Biological Assessment of the Rocky Gorge, Hammond Branch, and Dorsey Run Watersheds, Howard County, Maryland

Spring 2003 Index Period

Tiber Branch

UT to Patapsco River

UT to Dorsey Run

January 2004

Biological Assessment of the Rocky Gorge, Hammond Branch, and Dorsey Run Watersheds, Howard County, Maryland

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Acknowledgement

The principal authors of this report are Kristen L. Pavlik and James B. Stribling, both of Tetra Tech. They were also assisted by Erik W. Leppo. This document reports results from three of the six subwatersheds sampled during the Spring Index Period of the third year of biomonitoring by the Howard County Stormwater Management Division.

Fieldwork was conducted by Tetra Tech staff including Kristen Pavlik, Colin Hill, David Bressler, and Jennifer Pitt. All laboratory sample processing was conducted by Carolina Gallardo, Shabaan Fundi, Curt Kleinsorg, Chad Bogues, Joey Rizzo, Elizabeth Yarborough, Jessica Garrish, Chris Hines, and Sara Waddell. Taxonomic identification was completed by Dr. R. Deedee Kathman and Todd Askegaard; Aquatic Resources Center (ARC). Hunt Loftin, Linda Shook, and Brenda Decker (Tetra Tech) assisted with budget tracking and clerical support.

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Abstract

Stream biota rely on the quality of physical habitat, hydrology, and water chemistry for their survival and reproduction. Human activities, such as land cover alteration, can affect abiotic stream conditions, which, in turn, can influence biotic communities. Thus, many biological monitoring and assessment programs, including Howard County, use composite biological indicators both as a measure of stream ecological response to land cover conversions, and as an overall portrayal of water resource integrity.

Several indicators (benthic macroinvertebrates, physical habitat quality, sediment particle size distribution, and channel size/shape) were sampled or measured at 30 stream sites in the Rocky Gorge, Dorsey Run, and Hammond Branch subwatersheds (10 sites in each) in Howard County, Maryland during March 2003. Sampling site locations were selected at random and were pre-stratified by subwatershed and stream order. Benthic macroinvertebrates were collected using Maryland Biological Stream Survey (MBSS) methods (multihabitat, 20 ft^2).

This document reports the sampling and assessment results for all three subwatersheds, as well as composite assessments for watershed-scale biological and habitat assessments from the previous two years of sampling (2001, 2002). Individual site assessments from the Rocky Gorge, Dorsey Run, and Hammond Branch stream sites are also included. Watershed comparisons were made between the 12 (of 15) total subwatersheds sampled to date.

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Acronyms

ARC	Aquatic Resources Center
B-IBI	Benthic Index of Biotic Integrity
BMP	Best Management Practice
BRF	Biological Research Facility
DQO	Data Quality Objectives
DNR	Department of Natural Resources
DPW	Department of Public Works
DPZ	Department of Planning and Zoning
DRP	Department of Recreation and Parks
DS	Downstream
EDAS	Ecological Data Application System
EPT	Ephemeroptera, Plecoptera, Trichoptera
FLD	Field
MBSS	Maryland Biological Stream Survey
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RBP	Rapid Biological Protocols
RPD	Relative Percent Difference
SD	Standard Deviation
SOP	Standard Operating Procedure
SWMD	Stormwater Management Division
TAC	Technical Advisory Committee
TCR	Taxonomic Certainty Rating
Tt	Tetra Tech
TV	Tolerance Value
USEPA	United State Environmental Protection Agency
US	Upstream
UT	Unnamed Tributary
WRD	Watershed Restoration Division

Executive Summary

In 2001, the Howard County Department of Public Works (DPW) Stormwater Management Division (SWMD) initiated biological monitoring for County streams and wadeable rivers on an annual, rotating basin cycle. The primary goal of this program is to assess the current status of the County's streams and watersheds and to establish a baseline for comparing future assessments. The program is designed to provide assessments at three geographic scales: stream-specific; watershed wide; and after the three-year sampling rotation is complete, county-wide. The Howard County Biomonitoring Program was designed to be comparable with the statewide Maryland Biological Stream Survey (MBSS). Comparability allows a greater densitiy of sampling locations with consistent interpretation. Watersheds sampled during the first two years of the program include: Little Patuxent River (2001), Cattail Creek (2001), Brighton Dam (2001), and Middle Patuxent River (2002). This report presents results of 2003 sampling in the Rocky Gorge, Dorsey Run, and Hammond Branch subwatersheds. Sampling occurred during the Spring Index Period and methods were identical to those used by the MBSS: benthic macroinvertebrates sampled using a D-frame net (595 µm mesh) in multiple habitats (20 ft^2), visual-based assessment of physical habitat quality, and selected field chemistry measurements. In addition to MBSS protocols, substrate particle size distribution and stream channel cross sectional area were also evaluated. Biological condition scores were derived using MBSS's Benthic Index of Biotic Integrity (B-IBI). The B-IBI was used to rate the biological condition of each site as good, fair, poor, or very poor. Assessment of physical habitat quality combined MBSS methods and USEPA's Rapid Bioassessment Protocols (RBPs). A rating scale based on the latter was assigned to each site, and used categories of: comparable, supporting, partially supporting, or non-supporting. MBSS measures were taken for additional qualitative information. Results of this study will be sued for developing protection/restoration priorities across the County. The public will be able to access the yearly report via the County website, as well as through brochures highlighting specific watersheds.

All three subwatersheds received "non-supporting" physical habitat ratings. Two of the three subwatersheds, Dorsey Run and Hammond Branch, received "poor" biological ratings, while Rocky Gorge received a "fair" rating. Land use percentages in these subwatersheds follow similar patterns of disturbance, both impaired subwatersheds Dorsey Run and Hammond branch have over 40% commercial and pasture land respectively. The relatively undisturbed Rocky Gorge on the other hand, maintains just over 45% forest cover.

I. PROGRAM OVERVIEW

Introduction

Background

The mission of the Howard County Stormwater Management Division (SWMD) is to improve the quality of life of the citizens of Howard County through managing the quality and quantity of County waters (Howard 2003). Three years ago, the SWMD initiated a multi-year, rotating basin biomonitoring effort to assess the ecological condition of streams and watersheds throughout the County. This report includes results from three watersheds sampled during the Spring Index Period of 2003 (Rocky Gorge, Dorsey Run, and Hammond Branch), as well as comparisons of past sampling efforts (2001 & 2002).

Howard County is surrounded by the Patuxent River to the south and west, and the Patapsco River to the north and east (Figure 1). Many of the sites sampled for this report empty directly into the Patuxent River. The County wishes to gather data about the physical and biological condition of these streams, and be able to educate the public on the health of the waters in their community. To this end, data collected is analyzed, and this report synthesizes the results.

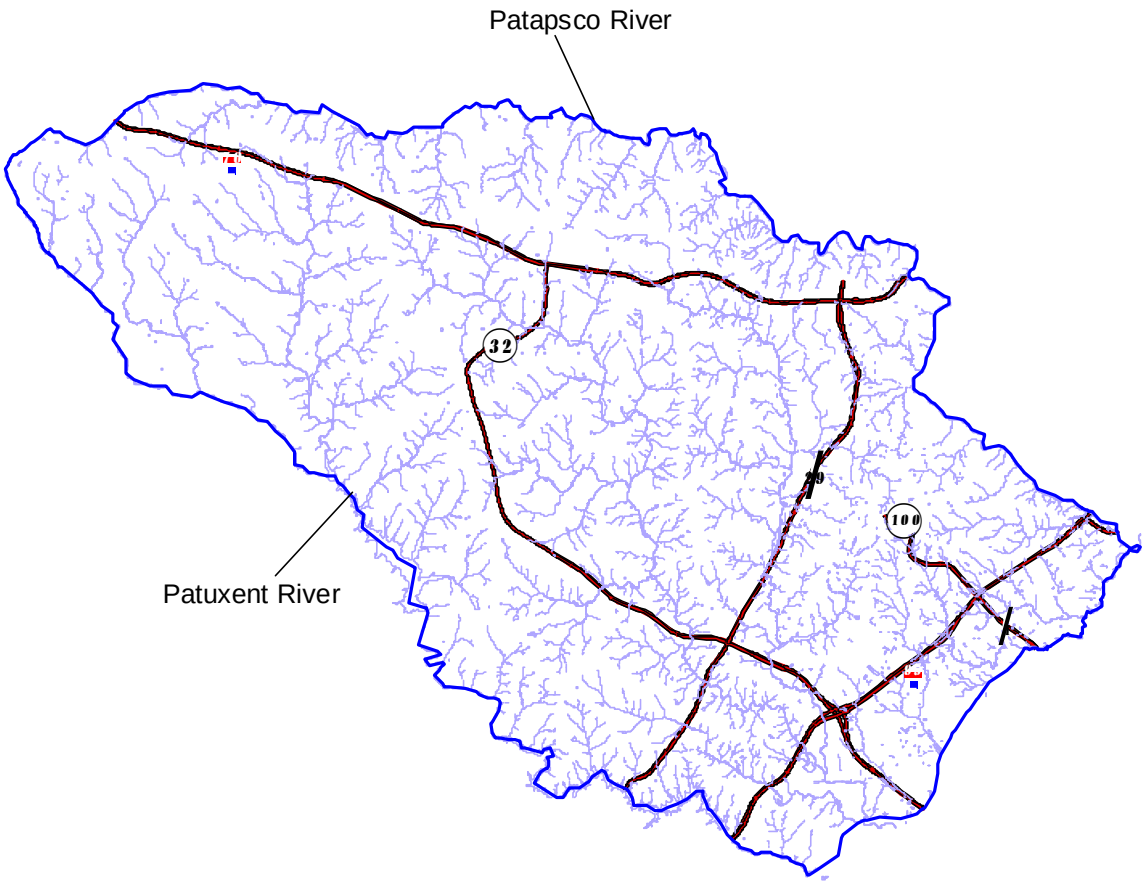

Figure 1. The Patapsco and Patuxent Rivers form the boundaries of Howard County.

The County bases its biological findings by sampling benthic macroinvertebrates. Benthic macroinvertebrates are the preferred organism to sample due to their large numbers; ability to assimilate the effects of physical habitat alterations, point source pollution, non-point source contaminants, periodic contaminant spills, and cumulative pollutants; and relative inability to quickly move away from such affected areas. Each organism has a particular sensitivity to pollution. The resident biota of a stream responds to prolonged periods of disturbance with a high number of pollution-tolerant organisms while a relatively stress-free system will support more pollution sensitive organisms.

The County has already completed one state-funded Watershed Restoration Action Strategy (WRAS) in the Little Patuxent River watershed. Results from the Rocky Gorge, Dorsey Run, and Hammond Branch watersheds will be used to supplement the original document. The biomonitoring program allows the County to collaborate with the state and other counties in order to characterize and restore degraded habitats or protect high quality streams on a watershed-wide basis.

Purpose of Biological and Physical Habitat Assessment

Physical habitat quality is visually assessed at each site (Barbour 1999). Cross-sectional measurements and pebble counts are also completed to gain a better understanding of the composition of the stream bed and to characterize the channel shape. A full physical assessment reflects the potential of a stream to support a dynamic biological community and to maintain normal hydrogeomorphic function.

Howard County is currently undergoing major changes in its land use patterns. Hundreds of years of farming activity is quickly being replaced by suburban sprawl along the Baltimore-Washington DC corridor. This drastic change in land use/land cover creates changes in stream and watershed hydrology that cause acceleration of stream channel erosion. Encroachment on physical habitat through higher housing density, new roads and schools, and other urban-suburban developments cause increased runoff, sedimentation, destruction of riparian vegetation, and bank instability, leading to reduced overall habitat quality (Richards et al. 1996).

While habitat alteration may lessen the ability of a stream to support a healthy biota, many other factors also affect the biological quality of any stream or watershed (Figure 2). Degraded habitat quality, interruption of natural hydrologic regimes, alterations in food/energy sources and water quality, and unnatural biologic interactions cause the biological condition of a stream to worsen (Karr et al. 1986). Potential stressors that cause this type of degradation include but are not limited to nutrient enrichment, toxic spills, flood control engineering, temperature extremes due to depletion of riparian zones or effluent discharge, elevated levels of suspended sediment due to animal access, clearing of riparian areas, and construction runoff. Sources of these stressors exist throughout Howard County and the state. Headwaters of many streams are located outside of the County, but they eventually flow into County watersheds and bring many pollutants in with them. Although biological monitoring is a critical tool for detecting impairment, it alone cannot identify specific causal relationships between stressors and stressor sources (Cormeir et al. 2000). More specific chemical analysis is necessary to pinpoint the origin of stressors. This report examines the current biological and physical interactions that dictate the condition of the

Rocky Gorge, Dorsey Run, and Hammond Branch watersheds, and provides possible explanations for those conditions.

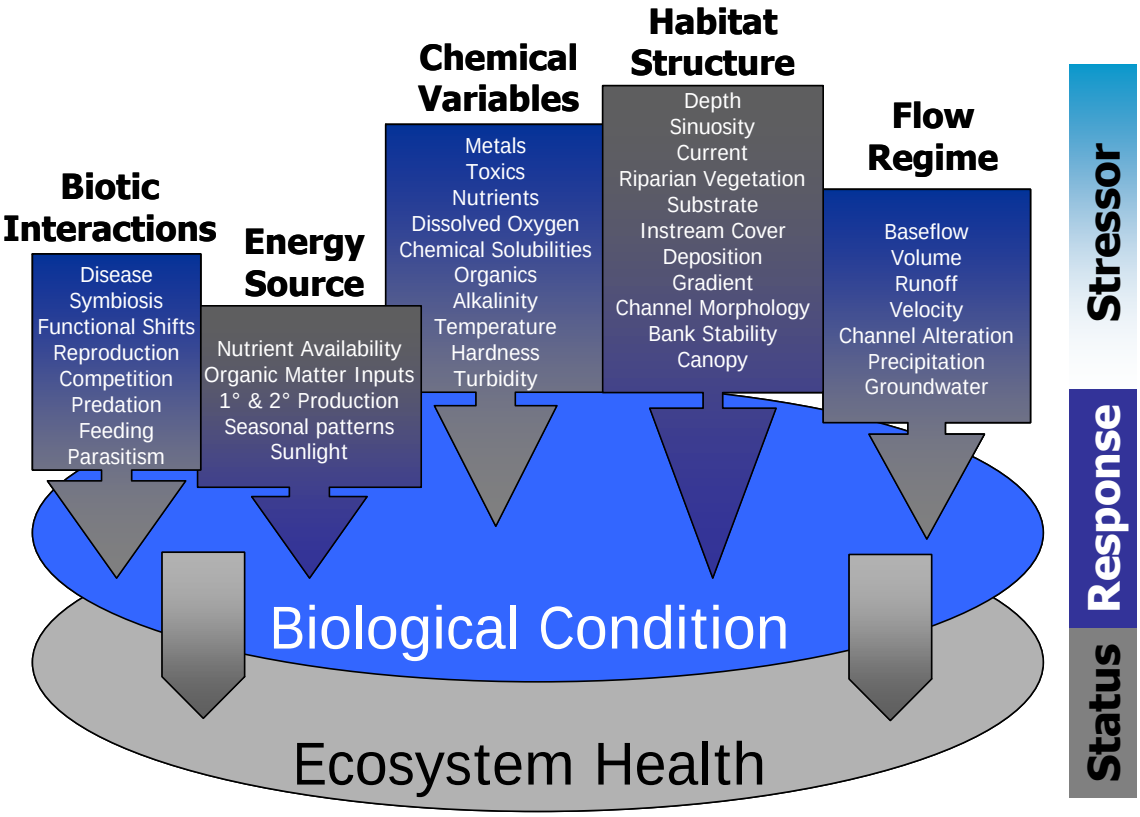

Figure 2. Five classes of environmental variables that affect water resource integrity and overall biological condition (modified from Karr et al. 1999).

Participating Agencies

Various County, State, and Regional personnel were and continue to be involved in the development of the County's ongoing biomonitoring program. Membership on the County's Technical Advisory Committee (TAC) includes Howard County Government (Stormwater Management Division (SWMD), the Department of Recreation and Parks (DRP), and the Department of Planning and Zoning (DPZ)), the State of Maryland Department of Natural Resources (DNR) Maryland Biological Stream Survey (MBSS), Montgomery County Department of Environmental Protection, and the Region 3 United States Environmental Protection Agency. Selected TAC members (Howard County SWMD, DRP, DPZ; MBSS) reviewed the first draft of this report, and provided comments that were integrated into the final report.

Methods

Network Design

Summary of Sampling Design

The measurement and data quality objectives (MQOs and DQOs) on which the Howard County biomonitoring program is based can be found in the *Quality Assurance Project Plan (QAPP) for*

Howard County Biological Monitoring and Assessment Program (DPW 2001). The overall sampling design was developed to be directly comparable to the MBSS, and allow the eventual sharing of data assessment among agencies. The program is designed so that in any given year, 10 sites per subwatershed are sampled. A total of 15 subwatersheds will be sampled during a span of three years. Specific details of the sampling design can be found in *Design of the Biological Monitoring and Assessment Program for Howard County Maryland* (Pavlik et al. 2000). Spatial allocation of the sampling segments was based on random selection within Strahler (1957) stream orders. The number of sampling segments within each of the first through fourth order channel distances (m) was proportional to total stream length. Thus, final selection and placement of sampling segments was random, and stratified by subwatershed and stream order.

To reduce issues of measurement error (= systematic error), duplicate (repeated) biological samples are taken at 10% of the overall number of sites. Since there are 10 sites in any given subwatershed, one additional quality control (QC) sample (biology, chemistry, and RBP habitat) is taken in each subwatershed. Duplicate sites are randomly chosen before the sampling event takes place.

Site Selection

In 2003, the remaining six subwatersheds not yet sampled in the County were completed. The full sampling schedule (2001-2003) is detailed in Table 1. During Year 1, the Little Patuxent watershed was sampled by MDNR's Watershed Restoration Division (WRD), as part of the statewide Watershed Restoration Action Strategy (WRAS) cooperative. The sites were randomly chosen by the County, therefore they are comparable with the remaining County samples. Figure 3 displays the watersheds and site locations sampled in 2003 that are covered in this report.

Table 1. Howard County sampling schedule by watershed. WRD indicates field sampling and laboratory processing of benthic samples performed by DNRs Watershed Restoration Division.

Year	Watershed Name or Surrogate	Subwatershed #	Primary Sampling Unit (PSU)
1 (2001)	Little Patuxent River	11	Upper Little Patuxent (10 sites, WRD)
		12	Mid Little Patuxent (10 sites, WRD
		13	Lower Little Patuxent (10 sites, WRD)
	Brighton Dam	2	Upper Brighton Dam (10 sites)
		5	Lower Brighton Dam (10 sites)
	Cattail Creek	3	Cattail Creek (10 sites)
2 (2001)	Middle Patuxent River	6	Upper Middle Patuxent (10 sites)
		7	Mid Middle Patuxent (10 sites)
		8	Lower Middle Patuxent (10 sites)
3 (2003)	Little Patuxent River	14	Hammond Branch (10 sites)
		15	Dorsey Run (10 sites)
		9	Rocky Gorge (10 sites)
	Boundary Tributaries	10	S Branch Patapsco R Tribs (10 sites)
		1	Patapsco River L Branch A (10 sites)
		4	Patapsco River L Branch B (10 sites)

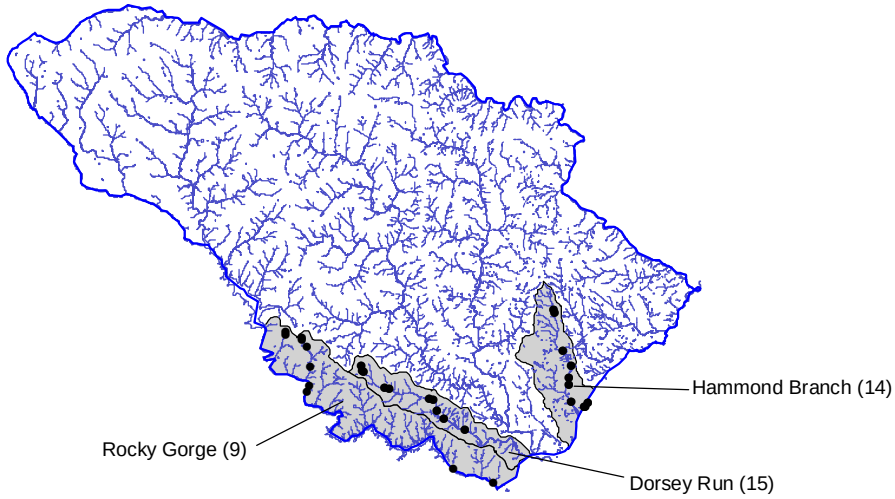

Figure 3. Location of sites sampled in the Rocky Gorge, Dorsey Run, and Hammond Branch subwatersheds in 2003.

