	-0.13	0.00	-0.33	-0.14	-0.02	0.32	-0.28	0.23	-0.04	-0.25	0.02	1.00	-0.20	0.21	-0.17	0.09	-0.07	-0.13	-0.10	-0.23	-0.20	0.14	-0.26
PLECOPCT	0.47	0.38	0.33	0.54	0.90	0.28	0.16	0.37	0.41	0.05	0.19	0.21	0.05	0.23	-0.13	0.81	-0.20	1.00	0.15	0.40	0.19	0.26	0.25	0.41	0.75	0.94	-0.43	0.78
PREDPCT	0.44	0.58	0.57	0.32	0.24	0.30	0.16	0.42	0.08	0.56	-0.06	-0.26	0.58	-0.27	-0.06	0.29	0.21	0.15	1.00	0.00	0.90	0.46	0.29	0.36	0.24	0.33	0.07	0.24
CLLCTTAX	0.47	0.70	0.63	0.42	0.46	0.75	0.62	0.57	0.81	0.03	0.32	-0.14	0.16	-0.12	-0.20	0.43	-0.17	0.40	0.00	1.00	0.21	0.21	0.20	0.74	0.73	0.56	-0.27	0.68
PREDTAXR	0.57	0.78	0.76	0.42	0.26	0.46	0.32	0.48	0.21	0.65	-0.06	-0.35	0.58	-0.37	-0.06	0.28	0.09	0.19	0.90	0.21	1.00	0.55	0.38	0.50	0.35	0.41	0.14	0.36
SWMMRPCT	0.32	0.41	0.35	0.10	0.24	0.15	0.00	0.40	0.09	0.37	0.06	0.15	0.59	0.12	-0.32	0.26	-0.07	0.26	0.46	0.21	0.55	1.00	-0.13	0.13	0.27	0.49	-0.33	0.34
CLNGRTAX	0.73	0.47	0.70	0.79	0.38	0.55	0.64	0.00	0.41	0.32	-0.43	-0.49	0.06	-0.55	0.50	0.41	-0.13	0.25	0.29	0.20	0.38	-0.13	1.00	0.53	0.53	0.29	0.24	0.49
SPRWLTAX	0.65	0.81	0.83	0.68	0.52	0.83	0.75	0.49	0.86	0.28	0.09	-0.31	0.32	-0.30	-0.01	0.47	-0.10	0.41	0.36	0.74	0.50	0.13	0.53	1.00	0.76	0.57	-0.09	0.73
BECKSBI	0.74	0.68	0.70	0.75	0.85	0.68	0.56	0.52	0.79	0.18	0.16	-0.14	0.20	-0.16	0.03	0.69	-0.23	0.75	0.24	0.73	0.35	0.27	0.53	0.76	1.00	0.85	-0.24	0.97
INTOLPCT	0.62	0.58	0.54	0.60	0.88	0.46	0.31	0.52	0.54	0.18	0.18	0.12	0.25	0.12	-0.17	0.82	-0.20	0.94	0.33	0.56	0.41	0.49	0.29	0.57	0.85	1.00	-0.42	0.89
TOLERPCT	-0.13	-0.01	0.06	0.02	-0.37	-0.09	0.08	-0.40	-0.23	0.10	-0.16	-0.76	-0.08	-0.73	0.61	-0.34	0.14	-0.43	0.07	-0.27	0.14	-0.33	0.24	-0.09	-0.24	-0.42	1.00	-0.26
INTOLTAX	0.71	0.64	0.67	0.70	0.82	0.65	0.54	0.48	0.73	0.16	0.09	-0.08	0.18	-0.10	0.02	0.69	-0.26	0.78	0.24	0.68	0.36	0.34	0.49	0.73	0.97	0.89	-0.26	1.00

Table F-10b Correlations (Pearson product-moment R values) among candidate index metrics in the East bioregion (n=26).

	NEWBECK	NEWMHBI	NEWPINTO	NEWPTOL	NEWINTTX	NEWTOLTA	EPTTAXR2	PLECOTAX	TANYTTAX	NC_TANY%	TANYTPCT	CAENIPCT	EPTPCTNC	PLECOPCT	FILTRPCT	FILTRTAX	CLNGRPCT	CLNGRTAX	BECKSBI	HBI	INTOLPCT	INTOLTAX
NEWBECK	1.00	-0.59	0.59	-0.52	0.93	-0.45	0.82	0.45	0.63	0.11	0.36	-0.23	0.39	-0.11	0.11	0.71	0.38	0.82	0.86	-0.32	0.28	0.80
NEWMHBI	-0.59	1.00	-0.66	0.83	-0.61	0.60	-0.52	-0.24	-0.42	-0.46	-0.44	0.66	-0.38	0.04	-0.52	-0.53	-0.64	-0.53	-0.55	0.56	-0.31	-0.51
NEWPINTO	0.59	-0.66	1.00	-0.43	0.66	-0.46	0.51	0.19	0.44	-0.05	0.25	-0.24	0.47	-0.01	0.09	0.47	0.19	0.53	0.55	-0.31	0.40	0.54
NEWPTOL	-0.52	0.83	-0.43	1.00	-0.51	0.55	-0.49	-0.23	-0.40	-0.47	-0.41	0.66	-0.38	-0.07	-0.47	-0.50	-0.65	-0.51	-0.48	0.44	-0.28	-0.44
NEWINTTX	0.93	-0.61	0.66	-0.51	1.00	-0.49	0.83	0.42	0.66	0.11	0.40	-0.23	0.35	-0.13	0.13	0.69	0.35	0.82	0.89	-0.31	0.30	0.84
NEWTOLTA	-0.45	0.60	-0.46	0.55	-0.49	1.00	-0.42	-0.12	-0.35	-0.34	-0.46	0.25	-0.33	0.04	-0.37	-0.46	-0.55	-0.43	-0.43	0.44	-0.27	-0.41
EPTTAXR2	0.82	-0.52	0.51	-0.49	0.83	-0.42	1.00	0.55	0.53	0.10	0.36	-0.20	0.53	-0.09	0.17	0.78	0.45	0.91	0.86	-0.43	0.34	0.84
PLECOTAX	0.45	-0.24	0.19	-0.23	0.42	-0.12	0.55	1.00	0.20	0.12	0.07	-0.08	0.38	0.25	0.08	0.20	0.28	0.46	0.56	-0.36	0.27	0.59
TANYTTAX	0.63	-0.42	0.44	-0.40	0.66	-0.35	0.53	0.20	1.00	0.14	0.60	-0.09	0.18	-0.17	0.12	0.62	0.32	0.71	0.60	-0.11	0.15	0.54
NC_TANY%	0.11	-0.46	-0.05	-0.47	0.11	-0.34	0.10	0.12	0.14	1.00	0.45	-0.24	-0.10	-0.10	0.85	0.09	0.63	0.10	0.12	-0.32	-0.10	0.10
TANYTPCT	0.36	-0.44	0.25	-0.41	0.40	-0.46	0.36	0.07	0.60	0.45	1.00	-0.16	0.12	-0.20	0.44	0.45	0.50	0.50	0.33	-0.11	0.05	0.30
CAENIPCT	-0.23	0.66	-0.24	0.66	-0.23	0.25	-0.20	-0.08	-0.09	-0.24	-0.16	1.00	-0.18	-0.06	-0.29	-0.24	-0.32	-0.20	-0.22	0.34	-0.17	-0.18
EPTPCTNC	0.39	-0.38	0.47	-0.38	0.35	-0.33	0.53	0.38	0.18	-0.10	0.12	-0.18	1.00	0.55	0.02	0.45	0.29	0.47	0.46	-0.68	0.77	0.47
PLECOPCT	-0.11	0.04	-0.01	-0.07	-0.13	0.04	-0.09	0.25	-0.17	-0.10	-0.20	-0.06	0.55	1.00	-0.16	-0.18	-0.04	-0.17	-0.04	-0.42	0.62	-0.02
FILTRPCT	0.11	-0.52	0.09	-0.47	0.13	-0.37	0.17	0.08	0.12	0.85	0.44	-0.29	0.02	-0.16	1.00	0.23	0.69	0.18	0.12	-0.37	-0.03	0.11
FILTRTAX	0.71	-0.53	0.47	-0.50	0.69	-0.46	0.78	0.20	0.62	0.09	0.45	-0.24	0.45	-0.18	0.23	1.00	0.44	0.82	0.66	-0.34	0.26	0.61
CLNGRPCT	0.38	-0.64	0.19	-0.65	0.35	-0.55	0.45	0.28	0.32	0.63	0.50	-0.32	0.29	-0.04	0.69	0.44	1.00	0.50	0.38	-0.52	0.15	0.36
CLNGRTAX	0.82	-0.53	0.53	-0.51	0.82	-0.43	0.91	0.46	0.71	0.10	0.50	-0.20	0.47	-0.17	0.18	0.82	0.50	1.00	0.83	-0.35	0.29	0.78
BECKSBI	0.86	-0.55	0.55	-0.48	0.89	-0.43	0.86	0.56	0.60	0.12	0.33	-0.22	0.46	-0.04	0.12	0.66	0.38	0.83	1.00	-0.45	0.43	0.95
HBI	-0.32	0.56	-0.31	0.44	-0.31	0.44	-0.43	-0.36	-0.11	-0.32	-0.11	0.34	-0.68	-0.42	-0.37	-0.34	-0.52	-0.35	-0.45	1.00	-0.72	-0.45
INTOLPCT	0.28	-0.31	0.40	-0.28	0.30	-0.27	0.34	0.27	0.15	-0.10	0.05	-0.17	0.77	0.62	-0.03	0.26	0.15	0.29	0.43	-0.72	1.00	0.45
INTOLTAX	0.80	-0.51	0.54	-0.44	0.84	-0.41	0.84	0.59	0.54	0.10	0.30	-0.18	0.47	-0.02	0.11	0.61	0.36	0.78	0.95	-0.45	0.45	1.00

Table F-10c Correlations (Pearson product-moment R values) among candidate index metrics in the West bioregion (n=26).

	NEWBECK	NEWMHBI	NEWPINTO	NEWINTTX	TOTALTAX	INSCTTAX	CHIROTAX	ORTHOTAX	COLEOTAX	DIPPCT	CHIROPCT	CAENIPCT	EPTPCT	EPTPCTNC	SCRAPPCT	FILTRTAX	PREDTAXR	SHREDTAX	BRRWRTAX	SPRWLTAX	HBI	BAET2EPH	HYD2TRI	INTOLPCT	TOLERPCT	INTOLTAX
NEWBECK	1.00	-0.56	0.70	0.83	0.59	0.75	0.50	0.46	0.11	0.44	0.50	-0.26	0.06	0.45	0.21	0.67	0.44	0.33	0.10	0.56	-0.32	0.06	0.04	0.25	-0.55	0.72
NEWMHBI	-0.56	1.00	-0.67	-0.63	-0.44	-0.43	-0.36	-0.27	-0.10	-0.69	-0.60	0.80	0.44	-0.42	-0.19	-0.55	-0.19	-0.15	-0.15	-0.28	0.62	-0.18	0.09	-0.30	0.81	-0.44
NEWPINTO	0.70	-0.67	1.00	0.84	0.38	0.53	0.31	0.26	0.05	0.35	0.37	-0.35	0.09	0.61	0.13	0.65	0.27	0.20	0.02	0.33	-0.47	-0.06	0.00	0.34	-0.64	0.73
NEWINTTX	0.83	-0.63	0.84	1.00	0.57	0.70	0.55	0.44	0.09	0.46	0.49	-0.30	0.02	0.44	0.13	0.60	0.38	0.31	0.19	0.53	-0.39	-0.05	-0.07	0.28	-0.57	0.72
TOTALTAX	0.59	-0.44	0.38	0.57	1.00	0.90	0.73	0.51	0.45	0.39	0.41	-0.38	-0.32	0.02	0.24	0.39	0.71	0.37	0.49	0.71	-0.09	0.07	0.04	-0.12	-0.29	0.39
INSCTTAX	0.75	-0.43	0.53	0.70	0.90	1.00	0.74	0.57	0.39	0.38	0.43	-0.23	-0.05	0.24	0.23	0.50	0.75	0.46	0.37	0.79	-0.14	0.08	0.18	0.06	-0.37	0.61
CHIROTAX	0.50	-0.36	0.31	0.55	0.73	0.74	1.00	0.67	0.07	0.54	0.58	-0.27	-0.24	0.01	0.01	0.38	0.51	0.28	0.40	0.81	-0.01	0.06	0.08	-0.02	-0.24	0.26
ORTHOTAX	0.46	-0.27	0.26	0.44	0.51	0.57	0.67	1.00	0.09	0.39	0.42	-0.16	-0.07	0.11	0.17	0.38	0.15	0.35	0.14	0.67	-0.10	0.25	0.02	0.06	-0.29	0.39
COLEOTAX	0.11	-0.10	0.05	0.09	0.45	0.39	0.07	0.09	1.00	-0.06	-0.10	-0.16	-0.23	-0.14	0.25	-0.13	0.40	0.13	0.25	0.16	0.02	-0.10	-0.05	-0.08	0.03	0.00
DIPPCT	0.44	-0.69	0.35	0.46	0.39	0.38	0.54	0.39	-0.06	1.00	0.91	-0.50	-0.42	0.04	-0.01	0.45	0.06	0.17	0.24	0.31	-0.25	0.17	-0.02	0.01	-0.58	0.21
CHIROPCT	0.50	-0.60	0.37	0.49	0.41	0.43	0.58	0.42	-0.10	0.91	1.00	-0.40	-0.29	0.10	0.02	0.47	0.15	0.24	0.14	0.38	-0.19	0.11	0.05	-0.02	-0.54	0.25
CAENIPCT	-0.26	0.80	-0.35	-0.30	-0.38	-0.23	-0.27	-0.16	-0.16	-0.50	-0.40	1.00	0.76	-0.20	-0.15	-0.29	-0.15	-0.15	-0.28	-0.14	0.49	-0.22	0.23	-0.19	0.62	-0.09
EPTPCT	0.06	0.44	0.09	0.02	-0.32	-0.05	-0.24	-0.07	-0.23	-0.42	-0.29	0.76	1.00	0.48	0.06	0.07	-0.09	-0.02	-0.44	-0.04	0.00	-0.12	0.28	0.36	0.11	0.32
EPTPCTNC	0.45	-0.42	0.61	0.44	0.02	0.24	0.01	0.11	-0.14	0.04	0.10	-0.20	0.48	1.00	0.29	0.50	0.06	0.18	-0.28	0.12	-0.67	0.11	0.12	0.81	-0.67	0.60
SCRAPPCT	0.21	-0.19	0.13	0.13	0.24	0.23	0.01	0.17	0.25	-0.01	0.02	-0.15	0.06	0.29	1.00	0.22	0.03	0.06	-0.10	0.04	-0.22	0.13	0.00	0.11	-0.29	0.20
FILTRTAX	0.67	-0.55	0.65	0.60	0.39	0.50	0.38	0.38	-0.13	0.45	0.47	-0.29	0.07	0.50	0.22	1.00	0.13	0.15	-0.14	0.29	-0.37	0.16	0.34	0.28	-0.58	0.62
PREDTAXR	0.44	-0.19	0.27	0.38	0.71	0.75	0.51	0.15	0.40	0.06	0.15	-0.15	-0.09	0.06	0.03	0.13	1.00	0.24	0.31	0.66	0.08	-0.09	0.20	-0.08	-0.04	0.27
SHREDTAX	0.33	-0.15	0.20	0.31	0.37	0.46	0.28	0.35	0.13	0.17	0.24	-0.15	-0.02	0.18	0.06	0.15	0.24	1.00	0.20	0.36	-0.12	-0.04	-0.13	0.13	-0.23	0.34
BRRWRTAX	0.10	-0.15	0.02	0.19	0.49	0.37	0.40	0.14	0.25	0.24	0.14	-0.28	-0.44	-0.28	-0.10	-0.14	0.31	0.20	1.00	0.22	0.12	-0.02	-0.26	-0.20	-0.02	-0.08
SPRWLTAX	0.56	-0.28	0.33	0.53	0.71	0.79	0.81	0.67	0.16	0.31	0.38	-0.14	-0.04	0.12	0.04	0.29	0.66	0.36	0.22	1.00	-0.07	0.07	0.13	0.05	-0.20	0.41
HBI	-0.32	0.62	-0.47	-0.39	-0.09	-0.14	-0.01	-0.10	0.02	-0.25	-0.19	0.49	0.00	-0.67	-0.22	-0.37	0.08	-0.12	0.12	-0.07	1.00	-0.17	0.16	-0.71	0.80	-0.44
BAET2EPH	0.06	-0.18	-0.06	-0.05	0.07	0.08	0.06	0.25	-0.10	0.17	0.11	-0.22	-0.12	0.11	0.13	0.16	-0.09	-0.04	-0.02	0.07	-0.17	1.00	0.05	0.15	-0.19	0.09
HYD2TRI	0.04	0.09	0.00	-0.07	0.04	0.18	0.08	0.02	-0.05	-0.02	0.05	0.23	0.28	0.12	0.00	0.34	0.20	-0.13	-0.26	0.13	0.16	0.05	1.00	-0.07	0.02	0.09
INTOLPCT	0.25	-0.30	0.34	0.28	-0.12	0.06	-0.02	0.06	-0.08	0.01	-0.02	-0.19	0.36	0.81	0.11	0.28	-0.08	0.13	-0.20	0.05	-0.71	0.15	-0.07	1.00	-0.51	0.41
TOLERPCT	-0.55	0.81	-0.64	-0.57	-0.29	-0.37	-0.24	-0.29	0.03	-0.58	-0.54	0.62	0.11	-0.67	-0.29	-0.58	-0.04	-0.23	-0.02	-0.20	0.80	-0.19	0.02	-0.51	1.00	-0.54
INTOLTAX	0.72	-0.44	0.73	0.72	0.39	0.61	0.26	0.39	0.00	0.21	0.25	-0.09	0.32	0.60	0.20	0.62	0.27	0.34	-0.08	0.41	-0.44	0.09	0.09	0.41	-0.54	1.00

Table F-10d Correlations (Pearson product-moment R values) among candidate index metrics in the Northwest bioregion (n=26).

	NEWBECK	NEWMHBI	NEWPINTO	NEWPTOL	NEWINTTX	NEWTOLTA	INSCTTAX	DIPTAXR2	CHIROTAX	CRMOLTAX	SHAN_2	DIPPCT	CHIROPCT	TANYTPCT	TNYT2CHI	ENOCAEN%	CAENIPCT	EPTPCTNC	NONINPCT	FILTRPCT	FILTRTAX	CLNGRPCT	SPRWLPCT	CLNGRTAX	HBI	DOM1PCT	DOM2PCT	TOLERPCT	INTOLTAX
NEWBECK	1.00	-0.65	0.56	-0.60	0.86	-0.43	0.74	0.57	0.58	-0.25	0.44	0.43	0.46	0.50	0.41	0.48	-0.36	0.58	-0.30	0.45	0.66	0.65	-0.39	0.77	-0.60	-0.28	-0.34	-0.68	0.74
NEWMHBI	-0.65	1.00	-0.67	0.95	-0.68	0.46	-0.55	-0.52	-0.49	0.20	-0.67	-0.66	-0.56	-0.50	-0.28	-0.67	0.85	-0.67	-0.15	-0.57	-0.54	-0.76	0.86	-0.51	0.80	0.64	0.63	0.86	-0.48
NEWPINTO	0.56	-0.67	1.00	-0.51	0.70	-0.46	0.35	0.34	0.37	-0.17	0.29	0.21	0.30	0.28	0.22	0.66	-0.40	0.62	0.10	0.12	0.25	0.31	-0.39	0.31	-0.58	-0.23	-0.25	-0.51	0.35
NEWPTOL	-0.60	0.95	-0.51	1.00	-0.61	0.43	-0.58	-0.55	-0.52	0.17	-0.72	-0.71	-0.62	-0.51	-0.25	-0.58	0.86	-0.64	-0.12	-0.57	-0.55	-0.78	0.84	-0.52	0.72	0.71	0.70	0.83	-0.45
NEWINTTX	0.86	-0.68	0.70	-0.61	1.00	-0.49	0.65	0.50	0.53	-0.15	0.46	0.32	0.44	0.48	0.40	0.56	-0.42	0.61	-0.11	0.30	0.53	0.51	-0.45	0.65	-0.58	-0.33	-0.40	-0.63	0.64
NEWTOLTA	-0.43	0.46	-0.46	0.43	-0.49	1.00	-0.07	-0.01	-0.06	0.47	0.07	-0.21	-0.27	-0.50	-0.56	-0.50	0.16	-0.51	0.25	-0.36	-0.34	-0.49	0.24	-0.38	0.48	-0.02	-0.05	0.48	-0.29
INSCTTAX	0.74	-0.55	0.35	-0.58	0.65	-0.07	1.00	0.85	0.80	-0.01	0.70	0.34	0.36	0.28	0.16	0.43	-0.39	0.51	-0.17	0.22	0.64	0.54	-0.39	0.78	-0.47	-0.46	-0.56	-0.56	0.66
DIPTAXR2	0.57	-0.52	0.34	-0.55	0.50	-0.01	0.85	1.00	0.96	-0.07	0.63	0.50	0.54	0.34	0.14	0.27	-0.40	0.33	-0.11	0.25	0.57	0.45	-0.34	0.53	-0.33	-0.45	-0.53	-0.46	0.44
CHIROTAX	0.58	-0.49	0.37	-0.52	0.53	-0.06	0.80	0.96	1.00	-0.14	0.57	0.47	0.60	0.39	0.20	0.30	-0.34	0.34	-0.18	0.22	0.55	0.43	-0.28	0.52	-0.30	-0.41	-0.49	-0.39	0.39
CRMOLTAX	-0.25	0.20	-0.17	0.17	-0.15	0.47	-0.01	-0.07	-0.14	1.00	0.15	-0.22	-0.29	-0.37	-0.38	-0.23	-0.03	-0.21	0.37	-0.27	-0.33	-0.39	0.03	-0.31	0.21	-0.08	-0.10	0.21	-0.13
SHAN_2	0.44	-0.67	0.29	-0.72	0.46	0.07	0.70	0.63	0.57	0.15	1.00	0.42	0.46	0.21	-0.08	0.37	-0.78	0.42	0.31	0.15	0.39	0.41	-0.73	0.40	-0.39	-0.92	-0.96	-0.52	0.37
DIPPCT	0.43	-0.66	0.21	-0.71	0.32	-0.21	0.34	0.50	0.47	-0.22	0.42	1.00	0.79	0.56	0.23	0.13	-0.61	0.15	-0.11	0.79	0.54	0.72	-0.57	0.32	-0.42	-0.45	-0.42	-0.64	0.29
CHIROPCT	0.46	-0.56	0.30	-0.62	0.44	-0.27	0.36	0.54	0.60	-0.29	0.46	0.79	1.00	0.77	0.40	0.24	-0.54	0.25	-0.06	0.49	0.53	0.56	-0.47	0.30	-0.29	-0.47	-0.48	-0.49	0.19
TANYTPCT	0.50	-0.50	0.28	-0.51	0.48	-0.50	0.28	0.34	0.39	-0.37	0.21	0.56	0.77	1.00	0.81	0.30	-0.33	0.26	-0.21	0.63	0.61	0.61	-0.41	0.43	-0.29	-0.18	-0.19	-0.45	0.23
TNYT2CHI	0.41	-0.28	0.22	-0.25	0.40	-0.56	0.16	0.14	0.20	-0.38	-0.08	0.23	0.40	0.81	1.00	0.31	0.02	0.20	-0.34	0.47	0.54	0.48	-0.16	0.48	-0.17	0.09	0.11	-0.23	0.21
ENOCAEN%	0.48	-0.67	0.66	-0.58	0.56	-0.50	0.43	0.27	0.30	-0.23	0.37	0.13	0.24	0.30	0.31	1.00	-0.42	0.83	0.03	0.12	0.41	0.53	-0.50	0.50	-0.69	-0.31	-0.32	-0.59	0.40
CAENIPCT	-0.36	0.85	-0.40	0.86	-0.42	0.16	-0.39	-0.40	-0.34	-0.03	-0.78	-0.61	-0.54	-0.33	0.02	-0.42	1.00	-0.51	-0.48	-0.38	-0.28	-0.52	0.90	-0.20	0.62	0.81	0.79	0.72	-0.25
EPTPCTNC	0.58	-0.67	0.62	-0.64	0.61	-0.51	0.51	0.33	0.34	-0.21	0.42	0.15	0.25	0.26	0.20	0.83	-0.51	1.00	-0.04	0.14	0.42	0.51	-0.41	0.55	-0.85	-0.31	-0.35	-0.74	0.50
NONINPCT	-0.30	-0.15	0.10	-0.12	-0.11	0.25	-0.17	-0.11	-0.18	0.37	0.31	-0.11	-0.06	-0.21	-0.34	0.03	-0.48	-0.04	1.00	-0.31	-0.40	-0.32	-0.40	-0.42	-0.03	-0.41	-0.38	-0.01	-0.22
FILTRPCT	0.45	-0.57	0.12	-0.57	0.30	-0.36	0.22	0.25	0.22	-0.27	0.15	0.79	0.49	0.63	0.47	0.12	-0.38	0.14	-0.31	1.00	0.61	0.78	-0.48	0.42	-0.44	-0.17	-0.12	-0.61	0.34
FILTRTAX	0.66	-0.54	0.25	-0.55	0.53	-0.34	0.64	0.57	0.55	-0.33	0.39	0.54	0.53	0.61	0.54	0.41	-0.28	0.42	-0.40	0.61	1.00	0.75	-0.37	0.77	-0.49	-0.26	-0.30	-0.59	0.55
CLNGRPCT	0.65	-0.76	0.31	-0.78	0.51	-0.49	0.54	0.45	0.43	-0.39	0.41	0.72	0.56	0.61	0.48	0.53	-0.52	0.51	-0.32	0.78	0.75	1.00	-0.64	0.72	-0.64	-0.37	-0.35	-0.78	0.52
SPRWLPCT	-0.39	0.86	-0.39	0.84	-0.45	0.24	-0.39	-0.34	-0.28	0.03	-0.73	-0.57	-0.47	-0.41	-0.16	-0.50	0.90	-0.41	-0.40	-0.48	-0.37	-0.64	1.00	-0.31	0.55	0.77	0.73	0.66	-0.27
CLNGRTAX	0.77	-0.51	0.31	-0.52	0.65	-0.38	0.78	0.53	0.52	-0.31	0.40	0.32	0.30	0.43	0.48	0.50	-0.20	0.55	-0.42	0.42	0.77	0.72	-0.31	1.00	-0.54	-0.22	-0.28	-0.60	0.75
HBI	-0.60	0.80	-0.58	0.72	-0.58	0.48	-0.47	-0.33	-0.30	0.21	-0.39	-0.42	-0.29	-0.29	-0.17	-0.69	0.62	-0.85	-0.03	-0.44	-0.49	-0.64	0.55	-0.54	1.00	0.33	0.32	0.91	-0.57
DOM1PCT	-0.28	0.64	-0.23	0.71	-0.33	-0.02	-0.46	-0.45	-0.41	-0.08	-0.92	-0.45	-0.47	-0.18	0.09	-0.31	0.81	-0.31	-0.41	-0.17	-0.26	-0.37	0.77	-0.22	0.33	1.00	0.95	0.45	-0.20
DOM2PCT	-0.34	0.63	-0.25	0.70	-0.40	-0.05	-0.56	-0.53	-0.49	-0.10	-0.96	-0.42	-0.48	-0.19	0.11	-0.32	0.79	-0.35	-0.38	-0.12	-0.30	-0.35	0.73	-0.28	0.32	0.95	1.00	0.44	-0.23
TOLERPCT	-0.68	0.86	-0.51	0.83	-0.63	0.48	-0.56	-0.46	-0.39	0.21	-0.52	-0.64	-0.49	-0.45	-0.23	-0.59	0.72	-0.74	-0.01	-0.61	-0.59	-0.78	0.66	-0.60	0.91	0.45	0.44	1.00	-0.63
INTOLTAX	0.74	-0.48	0.35	-0.45	0.64	-0.29	0.66	0.44	0.39	-0.13	0.37	0.29	0.19	0.23	0.21	0.40	-0.25	0.50	-0.22	0.34	0.55	0.52	-0.27	0.75	-0.57	-0.20	-0.23	-0.63	1.00

Table F-10e Correlations (Pearson product-moment R values) among candidate index metrics in the Northeast bioregion (n=26).

	NEWBECK	TOTALTAX	INSCTTAX	EPTTAXR2	PLECOTAX	DIPTAXR2	CHIROTAX	DIPTAXNC	ORTHOTAX	COLEOTAX	CRMOLTAX	AMPHPCT	COLEOPCT	CRMOLPCT	CAENIPCT	EPTPCTNC	GASTRPCT	PLECOPCT	PREDPCT	CLLCTTAX	PREDTAXR	SWMMRPCT	CLNGRTAX	SPRWLTAX	BECKSBI	INTOLPCT	TOLERPCT	INTOLTAX
NEWMHBI	-0.62	-0.18	-0.30	-0.37	-0.35	-0.33	-0.39	0.02	-0.46	0.09	0.52	0.36	0.14	0.39	0.83	-0.39	0.31	-0.15	0.16	-0.12	-0.10	-0.08	-0.45	-0.26	-0.40	-0.42	0.88	-0.40
NEWPINTO	0.70	0.41	0.50	0.59	0.35	0.46	0.49	0.10	0.43	-0.03	-0.52	-0.24	-0.19	-0.28	-0.36	0.33	-0.21	-0.03	0.03	0.30	0.40	0.36	0.60	0.34	0.72	0.63	-0.45	0.69
NEWPTOL	-0.55	-0.18	-0.28	-0.33	-0.35	-0.31	-0.35	-0.04	-0.41	0.08	0.36	0.30	0.20	0.30	0.79	-0.46	0.35	-0.27	0.13	-0.13	-0.10	0.05	-0.46	-0.19	-0.31	-0.33	0.88	-0.34
NEWINTTX	0.92	0.76	0.83	0.85	0.36	0.71	0.71	0.32	0.57	0.22	-0.42	-0.22	-0.08	-0.25	-0.39	0.54	-0.34	-0.07	0.33	0.58	0.65	0.34	0.86	0.65	0.88	0.48	-0.46	0.86
TRICHTAX	0.59	0.50	0.53	0.76	-0.13	0.21	0.21	0.11	0.06	0.25	-0.07	0.13	0.00	0.09	-0.22	0.27	-0.03	-0.27	0.28	0.16	0.50	0.36	0.68	0.22	0.52	0.11	-0.16	0.47
CHIROTAX	0.64	0.80	0.83	0.55	0.25	0.95	1.00	0.28	0.75	0.17	-0.26	-0.31	-0.03	-0.27	-0.35	0.21	-0.03	-0.09	0.23	0.83	0.57	0.22	0.58	0.89	0.68	0.35	-0.21	0.69
TANYTTAX	0.60	0.63	0.67	0.55	0.06	0.63	0.66	0.18	0.31	0.13	-0.38	-0.30	-0.12	-0.27	-0.43	0.34	0.03	-0.19	0.34	0.50	0.62	0.20	0.73	0.53	0.59	0.22	-0.35	0.55
DIPPCT	0.05	-0.23	-0.13	-0.15	-0.04	0.10	0.24	-0.33	0.30	-0.39	-0.46	-0.54	-0.33	-0.52	-0.58	-0.26	0.02	-0.04	-0.55	-0.06	-0.35	-0.26	-0.08	0.07	-0.08	0.04	-0.56	-0.09
NC_TANY%	-0.12	-0.54	-0.46	-0.37	-0.05	-0.28	-0.19	-0.37	0.13	-0.41	-0.27	-0.32	-0.32	-0.34	-0.36	-0.19	-0.29	0.19	-0.66	-0.31	-0.65	-0.33	-0.30	-0.28	-0.27	0.01	-0.63	-0.24
TANYTPCT	0.40	0.29	0.36	0.29	0.04	0.39	0.46	0.00	0.26	0.06	-0.42	-0.35	-0.13	-0.36	-0.29	-0.01	-0.06	-0.22	-0.09	0.34	0.21	-0.05	0.52	0.25	0.34	0.37	-0.33	0.31
TNYT2CHI	0.33	0.15	0.22	0.22	-0.01	0.25	0.30	-0.04	0.22	-0.01	-0.41	-0.38	-0.22	-0.40	-0.33	0.07	-0.16	-0.17	-0.17	0.19	0.06	-0.08	0.47	0.13	0.28	0.28	-0.50	0.26
CAENIPCT	-0.42	-0.14	-0.20	-0.23	-0.20	-0.26	-0.35	0.13	-0.33	0.18	0.28	0.18	0.03	0.14	1.00	-0.32	-0.09	-0.16	0.11	-0.07	-0.08	-0.05	-0.25	-0.24	-0.17	-0.21	0.68	-0.16
FILTRPCT	-0.02	-0.45	-0.38	-0.22	-0.13	-0.31	-0.16	-0.51	0.04	-0.33	-0.28	-0.30	-0.28	-0.30	-0.46	-0.07	-0.18	0.12	-0.63	-0.32	-0.53	-0.16	-0.21	-0.22	-0.25	-0.22	-0.63	-0.22
SHREDPCT	-0.09	-0.03	-0.05	-0.03	0.22	0.06	0.09	-0.05	0.06	-0.30	-0.07	-0.32	-0.20	-0.24	-0.28	0.22	0.33	0.49	-0.12	-0.01	-0.08	-0.15	-0.14	0.15	-0.11	0.09	-0.10	-0.12
SHREDTAX	0.55	0.50	0.55	0.53	0.59	0.60	0.52	0.46	0.59	0.04	-0.27	-0.31	0.07	-0.29	-0.32	0.44	-0.38	0.19	0.15	0.46	0.29	0.19	0.46	0.51	0.54	0.45	-0.33	0.51
CLNGRPCT	0.25	-0.18	-0.06	0.07	0.27	0.00	0.08	-0.19	0.20	-0.24	-0.47	-0.49	-0.38	-0.52	-0.61	0.32	-0.34	0.25	-0.37	-0.14	-0.23	-0.22	0.22	-0.05	0.04	0.22	-0.88	0.06
SPRWLPCT	-0.15	0.09	0.04	-0.04	0.04	0.00	-0.09	0.22	-0.07	0.23	0.23	0.11	0.07	0.07	0.88	-0.10	-0.12	0.03	0.25	0.18	0.10	0.03	-0.14	0.07	0.06	0.01	0.60	0.09
HBI	-0.46	0.03	-0.06	-0.21	-0.59	-0.11	-0.12	-0.02	-0.39	0.20	0.37	0.30	0.23	0.36	0.53	-0.53	0.47	-0.51	0.16	0.02	0.07	-0.04	-0.21	-0.12	-0.34	-0.74	0.85	-0.38
HYD2TRI	0.00	0.28	0.26	0.04	0.14	0.21	0.12	0.32	-0.15	0.41	-0.03	-0.12	0.07	-0.10	0.08	0.27	0.13	0.01	0.32	0.16	0.37	-0.15	0.24	0.14	0.02	0.08	-0.01	0.08
TOLERPCT	-0.50	0.01	-0.10	-0.23	-0.45	-0.16	-0.21	0.06	-0.39	0.23	0.53	0.52	0.36	0.54	0.68	-0.57	0.45	-0.40	0.25	-0.03	0.11	-0.01	-0.30	-0.12	-0.31	-0.45	1.00	-0.32
TOLERTAX	-0.01	0.60	0.50	0.12	-0.26	0.49	0.42	0.39	0.04	0.47	0.44	0.31	0.43	0.35	0.15	-0.20	0.35	-0.22	0.44	0.61	0.54	0.10	0.10	0.53	0.13	-0.14	0.54	0.16

Table F-11. Site-specific relative percent difference (RPD) values for biological repeat (BR) and biological duplicate (BD) samples.

STATIONI	DUPREP	INDEX	**RPD_INDEX**	CAENIPCT	**RPDCAENIPCT**	CHIROTAX	**RPDCHIROTAX**	CLLCTTAX	**RPDCLLCTTAX**	CLNGRPCT	**RPDCLNGRPCT**	COLEOTAX	**RPDCOLEOTAX**	DIPPCT	**RPDDIPPCT**	ENOCAEN%	**RPDENOCAEN%**	EPTPCTNC	**RPDEPTPCTNC**	FILTRPCT	**RPDFILTRPCT**	FILTRTAX	**RPDFILTRTAX**	HYD2TRI	**RPDHYD2TRI**	REDOBECK	**RPD_REDOBECK**	REDOHBI	**RPD_REDOHBI**	PLECOTAX	**RPDPLECOTAX**	PREDTAXR	**RPDPREDTAXR**	SPRWLTAX	**RPDSPRWLTAX**	TANYTPCT	**RPDTANYTPCT**	TANYTTAX	**RPDTANYTTAX**	TOTALTAX	**RPDTOTALTAX**	TRICHTAX	**RPDTRICHTAX**
10	BR	11	27	61	15	7	38	8	3	7	71	1	67	10	110	0	NA	5	120	6	76	2	0	100	0	1	200	9	2	0	NA	6	40	5	86	1	200	1	200	22	17	1	0
10	ST	15		71		5		8		3		2		3		0		1		3		2		100		0		9		0		4		2		0		0		19		1	
23	BR	40	2	2	67	9	56	8	75	56	66	1	140	81	32	2	46	8	44	43	100	3	28	100	0	2	111	6	9	0	NA	6	68	7	80	10	133	1	0	22	71	1	0
23	ST	41		4		15		17		28		6		59		2		5		15		4		100		7		6		0		13		15		2		1		46		1	
28	BR	68	6	0	NA	24	48	19	57	37	30	5	88	48	7	16	59	17	70	4	132	4	22	0	200	16	56	5	13	0	200	13	12	15	55	13	4	3	0	53	38	2	3
28	ST	64		0		15		11		50		2		44		29		36		20		5		83		9		5		2		12		9		14		3		36		2	
30	BR	82	5	0	200	20	19	17	14	62	14	0	NA	66	1	12	5	24	6	36	39	5	31	80	32	24	9	4	15	2	4	8	5	13	20	30	42	4	22	39	8	3	80
30	ST	86		0		16		15		71		0		67		12		26		53		7		58		22		5		2		7		11		46		3		42		7	
35	BD	80	7	0	200	17	21	16	24	51	7	1	135	61	26	26	3	35	9	30	9	4	59	0	200	25	8	4	4	4	21	5	8	12	26	24	7	4	23	36	21	1	133
35	ST	86		0		14		21		55		5		47		25		38		33		7		58		23		3		5		6		9		26		3		45		5	
37	BR	71	11	3	35	19	13	18	31	38	54	7	11	49	19	18	62	28	42	14	13	6	15	57	3	15	50	5	4	5	49	16	40	17	29	3	133	4	3	57	27	3	38
37	ST	78		4		17		13		67		6		41		35		43		16		5		56		25		5		3		11		13		13		4		43		2	
41	BD	36	2	3	57	15	29	16	22	8	19	3	50	47	4	1	2	2	109	7	33	5	50	50	200	8	0	7	2	0	200	11	10	11	37	0	2	1	0	39	14	2	200
41	ST	35		5		20		20		10		5		49		1		7		5		3		0		8		7		2		10		16		0		1		45		0	
46	BR	52	23	39	1	15	21	17	11	28	12	2	58	21	9	13	4	19	15	7	64	4	65	33	200	14	35	7	0	3	53	10	8	13	61	6	5	4	7	43	14	3	50
46	ST	42		39		12		15		25		3		19		13		16		4		2		0		20		7		2		9		7		7		4		37		2	
51	BD	66	2	0	200	22	17	20	13	35	15	2	62	51	15	12	43	33	29	4	38	4	4	0	NA	27	17	4	2	5	22	15	20	13	24	2	62	3	44	48	3	1	0
51	ST	67		0		19		18		40		4		44		19		44		3		4		0		32		4		4		18		17		1		2		47		1	
67	BD	68	4	0	200	15	24	13	27	78	13	1	99	67	15	13	60	30	47	7	120	4	30	0	200	31	12	3	7	6	0	17	34	10	10	47	3	5	50	42	5	4	27
67	ST	65		0		19		17		68		3		77		7		19		2		3		25		35		2		6		12		11		45		3		44		3	
99	BD	36	20	4	45	12	3	9	55	31	20	2	60	18	13	0	NA	0	200	8	55	2	60	0	200	3	67	6	1	0	NA	11	14	7	20	1	78	2	78	29	10	0	200
99	ST	29		6		11		5		38		4		16		0		4		5		3		91		6		6		0		13		9		0		1		32		3	
107	BD	46	14	27	23	17	6	17	6	30	10	4	5	47	4	2	119	6	71	24	9	3	48	33	57	10	26	6	6	1	2	13	14	16	19	1	2	2	37	44	4	3	2
107	ST	40		35		18		16		33		5		49		0		3		26		5		60		13		7		1		11		13		1		3		46		3	
109	BR	15	43	0	91	6	20	12	12	0	11	4	8	29	40	0	NA	15	88	0	200	1	200	0	NA	2	67	8	5	1	0	5	25	9	25	0	200	1	200	27	24	0	NA
109	ST	10		1		5		11		0		4		43		0		6		0		0		0		4		7		1		4		7		0		0		21		0	
119	BD	23	21	56	15	11	4	12	37	10	81	2	6	27	6	3	28	8	57	3	68	4	64	67	200	6	15	8	1	2	62	9	8	10	19	1	13	2	61	35	23	2	6
119	ST	28		65		11		8		4		2		25		2		4		2		2		0		7		8		1		10		8		1		1		28		2	
129	BR	97	14	0	200	9	20	15	6	6	77	4	40	11	92	1	200	17	52	0	136	1	0	0	NA	7	35	7	6	3	0	7	55	9	29	1	90	2	67	33	0	0	200

Table F-11 (cont'd). Site-specific relative percent difference (RPD) values for biological repeat (BR) and biological duplicate (BD) samples.