Field Sampling and Laboratory Processing

Two two-person field teams completed sampling during the Spring 2003 Index Period. Benthic macroinvertebrates and physical habitat assessments are conducted in accordance with the Standard Operating Procedures (SOP FLD003/09.07.00; FLD005/02.27.01) contained within the Howard County QAPP (DPW 2001), as well as methods explained in the MBSS Sampling manual (Kazyak 2000). *In-situ* water chemistry sampling, modified Wolman pebble count, and channel cross sectional measurements are conducted according to SOPs BRF050/07.07.97, FLD032/01.25.99, and FLD043/07.19.99, respectively. Laboratory sorting and subsampling are completed in accordance with SOP BRF004/02.23.01.

Benthic Sampling and Processing

At each site, benthic macroinvertebrates are collected from a 75m reach by sampling approximately 20ft² of surface area with a D-frame net (595 µm mesh), in proportion to the frequency of high quality habitat types (riffle/cobble; gravel, broken peat, clay; snags; undercut bank; SAV; and detrital/sandy bottom areas) found within the reach. All sampled material is then composited into a 595µm sieve bucket, placed in one or more one liter sample containers and preserved in a solution of 70-80% ethanol. Internal and external labels are completed for each container. Samples are tracked on chain-of-custody forms for each subwatershed. In the Tetra Tech Biological Research Facility (BRF), the composited samples are randomly subsampled to 100 organisms (±10%) (DPW 2001, Boward and Friedman 2000). In accordance with MBSS methods, samples containing <60 organisms are not given index scores and therefore are not included in overall watershed assessments (Boward personal communication 2001).

Benthic Taxonomy

Benthic macroinvertebrates are usually identified to the genus level. Early instars or individuals that have damaged or missing diagnostic morphological features are identified at a higher taxonomic level, such as family. All identifications are performed by Aquatic Resources Center (ARC), College Grove, Tennessee (R.D. Kathman, principal). Taxonomic data are loaded into the Ecological Data Application System, Version 3.0 (EDAS; Tetra Tech 1999). Functional feeding group, habitat, and tolerance value designations are assigned to each taxon according to Barbour et al. (1999), Meritt and Cummins (1996), and USEPA (1990). Tolerance of a taxon is based on its ability to survive short and long term exposure to physicochemical stressors that result form chemical pollution, hydrologic alteration, or habitat degradation (Stribling et al. 1998). Following Hilsenhoff's basic framework (1982), tolerance values are assigned to individual taxa on a scale of 0-10, with zero identifying taxa that are the most sensitive (least tolerant) to stressors, and 10, the least sensitive (tolerant) to stressors.

Physical Habitat Rating (Methods for Calculation and Scoring)

Howard County uses the non-Coastal plain categories found in the Rapid Bioassessment Protocols (RBPs; Barbour et al. 1999) for measuring physical habitat characteristics at each site (DPW 2001). Ten parameters describing physical habitat quality and stability are visually assessed at each site. These parameters are ranked as optimal, suboptimal, marginal, or poor based on a 20-point scale, with 20 being the best possible (optimal) conditions, and zero representing the worst (poor) conditions. MBSS has not developed a degraded/non-degraded threshold for direct comparison to physical habitat characteristics. Furthermore, MBSS records qualitative physical habitat measurements during the Summer Index Period, while sampling fish. Currently, Howard County does not support summer fish sampling, therefore physical habitat characteristics are measured during the Spring Index Period. However, since the RBPs were not used to rate reference sites in Maryland or Howard County, the values are summed and compared to the maximum possible score (200) for overall percent comparability for each site. The following 10 parameters are evaluated:

1. *Epifaunal substrate/available cover.* Includes the relative quantity and variety of natural structures in the stream, such as cobble (riffles), large rocks, fallen trees, logs and branches, and undercut banks, available as refuge, feeding, or sites for spawning and nursery functions of aquatic macrofauna.
2. *Embeddedness.* Refers to the extent to which rocks (gravel, cobble, and boulders) and snags are covered or sunken into the silt, or mud of the stream bottom.
3. *Velocity/depth regime.* The occurrence of flow patterns relates to the stream's ability to provide and maintain a stable aquatic environment.
4. *Sediment deposition.* Measures the amount of sediment that has accumulated in pools and the changes that have occurred to the stream bottom as a result of deposition.
5. *Channel flow status.* The degree to which a stream is filled with water.
6. *Channel alteration.* Measures large-scale (usually anthropogenic) changes in the shape of the stream channel.
7. *Frequency of riffles/bends.* Measures the heterogeneity occurring in a stream. Riffles are a source of high-quality habitat and diverse fauna. Therefore, increased frequency of occurrence greatly enhances the diversity of the stream community.

8. *Bank stability.* Measures whether the stream banks are eroded (or have potential for erosion).
9. *Vegetative protection.* Measures the amount of vegetative protection afforded to the stream bank and the near-stream portion of the riparian zone.
10. *Riparian vegetative zone width.* Measures the width of natural vegetation from the edge of the stream bank out through the riparian zone.

Parameters 8-10 evaluate each bank separately. The range of scores for each bank is 0 (poor) to 10 (optimal). Left and right banks are determined looking downstream. Example habitat forms can be found in the QAPP (SOP FLD005/02.27.01). Table 2 provides narrative ratings that correspond to physical habitat quality scores. These scores express the potential of a stream or watershed to support a healthy biological community. Percentages and their narrative ratings were adapted from Plafkin et al. (1989).

Table 2. Total habitat scores as a percentage of maximum possible and corresponding ratings.

% of Maximum	Narrative Habitat Rating	Definition
>90.0	Comparable	Capable of maintaining biological conditions similar to reference streams
75.1-89.9	Supporting	Habitat of somewhat reduced condition, but often can support reference quality biology
60.1-75.0	Partially Supporting	Capable of supporting biological conditions of lower quality than reference conditions
<60.0	Non-Supporting	Not able to maintain healthy biological conditions

Habitat forms developed by MBSS are also completed at each site. These sheets evaluate land use/land cover designations, occurrence/severity of refuse, buffer breaks (storm drains, roads, pastures, etc.,), and channelization. Information from these forms is described in the narrative watershed and site-by-site assessment sections of this report.

Water Quality

Conductivity, dissolved oxygen, pH, and temperature are measured at each site using a YSI 600 QS Multi-Parameter Water Quality Monitor. This instrument is calibrated for each parameter at the start of each sampling day, and the readings are recorded in the calibration log book.

Modified Wolman Pebble Count

In addition to the qualitative habitat assessment, this physical habitat feature is measured for all stream sites. While not a part of the MBSS protocols, the County performs pebble counts to obtain more specific data on stream substrates. Ten transects are evenly distributed (approximately every 7.5m) through the site. Ten particles are selected starting at one bank at approximate bankfull level and spanning the width of the active channel. Each particle is defined as a size of geologic substrate material within various classes: silt/clay, sand, gravel, cobble, boulder, and bedrock. Each particle is chosen, measured, and recorded at evenly spaced intervals across the channel. To reduce sampler bias, each particle is chosen without the sampler looking in the stream at what is being collected (DPW 2001, SOP FLD032/01.25.99; Harrelson et al. 1994). Calipers and a sand card are used for particle measurement.

Channel Cross-Section

Although not measured by MBSS, the County includes this characterization to provide a coarse characterization of channel cross-sectional area, shape, and changes to channel volume over time. After a thorough visual assessment of the site characteristics, a representative section is selected for the cross-section transect. A tape measure is drawn between pins that are set on each bank. The pins keep the tape taut during measurement, ensuring accurate width values. Height measurements are taken using a laser-level and top-setting survey rod (DPW 2001, SOP FLD043/07.19.99). The measurements are taken across the entire width of the channel, at transitional areas along the bank and streambed (e.g., bankfull, thalweg, edge of water, etc.).

Inability to Sample Stream Sites

In the event that access to a stream is denied by a landowner, or prohibited by any other means (fenced, inside small culvert, dammed, etc.), 10 alternate sampling sites are randomly chosen in each watershed. Only one alternate was used for the Rocky Gorge, Dorsey Run, and Hammond Branch watersheds during the 2003 Spring Index Period. The original site was located in the Hammond Branch watershed and was directly downstream of I-95, near route 216. There is no safe parking area in that vicinity, therefore the first alternate of the same stream order was sampled in place of the primary site.

Data Analysis

Data Structure

Benthic macroinvertebrate, physical habitat, and water quality data are entered into EDAS Version 3.0 (Tetra Tech, 1999). This relational database allows for the management of location and other metadata, taxonomic and count data, raw physical habitat scores, the calculation of metric values, physical habitat, and B-IBI values. All three years of sampling data and results are stored in EDAS.

Biological Index Rating (Methods for Calculation and Scoring)

The biological indicator used in this project is based on the Index of Biological Integrity (IBI; Karr et al. 1986) and uses characteristics of the benthic macroinvertebrate assemblage structure and function to assess the overall water resource condition. A benthic IBI was developed by the MBSS and calibrated for different geographic regions (Coastal Plain, Non-Coastal Plain) in Maryland (Stribling et al. 1998). The majority of Howard County lies in the non-Coastal plain, however, 10 sites (two in Rocky Gorge and eight in Dorsey Run) lie in the fall-zone between strictly Coastal plain and non-Coastal plain areas.

Watershed Assessments

In this report, a narrative explanation of the biological condition and physical habitat quality scores are given for each site. Important features recorded during sampling or found during subsampling are used to further illustrate potential reasons for site rating. Tolerance values (t.v.) are used in the site descriptions to add information about the organisms collected, and how their tolerance to pollution affects the overall metric score. The mean and standard deviation for benthic macroinvertebrate metrics and physical habitat scores are calculated in MS Excel for each watershed. The "percent of maximum" habitat values presented in the appendix are calculated by dividing the total habitat score by the total possible score represented on the habitat data sheets (method maximum), rather than a mean of field measurements or median from a set of reference sites. RBP habitat data sheets have a total possible score of 200.

Quality Assurance/Quality Control

Quality Assurance/Quality Control (QA/QC) activities are designed to ensure data quality and to document data characteristics. To this end, Howard County has:

- documented standard operating procedures (SOPs) for field sampling, laboratory processing, and completing chain-of-custody forms

The SOPs and procedures for these QC activities are documented in the Howard County Biological Monitoring and Assessment Program plan (DPW 2001). All SOPs are cited in the methods section of this report. Chain-of-custody and sample log sheets are maintained to track the inventory and processing status of all samples. Sample documentation forms are kept in three-ring binders in Tetra Tech's Biological Research Facility (BRF).

- held annual orientation sessions for field sampling

The County field orientation is held as a "refresher" for experienced samplers and as an introduction for new samplers. All two-person field teams are divided into Team Leader and Crew Member. Team Leaders are required to have completed at least one field season as a Crew Member. Crew Members have completed either the introductory or "refresher" field orientation. The orientation for this index period was held on February 25 and 28, 2003. This orientation covered field note requirements and procedural guidelines. The Team Leader from each field crew also attended the MBSS training session conducted by DNR staff, which was held on March 3, 2003, at Morgan Run Natural Environmental Area (Carroll County). The MBSS training session included both general direction and hands-on field training.

- conducted field audits

Each County field crew is visited on-site by an experienced field ecologist who is not involved in the fieldwork for the project. MBSS staff also conducts independent audits of the Howard County field teams. Field team procedures are observed for adherence to SOPs and consistency in completion of all data collection requirements including, field data sheets, sample preservation, and photo documentation. Results of field audits can be found in Appendix D.

- repeated continual training and QC checks for sample sorting and subsampling

All sorting and subsampling of samples is performed by a single individual in the Tetra Tech BRF. Early sorting is checked by the biological QC officer to ensure that there are no missed specimens in removed grid debris. Once a 90% sorting efficiency is attained, random checks are performed on approximately one out of 10 samples.

- made consistent use of up-to-date technical taxonomic literature

The target level of taxonomic identification for benthic macroinvertebrates for this project is genus. State-of-the-science technical literature is used throughout and includes the references listed in Table 3.

Table 3. Taxonomic references used for organism identification.

Burch, J. B. 1989. *North American Freshwater Snails*. Malacological Publ., Hamburg, Michigan. 365p.
Burch, J. B. 1982. *Freshwater Snails (Mollusca: Gastropoda) of North America*. EPA-600/3-82-026, USEPA, Cincinnati, Ohio. 294 p.
Edmunds, G. F., Jr., Jensen, S. K. and Berner, L. 1976. *The Mayflies of North and Central America*. Univ. Minn. Press, Minneapolis. 330 p.
Epler, J. H. 1995. *Identification Manual for the Larval Chironomidae (Diptera) of Florida*. rev. ed. Dept. Environ. Prot., Tallahassee, FL. 9 sections.
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Merritt, R. W. and Cummins, K. W. 1996. *An Introduction to the Aquatic Insects of North America. 3rd, Edition.* Kendall/Hunt Publ. Co., Dubuque, Iowa. 862p.
Needham, J. G. and Westfall, M. J., Jr. 1954. *A Manual of the Dragonflies of North America (Anisoptera)*. Univ. Calif. Press, Berkeley. 615 p.
Oliver, D. R. and Dillon M. E. 1990. *A Catalog of Nearctic Chironomidae*. Research Branch, Agriculture Canada. Publ. 1857/B:1-89.
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Wiederholm, T. (ed.) 1986. Chironomidae of the Holarctic region. Keys and diagnoses. Part 2. Pupae. *Entomol. Scand. Suppl*. 28. 482 p.
Wiggins, G.B. 1996. *Larvae of North American Caddisfly Genera (Trichoptera), 2nd Ed.* University of Toronto Press, Toronto. 457 p.

- verified taxonomy for questionable invertebrate specimens by senior taxonomists or independent specialists

There are two principal sources of error that can cause uncertainty in some taxonomic identifications. One is that the specimens in question are of very early instars (juvenile) and lack morphological structures necessary for positive identification. Another is that any specimen can

have damaged or missing morphological features (gills, antennae, legs, caudal filaments) rendering final, positive identification problematic. In addition, for midges or worms, inadequate mounting medium can make genus level identification nearly impossible. Depending on the condition of an organism, the taxonomist will either request a second opinion from an expert in that particular field (e.g., worms, midges, beetles, etc.) or will identify it to the next highest positive classification (i.e., family instead of genus).

- created, maintained, and used reference collection and voucher samples

During the first sampling year, Howard County created a taxonomic reference collection for benthic macroinvertebrates collected in the county. One or more specimens removed from samples are kept as representative of the taxonomist's concept of that taxon. Organisms of reference quality collected during the spring 2002 and 2003 index periods are added to the reference collection. As sampling continues, the reference collection will be updated with any new example specimens. Specimens in the reference collection were identified by Aquatic Resources Center (ARC), College Grove, TN (R. Deedee Kathman, Ph.D.). Voucher samples (stored in ~ 75% ethanol) are kept from all sampling in Howard County for at least three years in the Tetra Tech BRF.

- standardized data entry and management system

All biological, physical habitat, chemical, and ancillary data are entered directly from field data sheets or Excel spreadsheets into EDAS. The data and analytical results from future index periods will be managed in this system.

- conducted independent QC checks of all data entry

One hundred percent of the data set, once entered, is checked by hand against the original, hand-written field sheets. If discrepancies are encountered, they are corrected in EDAS.

- collected duplicate samples for estimating precision using Relative Percent Difference (RPD)

Duplicate biological and physical habitat samples are taken at three sites (10% of the total sampled), one per subwatershed. Comparisons of the differences between the results from these sites provide estimates of the precision of the biological assessments and the consistency of sampling activity. Relative percent difference (RPD) provides an estimate of the difference between sample pairs. Table 4 illustrates RPD for biological metrics and Table 5 presents RPD for physical habitat scores.

Table 4. Relative Percent Difference (RPD) calculations of biological scores for sites in the Rocky Gorge, Dorsey Run, and Hammond Branch watersheds.

Station #	186	186QC	274	274QC	285	285QC
Stream Name	UT to Patuxent	UT to Patuxent	Dorsey Run	Dorsey Run	Hammond Branch	Hammond Branch
Location	13942 Rt. 108	13942 Rt. 108	Maple Park	Maple Park	approx. 100 m behind house on Hammond Dr.	approx. 100 m behind house on Hammond Dr.
Metric Score	4.11	3.89	1.44	2.11	2.56	3.22
Narrative Rating	Good	Fair	Very Poor	Poor	Poor	Fair
Total Organisms	97	114	106	116	104	119
RPD	5.56		37.50		23.08	

The measurement performance criteria outlined in the QAPP (DPW 2001) calls for RPD agreement of the overall bioassessment scores to be ≤ 5%. Since the metric scores are based on a 1, 3, 5 scale, and not a continuous scale (e.g., 0-100), a change in only one metric category (i.e., one "point") is enough to alter the overall score above the acceptable limit. Site 186 had one different metric score than its QC site (% Ephemeroptera). Site 274 had three metrics that were different from its QC site (Total Taxa, Ephemeroptera Taxa, and % Ephemeroptera). Site 285 had four metrics that were different from its QC site (Total Taxa, EPT Taxa, Ephemeroptera Taxa, and % Collector). However, none of the metrics changed more than one level (i.e., from a score of 1 to 5). The most likely reason that the QC sites score slightly different than the probability sites is that the QC sites are assigned to the probability sites before they are visited. Therefore, the QC site might not be a good representation of the probability site; tributaries could be entering the stream, bridges or roads could be built across the stream, drains could be entering the stream that would have different effects on the biota at the QC site that the probability site may not have to deal with. There is also natural variability in the habitats available for sampling, and the biological composition of those habitats. For example, cobble made up 85% of the sampling effort at site 285 and its QC site. However, the probability site only needed four grids of the Caton tray to be sorted until 100 organisms were found; while the QC site needed 11 grids sorted to reach the 100 organism target. This occurrence, while unusual, is not cause to completely discount the data. The data from these site pairs are examined more closely to understand reasons for the difference. Results such as these will be considered during the planning stage of Round 2 of the County Biomonitoring Program, and possibly new criteria will be set that more accurately characterize the natural variability of the biological composition of Howard County streams.

Table 5. Relative Percent Difference (RPD) calculations of physical habitat scores for sites in the Rocky Gorge, Dorsey Run, and Hammond Branch watersheds.

Station #	186	186QC	274	274QC	285	285QC
Stream Name	UT to Patuxent	UT to Patuxent	Dorsey Run	Dorsey Run	Hammond Branch	Hammond Branch
Location	13942 Rt. 108	13942 Rt. 108	Maple Park	Maple Park	approx. 100 m behind house on Hammond Dr.	approx. 100 m behind house on Hammond Dr.
Total Score	145	146	99	95	118	109
% Compared to Maximum	72.5	73	49.5	47.5	59	54.5
Narrative Rating	Partially Supporting	Partially Supporting	Non Supporting	Non Supporting	Non Supporting	Non Supporting
RPD (%)	0.69		4.12		7.93	

The measurement performance criteria outlined in the QAPP (DPW 2001) calls for RPD agreement of the overall physical habitat scores to the ≤ 20%. The QC sites in each subwatershed meet this criterion.