STATIONI	DUPREP	INDEX	RPD_INDEX	CAENIPCT	RPDCAENIPCT	CHIROTAX	RPDCHIROTAX	CLLCTTAX	RPDCLLCTTAX	CLNGRPCT	RPDCLNGRPCT	COLEOTAX	RPDCOLEOTAX	DIPPCT	RPDDIPPCT	ENOCAEN%	RPDENOCAEN%	EPTPCTNC	RPDEPTPCTNC	FILTRPCT	RPDFILTRPCT	FILTRTAX	RPDFILTRTAX	HYD2TRI	RPDHYD2TRI	REDOBECK	RPD_REDOBECK	REDOHBI	RPD_REDOHBI	PLECOTAX	RPDPLECOTAX	PREDTAXR	RPDPREDTAXR	SPRWLTAX	RPDSPRWLTAX	TANYTPCT	RPDTANYTPCT	TANYTTAX	RPDTANYTTAX	TOTALTAX	RPDTOTALTAX	TRICHTAX	RPDTRICHTAX
129	ST	84		2		11		16		15		6		30		0		10		2		1		0		10		7		3		4		12		2		1		33		1	
142	BD	37	1	6	41	16	2	20	2	39	18	3	35	57	6	6	81	8	20	26	45	5	19	100	13	14	7	5	6	1	200	10	15	10	13	2	5	3	34	46	2	1	100
142	ST	37		9		16		20		33		4		53		2		6		16		4		88		13		5		0		12		11		2		2		47		3	
158	BD	29	49	36	62	15	39	17	71	27	72	3	40	34	122	9	98	17	67	13	77	5	22	85	3	11	32	7	24	2	200	8	1	13	26	4	126	1	67	41	44	2	40
158	ST	47		68		10		8		13		2		8		3		8		6		4		82		8		9		0		8		10		1		2		26		3	
159	BR	44	22	27	3	7	56	10	2	38	93	3	33	36	92	4	46	5	6	29	138	3	80	0	200	6	80	6	10	2	200	5	41	6	13	3	23	2	86	25	29	0	200
159	ST	35		28		13		10		14		2		13		2		5		5		7		67		14		7		0		8		7		4		5		33		4	
169	BR	33	26	39	36	11	22	13	32	25	99	1	61	36	56	3	4	4	110	19	141	4	32	100	200	6	0	8	15	1	1	10	6	10	19	2	122	1	12	36	11	1	200
169	ST	26		57		13		10		8		2		20		2		13		3		3		0		6		7		1		11		12		0		1		33		0	
170	BR	23	39	49	41	6	9	7	61	17	118	2	76	27	130	6	65	6	26	11	160	2	67	0	NA	5	50	9	14	0	200	5	12	6	11	2	2	1	62	21	19	0	NA
170	ST	15		75		7		13		4		1		6		3		5		1		1		0		3		8		2		6		7		2		2		25		0	
172	BD	28	39	19	86	10	108	11	75	29	15	1	0	39	133	4	6	8	69	16	200	4	200	100	200	5	86	7	8	1	67	6	40	6	67	16	156	3	100	28	55	1	200
172	ST	41		48		3		5		25		1		8		4		17		0		0		0		2		7		2		4		3		2		1		16		0	
173	BD	51	3	8	50	12	59	17	21	47	25	3	40	50	8	15	133	20	108	16	16	3	67	100	18	10	40	5	7	5	200	13	0	12	34	6	33	2	67	46	6	1	67
173	ST	52		13		22		21		36		2		54		3		6		14		6		83		15		6		0		13		17		9		4		49		2	
176	BD	67	7	1	22	16	17	16	22	76	5	2	100	80	3	3	7	8	4	42	1	5	22	40	22	22	44	4	3	3	50	7	60	11	24	39	2	3	28	38	27	2	0
176	ST	72		2		19		20		72		6		78		3		9		41		4		50		14		4		5		13		14		38		4		50		2	
178	BR	67	14	0	200	12	29	15	8	81	35	4	27	73	43	2	117	15	70	22	94	4	0	70	23	17	6	4	7	1	100	8	33	7	61	14	142	3	100	38	9	4	65
178	ST	59		1		16		16		57		3		48		8		31		8		4		56		18		4		3		11		13		2		1		41		2	
210	BD	23	8	1	153	4	40	10	35	5	43	3	0	15	32	0	NA	0	200	3	95	1	67	0	NA	3	29	8	3	0	200	0	200	5	22	0	200	0	200	20	14	0	NA
210	ST	24		4		6		7		7		3		21		0		1		1		2		0		4		8		1		2		4		1		1		23		0	
235	BD	42	16	25	42	12	19	15	4	15	2	4	50	28	25	4	38	5	20	3	10	3	1	100	0	9	0	8	9	0	NA	13	8	8	27	3	8	4	28	40	5	1	0
235	ST	49		39		15		14		15		7		22		3		4		3		3		100		9		7		0		12		11		4		3		42		1	
241	BD	30	23	7	24	8	57	9	40	12	136	2	34	30	86	4	97	4	73	11	136	4	20	0	200	4	67	7	34	0	NA	6	4	5	63	8	50	2	0	27	25	0	200
241	ST	38		9		14		13		64		3		74		1		2		59		5		100		8		5		0		6		10		13		2		35		1	
242	BD	70	11	0	147	8	55	10	64	66	6	5	46	72	3	11	14	17	19	15	38	6	1	22	11	23	8	4	1	2	2	16	64	9	10	10	51	2	67	40	2	4	28
242	ST	62		3		14		19		70		3		74		9		14		22		6		20		25		4		2		8		8		16		4		41		3	
256	BD	58	1	0	200	15	8	18	12	37	1	4	25	55	13	1	45	17	11	15	21	4	24	0	200	20	5	5	8	2	67	11	3	11	30	6	45	3	6	44	9	1	4
256	ST	58		0		16		21		37		5		48		1		15		19		5		100		19		4		4		12		8		9		3		48		1	

Table F-11 (cont'd). Site-specific relative percent difference (RPD) values for biological repeat (BR) and biological duplicate (BD) samples.

STATIONI	DUPREP	INDEX	RPD_INDEX	CAENIPCT	RPDCAENIPCT	CHIROTAX	RPDCHIROTAX	CLLCTTAX	RPDCLLCTTAX	CLNGRPCT	RPDCLNGRPCT	COLEOTAX	RPDCOLEOTAX	DIPPCT	RPDDIPPCT	ENOCAEN%	RPDENOCAEN%	EPTPCTNC	RPDEPTPCTNC	FILTRPCT	RPDFILTRPCT	FILTRTAX	RPDFILTRTAX	HYD2TRI	RPDHYD2TRI	REDOBECK	RPD_REDOBECK	REDOHBI	RPD_REDOHBI	PLECOTAX	RPDPLECOTAX	PREDTAXR	RPDPREDTAXR	SPRWLTAX	RPDSPRWLTAX	TANYTPCT	RPDTANYTPCT	TANYTTAX	RPDTANYTTAX	TOTALTAX	RPDTOTALTAX	TRICHTAX	RPDTRICHTAX
285	BR	94	14	2	44	8	11	16	16	9	122	7	10	57	8	0	200	3	150	2	152	1	100	0	NA	3	114	8	22	2	54	10	5	12	16	0	200	0	200	37	2	0	NA
285	ST	82		4		9		14		37		6		53		0		19		17		3		0		11		6		3		10		10		1		2		38		0	
288	BD	60	2	0	200	17	5	18	24	26	16	2	100	68	1	5	89	20	37	5	47	5	60	7	200	32	10	4	3	4	8	11	36	14	3	3	47	3	24	45	12	3	55
288	ST	61		0		18		23		22		6		68		2		14		7		3		0		29		4		4		16		14		5		4		51		2	
292	BD	33	13	0	117	13	57	11	24	37	19	3	6	36	7	0	146	6	10	10	25	5	9	79	11	7	0	6	4	0	NA	9	1	9	43	5	43	2	0	35	13	3	53
292	ST	38		1		7		9		45		3		39		2		6		13		5		88		7		6		0		9		6		8		2		31		2	
297	BD	37	18	8	8	13	2	20	15	23	1	3	25	44	9	11	51	13	55	9	21	4	32	100	0	8	13	6	0	1	12	8	48	10	11	11	12	2	0	41	0	1	12
297	ST	45		9		13		17		23		4		40		6		7		8		3		100		7		6		1		13		11		10		2		41		1	
299	BD	39	24	0	200	6	6	6	54	1	136	3	85	13	2	0	NA	1	200	0	200	0	200	0	NA	3	29	8	4	0	NA	6	30	5	7	0	NA	0	NA	24	34	1	200
299	ST	50		0		6		10		6		7		13		0		0		1		1		0		4		7		0		8		5		0		0		34		0	
301	BR	44	28	5	36	16	18	18	1	12	56	4	39	13	93	4	78	7	11	3	71	4	23	100	15	11	0	6	3	2	200	10	36	11	16	1	28	3	2	42	13	1	95
301	ST	58		7		19		18		22		6		36		2		7		7		5		86		11		6		0		15		13		2		3		48		3	
310	BR	33	18	0	30	10	49	12	11	6	150	3	29	38	20	0	NA	0	NA	8	6	3	39	0	NA	5	46	6	4	0	NA	2	79	7	2	1	200	1	200	29	3	0	NA
310	ST	27		0		6		13		1		2		31		0		0		7		2		0		8		5		0		4		7		0		0		28		0	
316	BD	34	15	0	200	9	40	13	36	3	29	4	29	20	75	0	200	0	200	18	45	1	67	0	NA	3	0	6	17	0	NA	8	91	5	0	0	NA	0	NA	36	48	0	NA
316	ST	29		1		6		9		2		3		9		1		1		29		2		0		3		5		0		3		5		0		0		22		0	
328	BR	44	45	0	77	5	80	11	50	84	90	1	67	42	33	0	11	45	86	38	76	2	5	0	NA	6	50	4	29	1	100	1	143	5	87	0	200	1	200	17	75	0	NA
328	ST	69		1		11		19		32		2		30		0		18		17		2		0		10		6		3		6		12		0		0		38		0	
330	BR	66	18	0	200	7	72	12	27	45	18	4	21	43	38	8	10	16	56	29	20	4	40	50	200	14	35	4	6	1	65	5	17	5	17	2	166	1	120	32	21	2	67
330	ST	55		0		15		16		54		5		63		7		9		36		6		0		20		5		2		6		6		26		4		40		1	
331	BR	69	7	0	200	17	28	17	14	58	9	6	102	70	5	12	20	18	4	25	17	6	1	57	55	31	14	4	6	3	24	9	46	13	11	21	19	3	27	43	18	4	124
331	ST	74		0		23		20		53		2		67		14		19		30		6		100		27		4		4		14		15		26		4		52		1	
332	BR	54	19	0	NA	25	6	26	10	18	7	4	42	41	31	6	200	12	96	22	11	5	49	0	NA	32	25	5	6	4	118	12	26	18	9	6	25	5	48	58	14	3	4
332	ST	65		0		24		24		17		6		56		0		4		20		3		0		25		4		1		9		16		8		3		51		3	
339	BR	48	6	1	28	15	23	14	35	68	85	5	6	73	35	3	58	6	40	5	39	4	41	75	0	16	21	6	9	2	200	10	24	12	13	2	12	1	60	37	39	3	38
339	ST	45		2		18		20		27		5		51		5		9		8		6		75		13		5		0		13		13		2		2		55		4	
346	BD	75	4	0	200	23	55	21	39	64	22	2	41	73	3	8	15	17	8	40	45	8	13	38	6	30	35	4	4	3	99	9	39	12	28	20	25	4	67	52	33	7	53
346	ST	78		0		13		14		79		3		71		9		16		63		7		40		21		4		1		6		9		16		2		37		4	
356	BD	70	59	23	49	18	40	23	36	22	37	5	0	46	36	1	84	6	35	5	42	3	40	0	200	6	96	7	12	1	67	12	40	13	36	5	52	4	67	45	20	1	0

Table F-11 (cont'd). Site-specific relative percent difference (RPD) values for biological repeat (BR) and biological duplicate (BD) samples.

STATIONI	DUPREP	INDEX	RPD_INDEX	CAENIPCT	RPDCAENIPCT	CHIROTAX	RPDCHIROTAX	CLLCTTAX	RPDCLLCTTAX	CLNGRPCT	RPDCLNGRPCT	COLEOTAX	RPDCOLEOTAX	DIPPCT	RPDDIPPCT	ENOCAEN%	RPDENOCAEN%	EPTPCTNC	RPDEPTPCTNC	FILTRPCT	RPDFILTRPCT	FILTRTAX	RPDFILTRTAX	HYD2TRI	RPDHYD2TRI	REDOBECK	RPD_REDOBECK	REDOHBI	RPD_REDOHBI	PLECOTAX	RPDPLECOTAX	PREDTAXR	RPDPREDTAXR	SPRWLTAX	RPDSPRWLTAX	TANYTPCT	RPDTANYTPCT	TANYTTAX	RPDTANYTTAX	TOTALTAX	RPDTOTALTAX	TRICHTAX	RPDTRICHTAX
356	ST	38		39		12		16		15		5		32		2		8		3		2		100		17		7		2		8		9		3		2		37		1	
381	BD	62	6	5	10	21	10	24	15	30	44	6	1	35	34	1	89	17	17	9	97	5	0	0	NA	25	25	5	9	3	5	14	23	12	6	4	118	4	3	59	18	4	129
381	ST	66		6		19		21		46		6		49		2		15		26		5		0		32		5		3		11		11		14		4		49		1	
384	BR	77	9	0	138	17	40	14	50	73	37	5	55	78	14	10	4	12	6	47	20	8	11	0	200	24	34	4	7	0	NA	10	6	11	28	26	30	5	22	39	32	2	63
384	ST	70		0		25		23		50		3		68		10		12		39		9		60		17		4		0		11		15		19		4		54		4	
397	BR	79	3	0	200	20	26	14	21	71	27	4	35	68	47	17	83	19	85	48	29	5	63	0	200	17	38	4	13	1	62	10	5	12	3	45	59	4	28	40	10	1	139
397	ST	77		0		15		11		55		6		42		42		47		35		10		70		25		3		2		11		12		25		3		44		6	
405	BD	66	3	0	200	26	8	22	20	44	23	4	22	79	3	6	32	13	2	18	29	6	29	0	200	34	6	4	6	2	67	15	7	16	6	15	96	4	29	54	10	4	0
405	ST	69		0		24		18		56		5		77		8		13		13		8		20		32		4		4		14		15		5		3		49		4	
412	BD	77	2	0	200	6	29	7	47	73	2	2	58	35	4	35	17	48	6	34	1	7	33	53	6	20	11	4	2	4	4	14	21	5	1	13	34	2	34	36	4	4	59
412	ST	76		0		8		12		71		4		37		42		51		35		5		50		18		4		4		12		5		18		3		35		2	
418	BD	72	0	0	200	14	12	22	26	42	41	5	1	51	17	11	15	21	18	21	21	8	29	7	111	33	6	4	3	3	26	14	17	11	15	15	62	4	66	55	19	8	92
418	ST	71		0		15		17		63		5		60		10		25		25		6		25		31		4		4		11		13		8		2		45		3	
427	BR	61	4	10	19	13	13	12	37	64	22	2	3	41	14	18	3	44	27	44	30	8	29	88	1	20	0	5	12	3	49	9	29	12	24	14	4	3	20	36	19	5	32
427	ST	58		12		11		17		52		2		35		18		33		33		6		87		20		5		2		12		9		14		4		44		4	
429	BR	37	17	26	25	8	77	14	19	24	6	2	67	32	9	3	95	21	167	9	63	4	0	100	0	14	15	7	8	4	120	8	40	6	50	5	14	2	86	36	11	1	0
429	ST	44		33		18		17		23		4		30		1		2		5		4		100		12		6		1		12		10		6		5		40		1	
447	BR	82	6	0	200	15	32	14	24	58	0	5	11	43	29	29	16	41	30	29	29	8	9	48	18	24	15	3	12	1	115	12	38	10	39	20	31	3	0	44	25	5	30
447	ST	78		0		21		18		58		6		57		25		30		38		9		57		28		4		4		18		15		27		3		56		4	
450	BD	59	13	10	20	13	29	9	59	50	31	2	89	40	3	25	115	37	107	45	80	5	21	96	14	12	9	4	26	2	4	12	31	9	58	30	56	4	26	33	35	2	2
450	ST	52		12		17		16		37		5		42		7		11		19		4		83		11		6		2		16		16		17		3		47		2	
458	BD	84	17	0	200	18	3	15	5	68	2	5	55	48	41	16	105	42	110	49	18	8	29	9	47	18	24	4	12	3	100	8	39	11	3	27	58	3	40	45	5	6	45
458	ST	71		0		19		14		69		3		73		5		12		58		6		14		23		3		1		12		11		50		2		43		4	
464	BR	81	12	0	200	11	37	11	48	85	15	7	10	30	12	31	9	58	3	40	53	9	40	76	58	36	18	3	2	5	6	11	16	6	66	17	51	4	29	43	24	6	25
464	ST	92		0		16		18		73		8		27		34		56		23		6		42		30		3		5		13		12		10		3		55		8	
468	BD	61	9	0	71	12	23	12	9	44	10	6	15	37	25	18	17	19	23	18	3	6	42	33	0	27	25	5	8	0	200	7	16	9	3	13	0	3	31	37	21	2	114
468	ST	67		0		15		13		40		5		47		15		24		19		9		33		21		4		2		8		10		13		4		45		7	
469	BD	90	8	0	NA	23	18	22	1	57	17	4	3	63	28	14	37	25	44	31	3	8	19	33	23	39	27	3	2	3	1	13	23	14	23	36	51	5	17	52	14	6	69
469	ST	84		0		19		22		68		4		48		21		39		30		10		42		51		3		3		17		11		21		6		60		12	

Table F-11 (cont'd). Site-specific relative percent difference (RPD) values for biological repeat (BR) and biological duplicate (BD) samples.

STATIONI	DUPREP	INDEX	RPD_INDEX	CAENIPCT	RPDCAENIPCT	CHIROTAX	RPDCHIROTAX	CLLCTTAX	RPDCLLCTTAX	CLNGRPCT	RPDCLNGRPCT	COLEOTAX	RPDCOLEOTAX	DIPPCT	RPDDIPPCT	ENOCAEN%	RPDENOCAEN%	EPTPCTNC	RPDEPTPCTNC	FILTRPCT	RPDFILTRPCT	FILTRTAX	RPDFILTRTAX	HYD2TRI	RPDHYD2TRI	REDOBECK	RPD_REDOBECK	REDOHBI	RPD_REDOHBI	PLECOTAX	RPDPLECOTAX	PREDTAXR	RPDPREDTAXR	SPRWLTAX	RPDSPRWLTAX	TANYTPCT	RPDTANYTPCT	TANYTTAX	RPDTANYTTAX	TOTALTAX	RPDTOTALTAX	TRICHTAX	RPDTRICHTAX
470	BR	71	11	0	200	16	9	16	33	46	35	5	93	49	11	9	74	12	72	33	19	9	13	43	15	25	17	5	14	1	25	11	1	11	1	12	85	3	33	48	13	5	24
470	ST	63		0		15		22		66		2		54		19		25		40		8		50		21		4		1		11		11		29		2		55		7	
475	BR	76	1	0	1	22	5	18	6	61	24	5	50	71	3	11	29	17	25	33	34	4	55	0	NA	39	23	3	11	2	200	19	38	19	38	32	52	4	0	54	8	7	0
475	ST	76		0		21		17		48		3		69		15		22		24		7		0		31		4		0		13		13		19		4		50		7	
477	BR	76	0	0	200	20	5	16	18	77	12	1	117	80	5	5	8	14	18	30	15	7	11	0	NA	31	0	3	15	2	34	9	5	10	12	29	33	3	26	42	15	6	6
477	ST	75		0		21		19		68		4		76		6		12		35		8		0		31		4		3		9		11		40		4		49		6	
479	BR	81	7	0	NA	16	14	16	2	60	6	7	44	52	35	18	93	26	59	25	10	10	17	38	77	42	21	4	0	4	14	19	8	7	80	19	18	5	31	55	0	5	52
479	ST	76		0		18		16		63		4		75		6		14		27		8		17		34		4		3		18		16		16		4		55		9	
482	BR	73	3	0	200	24	56	22	52	64	23	6	43	80	3	5	47	9	36	37	13	6	0	0	200	26	7	4	1	0	200	10	16	10	6	34	88	4	1	45	25	5	26
482	ST	76		0		13		13		80		4		82		8		13		33		6		30		28		4		2		8		9		13		4		35		4	
504	BR	67	22	0	102	14	24	16	27	69	59	4	0	78	47	0	102	3	3	65	71	3	29	0	200	18	6	4	16	2	67	13	36	12	67	2	25	2	0	38	21	1	67
504	ST	53		1		11		21		37		4		48		1		3		31		4		50		17		4		1		9		6		2		2		47		2	
510	BD	67	1	0	200	10	27	10	39	69	18	3	108	75	19	0	200	2	40	67	17	4	32	0	NA	11	43	4	1	4	126	4	46	4	72	7	67	2	5	28	9	0	200
510	ST	66		1		13		15		82		1		91		0		1		80		3		0		17		4		1		6		8		4		2		31		1	
513	BR	73	13	0	200	20	27	17	19	65	0	4	48	79	45	0	144	9	98	42	53	4	22	0	200	16	17	4	4	2	64	10	65	10	43	29	70	2	63	41	6	0	200
513	ST	64		0		15		14		65		6		50		3		26		24		5		75		19		4		1		5		6		14		4		39		2	
532	BR	61	10	4	61	12	51	10	49	56	10	1	95	48	29	2	75	21	37	30	4	4	20	0	NA	31	88	4	4	1	0	8	34	10	28	4	141	2	40	28	39	2	82
532	ST	68		7		20		17		51		3		64		4		15		31		5		0		12		4		1		11		13		21		3		42		5	
542	BD	82	4	0	NA	21	19	23	37	71	7	4	23	76	18	11	34	17	26	38	12	6	0	0	200	38	24	3	5	2	45	8	81	9	10	37	34	7	31	46	11	4	54
542	ST	85		0		17		16		66		5		63		8		21		34		6		4		30		3		3		18		10		26		5		51		7	
600	BD	69	1	0	200	17	5	15	6	70	6	3	10	70	6	2	24	18	7	31	14	8	4	76	7	23	14	4	1	1	2	7	59	10	23	13	10	3	5	39	11	7	9
600	ST	70		0		18		14		74		3		66		2		19		27		8		81		20		4		1		12		13		12		3		44		6	

Table F-12a. Site-specific raw benthic assemblage data for the Black Belt bioregion.

StationID	Ablabesmyia janta	Ablabesmyia mallochi	Ablabesmyia rhamphe	Acerpenna	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Ancylidae	Ancyronyx variegatus	Argia	Basiaeschna janata	Berosus	Bivalvia	Branchiura sowerbyi	Bratislavia	Caecidotea	Caenis	Calopteryx	Cambaridae	Capniidae Unid	Ceratopogonidae	Cernotina	Cheumatopsyche
61		1	2	1						1	8		1					164		2		2		2
62													3		1			82		2		5		
68					9		2				1						1	77	1	2		2		
126													4					59		1		1		3
129					30		7										5			2		1		
131					2												3	3		4		1		
133		1		2							2		2					108		2		5		
135						2											1	127		5		5		
151													2				1	9		1		4		
188		1		2	10		3	1										92		3		1		
190									2	9	29		1	12				17		3		1		28
193													4	1		1	2	48		1				
195		1									3		5				1	189		2				
196						9														2	1	3	1	
198																	5							
200											2		3				3	8		2				1
202																	5	2		1				
207				2							1	1	6					137		1				
216							2										9			1		1		
281								2			1		2				3	153		5				
282				2													1	10	1	5				3
285					7										1			7		11		7		
548		2								2	11							179				3		5
567																		145				3		
568	2			1							2		4					159				3		1
569																	2	5		2		11		

StationID	Chironomidae Unid	Chironomini	Chironomini Unid Diff	Chironomus	Chrysops	Cladotanytarsus	Clioperla clio	Coenagrion Unid Diff	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Copelatus	Corbiculidae	Cordulegaster	Cordulegasteridae Unid	Corduliinae	Corduliinae Unid	Corduliinae/Macromiinae Unid	Corixidae	Corydalidae Unid	Corynoneura	Crangonyctidae	Crangonyctidae Unid
61										4			1												
62	1									2															
68	4														1										
126										1			1		2										
129	1				1		2					1									1				
131				2											1										4
133	2							1					3												
135							1								1										3
151	5											2	1												1
188	1			1											2								1		
190	2									2	2				28										
193	1			2						1					51										
195										1															
196	3				4												1		7	1					1
198	2																								92
200	1	1							1				1												
202																								5	
207																									
216	1				6									1											
281	2				1	1																			
282	1			1								1	2								1				
285	1				1										1					2		1			2
548	2									1			2					1							
567															13										
568	1		1							1															
569	1				1											1			4				1		

Table F-12a (cont'd). Site-specific raw benthic assemblage data for the Black Belt bioregion.

StationID	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius Unid Diff	Cryptochironomus	Cura foremanii	Cymbiodyta	Cyphon	Dero	Dicrotendipes	Dineutus	Diplocladius	Djalmabatista/Procladius	Dolichopodidae	Dubiraphia	Eclipidrilus	Enallagma	Enchytraeidae	Epicordulia princeps	Erioptera	Erpetogomphus	Erpobdellidae	Erythemis	Eukiefferiella	Glyptotendipes
61						2			2	2							4								
62										6		1					1	9					1		
68	7								1			10						3		2					
126			6			2			1	5								7							
129	8					1	1					4	1			1		1						2	
131	9											1				1		7							
133		1								7							1	15							
135										2								4							
151			1			1		2	2			13			1		2	40							2
188	2	1	2							3		1				2		1						1	1
190		2	1	1	2					2							4	2				3			
193										14		2						1							
195	5				1			1									12	1							
196						1		3		1	2	3						7							
198	27											1						2							
200	5								2	1	1						1	5							39
202	5																	1							
207									1	1								11	1		4			1	
216	10											1			1	1		1							
281	3														3			4	1						
282	2									1		3				1		1						2	
285	3							5				2			13	1		4		2				8	
548			1									1			7										
567									2	11		1			2			1							
568			3					1		2					3		3								
569	6					1			1	1				1	6	1		17		1					1

StationID	Gomphidae	Gomphus	Gonomyia	Haemonais waldvogeli	Haliplus	Helichus	Helopelopia	Hemerodromia	Heptageniidae	Heptageniidae Unid	Heterotrissocladius	Hexagenia	Hyalella	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrobiidae	Hydroporus	Hydropsyche	Hydroptila	Ilyodrilus	Ischnura	Isoperla	Isopoda
61													3		2					4				
62									1						5						1	2		
68						1									17									
126				1											2									
129						4								1	2									
131		1											7		6									
133			1										4		2								1	
135			1							2	2				4								12	
151													1		15									1
188								1				1	4		2								1	
190																			1					
193											1				5		7							
195		1											15	1										
196		1	6								2		17		1			3					4	
198															2									
200																						3		
202					1																			
207															5									
216															26	2					1			
281					1								23		16	1								
282											1				71	2								
285			4		2	1									37	92							1	
548										3			2		3									
567	1														1									
568			5				1						5											
569			4								4				7	33		1						

Table F-12a (cont'd). Site-specific raw benthic assemblage data for the Black Belt bioregion.

StationID	Kiefferulus	Laccophilus	Larsia	Lepidoptera	Leptoceridae Unid	Leptophlebia	Leptophlebiidae Unid	Libellula	Libellulidae	Libellulidae Unid	Limnodrilus	Lirceus	Lumbricidae	Lymnaeidae	Macronychus glabratus	Meropelopia (=Conchapelopia)	Microcylloepus	Micropsectra	Microtendipes pedellus	Nais	Nais prob.	Nanocladius	Nasiaeschna pentacantha	Natarsia	Nematoda
61								1								6				1		4			2
62								6			16													1	2
68											2	5													
126										1	22					1				2					2
129						3						8	2					1							
131											1	16	5												
133												1								1					2
135													1												
151			2								4		1							1					4
188											12														
190											1		1			11				89	2				1
193											4	1		1											
195								2																	
196	7			1			9				1		1											1	2
198											2	1	1												
200								1			3											1			
202											1														
207																				3					4
216		1									3	1													
281												28		2									1		1
282								1			1	3	1	1											
285											3	2		2										2	
548															1	1				1		2			
567											1														
568					1				1				1			4	2		2			1			
569											3	4	1										1	3	2

StationID	Nemertea	Nemouridae Unid	Neoporus	Neureclipsis	Oecetis	Orthocladius	Orthocladius O.	Paralauterborniella	Parametriocnemus	Paraphaenocladius	Paratanytarsus	Paratendipes	Peltodytes	Perlesta	Perlodidae Unid	Perlodidae Unid Diff	Phaenopsectra	Physidae	Pilaria	Planariidae Unid	Planorbidae	Polypedilum	Polypedilum aviceps	Polypedilum fallax
61	1				1	2							3								2			
62						18							20					3			1			
68		2				9				1			1											
126						26												2						
129			3			3			2							1								
131						6							1											
133						10						1	1											1
135						3			1	1					2							1	3	
151						35					1		1	1										
188							9											2						
190	1																	10			19			
193							21					1						1						
195											2							1						
196			12				29						1		1			2	4					
198			4				1																	
200																		10						
202			2				1						1											
207						6																		
216							12																	
281			2				9						16					2						
282							22				3													
285	1		10				10		1									3			1			
548			1		1				1				3											
567							11	1				1					1							
568			1				2		2		5													
569			4	1		8												2	1	1				

Table F-12a (cont'd). Site-specific raw benthic assemblage data for the Black Belt bioregion.

StationID	Polypedilum flavum	Polypedilum illinoense	Polypedilum obtusum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum tritum	Polypedilum Unid	Pristinella	Procloeon/Centroptilum	Pseudochironomus	Pseudolimnophila	Pseudosmittia	Quistradrilus	Quistradrilus multisetosus	Rheotanytarsus	Rhyacophila	Sciaridae	Sialis	Simuliidae	Smittia	Somatochlora	Sparganophilidae	Sphaeriidae
61	2	7														6			1					
62						1								1										7
68																	2			8				1
126	2	46	1				1						1								1			2
129																								
131																								
133	1	11	6		1						1					1				37				
135		8											2							9				
151		25	2			2							1							95				1
188		3																		36				
190	13	37							1														1	14
193			1										1							1				13
195		1	1																					2
196	1											3								15		2	1	25
198																							1	
200		162		1				1															2	
202																		1						
207		4	7												1									
216																						2		2
281						1															1		1	1
282																				1				
285													1									6	2	7
548		2						1		1						2	1							
567		8																						
568		2	1					1			1		1			15				6				
569						1															3	2		3

StationID	Stempellinella	Stenacron	Stenelmis	Stenochironomus	Stenonema	Stenus	Stictochironomus	Stratiomyidae	Synurella	Tabanus	Taeniopteryx	Tanypodinae Unid	Tanytarsus	Thienemanniella	Thienemannimyia	Tipula	Triaenodes	Tribelos	Trichoceridae	Tubificidae	Tubificidae Unid	Tubificidae Unid Diff	Tvetenia	Zavrelimyia
61			1										6											
62			5						3						1						7			
68		1	2						8		4		1								6	1		2
126			2						2				1								14			
129			5						101			1	1		3	1				4				
131								1	63							1					7			
133			2									4	16								2			
135			6						2				4		1									
151			18				1		9				1			1					4			
188	3		3		3				24				2	1	1	2		2			9		1	
190			10	1					1					3	2						2			
193									3						1						1			
195			1						3												4			
196									20					1			2				5			1
198							1	2	80							5					2			
200													1								3			
202									45	1										1				
207			9						4			1	15			1						3		
216			2			1			8	1						1			2		24			
281									21							1			1		2			
282			1		14				10							1				4				
285			9						10						1						6	4		3
548		3	3								1		15	1							5			
567			10										5		3									
568			25						3				2	1	8									
569									8						2						63			

Table F-12b. Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Ablabesmyia	Ablabesmyia annulata	Ablabesmyia janta	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Ablabesmyia Unid Diff	Acanthocephala	Acerpenna	Acroneuria	Acroneuria prob.	Agabus	Agarodes	Agnetina	Agnetina/Paragnetina	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Amphipoda Unid Diff	Anax	Ancylidae	Ancyronyx variegatus	Anisocentropus pyraloides	Arcteonais lomondi	Argia	Asellidae Unid	Atherix	Aulodrilus	Axarus	Baetidae	Baetidae Unid	Baetidae Unid Diff	Baetis	Baetisca	Basiaeschna janata	Berosus	Bivalvia	Bivalvia Unid	Bothrioneurum vejdovskyanum	Boyeria	Boyeria vinosa	Brachycentrus	Brachycera:Muscomorpha	Branchiobdellidae	Branchiura sowerbyi
171																		5															2														
172																											1											4								2	
173										18							1	2						1																			1				
174				1		4											1				1						4											3									
175						1				2																				3								2									
176				3			1												1					1			1																				
177				3						2								2	2								2	4							1			3									
178				1						2																									1	2											
179				1		1											2																														
180																	18																														
183																	21																														
184																	1		2					1																							
185																			1																			1							1		
187																																															
191																																															
206			1														15			4																											
210																												1										17									
234				3		2				2														1			5						1					1								1	
238				6		1	1																				1																				
240				5		1																					4			1																	
242																							1				1									2											
247																					1			1												1						2					
248				2																							2									1		2									
249				2		1																		2			7																				
250																											2																				
251																	11		4																												
252				2															3				2	1															3								
253						2																																									
254																			1				3																								
255				1																				1																							

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Ablabesmyia	Ablabesmyia annulata	Ablabesmyia janta	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Ablabesmyia Unid Diff	Acanthocephala	Acerpenna	Acroneuria	Acroneuria prob.	Agabus	Agarodes	Agnetina	Agnetina/Paragnetina	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Amphipoda Unid Diff	Anax	Ancylidae	Ancyronyx variegatus	Anisocentropus pyraloides	Arcteonais lomondi	Argia	Asellidae Unid	Atherix	Aulodrilus	Axarus	Baetidae	Baetidae Unid	Baetidae Unid Diff	Baetis	Baetisca	Basiaeschna janata	Berosus	Bivalvia	Bivalvia Unid	Bothrioneurum vejdovskyanum	Boyeria	Boyeria vinosa	Brachycentrus	Brachycera:Muscomorpha	Branchiobdellidae	Branchiura sowerbyi
256																			1								2																				
257																	1		1								2											1									
259				11						19																												3	1				2				
261				2																							1																				
262				2																				5			12			2					1	1											
263				3						1							3							1	1		1			5																	
265				6			1												1				6	2			1			1																	
268																														1								15									
269																																															
272																				2																											
273																																															
275				1																																											
280				7													7							2			9		1	2							1		1								
284																	1										1											1									
286																			2																												
287																	193																														
288						1											10													3						1											
289																			5								1				1							16									
290													1				1																														
310																				1																											
311																														3																	
313																				8																											
316					1															1										1																	
319				1		1				2																	3			2					1			12									
321																			2																												
322				1						2			1										1				3																				
323																				4			8	1			3																				
324				1						2													1				6								1												
325																											1			1																	
326																				3																											

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Ablabesmyia	Ablabesmyia annulata	Ablabesmyia janta	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Ablabesmyia Unid Diff	Acanthocephala	Acerpenna	Acroneuria	Acroneuria prob.	Agabus	Agarodes	Agnetina	Agnetina/Paragnetina	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Amphipoda Unid Diff	Anax	Ancylidae
328																							
329									1								1		1				
330			1	1						1										3			5
331				2											1								
332				1																			
335										4													1
336	2			2	1																		
337				7		1																	
338																							
339				2	1																	1	
341				4			1			2													
343				5																			
344														1									
345				4																			
346				2				1										1					
348				10		1																	
349				1														2					
350				3																			
376				1																			
379																							4
380			1	1	1														2				2
381						2											1						
382																				1			
383																							
384	1																						2
388				6			1																
390						1																	
393				2		1																	
394					1			1															
395										1													

StationID	Ancyronyx variegatus	Anisocentropus pyraloides	Arcteonais lomondi	Argia	Asellidae Unid	Atherix	Aulodrilus	Axarus	Baetidae	Baetidae Unid	Baetidae Unid Diff	Baetis	Baetisca	Basiaeschna janata	Berosus	Bivalvia	Bivalvia Unid	Bothrioneurum vejdovskyanum	Boyeria	Boyeria vinosa	Brachycentrus	Brachycera:Muscomorpha	Branchiobdellidae	Branchiura sowerbyi
328																								
329																								
330	2																							
331				3									1											
332							3																	
335				5																				1
336															2					1				
337				1						2					5	1		1						
338				5											26									
339	2			6					2			3	2		8		6							
341				1			1								3						1			
343	1			4			1									1								
344							1																	
345													4			2								
346													2			1								
348	2			5			1																	
349		7																						
350				1									1			1								
376				8			1								2									
379																								
380	1																		1					
381	2																							
382																								
383				2			1												1					
384		1		1			3																	
388				4															1					
390	1			5											2									1
393	1			2								14							1					
394	1						3			1														
395	1									2					2									

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Ablabesmyia	Ablabesmyia annulata	Ablabesmyia janta	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Ablabesmyia Unid Diff	Acanthocephala	Acerpenna	Acroneuria	Acroneuria prob.	Agabus	Agarodes	Agnetina	Agnetina/Paragnetina	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Amphipoda Unid Diff	Anax	Ancylidae	Ancyronyx variegatus	Anisocentropus pyraloides	Arcteonais lomondi	Argia	Asellidae Unid	Atherix	Aulodrilus	Axarus	Baetidae	Baetidae Unid	Baetidae Unid Diff	Baetis	Baetisca	Basiaeschna janata	Berosus	Bivalvia	Bivalvia Unid	Bothrioneurum vejdovskyanum	Boyeria	Boyeria vinosa	Brachycentrus	Brachycera:Muscomorpha	Branchiobdellidae	Branchiura sowerbyi
396	1																1							1			2			1					2							1					
397				1		1																					6			2																	
398				2		2																		1			11						1		1												
399																																															
400											1							6									1											3					1				
401																		2					3											1													
403											1																2															1					
404				5		2																		6			2			1													3				
405		1		1						1																				1																	
406										8																	1								2			3	7				1				
407				2						1																	2		1			1			1			3	4								
408				7																															4												
409																							1	1						1																	
410																		1																													
412				1						5																	5									2				3							
413				3																				1						1									2				1				
414																	1	6																													
416				2						2														2						1								2									
417	2																													3					1			7									
418				1						1																	3									2			4							2	
419				6		2				3																	3			1			1		8			20									
420																																															
421										1	1							1																													
422										3													1	1																							
423				4		1																					3						1														1
424				6		1																					1																				
453				3	1	1																		3			3			1												1				2	
457																								2			1			1																	
458				3																							1																				
459																																			2			2									

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Ablabesmyia	Ablabesmyia annulata	Ablabesmyia janta	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Ablabesmyia Unid Diff	Acanthocephala	Acerpenna	Acroneuria	Acroneuria prob.	Agabus	Agarodes	Agnetina	Agnetina/Paragnetina	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Amphipoda Unid Diff	Anax
460	1																					
462				1		1																
463				2		1																
464															1							
465																						
466				5						1												
467											1											
468							1															
469				5		1																
470				1						1												
471				4																		
472																	1					
474		2		1																		
475			2	6						1				1								
476										4												
477																						
478	1					1																
479																1						
480				1						12									2			
481	1									5												
482										2												
483										1					2		1					
484										7												
485							1			1												
487			1	12																		
489																						
492																						
493				2						4												
494	1																					
495										7												

StationID	Ancylidae	Ancyronyx variegatus	Anisocentropus pyraloides	Arcteonais lomondi	Argia	Asellidae Unid	Atherix	Aulodrilus	Axarus	Baetidae	Baetidae Unid	Baetidae Unid Diff	Baetis	Baetisca	Basiaeschna janata	Berosus	Bivalvia	Bivalvia Unid	Bothrioneurum vejdovskyanum	Boyeria	Boyeria vinosa	Brachycentrus	Brachycera:Muscomorpha	Branchiobdellidae	Branchiura sowerbyi
460		1			2								4												
462		1			4								4												
463		1			10								1			1	3								
464	1	1											1												
465					5			3									1								
466		2			1																				
467					1								1												
468		1			2			1																	
469					1									4											
470					8											2	2			1					
471					1					1			13												
472					1											14									1
474																		1							
475																									
476		2			1								2			3									
477					1															1					
478					6			1						15		3									
479	1	1	1		3		2															1			
480		1			1			1					3			3	3								
481	1				2											4									1
482			1		1																				
483					1					1			1												
484	1										1		8	3											
485		4			2						1					4									
487																1									
489					1																				
492					1																				
493				1	3									1		7									
494					5					1			3												1
495		1									1			1											

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Ablabesmyia	Ablabesmyia annulata	Ablabesmyia janta	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Ablabesmyia Unid Diff	Acanthocephala	Acerpenna	Acroneuria	Acroneuria prob.	Agabus	Agarodes	Agnetina	Agnetina/Paragnetina	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Amphipoda Unid Diff	Anax	Ancylidae	Ancyronyx variegatus
496				1																				
497				2													1							
498																								
500											1													
502																								
504													1											
505						1	1																1	1
506				2		2					1													
507				1							1													
508				2							1													
510				1																				
511																								
513				2						1									1					
514										3														
515										4														1
516																								1
517				2		2																		
518																								
519																								
520										1														2
521																								
522										2														
523				2						1														1
524											2													1
525										4														
526				1		2				5														
527											1													
529					1		1																	
530																								
531																								1

StationID	Anisocentropus pyraloides	Arcteonais lomondi	Argia	Asellidae Unid	Atherix	Aulodrilus	Axarus	Baetidae	Baetidae Unid	Baetidae Unid Diff	Baetis	Baetisca	Basiaeschna janata	Berosus	Bivalvia	Bivalvia Unid	Bothrioneurum vejdovskyanum	Boyeria	Boyeria vinosa	Brachycentrus	Brachycera:Muscomorpha	Branchiobdellidae	Branchiura sowerbyi
496							4							3									
497			3																				
498																							
500					1		1															1	
502																							
504																							
505			1																				
506			4			1	4					1		3									
507					1																		
508			4																				
510			1																				
511																							
513			1																				
514									1														
515			2							2													
516	1		2																				
517			1																1				
518														1					1				
519				6																			
520			3			1																	
521				35																			
522					2							3											
523			1		1						2												
524			3		1						1								1				
525			2																				
526			3																				
527	1		1																				
529	1		1		1							4											
530														1									
531														1									

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Ablabesmyia	Ablabesmyia annulata	Ablabesmyia janta	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Ablabesmyia Unid Diff	Acanthocephala	Acerpenna	Acroneuria	Acroneuria prob.	Agabus	Agarodes	Agnetina	Agnetina/Paragnetina	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Amphipoda Unid Diff
532																					
533																					
535				1																	
536																					
537						4															
538										1											
539						1					2										
540										4											
541				2			1														
542				3		2					4	3									
544				6		2															
549										1											
550				2		1				4											
551				1							1						1				
554																					
556				2			2								1						
557				1																	
562																					
563																					
564				2																	
565			1	3																	
566																	1		4		
600																					
601				1	1														1		

StationID	Anax	Ancylidae	Ancyronyx variegatus	Anisocentropus pyraloides	Arcteonais lomondi	Argia	Asellidae Unid	Atherix	Aulodrilus	Axarus	Baetidae	Baetidae Unid	Baetidae Unid Diff	Baetis	Baetisca	Basiaeschna janata	Berosus	Bivalvia	Bivalvia Unid	Bothrioneurum vejdovskyanum	Boyeria	Boyeria vinosa	Brachycentrus	Brachycera:Muscomorpha	Branchiobdellidae	Branchiura sowerbyi
532						6				1							1									
533			1			2		1																		
535			10			15																1				
536																										
537		1				3											11									
538								1							2							1				
539											1											1				
540																		2								
541						1																				
542				3		1																				
544						2																				
549						1					1			8			1									
550						1								2			4									
551			1			3									8											
554									1																	
556			3												1								5			
557																										
562						3																				
563						2												2								
564						4								16				1								
565			1						8									1								
566																										
600			1												1		1									
601			2			3																				

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Bratislavia	Brillia	Bryophaenocladius	Caecidotea	Caenidae Unid	Caenis	Calopterygidae	Calopterygidae Unid	Calopteryx	Cambaridae	Ceraclea	Ceratopogonidae	Ceratopsyche	Cernotina	Cernotina/Polycentropus	Chaetogaster	Chaoboridae	Chernovskiia	Cheumatopsyche	Chimarra	Chironomidae	Chironomidae Unid	Chironomini	Chironomini Unid	Chironomini Unid Diff	Chironomus	Chlorotabanus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coelotanypus	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Conchapelopia genus - gr.	Copelatus	Corbiculidae	Cordulegaster	Corduliinae	Corduliinae Unid	Corduliinae/Macromiinae Unid	Corixidae
171				1		8				1		2																																		
172						16				1		1					3		2							1											2				7					
173				5		16			1	10		4							4		2							1				1									1					
174				1		150						10										2													2						1			1		
175						183						5										1													3			1								
176				3		4				3		4							3			5										2						2						1		1
177				6		11				2		5	1						1			1						3										2			3					
178						1			3	4		1							5									1										1			7					
179				21		10				8		9										2				3		1		1		1					1				1					
180				4		1						14										3					1					1					1									
183						1				2												1										12														
184				11								11										1																								
185				5		6				14		3														1																				
187				17						1																																				
191												2										1						2																		
206				4		23				15		10									2							3																		
210				1		7				4												3																								1
234				5		34			1	1		20							3			3						5		1	1															
238				2						4		2							2			4																			1					
240			1	1		2				1		20		2							4							1							1						1					
242				1		1			1	3		16							2	2		2						1			1	3														
247						5			1	9		1		2					3			2						2				2														
248		2		3		21			1	6		11							5									14																		
249						23				2		2							1			6								1								2								
250				1						1		6																2																		
251				6		2			1	6		4										1										2														
252				5		8				1									1			3						1													4					1
253						2						7							5	2		1																			1	1				
254				3					1			1										4						1			1	2														
255						61			2			11							1		1														1											

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Bratislavia	Brillia	Bryophaenocladius	Caecidotea	Caenidae Unid	Caenis	Calopterygidae	Calopterygidae Unid	Calopteryx	Cambaridae	Ceraclea	Ceratopogonidae	Ceratopsyche	Cernotina	Cernotina/Polycentropus	Chaetogaster	Chaoboridae	Chernovskiia	Cheumatopsyche	Chimarra
256				1						1		6							1	
257				9		37				5		7							1	
259				3		2						9								
261						8						1							2	
262		1		1		12		2	4			15		1					2	
263						22			2	2		6							1	
265						49				9		1								
268						10				10		2					1			
269				1		1						12								
272				5						6		6								
273				152								1								
275						11				1		2								
280						3				1		19		7					1	
284				1		2				3										
286				2						1		1								
287										3										
288						1			4	3		54								
289				2		124				1		8					4			
290				9		4						3								
310				11		1						7								
311				3		3				1		6								
313				2		2				2		1								
316				7						2		5					7			
319						19						11		2						
321				34						1		1								
322				1		2				8		5							2	
323				8						1		1							1	
324						2						8		1					5	
325												1								
326				34		1						10								

StationID	Chironomidae	Chironomidae Unid	Chironomini	Chironomini Unid	Chironomini Unid Diff	Chironomus	Chlorotabanus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coelotanypus	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Conchapelopia genus - gr.	Copelatus	Corbiculidae	Cordulegaster	Corduliinae	Corduliinae Unid	Corduliinae/Macromiinae Unid	Corixidae
256		14				3						2									4					
257	1			1				1																		
259		3						1		1					2						1					
261						1												1								
262		1						3		1								2			8					
263		1		1		1					1							1								
265		1																								
268											2	1									5					
269		2																								
272								2																		
273																	1									
275		1				3																				
280		2				1	1			1					1						13				2	
284								1													2					
286								1																		
287																										
288		3						1				6			1											
289																					3					
290		3									2															
310																										
311		2													1		1									1
313								1			2															
316						5		1																		
319						1					1										2					
321											2													1		
322		4		1		1					1										4					
323		2									4				1		1				2					
324		3						1							1											
325								2																		
326								3																		

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Bratislavia	Brillia	Bryophaenocladius	Caecidotea	Caenidae Unid	Caenis	Calopterygidae	Calopterygidae Unid	Calopteryx	Cambaridae	Ceraclea	Ceratopogonidae	Ceratopsyche	Cernotina	Cernotina/Polycentropus	Chaetogaster	Chaoboridae	Chernovskiia	Cheumatopsyche	Chimarra	Chironomidae	Chironomidae Unid	Chironomini	Chironomini Unid	Chironomini Unid Diff	Chironomus	Chlorotabanus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coelotanypus	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Conchapelopia genus - gr.	Copelatus	Corbiculidae	Cordulegaster	Corduliinae	Corduliinae Unid	Corduliinae/Macromiinae Unid	Corixidae
328				3		1				3																																				
329						2				4																																				
330				1						5		1							1																											
331						1				2		8							1			8						1				1									1					1
332				1						2		10										6				2		2		1																
335						11						1							1			7									1															
336						1						6																		1																
337						1						6			1				1			8																			4					
338										1		13							3			2													1						8					
339				13		5						10					5	1	3			4									3				2			1			18					
341												3		1								3									1				2						16					
343		1				52			3			4							4			2				2					5						3				12					
344										1		24							3	2								1																		
345				1					4	7		8										4		1						1		1									3					
346										4		5		4					5			1																			2					
348		1				6						18		3					2			3				2				1	1				1	1					1					
349				1						8		23							2			2															1									
350						1				2		6		2								3																			1					
376				4				1				5	1						6			2													4						3					
379				28						1		3																1	1		1						1									
380				30		1						5																1			1										2					
381				14		14				6		5										6				2									1						1					
382				7		1			2	2		7										4				1						8									1					
383				1	1	1				1		3	3									1	1								1								5							
384		1								3		2	2			1			1		4																									
388				12					5	8		5		1					2			2				1										1	1				3					
390				6						1		19							4																						2					
393		3		1		2	1		1			9							1			4						2																		
394									1	1		2							2			8				17					1						1			1						
395												13	1						2							1											1	1			9					

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Bratislavia	Brillia	Bryophaenocladius	Caecidotea	Caenidae Unid	Caenis	Calopterygidae	Calopterygidae Unid	Calopteryx	Cambaridae	Ceraclea	Ceratopogonidae	Ceratopsyche	Cernotina	Cernotina/Polycentropus	Chaetogaster	Chaoboridae	Chernovskiia	Cheumatopsyche	Chimarra	Chironomidae	Chironomidae Unid	Chironomini	Chironomini Unid	Chironomini Unid Diff	Chironomus	Chlorotabanus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coelotanypus	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Conchapelopia genus - gr.	Copelatus	Corbiculidae	Cordulegaster	Corduliinae	Corduliinae Unid	Corduliinae/Macromiinae Unid	Corixidae
396				1						1		3	3						3		3																									
397										2		2		1								6																								
398									1			6	23	1					13	6		6																			1					
399	1		1	1								2					1											1									1									
400						8						3										4			1																34					
401				33		12				3		7				1															1															
403		1		3						1		14										1										1						1								
404									2	4		3							13			8																			12					
405										1		19								1	1			1						3								2								
406										1		6							6	3		3																1			22					
407						1						12							17			1									2										12					
408		1								2		2	1							2		1																			4					
409				12						1		2				1						9				1		1																		
410				4		1				1											1					1																				
412									1	5									8			2															1				12					
413						6				2		1							1			6													1						8					
414				15						3		1		1								7						1														1				
416				1		2						6							2			2				1															2					
417						4						3										10																			1					
418				1					1	4	1	10		1					1			15						2													1					
419						3						8										4									1															
420				3						1		2										1																						1		
421						85			2			3							1	1												2														
422						3													2			5										5									18					
423		1				1			2	2		3	3	1								8																			18					
424				9		3						26										5									1				1											
453		1		43		2			1	2		5							1			9						2							1			2								
457				2									3							1		4													1						7					
458				1			1					2	2							9	5	2				1												1								
459									1	1		1	2						1			10																			2					

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Bratislavia	Brillia	Bryophaenocladius	Caecidotea	Caenidae Unid	Caenis	Calopterygidae	Calopterygidae Unid	Calopteryx	Cambaridae	Ceraclea	Ceratopogonidae	Ceratopsyche	Cernotina	Cernotina/Polycentropus	Chaetogaster	Chaoboridae	Chernovskiia	Cheumatopsyche	Chimarra	Chironomidae	Chironomidae Unid	Chironomini	Chironomini Unid	Chironomini Unid Diff	Chironomus	Chlorotabanus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coelotanypus	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Conchapelopia genus - gr.	Copelatus	Corbiculidae	Cordulegaster	Corduliinae	Corduliinae Unid	Corduliinae/Macromiinae Unid	Corixidae
460				1				1											21			2													1			1								
462				1					1	2		1		1								6																1								
463				1					1	1		2	2						2	4		7				1					1										1					
464							1			1		1	21						10	5		5																								
465										1		2	28						16	1		6																			9					
466				11								6							31	7		5									2							1								
467		6		1					1	2			6						4	5		3								9					1											
468		1						1			1	1	2						3			12		1				1		1					1						38					
469		1		2								6	3	3					2	4		9								18												1				
470								1		2			1						1	1		5				1				1											39					
471		1		2				1		3		2	2						5	5		3				3				18					2								1			
472													5						2																						120					
474				1					2			12									5					1				8					1											
475		1		2					2	1		6										3								2								2								
476												3	7						4	7														1							4					
477		1		1				1	1		3	2		1						3		3																						1		
478				4								43				2			3			3									1				2										2	
479		4								4		3		1						1		8		1				1																1		
480				1								4	6						4			1																			31					
481				1						3		6							5			3									1						1				21					
482		1							1			8							3	5		4																								
483										1		1	3						3	1	3																									
484				2								3							2			4																			15				1	1
485				9		21						24							27			11													2			3								
487				1								19										6																								
489				9						2		6										3																								1
492				2								9																																		
493												5		3							2	4																			7					
494						1						13							1			1																			3					
495												10							2	5		12								1																

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Bratislavia	Brillia	Bryophaenocladius	Caecidotea	Caenidae Unid	Caenis	Calopterygidae	Calopterygidae Unid	Calopteryx	Cambaridae	Ceraclea	Ceratopogonidae	Ceratopsyche	Cernotina	Cernotina/Polycentropus	Chaetogaster	Chaoboridae	Chernovskiia	Cheumatopsyche	Chimarra	Chironomidae	Chironomidae Unid	Chironomini	Chironomini Unid	Chironomini Unid Diff	Chironomus	Chlorotabanus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coelotanypus	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Conchapelopia genus - gr.	Copelatus	Corbiculidae	Cordulegaster	Corduliinae	Corduliinae Unid	Corduliinae/Macromiinae Unid	Corixidae
496						1						6		1								12																								
497				1		3				3		9							3	1		2								2											2					
498																																														
500		1										4	1							4		1																								
502				7								3										6																								
504				4		3				3		5							1																						1					
505									1	1		4		5								2		1				2								1										
506						2			1	3		30		2					1	4		3									1				1											
507									1			16								2		1						1		3																
508						2			1	1	1									2		2																								
510				3		2				1		1										3																1								
511				2							2											4																								
513				6																		4																2								
514				1					1	1		2								1		7								1																
515												6		1					5	1		16																			5					
516				7								17								2		9									1															
517												6		1					1	1		18								2						1		2								
518				20		1			3										4									1																		
519				27																		2																								
520				1							1	5								1		3				2				5								3								
521				1																		2																								
522												2							1	1		2																			74					
523		1									1	4							3	7		2																			18					
524		5								1	6	4								1		4																								
525												1							6			3																			4					
526		1																	1	40		9									1															
527												11							1	6		1																					1			
529				1						1		27		2						1										1																
530												2																																		
531												2							1	1																										

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Bratislavia	Brillia	Bryophaenocladius	Caecidotea	Caenidae Unid	Caenis	Calopterygidae	Calopterygidae Unid	Calopteryx	Cambaridae	Ceraclea	Ceratopogonidae	Ceratopsyche	Cernotina	Cernotina/Polycentropus	Chaetogaster	Chaoboridae	Chernovskiia	Cheumatopsyche	Chimarra	Chironomidae	Chironomidae Unid	Chironomini	Chironomini Unid	Chironomini Unid Diff	Chironomus	Chlorotabanus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coelotanypus	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Conchapelopia genus - gr.	Copelatus	Corbiculidae	Cordulegaster	Corduliinae	Corduliinae Unid	Corduliinae/Macromiinae Unid	Corixidae
532				1		17				2		8		4	2					10		1																								
533				14								1		1						3		2								1						1										
535				3		29						5							5																3											
536						1															17	3																								
537				40		23				1		3										5				1				7																
538												6							3	6																					1					
539												6								1		3								2								4								
540				1								2		1								4																								
541		1								2		14		1								5								2																
542		2		3					3	1		7								14		9									1													1		
544				2								43		8			1					6								2																
549													9						1	2																										
550						4						1							2	1		2									2		1								2				1	
551												18		2					1	35		1																								
554								1				9				1			14			4						1							1						4					
556											1	6		1					7	2	3	1																						1		
557						227				1									1									7										1								
562													4						9	61		6																								
563																			1	2		6				1				1											8					
564						1	1			1									4	8		7																			3					
565				6					1			13										7								1	2															
566				50		36				9		4																																1		
600				2								6							15	5		15								1	1				1			1								
601				86						1		3										7																5								

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Corydalidae Unid	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Culicidae	Cura	Cura foremanii	Cymbiodyta	Cyphon	Cyrnellus	Cyrnellus fraternus	Demicryptochironomus	Dero	Desmopachria	Dicrotendipes	Didymops	Dineutus	Diplectrona	Diplocladius	Diptera Unid	Dixa	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia	Dugesia tigrina	Dytiscidae	Dytiscidae Unid	Eccoptura xanthenes	Eclipidrilus	Ectopria	Einfeldia	Elmidae	Elmidae Unid	Elmidae Unid Diff	Enallagma	Enchytraeidae	Endochironomus	Ephemerella
171																											1																							
172									1												1		4																							1			
173						1	1		1												2																										6		
174																							2		1									4												1	2		
175									1						1								1								1			1												1	3		
176			1	2				1	3						1						1		2											1													2		
177			1				3		1														2				2				1			1						1							5		
178		1	1						2																																						10		
179			2				3																10		3						2									1						1	3		
180				1																			10																								9		
183																											4															1							
184						4	6										1				1		4		2							1															13		
185					3		12																1		1		1				1	5	1	2													12		
187						4	28								1																																3		
191						2	5										1				4											1				1						1					1		
206							2										2				1		4				5															1					2		
210						2	1		2																		3																			1	8		
234			4	4	1		2		2		3												2								1		2	5						1							3		
238			1			1	2		5														2	1																						1	2		
240									1		1						1						1								1		2	3						3						3	6		
242			1																																														
247																																		1													1		
248				2							1												1		1						1			14						2						1	1		
249			1				1																10		2						1			5													1		
250																	1						2		1									1													3		
251							4				1												2				1				1			1						1		2					1		
252			1				2		2			1									1		1					1				1		3													3		
253			2	1							2						1																	1												1	1		
254							11																2											1									1				12		
255																							1																								4		

StationID	Corydalidae Unid	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Culicidae	Cura	Cura foremanii	Cymbiodyta	Cyphon	Cyrnellus	Cyrnellus fraternus	Demicryptochironomus	Dero	Desmopachria	Dicrotendipes	Didymops	Dineutus	Diplectrona	Diplocladius	Diptera Unid	Dixa	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia	Dugesia tigrina	Dytiscidae	Dytiscidae Unid	Eccoptura xanthenes	Eclipidrilus	Ectopria	Einfeldia	Elmidae	Elmidae Unid	Elmidae Unid Diff	Enallagma	Enchytraeidae	Endochironomus	Ephemerella
256																					1		1		1									6													5		
257				1			2								1																		1							1						3	4		
259			5						1								1						1		4								1	5						1						1	7		
261																					2		11																							2	9		
262			4				6		7				1										5										1	11															
263			1						1																					1	3		1														2		
265											3												4		1									2															
268			1						1		1												9	1							2			3						1						3	4		
269						2	6					3											5		2									1								1					3	1	
272							14																4									1										5					30		
273						3	56																														1										2		
275								1	6		7												1													1											8		
280				1								1					1			1			1		1					1	3		5	14												1			
284						5	4	1									1				1						3							4		1											6		
286							10										1										1													1							7		
287																																															5		
288																														1		1		3						1						1	16		
289																	1										1															3				1	7		
290			2		2		45																				2															1					6		
310						2	4										3				2																			1							12		
311						1	1																1				2											1				1					3		
313							6										33																							1						1			
316							2																1																	1		4					1		
319			2				1		21												2		8		1								1	18												8	1		
321							9														5																										1		
322			5				2	1	2												4		5																								4		
323			2	2			11		2								1				1		8											3												2	1		
324			2						37														3								3	1		5										1		1	3		
325																	1																							1		1					4		
326							23										9						1												1												4		

StationID	Corydalidae Unid	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Culicidae	Cura	Cura foremanii	Cymbiodyta	Cyphon	Cyrnellus	Cyrnellus fraternus	Demicryptochironomus	Dero	Desmopachria	Dicrotendipes
328						1																	
329							2																
330							9																3
331			3				1		1		1												2
332				1			1		3		1										6		7
335			3						3														4
336			1						15														2
337		1	1						36		2												2
338									38		1												20
339			1	1					14						1								22
341			2	1					3														1
343									12		1												10
344							1										1						
345			1																				
346				1					2														3
348				1					1												1		21
349				1																			
350				1	1		6																1
376									17		1												2
379							3										1				1		1
380				1			6										1				1		3
381			1																		1		3
382			1																		6		1
383								1	1											1			1
384			1	1				3	6		2												
388								1							2								9
390							2		3														2
393			3	1				1	5														1
394			4								1			3							8		8
395								3	8	1	1									1			4

StationID	Didymops	Dineutus	Diplectrona	Diplocladius	Diptera Unid	Dixa	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia	Dugesia tigrina	Dytiscidae	Dytiscidae Unid	Eccoptura xanthenes	Eclipidrilus	Ectopria	Einfeldia	Elmidae	Elmidae Unid	Elmidae Unid Diff	Enallagma	Enchytraeidae	Endochironomus	Ephemerella
328				1													4									
329																										
330		1																						1		
331									1	2													1	2		
332				1																				4		
335											2												2	2		
336										1	6							1						1		
337											10												1			
338																							2	5		
339									2		1												3	2		
341										1	9		1										2	1		
343		1									4															
344											2						5							40		
345								1			3						1							28		
346																	3							2		6
348		1									2												1	1		
349			2													1								7		
350	1									1														9		
376											1													2	1	
379		2		1									1						10					4		
380								1																		
381										1	3						1						1	2		
382								1																5		
383																		1						5		
384						1	1				1						1							14		
388								1			5												4	8		
390		1							1		2						1				1		3	3		
393							2				4						1				1			1		
394		1										1		1									2			
395										1	2						3									

StationID	Corydalidae Unid	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Culicidae	Cura	Cura foremanii	Cymbiodyta	Cyphon	Cyrnellus	Cyrnellus fraternus	Demicryptochironomus	Dero	Desmopachria	Dicrotendipes
396			3	5			1		7											1			1
397				1					10	2	1												2
398				1					11		1				2								
399						1															2		
400			1					1															2
401							1										2						6
403			1																				
404							1	2	6	1													
405			4	2			1				5									5			
406			1	5					13														1
407									6										1				1
408			7			1			1														
409							4		57												10		1
410							1														1		1
412		1			1																		
413			1	1			1																2
414							1																
416																							4
417									11		2										4		7
418							2																
419									28		1												3
420																							
421			1	4																			
422			2						1	1													
423											1												
424			5	3																			7
453											3						2						1
457			1	1			4		1														
458			2					1	16	1													1
459								1	66	2					1					1			

StationID	Didymops	Dineutus	Diplectrona	Diplocladius	Diptera Unid	Dixa	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia	Dugesia tigrina	Dytiscidae	Dytiscidae Unid	Eccoptura xanthenes	Eclipidrilus	Ectopria	Einfeldia	Elmidae	Elmidae Unid	Elmidae Unid Diff	Enallagma	Enchytraeidae	Endochironomus	Ephemerella
396																							1	2		1
397											5															
398											8		2											5		
399				2																				9		
400											1													2		
401		8						1					1						4					5		
403		1															1	1						3		
404		1																						4		
405										1	1												1			
406											2						1					1		6		
407									1		9												2			2
408																								1		2
409											1						2							7		
410																			2							
412																										
413																								1		
414																								4		
416											10		1										1			
417											1												5	7		
418		1							1		1						7							9		
419										1	2												2	2		
420																	3									
421											1															
422																										
423											2													1		
424																								1		
453											1		2		1								1	2		
457											3												1			
458											1		7													
459											1		2													

StationID	Corydalidae Unid	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Culicidae	Cura	Cura foremanii	Cymbiodyta	Cyphon	Cyrnellus	Cyrnellus fraternus	Demicryptochironomus	Dero	Desmopachria	Dicrotendipes	Didymops	Dineutus	Diplectrona	Diplocladius	Diptera Unid	Dixa	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia	Dugesia tigrina	Dytiscidae	Dytiscidae Unid	Eccoptura xanthenes	Eclipidrilus	Ectopria	Einfeldia	Elmidae	Elmidae Unid	Elmidae Unid Diff	Enallagma	Enchytraeidae	Endochironomus	Ephemerella
460									16												1													4												3			
462			1	3			1	1	5																								1													1	2		
463			2						8		1																																			1			
464																																																	
465	1		1				1		14																									2												2	1		
466			1				3		10			1											18											3															
467			1						2		3																													1									
468			3						7						1								3											6													1		
469			1								1												1											2				1								1	4		
470			3	1					2	3	1									1														1		14				4						1	1		
471		1	3	1			5	5	6		3				1								2																							1			
472			2	1						1																								3															
474				1			1				5												2		1											1											6		
475																	1													2										2							8		
476		1	4	1				2	17	1																					1			6													1		2
477			1																				1																								1		
478			2					1	15		1				7			1					10																							4			
479			9	6					1		1																							1												2			
480							3		1																									16						2	1						1		
481			1						4																1									2		1										4	16		
482			5	1																														2												1			
483		1	22	4					7		1												2		4									1													3		
484									11														1											7												1	1		
485		1							5														1											8												1	2		
487				2					11														5		1								1									1					1		
489			1	1													2				2											1										3					29		
492			2				6																		1																						41		
493			1					2	15		1										1		11		1									2								1					2		
494								8	16	4	10												7													1											1		
495			1					11	14														9																								8		

StationID	Corydalidae Unid	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Culicidae	Cura	Cura foremanii	Cymbiodyta	Cyphon	Cyrnellus	Cyrnellus fraternus	Demicryptochironomus
496							1	4	23											
497									3		1									
498																				
500			3																	
502			5	1		4	2	1												
504				1			1	1												
505			1																	
506		1									1									
507								2			4									
508			2						6											
510																	1			
511				1			1													
513			5	4					11											
514				1																
515									15	1		5								
516											1									
517									10		1				1					
518								3							2					
519			1				7	3												
520		1	2																	
521						25	2	1												
522							1													
523		1							2											
524			1	2					1											
525		2	2						8						1					
526									3						1					
527											1									
529								2			2									
530																				
531											5									

StationID	Dero	Desmopachria	Dicrotendipes	Didymops	Dineutus	Diplectrona	Diplocladius	Diptera Unid	Dixa	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia	Dugesia tigrina	Dytiscidae	Dytiscidae Unid	Ecoptura xanthenes	Eclipidrilus	Ectopria	Einfeldia	Elmidae	Elmidae Unid	Elmidae Unid Diff	Enallagma	Enchytraeidae	Endochironomus	Ephemerella
496			21																								2		
497			9								1																2		
498																											3		
500																											1		
502																				1							69		
504	1													1						1							51		
505			4	1							1			4															
506			2								1		1	1													2		
507																				1						1	3		1
508			1											2												1	5		
510	2		1																								5		
511														2															
513	1		6													2				1							1		
514			1															1									4		
515			1											4															
516																											8		
517			1											1															
518																										2	2		
519			1																	1							2		
520											1		2																
521																										1	8		
522														5															
523														7													3		
524					1																		1				18		
525														1															
526														2		1											3		1
527																				1	1						2		
529													1												1		3		
530																													
531																													

StationID	Corydalidae Unid	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Culicidae	Cura	Cura foremanii	Cymbiodyta	Cyphon	Cymellus	Cymellus fraternus	Demicryptochironomus	Dero	Desmopachria	Dicrotendipes	Didymops	Dineutus	Diplectrona	Diplocladius	Diptera Unid	Dixa	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia	Dugesia tigrina	Dytiscidae	Dytiscidae Unid	Ecoptura xanthenes	Eclipidrilus	Ectopria	Einfeldia	Elmidae	Elmidae Unid	Elmidae Unid Diff	Enallagma	Enchytraeidae	Endochironomus	Ephemerella
532																							34		1						1									2							6		
533			1																				3																	1							8		
535			3	5													1								1						1															2			
536								28	70														27																	1									
537							2		1								2					1	5											5						1						1	6		
538		2						1	2		1												2											2															
539																										1					1			1						1							2		
540		1							1		1																							1															
541		1	1	2																			1											1						1							3		
542							2																											2						3	1						2		
544											2																							3				2											
549								1	1																1																						1		8
550			1						6												1		1		1									1												3	2		
551		2	1								3												1								1			1						2									
554							1		18	2						1																		2													2		
556		3	1				1			2		1											1											9													2		9
557																							1									1								2							1		
562			4					3	1		1			5									2										1													1			
563									28	2																										2				1				1					
564			1	3			3	9	8	1															1									1		2				2						2			
565									10														3											3		1										4	2		
566				1			13																				1																				2		
600		1	1					2	19														2																	3						2	1		
601								1															2																	1							2		

StationID	Ephemerella/Serratella	Ephemerellidae Unid	Ephemerellidae Unid Diff	Ephemeridae Unid	Ephemeroptera Unid	Ephydridae	Ephydridae Unid	Epicordulia princeps	Epoicocladius	Erioptera	Erpetogomphus	Erpobdellidae	Eukiefferiella	Eurylophella	Fittkauimyia serta	Fossaria	Gammarus	Gastropoda	Gastropoda Unid	Glossiphoniidae	Glossosomatidae Unid	Glyptotendipes	Goeldichironomus	Gomphidae	Gomphidae Unid	Gomphidae Unid Diff	Gomphus	Gomphus Diff	Gonielmis dietrichi	Gonomyia	Gymnometriocnemus	Gyrinus	Haemonais	Haemonais variant	Haemonais waldvogeli	Hagenius brevistylus	Haliplus	Harnischia	Harnischia complex Genus C	Helichus	Helopelopia	Helopicus	Hemerodromia	Heptagenia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff	Hetaerina	Heterotrissocladius
171																																																	
172																																																	
173										1																	1			3																2			2
174																											1			2																1			
175																						1					1								1					2									
176																																								1						3			
177																														2										2									
178																														1																	4		
179										1																				2																1			
180																														4																			2
183										1																				1										2									
184																																			1														
185										1																				3										3									
187																																																	1
191										2																									1														
206										2			1																	4																			
210																														1							1												
234																											5			5																8			
238																											1			1															5				
240					1									1																																1			1
242																														2																2			
247																																																	
248																											2			3																6			1
249																														2		1														7			
250										8																					1																1		
251						1																					1				1									1									
252										1																	1			2											1								
253																																															1		
254										2																				1																			1
255																											1			1																4			

StationID	Ephemerella/Serratella	Ephemerellidae Unid	Ephemerellidae Unid Diff	Ephemeridae Unid	Ephemeroptera Unid	Ephydridae	Ephydridae Unid	Epicordulia princeps	Epoicocladius	Erioptera	Erpetogomphus	Erpobdellidae	Eukiefferiella	Eurylophella	Fittkauimyia serta	Fossaria	Gammarus	Gastropoda	Gastropoda Unid	Glossiphoniidae	Glossosomatidae Unid	Glyptotendipes	Goeldichironomus	Gomphidae	Gomphidae Unid	Gomphidae Unid Diff	Gomphus	Gomphus Diff	Gonielmis dietrichi	Gonomyia	Gymnometriocnemus	Gyrinus	Haemonais	Haemonais variant	Haemonais waldvogeli	Hagenius brevistylus	Haliplus	Harnischia	Harnischia complex Genus C	Helichus	Helopelopia	Helopicus	Hemerodromia	Heptagenia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff	Hetaerina	Heterotrissocladius
256										1																	1			4																1			
257																									1																								1
259																														1							1			2									
261							1			1																							1	1															
262																											3					1											2			1			
263																											1			1																4			
265																														1					1											7			
268													1																	1																1			
269										1												2													3														
272										2												1									1																		
273																																																	
275												1																		2																			1
280														5			1								3																		1		9	1			
284													1							2							1			2										3									
286										2																																							
287																																																	
288										2				1													1			12										3									
289																														2																			
290										5		1																																					1
310										3																																							
311																																																	
313																							2																										
316																			1			1	1																										
319														3																1																			
321																																																	
322														1																2																7			
323															2												1																						
324																									2						1															2			
325																											2			1																			
326																																																	

StationID	Ephemerella/Serratella	Ephemerellidae Unid	Ephemerellidae Unid Diff	Ephemeridae Unid	Ephemeroptera Unid	Ephydridae	Ephydridae Unid	Epicordulia princeps	Epoicocladius	Erioptera	Erpetogomphus	Erpobdellidae	Eukiefferiella	Eurylophella	Fittkauimyia serta	Fossaria	Gammarus	Gastropoda	Gastropoda Unid	Glossiphoniidae	Glossosomatidae Unid	Glyptotendipes	Goeldichironomus	Gomphidae	Gomphidae Unid	Gomphidae Unid Diff	Gomphus	Gomphus Diff	Gonielmis dietrichi	Gonomyia	Gymnometriocnemus	Gyrinus	Haemonais	Haemonais variant	Haemonais waldvogeli	Hagenius brevistylus	Haliplus	Harnischia	Harnischia complex Genus C	Helichus	Helopelopia	Helopicus	Hemerodromia	Heptagenia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff	Hetaerina	Heterotrissocladius
328										1																														2									
329																																								1									
330														2																1																			
331														7																																1			
332														2																							1												
335													1	2													1													1									
336														4																1					1					1									
337												1																																		4			
338												1																							1														
339										2																				2		1														2			
341													5	3											1																								
343																				1												1														1			
344										1				2																											1		1						
345		1												8																1										1									
346													1																	2																2			
348																														1																1			
349														13																						1				1	2								
350														7																2																1			
376													1																																1				
379																			1																6					1									
380																														1																			
381																																														3			
382																																			1														
383		2		1																																				1			1			1			
384																								1																	1					3			
388														2																1																			
390																									1					1																11			
393		1												4										1								11							3						1				
394																			1			1					1	2																1					
395													1														1																		9				

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Ephemerella/Serratella	Ephemerellidae Unid	Ephemerellidae Unid Diff	Ephemeridae Unid	Ephemeroptera Unid	Ephydridae	Ephydridae Unid	Epicordulia princeps	Epoicocladius	Erioptera	Erpetogomphus	Erpobdellidae	Eukiefferiella	Eurylophella	Fittkauimyia serta	Fossaria	Gammarus	Gastropoda	Gastropoda Unid	Glossiphoniidae	Glossosomatidae Unid	Glyptotendipes	Goeldichironomus	Gomphidae	Gomphidae Unid
396														2											
397		1											2												
398			2											2											1
399																									
400										1						1									
401										2										1		1			
403																									1
404																									
405														7											
406										1															
407										3				4											
408														1											
409																									
410														1											
412																									
413														1											
414																									
416														2											
417																						1			
418														15											
419								1					1	1											
420																						1			
421																									
422																									
423														1											2
424																									
453																									
457		2																							1
458		1																							
459																									

StationID	Gomphidae Unid Diff	Gomphus	Gomphus Diff	Gonielmis dietrichi	Gonomyia	Gymnometriocnemus	Gyrinus	Haemonais	Haemonais variant	Haemonais waldvogeli	Hagenius brevistylus	Haliplus	Harnischia	Harnischia complex Genus C	Helichus	Helopelopia	Helopicus	Hemerodromia	Heptagenia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff	Hetaerina	Heterotrissocladius
396																		1			3			
397																					2		1	
398																	1	6			6			
399					2																			
400					1										2									
401										2					1									
403																					8			
404																		1			1		1	
405											1					4				1				
406					3													1			4			
407					8										1								1	
408					1																3			1
409																								
410					1																			
412		1																1			24			
413					2																1			
414																								
416					5																1			
417										1														
418					2																			
419																					2			
420																								
421																					14			
422																					2			
423																					1			
424										6						1								
453															2									
457																					4			
458													1											
459														4									1	

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Ephemerella/Serratella	Ephemerellidae Unid	Ephemerellidae Unid Diff	Ephemeridae Unid	Ephemeroptera Unid	Ephydridae	Ephydridae Unid	Epicordulia princeps	Epoicocladius	Erioptera	Erpetogomphus	Erpobdellidae	Eukiefferiella	Eurylophella	Fittkauimyia serta	Fossaria	Gammarus	Gastropoda	Gastropoda Unid	Glossiphoniidae	Glossosomatidae Unid	Glyptotendipes	Goeldichironomus	Gomphidae	Gomphidae Unid	Gomphidae Unid Diff	Gomphus	Gomphus Diff	Gonielmis dietrichi	Gonomyia	Gymnometriocnemus	Gyrinus	Haemonais	Haemonais variant	Haemonais waldvogeli	Hagenius brevistylus	Haliplus	Harnischia	Harnischia complex Genus C	Helichus	Helopelopia	Helopicus	Hemerodromia	Heptagenia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff	Hetaerina	Heterotrissocladius
460																						5																								2			
462																										1	1					3											5				2		
463														3																														1		4		3	
464		29												3															5													1	2			3		2	
465														4											1																	1	1			1		3	
466												1																																		1			
467														1							1								5													1	4			1			
468														10																																			
469									1					1																																3			
470		1												2																																1		1	
471																													3																	3			
472														1													1																						
474														5																																			
475														2																											1				5				
476	1	2																																												1			
477														5																											3					1			1
478												1								1		16																								1		1	
479														7																											1		1			3			
480			1											1				1																		1													
481													4	1											1					1																1			
482														1																										1			2			2			
483													2	1																																			
484													1																																	3		1	
485														1																																			
487														3																																			
489																														1					4														
492																						3								2	1																		
493													1																																				
494											1									1		1								8															1				
495													3																	7													1			4			

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Ephemerella/Serratella	Ephemerellidae Unid	Ephemerellidae Unid Diff	Ephemeridae Unid	Ephemeroptera Unid	Ephydridae	Ephydridae Unid	Epicordulia princeps	Epoicocladius	Erioptera	Erpetogomphus	Erpobdellidae	Eukiefferiella	Eurylophella	Fittkauimyia serta	Fossaria	Gammarus	Gastropoda	Gastropoda Unid	Glossiphoniidae	Glossosomatidae Unid	Glyptotendipes	Goeldichironomus	Gomphidae	Gomphidae Unid
496													4	1								1			
497																									
498																									
500														8										1	
502																									
504										3															
505																									
506										1				3											
507														11											
508																									
510																									
511														3											
513																									
514																									
515																									
516														4											
517																									
518																									
519													10												
520																									
521																									
522																									
523													1												
524														19											
525																								1	
526																									
527																									
529														5											
530																									
531													1												

StationID	Gomphidae Unid Diff	Gomphus	Gomphus Diff	Gonielmis dietrichi	Gonomyia	Gymnometriocnemus	Gyrinus	Haemonais	Haemonais variant	Haemonais waldvogeli	Hagenius brevistylus	Haliplus	Harnischia	Harnischia complex Genus C	Helichus	Helopelopia	Helopicus	Hemerodromia	Heptagenia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff	Hetaerina	Heterotrissocladius
496					1																			
497					3										1							8		
498																								
500							1										1				1			
502					2																			3
504		1			1					1														
505		1		1												5								
506					1										1	4								
507		1			1											1								
508																								
510					1					1														
511																1								
513																								
514																					1			
515																					2			
516																2					1			
517										1								1						
518																								
519																								
520																					4			
521																					1			1
522					2								1				1				3			
523					1										1				1		3		1	
524				2																				
525														1			1						2	
526																2								
527																3		1						
529					1					1											1			
530					1																			
531					6																1			

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Ephemerella/Serratella	Ephemerellidae Unid	Ephemerellidae Unid Diff	Ephemeridae Unid	Ephemeroptera Unid	Ephydridae	Ephydridae Unid	Epicordulia princeps	Epoicocladius	Erioptera	Erpetogomphus	Erpobdellidae	Eukiefferiella	Eurylophella	Fittkauimyia serta	Fossaria	Gammarus	Gastropoda	Gastropoda Unid	Glossiphoniidae	Glossosomatidae Unid	Glyptotendipes	Goeldichironomus	Gomphidae	Gomphidae Unid	Gomphidae Unid Diff	Gomphus	Gomphus Diff	Gonielmis dietrichi	Gonomyia	Gymnometriocnemus	Gyrinus	Haemonais	Haemonais variant	Haemonais waldvogeli	Hagenius brevistylus	Haliplus	Harnischia	Harnischia complex Genus C	Helichus	Helopelopia	Helopicus	Hemerodromia	Heptagenia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff	Hetaerina	Heterotrissocladius
532														3																											1					1			
533														1																																			
535																																														1			
536																																																	
537																																5																	
538														5																																			
539		2												1															1														3			6			1
540												1		2																													1						
541														7											1				3												1					2			
542														3													2		5												1					1	3		
544														5													1																						
549		1																																						1								1	
550								1						1													1																						
551										1				6																1												1				1			
554				1						1										1																							1			6			
556														41										1						1										2		1				2			1
557																														1																			
562																																														2			
563																																																	
564		1												1																													2			2			
565														10													1																		1				
566																																																	
600														1																																			
601														5																																3			

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Hexagenia	Hexatoma	Hirudinea	Hirudinea Unid	Hyalella	Hybomitra	Hydaticus	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrobiidae	Hydrocanthus	Hydrochus	Hydroporus	Hydropsyche	Hydropsyche Unid	Hydropsychidae	Hydropsychidae Unid	Hydroptila	Hydroptilidae Unid	Ilyodrilus	Ironoquia	Ischnura	Isochaetides	Isonychia	Isoperla	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Laccophilus	Larsia	Lauterborniella agrayloides	Lepidoptera	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Leuctra	Libellula	Libellulidae	Libellulidae Unid	Libellulinae Unid	Limnephilidae	Limnephilidae Unid	Limnephilidae Unid Diff	Limnodrilus
171																											1													3								
172																																																
173											3																2																					
174					3																	1																										2
175																																								1								3
176	1																										1		2																			
177					9					2									1								7																					
178																											26																					
179												1																																				
180					5																							1															1					
183																																					1											
184					14				1																																					2		
185					27					3																	65																					
187																											1												1									
191										1																	27	1															1					
206					17					15																		9			2				3							2						
210										10	1																2																					
234	3				9					1																	2																					3
238																																																
240	3				6																								1							1			1									5
242	6																																						1									3
247	1				1																						6				1																	1
248	1	1				1																					9																					
249					12																																											1
250					1																											1							1									1
251												6															7	1																		1		
252					3					1		1																																				
253																											4																					
254					2										1													1					1															
255	1																										2																					1

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Hexagenia	Hexatoma	Hirudinea	Hirudinea Unid	Hyalella	Hybomitra	Hydaticus	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrobiidae	Hydrocanthus	Hydrochus	Hydroporus	Hydropsyche	Hydropsyche Unid	Hydropsychidae	Hydropsychidae Unid	Hydroptila	Hydroptilidae Unid	Ilyodrilus	Ironoquia	Ischnura	Isochaetides	Isonychia	Isoperla	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Laccophilus	Larsia	Lauterborniella agrayloides	Lepidoptera	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Leuctra	Libellula	Libellulidae	Libellulidae Unid	Libellulinae Unid	Limnephilidae	Limnephilidae Unid	Limnephilidae Unid Diff	Limnodrilus
256	1				4														1								3						1															4
257					2					1										2							2									2							1					1
259					14															4							2																					
261					1																																											34
262	2				3						1					1										1	2																					
263	18				1				1																	1	2																					2
265	1																																															
268	1				54					1																															1							
269					16				2					1													2																					
272										5		5															3	7													1							
273					1					6																																						
275										7																		1																				26
280	16		1		1				1	1		2															3		1										2									1
284					4					36	1	1																											1									1
286										7												1		1																								48
287											1																																		2			
288	1																										3										1									4		
289					10					3																																						1
290										12																	5																					3
310												1																																				
311					39							5													1		1	1															1					
313										1				1														2			3																	
316					1							12										1						4																				4
319					12															1							1		1																			2
321					1																																											7
322	2																									1																						2
323					26							3	1											5																	2						1	9
324					11															21									3	2												1				1		
325										1		2																1																				1
326					40																							2						1														1

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Hexagenia	Hexatoma	Hirudinea	Hirudinea Unid	Hyalella	Hybomitra	Hydaticus	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrobiidae	Hydrocanthus	Hydrochus	Hydroporus	Hydropsyche	Hydropsyche Unid	Hydropsychidae	Hydropsychidae Unid	Hydroptila	Hydroptilidae Unid	Ilyodrilus	Ironoquia	Ischnura	Isochaetides	Isonychia	Isoperla	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Laccophilus	Larsia	Lauterborniella agrayloides	Lepidoptera	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Leuctra	Libellula	Libellulidae	Libellulidae Unid	Libellulinae Unid	Limnephilidae	Limnephilidae Unid	Limnephilidae Unid Diff	Limnodrilus
328																											109												1									2
329												1											2				60												4									1
330					4																																		1									
331	13																									2	1		1																			1
332	11				2																						2																					4
335	1				28							1																																				1
336	4				50							19												1																								
337	2				1															2						2			2																			
338	1																																1								1			1				27
339	1									1						6								1		1								2														1
341	11				41							18															2																					1
343																								1																								
344																																				1												
345						1																					4		2																			
346	3				2				1							1				2						3	2									1												
348	2				6				1																		23																					1
349	2																																		3										1			
350	1				2																																											
376					3														3	2				1		5	1		1																			
379					68							10																1																1				2
380		1			17							11																																1				
381		1			25																					2	2																					
382																											6	2																		1		
383																										21			1										4									
384	8								1																	8			1									3										3
388	2				1				1																																							
390	1				4															2				1		16	1		2										5									
393	7																			1						4			2										2			1						
394					5			3																1				1										2										
395	2	1																								8																						

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Hexagenia	Hexatoma	Hirudinea	Hirudinea Unid	Hyalella	Hybomitra	Hydaticus	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrobiidae	Hydrocanthus	Hydrochus	Hydroporus	Hydropsyche	Hydropsyche Unid	Hydropsychidae	Hydropsychidae Unid	Hydroptila	Hydroptilidae Unid	Ilyodrilus	Ironoquia	Ischnura	Isochaetides	Isonychia	Isoperla	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Laccophilus	Larsia	Lauterborniella agrayloides	Lepidoptera	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Leuctra	Libellula	Libelluliidae	Libellulidae Unid	Libellulinae Unid	Limnephilidae	Limnephilidae Unid	Limnephilidae Unid Diff	Limnodrilus
396		1																	2							19	1												4									
397	1								1																	3	3																					
398					1																					9			6							2	1		7									
399					1					6																																						
400					3																					4	41																					
401					37							5											2				6												2									9
403	14	1																								3													4				1					
404	2				1							2				2										3	4			1						1												1
405		1																						1											3			2										1
406												20							1	8						9	2							1														
407																				1						3	5																					
408	1																									4	8		1																			
409					5																							1																				
410					10							2															8	4																				
412	5	1																								6	2									1	1		2									
413	6				2																					1	6																			1		
414											28																												1									
416					118							11															6																					1
417					3																																											3
418	5								1																	1	4			1						1												1
419	6				15				1			48														1			3																			1
420					1																						5																					3
421																											2																					
422	2																																						2									1
423					1	1										1										8	3		2						1													
424					2																								2										1									
453					1		1																																									7
457																				1						38												11										
458									1																	7			2						1			2										
459									1											6						1			2																			

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Hexagenia	Hexatoma	Hirudinea	Hirudinea Unid	Hyalella	Hybomitra	Hydaticus	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrobiidae	Hydrocanthus	Hydrochus	Hydroporus	Hydropsyche	Hydropsyche Unid	Hydropsychidae	Hydropsychidae Unid	Hydroptila	Hydroptilidae Unid	Ilyodrilus	Ironoquia	Ischnura	Isochaetides	Isonychia	Isoperla	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Laccophilus	Larsia	Lauterborniella agrayloides	Lepidoptera	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Leuctra	Libellula	Libelluidae	Libellulidae Unid	Libellulinae Unid	Limnephilidae	Limnephilidae Unid	Limnephilidae Unid Diff	Limnodrilus
460					4																																											2
462	4				1																																		1									
463	6				5															6						31			2										3									
464																			3	3						6	2												3									
465																			1	6						13	2		2						1													1
466		1			24												1		2																													
467									2											4						8										1			1									
468												2								4						4	1		2							1												
469	14				1															1						2	2		1								1		5									1
470																1										3	1		2							1												1
471																					1			1		18	1												2		1							
472																2										13	1																					
474	4																																															
475	1	1																																				17										
476																				2						5	1																					
477																																							3									
478	1				2											13				1				2		4			1					1							6							
479	1	1																	2	1						1							1						3									
480	1															1											1												1									
481		1					1		2										1																				1									
482																										2													3									
483	3															1										8													1									
484	1																									2													1									1
485					2													1						2																								
487					25							1																	1																			2
489																												6	1																			1
492					3				1																			1																				
493	9											2				1			1	1						2																						
494	1				1											2				1						1																						9
495	1				2											4				1				1		2																						

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Hexagenia	Hexatoma	Hirudinea	Hirudinea Unid	Hyalella	Hybomitra	Hydaticus	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrobiidae	Hydrocanthus	Hydrochus	Hydroporus	Hydropsyche	Hydropsyche Unid	Hydropsychidae	Hydropsychidae Unid	Hydroptila	Hydroptilidae Unid
496	3																			2	
497	4																				
498																					
500																1					
502				1																	
504					1				1												
505					1															3	
506	18				1											3				1	
507	1																			1	
508	1								1										2	2	
510																					
511	2																				
513																					
514																					
515																				1	
516	1								2												
517																				11	
518																					
519					1																
520																					1
521										3											
522																4			2		
523																5				1	
524	3	4										1									
525																1				2	
526																1				2	
527	1																				
529	3				1				1							1				1	
530																					
531		15														2					

StationID	Ilyodrilus	Ironoquia	Ischnura	Isochaetides	Isonychia	Isoperla	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Laccophilus	Larsia	Lauterborniella agrayloides	Lepidoptera	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Leuctra	Libellula	Libellulidae	Libellulidae Unid	Libellulinae Unid	Limnephilidae	Limnephilidae Unid	Limnephilidae Unid Diff	Limnodrilus
496																											
497					2	2		1																			
498																											
500					11																						
502																											1
504																											2
505															2	1		6									
506					3											10		4									
507												2						1									1
508																											
510							1								1												
511																		3									
513							2																				
514								2				1						3									
515					2	2																					
516				1													5										
517						1																					
518																											
519																											
520					2										1												
521																											
522					7								1														
523					8																						
524								1								2											
525					9																						
526								1																			
527								1																			
529																		3									
530																											
531																											

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Hexagenia	Hexatoma	Hirudinea	Hirudinea Unid	Hyalella	Hybomitra	Hydaticus	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrobiidae	Hydrocanthus	Hydrochus	Hydroporus	Hydropsyche	Hydropsyche Unid	Hydropsychidae	Hydropsychidae Unid	Hydroptila	Hydroptilidae Unid
532																					
533																					
535																					
536																					
537																					
538	2															1					
539		2							1							1				1	
540	2				1							3									
541	1																				
542																1					
544	1															1					
549												18								1	
550	1											96				1					
551	6	1														11				2	
554									2			3				2				1	
556																			2	3	
557						1			1	2											
562	1	1			1											1					
563									3							1			2		
564									1			25				1					
565	2								3												
566										3	1										
600																12				2	
601																					

StationID	Ilyodrilus	Ironoquia	Ischnura	Isochaetides	Isonychia	Isoperla	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Laccophilus	Larsia	Lauterborniella agrayloides	Lepidoptera	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Leuctra	Libellula	Libelluidae	Libellulidae Unid	Libellulinae Unid	Limnephilidae	Limnephilidae Unid	Limnephilidae Unid Diff	Limnodrilus
532								1							1												
533																											
535			1																								
536																											
537			1				2																				
538					4																						
539						2						1			2			12									
540																											
541					1	1																					
542						2		1										6				1					
544																		2									
549					4	5																					
550						3		3																			1
551																											
554									1																		2
556					2	3																					
557																											2
562																											
563					9																						
564					10			1							1												
565			1																								1
566		1				4												7									8
600					1										1												
601																											

StationID	Limnophila	Limnophyes	Limonia	Lioporeus	Lirceus	Lumbricidae	Lumbriculus	Lymnaeidae	Lype
171									
172									
173									
174						1			
175		1							
176						1			
177					6				
178									
179							2		
180									
183									
184						1			
185					1	1			
187					12	1			
191					5			1	
206									
210					50				
234									
238									
240									
242	2								
247									
248									
249						1			
250									
251					4				
252					2				
253									
254									
255									

StationID	Limnophila	Limnophyes	Limonia	Lioporeus	Lirceus	Lumbricidae	Lumbriculus	Lymnaeidae	Lype
256								1	
257					1				
259									
261		1					3		
262									
263									
265									
268					2		1		
269									
272									
273									
275		1							
280					1			1	
284					5				
286					9			1	
287									
288		1							
289		1			6				
290					2				
310					36				
311							2	3	
313									
316					3				
319									
321					6				
322					3			1	
323					37				
324									
325					1				
326						1	3	1	

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Limnophila	Limnophyes	Limonia	Lioporeus	Lirceus	Lumbricidae	Lumbriculus	Lymnaeidae	Lype
328									
329								1	
330									
331									
332		1			13		1		
335									
336									
337									
338		1			2				
339		1						7	
341					3				
343						1			
344	2								1
345	3								
346									
348					2				
349	2				4				
350					5				
376									
379					1				
380			1			1	1		
381									
382									
383									
384									
388									2
390									
393									
394									1
395									

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Limnophila	Limnophyes	Limonia	Lioporeus	Lirceus	Lumbricidae	Lumbriculus	Lymnaeidae	Lype
396									
397									
398							1		
399									
400					2	2			
401					4				
403	1								
404									
405									
406									
407									
408	1								
409							1		
410									
412									
413									
414									
416									
417								1	
418					3				
419									
420					23				
421									
422									
423									
424									
453									
457							1		1
458									
459									

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Limnophila	Limnophyes	Limonia	Lioporeus	Lirceus	Lumbricidae	Lumbriculus	Lymnaeidae	Lype
460									
462									1
463									
464									
465									
466									
467									1
468									
469									
470									
471									
472									
474									
475	1								3
476						1			
477									
478									
479									
480									
481	1								1
482	2								
483						1			
484									
485									
487									
489	1					2			
492									
493							1		
494									
495			1						

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Limnophila	Limnophyes	Limonia	Lioporeus	Lirceus	Lumbricidae	Lumbriculus	Lymnaeidae	Lype
496									
497									
498									
500									
502					1	1			
504	1								
505									
506									
507						1			
508									
510	1								
511									
513									
514									
515									
516						1			2
517									
518					2	1			
519	1				101				
520									
521					72				
522									
523							1		
524	1					2			
525									
526									
527									
529									
530									
531									

Table F-12b (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa A-L).