- Compared sample variation with design assumptions

The standard deviations from the Rocky Gorge, Dorsey Run, and Hammond Branch subwatersheds were compared to the standard deviations associated with MBSS samples (reference and test) collected in general non-Coastal plain proximity and in Howard County. In the program sampling design (Pavlik et al. 2001), the MBSS values were used to assign a target number (number of sites to sample) per subwatershed to meet specified data quality objectives (DQOs).

- Reference = 0.69
- MBSS Test = 0.83
- Rocky Gorge, Dorsey Run, Hammond Branch = 0.81

Since the SD from this dataset is 0.81, below the MBSS threshold for probability sites, the County's DQO is met.

II. SUBWATERSHED SITE ASSESSMENTS

Metric Selection

Ten of the 20 probability sites sampled in Rocky Gorge and Dorsey Run are located in the transitional zone between Non-Coastal Plain (NCP) and Coastal Plain (CP) ecoregions (all of Hammond Branch is located in the Non-Coastal Plain). A correlation analysis was performed on the final biological index scores of the 10 transitional zone sites. A comparison of the final index scores revealed that there was not a significant difference in rating, r = 0.84. Figure 4 graphically shows the relationship. Since no significant difference was found, all of the sites from Rocky Gorge, Dorsey Run, and Hammond Branch were scored using the NCP metrics. These will be able to be compared to past and future assessments across the County.

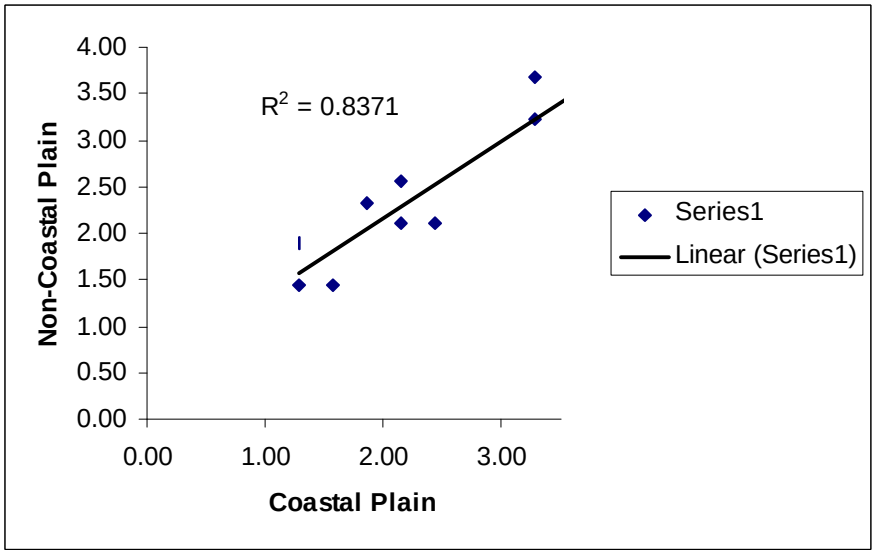

Figure 4. Correlation of NCP and CP final index scores for 10 sites in the transitional zone of Howard County.

Subwatershed Results

General Overview

Each of these subwatersheds drain into the Patuxent River. Dorsey Run and Hammond Branch first drain into the Little Patuxent, which meets the Patuxent just south in Prince George's County. Table 6 provides an overview of mean scores and narrative characterization for each subwatershed.

Table 6. Means of the biological and physical habitat scores for each subwatershed, with their corresponding narrative ratings. Confidence limits are represented by a single standard deviation.

	Narrative Rating	Index Mean Score
Rocky Gorge		
Physical Habitat Quality	"Non-Supporting"	$\bar{x}$ = 114.3 ± 19.35 (n = 10)
Biological Condition (B-IBI)	"Fair"	$\bar{x}$ = 3.29 ± 0.80 (n = 10)
Dorsey Run		
Physical Habitat Quality	"Non-Supporting"	$\bar{x}$ = 100.3 ± 24.9 (n = 10)
Biological Condition (B-IBI)	"Poor"	$\bar{x}$ = 2.51 ± 0.74 (n = 10)
Hammond Branch		
Physical Habitat Quality	"Non-Supporting"	$\bar{x}$ = 115.10 ± 16.20 (n = 10)
Biological Condition (B-IBI)	"Poor"	$\bar{x}$ = 2.84 ± 0.69 (n = 10)

Land use percentages were calculated for each subwatershed sampled this year (Figure 5). Rocky Gorge and Hammond Branch, both in the southwestern part of the County, are dominated by pasture and deciduous forest. Dorsey Run (in the southeastern section of the County) however, has more commercial land use. This could be due to I-95 and it's various interchanges running through that section of the County.

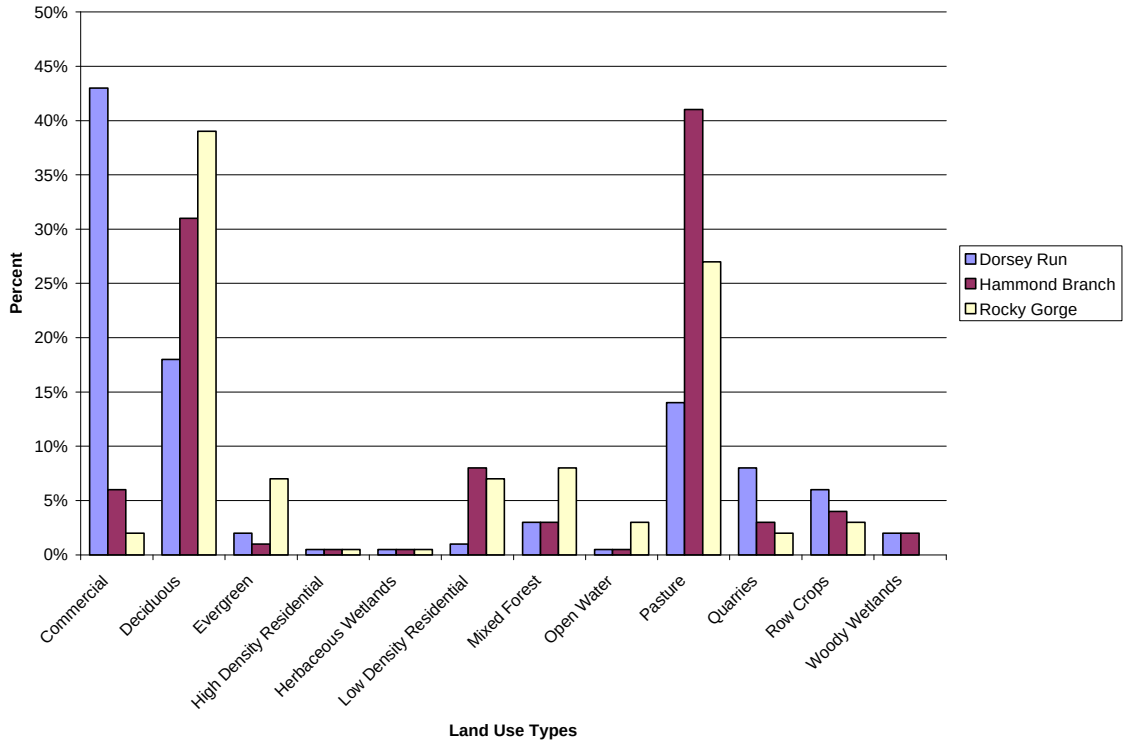

Figure 5. Percent land use type in the Dorsey Run, Hammond Branch, and Rocky Gorge subwatersheds.

Biological integrity was compared to physical habitat condition for the subwatersheds sampled in the 2003 sampling period (Figure 6). The lack of positive correlation between biology and habitat could be attributed to effects of excess nutrients (Rocky Gorge) or chemical runoff (Dorsey Run and Hammond Branch) that were not measured in this study. Figure 7 shows overall biological condition for the Dorsey Run, Hammond Branch, and Rocky Gorge subwatersheds.

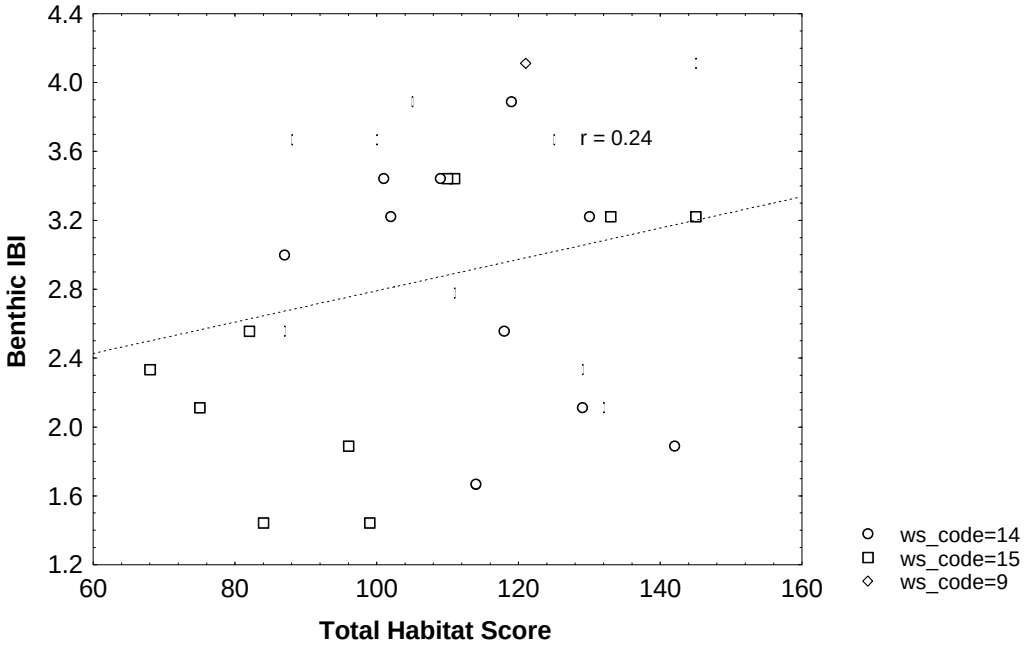

Figure 6. Scatterplot of the biological and physical habitat scores among the Dorsey Run, Hammond Branch, and Rocky Gorge subwatersheds.

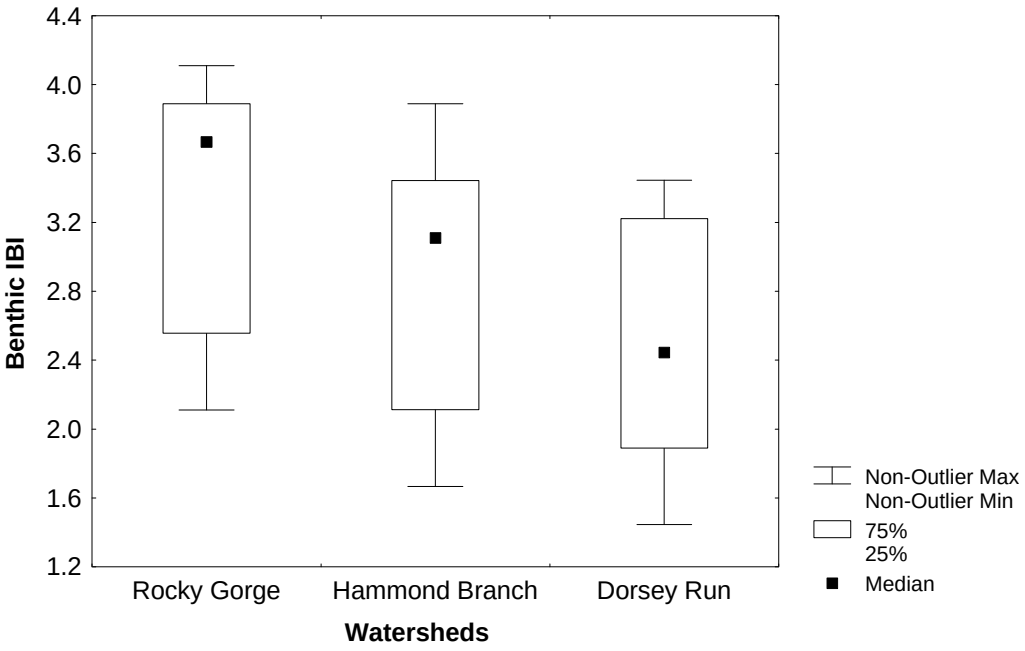

Figure 7. Biological scores in the Rocky Gorge, Hammond Branch, and Dorsey Run subwatersheds.

Rocky Gorge

Data Overview

This subwatershed is along the southwestern border of Howard County. The Rocky Gorge Reservoir is in the subwatershed, formed on the mainstem Patuxent River. Major thoroughfares that run across the Rocky Gorge subwatershed include I-95, US 1, US 29, MD 216, and MD108. Sharing a border with Montgomery County, this is one of the more populated subwatersheds sampled.

The mean biological condition for this subwatershed is "fair" ($\bar{x}$ = 3.29 ± 0.80, n = 10). Two sites rated "good", four sites rated "fair", and four sites rated in "poor" biological condition (Table 7, Figure 8). The mean physical habitat rating for this subwatershed is "non-supporting" (57% of maximum; Table 7). Of the ten sites sampled, 50% were "partially supporting" and the other 50% were rated as "non-supporting". Correlation between physical habitat quality and biological condition had a very low r-value (r = 0.12; Pearson product moment), suggesting that stressors other than habitat are having a substantial effect on overall biological condition in this subwatershed.

Table 7. Summary of biological and habitat scores for each sampled site in the Rocky Gorge subwatershed.

Site	Benthic IBI Score	Biological Rating	Habitat Score	Habitat Rating	Stream Order
181	2.33	Poor	129	Partially Supporting	1
182	3.67	Fair	125	Partially Supporting	1
183	2.56	Poor	87	Non Supporting	1
184	2.78	Poor	111	Non Supporting	1
185	4.11	Good	121	Partially Supporting	1
186	4.11	Good	145	Partially Supporting	1
187	3.89	Fair	105	Non Supporting	4
188	2.11	Poor	132	Partially Supporting	4
189	3.67	Fair	88	Non Supporting	4
190	3.67	Fair	100	Non Supporting	4

Site Specific Results

Site 181 – This site is on an Unnamed Tributary (UT) to the Patuxent River. It is upstream (US) of 13491 Villadest Drive. It received a "poor" biological condition rating (B-IBI = 2.33). Only four pollution sensitive EPT (Ephemeroptera, Plecoptera, Trichoptera) taxa were sampled. Tanytarsini, a relatively pollution sensitive midge-fly, was also not found in the sample. However, the most common taxa was a pollution sensitive midge, *Sympotthastia* (Diptera: Chironomidae, tv = 2). Physical habitat condition rated "partially supporting" (65% of maximum). The lowest scores were for bank stability and vegetative protection. The Sediment Deposition category received a sub-optimal rating, which was confirmed by pebble count data that revealed 61% of the bottom substrate was composed of silt/clay and sand-sized particles.

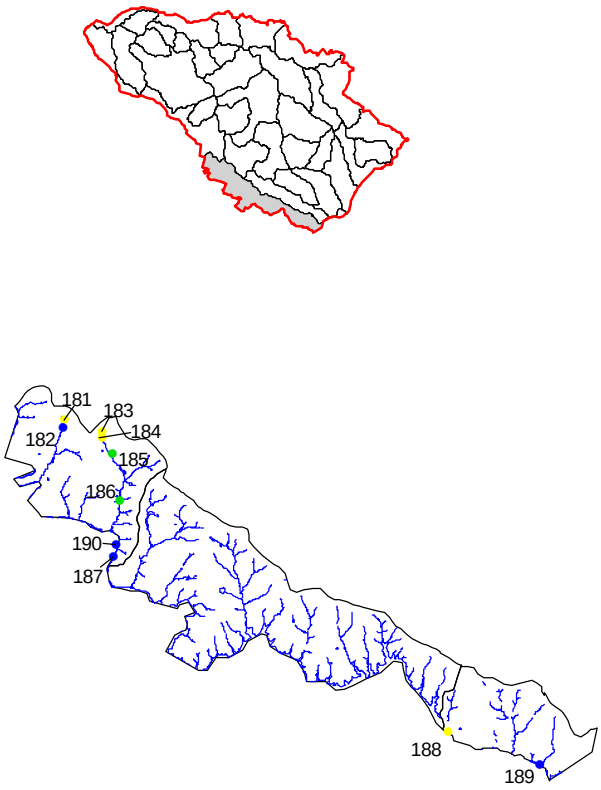

Figure 8. Color-coded biological ratings for the Rocky Gorge subwatershed. Gree = good, blue = fair, yellow = poor, red = very poor. 181-190 indicate site numbers.

Site 182 – This site is on a first order UT to the Patuxent River. Located directly behind 13491 Villadest Drive, it received a "fair" biological condition rating (B-IBI = 3.67). Thirty-eight total taxa were subsampled, 24 of which were dipterans. Over 50% of the sample was comprised of Collector taxa, which is typically a sign of low habitat disturbance levels. The most common taxa was *Sympotthastia* (tv = 2). Physical habitat condition rated "partially supporting" (63% of maximum). Again, the major problems at the site were bank stability and vegetative protection. The streambed consisted of close to half sand, half gravel-sized particles.

Site 183 – Located behind 6685 Mink Hollow Road, this first order UT to the Patuxent was rated in "poor" biological condition (B-IBI = 2.56). Only 19 total taxa were found, and 20% of them were pollution-tolerant taxa. Only one EPT taxa was found, *Limnephilus* (Trichoptera: Limnephilidae; tv = 2). The most common taxa was *Rheocricotopus* (Diptera: Chironomidae; tv = 6), which made up 65% of the sample. A very narrow riparian zone led to this site receiving a "non-supporting" (44% of maximum – the lowest score in this subwatershed) physical habitat rating. The stream flows in between fenced cow pastures. However, the cows have access to the water. In addition, both the Embeddedness and Epifaunal Substrate/Available Cover parameters were scored in the Poor category. Silt/clay covered 87% of the streambed. Accumulation of fine sediments make it difficult for organisms to find good places for cover, or to feed, due to the sediment filling up spaces in between gravel and cobble (sizes generally found in riffles), or completely covering riffle habitat altogether.

Site 184 – This first order UT to the Patuxent is located behind the 6606 block of Mink Hollow Drive. It received a "poor" biological condition rating (B-IBI = 2.78). Although 33 taxa were sampled, over 50% of them were pollution-tolerant organisms. There were no Ephemeroptera found in the sample. The most common organism was *Stegopterna* (Diptera: Simuliidae, tv = 7). Physical habitat condition rated "non-supporting" (56% of maximum). The majority of the parameters were scored in the low to mid Suboptimal category. It was also noted that the riparian zone was narrow, with horse pastures, maintained lawns, and fences on either side of the stream.

Site 185 – Behind 7005 Deer Valley Road, this first order UT to the Patuxent received a "good" biological condition rating (B-IBI = 4.11). The highest number of taxa in the subwatershed, 40, were found in this sample. There were also 5 Ephemeroptera (mayfly) taxa, and 13% of the sample were Tanytarsini, a relatively pollution-sensitive midge fly. *Stegopterna* was the most common organism in the sample. Poor vegetative protection and bank stability lead to this site receiving only a "partially supporting" (61% of maximum) physical habitat rating. Pebble count data show that 63% of the stream bed was composed of silt/clay and sand-sized particles, which was reflected in a Marginal score for the Embeddedness parameter.

Site 186 – Located off of the 13000 block of MD Rte. 108, this UT to the Patuxent was rated in "good" biological condition (B-IBI = 4.11). It had 31 total taxa, 39% of which were Collectors. It also had the highest percentage of Ephemeroptera (mayfly) taxa (32%) of any site in this subwatershed. *Ephemerella* (Ephemeroptera: Ephemerellidae, tv = 2), and *Prosimulium* (Diptera: Simuliidae, tv = 7) were the most common taxa. Physical habitat rated as "partially supporting" (73% of maximum) at this site. This habitat score was also the highest in this subwatershed, just 2% below the cut-off for a "supporting" rating. A wide riparian zone; stable, well vegetated banks; little channel alteration; and good flow levels all exist at this site, and were responsible in part for its relatively high physical habitat rank.

Site 187 – This site on the mainstem Patuxent River off of Tucker Lane received a "fair" biological condition rating (B-IBI = 3.89). Thirty-five taxa were found, including 20 dipterans. A high diversity of Diptera generally suggests good water quality. Collectors were in 58% of the sample. Although this site had a fairly high biological rating, its physical habitat received a "non-supporting" rating (53% of maximum). Marginal vegetative bank protection and a low occurrence of riffles in the stream segment are the most likely causes for the degraded habitat rating.

Site 188 – Another site on the mainstem Patuxent, this site is behind River Hill Drive. Biological condition rated as "poor" (B-IBI = 2.11). Only 16 total taxa were found, the lowest total in this subwatershed. No Ephemeroptera were found, and the only two EPT taxa found were *Hydropsyche* (tv = 6) and *Cheumatopsyche* (tv = 5), both relatively tolerant Trichoptera (caddisflies). This site did have the lowest occurrence of pollution tolerant taxa, however, that could be a product of having very few taxa overall. Only 6% of the sample were collectors, also the lowest percentage in this subwatershed. Physical habitat rated "partially supporting" (66% of maximum). In this case, the physical habitat is reflective of the current biological condition (poor). Marginal bank stability, vegetative protection, and a relatively narrow riparian zone along the right bank were the greatest problems at this site.

Site 189 – This mainstem Patuxent site is at the end of B Street and received a "fair" (B-IBI = 3.67) biological condition rating. Eleven Ephemeroptera taxa were found, and 54% of the sample contained collectors. The most abundant organism was *Crangonyx* (Amphipoda: Crangonyctidae, tv = 4), a scud. Poor bank stability and vegetative protection again led to a physical habitat rating of "non-supporting" (44% of maximum). This site also had a narrow riparian zone and Marginal sediment deposition scores, supported by the pebble count data that show the streambed is composed of 69% sand-sized particles.

Site 190 – Also on the mainsteam Patuxent behind Tucker Lane, this site received a "fair" biological condition rating (B-IBI = 3.67). Thirty-two total taxa were found, 17 of which were dipterans. Also, 71% of this sample contained taxa that feed by passive collection of detritus. The most common organism was *Orthocladius* (Diptera: Chironomidae, tv = 6). Physical habitat rated "non-supporting" (50% of maximum). The location of this site, low in the watershed and on the mainstem of the Patuxent, allowed sampling to occur only along the banks. In many cases, 4^{th} order streams are able to be sampled just as 1^{st}-3^{rd} order streams. However, the unusually wet fall and winter led to deeper waters than expected. Therefore some habitat features (i.e., frequency of riffles, velocity/depth regime) were difficult to score, because there was too much water in the channel to see clearly.

Dorsey Run

Data Overview

This subwatershed is located in the southeastern portion of Howard County. Major highways crossing this area include: I-95, US Rte. 1, and MD 175 (see Figure 1). The Dorsey Run subwatershed is south of the quickly growing and heavily populated Little Patuxent watershed, which includes Columbia and Ellicott City. Its position between two major metropolitan areas (Baltimore, MD and Washington, DC), plus easy access to I-95, create potential development issues in this subwatershed.

The mean biological condition in this subwatershed is "poor" ($\bar{x}$ = 2.51 ± 0.74, n = 10). Four sites were rated as "fair," three as "poor," and the last three as "very poor" (Table 8, Figure 9). Mean physical habitat is "non-supporting" ($\bar{x}$ = 110.3 ± 24.90, n = 10) of a healthy biological community. Only two sites were rated as "partially supporting," while the remaining eight sites were "non-supporting" (Table 8). Pearson product-moment showed that biological condition is somewhat correlated with physical habitat condition (r = 0.63).

Table 8. Summary of biological and habitat scores for each sampled site in the Dorsey Run subwatershed.

Site	Benthic IBI Score	Biological Rating	Habitat Score	Habitat Rating	Stream Order
261	2.56	Poor	82	Non Supporting	1
262	2.11	Poor	75	Non Supporting	1
263	3.44	Fair	111	Non Supporting	1
264	3.44	Fair	110	Non Supporting	1
265	3.22	Fair	133	Partially Supporting	2
266	3.22	Fair	145	Partially Supporting	1
267	1.44	Very Poor	84	Non Supporting	2
269	1.89	Very Poor	96	Non Supporting	2
271	2.33	Poor	68	Non Supporting	1
274	1.44	Very Poor	99	Non Supporting	1

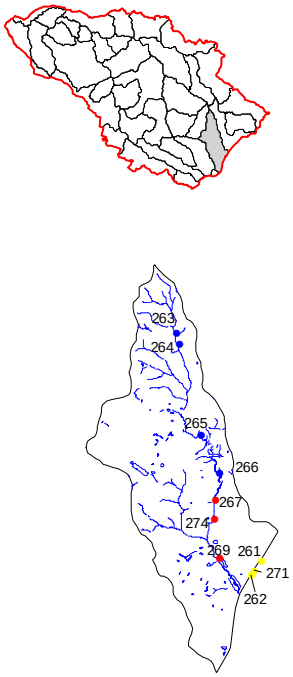

Figure 9. Color-coded biological condition ratings for the Dorsey Run subwatershed. Green = good, blue = fair, yellow = poor, red = very poor. 261 –274 indicate site numbers.

Site Specific Results

Site 261 – This first order UT to Dorsey Run is off Old Jessup Road. Biological condition rated as "poor" (B-IBI = 2.56). Only two EPT taxa were found, both Plecoptera (stoneflies). Pollution-tolerant taxa made up 81% of the sample. The most common organism was *Hydrobaenus* (Diptera: Chironomidae, tv = 8), a tolerant midge-fly. Physical habitat condition rated as "non-supporting" (41% of maximum). This section of stream runs between a parking lot and railroad. The riparian zone is extremely narrow, and the banks have very little vegetation. At least half of the stream is shored with concrete, and runs through a culvert under a bridge (US) and under Rte. 175 (DS).

Site 262 – This UT to the Patapsco river is a first order stream located 0.3 miles DS of Old Jessup Road. Biological condition rated "poor" (B-IBI = 2.11). Only 22 total taxa were found, none of which were EPT. However, 77% of the sample were tolerant taxa, and only 25% of the sample were collectors. The most common organism was the pollution-tolerant *Hydrobaenus*. In addition to a narrow riparian zone, poor bank stability and vegetative protection, the channel was altered with the insertion of a concrete culvert at the midpoint of the reach creating a substantially straighter than natural stream. These factors led to a "non-supporting" (38% of maximum) physical habitat rating.

Site 263 – This site on a first order section of Dorsey run received a "fair" (B-IBI = 3.44) biological condition rating. The sample was taken just north of the intersection of Tamar Drive and Old Montgomery Road. A subwatershed high 48 total taxa were found, 27 of them were Diptera. Collectors were found in 51% of the sample. However, the most common organism was *Parametriocnemus* (Diptera: Chironomidae, tv = 5). Physical habitat received a "non-supporting" rating (56% of maximum). A narrow riparian zone on the left bank, and substantial channel alteration were factors resulting in low scores for those two parameters.

Site 264 – This first order section of Dorsey Run is located behind 8113 Sea Light Lane. Biological condition rated as "fair" (B-IBI = 3.44). Thirty-four total taxa were found, 17 dipterans. This sample had the lowest percentage of pollution-tolerant individuals (13%) in this subwatershed. Collectors comprised 34% of the sample. The most abundant organism was *Orthocladius* (tv = 6). An open field on the right bank lowered the riparian zone score. Marginal scores for embeddedness and sediment deposition led to this site's "non-supporting" (55% of maximum) physical habitat rating. Pebble count data confirmed that the stream bed was 62% silt/clay and sand-sized particles. This has an adverse effect on the biota by taking up interstitial space that could be used for feeding and/or hiding from predators.

Site 265 – This site is located on one of the second order sections of Dorsey Run running under the ramp connecting MD-175 to I-95. It received a "fair" (B-IBI = 3.22) biological condition rating. Thirty-five total taxa were found, 18 dipterans. A subwatershed high (9%) of the sample were Tanytarsini, a relatively sensitive midge-fly. Collectors were in 40% of the sample. The most common organism was *Chimarra* (Trichoptera: Philopotamidae, tv = 4). Physical habitat was "partially supporting" (67% of maximum) of a healthy biological community. The lowest scores were in the bank vegetation and stability parameters. According to pebble counts, only 30% of the channel were fines (silt/clay and sand-sized particles).

Site 266 – This site is on Dorsey Run as it runs behind the Fairfield Inn near MD Route 1. Forty taxa were found, 17 dipterans. Half of the sample were collectors. The most common organisms were *Cheumatopsyche* (Trichoptera: Hydropsychidae, tv = 7) and *Pseudorthocladius* (Diptera: Chironomidae, tv = 10). This site was rated in "fair" biological condition (B-IBI = 3.22). Although this site had a narrow riparian zone along the left bank, physical habitat was rated as "partially supporting" (73% of maximum), the highest percentage in this subwatershed. High scores were received in the channel alteration and flow parameters. The stream also had a high frequency of riffles. Pebble count data showed that 70% of the channel was made of gravel and cobble-sized rocks.

Site 267 – This second order section of Dorsey Run is behind Freemont Auto Parts off MD Route 1. Biological condition was rated as "very poor" (B-IBI = 1.44). Only 15 different taxa were found in the sample. A beaver dam was immediately US of the sampling site. Pollution-tolerant taxa made up 97% of the sample, the highest percentage in this subwatershed. *Limnodrilus* (Tubificida: Tubificidae, tv = 10), a pollution tolerant worm, made up 72% of the sample. Physical habitat condition rated "non-supporting" (42% of maximum). The riparian zone was narrow, and bank vegetative protection received a low Marginal score. The channel was also relatively straight (channel alteration) with few riffles(frequency of riffles parameter). The channel consisted of 44% sand-sized particles.

Site 269 – This site on Dorsey Run is US of the stream-crossing at Dorsey Run Road. There is a sewer-line clearing, commercial buildings, and a construction site along the right bank. Biological condition could be negatively influenced through excess runoff from these areas. In fact, the site received a "very poor" (B-IBI = 1.89) biological condition rating. No Ephemeroptera were found, 81% of the sample contained pollution tolerant taxa. The most common organism was *Limnodrilus* (62% of sample). Physical condition rated "non-supporting" (48% of maximum). The bank stability, vegetative protection, embeddedness, and frequency of riffles parameters all were scored in the low Marginal category. Sand and hard-pan clay made up 77% of the channel. Exposed hard-pan clay indicates that water rushes through this channel and often clears out sand, gravel, and cobble-sized particles. This makes it difficult for a quality biological community to colonize and remain in this section of Dorsey Run.

Site 271 – This site on a UT to Dorsey Run is 0.2 miles DS of Old Jessup Road. Habitat assessment noted that there were not many quality riffles to sample in this stream. Absence of good habitat resulted in, biological condition receiving a "poor" rating (B-IBI = 2.33). Only one EPT taxa was found, 75% of the sample were pollution tolerant taxa. The most common organism was *Hydrobaenus* (tv = 8). The stream runs parallel to railroad tracks that are less than six meters from the right bank. Physical habitat condition rated "non-supporting" (34% of maximum), with this site receiving the lowest total habitat score (68) in the Dorsey Run subwatershed. The channel was straightened along the railroad, which lowered the channel alteration and frequency of riffles/bends parameter scores. Loose rocks were between the railroad tracks and the stream bank, lowering the stability of the right bank. Fines (silt/clay and sand-sized particles) made up 79% of the channel.

Site 274 – The last site in this subwatershed is on a first order section of Dorsey Run, flowing through Maple Park (trailer park), off of MD Route 1. The site is directly behind a commercial

lot. Biological condition rated "very poor" (1.44). Only 13 total taxa were found, the lowest total in this subwatershed. No EPT taxa were sampled, only five Diptera taxa were found. On the other hand, 95% of the sample contained pollution tolerant organisms. The most common was *Limnodrilus* (tv = 10, 82% of sample). A narrow riparian zone along the right bank, and Marginal scores for embeddedness, epifaunal substrate/available cover, and sediment deposition led to this site's "non-supporting" (50%) physical habitat rating. Pebble count data showed 68% of the channel was comprised of silt/clay and sand-sized particles.

Hammond Branch

Data Overview

Hammond Branch is located in the southwestern part of the County, in between the Little Patuxent and Rocky Gorge drainages (Figure 10). Highways I-95, MD-29 and MD 216 run through this subwatershed. Easy access to these major traffic corridors are encouraging more people to move into this area, and more subdivisions, schools, and shopping areas are being built to support the influx of people.

The mean biological condition of this subwatershed is "poor" ($\bar{x}$ = 2.84 ± 0.69, n = 10). Although "fair" assessments were given to six of the ten sites, the four "poor" (2) and "very poor" (2) sites had scores low enough to pull down the overall average (Figure 10, Table 9). Mean physical habitat was rated "non-supporting" ($\bar{x}$ = 115.1 ± 16.2, n = 10) of a healthy biological community. Three sites were rated "partially supporting" while the rest received "non-supporting" ratings (Table 9).

Table 9. Summary of biological and habitat scores for each sampled site in the Hammond Branch subwatershed.

Site	Benthic IBI Score	Biological Rating	Habitat Score	Habitat Rating	Stream Order
281	1.67	Very Poor	114	Non Supporting	1
282	1.89	Very Poor	142	Partially Supporting	1
283	3.44	Fair	109	Non Supporting	1
284	3.22	Fair	102	Non Supporting	1
285	2.56	Poor	118	Non Supporting	1
286	3.22	Fair	130	Partially Supporting	1
287	3.44	Fair	101	Non Supporting	1
289	3.00	Fair	87	Non Supporting	1
291	2.11	Poor	129	Partially Supporting	1
292	3.89	Fair	119	Non Supporting	1

Site Specific Results

Site 281 – Located behind 7104 Crabbury Court, biological condition was rated as "very poor" (B-IBI = 1.67). This is the lowest score of the subwatershed. This site is located at the headwaters of Hammond Branch; the area immediately US of the site turned into many braided channels, the shape of which were also affected by recent snow-melt. Only nine total taxa were found, the lowest total of the subwatershed. None of them were EPT, 94% of the organisms were pollution tolerant. The most common organism was *Diplocladius* (Diptera: Chironomidae, tv = 7). Physical habitat condition rated as "non-supporting" (57% of maximum). Marginal scores were given in the bank stability, vegetative protection, and embeddedness parameters.

Pebble count data showed that 72% of the channel was composed of fines (silt/clay and sand-sized particles), confirming the visual embeddedness and sediment deposition scores.

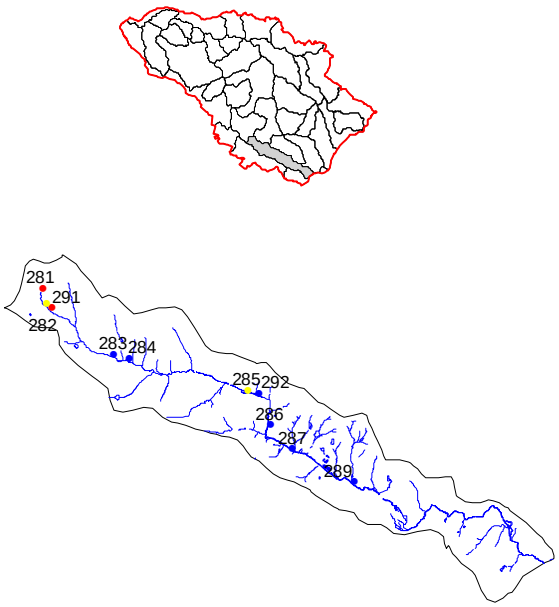

Figure 10. Color-coded biological condition ratings for the Hammond Branch subwatershed. Green = good, blue = fair, yellow = poor, red = very poor.

Site 282 – This site is also behind Crabbury Court, but farther DS on Hammond Branch behind the cul-de-sac. Biological condition was also rated as "very poor" (B-IBI = 1.89). Fifteen total taxa were found, however, none of them were Ephemeroptera. Pollution-tolerant organisms were in 75% of the sample. The most common organism was *Prosimulium* (Diptera: Simuliidae, tv = 7). A wide riparian zone, stable banks with relatively good vegetation were some of the factors that helped this site receive the highest physical habitat rating of the subwatershed, "partially supporting" (71% of maximum). The channel was composed primarily of gravel and cobble-sized rocks (68%), which should provide shelter for benthos. One possible explanation for the physical habitat receiving a higher rating than the biological community displays is that chemicals could potentially be leaching from the sediment. Farmland upstream and around this site could be influencing the current biological community. A stressor identification should be performed at this site to target the source of possible contaminants.

Site 283 – This site on Hammond Branch is south of Wayneridge Street. It received a "fair" (B-IBI = 3.44) biological condition rating. Thirty-eight total taxa were found, 11 were EPT. There were also 14 different Diptera taxa, a good indicator of stream health through biological

diversity. Ten intolerant taxa were found, the highest in this subwatershed. The most common organism was *Prosimulium*. Physical habitat was rated as "non-supporting" (55% of maximum). A relatively narrow riparian zone and Marginal bank stability and vegetation were the main sources of degradation at the site. Pebble count data showed that 53% of the channel was made of silt/clay and sand.

Site 284 – This site is 260 m through the woods behind the cul-de-sac at the end of Wayneridge Road. At this point, Hammond Branch runs through a cow pasture. Thirty-seven total taxa were sampled, 15 were dipterans. Overall biological condition rated "fair" (B-IBI = 3.22). *Prosimulium* was the most common organism. The location of this site within a pasture led to a "non-supporting" physical habitat rating (51% of maximum). Animals had free access to the stream; a wooden plank was even propped along one bank most likely to assist the animals in and out of the stream. The result was unstable banks with poor vegetative protection. Exposed silt/clay and sand are easily eroded from the banks into the stream channel.

Site 285 – Here, Hammond Branch runs north of Hammond Drive, south of the MD-29 bridge crossing. Biological condition was rated as "poor" (B-IBI = 2.56). Twenty-two total taxa were found, only one Ephemeroptera taxa (*Ephemerellidae*, tv = 2). However, the lowest percentage of pollution tolerant organisms (7%) occurred at this site. The most common organisms were *Chimarra* and *Cheumatopsyche* (22 and 24 individuals, respectively). Physical habitat condition rated as "non-supporting" (59% of maximum). Several parameters received Poor or Marginal scores, including bank stability and vegetation, riparian zone width, and epifaunal substrate/available cover. The left bank had an especially narrow riparian zone, with mowed lawns less than six meters from the stream bank. Pebble count data showed that fines (silt/clay, sand-sized particles) composed 42% of the channel.

Site 286 – This site is about 200 m behind the Glen Hannah townhomes. Thirty-five total taxa were found, 13 of which were Diptera. There were also 10 pollution intolerant taxa. The most common taxa was *Cheumatopsyche*, tv = 5. These factors led to a "fair" biological condition rating (B-IBI = 3.22). This was one of the three "partially supporting" (65% of maximum) sites in this subwatershed. Bank stability and vegetative protection received the lowest scores, both in the Marginal category. Pebble count data showed that over half (56%) of the channel was composed of silt/clay and sand-sized particles.