StationID	Limnophila	Limnophyes	Limonia	Lioporeus	Lirceus	Lumbricidae	Lumbriculus	Lymnaeidae	Lype
532									
533									1
535									
536								1	
537				1					
538									
539									
540									
541									
542									
544									
549									
550									
551									
554									
556									
557									
562						1			
563							1		
564									
565									
566					10				
600									
601									

Table F-12c. Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Macromia	Macromia glabratus	Macromiinae	Macromiinae Unid	Macronychus glabratus	Macrostemum	Matus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesocrictopus	Mesosmittia	Micrasema	Microcylloepus	Micropsectra	Microtendipes	Microtendipes pedellus	Microtendipes rydalensis	Microtendipes Unid	Molanna	Molophilus	Monodiamesa	Nais	Nanocladius	Nanocladius genus nr.	Nasiaeschna pentacantha	Natarsia	Nectopsyche	Nematoda	Nemertea	Nemouridae	Neoephemera	Neoperla	Neoplea	Neoporus	Neureclipsis	Neurocordulia	Neurocordulia prob.	Nigronia	Nilotanypus	Nilothauma	Nyctiophylax	Oecetis	Oligochaeta	Oligochaeta Unid	Oligochaeta Unid Diff	Omisus	Ophiogomphus	Optioservus	Orthocladiinae
171																																																	
172																																																	
173				1					1													1						1																					
174																												6						1															
175														2		1						1																											
176					1				1														1					1						1															
177																							1		1																								
178					3				1																																								
179																2							1											1															
180					1				5					1	3	4																		25															
183														3																				1															
184				1																														7															
185																												1																					
187																																																	
191																				6														19															
206																				2						1								23															
210																																																	
234					4				2					1		1							1																										
238																							3	1																									
240				2	1											28						2	2	1	1									1															
242	1			1	1																													1								1							
247					3				2					1		4																		1							1								
248					9											2																		1															
249	1			1	2				2							2							1	4																		1							
250																6					1		1																		1								
251									3		1																	1						3															
252																						1	1	2				1																					
253					1						1					2	1											1				2																	
254																								3				1						9															
255					1				1					1		4												2						1															

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Macromia	Macromia glabratus	Macromiinae	Macromiinae Unid	Macronychus glabratus	Macrostemum	Matus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesocrictopus	Mesosmittia	Micrasema	Microcylloepus	Micropsectra	Microtendipes	Microtendipes pedellus	Microtendipes rydalensis	Microtendipes Unid	Molanna	Molophilus	Monodiamesa	Nais	Nanocladius	Nanocladius genus nr.
256									1															1
257		1		1												1							1	
259					2		1																1	
261	1																					14		
262			2	1	9											3							1	
263					1				2							3							1	
265																						1		
268																1								
269																							1	3
272										1														
273																								
275									1															
280	2			4	6									1		1							4	
284																							2	
286																								
287																								
288									2					2		13								
289																								
290										4														
310																						6		
311																								
313																								
316																								
319	2			1																				
321																								
322																							2	
323																							1	
324				2	8																		2	
325																								
326																								

StationID	Nasiaeschna pentacantha	Natarsia	Nectopsyche	Nematoda	Nemertea	Nemouridae	Neoephemera	Neoperla	Neoplea	Neoporus	Neureclipsis	Neurocordulia	Neurocordulia prob.	Nigronia	Nilotanypus	Nilothauma	Nyctiophylax	Oecetis	Oligochaeta	Oligochaeta Unid	Oligochaeta Unid Diff	Omisus	Ophiogomphus	Optioservus	Orthocladiinae
256				1						1															
257										2															
259				2						3															
261																									
262																		3							
263																									
265				2																					
268				2																					
269										2															
272				1						3															
273				1						1															
275				14																					
280			1			1		4										1							
284	1									2															
286				1																					
287																									
288					1					4							1							1	1
289										1															
290										3															
310		2		5					1																
311																									
313	1			1																					
316				1						4															
319				1																					
321				1						3															
322				1						1															
323				2						2															
324										3															
325				1																					
326																									

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Macromia	Macromia glabratus	Macrominae	Macromiinae Unid	Macronychus glabratus	Macrostemum	Matus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesocrictopus	Mesosmittia	Micrasema	Microcylloepus	Micropsectra	Microtendipes	Microtendipes pedellus	Microtendipes rydalensis	Microtendipes Unid	Molanna	Molophilus	Monodiamesa	Nais	Nanocladius	Nanocladius genus nr.	Nasiaeschna pentacantha	Natarsia	Nectopsyche	Nematoda	Nemertea	Nemouridae	Neoephemera	Neoperla	Neoplea	Neoporus	Neureclipsis	Neurocordulia	Neurocordulia prob.	Nigronia	Nilotanypus	Nilothauma	Nyctiophylax	Oecetis	Oligochaeta	Oligochaeta Unid	Oligochaeta Unid Diff	Omisus	Ophiogomphus	Optioservus	Orthocladiinae
328																																																	
329																																		1															
330																4																		1															
331				3	2											10							4																										
332					1											2							1	2				1				1		13															
335			1		1									1									1	1				1																					
336																													1																				
337				1	1																																												
338	1							1	3																																								
339					5				6													3	3												1														
341	1			1																		1						1														1							
343																						2	2																										
344																6												17						1								2							
345				1	5				2							1				1			4								1			7	1														
346					4											12							1																										
348					3											3												2						3															
349					4								1	1		7											1							2															
350					2				2																									1															
376					1																											3																	
379										1												1												7															
380					1																	2												1											1				
381					2				10				4			23							1	2					1					2															
382									10					1										5				1	1					6															
383					5								1	1		18	3					1	5								1							1											
384																19	1																											1				1	
388																22												1			2			11						1									
390					5																	1	2									1																	
393					3	1					2					8	2										1				2			3	3							1		3					
394														1								4												4															
395	1				3				1																							21																	

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Macromia	Macromia glabratus	Macromiinae	Macromiinae Unid	Macronychus glabratus	Macrostemum	Matus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesocrictopus	Mesosmittia	Micrasema	Microcylloepus	Micropsectra	Microtendipes	Microtendipes pedellus	Microtendipes rydalensis	Microtendipes Unid	Molanna	Molophilus	Monodiamesa
396					1											1					
397					3											3					
398					3								7				1				
399																					
400	1				1			1													
401																					
403					2									10		1					
404	1		2	4	24									1			2				
405											1					7					
406					4											1					
407	1				7															1	
408					1											5	1				
409																					
410																					
412				1	2																
413					2																
414																					
416	1																				
417									6												
418					2											1					
419	3			1									2								
420																					
421					1											8					
422																3					
423				2	4								1			1	3				
424																4					
453																1					
457					6								1								
458													9								
459																					

StationID	Nais	Nanocladius	Nanocladius genus nr.	Nasiaeschna pentacantha	Natarsia	Nectopsyche	Nematoda	Nemertea	Nemouridae	Neoephemera	Neoperla	Neoplea	Neoporus	Neureclipsis	Neurocordulia	Neurocordulia prob.	Nigronia	Nilotanypus	Nilothauma	Nyctiophylax	Oecetis	Oligochaeta	Oligochaeta Unid	Oligochaeta Unid Diff	Omisus	Ophiogomphus	Optioservus	Orthocladiinae
396	1										1		1	1				1										
397							1																				2	
398		9				3		1			3			3							2							
399							1																					
400		1																										
401			1				1						1															
403		4									1		1				1											
404	2	3					2	2		2			1	1		1					3							
405							1				1		1															
406							1																					
407													1															
408							2						1															
409	2	2			1		2						4															
410													1															
412											11										1							
413							2																					
414													1															
416																												
417	34	2					3														1							
418		1				1							3															
419		1																										
420			4										3		1													
421											1		1															
422		1					2																					
423						1	2	3					1	3														
424							1																					
453							1						6															
457	1																			1							4	
458	1	3					2	5							1													
459		1						1																		1		

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Macromia	Macromia glabratus	Macromiinae	Macromiinae Unid	Macronychus glabratus	Macrostemum	Matus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesocricotopus	Mesosmittia	Micrasema	Microcylloepus	Micropsectra	Microtendipes	Microtendipes pedellus	Microtendipes rydalensis	Microtendipes Unid	Molanna	Molophilus	Monodiamesa	Nais	Nanocladius
460																						63	2
462					3											2							
463				2												5	12						
464					2							2	1	1		2	3					1	
465				3							1		1			1	1					1	
466																16							
467																10							
468					2								1			1							
469			2										1	1		2							2
470				1								1										12	6
471					2								4				2						
472																							
474																1						1	
475																11							
476					7								5										
477					2									24		11							1
478					2																	9	2
479				2	1									1		1	2						2
480					2																		
481								1						1								1	
482					1				1													2	
483	2				4											1							
484																							
485																							
487									1														
489								1															
492																							
493				1																		1	1
494				1																		4	
495	1																						

StationID	Nanocladius genus nr.	Nasiaeschna pentacantha	Natarsia	Nectopsyche	Nematoda	Nemertea	Nemouridae	Neoephemera	Neoperla	Neoplea	Neoporus	Neureclipsis	Neurocordulia	Neurocordulia prob.	Nigronia	Nilotanypus	Nilothauma	Nyctiophylax	Oecetis	Oligochaeta	Oligochaeta Unid	Oligochaeta Unid Diff	Omisus	Ophiogomphus	Optioservus	Orthocladiinae
460																										
462					1														1							
463				1								1							2							
464									3																8	
465						1																				
466																										
467								2				1													8	
468												1														
469					3				4																	
470						2																			1	
471						1					1	1							1						1	
472																								1		
474					3						9						1	1			6					
475												1						1								
476					1																					
477												1					1									
478					1							3														
479				1				1	1		3		1						1							
480					2						1															
481					1				4		4								2							
482									1																	
483					1			1	3		1							1								
484											1															
485																										
487			1								3															
489											8												18			
492	1				1						18															
493					1	1			2																	
494					2	1													1							
495									4																	

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Macromia	Macromia glabratus	Macromiinae	Macromiinae Unid	Macronychus glabratus	Macrostemum	Matus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesocrictopus	Mesosmittia	Micrasema	Microcylloepus	Micropsectra	Microtendipes	Microtendipes pedellus	Microtendipes rydalensis	Microtendipes Unid
496											1		1					
497					1													
498																		
500																		
502														1				
504														1				
505									1							52		
506	1		1			1							1					
507			3	2								1				2		
508					1											7		
510									2									
511																142		
513	1				1													
514														35		2		
515	1				1													
516												1				15		
517					3								1	5		3		
518								2										
519											4							
520					3	2												
521							1											
522																		
523				1	9			1					4					
524	1			4	9			4			2			1		9	4	
525					2							1						
526						1			1							2		
527			1													3		
529												1				8	1	
530																		
531																		

StationID	Molanna	Molophilus	Monodiamesa	Nais	Nanocladius	Nanocladius genus nr.	Nasiaeschna pentacantha	Natarsia	Nectopsyche	Nematoda	Nemertea	Nemouridae	Neoephemera	Neoperla	Neoplea	Neoporus
496										1						
497					1					1				5		1
498																
500														10		4
502										9						1
504					1		1			10						
505	1									1						
506					1					2				3		1
507																
508																5
510						2										
511																
513				2	2	4										2
514	1									1						1
515				1						1						
516										1						
517											1			4		1
518																
519										2						1
520									1							
521										2						
522				4							2			4		
523					3				1					13		
524		1											7			
525					1				1		1					
526				3										2		
527																
529													2			3
530														1		
531														19		

StationID	Neureclipsis	Neurocordulia	Neurocordulia prob.	Nigronia	Nilotanypus	Nilothauma	Nyctiophylax	Oecetis	Oligochaeta	Oligochaeta Unid	Oligochaeta Unid Diff	Omisus	Ophiogomphus	Optioservus	Orthocladiinae
496						1									
497							1								
498															
500								1							1
502															
504												2			
505	1														
506															
507															
508															
510															
511						1	1								
513															
514															
515								1							
516															
517															
518															
519															
520															
521															
522															
523															
524															
525															
526								2							
527					1	1	4	2							
529							1	2							
530															
531															

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Macromia	Macromia glabratus	Macromiinae	Macromiinae Unid	Macronychus glabratus	Macrostemum	Matus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesocrictopus	Mesosmittia	Micrasema	Microcylloepus	Micropsectra	Microtendipes	Microtendipes pedellus	Microtendipes rydalensis	Microtendipes Unid	Molanna	Molophilus	Monodiamesa
532																1					
533																					
535									1				2								
536																6	1				
537																					
538						1															
539														21		8	7				
540					2	1															
541	2			1	3									1		10	6	1			
542				1									3	22		23	4				
544				1																	
549					4								2								
550	1				3								1								
551					1	1			9												
554					2																
556	1			1	9	2															
557									2												
562																					
563					3								1								
564					4																
565					2																
566										4											
600						1			5												
601																					

StationID	Nais	Nanocladius	Nanocladius genus nr.	Nasiaeschna pentacantha	Natarsia	Nectopsyche	Nematoda	Nemertea	Nemouridae	Neoephemera	Neoperla	Neoplea	Neoporus	Neureclipsis	Neurocordulia	Neurocordulia prob.	Nigronia	Nilotanypus	Nilothauma	Nyctiophylax	Oecetis	Oligochaeta	Oligochaeta Unid	Oligochaeta Unid Diff	Omisus	Ophiogomphus	Optioservus	Orthocladiinae
532																												
533																					3							
535		1											9								1							
536																												
537				1																	1							
538						1					6		1															
539						1													2		1							
540		4				1					4																	
541	1									1											1							
542										2								1		1	1							
544														1														
549						1																						
550						1																						
551														1	1						2	1						
554	8	2					2	1															3					
556		6								1	3																	
557																												
562	2	2																										
563	8																											
564								1							1						1							
565		3					1						1															
566													1															
600		2																										
601		2											1															

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Orthocladiinae Unid	Orthocladiinae Unid Diff	Orthocladius	Orthocladius lignicola	Orthocladius O.	Oxyethira	Pachydiplax	Pachydiplax longipennis	Pagastiella	Palaemonidae	Parachaetocladius	Parachironomus	Paracladopelma	Paragnetina	Parakiefferiella	Parakiefferiella genus nr.	Paralauterborniella	Paralauterborniella nigrohalterale	Paraleptophlebia	Paramerina	Parametriocnemus	Paraphaenocladius	Paraponyx	Paratanytarsus	Paratendipes	Pedicia	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlidae Unid Diff	Perlidae Unid Diff 1	Perlidae Unid Diff 2	Perlinella	Perlodidae	Perlodidae Unid	Phaenopsectra	Philopotamidae Unid	Phylocentropus	Physella	Physidae	Piguetiella	Pilaria	Planariidae	Planariidae Unid	Planorbidae	Plathemis	Plauditus
171			2																		1								1																				6
172					4																1			3																									
173					5																5			2					1																				
174																																												1					
175			4																					1	1																								
176										1					1									1					1			1																	
177					5					5																			1		1																		
178				1																	4				2						1						1												
179			1							1															7																			2					
180																					2	1															1												
183																					3	1															1										1		
184										3												4																				1							
185			4							9											1						8		2		1						13				1								
187																																																	
191																																										2							
206			10																						4											1								1					
210			14																																							1							
234																					1				1																								
238				1											6						2	1		2					2																				
240															2							2																											
242																					6								1															1					
247					1																11			2																									
248					1										3						1			1	1																	1		1					
249			2						1						1						1			1	1						1																		
250			2						1	3					2						4			1	39																								
251			1																			1																						1					
252			2							7											1																2										2		
253			1								1										6				2												1												
254			1							3					7						3						6																						
255			1																		8	1		5																									

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Orthocladiinae Unid	Orthocladiinae Unid Diff	Orthocladius	Orthocladius lignicola	Orthocladius O.	Oxyethira	Pachydiplax	Pachydiplax longipennis	Pagastiella	Palaemonidae	Parachaetocladius	Parachironomus	Paracladopelma	Paragnetina	Parakiefferiella	Parakiefferiella genus nr.	Paralauterborniella	Paralauterborniella nigrohalterale	Paraleptophlebia	Paramerina	Parametriocnemus	Paraphaenocladius	Paraponyx	Paratanytarsus	Paratendipes	Pedicia	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlidae Unid Diff	Perlidae Unid Diff 1	Perlidae Unid Diff 2	Perlinella	Perlodidae	Perlodidae Unid	Phaenopsectra	Philopotamidae Unid	Phylocentropus	Physella	Physidae	Piguetiella	Pilaria	Planariidae	Planariidae Unid	Planorbidae	Plathemis	Plauditus
256			4							1					18					1	2				1						5						1					2		1					
257																					3				1												2	1						1					
259															1														2																				
261			1							1																																15							
262															1						1			2	1																								
263			10			1									1		1		1		4				1												2												
265			1							3								3						53																		3							
268					1					2														1			1																						
269			3																						1				1																				
272					1																							1																					
273					5																																												
275					2																1	1																				1		1					
280															2									2			1																				1		
284					12					1																	1															1							
286					1																																					1							
287																																																	
288		1																			3	11		2	3			1																					
289																					1				3		4										1					1		1					
290					2																				7																	5							
310			6																																														
311			8							6											1						3																						
313			1							1																	2															4					2		
316										15																	3															1							
319										1												2					49											1											
321					10																				1																	2		1			2		
322										2					1									1													1										1		
323					1		2			8											2	1																5				2					11		
324					1					1					2																							7				3							
325					3					2												1															1							1					
326																											1															4		1			1		

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Orthocladiinae Unid	Orthocladiinae Unid Diff	Orthocladius	Orthocladius lignicola	Orthocladius O.	Oxyethira	Pachydiplax	Pachydiplax longipennis	Pagastiella	Palaemonidae	Parachaetocladius	Parachironomus	Paracladopelma	Paragnetina	Parakiefferiella	Parakiefferiella genus nr.	Paralauterborniella	Paralauterborniella nigrohalterale	Paraleptophlebia	Paramerina	Parametriocnemus	Paraphaenocladius	Paraponyx	Paratanytarsus
328	1		5																		2			
329					2					14														
330										13											2			
331										5					2						15			4
332					1					6					3						4	5		1
335										1											3			
336																								
337									1	1					4									
338																								
339															9									1
341																						1		
343																					1			4
344									2												8	16		
345						2				1					1							4		
346						1									1						1			4
348				1						2					2						2			3
349																					3	1		1
350										2					1						2			
376																		1			1			14
379			1																					
380																								
381																					1	1		3
382										1												4		
383																					7			1
384					4								2					2			13	1		
388										1												2		3
390										1												2		
393					7								1					2						
394																					3			1
395					1																			

StationID	Paratendipes	Pedicia	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlidae Unid Diff	Perlidae Unid Diff 1	Perlidae Unid Diff 2	Perlinella	Perlodidae	Perlodidae Unid	Phaenopsectra	Philopotamidae Unid	Phylocentropus	Physella	Physidae	Piguetiella	Pilaria	Planariidae	Planariidae Unid	Planorbidae	Plathemis	Plauditus
328																									
329	1		2										3					2							
330			1															5							
331	2						2											4							
332					1								1					5		4					
335			1																						
336			2																						
337													2					1							
338														2				2						1	
339	1													1				1							
341					1													1					1		
343														2				1							
344					3																				
345			1										1	1		3		1							
346					3									2											
348	1													1				7					1		
349	1				2								1												
350														1				1		1					
376																		4	1						
379			3															5							
380																							1		
381													2					1					1		
382	1						4											3							
383	1				1								1	1											
384																1									
388			1													1		5							
390											1		1												
393						1							3	4											
394	4																	2				1	1		
395																		1							11

StationID	Orthocladiinae Unid	Orthocladiinae Unid Diff	Orthocladius	Orthocladius lignicola	Orthocladius O.	Oxyethira	Pachydiplax	Pachydiplax longipennis	Pagastiella	Palaemonidae	Parachaetocladius	Parachironomus	Paracladopelma	Paragnetina	Parakiefferiella	Parakiefferiella genus nr.	Paralauterborniella	Paralauterborniella nigrohalterale	Paraleptophlebia	Paramerina	Parametriocnemus	Paraphaenocladius	Paraponyx	Paratanytarsus	Paratendipes	Pedicia	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlidae Unid Diff	Perlidae Unid Diff 1	Perlidae Unid Diff 2	Perlinella	Perlodidae	Perlodidae Unid	Phaenopsectra	Philopotamidae Unid	Phylocentropus	Physella	Physidae	Piguetiella	Pilaria	Planariidae	Planariidae Unid	Planorbidae	Plathemis	Plauditus
396					2	1															2																												
397			3									1									1	1		1	1													1				1							
398						1								1					1																		1					4							3
399					1																						1																						
400																					4						6																						
401										5															4		1		11													2							
403														1	2						5														1														
404				1													1				1	2																				1							
405																		1			4	1		7		2	1		1									1		4							1		
406					3										1						1	1							1													1							
407																						2			1																								
408					1																2	14																											
409					2																9	3							7		2											3							
410																													4		2						1							1					
412														2															2								2												
413					1					7																	2										2												
414		1	15																																														
416					1																	1			1				1								1					2							
417																																					1												
418										3											2	7		5							3									1		2							
419									1																		11															1							
420					1										2																																		
421																					6			2					5		2																		1
422																					1			2					1		1						1					23							
423									1	1					1									1					4		1										2								
424									2	1					2		1				13	1																											
453																	2							10																		3							
457																																								1		1							
458					5	2						2			3			1			1								5													3					2		
459					5					2														1																		1							10

StationID	Orthocladiinae Unid	Orthocladiinae Unid Diff	Orthocladius	Orthocladius lignicola	Orthocladius O.	Oxyethira	Pachydiplax	Pachydiplax longipennis	Pagastiella	Palaemonidae	Parachaetocladius	Parachironomus	Paracladopelma	Paragnetina	Parakiefferiella	Parakiefferiella genus nr.	Paralauterborniella	Paralauterborniella nigrohalterale	Paraleptophlebia	Paramerina	Parametriocnemus	Paraphaenocladius	Paraponyx	Paratanytarsus	Paratendipes	Pedicia	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlidae Unid Diff	Perlidae Unid Diff 1	Perlidae Unid Diff 2	Perlinella	Perlodidae	Perlodidae Unid	Phaenopsectra	Philopotamidae Unid	Phylocentropus	Physella	Physidae	Piguetiella	Pilaria	Planariidae	Planariidae Unid	Planorbidae	Plathemis	Plauditus
460																																														1			
462																								5					5			1										2				3			
463					2																								1																				
464																													4								1												
465					3													1				1																											
466										1		1									1			2																									
467					3									5							1								1								1												
468	1		1		37					3					1																											1							
469						2			1				1																7																				
470			2		6										2																											3				2			10
471													1				1							3													2	1											
472										1																			1																		1		1
474									17	1			1								1			3														1		2									
475																		1		2	12	1			1															2									
476					2																						1		5																				
477									3												5								1									2		1									
478															1																											25			2				
479										2											7										4						1		1										
480					1					2												1									1						1					6							
481						2				7					2							4					3																						
482																			2		5	1																											
483					1					2				1															3		1																		
484					1					4		1			1												1		1		1																1		
485										3											5			12																		6							
487										2					1												2										1							2					
489								1													1	13																2				2					2		
492						1				3												7																				1		4					
493										4					1						1						3		1													6							
494															3																											2							
495										4					1							2		1					1		1						1					1							

StationID	Orthocladiinae Unid	Orthocladiinae Unid Diff	Orthocladius	Orthocladius lignicola	Orthocladius O.	Oxyethira	Pachydiplax	Pachydiplax longipennis	Pagastiella	Palaemonidae	Parachaetocladius	Parachironomus	Paracladopelma	Paragnetina	Parakiefferiella	Parakiefferiella genus nr.	Paralauterborniella	Paralauterborniella nigrohalterale	Paraleptophlebia	Paramerina	Parametriocnemus	Paraphaenocladius	Paraponyx	Paratanytarsus	Paratendipes	Pedicia	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlidae Unid Diff	Perlidae Unid Diff 1	Perlidae Unid Diff 2	Perlinella	Perlodidae	Perlodidae Unid	Phaenopsectra	Philopotamidae Unid	Phylocentropus	Physella	Physidae	Piguetiella	Pilaria	Planariidae	Planariidae Unid	Planorbidae	Plathemis	Plauditus
496									1					2													1																							
497				1																6	2																											
498																																																	
500																					4																			2									
502																						7			4																							
504									5												3			4										1								1					
505								18	6													1														1											
506						1																8			1																							
507								8									1			2			4																									
508									1					1						3	3							1																				
510									2												5							1																				
511									1											5								1												1		6							
513									2															1												1	1											
514									2											2																					2							
515									4					2		1							1																										
516								7	6											2	1																		15									
517						1				7											1																											
518			1																																													
519																2						1																											
520			2						1			2		7						2								4		1																			
521			1											1																																			
522															2						1																				1							1
523														1						2								6				1	1								1							
524									3												2								13		1																			
525																							1																										
526						2				3										1								4																				
527								12								1				2			13	1				1									1											
529								12	1					1						1				1				2																				
530															1						1																				1									
531																																																	

StationID	Orthocladiinae Unid	Orthocladiinae Unid Diff	Orthocladius	Orthocladius lignicola	Orthocladius O.	Oxyethira	Pachydiplax	Pachydiplax longipennis	Pagastiella	Palaemonidae	Parachaetocladius	Parachironomus	Paracladopelma	Paragnetina	Parakiefferiella	Parakiefferiella genus nr.	Paralauterborniella	Paralauterborniella nigrohalterale	Paraleptophlebia	Paramerina	Parametriocnemus	Paraphaenocladius	Paraponyx	Paratanytarsus	Paratendipes
532									2	7											6				1
533										5															
535										2															
536																									
537										12		1													
538														1											
539									1	1											2				
540																					1				
541									2												5	1			
542										1											13				
544									36	5					12						2				1
549																									
550																									
551									1						1									1	
554					3										1									1	
556					6				3	2					2										
557					20																				
562																								2	
563					3																1				
564					1	3																			
565															3							1		5	
566					2																				7
600										5											1				
601										3											2				1

StationID	Pedicia	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlidae Unid Diff	Perlidae Unid Diff 1	Perlidae Unid Diff 2	Perlinella	Perlodidae	Perlodidae Unid	Phaenopsectra	Philopotamidae Unid	Phylocentropus	Physella	Physidae	Piguetiella	Pilaria	Planariidae	Planariidae Unid	Planorbidae	Plathemis	Plauditus
532																								
533				2									1											
535																								
536																	9							
537																			4					
538				1								1												
539				2		3	1																	1
540				1									2				1							
541				3			3					1												
542				2																				
544																								
549				3																				
550		5																						
551				1																				
554		1																						
556																								
557																								
562													1											
563																	3				1	1		
564																	1					1		
565				2											1		1							
566																								
600				2																				
601				6		1																		

StationID	Plecoptera Unid	Pleuroceridae	Polycentropodidae	Polycentropodidae Unid	Polycentropodidae Unid Diff	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum halterale gr Unid Diff	Polypedilum illinoense	Polypedilum illinoense gr. Unid	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Pomatiopsidae	Potamothrix	Potthastia	Potthastia longimana	Pristina	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Promoresia elegans	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Pteronarcyidae Unid	Pteronarcys	Ptilostomis	Pycnopsyche
171																																														
172																	1																		8											
173									5			23					1		9																5					2						
174												1																																		
175									2			1					1		3																2		1									
176												4					1		33			3																								3
177									1			11					9		6			1			1										1											1
178										1	3	21	1		1		4		6																		1									4
179														1			1		1			1																		2	1					6
180								1				1	1				1									1														4						
183												16																																		
184																	4																						1	1	1				1	
185	1											1					1																													1
187																																														
191																																								1						1
206																																			1				1							1
210																			1																											
234									1			4		1			2		1	2						1									4				1	3						
238													7	2			3																													
240						1									1																				1					2						2
242												81							9			1													2					2						
247						1				1		120		3					2																5					5						2
248										1		6	2						1																2				1	3						10
249												1							11				1												4										1	
250												14	1				1		2			2	1									1							1		1					2
251																																													1	
252									1				1		2		1					2	2		1								1													1
253									1			133	1	1					2																1					1						1
254												4										1																	2							
255												32										2				2									4					11						

StationID	Plecoptera Unid	Pleuroceridae	Polycentropodidae	Polycentropodidae Unid	Polycentropodidae Unid Diff	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum halterale gr Unid Diff	Polypedilum illinoense	Polypedilum illinoense gr. Unid	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer
256												1					2		2				
257												35					1						
259				1										2			83		2				
261																	17						
262												14		1					14				1
263												10			9		1		7			3	
265																	6		1			3	2
268												1					2		2				1
269												1											3
272									1													1	2
273																							
275																	52						
280												1			6		1		1				
284															3								
286																							
287																							
288									1			9							2				
289																							
290																							
310																							
311															4		1						1
313																	1						
316																							
319													1	1	2		4						
321																	1						
322												1					1		2				
323																	5						
324																	1						
325																							
326																							

StationID	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Pomatiopsidae	Potamothrix	Potthastia	Potthastia longimana	Pristina	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Promoresia elegans	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Pteronarcyidae Unid	Pteronarcys	Ptilostomis	Pycnopsyche
256		1										1											
257	1	8	2													1	8						2
259		6																					1
261	1																		1				
262																							
263												1											1
265										2													
268														8									
269						6				2								1					
272																1							
273																							
275																						1	
280																		1					1
284														1									
286																							
287																							
288			4													4	40	1					12
289										1													
290	1															1							
310																	37	8					
311	1	1								1													
313										2													
316				1						3													
319										1		1		1									5
321	1	1																					
322										1													5
323																							1
324																							5
325																							
326	6															10							

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Plecoptera Unid	Pleuroceridae	Polycentropodidae	Polycentropodidae Unid	Polycentropodidae Unid Diff	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum halterale gr Unid Diff	Polypedilum illinoense	Polypedilum illinoense gr. Unid	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer
328																							
329																							
330																							
331												13		1			1		1			1	
332												6			1		1						
335		7																					
336		1													1		1						
337													1	5	1		1					1	
338												2		2			8		3				
339												1		4			10		4			4	
341		15													1				5				
343												7			14		16					10	9
344									1						1							1	
345												1			9								
346						1						13	1										
348												2	2				1		8				
349								1					2		1							1	
350												44	1										
376													1	4			5						2
379																	1						7
380																							
381												5		1									
382												33	1										
383												3							1				
384												12					1					1	
388													1				1		3				
390														1									
393			1														2					11	1
394																						1	
395												1					1						

StationID	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Pomatiopsidae	Potamothrix	Potthastia	Potthastia longimana	Pristina	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Promoresia elegans	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Pteronarcyidae Unid	Pteronarcys	Ptilostomis	Pycnopsyche
328																							
329																							
330																							1
331										1													
332						2				1							5					1	2
335																							1
336																							
337																							1
338										4								1					
339												8											2
341										3		1											
343										1													
344									1								5						3
345																	32						2
346		1												1			5						
348						1											26					1	1
349												6				4	2						1
350												1					3						5
376							1			1													
379																							
380		1								1													7
381																	1						
382			1																				
383		5	1					2													1		
384						1							1	1		1							
388												4		1			4						6
390		2				1																	
393															3								2
394	6									1		1											1
395														13			1						

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Plecoptera Unid	Pleuroceridae	Polycentropodidae	Polycentropodidae Unid	Polycentropodidae Unid Diff	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum halterale gr Unid Diff	Polypedilum illinoense	Polypedilum illinoense gr. Unid	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Pomatiopsidae	Potamothrix	Potthastia	Potthastia longimana	Pristina	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Promoresia elegans	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Pteronarcyidae Unid	Pteronarcys	Ptilostomis	Pycnopsyche
396								1				22					1																													
397													1	1	2				5						1																					
398				1		1							1				2																													
399																	1																								2					
400										1		3	2						2			1				1									1											2
401																																		1												
403									1			34	3				2		1			1																	1	2						2
404												23		14			3		20		1																									1
405												23					3					1	5														1									3
406															2				2			2							1																	1
407													2	8	1		10																							1						5
408										23		6		1	3		23								1								1						1	2						4
409																	1												1			1	1							2						
410		1																											1																	1
412														1					10						1										3											4
413												11		2	1																															3
414																																														
416																	5																1													
417														22			49					2			1							1	1								1					
418						1						11																									1			14						3
419		46															1		1			1			1	1																				
420																																														
421						2			1													3																								
422																	1		5			1			4																					
423	1					1						1							3																					1						
424									2	3	1	1		1		1	29	4	2		1	1							1				2					1	1							2
453												2					2		5			12																1								
457					1							3																					1													
458												1	1																				2													
459																																														

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Plecoptera Unid	Pleuroceridae	Polycentropodidae	Polycentropodidae Unid	Polycentropodidae Unid Diff	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum halterale gr Unid Diff	Polypedilum illinoense	Polypedilum illinoense gr. Unid	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum
460																			3	3		8
462												1		4					4			1
463															1							
464						1						5										
465															1							
466												2							29			
467																						1
468						1						1			1				1			
469												5			1				3			1
470						1									4		1					8
471												3			4							13
472												1										
474									2	1			1				10					5
475												11					8					1
476												1		1			1		1			
477												38					1					
478														5	1		11		2	4		
479									3			53	3	2			1					
480												3		2	1				1			
481												3					6		1			
482										2		90	1				2		1			
483										1		7	1	4			2					
484																	10					
485														1			9		5			2
487		1												3			7					
489																						
492																						
493															1		5					
494														7	18		3		9			11
495														1								

StationID	Polypedilum simulans/digitifer	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Pomatiopsidae	Potamothrix	Potthastia	Potthastia longimana	Pristina	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Promoresia elegans	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Pteronarcyidae Unid	Pteronarcys	Ptilostomis	Pycnopsyche
460																								
462																4								2
463																								
464														1										
465																								
466											2					4							1	
467																					1			
468											1													
469							1				4				1									
470	3										1					1								
471	1															1								
472			1																					
474	3										1							4						
475						1										3	2	5						4
476							1																	
477																								
478	6		4				2								1		7							1
479													1											1
480											2							3						4
481							1											2						7
482							1																	
483			4										1											1
484							1				1		1											2
485											2					1		1						
487											10						2							3
489											1							10	1					2
492																	5		2					
493			1				1				3						1							
494	2		2												4									
495							1				2						3		1					

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Plecoptera Unid	Pleuroceridae	Polycentropodidae	Polycentropodidae Unid	Polycentropodidae Unid Diff	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum halterale gr Unid Diff	Polypedilum illinoense	Polypedilum illinoense gr. Unid	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Pomatiopsidae	Potamothrix	Potthastia	Potthastia longimana	Pristina	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Promoresia elegans	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Pteronarcyidae Unid	Pteronarcys	Ptilostomis	Pycnopsyche
496																	1																1						3		1					
497						2				1		17					3					2													1											2
498																																														
500				1					2	7		46		1			16						1		1							1														2
502									1															2				1												1					1	
504										1				3										1		1					1								2		4				1	
505															17										1								1													
506						1									1		3					1			1								4	1	1				1	13	1					1
507												4			9							1	2										1				2			3						
508												1		1			5		7						1				1								1				2					1
510												2							1										1																	
511															1																				1											1
513										1		3					14		3			1											2		1				1							
514												17					2					1										1			1											
515												7		7	3		6																													1
516												8			7		5					2	4														1									2
517														15								6							2				1		3											
518																																			3			1								
519																								8																7						
520														48	2		2					4																								
521																																														
522												4		1									1												1		2									
523												3		25					2	1															1		1									
524									10		7						14																							20	1					
525												1					6		2																											
526						1						3							1			2	1						1																	
527															5		4					1			1										1		1			5						
529										1		4					14						1		1															1						1
530																	1																													
531												11		1	1																				1											

Table F-12c (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa M-P).