Site 287 – This site on Hammond Branch runs alongside the new construction of the extension for Route 216. Biological condition rated as "fair" (B-IBI = 3.44). The highest total taxa count in this subwatershed was at this site (39). There were also 16 Diptera taxa, and nine intolerant taxa. The most common organism was *Cheumatopsyche***,** tv = 5. The current road construction near the stream lowered the physical habitat to the "non-supporting" (51% of maximum) level. Marginal embeddedness and sediment deposition ratings were given in response to the large amounts of loose sediment unearthed by the construction. Sediment fences were present, but failing (i.e., overflowing or knocked over) in many areas. The construction is confined to the right bank, were the riparian zone score was in the poor category.

Site 289 –This site on Hammond Branch is along the gravel access road in between power lines and I-95 off ramps near Rte. 216. It received a "fair" (B-IBI = 3.00) biological condition rating.

This site also had 39 total taxa in the subsample, 16 of which were dipterans. Tanytarsini, a relatively sensitive midge fly, made up 8% of the sample. The most common organism was *Cheumatopsyche*, tv = 5. Physical habitat condition rated "non-supporting," receiving the lowest visual assessment score in this subwatershed (44% of maximum). Due to the location near a power line clearing, the riparian zone width was rated in the Poor category. Also, the lack of trees led to unstable, banks with little or no vegetation. Epifaunal substrate/available cover, sediment deposition, and embeddedness all received Marginal ratings.

Site 291 – This site behind the cul-de-sac at the end of Crabbury Court was rated "poor" (B-IBI = 2.11) for biological condition. No Ephemeroptera or Tanytarsini were found. *Prosimulium* (tv = 7) was the most common organism. Pollution-tolerant taxa were found in 67% of the sample. Marginal and Sub-Optimal visual habitat assessments led to this site's "partially supporting" physical habitat rating. The lowest scores were in the bank vegetation and stability parameters. Pebble count data showed that 46% of the channel was composed of sand-sized particles.

Site 292 – This site received the highest biological condition score in this subwatershed (B-IBI = 3.89) and was rated "fair". Thirty-six total taxa were found, 11 EPT, five of which were Ephemeroptera. Fifteen dipteran taxa were also found; 33% of the sample were pollution-sensitive collectors. Physical habitat was rated at the top of the "non-supporting" category (60% of maximum). The left bank of the stream was lawns of houses on Graylock Drive, placing the riparian zone width in the Poor category. Bank vegetative protection was Marginal.

Watershed Comparisons

The Howard County Biomonitoring Program has sampled 12 of the 15 total subwatersheds in the County. Of the 12 analyzed watersheds, average biological rating scores range from 1.5 ("very poor," Lower and Middle Little Patuxent - 2001) to 4.5 ("good," Cattail Creek - 2001). Figure 11 displays a comparison of the subwatersheds. There is a range of land cover types across the County, from rural agriculture uses in the western portion, to quickly growing suburban/commercial uses in the east. The data support generally higher quality habitat in the western part of the County, and more degraded habitat in the eastern portion of the County.

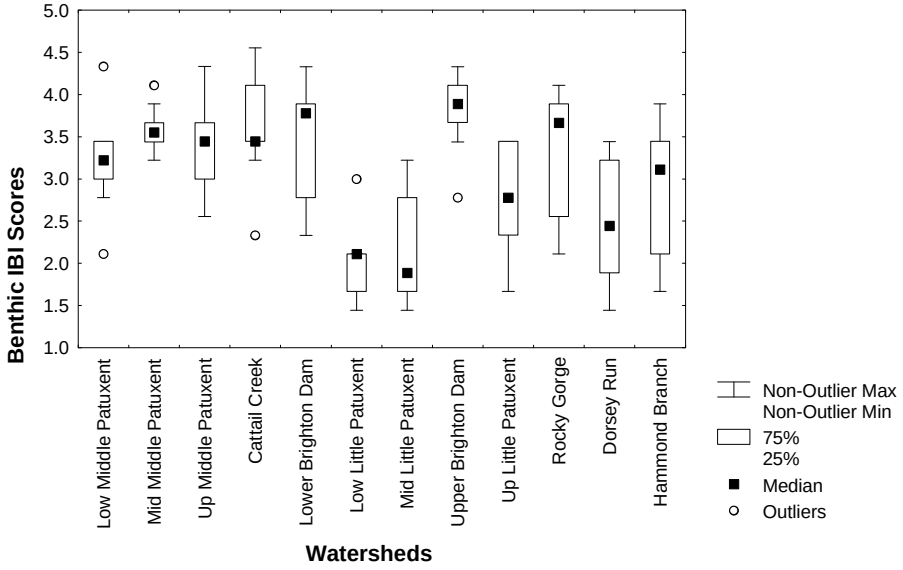

Figure 11. Benthic IBI scores for each of 12 sampled subwatersheds in Howard County.

III. CONCLUSIONS AND RECOMMENDATIONS

The results of these biological assessments lead to the following general recommendations:

- Continue watershed-based sampling design to complete the County rotation (currently 12 of 15 total subwatersheds have been sampled)

Although the last three subwatersheds (tributaries of the Patapsco River) were sampled during the Spring 2003 Index Period, the results will be reported in a separate document, which will also summarize the condition of all County watersheds. It is recommended that the County continue its biomonitoring program, either under the original 5-year rotating basin plan, or some other annual combination that meets County watershed prioritization needs.

- Prioritize watersheds for protection and restoration activities

The County, along with the Center for Watershed Protection (CWP), concentrated on 10 small watersheds (Centennial Lake, Wilde Lake, Lower Rocky Gorge Reservoir, North Laurel, Little Patuxent below Lake Elkhorn, Deep Run Tributaries, Elkridge, Rockburn Branch, Plumtree Branch, and Font Hill tributaries) to prioritize those that were most in need of protection or restoration. The prioritization is based on land use/land cover designations. The County should utilize the biomonitoring results as a companion to the current watershed prioritizations. Biological monitoring results could be used as a way to gauge restoration progress, or as an indicator of successful restoration.

- Implement public outreach strategies

The final watershed reports are currently available through the County website. More reader-friendly brochures can be created for each subwatershed sampled, or one for the entire County that details the condition of streams and watersheds in a short summary that would be easier for the public to understand. Brochures are just one way of developing community interest in County programs. The County currently sponsors many volunteer activities, such as tree plantings and park/stream clean-ups. Connecting the idea of stream health to these types of activities could potentially lead to a volunteer stream monitoring program that could engender more public interest in the County biomonitoring program.

- Maintain comparability with State methods

All field team leaders attend the yearly state-sponsored training. The training serves both as a refresher of the state methods, as well as a way to keep informed of any updates the state might implement to their sampling protocols.

- Maintain and enhance quality assurance/quality control program (QA/QC), including documentation and reporting of performance characteristics

Measurement quality objectives (MQOs) should be established for each step of field-based assessments. While the current County QA/QC program includes field audits, sorting efficiency, checks of data entry and metric calculation, and relative percent difference (RPD) between QC sites, the program does not currently document each step. Developing a more rigorous QA/QC

program will improve the County's ability to compare its biomonitoring program with the MBSS as well as other County programs.

- Initiate routine for assessing taxonomic precision and comparability with MBSS database

Generally, taxonomic precision is calculated using 10% of any sample set for re-identification by a second, independent taxonomic laboratory. This will provide the County with documentation of the precision of its dataset and reference collection of benthic macroinvertebrates. It will also establish a level of agreement between County and State taxonomists.

- Develop research studies that can be enhanced by the addition of biological data

Howard County is unique in many ways. It is located in the Non-Coastal Plain physiographic region and has a history of agricultural land use that is quickly developing between the Baltimore, Washington D.C. metro corridor. Biological data can be used in comparisons of taxa richness in developed vs. rural land, or Non-Coastal Plain developed areas vs. Coastal Plain developed areas. Other potential studies include the importance of a wide riparian zone to overall stream health, and when a loss of a specific amount of riparian coverage due to increased impervious surface, crop, or pasture land has a negative affect on biology.

- Quantify the effects of nutrients on stream biological condition

Crop and pasture land use make up 30-50% of the land use designation for the Rocky Gorge, Dorsey Run, and Hammond Branch watersheds alone. Nutrient input originating on farmland and flowing into streams occasionally has a positive short-term effect on local biology. However, extended periods of nutrient input can lead to over-enrichment and eutrophication. Protecting streams from this end is a priority. Studies that include nutrient concentrations and loading (especially nitrogen and phosphorus) could enhance the understanding of stream biological condition.

- Determine the critical point at which impervious surface lead to impairment a stream or watershed beyond reference conditions

The County population is growing at an rapid rate. Along with population growth, increases in roadways, parking lots, houses, driveways, schools, and shopping centers are increasing the amount of impervious surface within the County. If the point at which impervious surfaces begin to have a negative effect on stream biology is known, steps can be taken (i.e., BMP installation or LID) to protect stream resources before they are damaged.

- Target individual streams or subwatersheds for diagnostic stressor identification

Using biological condition as an indicator, specific streams or watersheds can be chosen for more intensive study to determine the potential cause for degradation (stressor). Knowledge of specific stressors will allow the County to better plan and implement restoration activities that will target and correct the main problem in a stream.

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V. APPENDICES

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
181	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	1
181	Insecta	Coleoptera	Sphaeriidae		Sphaeriidae	Sphaeriidae	2
181	Insecta	Ephemeroptera	Ameletidae		Ameletus	Ameletus	2
181	Insecta	Coleoptera	Dytiscidae		Helichus	Helichus	1
181	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	8
181	Insecta	Plecoptera	Capniidae		Allocapnia	Allocapnia	20
181	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	1
181	Insecta	Plecoptera	Nemouridae		Nemoura	Nemoura	2
181	Insecta	Diptera	Ceratopogonidae		Ceratopogon	Ceratopogon	1
181	Oligochaeta	Lumbriculida	Lumbriculidae		Lumbriculidae	Lumbriculidae	1
181	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	5
181	Insecta	Diptera	Chironomidae		Parachaetocladius	Parachaetocladius	1
181	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	1
181	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	1
181	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	48
181	Insecta	Plecoptera	Nemouridae		Nemouridae	Nemouridae	2
181	Insecta	Hemiptera	Veliidae		Veliidae	Veliidae	1
182	Insecta	Diptera	Ceratopogonidae		Ceratopogon	Ceratopogon	6
182	Insecta	Diptera	Chironomidae		Natarsia	Natarsia	2
182	Insecta	Diptera	Chironomidae		Cricotopus	Cricotopus/Orthocladius	2
182	Insecta	Diptera	Chironomidae	Tanytarsini	Corynoneura	Corynoneura	2
182	Oligochaeta	Lumbriculida	Lumbriculidae		Lumbriculidae	Lumbriculidae	1
182	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	3
182	Insecta	Plecoptera	Capniidae		Allocapnia	Allocapnia	11
182	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	12
182	Insecta	Diptera	Tipulidae		Ormosia	Ormosia	1
182	Insecta	Diptera	Tipulidae		Tipula	Tipula	2
182	Insecta	Diptera	Dixidae		Dixella	Dixella	5
182	Insecta	Diptera	Tabanidae		Chrysops	Chrysops	1
182	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	4
182	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	1
182	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	1
182	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1
182	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	1
182	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	8
182	Insecta	Coleoptera	Dytiscidae		Lioporeus	Lioporeus	1
182	Insecta	Trichoptera	Limnephilidae		Limnephilidae	Limnephilidae	2
182	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	1
182	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	1
182	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	1
182	Insecta	Ephemeroptera	Ephemerellidae		Ephemerella	Ephemerella	1

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
182	Insecta	Ephemeroptera	Leptophlebiidae		Leptophlebiidae	Leptophlebiidae	1
182	Pelecypoda	Veneroida	Pisidiidae		Pisidium	Pisidium	2
182	Insecta	Diptera	Empididae		Chelifera	Chelifera	1
182	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	1
182	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	1
182	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	5
182	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
182	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	19
182	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	2
182	Insecta	Diptera	Chironomidae	Tanytarsini	Stempellina	Stempellina	1
182	Insecta	Diptera	Chironomidae		Rheocricotopus	Rheocricotopus	1
182	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	1
182	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	1
182	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	5
183	Pelecypoda	Veneroida	Pisidiidae		Pisidium	Pisidium	1
183	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	1
183	Insecta	Diptera	Chironomidae		Chironomus	Chironomus	1
183	Gastropoda	Basommatophora	Lymnaeidae		Fossaria	Fossaria	5
183	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	1
183	Insecta	Odonata	Coenagrionidae		Coenagrionidae	Coenagrionidae	1
183	Insecta	Trichoptera	Limnephilidae		Limnephilus	Limnephilus	2
183	Gastropoda	Basommatophora	Physidae		Physa	Physa	1
183	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	13
183	Insecta	Diptera	Chironomidae		Chaetocladius	Chaetocladius	2
183	Insecta	Diptera	Chironomidae		Cricotopus	Cricotopus/Orthocladius	7
183	Insecta	Diptera	Chironomidae		Gymnometriocnemus	Gymnometriocnemus	1
183	Insecta	Diptera	Chironomidae		Natarsia	Natarsia	1
183	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	1
183	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	2
183	Insecta	Diptera	Chironomidae		Rheocricotopus	Rheocricotopus	75
183	Insecta	Diptera	Chironomidae		Smittia	Smittia	1
183	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	1
183	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	1
184	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	8
184	Insecta	Diptera	Tipulidae		Tipula	Tipula	3
184	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	7
184	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	10
184	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	3
184	Insecta	Trichoptera	Limnephilidae		Hydatophylax	Hydatophylax	1
184	Insecta	Diptera	Chironomidae		Rheocricotopus	Rheocricotopus	1
184	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	1

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184	Gastropoda	Basommatophora	Physidae		Physa	Physa	1
184	Gastropoda	Basommatophora	Lymnaeidae		Fossaria	Fossaria	2
184	Insecta	Odonata	Gomphidae		Gomphidae	Gomphidae	2
184	Insecta	Plecoptera	Nemouridae		Amphinemura	Amphinemura	2
184	Insecta	Plecoptera	Perlidae		Eccoptura	Eccoptura	1
184	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	3
184	Insecta	Trichoptera	Molannidae		Molanna	Molanna	1
184	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	3
184	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	1
184	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	2
184	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	3
184	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	1
184	Insecta	Diptera	Chironomidae		Eukiefferiella	Eukiefferiella	2
184	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	1
184	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	1
184	Insecta	Diptera	Chironomidae	Tanytarsini	Corynoneura	Corynoneura	1
184	Insecta	Coleoptera	Dytiscidae		Hydroporus	Hydroporus	5
184	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	1
184	Insecta	Diptera	Tabanidae		Chrysops	Chrysops	3
184	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	38
184	Insecta	Diptera	Simuliidae		Simuliidae	Simuliidae	3
184	Insecta	Diptera	Tipulidae		Pseudolimnophila	Pseudolimnophila	3
184	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	1
184	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1
184	Insecta	Diptera	Ceratopogonidae		Ceratopogon	Ceratopogon	3
185	Gastropoda	Basommatophora	Lymnaeidae		Fossaria	Fossaria	1
185	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	1
185	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	3
185	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	2
185	Insecta	Diptera	Chironomidae		Trissopelopia	Trissopelopia	2
185	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	3
185	Insecta	Ephemeroptera	Ameletidae		Ameletus	Ameletus	2
185	Pelecypoda	Veneroida	Pisidiidae		Pisidium	Pisidium	3
185	Insecta	Diptera	Chironomidae		Brillia	Brillia	1
185	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	4
185	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	7
185	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	1
185	Insecta	Diptera	Chironomidae	Tanytarsini	Corynoneura	Corynoneura	7
185	Insecta	Ephemeroptera	Leptophlebiidae		Leptophlebiidae	Leptophlebiidae	1
185	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	2
185	Insecta	Ephemeroptera	Ephemerellidae		Ephemerella	Ephemerella	1

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
185	Trombidiformes		Sperchonidae		Sperchonopsis	Sperchonopsis	1
185	Insecta	Odonata	Gomphidae		Gomphidae	Gomphidae	8
185	Insecta	Plecoptera	Capniidae		Allocapnia	Allocapnia	1
185	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	2
185	Insecta	Plecoptera	Perlodidae		Clioperla	Clioperla	1
185	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	5
185	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	1
185	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	2
185	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	5
185	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	5
185	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	1
185	Oligochaeta	Tubificida	Naididae		Slavina	Slavina appendiculata	1
185	Insecta	Diptera	Empididae		Hemerodromia	Hemerodromia	1
185	Insecta	Diptera	Tipulidae		Pseudolimnophila	Pseudolimnophila	2
185	Insecta	Diptera	Tipulidae		Tipula	Tipula	2
185	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	3
185	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	16
185	Insecta	Diptera	Chironomidae		Chironomidae	Chironomidae	1
185	Insecta	Diptera	Chironomidae		Eukiefferiella	Eukiefferiella	2
185	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	2
185	Insecta	Diptera	Chironomidae		Orthocladiinae	Orthocladiinae	1
185	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	1
185	Insecta	Trichoptera	Limnephilidae		Hydatophylax	Hydatophylax	2
185	Insecta	Diptera	Chironomidae		Limnophyes	Limnophyes	1
186	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	21
186	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	1
186	Insecta	Diptera	Chironomidae		Eukiefferiella	Eukiefferiella	2
186	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	2
186	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	1
186	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	1
186	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	1
186	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	2
186	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1
186	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	3
186	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	3
186	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	2
186	Insecta	Diptera	Chironomidae		Potthastia	Potthastia	1
186	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	6
186	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	2
186						Stylogomphus albistylus	1
186	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	2

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
186	Nematoda	Nematoda	Nematoda		Nematoda	Nematoda	1
186	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	3
186	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	4
186	Insecta	Ephemeroptera	Ephemerellidae		Ephemerella	Ephemerella	24
186	Insecta	Odonata	Gomphidae		Gomphidae	Gomphidae	1
186	Insecta	Plecoptera	Capniidae		Allocapnia	Allocapnia	4
186	Insecta	Diptera	Tipulidae		Tipula	Tipula	3
186	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	4
186	Insecta	Diptera	Empididae		Clinocera	Clinocera	3
186	Insecta	Trichoptera	Rhyacophilidae		Rhyacophila	Rhyacophila	1
186	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	2
186	Insecta	Trichoptera	Philopotamidae		Dolophilodes	Dolophilodes	1
186	Insecta	Trichoptera	Limnephilidae		Hydatophylax	Hydatophylax	1
186	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	1
186	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	3
186	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	2
186	Insecta	Plecoptera	Nemouridae		Amphinemura	Amphinemura	2
186	Insecta	Diptera	Chironomidae		Tribelos	Tribelos	1
186	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	3
186	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1
186	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	17
186	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	6
186	Insecta	Diptera	Empididae		Clinocera	Clinocera	2
186	Insecta	Diptera	Tipulidae		Tipula	Tipula	1
186	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	2
186	Insecta	Plecoptera	Capniidae		Capniidae	Capniidae	5
186	Insecta	Diptera	Chironomidae		Tribelos	Tribelos	1
186	Insecta	Ephemeroptera	Ameletidae		Ameletus	Ameletus	1
186	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	3
186	Insecta	Ephemeroptera	Ephemerellidae		Ephemerella	Ephemerella	9
186	Insecta	Odonata	Gomphidae		Gomphidae	Gomphidae	4
186	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	1
186	Insecta	Coleoptera	Hydrophilidae		Hydrobius	Hydrobius	1
186	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	1
186	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	3
186	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	1
186	Insecta	Diptera	Chironomidae		Eukiefferiella	Eukiefferiella	3
186	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	1
186	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	1
186	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	1
186	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	5