StationID	Plecoptera Unid	Pleuroceridae	Polycentropodidae	Polycentropodidae Unid	Polycentropodidae Unid Diff	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum halterale gr Unid Diff	Polypedilum illinoense	Polypedilum illinoense gr. Unid	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff
532														2			6		2						1	
533										1				2			19		3			1				
535																	44					1				
536																	3									
537									1								1							21		
538														29			2									
539				1		1			2			10							1			6		1	1	
540												1		36	1		11		3		1	1				
541												3		1			1		1			7	1			
542						1						7		1					1			2	1			
544						2						1		1	2		6		1		1	8				
549														4			2									
550		20		1								1			1		1						1			1
551						2	1					4		3	3		3		3			3			1	
554													1	2					3			2				
556																				1						
557												3														
562												4		1						12						
563												2							1			6	8			
564													1	4					1			1				
565												2			6		3		27		1					
566																							2			
600														49			3		1			2				
601									3					5								1				

StationID	Pomatiopsidae	Potamothrix	Potthastia	Potthastia longimana	Pristina	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Promoresia elegans	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Pteronarcyidae Unid	Pteronarcys	Ptilostomis	Pycnopsyche
532							1				2			5	1					1
533											1			7						
535									1											
536																				
537														8						
538																				
539										1			1							1
540																				
541														5						
542																				
544							3				2									
549																				
550							2								1					
551									2		1			5	1					
554												1								
556														3						1
557													1							
562																				
563																				
564												3								1
565							3							1						
566																				
600			4								1									1
601														1						

Table F-12d. Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Quistradrilus multisetosus	Ranatra	Rheocricotopus	Rheopelopia	Rheosmittia	Rheotanytarsus	Rhithrogena	Rhyacodrilus	Rhyacophila	Rhyacophilidae Unid	Robackia demeijerei	Saetheria	Sciaridae	Serratella	Serratella prob.	Sialis
171																
172						4										
173			2													
174																
175																
176			1			4										
177																
178			4		1											
179													2			
180																
183					3											
184									1				2			1
185									1				4			
187			13													
191													2			
206													1			
210																
234						1							2			
238			14			43										1
240						13										
242						13										
247			1			10										
248			5			2										1
249			5			10										1
250						1										2
251									1							2
252						1										1
253			4													
254																
255						4							1			
256			3			4										

StationID	Simuliidae	Simuliidae Unid	Slavina	Slavina appendiculata	Smittia	Somatochlora	Sparganophilidae	Sperchopsis	Sperchopsis tessellata	Sphaeriidae	Spirosperma	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenacron prob.
171	160															
172	1														2	
173	19						1								5	
174																
175	10													1		
176	9													5	3	
177	40													1		
178	3								1	1						
179	12								2	4						
180	26									4						
183	2								1							
184	63									15						
185	4															
187	6															
191	114									4	4					
206						1					3					
210	1															
234	1													1	5	
238	12													3	1	
240													4		1	
242	7								1	1						
247	7									1					5	
248	19															
249	15												2		12	
250	3									6				1		
251	80									20	8					
252	53									1	1		3			7
253	33						2			1						
254	55									16						
255	1									1						
256	17									5	1		2			

StationID	Stenelmis	Stenochironomus	Stenonema	Stenonema prob.	Stictochironomus	Stilocladius	Stratiomyidae	Stygobromus	Stylaria	Stylaria lacustris	Stylurus	Sublettea	Sublettea coffmani	Synorthocladius	Synurella	Tabanidae Unid
171															2	
172			1												1	
173	2		7												1	
174	1	1														
175			1													
176	1															
177	4		6												6	
178			5		3											
179																
180															4	
183															19	
184		3													19	
185	5														5	
187															61	
191															6	1
206					1										7	1
210	5														41	
234	8		4								1				2	
238	2		7												1	
240					1											
242	1		14												1	
247		1	3								1					
248	3		2													
249	3		13												1	
250			1													
251					1										6	
252															1	
253			2													
254															1	
255			11													
256	1		1													

Table F-12d (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Quistradrilus multisetosus	Ranatra	Rheocricotopus	Rheopelopia	Rheosmittia	Rheotanytarsus	Rhithrogena	Rhyacodrilus	Rhyacophila	Rhyacophilidae Unid	Robackia demeijerei	Saetheria	Sciaridae	Serratella	Serratella prob.	Sialis	Simuliidae	Simuliidae Unid	Slavina	Slavina appendiculata	Smittia	Somatochlora	Sparganophilidae	Sperchopsis
257						3											2					1		
259																								
261																							1	
262			3			9										2	12							
263			2			6																		
265																1						1		
268																	3						1	
269																	141							
272																1	51				2			
273																								
275													1											
280		1				1										1								
284						1											4							
286													2											
287																	1							
288													1											
289																								
290																1	10							
310								1					2				2				1		1	
311													2				83							
313		4														1						1		
316		1																					1	
319			1													2	17							
321						1											18					1		
322						2							1				7							
323																	2				1			
324			4														85							
325																	145							
326																								
328																	91						1	
329																	44							

StationID	Sperchopsis tessellata	Sphaeriidae	Spirosperma	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenacron prob.	Stenelmis	Stenochironomus	Stenonema	Stenonema prob.	Stictochironomus	Stilocladius	Stratiomyidae	Stygobromus	Stylaria	Stylaria lacustris	Stylurus	Sublettea	Sublettea coffmani	Synorthocladius	Synurella	Tabanidae Unid
257		13				1			2														3	
259						2	1		1															
261		1																						
262		3				1	1		15		23													
263		5	1			1	5		1		6													1
265		7					15		1														5	
268		4					9						1										4	1
269	1	3																						
272		16											1										2	
273		1											1										3	
275		31																						
280		4					1		1		11													
284		3							3		3				1								70	
286		1																					15	
287		1																					8	
288	1	1				3			3		2												5	
289		7							1				1		1								57	
290		21	5						1														39	
310		14	5																				16	
311		20																					1	
313		76																					60	
316		34											3										12	
319		3				2			1	1														
321		10																					14	
322			3		13		8		1		2													
323		10								1													2	
324		4					1		2															
325		11											6										10	
326		3	8																				13	
328																							9	
329		1																					58	

Table F-12d (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Quistradrilus multisetosus	Ranatra	Rheocricotopus	Rheopelopia	Rheosmittia	Rheotanytarsus	Rhithrogena	Rhyacodrilus	Rhyacophila	Rhyacophilidae Unid	Robackia demeijerei	Saetheria	Sciaridae	Serratella	Serratella prob.	Sialis	Simuliidae	Simuliidae Unid	Slavina	Slavina appendiculata	Smittia	Somatochlora	Sparganophilidae	Sperchopsis	Sperchopsis tessellata	Sphaeriidae	Spirosperma	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenacron prob.	Stenelmis	Stenochironomus	Stenonema	Stenonema prob.	Stictochironomus	Stilocladius	Stratiomyidae	Stygobromus	Stylaria	Stylaria lacustris	Stylurus	Sublettea	Sublettea coffmani	Synorthocladius	Synurella	Tabanidae Unid
330																	29														4				2												2	
331			3		1	9											2													1			1		9			1										
332						2							1			1	1									39				2								2									1	
335			3			1											79									6			11		2																	
336																	89								1					1							1	1										
337			1			1											89									1							4		1								1					
338						1																				4								1														
339												2	1										1												1								2					
341														1			55									5				5	1		1				5											
343																1	2			1			1			6							1															
344						2							2				6				1					1			1				3	1			1											
345			2			7							1				10								1		2						1		1													
346			2			5										1	33						1							6			1	1	1													
348						1			1							1	3									4				5			8		2													
349					4	10											10									5				1			4	1	8			1									1	
350		1				1							1				72								1	8				1			2		1													
376						75											1														1		3	1	2													
379																	12									8							1				3										7	
380																1	60						1			1											1										4	
381						6										1	10													1	1		2				1	2									5	
382																	55									2	1																				8	
383						41								8			2									1		1		2	2		3	1	14										2			
384						10											16													4				1			2								2			
388						1							3			1	3									4				2	8						5											
390						75	1				1																				1		12	1	28													
393			4			5							1	1			19							1	2	2				2			2	1	7		1											
394													2													5				3							3											
395						2	48										2																6		30													
396			8			24											13													4					26													
397						62																					1						3		10										2			
398			2			19								13			18								2								12		10													

Table F-12d (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Quistradrilus multisetosus	Ranatra	Rheocricotopus	Rheopelopia	Rheosmittia	Rheotanytarsus	Rhithrogena	Rhyacodrilus	Rhyacophila	Rhyacophilidae Unid	Robackia demeijerei	Saetheria	Sciaridae	Serratella	Serratella prob.	Sialis	Simuliidae	Simuliidae Unid	Slavina	Slavina appendiculata	Smittia	Somatochlora	Sparganophilidae	Sperchopsis	Sperchopsis tessellata	Sphaeriidae	Spirosperma	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenacron prob.	Stenelmis	Stenochironomus	Stenonema	Stenonema prob.	Stictochironomus	Stilocladius	Stratiomyidae	Stygobromus	Stylaria	Stylaria lacustris	Stylurus	Sublettea	Sublettea coffmani	Synorthocladius	Synurella	Tabanidae Unid
399																	165									2											5										3	
400													1				86																2															
401																	4									17																						
403			1			8											1									2					2		1		38													
404		1	6			21											5								1	2							11	1	48													
405			3			13											3																1	2	2		25											
406						9											29						2										10		18													
407			2										2				29																7		15													
408			6			5							4	1											6					1	1				8												2	
409						1							1				56									8							1															
410																	174						1							1			1														1	
412		1				18											35									5									49		1										2	
413			3			1										1	60									8	1			3	6		1		2		2											
414									1								130					1																									7	
416			1														53						1																									
417						7											2			1						3																						
418						1											12										4			2	2		2															
419			1			2											17													1							1											
420									1								148									1																					1	
421			1			12																								6	6			1	59													
422			3		1	32			1																					3					11												3	
423			1			40								4			3									5				2	1		1		4													
424						18											22									15	1			1				1														
453						29							1			1	5									5					20		3				1											
457						24								15												1							2	1	4													
458						101											4																3	1	3					1								
459						16					1			2			28																5		3													
460			1			14											2		1														3															
462						85											1								1	3									8													
463			3			27											15			1					1										14	3										2		
464			1	4		25	10							8			1																2	1	5										2			

Table F-12d (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Quistradrilus multisetosus	Ranatra	Rheocricotopus	Rheopelopia	Rheosmittia	Rheotanytarsus	Rhithrogena	Rhyacodrilus	Rhyacophila	Rhyacophilidae Unid	Robackia demeijerei	Saetheria	Sciaridae	Serratella	Serratella prob.	Sialis	Simuliidae	Simuliidae Unid	Slavina	Slavina appendiculata	Smittia	Somatochlora	Sparganophilidae	Sperchopsis	Sperchopsis tessellata	Sphaeriidae	Spirosperma	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenacron prob.	Stenelmis	Stenochironomus	Stenonema	Stenonema prob.	Stictochironomus	Stilocladius	Stratiomyidae	Stygobromus	Stylaria	Stylaria lacustris	Stylurus	Sublettea	Sublettea coffmani	Synorthocladius	Synurella	Tabanidae Unid
465			1			57	1							4			6						1			2									7													
466						21																				13					1		5		2													
467				2	6	37	8							17	14		1																2		7										14			
468						14								1			3																7		7									4				
469			5			13											7													14			9		6													
470						13											48								2	3							4		5													
471			2			57								2			15			1														1	6													
472						26								2			4						1										1	1	12													
474																																																
475			7			5											1								1	1				4					1													
476						73								11			34								2	2							6		5													
477			4			17											10																		1												1	
478			1			9											3																5		6													
479			14			16											21									2				1					1		1										3	
480						2											45									3				2			3		26													
481						14											19						1		1								1		8													
482						12											43												2	2			2	1	9													
483			2			9	4							1			1							2	1	1				2			5		19													
484			1			6								3			90								2	1							3	1	4													
485			4			2										2	12									25							1															
487																	15									1															1							
489													7					41								17											2										2	
492													2				82									1																						
493			1			8											36																2		2							1						1
494						25											1			1								1					1		6		1											
495						6											14													1			5		12													
496																	121													1	1		5				3										1	
497			1			11							1				5													2	1		8	3														
498																																																
500			10			9											1													4				2	8													
502													1				2									9								3													11	

Table F-12d (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Quistradrilus multisetosus	Ranatra	Rheocricotopus	Rheopelopia	Rheosmittia	Rheotanytarsus	Rhithrogena	Rhyacodrilus	Rhyacophila	Rhyacophilidae Unid	Robackia demeijerei	Saetheria	Sciaridae	Serratella	Serratella prob.	Sialis	Simuliidae	Simuliidae Unid	Slavina	Slavina appendiculata	Smittia	Somatochlora	Sparganophilidae	Sperchopsis	Sperchopsis tessellata	Sphaeriidae
504													1				57									2
505						4										8										
506						4											6									6
507			1			33										1	2									3
508						6											54									
510						1											185									
511						8							1													5
513			2			5							1				25									4
514						37				1							10									1
515			6			8							1				4									
516			1			11							1				12						1			1
517			10			7											4									2
518																	17									1
519													2				1				2					
520			2			21											4									1
521																	47									
522			4			7	3				1						48									
523			4			24											20									
524						11							3				1								3	1
525						47																				
526			9			26											22									
527	1		1			2											25									
529						8											6								1	1
530						4											1									
531					1	3											8									
532						4										1	13									
533						18											2									
535						14																				
536																										
537													1				25									4
538			1			24											76									

StationID	Spirosperma	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenacron prob.	Stenelmis	Stenochironomus	Stenonema	Stenonema prob.	Stictochironomus	Stilocladius	Stratiomyidae	Stygobromus	Stylaria	Stylaria lacustris	Stylurus	Sublettea	Sublettea coffmani	Synorthocladius	Synurella	Tabanidae Unid
504					1		1		2												5	
505		1		7			1	10	1												1	
506							3	3														
507			1				1	1														
508							4	2														
510					1						1										1	
511				10			1															
513							2	6														
514				1	1			1	12													
515							16		6													
516				9	1		1	2	5		1											
517				3			18	5	1		1											
518							1		1												4	
519							2														1	
520			2	2			18		14		1											
521							4														3	
522							4	2	25													
523							32		40													
524				2			5		34													
525							6		2													
526				10			20		4													
527								7	2		1											
529							5	3	2				1								18	
530									1													
531							2	1	13													
532				2			6	3	6													
533				2	1			1	8													
535					1		5															
536																						
537							1															
538							9		11	2							1					

Table F-12d (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Quistradrilus multisetosus	Ranatra	Rheocricotopus	Rheopelopia	Rheosmittia	Rheotanytarsus	Rhithrogena	Rhyacodrilus	Rhyacophila	Rhyacophilidae Unid	Robackia demeijerei	Saetheria	Sciaridae	Serratella	Serratella prob.	Sialis	Simuliidae	Simuliidae Unid	Slavina	Slavina appendiculata	Smittia	Somatochlora	Sparganophilidae	Sperchopsis	Sperchopsis tessellata	Sphaeriidae
539						35			1								3						1			1
540			1			28											14								1	
541			2		2	18							1													
542						9											3									
544						8										1									1	
549						12								4			122									
550			1														12									
551			2			10											13								3	
554						57								8			2									1
556			2			23											24									2
557																	33									
562			3			11											9									1
563			2			31											39									3
564						118											7								1	2
565						13																				4
566																	10				1					
600					3	26							1				13									
601			1			19																				

StationID	Spirosperma	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenacron prob.	Stenelmis	Stenochironomus	Stenonema	Stenonema prob.	Stictochironomus	Stilocladius	Stratiomyidae	Stygobromus	Stylaria	Stylaria lacustris	Stylurus	Sublettea	Sublettea coffmani	Synorthocladius	Synurella	Tabanidae Unid
539				3	1		5	6	15		1											
540							7		4													
541			1	2			7	1	4													
542	1		2	2			5	2	4													
544							7		1													
549							2															
550				1			3		2		4						1					
551			5				25		4													
554									4													
556							17		6													
557							1															
562					1				2													
563									3													
564		1					1	1	2										1			
565																						
566	5																				51	
600							14		3		3											
601					1				5													

Table F-12d (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Tabanus	Tabanus/Hybomitra	Taeniopteryx	Tanypodinae Genus 1	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini Unid	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia	Tipula	Tipulidae Genus 2	Tipulidae Unid	Tipulidae Unid Diff	Triaenodes	Tribelos	Trichoceridae	Trichoptera Unid	Tricorythodes	Trissopelopia	Tropisternus	Tubificidae	Tubificidae Unid	Tubificidae Unid Diff	Turbellaria	Tvetenia	Tvetenia/Eukiefferiella	Unionidae	Unniella multivirga	Varichaetodrilus	Viviparidae	Xenochironomus xenolabis	Xylotopus par	Zavrelimyia
171																									1											
172			2						6			2																								
173									11			3											1		3	2										
174																		1							7											
175						1			2	1		3						1							4											
176			1						75		1	3						3							3											
177			1						12			3													3											1
178			1						4			8	1					1							4											
179			81						2				3					7							2								8			1
180			16						7				1				7																			
183			6		1								1																							
184			14										3												2											
185	2		4										2		1										1											
187													1															1								
191			5										2		1										1											
206	1		5		1				3			2	2			1									5	1		1		1						6
210					1				1				1																							
234									9			10	2				2	3							2											5
238			2						66			2	2					2							7										1	
240									80				1												2											1
242									9			9	3				4								4											
247									9				3				1																			
248			58						8			1	4					5							5											
249			5						40		1	3	2		1										3											
250		1	2						10			2	1		1		1	52							4								1			
251			21																							3										
252			8						32		1	1						2																		
253									5			1					1	1																		
254			18						3				1				1								11											
255			1					1	10			9	3				1								4											
256			18						15				1					3							39											

Table F-12d (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Tabanus	Tabanus/Hybomitra	Taeniopteryx	Tanypodinae Genus 1	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini Unid	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia	Tipula	Tipulidae Genus 2	Tipulidae Unid	Tipulidae Unid Diff	Triaenodes	Tribelos	Trichoceridae	Trichoptera Unid	Tricorythodes	Trissopelopia	Tropisternus	Tubificidae	Tubificidae Unid	Tubificidae Unid Diff	Turbellaria	Tvetenia	Tvetenia/Eukiefferiella	Unionidae	Unniella multivirga	Varichaetodrilus	Viviparidae	Xenochironomus xenolabis	Xylotopus par	Zavrelimyia
257			7						3			1					2	1							1											
259									6		1	2				1									3											
261													1												51											
262									44		1	4	1				1	2								1										
263			1						25			7	1				1	5							2										1	6
265								1	9			1						1						1												
268			11						1									1								9										
269			5						3																3											
272			13						2				5																							
273									4										1						2	2										
275													1												25											
280			1		1				17			5					1											1								
284		1	1									3													7											
286	1																								22											
287									1			1																								
288	1		1						9			6	10					3				1			3			1								2
289													2												9											
290									1																7			7								
310												1													25							3				
311			1																						27	3						1				
313	1								1														1		7											
316													1										1		36											
319			2						2				1												4											
321									5				2												37	1										
322			8						71			1	1					12			2				2											
323									8				1																							
324									27		1	1													2											
325			6										1												19	1										
326	1								2				3		1								2		4	1										
328									1																4			1								
329													1													1										

Table F-12d (cont’d). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Tabanus	Tabanus/Hybomitra	Taeniopteryx	Tanypodinae Genus 1	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini Unid	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia	Tipula	Tipulidae Genus 2	Tipulidae Unid	Tipulidae Unid Diff	Triaenodes	Tribelos	Trichoceridae	Trichoptera Unid	Tricorythodes	Trissopelopia	Tropisternus	Tubificidae	Tubificidae Unid	Tubificidae Unid Diff	Turbellaria	Tvetenia	Tvetenia/Eukiefferiella	Unionidae	Unniella multivirga	Varichaetodrilus	Viviparidae	Xenochironomus xenolabis	Xylotopus par	Zavrelimyia
330			8						3			3	2					4																		
331			5						46			1	1					5							4						2					
332			5						8		1	1	2		1		1								6											
335									25		1	1						1						2												
336			2						9																3											
337									11		1	1													2											
338					1				7			2													28											
339									4				8					1							2											
341			2						12		1	1					1	1							3											
343									2		2	8						11							1	4					1					
344	1								12			3	5				13	5								2										
345			8						31			2	3				1								2											1
346									30		4	8			1		1	13																	1	
348			21						15			2					1	4							1											
349									7			7	2				5	6							3						1					1
350			1						8								2														1					
376			1		1			3	8		3	3									8					3										
379					1																				12											
380			5										2												20	1										1
381			25	1					26			4	3				1	2							2											
382			9						5				2												4			3								
383									12									1							3											
384					1				29		1	1	3					3							12								1			
388			7						18		1	2	5					3																		1
390					1			1	8		2		2								4					5										
393			3						13		1	2					1	7							3			1							1	
394							1		38									19					1													2
395			1						4												4				2											
396									15		1	14									13							2								
397					1			1	34			1									21															
398					3				20			2					2					1			2			2								

Table F-12d (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Tabanus	Tabanus/Hybomitra	Taeniopteryx	Tanypodinae Genus 1	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini Unid	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia	Tipula	Tipulidae Genus 2	Tipulidae Unid	Tipulidae Unid Diff	Triaenodes	Tribelos	Trichoceridae	Trichoptera Unid	Tricorythodes	Trissopelopia	Tropisternus	Tubificidae	Tubificidae Unid	Tubificidae Unid Diff	Turbellaria	Tvetenia	Tvetenia/Eukiefferiella	Unionidae	Unniella multivirga	Varichaetodrilus	Viviparidae	Xenochironomus xenolabis	Xylotopus par	Zavrelimyia
399													1		1										10											
400			1						10			1						1							2											
401	1								1		1														4											
403									19			6																								
404								1	32			1	1				5								2										1	
405									10		3	2					3	2							2			1								
406									7		2		1								2															
407									3				1		1						3				4											
408									24			6						2										1								
409									9			4																								
410			2															1							2											
412									16			3	3				1																			
413			1						26		1	1						9								4										
414																																				
416									1						1										4	2										
417					1							3													3											
418			1						27								4	2							10											
419									7		2	1													7								2			
420									2																4						1					
421									28			11	1					2																		
422									67			7	1																							
423									70			2					1								1											
424						1			55			2						19							3											
453									30			3					1	4							10	1								1		
457									4			1					4				10													1		
458									30																											
459								1	7		2										2															
460									2			2													20	1										
462									21		4	1	1					1																		
463									13			2									2				1											
464									8			3																2								

Table F-12d (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Tabanus	Tabanus/Hybomitra	Taeniopteryx	Tanypodinae Genus 1	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini Unid	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia	Tipula	Tipulidae Genus 2	Tipulidae Unid	Tipulidae Unid Diff	Triaenodes	Tribelos	Trichoceridae	Trichoptera Unid	Tricorythodes	Trissopelopia	Tropisternus	Tubificidae	Tubificidae Unid	Tubificidae Unid Diff	Turbellaria	Tvetenia	Tvetenia/Eukiefferiella	Unionidae	Unniella multivirga	Varichaetodrilus	Viviparidae	Xenochironomus xenolabis	Xylotopus par	Zavrelimyia
465									11		1	1									1							1								
466							1		28			5						6																		
467								1	3				1															5								
468			5						13		1						2				14				1											
469								2	44		5																	1	1						1	
470									19		3										1				4											
471								1	37		2														3			4								
472			12						3			1									18															
474								3	32			5	1				1	10							1						1		1			1
475						1			27			6	1				3	5										1								
476			1						5		5										2															
477			6		1			1	12		1	2	2				1	1													1					
478									8		6	2									2				5											
479			2						24		1	1					1											3								
480									5			2									4				2	1					1		3			
481			8						2		3	1		1											1			1								
482			1		1				17			2					1																			
483			4						24			2						1			1							3								
484			2						8		2										10				1											
485									9		1	1					1	1							2							2	1			
487									35									1							6											
489													1												4	1										
492										1																										
493							1		40		2	1						1																		
494									2		4	4					1								17											
495									23											1					1			13								
496									16															1												
497			1						26			4	1				1	1																	1	
498																	1																			
500			4						32				2												4											
502									5		1	3													4	3					29					1

Table F-12d (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Tabanus	Tabanus/Hybomitra	Taeniopteryx	Tanypodinae Genus 1	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini Unid	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia	Tipula	Tipulidae Genus 2	Tipulidae Unid	Tipulidae Unid Diff	Triaenodes	Tribelos	Trichoceridae	Trichoptera Unid	Tricorythodes	Trissopelopia	Tropisternus	Tubificidae	Tubificidae Unid	Tubificidae Unid Diff	Turbellaria	Tvetenia	Tvetenia/Eukiefferiella	Unionidae	Unniella multivirga	Varichaetodrilus	Viviparidae	Xenochironomus xenolabis	Xylotopus par	Zavrelimyia
504									4						1										2	1					1					
505									30			2					1	2							5											
506									14			4	1		1		1	4								1										1
507									56		1	2						4																		
508			1						43			1					3	1															1			
510									8		1		1					1							1											
511									22								2	1							1								1			
513			19						64		3	4	1					2													3					
514			1			2			48		1	3						3													2					
515									70				1								14				1											
516			1						44			2	1				4	4								5					1				1	
517									69		4	1	1					2																		
518			6								1	2	1																							
519									3		1																				2					
520									27		1	5													1											
521													1																							
522			3						4		6										1															
523									2		2	1									10				1			4								
524									12			1					5	2																	2	
525											1	1									149							4								
526									39																						1					
527			9		1			1	55		1	1					3	1													1					
529									28		1	3						3										1			1					
530			1						4																											
531			3					1	3				1												1											
532			8		1				46			6													2			2						1		
533			4					1	52		3	3						3													1					
535									64		3																									
536					1																															
537									9	1								13							9	1										
538									10				1					1																		

Table F-12d (cont'd). Site-specific raw benthic assemblage data for the East bioregion (taxa Q-Z).

StationID	Tabanus	Tabanus/Hybomitra	Taeniopteryx	Tanypodinae Genus 1	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini Unid	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia	Tipula	Tipulidae Genus 2	Tipulidae Unid	Tipulidae Unid Diff	Triaenodes	Tribelos	Trichoceridae	Trichoptera Unid	Tricorythodes	Trissopelopia	Tropisternus	Tubificidae	Tubificidae Unid	Tubificidae Unid Diff	Turbellaria	Tvetenia	Tvetenia/Eukiefferiella	Unionidae	Unniella multivirga	Varichaetodrilus	Viviparidae	Xenochironomus xenolabis	Xylotopus par	Zavrelimyia
539								1	25			4						3							1											
540									53									1			1							2								
541									66		1	4					1	4							2			2								
542									29			4					2	2																	2	
544									7									21							2											
549									1		1	2																1								
550			1						1		2	3													1	1										
551			1						12			4					1	1							2			2								
554									14												4				5											
556			1						35				2																							
557									1				2												8											
562								1	8		4																							1		
563									10		2										1															
564								1	12		2																1									
565									44			1													1					1						
566			1																						3			2								
600									7		8																	3								
601									24			1						6							1											

Table F-12e. Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Ablabesmyia	Ablabesmyia annulata	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Acerpenna	Acilius	Acroneuria	Aeshnidae	Agabus	Allocapnia	Alloperla	Amphinemura	Amphipoda	Amphipoda Unid	Ancylidae	Ancyronyx variegatus	Apsectrotanypus	Argia	Aulodrilus
2		1					1													2	
3																				1	2
5				1	1	1	1													44	
6																				4	
7																				7	2
9			2									3									
10						1														2	1
11											1						1			4	2
13			1				1											1		4	
14			8			2						4									
15			3																	2	
16			4				1													2	
17							2													23	
18			4				1													2	
19			1			4	1													9	
20							1														
23							3													4	
24			2				17														
28			2		1	1															
30																			1	1	2
31			2									3								3	2
32			1		1		2							1						1	
33																					
34															1						2
35																		1			1
36												6									
37			2									2									
39												6						1		1	
40												120									
41			3		1							11				7					

StationID	Axarus	Baetidae Unid	Baetidae Unid Diff	Baetis	Baetisca	Basiaeschna janata	Beloneuria	Berosus	Bidessonotus	Bivalvia	Bivalvia Unid	Boyeria	Boyeria vinosa	Brachycentrus	Branchiobdellidae	Branchiura sowerbyi	Brillia	Bryophaenocladius	Caecidotea	Caenis	Calopterygidae Unid	Calopteryx	Cambaridae	Capniidae Unid	Ceratopogonidae	Cernotina	Chaoboridae
2								1								1				103			3		5		
3								5											7	20		1	1		5		
5								8												79					16		
6								3												219					2		
7																				12					24		
9								1								2				26					2		
10								16								1				121							
11								3										1		169			1				
13								2												6					4		
14																				34			8		5		
15								3												78					1		
16										1										14		1			2		
17	1							26								1				86					3		
18															1					6			3				
19								2												76			1				
20								1												33					1		
23								5												5			1				
24																	1			69		4					
28		1																	28			7	2		1		
30																	1		2				3		1		
31								1												132					4		
32								2												93					2		
33																	1		1			5	1		9		
34				2													2					1	1				
35				1										2			4		1								
36				7													8										
37												2								9		3	1		1		
39												1								67			1				
40																											
41																			9	11		1	1		4		

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Ablabesmyia	Ablabesmyia annulata	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Acerpenna	Acilius	Acroneuria	Aeshnidae	Agabus	Allocapnia	Alloperla	Amphinemura	Amphipoda	Amphipoda Unid	Ancylidae	Ancyronyx variegatus	Apsectrotanypus	Argia	Aulodrilus	Axarus	Baetidae Unid	Baetidae Unid Diff
42			1									117												
43																		1						
44						1														1	1			
45			4									1												
46															1					1				
47																				3				
48								1				52				3								
49						1																		
50																				1				
51			1						2			3								3	1			
52			1																	3	1			
55												3		1						3				
56			2				1																	
85						1	1													5				
86			7			2	16					1									2			
87			5				12													6	1			
88			5		3	5												5		11				
89																								
91			1			1														4				
92						1	3													8				
93												2			1					2				
96												1								1				
98										1											1			
99			1																	65				
101																				11				
102												4								6				
104																								
105			1		5							1			2					2	1			
106																				3				
107			1		1		2					1								5				

StationID	Baetis	Baetisca	Basiaeschna janata	Beloneuria	Berosus	Bidessonotus	Bivalvia	Bivalvia Unid	Boyeria	Boyeria vinosa	Brachycentrus	Branchiobdellidae	Branchiura sowerbyi	Brillia	Bryophaenocladius	Caecidotea	Caenis	Calopterygidae Unid	Calopteryx	Cambaridae	Capniidae Unid	Ceratopogonidae	Cernotina	Chaoboridae
42																	1		3	2		1		
43																	3		1	7		13		
44	2													1										
45																	1		1			2		
46					1				1							3	83					7		
47					1											3	183					10		
48															1	1	4		1	2		1		
49														2			5		2			1		4
50					49												113			2		8		
51																	1		1	5		17		
52					4	1										1	15		6	14		4		
55	1													1		1	43		5	1		7		
56					1												124					7		
85					4												172			1		1		
86																9	3		3	8				
87																4	33			1				
88	1									3				1			1		6	9		2		
89					1												282			1				
91					3												126					1		
92																2	52		2	5		6	3	
93		2			5							1				1	68		8	7		4		
96					1												71			8		1		
98																	54		5	3		2		
99					3												10	1	30	8		15		
101					4												190		1					
102					4							1					113			6		4		1
104					9			2									48			1		1		1
105																4	39			3		14		2
106													1			1	16					2		
107					1												67			16	1	10		

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Ablabesmyia	Ablabesmyia annulata	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Acerpenna	Acilius	Acroneuria	Aeshnidae	Agabus	Allocapnia	Alloperla	Amphinemura	Amphipoda	Amphipoda Unid	Ancylidae	Ancyronyx variegatus	Apsectrotanypus	Argia	Aulodrilus	Axarus	Baetidae Unid	Baetidae Unid Diff	Baetis	Baetisca	Basiaeschna janata	Beloneuria	Berosus	Bidessonotus	Bivalvia	Bivalvia Unid	Boyeria	Boyeria vinosa	Brachycentrus	Branchiobdellidae	Branchiura sowerbyi	Brillia	Bryophaenocladius	Caecidotea	Caenis	Calopterygidae Unid	Calopteryx	Cambaridae	Capniidae Unid	Ceratopogonidae	Cernotina	Chaoboridae
108												3																	7												161					5		
109											1	14			9														1											16	3			5				
110																																								2	194					4		
111			1			1												2		31											15			1							20		4			1		
112			1									3						1		1														1							17		1	8		4		
113					1											2	1				1							3												1	98		3	3		10		
114												1								2									1		1									1	12			2		1		1
115			1				1						2					1								5														5	9		3	2		1	1	
116												20				1													6												122			1				
117							1					3																	2		1										141							
118																				3																					181					7	4	
119							2					8								4							1		4												138			1		10		
120							11																						3												6		1	1		3		
121	1						1													4																					101			1		7		
123							1													5			1						4												246					1		1
127							8		1			8			1						4													1						1	61		7	1		4		
155							9													1									2					1							32					6		
156	1															1				1	2								2										1		159			1		6		1
157							2							1				1																						2	29			1		7		1
158			1																		3								2											2	80				1	3		
159							3							1						1									2											6	72					1		1
160							3											2		1			1	1					1									1		2	32			2		1		
165					1							1								2									1												170			8		7		
166																																									2					1		1
167												2						1		1									2												44					4		
168												21		1																														7		1		
169							1					26								5									3												141		1	1				
170							1					3								2																					184			2				
181							2					30																	1												78							
182														4									3																	2	30			4		3		

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Ablabesmyia	Ablabesmyia annulata	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Acerpenna	Acilius	Acroneuria	Aeshnidae	Agabus	Allocapnia	Alloperla	Amphinemura	Amphipoda	Amphipoda Unid	Ancylidae	Ancyronyx variegatus	Apsectrotanypus	Argia	Aulodrilus	Axarus	Baetidae Unid	Baetidae Unid Diff	Baetis	Baetisca	Basiaeschna janata	Beloneuria	Berosus	Bidessonotus	Bivalvia	Bivalvia Unid	Boyeria	Boyeria vinosa	Brachycentrus	Branchiobdellidae	Branchiura sowerbyi	Brillia	Bryophaenocladius	Caecidotea	Caenis	Calopterygidae Unid	Calopteryx	Cambaridae	Capniidae Unid	Ceratopogonidae	Cernotina	Chaoboridae
547							2										1	1																										2		10		

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Chelifera	Cheumatopsyche	Chimarra	Chironomidae	Chironomidae Unid	Chironomini Unid	Chironomus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanytarsus	Clioperla clio	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Corbiculidae	Cordulegaster	Cordulegasteridae Unid	Corduliinae	Corydalidae Unid Diff	Corydalus	Corynoneura	Corynoneura/Thienemanniella
2		4					10																		
3		4					1											9							
5		10			4					3				5			1								
6		4			2																				
7							1	1			1							1							
9																1								1	
10		10			1																				
11							1																		
13		4			3																				
14														3											
15		2			2									1											
16		4		2	2		3								1			1						1	
17		6			8		1																		
18		2			3																				
19		1			1		1			1													1		
20		3			5												1							1	1
23		16			2										1										
24		2			1									1			7							5	
28					1						3						6							4	
30		12			2													1						1	
31																		3						1	
32		9												1			4								
33		2			1																				
34		11			2													3							1
35		6																14						2	2
36	2	8			5	1						2												3	2
37		5			2		2					4						6						2	
39		3			3													3						1	2
40					4																				
41					2		4									1	1								

StationID	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus tremulus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Cura foremanii	Cyphon	Dero	Dicrotendipes	Dineutus	Diplocladius	Diptera Unid	Dixa	Dixidae Unid	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia tigrina	Eclipidrilus	Einfeldia
2							3					13		1										
3							1		2		2	2		2							3	1		
5		1		12			4					6		2										
6							1					2		8							1			
7									10		1	12												4
9							3				1	7		1										
10																								
11				1										1									1	
13			3	38	16	2						2												
14		4		2			2					21	1											
15				16								12	2	1										
16			3	23		1						1												
17		1		6			5					1										1		
18		3		61		1	1																	
19				25								1												
20				35		1					1													
23				27								3											2	
24				11								1												
28		11		1					1			1	1										1	
30		2		9							1													
31				1								2		3				2						1
32																								
33		1		2			1						1											
34		4	1	3				1													1			
35												2	1								1			
36				2																				
37				2						1														
39												3		7										
40		2										1		6										
41		27		1						1		10		10										

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Chelifera	Cheumatopsyche	Chimarra	Chironomidae	Chironomidae Unid	Chironomini Unid	Chironomus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Corbiculidae	Cordulegaster	Cordulegasteridae Unid	Corduliinae	Corydalidae Unid Diff	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus tremulus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Cura foremanii	Cyphon	Dero	Dicrotendipes	Dineutus	Diplocladius	Diptera Unid	Dixa	Dixidae Unid	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia tigrina	Eclipidrilus	Einfeldia
42					3																			3															11										
43		33			3					1							1							2			3										1		2	2								4	
44	3	25			8																							1			3																		
45		1			2		2																	8	4		1										1									1			
46														1		1											27		2														2			2			
47																											1										7												
48					2																						16										3		6										2
49		17			2			2										3						4					3								1					1				1			
50																		6						1		1	2				1						2						1						
51								1																6			1											1						1					
52		1			8			1			7			5				9																		1		2								4			
55		6									1	20			1		1	13											2			1			1											1			
56																		3											4								3						1			2			
85		2			3									2				6		1				5					17								4		1										
86		8		3				1									2												1						1													1	
87		11		4	2												3												19		1						3									1		1	
88		7			2	1				1													2				1		18									3							2				
89																																					1												
91		4			1																								5		1	1		1			3										1	1	
92		6										5	1	2				14						1					2									1											
93		9			1							3					4								1		2																1			3			
96			1		1												1							1	2				3								3												
98		7			2		1																1	1	1												2				1								
99														2														2	4			1					1											1	
101		1			1									1	2			1									1		1							1													
102		6	3					2																2	2			1	6		1						3		2					1		1			
104											2			2			1						1	1	3			5	9		1																		
105							3	1						1						1		1			1			4		1				1			1	1		3							6	1		
106		7			1					2							10													7			1					19		3										
107		3			3					2				2				7						2					1								6	1	1				1	1		1			

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Chelifera	Cheumatopsyche	Chimarra	Chironomidae	Chironomidae Unid	Chironomini Unid	Chironomus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Corbiculidae	Cordulegaster	Cordulegasteridae Unid	Corduliinae	Corydalidae Unid Diff	Corydalus
108		1																1					
109					6			3															
110		2								1				1									
111		30															8	3				1	1
112		7								1							1						
113																							
114		4			3				1									3					1
115					5	1				1	1	3					1	4					
116					3												1						
117		10			1																		
118			1																				
119																		1					
120												1											
121		1															1						
123		2															1						
127		2					2					9							1				
155		3			1					1													
156		6												1	1	3		3					
157		4										1					6						
158		10	2					1				2						3					
159					1												2						
160		13			2			1									6	1					1
165		3			1					2				1									
166																		20					
167		6			2																		1
168					4			1															
169															1			3					
170														1									
181		5			2					2													
182												1											

StationID	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus tremulus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Cura foremanii	Cyphon	Dero	Dicrotendipes	Dineutus	Diplocladius	Diptera Unid	Dixa	Dixidae Unid	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia tigrina	Eclipidrilus	Einfeldia
108		1				1							1	4		1							5			
109				48										1		4							1			
110													2	4									1			
111	1	1							1					2		5				1					2	
112	2	1		1	1									10		3				3			1		1	
113											1	5											4			
114		1										1		14		10										
115	2	5						1								2						1				
116				5								2		1		1										
117	1	1												6		3										
118										1													3			
119				1					1					19		4					1					
120	1													1												
121				2							1												3			
123														3									1			
127	1										1	2	1										3			
155			18	1		1																	1			
156					1	3								3		1										
157				1	1															1						
158	1	2		1		1										1										
159				1									1													
160									1														1			
165																				2						
166																										
167																4							1			
168			3	6								1									1				1	
169														4		7				2					1	
170				4										1												
181	1								1					19		3										
182														1		3										

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Chelifera	Cheumatopsyche	Chimarra	Chironomidae	Chironomidae Unid	Chironomini Unid	Chironomus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Corbiculidae	Cordulegaster	Cordulegasteridae Unid	Corduliinae	Corydalidae Unid Diff	Corydalus	Corynoneura
547		3															1							1

StationID	Corynoneura/Thienemanniella	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus tremulus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Cura foremanii	Cyphon	Dero	Dicrotendipes	Dineutus	Diplocladius	Diptera Unid	Dixa	Dixidae Unid	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia tigrina	Eclipidrilus	Einfeldia
547			2		1								2	1						1	1				

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Empididae Unid	Enallagma	Enchytraeidae	Enchytraeidae unid	Endochironomus	Enochrus	Ephemerella	Ephemerellidae Unid	Erioptera	Erpetogomphus	Erpobdellidae	Erythemis	Eukiefferiella	Eurylophella	Gammarus	Georthocladius	Glossiphoniidae	Glyptotendipes	Gomphidae	Gomphidae Unid	Gomphidae Unid Diff	Gomphus	Gonomyia	Gymnometriocnemus	Gyrinus	Haemonais waldvogeli	Haliplus	Helichus	Helochares	Helopelopia	Hemerodromia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff	Hetaerina	Heterotrissocladius	Hexagenia	Hexatoma	Hyalella	Hybomitra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydropsyche	Hydropsychidae Unid	Hydroptila	Hydroptilidae Unid	Hydroptilidae Unid Diff	Ilyodrilus
2			3															3														2							11			9				1			
3		3																				1			1							1					1		21			4							1
5		5	11		1				1																																	5				6			
6		9	1										2												1																								
7			4								1	2														3																							
9			1		1																																					7							
10		1	1														1	1																								1							
11			2																																														
13																						1											6				2								1				
14			1																																				25			22							
15																																							2			1							
16																																					2		49							1			
17		3									3																																			1			
18										1																							1						97										
19																															1		3				1		19										
20		1	1														1									1					1								16										
23		2											1																		1																		
24						1																			1			1		2															1				
28			1						1													4								1							2												1
30													2							1													3				1				1			1	2				
31		1	2																														1				1				1	1							
32			3				4																					1			1		1				2		2										
33																														2	1	1					79												1
34							56													1		5									1		2				4												
35			2				4							2								1				1							4				24							1					
36													1																				2											1					
37									1																			2					3																
39																							1					1																					
40																																								1		56							
41			2			1												1					2					2									2		3			25							

StationID	Empididae Unid	Enallagma	Enchytraeidae	Enchytraeidae unid	Endochironomus	Enochrus	Ephemerella	Ephemerellidae Unid	Erioptera	Erpetogomphus	Erpobdellidae	Erythemis	Eukiefferiella	Eurylophella	Gammarus	Georthocladius	Glossiphoniidae	Glyptotendipes	Gomphidae	Gomphidae Unid	Gomphidae Unid Diff	Gomphus	Gonomyia	Gymnometriocnemus	Gyrinus	Haemonais waldvogeli	Haliplus	Helichus	Helochares	Helopelopia	Hemerodromia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff	Hetaerina	Heterotrissocladius	Hexagenia	Hexatoma	Hyalella	Hybomitra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydropsyche	Hydropsychidae Unid	Hydroptila	Hydroptilidae Unid	Hydroptilidae Unid Diff	Ilyodrilus
42													1	3														1				1										8							
43			15	21	1								1			1		2										2			2											2							
44							13																							5	10		1				1							1		3			
45																						1																											
46		1	1										1									2										3					3		4										
47		1	1																				1				1															2				3			
48														1																			1						9			5							
49			3																											1			2				2												
50		3	1									2																					1																
51			7						9					2																5			2			1		4											
52		4																				3			1	1							7						56										
55	1																					4	2							5		3			8	1	2												
56																																																	
85		4																															1								1	1				1			
86			1																			2								4	1		6				1							1					
87																														2	1						1												
88		1																				4									2		17				2		2							1			
89													1																				1																
91			1																														1						7						1	1	2		
92		7	3		1																				2			2					1				1		11										
93		8	3					1															1					2		2			4						3										
96													40																				1						5			1							
98													4																				5				3												
99		26	4																		1										1																		
101		7								1																							1						1		1					3			1
102			1							1			2		1															2			5						1							1			
104		5																										1		1	2		1	1	2				52							1		1	
105		4																					1														1		14										
106																										1																				1			
107		1							1													2						1		1									1			2				1			

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Empididae Unid	Enallagma	Enchytraeidae	Enchytraeidae unid	Endochironomus	Enochrus	Ephemerella	Ephemerellidae Unid	Erioptera	Erpetogomphus	Erpobdellidae	Erythemis	Eukiefferiella	Eurylophella	Gammarus	Geortholadius	Glossiphoniidae	Glyptotendipes	Gomphidae	Gomphidae Unid	Gomphidae Unid Diff	Gomphus	Gonomyia	Gymnometriocnemus
108																						1		
109			1																				3	
110		5																						
111		3																						
112		1																					1	
113																		1						
114					1																	1		
115		2	1											1										
116			3															1						
117													8					1						
118		1	1																					
119		2	3																				3	
120			10						1														3	
121			5																				1	
123		1																	1					
127			2																			6		
155			3																					
156		1	6						1				1					1						
157			3						1														3	
158			3										10						1					
159													1											
160			5																				1	
165		2																					1	
166																							1	
167		2											2											
168		1	5																					
169		1	1										2											
170		2	1																					
181			2																					
182			5																					

StationID	Gyrinus	Haemonais waldvogeli	Haliplus	Helichus	Helochares	Helopelopia	Hemerodromia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff	Hetaerina	Heterotrissocladius	Hexagenia	Hexatoma	Hyalella	Hybomitra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydropsyche	Hydropsychidae Unid	Hydroptila	Hydroptilidae Unid	Hydroptilidae Unid Diff	Ilyodrilus
108				1				1										1							
109																		77							
110															7		1								
111							3																		
112									3									1							
113								1							7										
114					1										1		1	8							
115	1			2		4			1				3		7										
116															3			23							
117																									
118								1									1			2					
119															2		1	5		2		1			
120				1											2										
121								2							3										
123				1											2										
127				3		1			2				4		1										
155									1						1					2					
156															12										
157								1										1	1	1					
158									5						3		2	2			1				
159				1					1						66										
160						6			2		1							1				1			
165															7										
166																									
167						1							1												
168												1													
169																		2							
170													1		2			1							
181				1				1				1			4			1	1						
182															2			1	1						

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Empididae Unid	Enallagma	Enchytraeidae	Enchytraeidae unid	Endochironomus	Enochrus	Ephemerella	Ephemerellidae Unid	Erioptera	Erpetogomphus	Erpobdellidae	Erythemis	Eukiefferiella	Eurylophella	Gammarus	Georthocladius	Glossiphoniidae	Glyptotendipes	Gomphidae	Gomphidae Unid	Gomphidae Unid Diff	Gomphus	Gonomyia	Gymnometriocnemus	Gyrinus	Haemonais waldvogeli	Haliplus	Helichus	Helochares	Helopelopia	Hemerodromia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff	Hetaerina	Heterotrissocladius	Hexagenia	Hexatoma	Hyalella	Hybomitra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydropsyche	Hydropsychidae Unid	Hydroptila	Hydroptilidae Unid	Hydroptilidae Unid Diff	Ilyodrilus
547			4																			1		1							1		4											1					

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Ischnura	Isonychia	Isoperla	Kiefferulus	Labrundinia	Laccophilus	Larsia	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Libellula	Libellulidae	Libellulidae Unid	Limnephilidae Unid	Limnodrilus	Limnophila	Limnophyes	Limonia
2																	3			
3					1												11			1
5	6				1	1											1			
6	1																			
7				2									1				13			
9																	2			
10																	5			
11																				
13		5															3			
14	2																3			
15	2																		1	
16																				
17	3																5			
18	1																			
19	1				1															
20				1																
23																				
24			1							3										
28												2					1		1	
30		10	1																	
31																				
32			25																	
33			1		1												9			
34		41	2		2															
35		3	1						1			4					1			
36			1									1								
37										1		4	1							
39			2																	
40																				
41															1					

StationID	Lirceus	Lopescladius	Lumbricidae	Lumbriculidae	Lumbriculidae Unid	Lumbriculus	Lymnaeidae	Lype	Macromia	Macromiidae	Macromiinae	Macromiinae Unid	Macronychus glabratus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesosmittia	Micropsectra	Microtendipes	Microtendipes pedellus	Microvelia	Molophilus
2	1																				
3	12						1														
5	4														1						
6	4																				
7					17		2														
9																					
10							4								6						
11															6						
13																					
14																					
15	1																				
16																					
17									1						1						
18									1												
19																					
20															5						
23															1						
24															1						
28								1							1						
30																		1			
31						1	1														
32			1										5		2				1		
33																	1				
34													3						2		
35													8								
36															3				3		
37													1		3		1		1		
39													1								
40																					
41	6																	1	1		

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Ischnura	Isonychia	Isoperla	Kiefferulus	Labrundinia	Laccophilus	Larsia	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Libellula	Libellulidae	Libellulidae Unid	Limnephilidae Unid	Limnodrilus	Limnophila	Limnophyes	Limonia	Lirceus	Lopescladius	Lumbricidae	Lumbriculidae	Lumbriculidae Unid	Lumbriculus	Lymnaeidae	Lype	Macromia	Macromiidae	Macrominae	Macromiinae Unid	Macronychus glabratus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesosmittia	Micropsectra	Microtendipes	Microtendipes pedellus	Microvelia	Molophilus
42										2		2																											2		
43																1	1		2				9											1							
44		8	2						5								1																4				3		2		
45										24		80																							2				6		
46			2								1																														
47																	1				1																				
48				1								2															1								1						
49		11	2																1														1								
50													3								1						3														
51			11							5		11																							8				3	1	
52																	12				2								1						1				1		
55			14	1					1	2							2		1														1		2				2		
56																											1														
85	1																1					1										2									
86			3									1					1																		1		1				
87					1												1																		2						
88		1																											1			1					1				
89																					1								1												
91																																			1						
92			11										1										1						1		5	2	1						4		
93			8										1				3		1																1				1		2
96																	1				8														1						
98			1									3					1																		2				1		
99																	9																			1					
101																					1									2											
102																													1						1						
104		1															2																		1						
105																	5				2		2																		
106																1	1		3																						
107													1				2									2									1						

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Ischnura	Isonychia	Isoperla	Kiefferulus	Labrundinia	Laccophilus	Larsia	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Libellula	Libellulidae	Libellulidae Unid	Limnephilidae Unid	Limnodrilus	Limnophila	Limnophyes	Limonia	Lirceus	Lopescladius	Lumbricidae	Lumbriculidae	Lumbriculidae Unid	Lumbriculus	Lymnaeidae	Lype	Macromia	Macromiidae	Macromiinae	Macromiinae Unid	Macronychus glabratus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesosmittia	Micropsectra	Microtendipes	Microtendipes pedellus	Microvelia	Molophilus
108								1		1	1											1																			
109																																									
110													1																												
111																	1									1									18						
112			4							3		5																											2		
113										1		6					1		1							1													9		
114			1	4			1																				1														
115			6									1					1																		4				3		
116				1													3																								
117																																									
118											1			1				1															2								
119																	1																								
120																							1											2							
121																																									
123										1																															
127										2	3						1	1															4						2		
155			7																														1		2						
156																			1																						
157			8																																3						
158										1		1					1																	1							
159			2									1																							1						
160			30																												1		4								
165					1					1											4																				
166																	1																								
167			2																																						
168													1								34														1						
169							1								1									1															1		
170										2													1						1						1						
181			1														1																								
182			106																		1																				

Table F-12e (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa A-M).