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
186	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	3
186	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	1
186	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	7
186	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	3
186	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	1
186	Insecta	Trichoptera	Rhyacophilidae		Rhyacophila	Rhyacophila	3
186	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	1
186	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	3
186	Insecta	Diptera	Chironomidae	Tanytarsini	Stempellinella	Stempellinella	1
186	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	1
186	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	1
187	Insecta	Diptera	Chironomidae		Ablabesmyia	Ablabesmyia	1
187	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	7
187	Nematoda	Nematoda	Nematoda		Nematoda	Nematoda	1
187	Insecta	Diptera	Tipulidae		Ormosia	Ormosia	4
187	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	1
187	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	7
187	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	2
187	Insecta	Diptera	Chironomidae		Cricotopus	Cricotopus/Orthocladius	1
187	Insecta	Diptera	Chironomidae		Smittia	Smittia	1
187	Insecta	Diptera	Chironomidae		Dicrotendipes	Dicrotendipes	4
187	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	2
187	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	2
187	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	2
187	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	12
187	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	1
187	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	14
187	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	4
187	Insecta	Coleoptera	Dytiscidae		Neoporus	Neoporus	1
187	Insecta	Ephemeroptera	Leptophlebiidae		Leptophlebiidae	Leptophlebiidae	1
187	Insecta	Ephemeroptera	Baetidae		Baetidae	Baetidae	13
187	Insecta	Ephemeroptera	Caenidae		Caenis	Caenis	1
187	Insecta	Ephemeroptera	Ameletidae		Ameletus	Ameletus	3
187	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	1
187	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	1
187	Malacostraca	Amphipoda	Crangonyctidae		Crangonyx	Crangonyx	3
187	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	1
187	Insecta	Diptera	Tipulidae		Molophilus	Molophilus	2
187	Insecta	Coleoptera	Haliplidae		Peltodytes	Peltodytes	1
187	Insecta	Diptera	Tipulidae		Tipula	Tipula	1
187	Insecta	Diptera	Dixidae		Dixella	Dixella	1

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187	Insecta	Diptera	Ceratopogonidae		Probezzia	Probezzia	1
187	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1
187	Insecta	Diptera	Tipulidae		Pseudolimnophila	Pseudolimnophila	1
187	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	2
187	Insecta	Trichoptera	Polycentropodidae		Polycentropus	Polycentropus	1
188	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	16
188	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	1
188	Insecta	Diptera	Chironomidae		Eukiefferiella	Eukiefferiella	1
188	Insecta	Diptera	Chironomidae		Cricotopus	Cricotopus	1
188	Nematoda	Nematoda	Nematoda		Nematoda	Nematoda	1
188	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	3
188	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	2
188	Insecta	Diptera	Simuliidae		Simulium	Simulium	2
188	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	32
188	Malacostraca	Amphipoda	Crangonyctidae		Crangonyx	Crangonyx	1
188	Gastropoda	Basommatophora	Physidae		Physa	Physa	1
188	Gastropoda	Basommatophora	Lymnaeidae		Fossaria	Fossaria	1
188	Pelecypoda	Veneroida	Corbiculidae		Corbicula	Corbicula fluminea	36
188	Insecta	Coleoptera	Sphaeriidae		Sphaeriidae	Sphaeriidae	1
188	Insecta	Diptera	Tipulidae		Tipula	Tipula	1
188	Insecta	Megaloptera	Corydalidae		Corydalus	Corydalus	2
189	Insecta	Diptera	Chironomidae		Tribelos	Tribelos	4
189	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	3
189	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	4
189	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	1
189	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	1
189	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus claparedeianus	2
189	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	1
189	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
189	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	3
189	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	13
189	Insecta	Diptera	Chironomidae		Dicrotendipes	Dicrotendipes	1
189	Insecta	Diptera	Sciaridae		Sciaridae	Sciaridae	1
189	Insecta	Diptera	Empididae		Hemerodromia	Hemerodromia	1
189	Insecta	Diptera	Tipulidae		Ormosia	Ormosia	4
189	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	13
189	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	8
189	Insecta	Ephemeroptera	Ephemerellidae		Ephemerella	Ephemerella	1
189	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	2
189	Insecta	Ephemeroptera	Baetidae		Baetidae	Baetidae	1
189	Malacostraca	Amphipoda	Crangonyctidae		Crangonyx	Crangonyx	20

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
189	Insecta	Plecoptera	Capniidae		Capniidae	Capniidae	1
189	Insecta	Odonata	Gomphidae		Gomphidae	Gomphidae	1
189	Insecta	Odonata	Calopterygidae		Calopteryx	Calopteryx	1
189	Insecta	Odonata	Coenagrionidae		Argia	Argia	1
189	Pelecypoda	Veneroida	Pisidiidae		Pisidium	Pisidium	3
189	Gastropoda	Basommatophora	Lymnaeidae		Fossaria	Fossaria	1
189	Insecta	Trichoptera	Polycentropodidae		Cyrnellus	Cyrnellus	2
189	Insecta	Diptera	Ceratopogonidae		Sphaeromias	Sphaeromias	2
189	Insecta	Odonata	Gomphidae		Hagenius	Hagenius	1
190	Insecta	Trichoptera	Polycentropodidae		Polycentropus	Polycentropus	1
190	Insecta	Ephemeroptera	Ephemeridae		Hexagenia	Hexagenia	1
190	Insecta	Ephemeroptera	Leptophlebiidae		Leptophlebiidae	Leptophlebiidae	6
190	Insecta	Ephemeroptera	Ameletidae		Ameletus	Ameletus	2
190	Insecta	Ephemeroptera	Baetidae		Baetidae	Baetidae	10
190	Malacostraca	Amphipoda	Crangonyctidae		Crangonyx	Crangonyx	8
190	Malacostraca	Amphipoda	Hyalellidae		Hyalella	Hyalella azteca	1
190	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	1
190	Insecta	Coleoptera	Haliplidae		Peltodytes	Peltodytes	1
190	Insecta	Diptera	Ceratopogonidae		Probezzia	Probezzia	9
190	Insecta	Diptera	Ceratopogonidae		Culicoides	Culicoides	1
190	Insecta	Diptera	Tipulidae		Ormosia	Ormosia	1
190	Insecta	Diptera	Psychodidae		Pericoma	Pericoma	1
190	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	1
190	Insecta	Diptera	Tabanidae		Tabanus	Tabanus	1
190	Insecta	Coleoptera	Dytiscidae		Lioporeus	Lioporeus	1
190	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	24
190	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	4
190	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	6
190	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	1
190	Insecta	Diptera	Chironomidae		Dicrotendipes	Dicrotendipes	2
190	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	8
190	Insecta	Diptera	Chironomidae		Cricotopus	Cricotopus	1
190	Insecta	Diptera	Chironomidae		Parakiefferiella	Parakiefferiella	1
190	Insecta	Diptera	Chironomidae		Parachaetocladius	Parachaetocladius	1
190	Oligochaeta	Haplotaxida	Naididae		Arcteonais	Arcteonais lomondi	1
190	Insecta	Diptera	Chironomidae		Procladius	Procladius	1
190	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	2
190	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	1
190	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	2
190	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	1
190	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	2

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
205	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	1
205	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	2
205	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	2
205	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	2
205	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	4
205	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	3
205	Gastropoda	Basommatophora	Physidae		Physa	Physa	1
205	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	3
205	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	1
205	Insecta	Diptera	Chironomidae		Stictochironomus	Stictochironomus	1
205	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	1
205	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	1
205	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	4
205	Insecta	Plecoptera	Taeniopterygidae		Taenionema	Taenionema	1
205	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
205	Insecta	Diptera	Tipulidae		Tipula	Tipula	3
205	Insecta	Diptera	Chironomidae		Tribelos	Tribelos	1
205	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	1
205	Insecta	Diptera	Ceratopogonidae	Sphaeromiini	Mallochohelea	Mallochohelea	1
205	Clitellata	Haplotaxida	Enchytraeidae		Cognettia	Cognettia	1
205	Oligochaeta	Haplotaxida	Sparganophilidae		Sparganophilus	Sparganophilus	1
205	Insecta	Ephemeroptera	Ameletidae		Ameletus	Ameletus	1
205	Nematoda	Nematoda	Nematoda		Nematoda	Nematoda	1
205	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	1
205	Malacostraca	Amphipoda	Crangonyctidae		Crangonyx	Crangonyx	5
205	Insecta	Ephemeroptera	Baetidae		Baetidae	Baetidae	1
205	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	1
205	Insecta	Plecoptera	Nemouridae		Amphinemura	Amphinemura	1
205	Insecta	Ephemeroptera	Caenidae		Caenis	Caenis	1
205	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	12
205	Insecta	Diptera	Empididae		Clinocera	Clinocera	11
205	Insecta	Diptera	Chironomidae		Ablabesmyia	Ablabesmyia	1
205	Insecta	Diptera	Ceratopogonidae		Culicoides	Culicoides	1
205	Insecta	Diptera	Chironomidae		Dicrotendipes	Dicrotendipes	4
205	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	1
205	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	2
205	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	1
205	Insecta	Trichoptera	Psychomyiidae		Lype	Lype diversa	1
205	Insecta	Diptera	Chironomidae		Diplocladius	Diplocladius	1
205	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	5
205	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	4

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
205	Insecta	Coleoptera	Hydrophilidae		Hydrophilidae	Hydrophilidae	1
205	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	7
205	Insecta	Ephemeroptera	Ephemerellidae		Ephemerellidae	Ephemerellidae	1
205	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	5
205	Insecta	Diptera	Dolichopodidae		Dolichopodidae	Dolichopodidae	1
205	Insecta	Diptera	Dixidae		Dixella	Dixella	2
210	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	2
210	Insecta	Plecoptera	Capniidae		Capniidae	Capniidae	4
210	Insecta	Diptera	Chironomidae		Chaetocladius	Chaetocladius	1
210	Insecta	Diptera	Chironomidae	Tanytarsini	Corynoneura	Corynoneura	1
210	Insecta	Diptera	Chironomidae		Diplocladius	Diplocladius	1
210	Insecta	Diptera	Chironomidae		Eukiefferiella	Eukiefferiella	3
210	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	3
210	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	2
210	Insecta	Plecoptera	Nemouridae		Nemouridae	Nemouridae	11
210	Insecta	Ephemeroptera	Ameletidae		Ameletus	Ameletus	1
210	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	12
210	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	19
210	Insecta	Diptera	Tipulidae		Pseudolimnophila	Pseudolimnophila	1
210	Insecta	Diptera	Simuliidae		Simulium	Simulium	1
210	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	39
210	Insecta	Diptera	Chironomidae	Tanytarsini	Corynoneura	Corynoneura	2
210	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	1
210	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	1
210	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	2
210	Insecta	Diptera	Tipulidae		Tipula	Tipula	1
210	Insecta	Coleoptera	Dytiscidae		Hydroporous (Heterosternuta)	Hydroporous (Heterosternuta)	1
210	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	3
210	Insecta	Coleoptera	Hydrophilidae		Hydrobius	Hydrobius	1
210	Insecta	Diptera	Chironomidae		Tribelos	Tribelos	1
210	Insecta	Diptera	Chironomidae		Eukiefferiella	Eukiefferiella	2
210	Insecta	Ephemeroptera	Ameletidae		Ameletus	Ameletus	4
210	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	2
210	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	1
210	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	1
210	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	1
210	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	1
210	Insecta	Plecoptera	Nemouridae		Nemouridae	Nemouridae	14
210	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	4
210	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	1
210	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	1

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
210	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	2
210	Insecta	Diptera	Tipulidae		Tipula	Tipula	3
210	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	1
210	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	1
210	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	47
210	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	10
210	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	1
217	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	2
217	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	2
217	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	9
217	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	1
217	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	28
217	Insecta	Diptera	Chironomidae		Parakiefferiella	Parakiefferiella	1
217	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	4
217	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	14
217	Insecta	Diptera	Tipulidae		Tipula	Tipula	2
217	Clitellata	Haplotaxida	Naididae		Nais	Nais bretscheri	1
217	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius lignicola	1
217	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	2
217	Insecta	Diptera	Chironomidae		Tvetenia	Tvetenia	2
217	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	1
217	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	8
217	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	2
217	Insecta	Plecoptera	Nemouridae		Amphinemura	Amphinemura	9
217	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	1
217	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	1
217	Insecta	Ephemeroptera	Ephemerellidae		Ephemerella	Ephemerella	4
217	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	2
217	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	3
217	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	1
217	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	1
217	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	1
241	Insecta	Diptera	Tipulidae		Tipula	Tipula	3
241	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	2
241	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	6
241	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	1
241	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	2
241	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	6
241	Insecta	Diptera	Chironomidae		Cricotopus	Cricotopus/Orthocladius	1
241	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	7
241	Insecta	Coleoptera	Dytiscidae		Lioporeus	Lioporeus	1

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241	Insecta	Coleoptera	Psephenidae		Psephenus	Psephenus	1
241	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	3
241	Insecta	Diptera	Chironomidae		Pseudosmittia	Pseudosmittia	1
241	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	16
241	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	13
241	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	1
241	Insecta	Diptera	Chironomidae		Eukiefferiella	Eukiefferiella	1
241	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	1
241	Insecta	Diptera	Chironomidae		Stictochironomus	Stictochironomus	1
241	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	1
241	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	7
241	Insecta	Odonata	Coenagrionidae		Argia	Argia	1
241	Insecta	Diptera	Chironomidae		Brillia	Brillia	1
241	Insecta	Trichoptera	Leptoceridae		Mystacides	Mystacides	2
241	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	14
241	Insecta	Diptera	Ceratopogonidae		Dasyhelea	Dasyhelea	1
241	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	1
241	Insecta	Diptera	Chironomidae		Dicrotendipes	Dicrotendipes	1
241	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	10
241	Insecta	Coleoptera	Dytiscidae		Helichus	Helichus	1
241	Insecta	Coleoptera	Hydrophilidae		Hydrobius	Hydrobius	1
241	Insecta	Coleoptera	Elmidae		Macronychus	Macronychus	1
241	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	1
241	Insecta	Diptera	Tipulidae		Molophilus	Molophilus	1
241	Insecta	Plecoptera	Capniidae		Capniidae	Capniidae	1
242	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus claparedeianus	2
242	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	2
242	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	2
242	Nematoda	Nematoda	Nematoda		Nematoda	Nematoda	1
242	Insecta	Plecoptera	Nemouridae		Nemouridae	Nemouridae	25
242	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	5
242	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	2
242	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	3
242	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	17
242	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	4
242	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	1
242	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	2
242	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	1
242	Oligochaeta	Tubificida	Tubificidae		Aulodrilus	Aulodrilus japonicus	2
242	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	2
242	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	1

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
242	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	1
242	Insecta	Diptera	Chironomidae		Stictochironomus	Stictochironomus	1
242	Insecta	Coleoptera	Dytiscidae		Lioporeus	Lioporeus	1
242	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	1
242	Insecta	Coleoptera	Elmidae		Ancyronyx	Ancyronyx	1
242	Insecta	Diptera	Empididae		Chelifera	Chelifera	1
242	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	9
242	Insecta	Diptera	Chironomidae		Diplocladius	Diplocladius	2
242	Insecta	Diptera	Chironomidae	Tanytarsini	Corynoneura	Corynoneura	1
242	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	4
242	Insecta	Diptera	Chironomidae	Orthocladiinae	Doithrix	Doithrix	1
242	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	1
242	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	2
242	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	1
242	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	3
242	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	2
242	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	3
242	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	1
247	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	5
247	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus claparedeianus	1
247	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	1
247	Insecta	Trichoptera	Leptoceridae		Triaenodes	Triaenodes	1
247	Insecta	Diptera	Tipulidae		Tipula	Tipula	3
247	Insecta	Plecoptera	Taeniopterygidae		Taeniopteryx	Taeniopteryx	1
247	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	24
247	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	1
247	Insecta	Coleoptera	Psephenidae		Psephenus	Psephenus	2
247	Turbellaria	Tricladida	Planariidae		Planariidae	Planariidae	1
247	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	1
247	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	2
247	Malacostraca	Decapoda	Cambaridae		Orconectes	Orconectes	1
247	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	1
247	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	2
247	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	3
247	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	14
247	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	3
247	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	5
247	Gastropoda	Basommatophora	Ancylidae		Ferrissia	Ferrissia	1
247	Insecta	Coleoptera	Dytiscidae		Helichus	Helichus	1
247	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	3
247	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	3

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
247	Insecta	Coleoptera	Elmidae		Macronychus	Macronychus	1
247	Oligochaeta	Tubificida	Naididae		Nais	Nais communis	1
247	Nemertea	Nemertea	Nemertea		Nemertea	Nemertea	1
247	Insecta	Plecoptera	Nemouridae		Nemouridae	Nemouridae	6
247	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	2
248	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	2
248	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	1
248	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	2
248	Insecta	Diptera	Psychodidae		Pericoma	Pericoma	1
248	Insecta	Diptera	Chironomidae		Phaenopsectra	Phaenopsectra	2
248	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	3
248	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	18
248	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	4
248	Insecta	Coleoptera	Dytiscidae		Lioporeus	Lioporeus	1
248	Insecta	Odonata	Gomphidae		Stylogomphus	Stylogomphus	1
248	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus claparedeianus	2
248	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	1
248	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	1
248	Insecta	Diptera	Chironomidae		Stictochironomus	Stictochironomus	1
248	Insecta	Diptera	Chironomidae		Chaetocladius	Chaetocladius	1
248	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	1
248	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	1
248	Insecta	Ephemeroptera	Baetidae		Baetidae	Baetidae	2
248	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	3
248	Insecta	Diptera	Chironomidae		Chironomus	Chironomus	1
248	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	2
248	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	1
248	Gastropoda	Basommatophora	Lymnaeidae		Fossaria	Fossaria	1
248	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	11
248	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	3
248	Insecta	Coleoptera	Elmidae		Macronychus	Macronychus	1
248	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	1
248	Insecta	Diptera	Chironomidae		Heterotrissocladius	Heterotrissocladius	1
248	Insecta	Diptera	Tipulidae		Molophilus	Molophilus	1
261	Insecta	Diptera	Chironomidae		Stictochironomus	Stictochironomus	1
261	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	2
261	Insecta	Coleoptera	Haliplidae		Peltodytes	Peltodytes	1
261	Insecta	Odonata	Libellulidae		Perithemis	Perithemis	1
261	Gastropoda	Basommatophora	Physidae		Physa	Physa	3
261	Pelecypoda	Veneroida	Pisidiidae		Pisidium	Pisidium	1
261	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1

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261	Turbellaria	Tricladida	Planariidae		Planariidae	Planariidae	1
261	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	1
261	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	2
261	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	1
261	Insecta	Diptera	Tipulidae		Tipula	Tipula	1
261	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius lignicola	1
261	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	1
261	Gastropoda	Basommatophora	Lymnaeidae		Fossaria	Fossaria	1
261	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	1
261	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	3
261	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	1
261	Oligochaeta	Tubificida	Tubificidae		Aulodrilus	Aulodrilus japonicus	2
261	Insecta	Plecoptera	Capniidae		Allocapnia	Allocapnia	1
261	Oligochaeta	Tubificida	Tubificidae		Aulodrilus	Aulodrilus limnobius	1
261	Insecta	Coleoptera	Hydrophilidae		Berosus	Berosus	1
261	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	31
261	Insecta	Diptera	Chironomidae		Diplocladius	Diplocladius	2
261	Insecta	Diptera	Chironomidae		Natarsia	Natarsia	6
261	Insecta	Diptera	Chironomidae		Glyptotendipes	Glyptotendipes	2
261	Oligochaeta	Tubificida	Tubificidae		Ilyodrilus	Ilyodrilus templetoni	2
261	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	15
261	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	7
261	Insecta	Diptera	Tipulidae		Limonia	Limonia	1
261	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	1
261	Malacostraca	Amphipoda	Crangonyctidae		Crangonyx	Crangonyx	1
261	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus claparedeianus	12
261	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	1
262	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus claparedeianus	1
262	Insecta	Coleoptera	Dytiscidae		Lioporeus	Lioporeus	2
262	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	8
262	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	2
262	Oligochaeta	Tubificida	Naididae		Pristina	Pristina jenkinae	1
262	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	1
262	Pelecypoda	Veneroida	Pisidiidae		Pisidium	Pisidium	1
262	Gastropoda	Basommatophora	Physidae		Physa	Physa	10
262	Insecta	Diptera	Chironomidae		Phaenopsectra	Phaenopsectra	2
262	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	1
262	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	34
262	Insecta	Diptera	Chironomidae		Brillia	Brillia	1
262	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	10
262	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	4