StationID	Ischnura	Isonychia	Isoperla	Kiefferulus	Labrundinia	Laccophilus	Larsia	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Libellula	Libellulidae	Libellulidae Unid	Limnephilidae Unid	Limnodrilus	Limnophila	Limnophyes	Limonia	Lirceus	Lopescladius	Lumbricidae	Lumbriculidae	Lumbriculidae Unid	Lumbriculus	Lymnaeidae	Lype	Macromia	Macromiidae	Macromiinae	Macromiinae Unid	Macronychus glabratus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesosmittia	Micropsectra	Microtendipes	Microtendipes pedellus	Microvelia	Molophilus
547		5																															5								

Table F-12f. Site-specific raw benthic assemblage data for the Northwest bioregion (taxa N-Z).

StationID	Naididae Unid	Nais	Nanocladius	Natarsia	Nectopsyche	Nematoda	Nematomorpha	Nemertea	Nemouridae	Nemouridae Unid	Neoperla	Neoporus	Nigronia	Nilothauma	Nyctiophylax	Odontomesa	Oecetis	Oligochaeta Unid	Orthocladiinae Unid	Orthocladiinae Unid Diff	Orthocladius	Orthocladius (S.) lignicola	Orthocladius O.	Oxyethira
2						2															4			
3																					36			
5		4			7	1		1									1				26			
6						2															13			
7						2																		
9								3													2			
10		2																						
11																								
13			1																				4	
14		1										1									1			
15																					2			
16			1																		18			
17																					24			
18			2																		3			
19			2		2																14			
20		2						1													15			
23		3																			70			
24			1																		1			
28		1				2																		
30		2	1		2												6				12			1
31		2				2																		
32			2																					
33			1																					
34					2																1			1
35											1										1			
36			1			3													2				7	
37			1																		4			
39		1				1				1		1									4			
40												1											7	
41		1	3	1					1			4									5			

StationID	Palaemonidae	Paracladopelma	Paragnetina	Parakiefferiella	Paralauterborniella	Paralauterborniella nigrohalterale	Paraleptophlebia	Paramerina	Parametriocnemus	Paraphaenocladius	Paratanytarsus	Paratendipes	Pelonomus	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlidae Unid Diff	Perlodidae	Perlodidae Unid	Phaenonotum	Phaenopsectra	Physella	Physidae
2	1										1														1
3																							6		
5										1				14											
6																									1
7																									14
9																									1
10																									1
11																									
13											16												8		
14	5													2									1		22
15														1											
16											18												3		
17														3										1	
18									2		1														
19											1												1		
20											1												1		
23																									
24				3			1				7							1			1				
28				1					1	2	23			1								1	8		1
30									3		12										1				
31									1														1		
32														3		1					2		1		
33		1		2		1			7		23	1		1							1		1		
34				1					3							1									
35			1						6		2						1	1			3				
36				2					30		3					4									
37									5	1	5												1		2
39									4												1		1		
40																									
41				1				1																	

Table F-12f (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa N-Z).

StationID	Naididae Unid	Nais	Nanocladius	Natarsia	Nectopsyche	Nematoda	Nematomorpha	Nemertea	Nemouridae	Nemouridae Unid	Neoperla	Neoporus	Nigronia	Nilothauma	Nyctiophylax	Odontomesa	Oecetis
42						1						5					
43	1			1		2											
44						1											2
45												1					
46			1														
47																	
48												1					
49			1			1											
50																	
51			1									1					
52								1				5					
55			1									1					
56			2														
85			1														
86		2				1										1	
87		1															
88					1												
89																	
91		1	4		1												
92						1								1			
93		1					1						1				
96																	
98																	
99		4	1			1		1									
101			3					1									
102			1			1											
104		2	3		1												
105						1									1		
106																	
107					5												

StationID	Oligochaeta Unid	Orthocladiinae Unid	Orthocladiinae Unid Diff	Orthocladius	Orthocladius (S.) lignicola	Orthocladius O.	Oxyethira	Palaemonidae	Paracladopelma	Paragnetina	Parakiefferiella	Paralauterborniella	Paralauterborniella nigrohalterale	Paraleptophlebia	Paramerina
42				7											
43	1			10											
44						18				1					
45															
46															
47				4											
48						5									
49				1							5				
50							1								
51					1										
52				2			1								
55				1											
56						2									
85				9											
86									3						
87				1											
88						15	1								
89															
91						1									
92				1											
93		1	1												
96				12							1				
98						1									
99		1													
101						2									
102						8									
104						6									
105															
106				1							1				
107				5											

StationID	Parametriocnemus	Paraphaenocladius	Paratanytarsus	Paratendipes	Pelonomus	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlidae Unid Diff	Perlodidae	Perlodidae Unid	Phaenonotum	Phaenopsectra	Physella	Physidae
42	1														2		1
43		3			2												
44	21										1	1					
45	10		3										1				
46			5	1													1
47	1		1	1													
48															1		2
49	2		6												1		2
50						2											9
51	8	2		12									1				
52			1			5											
55	4		5	1													
56	1		1			2											
85																	
86			14														
87			4	1													
88	2		1												1		
89																	1
91	1		2														
92			1												1		
93	6	1	1														
96																	
98	4							1									
99			1														4
101	1														1		
102	3		1														
104	2		8														
105			3														2
106	1																
107	3			1													

Table F-12f (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa N-Z).

StationID	Naididae Unid	Nais	Nanocladius	Natarsia	Nectopsyche	Nematoda	Nematomorpha	Nemertea	Nemouridae	Nemouridae Unid	Neoperla	Neoporus	Nigronia	Nilothauma	Nyctiophylax	Odontomesa	Oecetis	Oligochaeta Unid	Orthocladiinae Unid	Orthocladiinae Unid Diff	Orthocladius	Orthocladius (S.) lignicola	Orthocladius O.	Oxyethira	Palaemonidae	Paracladopelma	Paragnetina	Parakiefferiella	Paralauterborniella	Paralauterborniella nigrohalterale	Paraleptophlebia	Paramerina	Parametriocnemus	Paraphaenocladius	Paratanytarsus	Paratendipes	Pelonomus	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlidae Unid Diff	Perlodidae	Perlodidae Unid	Phaenonotum	Phaenopsectra	Physella	Physidae
108			2																		3														1			3											
109						1						5											8																										1
110																																						2											
111			1			1																											5		35							1					2		1
112										2													2								2		5		2												1		
113												2																					1		1	1											1		17
114												2								1	9												1					3											
115																					2												10		3														
116												1									25																	3											1
117																					14												3	1															1
118			1																									1																					
119				1																	6																	1											
120						1																	7															1											1
121						2																													1														
123					1			1													4																	3	1										
127																					3										2		1			1		1											
155					1																1												1																
156			1			1																	1					2					1														1		
157																							3																										
158												1									4												5														1		
159																					1																												1
160					1	3															1													1	1	1									1				
165			1			1																																											
166																																																	1
167																							8										5																
168																					2												3																
169																					15												2														1		
170												1									3												3		1														
181			1			2																	17										1																
182						1						1									2												1												6				

Table F-12f (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa N-Z).

StationID	Naididae Unid	Nais	Nanocladius	Natarsia	Nectopsyche	Nematoda	Nematomorpha	Nemertea	Nemouridae	Nemouridae Unid	Neoperla	Neoporus	Nigronia	Nilothauma	Nyctiophylax	Odontomesa	Oecetis	Oligochaeta Unid	Orthocladiinae Unid	Orthocladiinae Unid Diff	Orthocladius	Orthocladius (S.) lignicola	Orthocladius O.	Oxyethira	Palaemonidae	Paracladopelma	Paragnetina	Parakiefferiella	Paralauterborniella	Paralauterborniella nigrohalterale	Paraleptophlebia	Paramerina	Parametriocnemus	Paraphaenocladius	Paratanytarsus	Paratendipes	Pelonomus	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlidae Unid Diff	Perlodidae	Perlodidae Unid	Phaenonotum	Phaenopsectra	Physella	Physidae
547			1			3															2								2				1		4					1									

Table F-12f (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa N-Z).

StationID	Pilaria	Planorbidae	Plathemis	Plecoptera Unid	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum illinoense	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum sp. C	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Potthastia
2													2										
3												1					1						
5			1										3	1							3		
6													2										
7			1										1										
9																							
10													1										
11																		1				2	
13													1					2			1	2	
14													4					2					
15													3								3		
16												1											
17																							
18																							
19											1		1										
20		1											4										
23											1		1										
24									5		4			5									
28													3			2	2		1		1		
30												1											
31													1	1				1					
32									2		1		1										
33												1					2						
34									4		2	2											
35																							
36						2			13												2		1
37									10													3	
39														1	1								
40																							
41													3										

StationID	Prionocyphon	Pristina	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Prostoia	Pseudochironomus	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Pteronarcys	Ptilostomis	Pycnopsyche	Quistradrilus multisetosus	Ranatra	Rheocricotopus	Rheotanytarsus	Rhyacophila	Robackia claviger	Sciaridae	Sialis	Simuliidae	Slavina appendiculata
2				3				1											2						
3					15	5																	1		
5			1								1								4					19	
6																								5	
7				5																					
9						1																		6	
10												1							1						
11																									
13																		1	46					3	
14				1																					
15						5																			
16				1															26					5	
17																								11	
18					2	3										1			15					1	
19						1											1		36					10	
20					2	3																		14	
23						6																		71	
24						1													24						
28				1	1	1				1					2				2					2	
30		1													1			2	91			1		2	
31						1													2						
32					2						1							5	1						
33															1			2	10						
34													3	1				12	44					1	
35							7								2			15	51					6	
36						1		2							2			1	29					40	
37						1									4				19					6	
39					1	6		1											4					13	
40																									
41								1			1													8	

Table F-12f (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa N-Z).

StationID	Pilaria	Planorbidae	Plathemis	Plecoptera Unid	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum illinoense	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum sp. C	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff
42																						
43				2	1						4		1							7		
44										1								1				1
45				1					2				2				6				1	
46																		1				1
47															2							
48																						
49											1		1									1
50																						
51									2													
52												4										
55	2						1	2					1	2	1						1	
56													1	2	1							1
85													1									
86																					2	
87													4									
88												1			4						1	
89																						
91													2	1								
92									16				2	4								
93						1			6				1	1								
96													3								4	
98						4			5				1									
99												1	4									
101													1									
102											1	1		1							1	
104																				1		
105																						
106													2									
107			2										2									

StationID	Potthastia	Prionocyphon	Pristina	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Prostoia	Pseudochironomus	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Pteronarcys	Ptilostomis	Pycnopsyche	Quistradrilus multisetosus	Ranatra	Rheocricotopus	Rheotanytarsus	Rhyacophila	Robackia claviger	Sciaridae	Sialis	Simuliidae	Slavina appendiculata
42																			1					1	19	
43		1					4												7				1		2	
44														1		1			4	148					8	
45																			1	2						
46							3				1				1					4						
47																				1						
48									2							1								2	17	
49	1						1												2	53			1		4	
50							5																			
51							3			2	2					17				1					1	
52						6			5	3								1		2				3		
55							1									2				3		1		1	4	
56																				5					6	
85							13		1																21	
86						1				2										2					11	
87							4													10					5	1
88											1								2	7					11	
89																				1						
91																				37						
92										1	2									2						
93							1				3								1	3					6	
96							1													11					4	
98							2													9					33	
99							1																			
101																				10					3	
102					1														1	4					7	
104																				12			1		10	
105					1	2	4		2	2															39	
106							1													1					3	
107																									55	

Table F-12f (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa N-Z).

StationID	Pilaria	Planorbidae	Plathemis	Plecoptera Unid	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum illinoense	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum sp. C	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Potthastia	Prionocyphon
108											1		1											
109																								
110																							1	
111							1		10	1												1		
112									2				3											
113																								
114													1											
115									35					22										
116																								
117									3				1	2										
118															1									
119											4							1						
120									1				1	1										
121											1			4							1			
123					2																			
127						1																		
155							1		2	1	3			2										
156									2				10											
157									8	2	4		1				2							
158							1		1				2	8										
159									4		6													
160									10	2	1		1				3	2						
165													1											
166																								
167									4	1	3			29										
168																								
169		1				1																		
170																								
181													7	5							1			
182							2		5				9											

StationID	Pristina	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Prostoia	Pseudochironomus	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Pteronarcys	Ptilostomis	Pycnopsyche	Quistradrilus multisetosus	Ranatra	Rheocricotopus	Rheotanytarsus	Rhyacophila	Robackia claviger	Sciaridae	Sialis	Simuliidae	Slavina appendiculata
108				1	1													1					1	
109																								
110																						1		
111					8												1	5					2	
112					3			1					1										50	
113							4	4														1		
114																							121	
115							1	1	2									16					6	
116																								
117																							15	
118					1													4						
119					1													1					3	
120					1			1	2															
121														1									58	
123					2																		1	
127					9									3				1					1	
155								2										1					108	
156					4				1	1			1					1						
157					1				2									3			2		93	
158																							3	
159																		3					68	
160																	1	2					19	
165					2																		1	
166																								
167							1											3	1				110	
168													1								1			
169					3																	1	6	
170					17																			
181					2													1					8	
182																							4	

Table F-12f (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa N-Z).

StationID	Pilaria	Planorbidae	Plathemis	Plecoptera Unid	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum illinoense	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum sp. C	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Potthastia	Prionocyphon	Pristina	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Prostoia	Pseudochironomus	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Pteronarcys	Ptilostomis	Pycnopsyche	Quistradrilus multisetosus	Ranatra	Rheocricotopus	Rheotanytarsus	Rhyacophila	Robackia claviger	Sciaridae	Sialis	Simuliidae	Slavina appendiculata
547									41				1				1																1					1			2	4					45	

Table F-12f (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa N-Z).

StationID	Smittia	Somatochlora	Sparganophilidae	Sperchopsis tessellata	Sphaeriidae	Spirosperma	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenelmis	Stenochironomus	Stenonema	Stictochironomus	Stilocladius	Synurella	Tabanus	Taeniopteryx	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini Unid	Tanytarsus	Thermonectus	Thienemanniella	Thienemannimyia	Thienemannimyia grp.	Tipula	Tipulidae	Tipulidae Unid Diff	Triaenodes	Tribelos	Tropisternus	Tubificidae Unid	Tubificidae Unid Diff	Tvetenia	Varichaetodrilus	Zavreliella marmorata	Zavrelimyia
2					5					2				6		1							1			1						2							
3					8				1	1													4		2	2								20					
5					2						1		5			4			2				3					1		1				13	1				
6											2					1			1							2													
7					32																1					1						1		31	5				
9					1									3												1								14					3
10			1																							7								11					
11										3																19								9					
13										1			31									2	13			7					2	1		2					
14			1		7									8												4						2		6	2				
15					1						1								1				89		1	1													
16										1		1	13										29		6	14								1					
17													2										1			2		1						5					
18					2						1		36							1			8			17								1					
19										1			21	1									14			23													
20					12											1					1		18		2	10						1		11					
23													1						1				27		3	5													
24					4				4				46									1	1		1	1					1	6							
28	1				1						1		29										4		5	11		2				7		11					1
30												5	14					6				1	8		4	1		1			1								
31			1								1		2						1		1		4			3		1							3				
32	1									1	13		3										7			7													
33																							5			9					1	1		46					
34						1			1				16										5		1	2					6	3		4	4				
35							1			1	2	2	14					2					5		2	5													
36									3				20					1					1		4	1						1				3			
37										2	3		64					2					2	1		10		2					2						
39										5	1		35					4					2			2		3				1							1
40					1									1																				7					
41											3					10			1				1			4		1						3					5

Table F-12f (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa N-Z).

StationID	Smittia	Somatochlora	Sparganophilidae	Sperchopsis tessellata	Sphaeriidae	Spirosperma	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenelmis	Stenochironomus	Stenonema	Stictochironomus	Stilocladius	Synurella	Tabanus	Taeniopteryx	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus
42			1								2					13					
43	1														1		5		4		
44									3			2	9								
45									1										1		
46									1		3		20					2	1		
47										1	1										
48					1						1			1		18		2			
49				1	3					1			4								
50														1							
51				1						2	3	6	22					26	1		
52			1		1					4			11			2		2			
55					2				1		8		27			1					
56											4		2					1			
85																1					
86			2		2					1			53								
87					6								3						1		
88									1	8			66								
89																					
91										1											
92										7			31			1				1	
93	1								7	3			12			2					
96					1					1											
98										2			17					6			
99					19							1								2	
101										1						1					
102								1		2			3				1			1	
104					1				1				3								
105					1								2			1					
106					3																
107										2	1					1					

StationID	Tanytarsini Unid	Tanytarsus	Thermonectus	Thienemanniella	Thienemannimyia	Thienemannimyia grp.	Tipula	Tipulidae	Tipulidae Unid Diff	Triaenodes	Tribelos	Tropisternus	Tubificidae Unid	Tubificidae Unid Diff	Tvetenia	Varichaetodrilus	Zavreliella marmorata	Zavrelimyia
42													3					5
43		2				25	13	2					3					
44	1	7		4	6					4			1					
45		9			9		1				2							6
46		4			7		2			2			1					
47		7	1		7								1					
48		1			2													7
49		13			1					1	2							
50													6					
51		2			2						3							1
52					4		5		1	1			6					1
55		1		1	25		1			2	1		1		3			
56		14			5													
85		5		2	5							1						1
86		8			3		3						10					1
87		40		1	16		2											
88		11			5						2							1
89					4		1											
91		15			2		1								1			
92		6			4		1											
93		2			6								7					
96		6			6							2	3		1			2
98		3					2						3					
99		1			6						1		17					
101		18			1													
102		8		1	7							1	2					
104		10		1	2								2					
105		1			3						3		8					2
106		1			3								1					
107		1		1	9		2						1					2

Table F-12f (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa N-Z).

StationID	Smittia	Somatochlora	Sparganophilidae	Sperchopsis tessellata	Sphaeriidae	Spirosperma	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenelmis	Stenochironomus	Stenonema	Stictochironomus	Stilocladius	Synurella	Tabanus	Taeniopteryx	Tanypodinae Unid
108											9		1			1			
109		2														27			
110										4			1						
111					1														
112									1	2	1		10					7	1
113					11						10					2			
114					2					3						1		7	
115										1			2					17	
116																1			
117										2	2		1					1	
118									1			1						1	
119													5			1		1	
120		2			1						1					10			
121					1					2	2		2			1			
123										1	7		2			1			
127			1		1					2	19		34			19			
155	1										2		19						1
156			1										2			1			2
157													5						
158					5					1		1	13			1			
159											2		5						
160											7		20						
165									1	1						2		1	
166																			
167										2			4			1		1	
168			1		1						4					90	1		
169										5	1						1		
170													4			1		1	
181											4					8		1	
182																			

StationID	Tanypodinae Unid Diff	Tanypus	Tanytarsini Unid	Tanytarsus	Thermonectus	Thienemanniella	Thienemannimyia	Thienemannimyia grp.	Tipula	Tipulidae	Tipulidae Unid Diff	Triaenodes	Tribelos	Tropisternus	Tubificidae Unid	Tubificidae Unid Diff	Tvetenia	Varichaetodrilus	Zavreliella marmorata	Zavrelimyia
108				3		2	7													
109															4		4			
110				2			5								3					
111				3			6					1			4					1
112				8		6	2								1					
113												1	6		4					3
114							6		1				5		1				1	3
115				14		3	3		1			2	1				1			1
116															11					
117				1			1		2						1					
118				4			1													
119				2		2	1		2											
120							2		8											
121				5			1								4					
123				1			2													1
127				1			1							1	20	1				
155				4			6											1		
156				2			7									4				1
157				4			4		1											1
158				9			13		2				4		1					
159				5									1		2					
160				12		1	1					1								
165	1														1					
166																				
167				1			4		2						3					
168							1		5						7					
169	1			1			3		1											
170				3					1						1					
181				5		1	8		1				1		1					
182															1					

Table F-12f (cont'd). Site-specific raw benthic assemblage data for the Northwest bioregion (taxa N-Z).

StationID	Smittia	Somatochlora	Sparganophilidae	Sperchopsis tessellata	Sphaeriidae	Spirosperma	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenelmis	Stenochironomus	Stenonema	Stictochironomus	Stilocladius	Synurella	Tabanus	Taeniopteryx	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini Unid	Tanytarsus	Thermonectus	Thienemanniella	Thienemannimyia	Thienemannimyia grp.	Tipula	Tipulidae	Tipulidae Unid Diff	Triaenodes	Tribelos	Tropisternus	Tubificidae Unid	Tubificidae Unid Diff	Tvetenia	Varichaetodrilus	Zavreliella marmorata	Zavrelimyia
547					1								10										33			2		1				1		3		1			

Table F-12g. Site-specific raw benthic assemblage data for the Northeast bioregion (taxa A-P).

StationID	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Acerpenna	Acroneuria	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Anchytarsus	Ancylidae	Ancyronyx variegatus	Argia	Aulodrilus	Baetidae Unid	Baetidae Unid Diff	Baetis	Baetisca	Basiaeschna janata	Berosus	Bivalvia	Bivalvia Unid	Boyeria	Boyeria vinosa	Brachycentrus	Branchiobdellidae	Branchiura sowerbyi	Bratislavia	Brillia	Caecidotea	Caenis	Calopteryx	Cambaridae	Ceratopogonidae	Cernotina	Cernotina/Polycentropus	Chaetogaster	Chaoboridae	Chelifera	Cheumatopsyche	Chimarra	Chironomidae	Chironomidae Unid	Chironomus	Chloroperlidae Unid	Chrysops	Cladotanytarsus	Clinotanypus
58	6		4		1				3			1	1	8	2							1									5	22	3	4	12	3	1				3								1
60	6				1		4						3	2	2															2	1	2	2		7						2	3		4				2	
63	1						1							1											2						1	1		2	23	1					4								
64													2	5	1																			1	6						1			2				1	
65							1																									1	1	1	6	1	1				4	1					1		
66														1	3						1								2		3	3			2						1			1	1				
67							5	1					1																						1						1			1		2			
69					1		20						1								1										1	6	1	1	2						1			1	3				
70	1						7												1						1						1	8			13						5	15				1			1
73									1				1																			1												5	9				
74	3		2	1	1													1			2							1			1				2				1					4	2				
75	4	1		1				1																								1			3				1	1	1			4					
76					2								1																					2	8	1					1								
77							5							4											1						4	2		5	22									6	9		1		
79	1		1			1	5				1			2	1																	3			7	11					5	6		1					
80									1											1	1							1				127		2															
81	1		2		1			3					1	1							2				1						1	72		1	21														
82			1																3						2							11	2	1	13						11			3					
83	4		3	1	2									2			1				1										1	11	1		14	1					1			4			2		
136	1													1							4											135		1	21														
137							1							1																1	2		7		4						24								
140					2																										1	29		1	5				1					1					
141	1		4											5																					6	1					1			2				1	
142									2					2	1									2			1				8	19	1	3	9						7			2			1		
143	3											1				1					2											22			13						1	3							
146			1			1		1																							1			1	24						8								
149	2													1																	2				14							1	2	2				1	
152								2																								5			1				1										
153										1				1					1												1			1	4									1					
197	5		1										3	2	1										1							40		1	5						6	1		11			2		

Table F-12g (cont'd). Site-specific raw benthic assemblage data for the Northeast bioregion (taxa A-P).

StationID	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Acerpenna	Acroneuria	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Anchytarsus	Ancylidae	Ancyronyx variegatus	Argia	Aulodrilus	Baetidae Unid	Baetidae Unid Diff	Baetis	Baetisca	Basiaeschna janata	Berosus	Bivalvia	Bivalvia Unid	Boyeria	Boyeria vinosa	Brachycentrus	Branchiobdellidae	Branchiura sowerbyi	Bratislavia	Brillia	Caecidotea	Caenis	Calopteryx	Cambaridae	Ceratopogonidae	Cernotina	Cernotina/Polycentropus	Chaetogaster	Chaoboridae	Chelifera	Cheumatopsyche	Chimarra	Chironomidae	Chironomidae Unid	Chironomus	Chloroperlidae Unid	Chrysops	Cladotanytarsus	Clinotanypus
204	1						69																								3	1												3					
205	5							1				1									5				1										1									4					
209	1		1		6									1																	1	29			4			1			1			7					
214							20																											1	3								3						
545																																		1	1						1			1					
546	3																														1													2					
555	1																		2				2			1						2	1	1	5					1	3	16		5					

Table F-12g (cont'd). Site-specific raw benthic assemblage data for the Northeast bioregion (taxa A-P).

StationID	Clioperla clio	Coenagrionidae Unid	Coenagrionidae Unid Diff	Conchapelopia	Corbiculidae	Corduliinae Unid	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cura foremanii
58		1			1							10					
60								1									
63																	
64								1	1								
65		1						1	1								
66			1	6												2	25
67	1								2			1					
69				1												1	
70		1															
73										2		9		1			
74					1			2				1		6	1		
75					5			1					1	4	2	1	
76	2							2									
77	1										7	1					
79					5	1											
80												1					
81																	
82	1											1					
83					1									7		3	
136											1						
137	1					1		2				2					
140					2							1					
141								1									
142			2						1			7					
143					1						1	4		1			
146								2	1								
149	1				6			3						2			
152											1						
153								4				1					
197				1	1							2					

StationID	Cyphon	Demicryptochironomus	Dero	Dicrotendipes	Didymops	Dineutus	Diplectrona	Diplocladius	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia tigrina	Eclipidrilus	Einfeldia
58									2	1						
60		2	1	1					1	1			8		3	
63				2				2				1				
64			1	1	1								1			
65			1										1			
66			5	14										1		
67				2												
69	1			3						1			1		1	3
70			2	4				1					3			
73																
74				5				1					2			1
75				1		3							2			
76				5												
77	1			5				13					1	2		
79				1											2	
80				1		1		1								
81				2		1							4		3	1
82				2		1					1		1			
83			1	1						1			2			
136				11				1					1			
137							2						1			
140				3		1		1								1
141												1			2	
142				3									2			8
143								1			1	1	3			
146															5	
149				9							2		1		4	
152						1										
153			1	4		2										
197				3	1								1		2	

StationID	Elmidae	Elmidae Unid Diff	Enallagma	Enchytraeidae	Endochironomus	Enochrus	Ephemerella	Ephemerella/Serratella	Ephemerellidae Unid	Epicordulia princeps	Erioptera	Eukiefferiella	Eurylophella	Glyptotendipes	Gomphidae	Gomphidae Unid
58			7				1						3			
60			1	1									1		1	
63				4							1					
64	1												1			
65			1	1								1	2			
66			1											72		
67				1			3		2				3			
69			1									2				
70		1	3	3					1			2	3			1
73				5							1					
74				5			5				1		1	1		
75				4	1		39						1			
76				5											1	
77				3												
79			1									1				1
80			14	4	1					1				3		
81			1	2							2					
82				3									1			
83			1			1					1					
136			2	5						1				2		
137				1												
140			2	3												
141			1										1			
142			1	7							1			1		
143			1	5			5				1					
146				7												
149				6												
152																
153				2												
197			1	5									3			1

Table F-12g (cont'd). Site-specific raw benthic assemblage data for the Northeast bioregion (taxa A-P).

StationID	Clioperla clio	Coenagrionidae Unid	Coenagrionidae Unid Diff	Conchapelopia	Corbiculidae	Corduliinae Unid	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cura foremanii	Cyphon	Demicryptochironomus	Dero	Dicrotendipes	Didymops	Dineutus	Diplectrona
204						1		1																
205					4									2										
209				4	27						1	1		1			3							
214															1					1	1			
545												1												
546					1				1					5										
555					2		1							2									1	

StationID	Diplocladius	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia tigrina	Eclipidrilus	Einfeldia	Elmidae	Elmidae Unid Diff	Enallagma	Enchytraeidae	Endochironomus	Enochrus	Ephemerella	Ephemerella/Serratella	Ephemerellidae Unid	Epicordulia princeps	Erioptera	Eukiefferiella	Eurylophella	Glyptotendipes	Gomphidae	Gomphidae Unid
204	1							1					1									2			
205						6							25				2								
209	5					1						2	11								3				
214						2		1					2												
545						1							1												
546						1							8			22				1					
555						5		1					14			7									

Table F-12g (cont'd). Site-specific raw benthic assemblage data for the Northeast bioregion (taxa A-P).

StationID	Gomphus	Gonomyia	Haemonais waldvogeli	Haliplus	Harnischia complex	Helichus	Helocordulia	Helopelopia	Hemerodromia	Heptageniidae Unid	Heptageniidae Unid Diff	Heterotrissocladius	Hexagenia	Hexatoma	Hyalella	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrophilidae Unid	Hydropsyche	Hydropsychidae Unid	Hydroptila	Ironoquia	Isonychia	Isoperla	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Lepidoptera	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Leucrocuta	Libellula	Libellulidae Unid	Limnephilidae Unid	Limnodrilus	Limnophila	Limnophyes	Limonia	Lirceus	Lumbricidae	Lumbriculus	Lymnaeidae	Lype	Macromiinae	Macromiinae Unid	Macronychus glabratus
58										5					58		1														3		6					1										2	
60								6	3		3	1			2										2	2		2				1												2					
63					1			10		14				3							1												4				2												2
64		1								9			3															2			4	6																	1
65										5				1											6			1					3					1										1	2
66			2								1																											4					1						
67												1		1												10								5					1										1
69								1		1		1			2										3		2											2						1	1				
70								15		2			1	4											3	2					1		1				1						1				2		1
73																		2																						2		1							
74									1	4			1		2										1		1	1							1			2											
75										2			3		1	1	1								1			3								1													7
76								3		3			3	3								1			4	2		1					4	3		1	2									1			
77							1			1								1									8								1			3											
79						1		4		4			2	2	2										28			1					3				1			2									
80															15			5								1									3			3											
81		3								1					6						1					8																	2						
82	1	1							1	3											1					36	1	1																	1				
83									3	1					5		1								1	12				2								2											
136		2				1									4			12								1							1																
137		2							1	4			2				1									9													1			1							2
140		1								1					8			1															1					1					3						
141	1									1					3											1																							1
142		2		1											9			1														5									1								
143		3										1			2			1					1			3		1										1											
146		3				2				1				1			3				1																	2								2		1	
149																										7		1					1						1										
152		1																																				1											
153		1										1			4								2	1																		6							
197	1	1								1							1										1	1										1											1

Table F-12g (cont'd). Site-specific raw benthic assemblage data for the Northeast bioregion (taxa A-P).

StationID	Gomphus	Gonomyia	Haemonais waldvogeli	Haliplus	Harnischia complex	Helichus	Helocordulia	Helopelopia	Hemerodromia	Heptageniidae Unid	Heptageniidae Unid Diff	Heterotrissocladius	Hexagenia	Hexatoma	Hyalella	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrophilidae Unid	Hydropsyche	Hydropsychidae Unid
204		1																1				
205		1																				
209			1														1	4	1	1		
214		3																				
545																						
546										2												
555										2											3	

StationID	Hydroptila	Ironoquia	Isonychia	Isoperla	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Lepidoptera	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Leucrocuta	Libellula	Libellulidae Unid	Limnephilidae Unid	Limnodrilus	Limnophila	Limnophyes	Limonia	Lirceus	Lumbricidae	Lumbriculus	Lymnaeidae	Lype	Macromiinae	Macromiinae Unid	Macronychus glabratus
204				1						1										3							
205	1			22		1	1																				
209														1								1					
214					3																						
545				1																							
546	3		1			1	1																				
555	2			1													1										2

Table F-12g (cont'd). Site-specific raw benthic assemblage data for the Northeast bioregion (taxa A-P).

StationID	Macrostemum	Megascolecidae	Meropelopia (=Conchapelopia)	Mesosmittia	Microcylloepus	Micropsectra	Microtendipes	Microtendipes pedellus	Microtendipes rydalensis	Molophilus	Nais	Nanocladius	Nanocladius genus nr.	Natarsia	Nectopsyche	Nematoda	Nemertea	Nemouridae	Neoephemera	Neoperla	Neophylax	Neoporus	Neureclipsis	Nigronia	Nilotanypus	Nilothauma	Nyctiophylax	Oecetis	Oligochaeta Unid Diff	Optioservus	Orthocladiinae Unid	Orthocladius	Orthocladius lignicola	Orthocladius O.	Ostrocerca	Oxyethira	Pagastiella	Palaemonidae	Parachaetocladius	Parachironomus	Paracladopelma	Parakiefferiella	Paralauterborniella	Paraleptophlebia	Parametriocnemus	Paraphaenocladius	Paratanytarsus	Paratendipes	Peltodytes
58			1			1		7														3					1	1				1				1													1
60			3			30		14				4					1							1								3										1			10		18		
63			4			1		7				5				1								2		1																2			12				
64			10					19			1	6										1														1					1				3		4	1	
65			1			3		28								1					7									1		1							2						11	1			
66			2							1	6																												2							2		
67						99		2			3											2											1						5						26	1	2		
69			4					1				1										1																	2						10				
70			6			9		14																			3			3		1							2			1			11	1			
73								1								2						2									2																	
74						1						1						2																2												2			
75						2										1															4										1			1				5
76			6			4		48				3				1				2				2		1	1											6						2				
77																						8																						1				1
79			1			19	1	29									2					1					1					4													4				
80																1													1					6	1													4
81			1					1		1						1																1																1
82	1					3					1					1						1																						1				
83				1		1																1						1				2					2	1					1				1		
136															1	1															1	12																	
137					1	2		2								1			4			1						1																	10		10		
140						2					1																					8													2		1		1
141								28				1										1					1																	1		5		
142																											1					3													6		1	1	
143								1	1						1		1						1					1				3				2						2						3	
146								2						1		1						4						3				1				3					2	1		1	2	1		8	
149										2						4						1											1					7							3	1	1	2	
152																						1																									
153																						1											1												1	2			1
197			1					1					1																			1													2	3			

Table F-12g (cont'd). Site-specific raw benthic assemblage data for the Northeast bioregion (taxa A-P).

StationID	Macrostemum	Megascolecidae	Meropelopia (=Conchapelopia)	Mesosmittia	Microcylloepus	Micropsectra	Microtendipes	Microtendipes pedellus	Microtendipes rydalensis	Molophilus	Nais	Nanocladius	Nanocladius genus nr.	Natarsia	Nectopsyche	Nematoda	Nemertea	Nemouridae	Neoephemera	Neoperla	Neophylax	Neoporus	Neureclipsis	Nigronia	Nilotanypus
204								3				1													
205													1												
209		3											1	1		4									
214						5										1									
545																									
546																									
555					1				2		2											1			1

StationID	Nilothauma	Nyctiophylax	Oecetis	Oligochaeta Unid Diff	Optioservus	Orthocladiinae Unid	Orthocladius	Orthocladius lignicola	Orthocladius O.	Ostrocerca	Oxyethira	Pagastiella	Palaemonidae	Parachaetocladius	Parachironomus	Paracladopelma	Parakiefferiella	Paralauterborniella	Paraleptophlebia	Parametriocnemus	Paraphaenocladius	Paratanytarsus	Paratendipes	Peltodytes
204									1											2				
205									6				2							1			1	
209							35																	
214							2													1	1			
545																								
546									1															
555											2										6	1	1	

Table F-12g (cont'd). Site-specific raw benthic assemblage data for the Northeast bioregion (taxa A-P).

StationID	Perlesta	Perlidae	Perlidae Unid	Perlinella	Perlodidae Unid	Perlodidae Unid Diff	Phaenopsectra	Phylocentropus	Physidae	Pilaria	Pisidium	Planorbidae	Plauditus	Pleuroceridae	Polycentropodidae	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps
58							2	1				1				1						
60							2												1			2
63			1																		4	8
64																1						4
65																						2
66									4			5										
67							3									2			6			
69		1							2													2
70					2						2											15
73																						
74	2						1							1			2					31
75	1		1				2															22
76						1																3
77									2	2		1										
79							3															10
80																						
81			1		2					1												9
82	1																					19
83					2							1							1			15
136			1		1													2				
137	10																					16
140																1						1
141							3	1	4							1				1		12
142																						1
143													1									
146	1																	3	1			2
149							1															3
152																						
153					1			1											1			1
197									2													1

StationID	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum illinoense	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Potthastia	Procladius	Procloeon/Centroptilum	Progomphus	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psilotreta	Ptilostomis	Pycnopsyche
58														3									
60	1		1							2			1	1				1	1				1
63			1				1									1		6	4				
64				1				1		1					1								
65								1						1							1	1	1
66		2			9		10						1	1									1
67	1									3													1
69				1	2				1	1													
70		1	1				1			1			2	7		1			1		1		
73				1								1							1			1	
74				5			2					2		1		1							
75	1	1	1	6			2			1													
76																1		1	2	1			6
77																		1				1	
79			1											8									
80															3								
81				2										1				1	1				
82				2			1								1								
83	1		1	34				2	10									1	2				1
136																	1						
137	1	1													1				2				1
140																							
141	2			1											1								1
142		1			17											2		1	4				1
143		10		2													1		1				1
146	1		1				1							8			1		14				7
149	2	1			2						1					6			2				1
152							1																
153				1	1									2			6		5				
197					7														1				

StationID	Perlesta	Perlidae	Perlidae Unid	Perlinella	Perlodidae Unid	Perlodidae Unid Diff	Phaenopsectra	Phylocentropus	Physidae	Pilaria	Pisidium	Planorbidae	Plauditus	Pleuroceridae	Polycentropodidae	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum illinoense	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Potthastia	Procladius	Procloeon/Centroptilum	Progomphus	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psilotreta	Ptilostomis	Pycnopsyche
204				1	1		1															3												1											
205													1		1							3				2												1							
209									1													4				4								1			1								
214					1																																				1				
545																								10			1																		1
546	1				1																	1	1	16			5																		
555							1															18		1				5	1																2

Table F-12h. Site-specific raw benthic assemblage data for the Northeast bioregion (taxa Q-Z).

StationID	Quistradrilus	Quistradrilus multisetosus	Rheocricotopus	Rheotanytarsus	Rhithrogena	Rhyacophila	Sciaridae	Sialis	Simuliidae	Sisyra	Smittia	Somatochlora	Sparganophilidae	Sperchopsis tessellata	Sphaeriidae	Spirosperma	Staphylinidae	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenelmis	Stenochironomus	Stenonema	Stictochironomus	Strophopteryx	Stygobromus	Stylogomphus	Stylurus	Synurella	Tabanus	Taeniopterygidae	Taeniopterygidae Unid	Taeniopterygidae Unid Diff	Taeniopteryx	Tanyderidae	Tanypodinae Unid	Tanypodinae Unid Diff	Tanytarsini Unid	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia	Tipula	Tipulidae Unid	Tipulidae Unid Diff	Triaenodes	Tribelos	Trissopelopia
58				1				1	6						2						8	1		3											1					2		1	3	1			1	3	
60			1	17			1						1		2					7		1		5				2											2	15			7	2			1	5	
63				4			1	3	26						5			2			5	2		25						2					8					8		1	5	4	2			3	
64				17				1	2						1					7	7		1	6											2					67			10				1	1	
65	1	1		25				2	5						2				2	3	1			5	2			1												22			4	1			1	6	
66			1	4																				1	1															11			12						
67					3		1		1		1									1			3				1						2		1			1					2	2					
69			7	2					79						4		1				1			1	3										3					3		1	4					2	
70				9				2	61						4		1			2	2	1		6											3					24		1	2	3			1	10	
73			13						127							3																			1					6									1
74			17	3			2		7						2						1			2											2					58		1	5	2					
75			9	3					10											1			1	9		3									5					17		2							
76				3					4						2					2		1	1	8									3							6			5			1	3	17	
77								6							29	1						1								31										1			4	2				1	
79			1	5					2										2	1	3			16						1	1				1	1	1		1	15			7	1				4	
80									1																					5													1						
81							7		1													5		2											1					2			7	1				1	
82			1	9			1		2				1	1						2		1		31						1					1					2	1		17	2			1		
83			1	2			2		1													7			3										1					17			6	1					
136																						1								1													2						
137			2	3					7											1	4	2	1	38					1						1			1	1	4			12	1				1	
140							4		1		1											1								1													1	1				1	
141				6					4					1	10					13			1	1																39			4				1	35	
142							7	1	20						3							6																		3			3	3				4	1
143			2	4					52						4					3				1						1									1	11									
146				3			3		20						1					6	1	1		18															1	3		1	4	3			9		
149			6	1					31		1				7					2	2			1						2					7					66		1	1					7	
152									219																					4																			
153									82					1	8								2							2					9					3			2	2			1	4	
197				6			2		26						1				5	1	2	1		10																50									
204				1		1			117																					2				3	4								1				1		

Table F-12h (cont'd). Site-specific raw benthic assemblage data for the Northeast bioregion (taxa Q-Z).