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262	Insecta	Coleoptera	Dytiscidae		Helichus	Helichus	1
262	Insecta	Diptera	Chironomidae		Diplocladius	Diplocladius	2
262	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	3
262	Insecta	Diptera	Chironomidae		Cricotopus	Cricotopus	1
262	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	3
262	Insecta	Diptera	Chironomidae		Natarsia	Natarsia	9
262	Insecta	Coleoptera	Dytiscidae		Neoporus	Neoporus	1
262	Gastropoda	Basommatophora	Lymnaeidae		Fossaria	Fossaria	4
263	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	1
263	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	1
263	Insecta	Diptera	Chironomidae		Phaenopsectra	Phaenopsectra	2
263	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	5
263	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	2
263	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	12
263	Insecta	Diptera	Chironomidae		Parakiefferiella	Parakiefferiella	4
263	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	3
263	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	4
263	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	4
263	Insecta	Lepidoptera	Noctuidae		Noctuidae	Noctuidae	1
263	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	1
263	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	2
263	Insecta	Megaloptera	Sialidae		Sialis	Sialis	1
263	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	1
263	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	5
263	Insecta	Diptera	Chironomidae		Thienemanniella	Thienemanniella	1
263	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	2
263	Insecta	Diptera	Tipulidae		Tipula	Tipula	1
263	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	1
263	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	2
263	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1
263	Enopla	Hoplonemertea	Prosorhochmidae		Fridericia/Henlea	Fridericia/Henlea	1
263	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	1
263	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	3
263	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	1
263	Nematoda	Nematoda	Nematoda		Nematoda	Nematoda	1
263	Insecta	Plecoptera	Capniidae		Allocapnia	Allocapnia	2
263	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	4
263	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	1
263	Insecta	Diptera	Empididae		Clinocera	Clinocera	2
263	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	2
263	Insecta	Diptera	Chironomidae		Dicrotendipes	Dicrotendipes	5

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263	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	2
263	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	4
263	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	2
263	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	1
263	Insecta	Diptera	Chironomidae		Ablabesmyia	Ablabesmyia	1
263	Insecta	Diptera	Chironomidae		Gymnometriocnemus	Gymnometriocnemus	1
263	Insecta	Trichoptera	Psychomyiidae		Lype	Lype diversa	1
263	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	2
263	Insecta	Diptera	Tipulidae		Limonia	Limonia	1
263	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	4
263	Insecta	Trichoptera	Limnephilidae		Limnephilidae	Limnephilidae	1
263	Oligochaeta	Tubificida	Tubificidae		Isochaetides	Isochaetides curvisetosus	1
263	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	5
263	Insecta	Diptera	Empididae		Hemerodromia	Hemerodromia	1
263	Insecta	Coleoptera	Dytiscidae		Helichus	Helichus	2
264	Turbellaria	Tricladida	Planariidae		Planariidae	Planariidae	1
264	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	2
264	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	1
264	Insecta	Coleoptera	Psephenidae		Psephenus	Psephenus	3
264	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	3
264	Insecta	Megaloptera	Sialidae		Sialis	Sialis	1
264	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	4
264	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	1
264	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	2
264	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	8
264	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	6
264	Insecta	Diptera	Tipulidae		Tipula	Tipula	3
264	Insecta	Diptera	Chironomidae		Tvetenia	Tvetenia	1
264	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	5
264	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	13
264	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	2
264	Insecta	Coleoptera	Dytiscidae		Helichus	Helichus	6
264	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
264	Insecta	Diptera	Chironomidae	Tanytarsini	Corynoneura	Corynoneura	1
264	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	2
264	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	8
264	Insecta	Diptera	Ceratopogonidae		Ceratopogon	Ceratopogon	1
264	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	4
264	Insecta	Plecoptera	Capniidae		Allocapnia	Allocapnia	3
264	Insecta	Diptera	Chironomidae		Cricotopus	Cricotopus	1
264	Insecta	Diptera	Ceratopogonidae		Culicoides	Culicoides	2

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264	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	1
264	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	5
264	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	6
264	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	1
264	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	4
264	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	1
264	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	1
264	Insecta	Diptera	Tipulidae		Dicranota	Dicranota	3
265	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	11
265	Insecta	Diptera	Chironomidae		Parakiefferiella	Parakiefferiella	1
265	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	2
265	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	5
265	Insecta	Diptera	Chironomidae		Phaenopsectra	Phaenopsectra	2
265	Insecta	Diptera	Ceratopogonidae		Probezzia	Probezzia	1
265	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	1
265	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	4
265	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	7
265	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	5
265	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	2
265	Oligochaeta	Tubificida	Tubificidae		Tubifex	Tubifex tubifex	1
265	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	5
265	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	1
265	Turbellaria	Tricladida	Planariidae		Planariidae	Planariidae	1
265	Insecta	Coleoptera	Dytiscidae		Lioporeus	Lioporeus	1
265	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	3
265	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	21
265	Insecta	Diptera	Chironomidae		Ablabesmyia	Ablabesmyia	2
265	Insecta	Odonata	Coenagrionidae		Argia	Argia	1
265	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	6
265	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	2
265	Insecta	Diptera	Chironomidae		Cricotopus	Cricotopus	2
265	Insecta	Diptera	Culicidae		Culex	Culex	1
265	Insecta	Diptera	Ceratopogonidae		Dasyhelea	Dasyhelea	3
265	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	1
265	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	4
265	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	1
265	Insecta	Odonata	Gomphidae		Gomphidae	Gomphidae	2
265	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	1
265	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	1
265	Insecta	Trichoptera	Lepidostomatidae		Lepidostoma	Lepidostoma	1
265	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	5

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265	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	1
265	Insecta	Odonata	Aeshnidae		Boyeria	Boyeria	1
266	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	2
266	Insecta	Diptera	Chironomidae		Phaenopsectra	Phaenopsectra	1
266	Insecta	Diptera	Psychodidae		Pericoma	Pericoma	2
266	Insecta	Coleoptera	Haliplidae		Peltodytes	Peltodytes	1
266	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	1
266	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	5
266	Malacostraca	Decapoda	Palaemonidae		Palaemonetes	Palaemonetes	1
266	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	1
266	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	1
266	Insecta	Diptera	Tipulidae		Ormosia	Ormosia	4
266	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	10
266	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	1
266	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	6
266	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	2
266	Insecta	Plecoptera	Taeniopterygidae		Taeniopteryx	Taeniopteryx	1
266	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
266	Insecta	Diptera	Tipulidae		Tipula	Tipula	1
266	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	2
266						Limnodrilus hoffmeisteri forma parvus	1
266	Insecta	Trichoptera	Limnephilidae		Limnephilidae	Limnephilidae	2
266	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus claparedeianus	1
266	Insecta	Diptera	Chironomidae		Dicrotendipes	Dicrotendipes	2
266	Insecta	Odonata	Coenagrionidae		Argia	Argia	1
266	Insecta	Diptera	Chaoboridae		Chaoborus	Chaoborus	2
266	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	7
266	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	13
266	Insecta	Diptera	Chironomidae		Cryptochironomus	Cryptochironomus	1
266	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	2
266	Oligochaeta	Tubificida	Naididae		Dero	Dero digitata	2
266	Nematoda	Nematoda	Nematoda		Nematoda	Nematoda	1
266	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	1
266	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus udekemianus	1
266	Oligochaeta	Tubificida	Naididae		Dero	Dero	1
266	Insecta	Coleoptera	Elmidae		Macronychus	Macronychus	1
266	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	4
266	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	10
266	Oligochaeta	Tubificida	Tubificidae		Isochaetides	Isochaetides curvisetosus	2
266	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	1
266	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	1

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266	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	1
267	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	1
267	Gastropoda	Basommatophora	Physidae		Physa	Physa	2
267	Oligochaeta	Lumbriculida	Lumbriculidae		Lumbriculus/Stylodrilus	Lumbriculus/Stylodrilus	4
267	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus claparedeianus	1
267	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	5
267	Oligochaeta	Tubificida	Tubificidae		Tubifex	Tubifex tubifex	1
267	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
267	Pelecypoda	Veneroida	Pisidiidae		Pisidium	Pisidium	1
267	Malacostraca	Isopoda	Asellidae		Caecidotea	Caecidotea	2
267	Insecta	Diptera	Chironomidae		Natarsia	Natarsia	1
267	Insecta	Diptera	Chironomidae		Phaenopsectra	Phaenopsectra	2
267	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	28
267	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	58
267	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	12
267	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	1
269	Insecta	Diptera	Chironomidae		Natarsia	Natarsia	2
269	Insecta	Diptera	Tipulidae		Pilaria	Pilaria	2
269	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	4
269	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	2
269	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	9
269	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	1
269	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus claparedeianus	10
269	Hirudinea	Pharyngobdellida	Erpobdellidae		Mooreobdella	Mooreobdella	1
269	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	4
269	Malacostraca	Isopoda	Asellidae		Caecidotea	Caecidotea	1
269	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	31
269	Oligochaeta	Tubificida	Tubificidae		Ilyodrilus	Ilyodrilus templetoni	2
269	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	3
269	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	1
269	Insecta	Odonata	Coenagrionidae		Coenagrionidae	Coenagrionidae	1
269	Insecta	Diptera	Empididae		Chelifera	Chelifera	1
269	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	21
269	Nematoda	Nematoda	Nematoda		Nematoda	Nematoda	1
271	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	2
271	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
271	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	1
271	Insecta	Diptera	Chironomidae		Phaenopsectra	Phaenopsectra	1
271	Gastropoda	Basommatophora	Physidae		Physa	Physa	16
271	Pelecypoda	Veneroida	Pisidiidae		Pisidium	Pisidium	4
271	Insecta	Diptera	Ceratopogonidae		Probezzia	Probezzia	1

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271	Insecta	Plecoptera	Taeniopterygidae		Taeniopteryx	Taeniopteryx	1
271	Insecta	Diptera	Chironomidae		Natarsia	Natarsia	4
271	Insecta	Diptera	Ceratopogonidae		Culicoides	Culicoides	1
271	Insecta	Diptera	Chironomidae		Stictochironomus	Stictochironomus	1
271	Insecta	Coleoptera	Dytiscidae		Agabus	Agabus	1
271	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	28
271	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	1
271	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	2
271	Insecta	Coleoptera	Hydrophilidae		Berosus	Berosus	1
271	Insecta	Diptera	Chironomidae		Chaetocladius	Chaetocladius	1
271	Insecta	Diptera	Chironomidae		Chironomus	Chironomus	1
271	Insecta	Diptera	Chironomidae		Cricotopus	Cricotopus	1
271	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	6
271	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	12
271	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	14
274	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	58
274	Oligochaeta	Lumbriculida	Lumbriculidae		Lumbriculus/Stylodrilus	Lumbriculus/Stylodrilus	3
274	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	1
274	Insecta	Diptera	Chironomidae		Natarsia	Natarsia	3
274	Nematoda	Nematoda	Nematoda		Nematoda	Nematoda	1
274	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	1
274	Insecta	Diptera	Psychodidae		Pericoma	Pericoma	1
274	Gastropoda	Basommatophora	Physidae		Physa	Physa	1
274	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	18
274	Insecta	Diptera	Chironomidae		Psectrotanypus	Psectrotanypus	1
274	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	1
274	Oligochaeta	Tubificida	Tubificidae		Tubifex	Tubifex tubifex	3
274	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	2
274	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1
274	Oligochaeta	Tubificida	Tubificidae		Aulodrilus	Aulodrilus japonicus	2
274	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus claparedeianus	4
274	Gastropoda	Basommatophora	Lymnaeidae		Fossaria	Fossaria	2
274	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	2
274	Malacostraca	Isopoda	Asellidae		Caecidotea	Caecidotea	1
274	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	7
274	Insecta	Diptera	Chironomidae		Ablabesmyia	Ablabesmyia	1
274	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	3
274	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	45
274	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	34
274	Insecta	Diptera	Chironomidae		Natarsia	Natarsia	4
274	Malacostraca	Decapoda	Cambaridae		Orconectes	Orconectes	1

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274	Insecta	Diptera	Tipulidae		Ormosia	Ormosia	1
274	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	2
274	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	3
274	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus claparedeianus	8
274	Oligochaeta	Lumbriculida	Lumbriculidae		Lumbriculus/Stylodrilus	Lumbriculus/Stylodrilus	2
274	Insecta	Odonata	Aeshnidae		Anax	Anax	1
274	Malacostraca	Isopoda	Asellidae		Caecidotea	Caecidotea	2
274	Oligochaeta	Tubificida	Naididae		Dero	Dero	1
274	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	1
281	Insecta	Coleoptera	Dytiscidae		Helichus	Helichus	1
281	Insecta	Diptera	Ceratopogonidae	Sphaeromiini	Mallochohelea	Mallochohelea	2
281	Insecta	Diptera	Sciaridae		Sciaridae	Sciaridae	1
281	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	1
281	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	1
281	Insecta	Diptera	Chironomidae		Diplocladius	Diplocladius	93
281	Insecta	Diptera	Tipulidae		Hexatoma	Hexatoma	1
281	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	4
281	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	2
282	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	1
282	Insecta	Diptera	Tipulidae		Dicranota	Dicranota	1
282	Insecta	Diptera	Tipulidae		Tipula	Tipula	1
282	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	10
282	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	5
282	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	2
282	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	76
282	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	1
282	Insecta	Diptera	Ceratopogonidae		Ceratopogon	Ceratopogon	4
282	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	1
282	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	1
282	Insecta	Diptera	Chironomidae		Glyptotendipes	Glyptotendipes	1
282	Insecta	Coleoptera	Dytiscidae		Helichus	Helichus	2
282	Insecta	Coleoptera	Hydrophilidae		Cymbiodyta	Cymbiodyta	1
282	Insecta	Plecoptera	Nemouridae		Nemouridae	Nemouridae	5
283	Insecta	Coleoptera	Haliplidae		Peltodytes	Peltodytes	1
283	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	2
283	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	2
283	Insecta	Diptera	Chironomidae		Parakiefferiella	Parakiefferiella	1
283	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	39
283	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	2
283	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	1
283	Insecta	Plecoptera	Nemouridae		Nemouridae	Nemouridae	1

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283	Insecta	Trichoptera	Leptoceridae		Mystacides	Mystacides	2
283	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	2
283	Malacostraca	Amphipoda	Crangonyctidae		Stygobromus	Stygobromus	1
283	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	1
283	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	2
283	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	3
283	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	5
283	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	2
283	Insecta	Diptera	Tipulidae		Tipula	Tipula	2
283	Insecta	Diptera	Tipulidae		Dicranota	Dicranota	1
283	Insecta	Coleoptera	Elmidae		Macronychus	Macronychus	1
283	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1
283	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	1
283	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	6
283	Insecta	Trichoptera	Psychomyiidae		Lype	Lype diversa	1
283	Insecta	Coleoptera	Elmidae		Ancyronyx	Ancyronyx	1
283	Insecta	Odonata	Coenagrionidae		Argia	Argia	1
283	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	4
283	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	1
283	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	1
283	Insecta	Ephemeroptera	Ephemerellidae		Ephemerellidae	Ephemerellidae	3
283	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	1
283	Insecta	Odonata	Calopterygidae		Calopteryx	Calopteryx	1
283	Oligochaeta	Lumbriculida	Lumbriculidae		Lumbriculidae	Lumbriculidae	1
283	Insecta	Diptera	Chironomidae		Eukiefferiella	Eukiefferiella	1
283	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	4
283	Insecta	Trichoptera	Limnephilidae		Hydatophylax	Hydatophylax	1
283	Gastropoda	Basommatophora	Planorbidae		Helisoma	Helisoma	1
283	Insecta	Odonata	Gomphidae		Hagenius	Hagenius brevistylus	1
283	Insecta	Odonata	Gomphidae		Gomphidae	Gomphidae	2
284	Insecta	Trichoptera	Phryganeidae		Ptilostomis	Ptilostomis	3
284	Insecta	Coleoptera	Dytiscidae		Neoporus	Neoporus	1
284	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	3
284	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	1
284	Insecta	Coleoptera	Haliplidae		Peltodytes	Peltodytes	1
284	Gastropoda	Basommatophora	Physidae		Physa	Physa	3
284	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	1
284	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	25
284	Oligochaeta	Haplotaxida	Sparganophilidae		Sparganophilus	Sparganophilus	1
284	Insecta	Trichoptera	Limnephilidae		Pycnopsyche	Pycnopsyche	1
284	Insecta	Diptera	Simuliidae		Simuliidae	Simuliidae	1

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284	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	1
284	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	1
284	Insecta	Odonata	Gomphidae		Stylogomphus	Stylogomphus	1
284	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	12
284	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	1
284	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	7
284	Insecta	Diptera	Chironomidae		Tvetenia	Tvetenia	1
284	Insecta	Coleoptera	Hydrophilidae		Tropisternus	Tropisternus	1
284	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	6
284	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	3
284	Insecta	Odonata	Coenagrionidae		Argia	Argia	4
284	Insecta	Megaloptera	Corydalidae		Corydalus	Corydalus cornutus	4
284	Insecta	Diptera	Ceratopogonidae		Dasyhelea	Dasyhelea	1
284	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	3
284	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	2
284	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	1
284	Insecta	Ephemeroptera	Ephemerellidae		Ephemerellidae	Ephemerellidae	2
284	Insecta	Plecoptera	Nemouridae		Nemouridae	Nemouridae	2
284	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	4
284	Insecta	Diptera	Chironomidae		Eukiefferiella	Eukiefferiella	1
284	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	1
284	Insecta	Coleoptera	Dytiscidae		Laccophilus	Laccophilus	1
284	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	4
284	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	1
284	Insecta	Odonata	Gomphidae		Gomphidae	Gomphidae	2
284	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	1
285	Insecta	Coleoptera	Elmidae		Ancyronyx	Ancyronyx	2
285	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	11
285	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	2
285	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
285	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	1
285	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	2
285	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	2
285	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	6
285	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	1
285	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	2
285	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	2
285	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	2
285	Insecta	Odonata	Coenagrionidae		Argia	Argia	2
285	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	17
285	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	2

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285	Insecta	Ephemeroptera	Baetidae		Baetidae	Baetidae	1
285	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	19
285	Insecta	Diptera	Tipulidae		Dicranota	Dicranota	1
285	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	1
285	Insecta	Ephemeroptera	Ephemerellidae		Ephemerellidae	Ephemerellidae	2
285	Insecta	Diptera	Chironomidae		Eukiefferiella	Eukiefferiella	1
285	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	1
285	Insecta	Plecoptera	Nemouridae		Nemouridae	Nemouridae	4
285	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	3
285	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	4
285	Nematoda	Nematoda	Nematoda		Nematoda	Nematoda	1
285	Insecta	Plecoptera	Nemouridae		Nemouridae	Nemouridae	3
285	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	1
285	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	1
285	Insecta	Diptera	Empididae		Hemerodromia	Hemerodromia	1
285	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	9
285	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	4
285	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	14
285	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	9
285	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	1
285	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	4
285	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	2
285	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	1
285	Insecta	Diptera	Ceratopogonidae		Probezzia	Probezzia	1
285	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	2
285	Insecta	Lepidoptera	Pyralidae		Pyralidae	Pyralidae	1
285	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	1
285	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	2
285	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	2
285	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	1
285	Insecta	Ephemeroptera	Ephemerellidae		Ephemerellidae	Ephemerellidae	2
285	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	1
285	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	2
285	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	8
285	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	1
285	Insecta	Diptera	Tipulidae		Dicranota	Dicranota	1
285	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	22
285	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	1
285	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	24
285	Insecta	Odonata	Aeshnidae		Boyeria	Boyeria	1
285	Insecta	Diptera	Chironomidae		Zalutschia	Zalutschia	2