StationID	Quistradrilus	Quistradrilus multisetosus	Rheocricotopus	Rheotanytarsus	Rhithrogena	Rhyacophila	Sciaridae	Sialis	Simuliidae	Sisyra	Smittia	Somatochlora	Sparganophilidae	Sperchopsis tessellata	Sphaeriidae	Spirosperma	Staphylinidae	Stelechomyia perpulchra	Stempellina	Stempellinella	Stenacron	Stenelmis	Stenochironomus	Stenonema	Stictochironomus	Strophopteryx	Stygobromus	Stylogomphus	Stylurus
205			1	1					105	1	1									1									
209									24			1			11										2				
214									124			1	1																
545			2	3					172																				
546			14	8					78						1									2					
555			8	16					14						4									3					

StationID	Synurella	Tabanus	Taeniopterygidae	Taeniopterygidae Unid	Taeniopterygidae Unid Diff	Taeniopteryx	Tanyderidae	Tanypodinae Unid	Tanypodinae Unid Diff	Tanytarsini Unid	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia	Tipula	Tipulidae Unid	Tipulidae Unid Diff	Triaenodes	Tribelos	Trissopelopia
205				1							10			2	2					
209	1										6									
214	2					45					1				1					
545	1										3									
546			2	1		1					50									
555			6			2					32			2				1		

Table F-12h (cont'd). Site-specific raw benthic assemblage data for the Northeast bioregion (taxa Q-Z).

StationID	Tropisternus	Tubificidae Unid	Tubificidae Unid Diff	Tvetenia	Unniella multivirga	Xenochironomus xenolabis	Xylotopus par	Zavrelimyia
58		1						
60		4	2	1		1		1
63		1		2				
64			1					1
65		4						2
66		14						
67							1	3
69		3						1
70		2						2
73		3						
74								
75								
76		4		1	1		1	2
77		26						6
79			2					
80		2						
81		5						
82				1				
83		2						1
136		1						
137		2		3				
140		1						1
141		1						
142		3						
143								
146		13			1			
149		3			1			
152								
153		7						
197								
204		1			1			

Table F-12h (cont'd). Site-specific raw benthic assemblage data for the Northeast bioregion (taxa Q-Z).

StationID	Tropisternus	Tubificidae Unid	Tubificidae Unid Diff	Tvetenia	Unniella multivirga	Xenochironomus xenolabis	Xylotopus par	Zavrelimyia
205								
209		5						
214				1				4
545								
546	1							
555		3						

Table F-12i. Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Ablabesmyia	Ablabesmyia janta	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Ablabesmyia Unid Diff	Acentrella	Acerpenna	Acilius	Agnetina/Paragnetina	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Ancylidae	Ancyronyx variegatus	Argia	Asheum beckae	Aulodrilus	Baetidae	Baetidae Unid	Baetidae Unid Diff	Basiaeschna janata	Berosus	Bidessonotus	Bittacomorpha	Bivalvia	Boyeria	Boyeria vinosa	Branchiura sowerbyi	Bratislavia	Brillia	Bryophaenocladius	Caecidotea	Caenis	Calopterygidae	Calopterygidae Unid	Calopteryx	Cambaridae	Ceratopogonidae	Ceratopsyche	Cernotina	Chaetogaster	Chaoboridae	Chaoborus	Chauliodes	Cheumatopsyche
161			1						18																8						1				2	23				2	8							10
162									1									1		1					3						1				1	60				3	7							7
163									3									2							1											173				2	1							3
164			5									1						2																	4	5				3	17				4			
218									4			1					1	6							28					1	2					62			2	3	11							8
219									2			10		2				2							14										1	136			2		2							
220									2			2						2		1					21											143			1		1							1
221		1		1					7			1						4							5										1	140		1		1	1				1			6
222														1	1	2																			3					5	15							
223																				4																				3	3			1				
224									1									2							3										2	101				1	2							16
225																		14							20										2	63				1	6							6
226			2						1									3										1								51			1	1	8							1
227														1											1						14					27				8	9							
228																		13							29											124			1		14							1
229												3		2											1									2		104			4	5	17						1	3
230																		1							2											21				2	29							23
231			1						1								1	19		1					6										2	71			10	9	22							
232			2						4									3							3											36					3							16
233									1					3			1	4							4										1	53			3	9	20							2
235			7						1								2	6							2											97			5	3	5							4
236			1						3									3																	5	13			2	2	2							6
237			2		2				5								2	5							1										4	7					10							8
239														2																					2	25				5	2							
241																	1											1		1					2	12				3	21							
243																		7		1					14						5				1	30				4	25							
244	1														1	1																			20	4				2	5							
291														12				3											3						5	64		2	8	3	17							29
292									1									6							22						4					1					8							11
293																				1					5										1	5					11							

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Ablabesmyia	Ablabesmyia janta	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Ablabesmyia Unid Diff	Acentrella	Acerpenna	Acilius	Agnetina/Paragnetina	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Ancylidae	Ancyronyx variegatus	Argia	Asheum beckae	Aulodrilus	Baetidae	Baetidae Unid	Baetidae Unid Diff	Basiaeschna janata	Berosus	Bidessonotus	Bittacomorpha	Bivalvia	Boyeria	Boyeria vinosa	Branchiura sowerbyi	Bratislavia	Brillia	Bryophaenocladius	Caecidotea	Caenis	Calopterygidae	Calopterygidae Unid	Calopteryx	Cambaridae	Ceratopogonidae	Ceratopsyche	Cernotina	Chaetogaster	Chaoboridae	Chaoborus	Chauliodes	Cheumatopsyche
295												8					1	1							5										2	132			2	4	4							
296									4			1						2							15						19					2				6	8							18
297			3		2				1					7				3													2				11	23				1	15							1
298														10																					3	12				2	9							
299														14				4						1											3	1				6	1							
300									1									5																	8	8				3	4							5
301						3			4									13		1					21			1								16					27							12
302																1		1													1					35					1							
303			3				1									1		28							1											95				1	3							2
304																	1	4																	1	45				1	2			1				2
305			1					1							3	1		3					1		27						1				3	23				4	17							2
306												2			1			1							1										6	32				2	1					1		
307			11		5												1	2			1				2						1				2	40				2	7				8			3
309														1																	1	1				2									1			
315			2															3							34											131			1		3							1
317																1		2							4						1					29				1	9				1			
318			1				1										2								1										4	22				2	3		2					
327					1							1				2		7							3											113				1	3				1			2
353																																				6			12		7							
354									7									13							1											80				1	5							13
355	2																	76							7						2					109				1	5							6
356												9						1							11										4	78				1	1							1
357			2		1													11		2					1				1							5				1	14							2
358																		2		1					1										2	172			3	1	2							
359									1			6			2			6							1										2	178				5	3							19
360									11																1											2					30							
362									8			2						7							2											93			3	7	1							1
363									4			4						3							1											100					11							8
364	1											7						1		1					1											90					9							1
365			2																	1					1								1			40				3	1							

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Ablabesmyia	Ablabesmyia janta	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Ablabesmyia Unid Diff	Acentrella	Acerpenna	Acilius	Agnetina/Paragnetina	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Ancylidae	Ancyronyx variegatus	Argia	Asheum beckae	Aulodrilus	Baetidae	Baetidae Unid	Baetidae Unid Diff	Basiaeschna janata	Berosus	Bidessonotus	Bittacomorpha	Bivalvia	Boyeria	Boyeria vinosa	Branchiura sowerbyi	Bratislavia	Brillia	Bryophaenocladius	Caecidotea	Caenis	Calopterygidae	Calopterygidae Unid	Calopteryx	Cambaridae	Ceratopogonidae	Ceratopsyche	Cernotina	Chaetogaster	Chaoboridae	Chaoborus	Chauliodes	Cheumatopsyche
367													1				2	8							7											8				5	1							3
368									1									2		1					4											101			3	2	2							
369																																		1		15				1	8							
370									1			2						2															1		1	10			1		1	2						6
371												4						7							5											11			1	2	2							2
373																									4						2				1	12					4							6
375			1	1	1															2														1	7	7				1								
378			8		2												3	13		2					3															2	27	1						1
385									4								1	7		1		1			2																2	1						9
427									9									16							2											32				1	3							27
428																		31		2					3						1					17	1				6							7
429					1	1						1			1			8	1	10																70				1	7							1
430		8	1									1				1		4							1											4					21							4
431									4									4																	1	62			1		27							5
434			1		4				2								1	8							2		1								2	86				4	6							
438																	2	2		1					1										1					3	1	13						28
439			2		2												1	1																	1	54				4	4							1
440			2						1									10							4										7	9				5	3							3
441			1									45								1																21				5	11							
444		1	5			1												3		1									1						3	44				5	10							
445										1					1											1									4	1				4	10							
446			1		1								1				1	8							2											10					12		1					11
447			1												1														1												6	1						9
448			1		2				1									1				1	1										1							1	5							2
449																																			19	6				1	6							
450						1												9																	4	23				5	1							24
451			15		1				1								1																		9				1	3	2							
452	1		5		4												1	2																	17	2			3	1	12		1					7
454									2								4											1					4		3						2							5
455					1												1	6		1															3	4					11		1					17

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Ablabesmyia	Ablabesmyia janta	Ablabesmyia mallochi	Ablabesmyia peleenses	Ablabesmyia rhamphe	Ablabesmyia Unid	Ablabesmyia Unid Diff	Acentrella	Acerpenna	Acilius	Agnetina/Paragnetina	Allocapnia	Amphinemura	Amphipoda	Amphipoda Unid	Ancylidae	Ancyronyx variegatus	Argia	Asheum beckae	Aulodrilus	Baetidae	Baetidae Unid	Baetidae Unid Diff	Basiaeschna janata	Berosus	Bidessonotus	Bittacomorpha	Bivalvia	Boyeria	Boyeria vinosa	Branchiura sowerbyi	Bratislavia	Brillia	Bryophaenocladius	Caecidotea	Caenis	Calopterygidae	Calopterygidae Unid	Calopteryx	Cambaridae	Ceratopogonidae	Ceratopsyche	Cernotina	Chaetogaster	Chaoboridae	Chaoborus	Chauliodes	Cheumatopsyche
456																		2		5															5	29					7							
553											1																														2	4						17
558															1			1							1					1					2	9					14							
559	1											136	2																												3							
560												3						3		1					4										2	76					9							
561			1													1																				7				2	25							

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Chimarra	Chironomidae	Chironomidae Unid	Chironomini	Chironomini Unid	Chironomini Unid Diff	Chironomus	Chlorotabanus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coelotanypus	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Coptotomus	Corbiculidae	Cordulegaster	Corduliinae/Macromiinae Unid	Corixidae
161																					1			
162						1										1					1			
163	1		1																					
164									5			6									4			
218	5		3						2		1										2			
219	1		1														1							
220																								
221			3																					
222			1				2		1							1								
223			1				17																	
224	2		1												3									
225	1		1	1												2								
226		4							2								1				22			
227							4		1												11			
228			1								1													
229									3															
230	2																				1			
231			1						3		2								1			1		
232																								
233	1		1						2							1						2		
235			1													1					2			
236			2																1					
237	2															1					6			
239			1				1									1					18			
241												4									1			
243			2					1			3					2								
244			2						1												1			
291																			1					
292	1		4													2			1		78			
293										1		1			2	8				1				

StationID	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Cura foremanii	Cyphon	Dero	Dicrotendipes	Dineutus	Diplocladius	Diptera Unid	Dixa	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia tigrina
161	1	1				1									1										
162	1						1	3		1				1	7									2	
163		1													2		1								
164						3							1		4		2				1			1	6
218								20							1									1	
219								1							2										
220							1								1										
221	2						3																		
222				1		4																			
223													1	3	2										
224							6	6	2						6										
225		1					13	9	2						12										
226								1		1					4							1			
227				3						1				1	8										
228	1												1		1						1		2	2	
229	1																							1	
230	2									1					2									3	
231						3										3							2	3	
232		1			1										2										
233			1			1				1						1	3				1			2	
235		2				3			1						5								1		
236					1	1		13				1			3		2								
237		3				1	1								5		2							3	
239													1		2										1
241				3								1			3										
243											1			1	15										
244						1									9	1	1	1						1	
291							1	1	3															2	
292		1					10	43	2						3										5
293								9	1						23									7	

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Chimarra	Chironomidae	Chironomidae Unid	Chironomini	Chironomini Unid	Chironomini Unid Diff	Chironomus	Chlorotabanus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coelotanypus	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Coptotomus	Corbiculidae	Cordulegaster	Corduliinae/Macromiinae Unid	Corixidae	Corydalus
295									1							1									
296	13		2				2								2			1							
297			8								15						1		1						
298			2						2																
299			3																						
300	1						1		1							1									1
301			1								1	11		1						1	20				
302		3					1											1	2						
303					1		1									5									
304																	1				4				
305							1					1				13			1		2			1	
306		1							1												3				
307									1			1						1			1				
309			4				4																		
315			1													3			1		1				
317		1					2								1		1				38				
318			2																		2				
327																		2							
353									2																
354			9						2							2									
355			3													1									
356		1			1											1									
357			2						1			1				1									
358	1															1									
359	2		1													1									
360																									
362	2																								
363			1						1																
364			1						2																
365			2																						

StationID	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Cura foremanii	Cyphon	Dero	Dicrotendipes	Dineutus	Diplocladius	Diptera Unid	Dixa	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia tigrina
295	1											2								4				
296	3	2				2	6		1				1	3		1				2		1	1	2
297		1							3					2									1	
298									1					2									1	1
299											2	1	1	3	1	17					1		1	2
300			2		1						1	1		1										
301	3	1					3		1	1	2		1	15		1							3	3
302						5	21	1					2	15										
303		1										1		19										
304							2		1					9		1								
305									1			2		5								1	1	
306		1							1			2	1	26			1							
307							1		1			10	2	12									4	1
309				2	1								2	31		1					1			
315							3							8										
317													6	19		3							4	
318							5						1	5		1						1	1	
327						1														1			1	
353							3	1																
354		1					7							2	2							2		
355							4							4	1					1			4	
356		4				3	7							22										
357						2	2		1		1			6						2			3	
358							1							2						1			3	
359	2					1	13					1		2	2							1		
360							1							1										
362	8	4																						
363	2	2												6						11		1		
364	4	1				1	2							7									1	
365	2	1				2	11	1						1						1		1		

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Chimarra	Chironomidae	Chironomidae Unid	Chironomini	Chironomini Unid	Chironomini Unid Diff	Chironomus	Chlorotabanus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coelotanypus	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Coptotomus	Corbiculidae	Cordulegaster	Corduliinae/Macromiinae Unid	Corixidae	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Cura foremanii	Cyphon	Dero	Dicrotendipes	Dineutus	Diplocladius	Diptera Unid	Dixa	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia tigrina
367			4																								1					35							3						2				
368															1						2					1					1	7	1				1		3								2		
369	2																	3			3											3							6							1			
370	3		1										1													1						12							1									1	
371			3														1				1				1	1						6	1						1				1		1			1	
373			1						1							1					39										4	8					1		5	5								2	
375			1				1				2					3																		1		2	1	2	23									16	
378															2	3																3							4	1					1			1	
385																1									2		1					8							4									3	2
427	2		2										1		2										2	2						7							2						2				
428						1					1					3									3						2	5	1	1				1	17							1			
429																				1							1			6		4							5	1					1				
430						1						1									5											4	1					1	3	1							1	2	
431			2										1					1								3	2																		7				
434									1							2															1	7	1						1						2				
438	7		6																						1		1					3							2						1			4	
439			1																							1	2					1							1										
440			2																							2	3					8							3	1					5				
441			1				2					4				1	2										3							2					17									3	
444			1								1	1														2	1					8		8					2						4		1	1	
445									2							1														1										2								2	
446	1																								2		1							1					1						1				
447	8																								2							4								1				2				2	
448	6		2													1					2					2	2				1	1	1						3	1								3	1
449			4						2																	1				3					2				1										
450	1		2								1																			1		4	1						1	1					2				
451			22						1			2							1											2									1										
452			3						1			5				3										2						13		3					1									19	
454			2													1					15															1			1									1	
455			6									1							6		1					1	1					1		3	1				4										

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Chimarra	Chironomidae	Chironomidae Unid	Chironomini	Chironomini Unid	Chironomini Unid Diff	Chironomus	Chlorotabanus	Chrysops	Cladopelma	Cladotanytarsus	Clinotanypus	Clioperla clio	Coelotanypus	Coenagrionidae	Coenagrionidae Unid	Coenagrionidae Unid Diff	Collembola	Conchapelopia	Coptotomus	Corbiculidae	Cordulegaster	Corduliinae/Macromiinae Unid	Corixidae
456			6								1					3								
553	4		1																		4			
558			7						2							2		1					1	
559																1								
560							4		2							4								
561	1		3								3													

StationID	Corydalus	Corynoneura	Corynoneura/Thienemanniella	Crangonyctidae	Crangonyctidae Unid	Crangonyx	Cricotopus	Cricotopus bicinctus	Cricotopus/Orthocladius	Cryptochironomus	Cryptotendipes	Cura foremanii	Cyphon	Dero	Dicrotendipes	Dineutus	Diplocladius	Diptera Unid	Dixa	Dixella	Djalmabatista	Dolichopodidae	Dromogomphus	Dubiraphia	Dugesia tigrina
456										1			2		5									8	1
553																									
558					3	1	1	1		1		3			1									2	18
559		1	1			2						1													
560		3						4					2		9									1	
561		1								1				1	6						1				

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Ecoptura	Eclipidrilus	Ectopria	Einfeldia	Elmidae Unid	Empididae Unid	Enallagma	Enchytraeidae	Enchytraeidae Unid Diff	Endochironomus	Enochrus	Ephemerella/Serratella	Ephydridae	Epicordulia princeps	Erioptera	Erpetogomphus	Erpobdellidae	Erythemis	Eukiefferiella	Eurylophella	Fittkauimyia serta	Gammarus	Gastropoda Unid	Glossiphoniidae	Glossosomatidae	Glyptotendipes	Gomphidae	Gomphidae Unid	Gomphus	Gonomyia	Gymnometriocnemus	Gymnometriocnemus/Bryophaenocladius	Gyrinus	Haemonais	Haemonais waldvogeli	Hagenius brevistylus	Haliplus	Haplotaxis cf gordioides	Helichus	Helius genus nr.	Helochares	Helocordulia	Helopelopia	Hemerodromia	Heptagenia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff
161							1	3																						1													1				4	
162							1																						1															1			1	2
163							2	1																																								
164							1	3							2														1	2																		
218							15																						1										8				2				2	
219								3																											1				1				3				1	
220							4	1																						1					1												1	
221							1	1											1																				1				4				2	
222								15							1																							1										
223								4																																								
224							6	2																															1									
225							4	3																																								
226								5							1															7									1									
227							1	7																																								
228							21	1							1														2	1									2				1				1	
229								4											1																				1								7	
230							1	3																						1																		
231							1	5																					6	1		1							1									
232							3	5																													2		1								5	
233							7	4		1																2		2	2	1			1															
235							17			1																									1				1				1				1	
236		2						1																		1																	1				1	
237		1					4	2		1																				3													1				2	
239							5	4							3															2																		
241							1																																								3	
243							4	16		2					1											2			1																			
244				2																1													1		1													
291								1							4							46							3				1						2				15	2				
292							6																	1																								
293							3	9																		2				1									2									

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Ecoptura	Eclipidrilus	Ectopria	Einfeldia	Elmidae Unid	Empididae Unid	Enallagma	Enchytraeidae	Enchytraeidae Unid Diff	Endochironomus	Enochrus	Ephemerella/Serratella	Ephydridae	Epicordulia princeps	Erioptera	Erpetogomphus	Erpobdellidae	Erythemis	Eukiefferiella	Eurylophella	Fittkauimyia serta	Gammarus	Gastropoda Unid	Glossiphoniidae	Glossosomatidae	Glyptotendipes	Gomphidae	Gomphidae Unid	Gomphus	Gonomyia	Gymnometriocnemus	Gymnometriocnemus/Bryophaenocladius	Gyrinus	Haemonais	Haemonais waldvogeli	Hagenius brevistylus	Haliplus	Haplotaxis cf gordioides	Helichus	Helius genus nr.	Helochares	Helocordulia	Helopelopia	Hemerodromia	Heptagenia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff
295							1				1																		1	1									2				1					
296							2	12						1																									5									
297		2						18																						5																	3	
298				4				2																					1	1					1					1								
299							1																														1		2									
300		2						11							1											2			2																		2	
301							6												1																													
302								3									1																															
303							14	2																																						3		
304							3	2																															1								3	
305							19																																1								1	
306								9		3									1				1			3													1						1		1	
307	1	1					3			1																18																					1	
309								1																										7							1							
315		1					18	13										7																														
317								4																		1																					1	
318							1																																1								1	
327							3																																									
353																						141																										
354							3	1							1							2											3						1				2				1	
355							13	4																															1									
356		1					2	2																					1	1			2						1									
357							14	2							1															1									1									
358							3																																								3	
359							2	2														12							1	1			2						5				1					
360		1						6					1		2															6																		
362		1																																					2									
363							1															1																	3								3	
364		2						3																															13								2	
365		1																	1																												1	

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Ecoptura	Eclipidrilus	Ectopria	Einfeldia	Elmidae Unid	Empididae Unid	Enallagma	Enchytraeidae	Enchytraeidae Unid Diff	Endochironomus	Enochrus	Ephemerella/Serratella	Ephydridae	Epicordulia princeps	Erioptera	Erpetogomphus	Erpobdellidae	Erythemis	Eukiefferiella	Eurylophella	Fittkauimyia serta	Gammarus	Gastropoda Unid	Glossiphoniidae	Glossosomatidae	Glyptotendipes	Gomphidae	Gomphidae Unid	Gomphus	Gonomyia	Gymnometriocnemus	Gymnometriocnemus/Bryophaenocladius	Gyrinus	Haemonais	Haemonais waldvogeli	Hagenius brevistylus	Haliplus	Haplotaxis cf gordioides	Helichus	Helius genus nr.	Helochares	Helocordulia	Helopelopia	Hemerodromia	Heptagenia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff
367								3											1								1												1								3	
368							3	1																					1										7								4	
369																																															1	
370							1	1																																							1	
371					1		2	3																																							9	
373		1					1			1									1										1	1														1			1	
375							1	9																		22																						
378							9	26																					3		1																1	
385							5	3																												1			1				1				2	
427		1					2	3							2	1														2									2								1	
428							2	4																					1										5					1				
429							5																							2									3									
430								5							1												1												1									
431								4														3								8									2									
434							1																							1									2				5			9		
438																			2						1																						3	
439								1												1																											10	
440							3	2								1																			1				1								2	
441							3														1								1																			
444			1																	1																												
445								1	1						1															5							1											
446							1	2											1								1		1														2				5	
447		4					1	2											1	3									2																		2	
448		1						7				2																	1										2					2			2	
449		1		4				8							1		3									1													1									
450		1					1												1																													
451							2	1												1																											1	
452							4	1																																		1					4	
454		2			1	1	1	4																																				2			4	
455		1						2																																								

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Ecoptura	Eclipidrilus	Ectopria	Einfeldia	Elmidae Unid	Empididae Unid	Enallagma	Enchytraeidae	Enchytraeidae Unid Diff	Endochironomus	Enochrus	Ephemerella/Serratella	Ephydridae	Epicordulia princeps	Erioptera	Erpetogomphus	Erpobdellidae	Erythemis	Eukiefferiella	Eurylophella	Fittkauimyia serta	Gammarus	Gastropoda Unid	Glossiphoniidae
456		1					15	6			1													
553								3																
558							3	5																
559																								
560		1					3	3																
561		2						3							1									

StationID	Glossosomatidae	Glyptotendipes	Gomphidae	Gomphidae Unid	Gomphus	Gonomyia	Gymnometriocnemus	Gymnometriocnemus/Bryophaenocladius	Gyrinus	Haemonais	Haemonais waldvogeli	Hagenius brevistylus	Haliplus	Haplotaxis cf gordioides	Helichus	Helius genus nr.	Helochares	Helocordulia	Helopelopia	Hemerodromia	Heptagenia	Heptageniidae	Heptageniidae Unid	Heptageniidae Unid Diff
456		3		1	2																			
553					1										2					1			3	
558																								
559															1									
560		4																						
561															1				6					5

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Hetaerina	Heterotrissocladius	Hexagenia	Hexatoma	Hirudinea Unid	Hyalella	Hybomitra	Hydaticus	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrobiidae	Hydrocanthus	Hydroporus	Hydropsyche	Hydropsychidae Unid	Hydroptila	Hydroptilidae	Hydrovatus	Hygrotus	Ilyodrilus	Ironoquia	Ischnura	Isonychia	Isoperla	Isopoda	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Laccophilus	Lauterborniella agrayloides	Lepidoptera	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Libellula	Libellulidae	Libellulidae Unid	Libellulidae Unid Diff	Libellulinae Unid	Limnephilidae	Limnephilidae Unid	Limnodrilus	Limnophila	Limonia	Lioporeus
161						7					1					3		1								3																							
162	2					12				6						3																			2														
163						6						1																																					
164		2				14																																								10			
218						8												1																												7			
219																																														3			
220						1																																	3										
221												1	1					1							2				1																	3			
222																						2		1				3																		32			
223					4						1																	6			1															2			
224																									1														1							2			
225																																														3			
226			1			8																							1																	9			
227													5															1																		27			
228						14					1									1																										1			
229														1	1																																		
230						1					1																																						
231			1			14																																								28			
232						1	1																		3																					1			
233						25																																						1		4	1		
235						19																							1																	1			
236											1												1																						1	5			
237		1				13					1													1																						6			
239											1																	1																		5		1	
241						8							2									1																								33			
243											2																																			7			
244						1		1			5		2															3																		15	1		
291																																														1		1	
292	1					1					1								1				1	1															1							6			
293						1																		3									1													1			

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Hetaerina	Heterotrissocladius	Hexagenia	Hexatoma	Hirudinea Unid	Hyalella	Hybomitra	Hydaticus	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrobiidae	Hydrocanthus	Hydroporus	Hydropsyche	Hydropsychidae Unid	Hydroptila	Hydroptilidae	Hydrovatus	Hygrotus	Ilyodrilus	Ironoquia	Ischnura	Isonychia	Isoperla	Isopoda	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Laccophilus	Lauterborniella agrayloides	Lepidoptera	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Libellula	Libellulidae	Libellulidae Unid	Libellulidae Unid Diff	Libellulinae Unid	Limnephilidae	Limnephilidae Unid	Limnodrilus	Limnophila	Limonia	Lioporeus
295			4			16	1																																							1			
296																																							4							3			
297										1																																				6			
298						29							1															2																1		4			
299											1		6															1																		5			
300				1		3				1															2	2		2										1								9			
301													10					1						1															1							2			
302																						2																								11			
303						1																							1																	2			
304																																														11			
305						4																																		1						6			
306						17					1													1				2																		4			
307						20				1	1													2							1								2	1						1			
309						1			1	2	7																	8																		2			
315																								2															1		1	1				3			
317					1						2		3																																	2			
318						51				1			19																											1						4			
327			1							2															1	1																							
353				1																																										4			
354	10																																							2						1			
355	2																																							1						10			
356			1			3					1																	1																		1			
357			1			11													1							4			3																				
358			4			8																																											
359	4																																																
360																									1	18																							
362																																																	
363																																								1						5			
364																																				1										6			
365			2															1				2			2																				1	3			

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Hetaerina	Heterotrissocladius	Hexagenia	Hexatoma	Hirudinea Unid	Hyalella	Hybomitra	Hydaticus	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrobiidae	Hydrocanthus	Hydroporus	Hydropsyche	Hydropsychidae Unid	Hydroptila	Hydroptilidae	Hydrovatus	Hygrotus	Ilyodrilus	Ironoquia	Ischnura	Isonychia
367			1															5							8
368			1			1	1																		
369																									
370																		1							1
371			2															1							25
373				1		1										1									
375			2			64				2															
378																								1	
385	3					6				1								13							10
427	1		1															1							18
428	4		1								1					1		3							
429			1			9																			
430			2																						1
431																									
434			2																						
438			2							2							4	9							23
439																	1								6
440	2		1															1				1			5
441						48																			
444			8																					1	3
445																					1				
446			3																						13
447																		2							6
448																1		2							1
449						6					1														
450	1																1								10
451			2			2																			
452			3			1																			
454						1							17					1							
455			1			2				1															

StationID	Isoperla	Isopoda	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Laccophilus	Lauterborniella agrayloides	Lepidoptera	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Libellula	Libellulidae	Libellulidae Unid	Libellulidae Unid Diff	Libellulinae Unid	Limnephilidae	Limnephilidae Unid	Limnodrilus	Limnophila	Limonia	Lioporeus
367				3									2											
368	1	1									1		1											
369																					2			
370	1																							
371	2			2						1			1		1									
373																					9			
375			2																		3			2
378				1														1			16			
385				1									1		1			1						
427	8																				7			
428																					1			
429																					2			
430	1																				1		1	
431																					1			
434																					1			
438													1											
439				3																	1			
440													2								15			
441																								
444				3								2									3			
445			2											1										
446													1											
447																			1					
448																								
449			1																					
450	1																							
451												3									5			
452					1								1								7			
454	1																							
455				1			1		2					1										

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Hetaerina	Heterotrissocladius	Hexagenia	Hexatoma	Hirudinea Unid	Hyalella	Hybomitra	Hydaticus	Hydra	Hydracarina	Hydrobaenus	Hydrobaenus genus nr.	Hydrobiidae	Hydrocanthus	Hydroporus	Hydropsyche	Hydropsychidae Unid	Hydroptila	Hydroptilidae	Hydrovatus	Hygrotus	Ilyodrilus	Ironoquia
456				2							1												
553										1			5			5	3						
558						5					1											1	
559																							
560																							
561				3			1																

StationID	Ischnura	Isonychia	Isoperla	Isopoda	Kiefferulus	Labrundinia	Labrundinia/Nilotempus	Laccophilus	Lauterborniella agrayloides	Lepidoptera	Leptoceridae	Leptoceridae Unid	Leptophlebia	Leptophlebiidae	Leptophlebiidae Unid	Libellula	Libellulidae	Libellulidae Unid	Libellulidae Unid Diff	Libellulinae Unid	Limnephilidae	Limnephilidae Unid	Limnodrilus	Limnophila	Limonia	Lioporeus
456					7																		9	1		
553		1									1															
558																		1					10			
559																										
560	1				1																		6			
561		1				4									3											

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Lirceus	Lumbricidae	Lumbriculidae	Lumbriculus	Lymnaeidae
161					
162					
163					
164					
218					
219	2				
220	10				
221					
222					
223		2			
224	2				
225					
226					1
227					1
228					
229					
230		1			
231				1	
232					
233					
235					
236	33				
237				1	
239		2			1
241					
243					
244		1			
291					
292					
293	5				1

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Lirceus	Lumbricidae	Lumbriculidae	Lumbriculus	Lymnaeidae
295	1				
296	2				1
297	3				4
298	1				
299	18				1
300	27				1
301					
302					
303					
304			44		
305					
306	1				
307					
309		1			
315		3			
317		1			1
318					
327					
353	20				
354					
355		1	7		
356	6				
357					
358				3	
359					
360					
362					
363	2				
364					
365		1			

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Lirceus	Lumbricidae	Lumbriculidae	Lumbriculus	Lymnaeidae
367		1			
368					
369		1		1	
370				1	
371					
373					
375					
378		1		2	
385					
427				1	1
428				1	
429				6	
430					
431	5				
434					
438					
439					
440				2	
441					1
444					
445					
446					
447					
448		1			
449		1			
450					
451					
452					
454					
455					

Table F-12i (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa A-L).

StationID	Lirceus	Lumbricidae	Lumbriculidae	Lumbriculus	Lymnaeidae
456				7	
553					
558	2				
559					
560	8				
561		1			

Table F-12j. Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Macromia	Macromiinae Unid	Macronychus glabratus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesocricotopus	Mesosmittia	Micrasema	Microcylloepus	Micropsectra	Microtendipes pedellus	Nais	Nanocladius	Nasiaeschna pentacantha	Natarsia	Nectopsyche	Nematoda	Nematomorpha	Nemertea	Neoperla	Neoporus	Neureclipsis	Oecetis	Oligochaeta	Oligochaeta Unid
161																									
162											1	1	1			1			1			1	3		
163																									
164							1										3				1				
218		1											5												
219																									
220																					1				
221																				6			1		
222															2		2								
223																	2								
224				1	1												5								
225										1							10		1						
226												1	7												
227	2											1					3								
228		4															1				2				
229	1									3	1						2								
230																	1								
231	2												1			1					1				
232		1															1								
233												1					1								
235					1					1							1								
236												1					1		1						
237											2		1												
239																					1				
241													1												
243																	21								
244											12										1				
291																									
292												1	1												
293												8	4								1				

StationID	Optioservus	Orthocladiinae Unid	Orthocladius	Orthocladius O.	Oxyethira	Palaemonetes	Palaemonidae	Parachironomus	Paragnetina	Parakiefferiella	Paralauterborniella	Paramerina	Parametriocnemus	Paraphaenocladius	Paratanytarsus	Paratendipes	Pelecypoda Unid (Bivalvia)	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlinella	Perlodidae
161																				2				
162		1	1												4									
163				4									1											
164			10				1								1			1						
218							1						1		3									
219				1									2					1						
220			1																				1	
221				16																		1		
222				1																				
223				6																				
224				7									1					1						
225				5																			1	
226				8							1		1		2			2						
227			4															1						
228				1											1			27						
229			1										1		5	1						2		
230			2										2		1	1								
231													1			1		1						
232															7									
233													5											
235				1						1			1		5			1						
236			5												5	1								1
237				3									5		2	2								
239			1																					
241																								
243			15																					
244			7											1	1	2		1						
291													2		1									
292																								
293			1										1					7						

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Macromia	Macromiinae Unid	Macronychus glabratus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesocricotopus	Mesosmittia	Micrasema	Microcylloepus	Micropsectra	Microtendipes pedellus	Nais	Nanocladius	Nasiaeschna pentacantha	Natarsia	Nectopsyche	Nematoda	Nematomorpha	Nemertea	Neoperla	Neoporus	Neureclipsis	Oecetis	Oligochaeta	Oligochaeta Unid	Optioservus	Orthocladiinae Unid	Orthocladius	Orthocladius O.	Oxyethira	Palaemonetes	Palaemonidae	Parachironomus	Paragnetina	Parakiefferiella	Paralauterborniella	Paramerina	Parametriocnemus	Paraphaenocladius	Paratanytarsus	Paratendipes	Pelecypoda Unid (Bivalvia)	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlinella	Perlodidae
295																					1														1														
296	1								1				2								2								5				1					1											
297	1				2												1				2								1							1			1						1				
298										1							1				1								3			1																	
299														1					1		1								3			1																	
300		1														1				2									1						1								4		1				
301													4										1												1			2					8						
302												1	2																				1											1					
303												1	2						1													1																	
304																	3										1	6																					
305																													2			4											2						
306				1								2									1		1					4										2					1						
307																												2			4		1					1											
309						1											1											52				1											5						
315												1					2																																
317												5											1						10													1							
318									1				1															2				1						1		2			8						
327													1																											1									
353																																						1		1									
354																												48												1									
355												1	2																														1						
356																					1						1		5									1		1								1	
357	2	5	2										3				1		1																														
358												1																										1		2									
359																												20										2											
360													1				5																								1		3						
362																				4								10										2			1							1	
363										1																			15																				
364													2								2																	2		3									
365											4									3									6									1											

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Macromia	Macromiinae Unid	Macronychus glabratus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesocricotopus	Mesosmittia	Micrasema	Microcylloepus	Micropsectra	Microtendipes pedellus	Nais	Nanocladius	Nasiaeschna pentacantha	Natarsia	Nectopsyche	Nematoda	Nematomorpha	Nemertea	Neoperla	Neoporus	Neureclipsis	Oecetis	Oligochaeta
367									2		2								1	3			1	
368										1							1							
369							2										3		1					
370									1		1						1			1			3	
371		1	4								1									2	2		1	
373			3								2									2				
375					1												1				2			
378																								
385			2						7			1				1								
427				1						1			4											
428			3						4				1			2							1	
429					1					2	1				1									
430																1		1						
431													1						1					
434																								
438			1						1		2													
439			2		2								3											
440	1		2						1	2		1			1					1				1
441					1																3		1	
444											2				1									
445													1						1		27			
446	1		1		4				4				3			1	1			8				
447											1		2				1			4	1			
448			8									1	1				2			1			2	
449													1		2		1				1			
450												1					1			1				
451											3						1				2			
452		1	4										7								2			
454			7																1				1	
455	1																1		1		1			

StationID	Oligochaeta Unid	Optioservus	Orthocladiinae Unid	Orthocladius	Orthocladius O.	Oxyethira	Palaemonetes	Palaemonidae	Parachironomus	Paragnetina	Parakiefferiella	Paralauterborniella	Paramerina	Parametriocnemus	Paraphaenocladius	Paratanytarsus	Paratendipes	Pelecypoda Unid (Bivalvia)	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlinella	Perlodidae
367			1		15									2											
368					2														1						
369																									
370																									
371														2		2									
373				1				13						1		1			58						
375															2										
378																7									
385					7											1					1				
427																1									
428					3											1						1			
429														5		2									
430					1									1											
431	1				1									1		5	1				1				1
434					6																				
438		5		1	12									1									3		
439														2		3									
440					3									1		1									
441														2	3	1			1						
444						1					1				1	5	3								
445								5							1		3		1						
446				5										1			1				1				
447		14			2										1	7									
448					2						1										5				
449								3						1	1		1		3						
450													1			1									
451								2								2									
452											2														
454								1						1					1		8				
455								1			1					1									

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Macromia	Macromiinae Unid	Macronychus glabratus	Megascolecidae	Meropelopia (=Conchapelopia)	Mesocrictopus	Mesosmittia	Micrasema	Microcylloepus	Micropsectra	Microtendipes pedellus	Nais	Nanocladius	Nasiaeschna pentacantha	Natarsia	Nectopsyche	Nematoda	Nematomorpha	Nemertea	Neoperla	Neoporus	Neureclipsis	Oecetis	Oligochaeta	Oligochaeta Unid
456			3	1											2		6				12				
553			1					3	1							1									
558											1										1				
559											1				1						2				
560																					1				
561			1								2		1								1				

StationID	Optioservus	Orthocladiinae Unid	Orthocladius	Orthocladius O.	Oxyethira	Palaemonetes	Palaemonidae	Parachironomus	Paragnetina	Parakiefferiella	Paralauterborniella	Paramerina	Parametriocnemus	Paraphaenocladius	Paratanytarsus	Paratendipes	Pelecypoda Unid (Bivalvia)	Peltodytes	Pericoma	Perlesta	Perlidae	Perlidae Unid	Perlinella	Perlodidae
456				1				1						4		1								
553									1							1				4				
558													1					1						
559																								
560				14									4			1		3						
561								1					1		10	1								

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Perlodidae Unid	Phaenopsectra	Phylocentropus	Physidae	Pilaria	Planariidae Unid	Planorbidae	Plauditus	Plecoptera Unid	Pleuroceridae	Polycentropodidae	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum illinoense	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum sp. C	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Pomatiopsidae	Potthastia	Prionocyphon	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Protoptila	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Psychomyiidae Unid	Pycnopsyche	Quistradrilus	Quistradrilus multisetosus
161								2												2		4	1			2																							
162																				1		6	3							1							1						1						
163																						1	1														1												
164																			1				2								1																2		
218					1																	1																											
219	1	1																1	1																														
220																																																	
221																			1												1																		
222				5	1		1															2														2								1					2
223				12																																3													
224																		1				4																		4									
225				1		1									1			1	1			2																		28									
226		1																				10	1		1		1									1													
227				2																		2																											
228																				1																		2		1									
229		1														1		8	1				1			3												3				1	1				1		
230																				2		1	13															1		1			1						
231																					1						1											1											
232				1														1				2	3															1		1									
233															3					2		1	4															7		1		1							
235																		2																			1	7											
236																														1								1						2					
237																		2		5	1	2	25	12													1						2						
239				4																	1	1					1																						
241																																																	
243																						1														1													
244				3																		1							1																				
291		1													1			3	1																			8									1		
292																						1				1				1			1					3		2									
293				21			1															3																											

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Perlodidae Unid	Phaenopsectra	Phylocentropus	Physidae	Pilaria	Planariidae Unid	Planorbidae	Plauditus	Plecoptera Unid	Pleuroceridae	Polycentropodidae	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum illinoense
295				1														6				1
296				16	1	1																
297																				3	9	1
298				6	1																	1
299				7			2															
300	1			4	2													3				
301				3														1				2
302							1															13
303						1																6
304		3		3																		3
305				4	1																	1
306		1		2	1																	8
307				1														1			1	
309				1	1						1								1			3
315				1			1															2
317				4																		4
318										4		2						5		1		1
327	2																	3				
353					1													1				1
354																		1	2			
355				1																1		1
356				4														5				
357																						15
358							1															
359																		3	2			2
360																6				3		32
362				2															1			
363	1																	1	4			
364																		9				4
365																	2	29				1

StationID	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum sp. C	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Pomatiopsidae	Potthastia	Prionocyphon	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Protoptila	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Psychomyiidae Unid	Pycnopsyche	Quistradrilus	Quistradrilus multisetosus
295																											
296														1		2		1									
297				12										1													
298														2													
299					1																						
300														1											1		
301								1					1														
302							1							1												1	
303																											
304								4																			
305														4													
306																		1									
307														1								1					
309							4							2													
315																											
317										1						1											
318								3																			
327		1		1												1											
353								1																			
354																1											
355									1							4											
356			2															1									
357																					1						
358								1								5									1		
359																3											
360	1											1				1					4						
362									1							2											
363								1								1				1							
364			1					4								1											
365	10															1				1					1		

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Perlodidae Unid	Phaenopsectra	Phylocentropus	Physidae	Pilaria	Planariidae Unid	Planorbidae	Plauditus	Plecoptera Unid	Pleuroceridae	Polycentropodidae	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum illinoense	Polypedilum obtusum	Polypedilum obtusum/flavum
367																		12				3		
368																			2			6	1	1
369																								
370					1										1			6				1	2	
371												1						10				4		
373							1											2				2		
375				2												1		1		1		5		
378		1					1												1		2	1		
385	1	2												4								3		1
427					1													9				7		
428																				2		3		
429		1																				13		
430				2														1				8		2
431		1		1														7		1				4
434				1											2			5				3	1	1
438	1																	3			1			
439	1																	12	1			2	2	
440	1																	7	1	4		1	4	3
441				11	1		1											1	1		1	2		
444			4		1																	4		
445				14	5																			
446																		7					2	
447		1																12				2	5	
448								4					1					3		8	1		1	
449				2																				
450																								3
451				1														1			1		1	
452				4			1												1	4	3	5	12	
454		1					1											27		9		1	3	
455				2															2	18	3	3	17	1

StationID	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum sp. C	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Pomatiopsidae	Potthastia	Prionocyphon	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Protoptila	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Psychomyiidae Unid	Pycnopsyche	Quistradrilus	Quistradrilus multisetosus
367		1																							
368														3											
369																2				1					
370						1																			
371													2										1		
373											1			4		41									
375						1						1											1		
378			11																1		1				
385			1		1						1														
427				1										2									1		
428	1	2				1																			
429					1									10				1							
430						17																			
431																									
434														1				1							
438														1											
439						1																			
440																									
441																		1							
444		8	3			2						5				1			1				3		
445			1															1	5						
446																1			3						
447						1								1					3						
448			1								1					1	1		3						
449																									1
450						1								2											
451		2										1					1								
452									1			1				1									1
454		2			1												1			1		2			
455		3	3				1									1									

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Perlodidae Unid	Phaenopsectra	Phylocentropus	Physidae	Pilaria	Planariidae Unid	Planorbidae	Plauditus	Plecoptera Unid	Pleuroceridae	Polycentropodidae	Polycentropus	Polycentropus/Cernotina	Polypedilum	Polypedilum albicorne	Polypedilum angulum	Polypedilum angulum/albicorne	Polypedilum aviceps	Polypedilum fallax	Polypedilum flavum	Polypedilum halterale	Polypedilum illinoense	Polypedilum obtusum	Polypedilum obtusum/flavum	Polypedilum ophiodes	Polypedilum scalaenum	Polypedilum simulans/digitifer	Polypedilum sp. C	Polypedilum tritum	Polypedilum Unid	Polypedilum Unid Diff	Pomatiopsidae	Potthastia	Prionocyphon	Pristinella	Procladius	Procloeon/Centroptilum	Progomphus	Protoptila	Pseudochironomus	Pseudocloeon	Pseudolimnophila	Pseudorthocladius	Pseudosmittia	Psychoda	Psychomyiidae Unid	Pycnopsyche	Quistradrilus	Quistradrilus multisetosus
456				1	1															1	1	1	1			1																	10						
553							1	1												3																			2										
558		1				1																					1																3						
559									2									7																									1						
560				3																																						2							
561																4		14				2								3													12				2		

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Ranatra	Rheocricotopus	Rheosmittia	Rheotanytarsus	Rhithrogena	Rhyacodrilus	Robackia demeijerei	Saetheria	Sciaridae	Serratella	Sialis	Simuliidae	Slavina	Slavina appendiculata	Smittia	Somatochlora	Sparganophilidae	Sperchopsis	Sphaeriidae	Spirosperma	Stempellina	Stempellinella	Stenacron	Stenacron prob.	Stenelmis	Stenochironomus	Stenonema	Stenonema prob.	Stictochironomus	Stratiomyidae	Strophopteryx	Stylurus	Sublettea coffmani	Suphisellus	Synurella	Tabanidae Unid	Tabanus	Taeniopteryx	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini	Tanytarsini Unid	Tanytarsini Unid Diff	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia
161												5					1								2		15								1										2			5
162				30															1				8				26								3										3			7
163												15											1		1		2								1													
164												1							3			2													2			1							7			1
218				6								1													2		7			1					8		1								14			6
219																									2		13								7										3			3
220				1															1			2			2										1										2			1
221				5																					4	1	8																		7			2
222				1					1										15	2															44						1							
223																			77																23										1			
224												2													1										2		2								3		1	2
225																									1	1											1								2		2	2
226				7								3														1																			13			5
227												4							10																25		1								4			
228												15											1		1		1							1			1								3			2
229				2								1											3				29								1	1			1									7
230				1					2			1			1										2		5		1		1								2									
231									1														4		2		1					4			2													1
232				7								1											4		1		21								2										9			
233																							1		8	1	12								4										2			6
235											1								1				2		6		2								2				2						3			13
236				1								3							5																36				3						21			7
237				6								3			1								1		19				1						4										2			5
239				4															24										3						62													1
241				2															4				3												1						1				11			1
243												7																							11										1			
244				1					1		1	49							8							3									2			1							6			1
291				1								3											10	7	10	2											1											8
292				9								1							1						8										2										5		1	1
293																			1						9										35	2			3		1				2			

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Ranatra	Rheocricotopus	Rheosmittia	Rheotanytarsus	Rhithrogena	Rhyacodrilus	Robackia demeijerei	Saetheria	Sciaridae	Serratella	Sialis	Simuliidae	Slavina	Slavina appendiculata	Smittia	Somatochlora	Sparganophilidae	Sperchopsis	Sphaeriidae	Spirosperma	Stempellina	Stempellinella	Stenacron	Stenacron prob.	Stenelmis	Stenochironomus	Stenonema	Stenonema prob.	Stictochironomus	Stratiomyidae	Strophopteryx	Stylurus	Sublettea coffmani	Suphisellus	Synurella	Tabanidae Unid	Tabanus	Taeniopteryx	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini	Tanytarsini Unid	Tanytarsini Unid Diff	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia
295																	3								1		5								6													
296				2								7					6								12		1		1																6		1	3
297						1										1			8				12		2										8		1								10			
298																1			7						1										86		1											
299																			2						5										117				1									
300				2								1					1		11								3								32										2			6
301				2							2	1		6		1									4										3				1		1				1			1
302																1	6																															2
303				2													2																						1						13			2
304				1								5							1				2		1	1																			13			2
305																1									1				10						30													
306												12					2	1							1										2				2						2			
307				2							2	1				1									2	1	1		35						4										1			
309												6							10							2			1						13										1			
315																3	6		2						1				2						3		1											
317												2	1		1		3		4				1		8	1			1																3			1
318				8								6											4												2										4			
327				50					1			1									1																								3			1
353																			3																										1			2
354				2				1																		1	3								1										2			3
355																			1			1			1																				1			7
356																									1		4			1															5			
357				5																					1														1			1		1	62		1	7
358											1												1		1										4										1			3
359				12								6					1						1		2		2																		2		1	1
360												1															1																		1			
362				1								1															27		1																			3
363				17			1					2													1		7																		21		1	4
364				5								1					3		1			1	1		3		5		2						2				2	1					32		1	1
365				10								1										2	2				1																		14		3	2

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Ranatra	Rheocricotopus	Rheosmittia	Rheotanytarsus	Rhithrogena	Rhyacodrilus	Robackia demeijerei	Saetheria	Sciaridae	Serratella	Sialis	Simuliidae	Slavina	Slavina appendiculata	Smittia	Somatochlora	Sparganophilidae	Sperchopsis	Sphaeriidae	Spirosperma	Stempellina	Stempellinella	Stenacron	Stenacron prob.	Stenelmis	Stenochironomus	Stenonema	Stenonema prob.	Stictochironomus	Stratiomyidae	Strophopteryx	Stylurus	Sublettea coffmani	Suphisellus	Synurella	Tabanidae Unid	Tabanus	Taeniopteryx	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini	Tanytarsini Unid	Tanytarsini Unid Diff	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia
367				37								2															1		1																19		1	3
368				2																		2	2				7		3						3										24			1
369																											3		1																1			
370		1		28																							3																		52			4
371				26							1						1					3	3		1		22		1	1															20		1	8
373				3								1													4		12											1							3			6
375				1							1	18							2			1							3						2				4						17			2
378									1							1			4	1					4		1		1																			1
385				2													1						1		1	2	11																		80		1	5
427				29								4					1						1				9										1								7		1	6
428				8																			2		32														1						12		1	26
429				2	1																	1			2										1				1						6			1
430				57														1							5		5																		39		1	7
431				29								7													1														1						5			18
434		1		4																		3			1		5																		10			10
438				11						2		1													6		7						4				1								6			8
439		1		32								2										4	11		2		5		1														2		30		1	1
440				28																		1	1				6																		32		2	6
441				1					3								3		13										1						1										7	1		1
444	1		2	7													1		1			1	5				1		3						3				1						14			3
445			1																87										1						6										5			
446				11																		1			2		4																		8		2	6
447				27								1											1		2		6												1						8			1
448		5		65						1		25					1		1						3		8	5																	22		1	
449												69					5		5																12										20			
450				32																					1		1																		35			6
451				23																			2																						100			
452				3								2							13	1					10										1										10			
454		5		78								11							1						5		19																		5			
455												2							15						7	6																			18		1	3

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Ranatra	Rheocricotopus	Rheosmittia	Rheotanytarsus	Rhithrogena	Rhyacodrilus	Robackia demeijerei	Saetheria	Sciaridae	Serratella	Sialis	Simuliidae	Slavina	Slavina appendiculata	Smittia	Somatochlora	Sparganophilidae	Sperchopsis	Sphaeriidae	Spirosperma	Stempellina	Stempellinella	Stenacron	Stenacron prob.	Stenelmis	Stenochironomus	Stenonema	Stenonema prob.	Stictochironomus	Stratiomyidae	Strophopteryx	Stylurus	Sublettea coffmani	Suphisellus	Synurella	Tabanidae Unid	Tabanus	Taeniopteryx	Tanypodinae Unid	Tanypodinae Unid Diff	Tanypus	Tanytarsini	Tanytarsini Unid	Tanytarsini Unid Diff	Tanytarsus	Tetragoneuria	Thienemanniella	Thienemannimyia
456																	4		20				1		5				25						1										1	1		
553				9	1					29		83							3						6		1																		4		1	
558																	3		7	1					2										71													
559				1																					5														1						1			
560											1					1	8		6											1															6		1	
561	1			4								3					7		1			2			6		2		3						4								1		21			4

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Tipula	Tipula prob.	Tipulidae	Tipulidae Unid	Triaenodes	Tribelos	Trichoceridae	Trichoptera	Trichoptera Unid	Tricorythodes	Tropisternus	Tubificidae	Tubificidae Unid	Tubificidae Unid Diff	Tvetenia	Varichaetodrilus	Viviparidae	Xenochironomus xenolabis	Xylotopus par	Zavreliella marmorata	Zavrelimyia
161																					
162														10							
163													2								
164			1										39								
218					1						1		12	1	1						
219													1								
220				1		1							5								
221																					1
222													47			7					
223													24	4							
224																					
225											1		1								
226						1							15	1							
227	1			1									16	4							
228	1										5		5								
229													1								1
230	1																				
231	1				1		1						27								1
232													8								1
233						1							3						1		
235											1		2								
236													3								
237						4							9								
239	5					1							14								2
241						4						30	1			2					
243	1					1							15		1						
244						14					1		8	2							
291		1											4								
292													7								
293											1		11								3

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Tipula	Tipula prob.	Tipulidae	Tipulidae Unid	Triaenodes	Tribelos	Trichoceridae	Trichoptera	Trichoptera Unid	Tricorythodes	Tropisternus	Tubificidae	Tubificidae Unid	Tubificidae Unid Diff	Tvetenia	Varichaetodrilus	Viviparidae	Xenochironomus xenolabis	Xylotopus par	Zavreliella marmorata	Zavrelimyia
295	2												1								
296					2								18		1						1
297						3							14			10					
298						1							10	1							1
299	1												6								
300				1						32			5	1							
301											1		6								
302													48								
303													5								
304													9	1							1
305	2					2							8								
306													4								2
307						6							6								1
309	2												18								
315	1												10								
317				1									9								
318													8								
327						1				7		2									1
353													12								
354													10								
355										1			31								
356																					1
357			1										7								
358																					
359													2								
360													4								
362	1									1											
363										1			3								1
364						1							2								2
365						2				7			7		3						1

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Tipula	Tipula prob.	Tipulidae	Tipulidae Unid	Triaenodes	Tribelos	Trichoceridae	Trichoptera	Trichoptera Unid	Tricorythodes	Tropisternus	Tubificidae	Tubificidae Unid	Tubificidae Unid Diff	Tvetenia	Varichaetodrilus	Viviparidae	Xenochironomus xenolabis	Xylotopus par	Zavreliella marmorata	Zavrelimyia
367										29											1
368	1													1							1
369	2												4								
370										57											
371	3									13			7								1
373	3									3			7								
375	1				1								3								
378	1									2			24	3							
385	1									20				2							
427										9			6								
428										1			4								
429													8								
430										2			7								
431	1												2								
434						1				5			2								1
438										29											
439													2								
440					2					28			6								1
441	3													1							1
444						14							2	2							3
445													4							1	
446										55			3								
447	1									45											1
448	1				1				1	4			1		8	2		1	1		
449											1		6								
450										47											
451					7								1								
452						8							2								
454										2			1				2				
455						21														1	

Table F-12j (cont'd). Site-specific raw benthic assemblage data for the West bioregion (taxa M-Z).

StationID	Tipula	Tipula prob.	Tipulidae	Tipulidae Unid	Triaenodes	Tribelos	Trichoceridae	Trichoptera	Trichoptera Unid	Tricorythodes	Tropisternus	Tubificidae	Tubificidae Unid	Tubificidae Unid Diff	Tvetenia	Varichaetodrilus	Viviparidae	Xenochironomus xenolabis	Xylotopus par	Zavreliella marmorata	Zavrelimyia
456	2												19								
553								1		2					33	1					
558	2												20								12
559	2																				1
560						2							22								1
561	2					27							8								

APPENDIX G

M-BISQ SCORES

Appendix G. Final M-BISQ scores for all sites sampled for benthic macroinvertebrates in Mississippi. Index scores were not calculated for those sites where <160 organisms were collected.

	Station Name	Preliminary Site Class	Bioregion	Status	Organism Count	BISQ Score
2	Johnson Creek	4	Northwest	MD	>160	31.76
3	White's Creek	4	Northwest	Other	>160	30.72
5	Arkabutla Creek	4	Northwest	Other	>160	42.78
6	Strayhorn Creek	4	Northwest	Other	>160	13.15
7	Horn Lake Creek	4	Northwest	Other	>160	19.55
9	Hurricane Creek	4	Northwest	Other	x	--
10	Camp Creek	4	Northwest	MD	>160	14.59
11	Camp Creek Canal	10	Northwest	MD	>160	8.84
13	Pigeon Roost Creek	4	Northwest	Other	>160	74.13
14	Short Fork Creek	4	Northwest	Other	>160	20.07
15	Red Banks Creek	4	Northwest	MD	>160	47.71
16	Beartail Creek	4	Northwest	LDa	>160	62.80
17	Arkabutla Creek	4	Northwest	Other	>160	25.40
18	Hickahala Creek	4	Northwest	LDa	>160	50.17
19	Hickahala Creek	4	Northwest	Other	>160	52.29
20	James-Wolf Canal	4	Northwest	Other	>160	43.84
23	Senatobia Creek	4	Northwest	Other	>160	40.86
24	Greasy Creek	10	Northwest	Other	>160	66.58
28	Grays Creek	4	Northwest	Other	>160	64.38
30	Coldwater River	4	Northwest	LDa	>160	86.07
31	Oaklimeter Creek	10	Northwest	Other	>160	26.20
32	Tippah River	10	Northwest	Other	>160	43.02
33	Oak Chewalla Creek	10	Northwest	LDa	>160	68.91
34	Little Spring Creek	10	Northwest	LDa	>160	87.79
35	Big Spring Creek	10	Northwest	Other	>160	85.97
36	Grahm Mill Creek	10	Northwest	Other	>160	79.87
37	Lee Creek	10	Northwest	LDb	>160	78.41
39	Mill Creek	10	Northwest	Other	>160	50.65
40	Little Mud Creek	10	Northwest	MD	>160	12.70
41	Lockes Creek	10	Northwest	Other	>160	35.12
42	Unnamed Trib	10	Northwest	Other	>160	31.03
43	Berry Branch	10	Northwest	Other	x	--
44	Hurricane Creek	10	Northwest	Other	>160	85.75
45	Puskus Creek	10	Northwest	LDa	>160	72.00
46	Cypress Creek	10	Northwest	Other	>160	41.52
47	Little Tallahatchie River	10	Northwest	Other	>160	20.38
48	Mitchell Creek	10	Northwest	Other	>160	34.57
49	Porters Creek	10	Northwest	LDb	>160	81.34
50	Muddy Creek	10	Northwest	Other	>160	9.49
51	Shelby Creek	10	Northwest	LDa	>160	66.99
52	Little Hatchie River	10	Northwest	Other	>160	38.92
55	Little Tallahatchie River	10	Northwest	MD	>160	67.02
56	Cane Creek	10	Northwest	Other	>160	33.75
58	Chambers Creek	1	Northeast	MD	>160	38.43
60	Picken's Branch	1	Northeast	LDb	>160	62.34
61	Bridge Creek	2	Black Belt	Other	>160	47.33
62	Elam Creek	2	Black Belt	MD	>160	45.75
63	Caney Creek	1	Northeast	MD	>160	48.14
64	Little Yellow Creek	1	Northeast	MD	>160	73.31
65	unnamed trib to Tenn-Tom	1	Northeast	LDa	>160	75.27

Appendix G (cont'd). Final M-BISQ scores for all sites sampled for benthic macroinvertebrates in Mississippi. Index scores were not calculated for those sites where <160 organisms were collected.

	Station Name	Preliminary Site Class	Bioregion	Status	Organism Count	BISQ Score
66	Indian Creek	1	Northeast	Other	>160	29.27
67	Mill Creek	1	Northeast	LDb	>160	65.42
68	Parmicha Creek	2	Black Belt	Other	>160	74.35
69	Little Cripple Deer Creek	1	Northeast	Other	>160	45.50
70	Pennywinkle Creek	1	Northeast	Other	>160	59.88
73	Cripple Deer Creek	1	Northeast	Other	>160	56.60
74	Bear Creek	1	Northeast	Other	>160	57.65
75	Bear Creek	1	Northeast	Other	>160	45.18
76	unnamed trib to Cedar Creek	1	Northeast	LDa	>160	57.70
77	Donivan Creek	1	Northeast	MD	>160	20.50
79	Rock Creek	1	Northeast	Other	>160	57.59
80	Twentymile Creek	1	Northeast	MD	>160	4.83
81	Big Brown Creek	1	Northeast	MD	>160	21.17
82	Little Brown Creek	1	Northeast	Other	>160	44.73
83	Mackey's Creek	1	Northeast	Other	>160	48.51
85	Hotopha Creek	4	Northwest	MD	>160	29.07
86	Clear Creek	10	Northwest	Other	>160	72.33
87	Hudson Creek	10	Northwest	MD	>160	61.44
88	Toby Tubby Creek	10	Northwest	Other	>160	79.23
89	McIvor Canal	4	Northwest	MD	>160	5.99
91	Long Creek	4	Northwest	Other	>160	43.54
92	Long Creek	4	Northwest	Other	>160	54.53
93	Bynum Creek	10	Northwest	Other	>160	56.44
96	unnamed trib to Yocona River	4	Northwest	Other	>160	42.32
98	Otoucalofa Creek	10	Northwest	Other	>160	58.29
99	Town Creek	10	Northwest	MD	>160	29.31
101	N Fk Tillatoba Creek	4	Northwest	Other	>160	31.07
102	Tillatoba Creek	4	Northwest	Other	>160	49.08
104	Ascalmore Creek	4	Northwest	MD	>160	54.81
105	Okachickima Creek	10	Northwest	Other	>160	37.94
106	Cypress Creek	10	Northwest	LDb	x	--
107	Organ Creek	10	Northwest	Other	>160	40.13
108	Lappatubby Creek	10	Northwest	MD	>160	30.32
109	Mud Creek	10	Northwest	Other	>160	9.73
110	Duncans Creek	10	Northwest	Other	>160	13.83
111	Burney Branch	10	Northwest	Other	>160	59.32
112	Yocona River	10	Northwest	MD	>160	63.83
113	Duncan's Creek	10	Northwest	Other	>160	30.19
114	Yocona River	10	Northwest	Other	>160	49.83
115	Turkey Creek	10	Northwest	LDa	>160	72.73
116	Skuna River Canal	10	Northwest	MD	>160	8.05
117	Persimmon Creek	10	Northwest	MD	>160	30.35
118	Lucknuck Creek	10	Northwest	Other	>160	31.44
119	Skuna River Canal	10	Northwest	MD	>160	27.83
120	Cowpen Creek	10	Northwest	Other	x	--
121	Johnson-Coles Creek	10	Northwest	LDb	>160	33.94
123	Lappatubby Creek	10	Northwest	MD	>160	16.33
126	unnamed trib to Town Creek	2	Black Belt	MD	>160	48.24
127	Goodfood Creek	10	Northwest	Other	>160	53.62
129	Tallabinella Creek	2	Black Belt	LDa	>160	83.55

Appendix G (cont'd). Final M-BISQ scores for all sites sampled for benthic macroinvertebrates in Mississippi. Index scores were not calculated for those sites where <160 organisms were collected.

	Station Name	Preliminary Site Class	Bioregion	Status	Organism Count	BISQ Score
131	Tubbalubba Creek	2	Black Belt	Other	x	--
133	Town Creek	2	Black Belt	Other	>160	52.08
135	Chuquatonchee Creek	2	Black Belt	Other	>160	62.95
136	Twentymile Creek	1	Northeast	MD	>160	11.49
137	Cummings Creek	1	Northeast	MD	>160	48.42
140	Mantachie Creek	1	Northeast	MD	x	--
141	Green Creek	1	Northeast	LDa	>160	74.47
142	Greenwood Creek	1	Northeast	Other	>160	36.60
143	Bull Mnt Creek	1	Northeast	LDa	>160	61.04
146	unnamed trib to Bull Mnt Creek	1	Northeast	Other	>160	50.13
149	Weaver Creek	1	Northeast	LDb	>160	60.38
151	Mattuby Creek	2	Black Belt	Other	>160	64.33
152	Wolf Creek	1	Northeast	LDa	>160	64.99
153	Halfway Creek	1	Northeast	LDb	>160	53.95
155	Big Sand Creek	4	Northwest	Other	>160	53.11
156	Riverdale Creek	4	Northwest	Other	>160	29.91
157	Batupan Bogue	4	Northwest	Other	>160	53.39
158	Cane Creek	4	Northwest	LDa	>160	47.31
159	Potacocowa Creek	4	Northwest	Other	>160	34.88
160	Pelucia Creek	4	Northwest	Other	>160	60.84
161	Abiaca Creek	5	West	Other	x	--
162	Coila Creek	6	West	Other	>160	51.41
163	Hays Creek	5	West	MD	>160	25.04
164	Peachahala Creek	5	West	Other	>160	62.29
165	Butputter Creek	10	Northwest	Other	>160	18.22
166	Topashaw Creek Canal	10	Northwest	MD	x	--
167	Little Topishaw Creek	10	Northwest	Other	>160	48.63
168	Redgrass Creek	10	Northwest	Other	>160	13.86
169	Horsepen Creek	10	Northwest	Other	>160	25.77
170	Sabougla Creek Canal	10	Northwest	MD	>160	15.50
171	Wolf Creek	3	East	Other	>160	60.63
172	Little Black Creek	3	East	MD	x	--
173	Calabrella Creek	3	East	LDb	>160	52.28
174	Lewis Creek	3	East	MD	>160	10.89
175	Mulberry Creek	3	East	MD	>160	26.55
176	Wolf Creek	3	East	Other	>160	72.33
177	Big Bywy Canal	3	East	MD	>160	54.45
178	McCurtain Creek	3	East	Other	>160	58.62
179	Poplar Creek	3	East	Other	>160	62.10
180	unnamed trib to Poplar Creek	3	East	LDb	>160	58.51
181	Topashaw Creek Canal	10	Northwest	MD	>160	37.06
182	Houlka Creek	10	Northwest	Other	>160	35.55
183	Sand Creek	3	East	Other	x	--
184	Spring Creek	3	East	Other	>160	49.33
185	Line Creek	3	East	Other	>160	50.48
187	Long Branch	3	East	Other	x	--
188	Trim Cane Creek	2	Black Belt	Other	>160	73.00
190	Hollis Creek	2	Black Belt	Other	>160	48.75
191	Cypress Creek	3	East	LDb	>160	59.32
193	James Creek	2	Black Belt	Other	>160	48.58

Appendix G (cont'd). Final M-BISQ scores for all sites sampled for benthic macroinvertebrates in Mississippi. Index scores were not calculated for those sites where <160 organisms were collected.

	Station Name	Preliminary Site Class	Bioregion	Status	Organism Count	BISQ Score
195	Hang Kettle Creek	2	Black Belt	Other	>160	30.24
196	Spring Creek	2	Black Belt	LDa	>160	94.49
197	McKinley Creek	1	Northeast	Other	>160	54.09
198	Town Creek	2	Black Belt	MD	>160	35.54
200	Town Creek	2	Black Belt	MD	>160	37.84
202	Spring Creek	2	Black Belt	Other	x	--
204	Cooper Creek	1	Northeast	LDb	>160	47.94
205	Yellow Creek	1	Northeast	LDa	>160	54.00
206	Yellow Creek	3	East	Other	>160	33.23
207	Catalpa Creek	2	Black Belt	Other	>160	35.46
209	McCrary Creek	1	Northeast	Other	>160	26.45
210	South Branch	3	East	MD	>160	24.47
214	Kincaid Creek	1	Northeast	Other	>160	51.84
216	James Creek	2	Black Belt	Other	x	--
218	Harland Creek	6	West	Other	>160	58.25
219	Tesheva Creek	6	West	Other	>160	50.55
220	Piney Creek	6	West	MD	>160	30.26
221	Short Creek	6	West	LDb	>160	50.99
222	Cypress Creek	5	West	MD	>160	36.55
223	Deer Creek	5	West	Other	>160	34.31
224	Oneil Creek	6	West	Other	>160	38.46
225	Perry Creek	6	West	Other	>160	34.88
226	Indian Creek	5	West	Other	>160	35.42
227	Walesheba Creek	5	West	Other	>160	40.30
228	Fannegusha Creek	6	West	MD	>160	47.37
229	Bophumpa Creek	5	West	Other	>160	59.81
230	Fannegusha Creek	5	West	MD	x	--
231	Black Creek	6	West	LDb	>160	69.31
232	Fannegusha Creek	6	West	MD	>160	40.18
233	Howard Creek	5	West	Other	>160	59.21
234	Apookta Creek	3	East	Other	>160	55.02
235	Jourdan Creek	5	West	Other	>160	49.35
236	Indian Creek	5	West	Other	>160	35.94
237	Box Creek/Green's Creek	5	West	MD	>160	47.99
238	Long Creek	3	East	Other	>160	71.33
239	Tackett Creek	5	West	MD	>160	38.01
240	Senesha Creek	3	East	Other	>160	69.90
241	Big Cypress Creek	5	West	LDb	>160	37.92
242	Rambo Creek	3	East	LDa	>160	62.34
243	Ellison Creek	5	West	Other	>160	34.82
244	Hobuck Creek	5	West	LDb	>160	67.85
247	Scoobachita Creek	3	East	LDa	>160	68.15
248	Zilpha Creek	3	East	LDa	>160	68.56
249	Yockanookany River	3	East	Other	>160	67.69
250	Lobutcha Creek	3	East	LDa	>160	56.83
251	Cole Creek	3	East	LDb	>160	58.36
252	Tibby Creek	8	East	LDa	>160	64.37
253	Atwood Creek	3	East	LDa	>160	60.31
254	Lobutcha Creek	3	East	LDa	>160	54.30
255	Jofuska Creek	3	East	LDb	>160	50.33

Appendix G (cont'd). Final M-BISQ scores for all sites sampled for benthic macroinvertebrates in Mississippi. Index scores were not calculated for those sites where <160 organisms were collected.

	Station Name	Preliminary Site Class	Bioregion	Status	Organism Count	BISQ Score
256	Lobutcha Creek	3	East	LDa	>160	58.50
257	Lukfapa Creek	3	East	LDa	>160	52.29
259	Tuscotameta Creek	8	East	Other	>160	53.59
261	unnamed trib to Pearl River	8	East	MD	>160	23.11
262	Standing Pine Creek	8	East	MD	>160	70.47
263	Noxubee River	3	East	Other	>160	61.74
265	Hughes Creek	3	East	Other	>160	39.90
268	Tallahaga Creek	3	East	MD	>160	40.56
269	Noxapater Creek	3	East	Other	>160	58.39
272	Pinishook Creek	3	East	LDa	>160	48.60
273	Owl Creek	3	East	Other	>160	27.79
275	unnamed trib to Kentawka Canal	3	East	Other	>160	32.21
280	Macedonia Creek	3	East	Other	>160	72.90
281	Plum Creek	2	Black Belt	Other	>160	44.87
282	Bogue Chitto Creek	2	Black Belt	Other	>160	52.11
284	Shuqualak Creek	3	East	Other	>160	28.74
285	Ash Creek	2	Black Belt	LDa	>160	82.27
286	Woodward Creek	3	East	Other	x	--
287	Wahalak Creek	3	East	Other	>160	41.61
288	Straight Creek	3	East	LDa	>160	61.36
289	Shy Hammock Creek	3	East	MD	>160	15.22
290	Bodka Creek	3	East	LDb	>160	34.04
291	Bliss Creek	6	West	Other	>160	43.10
292	Clear Creek	6	West	MD	>160	37.77
293	Hamer Bayou	5	West	LDb	>160	57.68
295	Big Sand Creek	6	West	LDa	>160	58.40
296	Beaver Creek	6	West	LDb	>160	71.23
297	Bogue Chitto Creek	5	West	MD	>160	44.64
298	Limekiln Creek	5	West	LDa	>160	51.67
299	Cox Creek	5	West	Other	>160	49.83
300	Porter Creek	5	West	MD	>160	62.48
301	Bear Creek	6	West	LDa	>160	58.13
302	unnamed trib to Pearl River	5	West	Other	>160	35.63
303	Bakers Creek	5	West	Other	>160	25.74
304	Fourteen Mile Creek	5	West	Other	>160	30.24
305	Big Creek	5	West	Other	>160	38.17
306	Five Mile Creek	5	West	LDb	>160	65.19
307	Rhodes Creek	7	West	Other	>160	50.10
309	Tilda Bogue Creek	5	West	LDb	>160	41.98
310	Fannegusha Creek	8	East	Other	>160	27.41
311	Coffee Bogue	8	East	Other	>160	43.87
313	Red Cane Creek	8	East	LDb	>160	33.20
315	Hanging Moss Creek	5	West	MD	>160	25.52
316	Eutaeutachee Creek	7	East	Other	>160	28.93
317	Richland Creek	5	West	Other	>160	46.71
318	Steen Creek	5	West	Other	>160	58.33
319	Strong River	8	East	LDa	>160	49.34
321	Schockaloe Creek	8	East	Other	>160	38.12
322	Sipsey Creek	8	East	Other	>160	69.54
323	Tallabogue Creek	8	East	MD	>160	35.94

Appendix G (cont'd). Final M-BISQ scores for all sites sampled for benthic macroinvertebrates in Mississippi. Index scores were not calculated for those sites where <160 organisms were collected.

	Station Name	Preliminary Site Class	Bioregion	Status	Organism Count	BISQ Score
324	Hontokalo Creek	8	East	MD	>160	62.41
325	Conehatta Creek	8	East	LDa	>160	56.28
326	Sugar Bogue	8	East	LDb	>160	29.08
327	Ford's Creek	7	West	LDb	>160	37.53
328	Cedar Creek	8	East	LDb	>160	69.23
329	West Tallahalla Creek	8	East	LDb	>160	53.89
330	Caney Creek	8	East	Other	x	--
331	Okatibbee Creek	3	East	LDa	>160	74.50
332	Houston Creek	3	East	LDa	>160	64.85
335	Potterchitto Creek	8	East	LDa	>160	66.34
336	Chunky River	3	East	Other	>160	61.18
337	Okatibbee Creek	3	East	LDa	>160	64.86
338	Sowashee Creek	3	East	Other	>160	36.73
339	Okatibbee Creek	3	East	Other	>160	44.80
341	Chunky River	3	East	Other	>160	57.91
343	Bostick Branch	8	East	MD	>160	36.89
344	Big Red Creek	3	East	Other	>160	60.51
345	Blackwater Creek	3	East	LDb	>160	67.70
346	Piwticfaw Creek	3	East	Other	>160	78.05
348	Alamuchee Creek	3	East	LDb	>160	69.01
349	Irby Mill Creek	3	East	LDa	>160	76.61
350	Long Creek	8	East	LDa	>160	70.76
353	Annas Bottom	6	West	Other	>160	35.94
354	Fairchild's Creek	6	West	Other	>160	38.75
355	St. Catherine Creek	6	West	MD	>160	33.66
356	Kennison Creek	6	West	LDb	>160	38.04
357	Bayou Pierre (downstream)	7	West	MD	>160	57.07
358	unnamed trib to Bayou Pierre	7	West	Other	>160	45.69
359	James Creek	6	West	LDb	>160	41.52
360	Little Bayou Pierre	7	West	MD	x	--
362	Dowd Creek	6	West	LDa	>160	51.68
363	South Fork Coles Creek	7	West	Other	>160	45.30
364	North Fork Coles Creek	7	West	LDb	>160	44.19
365	Middle Fork Homochitto River	7	West	LDb	>160	65.28
367	Fifteen Mile Creek	7	West	LDa	>160	65.56
368	White Oak Creek	7	West	MD	>160	54.18
369	Tallahalla Creek	7	West	MD	x	--
370	Turkey Creek	7	West	Other	>160	61.00
371	Brushy Creek	7	West	Other	>160	88.34
373	Bayou Pierre (upstream)	7	West	Other	>160	46.88
375	Russell Creek	7	West	Other	>160	55.74
376	Little Bahala Creek	7	East	Other	>160	68.63
378	Bogue Chitto	7	West	Other	>160	43.23
379	Dabbs Creek	8	East	LDb	>160	28.80
380	Campbell Creek	8	East	LDb	>160	43.79
381	Limestone Creek	7	East	LDb	>160	65.61
382	Big Creek	7	East	LDa	>160	60.74
383	Riles Creek	7	East	LDb	>160	84.34
384	Riles Creek	7	East	LDa	>160	70.37
385	Copiah Creek	7	West	Other	>160	71.44

Appendix G (cont'd). Final M-BISQ scores for all sites sampled for benthic macroinvertebrates in Mississippi. Index scores were not calculated for those sites where <160 organisms were collected.

	Station Name	Preliminary Site Class	Bioregion	Status	Organism Count	BISQ Score
388	Pegies Creek	7	East	Other	>160	63.78
390	Bahala Creek	7	East	Other	>160	70.85
393	Bowie Creek	8	East	Other	>160	72.80
394	Dry Creek	8	East	MD	>160	54.06
395	Fair River	7	East	LDa	>160	68.42
396	Pretty Branch	7	East	MD	>160	79.73
397	Halls Creek	7	East	Other	>160	76.59
398	Silver Creek	7	East	LDa	>160	81.78
399	Oakahay Creek	8	East	Other	>160	54.06
400	Leaf River	8	East	LDa	>160	62.22
401	West Tallahala	8	East	LDb	>160	38.64
403	Keys Mill Creek	8	East	LDa	>160	76.24
404	Okatoma Creek	8	East	Other	>160	70.43
405	Leonards Mill Creek	8	East	LDa	>160	68.54
406	Oakahay Creek	8	East	LDb	>160	66.01
407	Okatoma Creek	8	East	Other	>160	63.72
408	Oakey Woods Creek	8	East	Other	>160	70.76
409	West Bouie Creek	8	East	LDa	>160	54.33
410	Souinlovey Creek	8	East	LDa	>160	67.71
412	Castaffa Creek	8	East	LDb	>160	75.71
413	Tallahala Creek	8	East	LDb	>160	68.12
414	Horse Branch	8	East	Other	>160	54.30
416	Tallahoma Creek	8	East	LDb	>160	43.21
417	Tallahala	8	East	Other	>160	37.44
418	Buckatunna Creek	3	East	LDa	>160	71.43
419	Chickasawhay River	8	East	Other	>160	49.49
420	Five Mile Creek	8	East	LDa	>160	61.40
421	Hortons Mill Creek	8	East	Other	>160	66.58
422	Coldwater Creek	8	East	Other	>160	71.69
423	Yellow Creek	8	East	LDa	>160	82.46
424	Maynor Creek	8	East	Other	>160	62.84
427	Sandy Creek	7	West	Other	>160	58.21
428	Second Creek	6	West	LDb	>160	55.81
429	Crooked Creek	7	West	MD	>160	44.18
430	Buffalo River - downstream	7	West	MD	>160	46.53
431	Millbrook Creek	6	West	LDb	>160	32.17
434	Bayou Sara	7	West	LDb	>160	63.12
438	Mcgehee Creek	7	West	LDa	>160	74.36
439	Richardson Creek	7	West	MD	>160	43.92
440	Middle Fork Homochitto River	7	West	Other	>160	71.60
441	Dry Creek	7	West	LDa	>160	68.53
444	Tar Creek	7	West	LDa	>160	77.95
445	Ziegler Creek	7	West	Other	>160	62.19
446	Brushy Creek	7	West	Other	>160	79.95
447	Caston Creek	7	West	LDa	>160	77.69
448	West Fork Amite River (upper)	7	West	Other	>160	77.30
449	Cars Creek	7	West	Other	>160	51.15
450	Thompson Creek -main stem	7	West	Other	>160	51.97
451	Big Creek	7	West	Other	>160	48.52
452	Bogue Chitto	7	West	Other	>160	56.88

Appendix G (cont'd). Final M-BISQ scores for all sites sampled for benthic macroinvertebrates in Mississippi. Index scores were not calculated for those sites where <160 organisms were collected.

	Station Name	Preliminary Site Class	Bioregion	Status	Organism Count	BISQ Score
453	Boone Creek	7	East	MD	>160	56.81
454	Bogue Chitto	7	West	Other	>160	49.16
455	Beaver Creek	7	West	Other	>160	55.72
456	Little Tangipahoa River (upper)	7	West	Other	>160	63.08
457	Clear Creek	7	East	Other	>160	76.16
458	Leatherwood Creek	7	East	LDa	>160	70.81
459	Topisaw Creek	7	East	Other	>160	63.12
460	Little Tangipahoa River (lower)	7	East	Other	>160	46.82
462	Tickfaw River (upper)	7	East	LDb	>160	74.30
463	White Sand Creek	7	East	LDa	>160	80.23
464	Tilton Creek	7	East	LDa	>160	92.18
465	Holiday Creek	7	East	LDa	>160	84.04
466	McGee Creek	7	East	Other	>160	67.40
467	Tenmile Creek	7	East	LDa	>160	88.16
468	Upper Little Creek	7	East	LDa	>160	67.16
469	Lower Little Creek	7	East	Other	>160	83.67
470	McGee Creek	7	East	Other	>160	63.27
471	E Fk Pushepatapa Creek	7	East	LDa	>160	80.39
472	Clear Creek	7	East	LDa	>160	58.24
474	Black Creek	8	East	LDb	>160	58.16
475	Shelton Creek	9	East	Other	>160	76.44
476	Bowie Creek	9	East	Other	>160	76.82
477	Monroe Creek	9	East	LDa	>160	75.34
478	Leaf River	9	East	Other	>160	52.75
479	Lower Little Creek	9	East	Other	>160	75.96
480	Black Creek	9	East	Other	>160	72.24
481	Big Creek	9	East	Other	>160	66.26
482	Beaver Dam Branch	9	East	LDa	>160	75.80
483	Little Black Creek	9	East	Other	>160	79.90
484	Black Creek	9	East	Other	>160	71.43
485	Red Creek	9	East	Other	>160	57.04
487	Bogue Homo	8	East	LDb	>160	50.07
489	West Little Thompson Creek	9	East	LDb	>160	42.55
492	Thompson Creek	9	East	LDb	>160	48.20
493	Bogue Homo Creek	9	East	Other	>160	64.65
494	Leaf River	9	East	Other	>160	51.02
495	Thompson Creek	9	East	Other	>160	73.88
496	Gaines Creek	9	East	Other	>160	63.61
497	Atkinson Creek	9	East	Other	>160	72.62
498	Cypress Creek	9	East	LDa	x	--
500	Beaver Dam Creek	9	East	LDa	>160	77.87
502	Whisky Creek	9	East	Other	>160	41.30
504	Mason Creek	9	East	Other	>160	53.45
505	Meadow Creek	9	East	Other	>160	71.63
506	Big Creek	9	East	Other	>160	67.06
507	Brushy Creek	9	East	LDb	>160	79.49
508	Little Hell Creek	9	East	Other	>160	74.04
510	West Hobolochitto Creek	9	East	LDa	>160	65.98
511	Murder Creek	9	East	LDa	>160	76.74
513	East Hobolochitto Creek	9	East	LDa	>160	64.06

Appendix G (cont'd). Final M-BISQ scores for all sites sampled for benthic macroinvertebrates in Mississippi. Index scores were not calculated for those sites where <160 organisms were collected.

	Station Name	Preliminary Site Class	Bioregion	Status	Organism Count	BISQ Score
514	Moran Creek	9	East	LDa	>160	80.42
515	West Hobolochitto Creek	9	East	Other	>160	69.34
516	Crane Creek	9	East	LDa	>160	75.18
517	East Hobolochitto Creek	9	East	LDb	>160	74.83
518	Mill Creek	9	East	MD	x	--
519	Turtleskin Creek	9	East	MD	>160	32.37
520	Catahoula Creek	9	East	LDb	>160	74.78
521	Dead Tiger Creek	9	East	Other	>160	33.39
522	Black Creek	9	East	LDb	>160	65.42
523	Red Creek	9	East	Other	>160	74.70
524	Flint Creek	9	East	Other	>160	79.71
525	Red Creek	9	East	Other	>160	61.84
526	Wolf River	9	East	LDa	>160	85.18
527	Tenmile Creek	9	East	LDa	>160	78.48
529	Tchoutacabouffa River	9	East	Other	>160	71.32
530	Biloxi River	9	East	Other	x	--
531	Saucier Creek	9	East	Other	x	--
532	Tuxachanie Creek	9	East	Other	>160	67.37
533	Little Biloxi River	9	East	LDb	>160	74.84
535	Bernard Bayou	9	East	Other	>160	54.48
536	Flat Branch	9	East	MD	>160	36.37
537	Turkey Creek	9	East	LDb	>160	41.72
538	Black Creek	9	East	LDb	>160	78.09
539	Little Cedar Creek	9	East	Other	>160	87.86
540	Red Creek	9	East	LDb	>160	69.66
541	Big Cedar Creek	9	East	LDb	>160	83.37
542	Indian Creek	9	East	Other	>160	85.07
543	Moungers Creek	9	East	LDb	>160	60.56
544	Bluff Creek	9	East	Other	>160	56.05
545	Luxapalilla Creek	1	Northeast	Other	>160	70.66
546	Buttahatchie River	1	Northeast	Other	>160	67.16
547	Hatchie River	10	Northwest	Other	>160	76.46
548	Tuscumbia River Canal	2	Black Belt	Other	>160	63.86
549	Bowie Creek	8	East	Other	>160	76.19
550	Chickasawhay River	8	East	Other	>160	47.66
551	Escatawpa River	9	East	Other	>160	86.77
553	East Fork Amite River	7	West	LDa	>160	56.51
554	Tangipahoa River	7	East	Other	>160	67.58
555	Bull Mnt Creek	1	Northeast	LDa	>160	69.81
556	Sucarnoochee River	3	East	Other	>160	84.06
557	Betsy Creek	3	East	MD	>160	15.28
558	unnamed trib to Big Black	5	West	Other	>160	55.76
559	Bates Creek	7	West	LDa	>160	62.15
560	Whites Creek	6	West	LDa	>160	57.55
561	Cypress Creek	7	West	LDa	>160	74.24
562	Minnehaha Creek	7	East	Other	>160	85.33
563	Tangipahoa River	7	East	Other	>160	67.23
564	Bala Chitto Creek	7	East	LDa	>160	74.79
565	Terry's Creek	7	East	LDb	>160	64.00
566	Scooba Creek	3	East	LDb	>160	27.85

Appendix G (cont'd). Final M-BISQ scores for all sites sampled for benthic macroinvertebrates in Mississippi. Index scores were not calculated for those sites where <160 organisms were collected.

	Station Name	Preliminary Site Class	Bioregion	Status	Organism Count	BISQ Score
567	Mud Creek	2	Black Belt	Other	>160	35.04
568	Chiwapa Creek	2	Black Belt	Other	>160	72.09
569	Cowpenna Creek	2	Black Belt	Other	>160	69.03
600	Hickory Creek	9	East	LDb	>160	69.78
601	Orphan Creek	9	East	Other	>160	53.20