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285	Insecta	Diptera	Tipulidae		Tipula	Tipula	2
285	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	1
285	Insecta	Plecoptera	Taeniopterygidae		Taenionema	Taenionema	1
285	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	1
286	Insecta	Plecoptera	Perlodidae		Perlodidae	Perlodidae	1
286	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	5
286	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	4
286	Pelecypoda	Veneroida	Pisidiidae		Pisidium	Pisidium	2
286	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	4
286	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	1
286	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	10
286	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	4
286	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	1
286	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	1
286	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	3
286	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	7
286	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
286	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	4
286	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	6
286	Insecta	Diptera	Tipulidae		Tipula	Tipula	1
286	Insecta	Odonata	Coenagrionidae		Coenagrion/Enallagma	Coenagrion/Enallagma	1
286	Insecta	Plecoptera	Taeniopterygidae		Taenionema	Taenionema	1
286	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	3
286	Insecta	Coleoptera	Elmidae		Macronychus	Macronychus	1
286	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	6
286	Insecta	Coleoptera	Elmidae		Ancyronyx	Ancyronyx	1
286	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	21
286	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	1
286	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	1
286	Insecta	Ephemeroptera	Ephemerellidae		Ephemerellidae	Ephemerellidae	2
286	Insecta	Trichoptera	Uenoidae		Neophylax	Neophylax	1
286	Insecta	Odonata	Gomphidae		Gomphidae	Gomphidae	1
286	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	1
286	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	2
286	Nematoda	Nematoda	Nematoda		Nematoda	Nematoda	1
286	Insecta	Plecoptera	Nemouridae		Nemoura	Nemoura	1
286	Insecta	Diptera	Chironomidae		Eukiefferiella	Eukiefferiella	1
286	Insecta	Diptera	Chironomidae		Brillia	Brillia	1
286	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	6
287	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	3
287	Insecta	Coleoptera	Haliplidae		Peltodytes	Peltodytes	3

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287	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	3
287	Insecta	Diptera	Chironomidae		Parakiefferiella	Parakiefferiella	2
287	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	1
287	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	8
287	Insecta	Plecoptera	Nemouridae		Nemouridae	Nemouridae	1
287	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	1
287	Insecta	Coleoptera	Elmidae		Ancyronyx	Ancyronyx	1
287	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	1
287	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	3
287	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	1
287	Insecta	Coleoptera	Hydrophilidae		Sperchopsis	Sperchopsis	1
287	Insecta	Diptera	Chironomidae		Stictochironomus	Stictochironomus	1
287	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	3
287	Insecta	Plecoptera	Taeniopterygidae		Taenionema	Taenionema	1
287	Insecta	Plecoptera	Taeniopterygidae		Taeniopteryx	Taeniopteryx	1
287	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
287	Insecta	Plecoptera	Nemouridae		Nemoura	Nemoura	1
287	Insecta	Diptera	Chironomidae		Thienemanniella	Thienemanniella	1
287	Insecta	Diptera	Ceratopogonidae		Dasyhelea	Dasyhelea	1
287	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	1
287	Insecta	Plecoptera	Capniidae		Capniidae	Capniidae	1
287	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	24
287	Malacostraca	Isopoda	Asellidae		Caecidotea	Caecidotea	1
287	Insecta	Diptera	Chironomidae	Tanytarsini	Corynoneura	Corynoneura	1
287	Insecta	Diptera	Tipulidae		Antocha	Antocha	2
287	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	1
287	Insecta	Diptera	Chironomidae		Diplocladius	Diplocladius	2
287	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	1
287	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	5
287	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	12
287	Insecta	Trichoptera	Hydroptilidae		Hydroptila	Hydroptila	1
287	Insecta	Trichoptera	Limnephilidae		Limnephilidae	Limnephilidae	1
287	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	2
287	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	4
287	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	1
287	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	4
287	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	1
289	Insecta	Diptera	Stratiomyidae		Odontomyia	Odontomyia	1
289	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	2
289	Insecta	Diptera	Chironomidae		Potthastia	Potthastia	1
289	Gastropoda	Basommatophora	Physidae		Physa	Physa	1

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289	Insecta	Diptera	Psychodidae		Pericoma	Pericoma	1
289	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	2
289	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	2
289	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	2
289	Pelecypoda	Veneroida	Pisidiidae		Sphaerium	Sphaerium	1
289	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	10
289	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	1
289	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	3
289	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	3
289	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
289	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	1
289	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus claparedeianus	1
289	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	2
289	Insecta	Lepidoptera	Noctuidae		Simyra	Simyra	1
289	Insecta	Diptera	Tipulidae		Tipula	Tipula	1
289	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	20
289	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	5
289	Insecta	Coleoptera	Elmidae		Ancyronyx	Ancyronyx	2
289	Insecta	Odonata	Aeshnidae		Boyeria	Boyeria	1
289	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	2
289	Insecta	Odonata	Calopterygidae		Calopteryx	Calopteryx	2
289	Insecta	Diptera	Tabanidae		Chrysops	Chrysops	1
289	Crustacea	Amphipoda	Crangonyctidae			Crangonyctidae	1
289	Insecta	Diptera	Tipulidae		Dicranota	Dicranota	1
289	Insecta	Diptera	Dolichopodidae		Dolichopodidae	Dolichopodidae	1
289	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	1
289	Insecta	Diptera	Empididae		Hemerodromia	Hemerodromia	1
289	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	3
289	Insecta	Coleoptera	Hydrophilidae		Hydrobius	Hydrobius	1
289	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	7
289	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	3
289	Insecta	Coleoptera	Elmidae		Macronychus	Macronychus	2
289	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	1
289	Insecta	Coleoptera	Elmidae		Microcylloepus	Microcylloepus	4
289	Malacostraca	Isopoda	Asellidae		Caecidotea	Caecidotea	6
291	Oligochaeta	Haplotaxida	Haplotaxidae		Haplotaxis	Haplotaxis gordioides	1
291	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	1
291	Gastropoda	Basommatophora	Physidae		Physa	Physa	1
291	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	43
291	Insecta	Diptera	Chironomidae		Rheocricotopus	Rheocricotopus	1
291	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	6

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
291	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	3
291	Insecta	Diptera	Tabanidae		Tabanus	Tabanus	1
291	Insecta	Diptera	Chironomidae		Tvetenia	Tvetenia	1
291	Insecta	Plecoptera	Nemouridae		Nemoura	Nemoura	2
291	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
291	Insecta	Diptera	Ceratopogonidae		Ceratopogon	Ceratopogon	3
291	Insecta	Plecoptera	Nemouridae		Nemouridae	Nemouridae	2
291	Insecta	Trichoptera	Limnephilidae		Limnephilidae	Limnephilidae	3
291	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	12
291	Insecta	Diptera	Tipulidae		Hexatoma	Hexatoma	1
291	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	1
291	Insecta	Diptera	Chironomidae		Diplocladius	Diplocladius	3
291	Insecta	Diptera	Chironomidae		Chaetocladius	Chaetocladius	1
291	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	11
291	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	1
292	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	9
292	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	9
292	Insecta	Diptera	Psychodidae		Pericoma	Pericoma	1
292	Insecta	Diptera	Chironomidae		Paraphaenocladius	Paraphaenocladius	8
292	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	6
292	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	2
292	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	2
292	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	1
292	Insecta	Ephemeroptera	Leptophlebiidae		Paraleptophlebia	Paraleptophlebia	2
292	Insecta	Diptera	Chironomidae		Pseudorthocladius	Pseudorthocladius	5
292	Insecta	Diptera	Chironomidae		Tvetenia	Tvetenia	1
292	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	4
292	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	3
292	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	2
292	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
292	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	5
292	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	4
292	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	1
292	Insecta	Coleoptera	Dytiscidae		Agabus	Agabus	1
292	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	2
292	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1
292	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	1
292	Insecta	Coleoptera	Elmidae		Ancyronyx	Ancyronyx	2
292	Insecta	Ephemeroptera	Baetidae		Baetidae	Baetidae	1
292	Insecta	Diptera	Chironomidae		Brillia	Brillia	1
292	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	9

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
292	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	2
292	Insecta	Trichoptera	Limnephilidae		Limnephilidae	Limnephilidae	1
292	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	1
292	Insecta	Ephemeroptera	Ephemerellidae		Ephemerellidae	Ephemerellidae	1
292	Insecta	Plecoptera	Nemouridae		Nemoura	Nemoura	1
292	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	6
292	Insecta	Coleoptera	Hydrophilidae		Hydrobius	Hydrobius	1
292	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	5
292	Insecta	Odonata	Gomphidae		Gomphidae	Gomphidae	1
292	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	1
FH-1	Pelecypoda	Veneroida	Pisidiidae		Pisidium	Pisidium	2
FH-1	Oligochaeta	Haplotaxida	Lumbricidae		Eiseniella	Eiseniella tetraedra	1
FH-1	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	6
FH-1	Insecta	Diptera	Tipulidae		Pseudolimnophila	Pseudolimnophila	1
FH-1	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	2
FH-1	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	5
FH-1	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	5
FH-1	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	5
FH-1	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	1
FH-1	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	5
FH-1	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1
FH-1	Gastropoda	Basommatophora	Physidae		Physa	Physa	1
FH-1	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	2
FH-1	Insecta	Diptera	Tipulidae		Tipula	Tipula	2
FH-1	Insecta	Diptera	Tipulidae		Antocha	Antocha	1
FH-1	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	18
FH-1	Insecta	Coleoptera	Dytiscidae		Agabus	Agabus	1
FH-1	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	5
FH-1	Insecta	Diptera	Chironomidae		Brillia	Brillia	5
FH-1	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	13
FH-1	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	1
FH-1	Insecta	Diptera	Chironomidae	Tanytarsini	Corynoneura	Corynoneura	1
FH-1	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	8
FH-1	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	3
FH-1	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	1
FH-1	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	1
FH-1	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	1
FH-1	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	4
FH-1	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	2
FH-1	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	6
FH-2	Insecta	Diptera	Tipulidae		Tipula	Tipula	2

StationID	Class	Order	Family	Tribe	Genus	FinalID	Individuals
FH-2	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	1
FH-2	Insecta	Diptera	Chironomidae		Rheocricotopus	Rheocricotopus	2
FH-2	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	1
FH-2	Insecta	Diptera	Simuliidae		Simulium	Simulium	1
FH-2	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	4
FH-2	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	1
FH-2	Insecta	Diptera	Chironomidae		Stictochironomus	Stictochironomus	1
FH-2	Insecta	Odonata	Gomphidae		Stylogomphus	Stylogomphus	1
FH-2	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	1
FH-2	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1
FH-2	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	4
FH-2	Insecta	Diptera	Chironomidae		Tribelos	Tribelos	2
FH-2	Insecta	Diptera	Chironomidae		Tvetenia	Tvetenia	1
FH-2	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	2
FH-2	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius lignicola	1
FH-2	Insecta	Diptera	Chironomidae		Thienemanniella	Thienemanniella	1
FH-2	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	7
FH-2	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	1
FH-2	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	7
FH-2	Insecta	Ephemeroptera	Baetidae		Baetidae	Baetidae	1
FH-2	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	18
FH-2	Insecta	Trichoptera	Philopotamidae		Chimarra	Chimarra	1
FH-2	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	3
FH-2	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	4
FH-2	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus	2
FH-2	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius/Cricotopus	1
FH-2	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	3
FH-2	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	1
FH-2	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	2
FH-2	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	2
FH-2	Insecta	Diptera	Chironomidae		Brillia	Brillia	1
FH-2	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	1
FH-2	Gastropoda	Basommatophora	Ancylidae		Ferrissia	Ferrissia	3
FH-2	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	18
FH-3	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	6
FH-3	Insecta	Diptera	Tipulidae		Tipula	Tipula	1
FH-3	Insecta	Diptera	Chironomidae		Tvetenia	Tvetenia	1
FH-3	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	3
FH-3	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	5
FH-3	Insecta	Diptera	Chironomidae		Potthastia	Potthastia longimana	1
FH-3	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	1

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FH-3	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	4
FH-3	Insecta	Diptera	Chironomidae		Stictochironomus	Stictochironomus	1
FH-3	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	4
FH-3	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	4
FH-3	Insecta	Diptera	Chironomidae	Tanytarsini	Stempellinella	Stempellinella	1
FH-3	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	3
FH-3	Insecta	Megaloptera	Corydalidae		Nigronia	Nigronia	2
FH-3	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	3
FH-3	Gastropoda	Basommatophora	Ancylidae		Ferrissia	Ferrissia	3
FH-3	Insecta	Diptera	Chironomidae		Polypedilum	Polypedilum	1
FH-3	Gastropoda	Basommatophora	Physidae		Physa	Physa	1
FH-3	Insecta	Trichoptera	Phryganeidae		Ptilostomis	Ptilostomis	1
FH-3	Insecta	Diptera	Chironomidae		Dicrotendipes	Dicrotendipes	3
FH-3	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	1
FH-3	Insecta	Diptera	Chironomidae		Ablabesmyia	Ablabesmyia	1
FH-3	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	1
FH-3	Insecta	Diptera	Ceratopogonidae		Atrichopogon	Atrichopogon	1
FH-3	Insecta	Diptera	Chironomidae		Brillia	Brillia	1
FH-3	Insecta	Odonata	Calopterygidae		Calopteryx	Calopteryx	1
FH-3	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	16
FH-3	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	3
FH-3	Insecta	Diptera	Chironomidae	Tanytarsini	Corynoneura	Corynoneura	2
FH-3	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	11
FH-3	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	1
FH-3	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	11
FH-3	Insecta	Odonata	Gomphidae		Gomphidae	Gomphidae	1
FH-3	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	3
FH-3	Insecta	Trichoptera	Leptoceridae		Leptoceridae	Leptoceridae	1
FH-3	Insecta	Ephemeroptera	Leptophlebiidae		Leptophlebiidae	Leptophlebiidae	1
FH-3	Insecta	Trichoptera	Psychomyiidae		Lype	Lype diversa	1
FH-3	Insecta	Coleoptera	Elmidae		Macronychus	Macronychus	1
FH-3	Insecta	Diptera	Chironomidae		Chironomus	Chironomus	1
FH-4	Insecta	Diptera	Chironomidae	Tanytarsini	Corynoneura	Corynoneura	2
FH-4	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	3
FH-4	Insecta	Diptera	Chironomidae		Chaetocladius	Chaetocladius	1
FH-4	Insecta	Diptera	Ceratopogonidae		Bezzia/Palpomyia	Bezzia/Palpomyia	1
FH-4	Insecta	Diptera	Chironomidae		Tvetenia	Tvetenia	1
FH-4	Insecta	Diptera	Tipulidae		Tipula	Tipula	2
FH-4	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	21
FH-4	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	2
FH-4	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	7

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FH-4	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	3
FH-4	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	20
FH-4	Insecta	Diptera	Chironomidae		Potthastia	Potthastia longimana	3
FH-4	Gastropoda	Basommatophora	Physidae		Physa	Physa	1
FH-4	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	1
FH-4	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	7
FH-4	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	2
FH-4	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	2
FH-4	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	8
FH-4	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	1
FH-4	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	2
FH-4	Insecta	Ephemeroptera	Ephemerellidae		Ephemerellidae	Ephemerellidae	1
FH-4	Insecta	Odonata	Gomphidae		Gomphidae	Gomphidae	2
FH-4	Insecta	Odonata	Gomphidae		Hagenius	Hagenius brevistylus	1
FH-4	Insecta	Coleoptera	Dytiscidae		Helichus	Helichus	1
FH-4	Insecta	Coleoptera	Hydrophilidae		Hydrobius	Hydrobius	2
FH-4	Insecta	Trichoptera	Hydropsychidae		Hydropsychidae	Hydropsychidae	1
FH-4	Insecta	Diptera	Chironomidae	Tanytarsini	Micropsectra	Micropsectra	1
FH-4	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	3
FH-4	Insecta	Coleoptera	Elmidae		Dubiraphia	Dubiraphia	1
FH-5	Insecta	Coleoptera	Elmidae		Oulimnius	Oulimnius	4
FH-5	Insecta	Diptera	Chironomidae		Thienemannimyia	Thienemannimyia	1
FH-5	Insecta	Plecoptera	Nemouridae		Prostoia	Prostoia	10
FH-5	Insecta	Diptera	Chironomidae		Parametriocnemus	Parametriocnemus	12
FH-5	Insecta	Diptera	Chironomidae	Tanytarsini	Paratanytarsus	Paratanytarsus	1
FH-5	Pelecypoda	Veneroida	Pisidiidae		Pisidium	Pisidium	1
FH-5	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	21
FH-5	Insecta	Diptera	Chironomidae	Tanytarsini	Rheotanytarsus	Rheotanytarsus	3
FH-5	Insecta	Coleoptera	Elmidae		Stenelmis	Stenelmis	4
FH-5	Insecta	Diptera	Chironomidae		Stenochironomus	Stenochironomus	1
FH-5	Insecta	Ephemeroptera	Heptageniidae		Stenonema	Stenonema	3
FH-5	Insecta	Diptera	Chironomidae		Stilocladius	Stilocladius	1
FH-5	Insecta	Diptera	Chironomidae	Tanytarsini	Tanytarsus	Tanytarsus	2
FH-5	Insecta	Diptera	Tipulidae		Tipula	Tipula	2
FH-5	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	3
FH-5	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	3
FH-5	Insecta	Coleoptera	Elmidae		Ancyronyx	Ancyronyx	1
FH-5	Insecta	Diptera	Chironomidae		Parakiefferiella	Parakiefferiella	1
FH-5	Insecta	Coleoptera	Elmidae		Optioservus	Optioservus	2
FH-5	Insecta	Coleoptera	Ptilodactylidae		Anchytarsus	Anchytarsus bicolor	1
FH-5	Insecta	Odonata	Coenagrionidae		Argia	Argia	1

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FH-5	Insecta	Diptera	Chironomidae		Brillia	Brillia	1
FH-5	Insecta	Trichoptera	Hydropsychidae		Cheumatopsyche	Cheumatopsyche	22
FH-5	Insecta	Diptera	Chironomidae	Tanytarsini	Corynoneura	Corynoneura	1
FH-5	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	2
FH-5	Insecta	Trichoptera	Hydropsychidae		Diplectrona	Diplectrona	4
FH-5	Insecta	Ephemeroptera	Ephemerellidae		Eurylophella	Eurylophella	3
FH-5	Insecta	Coleoptera	Dytiscidae		Helichus	Helichus	1
FH-5	Insecta	Trichoptera	Hydropsychidae		Hydropsyche	Hydropsyche	2
FH-5	Insecta	Trichoptera	Psychomyiidae		Lype	Lype diversa	2
FH-5	Insecta	Diptera	Chironomidae		Dicrotendipes	Dicrotendipes	1
FH-5	Insecta	Coleoptera	Elmidae		Macronychus	Macronychus	1
FH-5	Insecta	Diptera	Chironomidae	Tanytarsini	Microtendipes	Microtendipes	1
HBT	Oligochaeta	Tubificida	Tubificidae		Tubificidae	Tubificidae	8
HBT	Insecta	Diptera	Chironomidae		Pseudosmittia	Pseudosmittia	1
HBT	Insecta	Diptera	Chironomidae		Rheocricotopus	Rheocricotopus	2
HBT	Insecta	Diptera	Chironomidae		Smittia	Smittia	1
HBT	Insecta	Diptera	Chironomidae		Sympotthastia	Sympotthastia	14
HBT	Insecta	Diptera	Chironomidae		Zavrelimyia	Zavrelimyia	1
HBT	Oligochaeta	Tubificida	Lumbricidae		Lumbricidae	Lumbricidae	8
HBT	Oligochaeta	Tubificida	Tubificidae		Spirosperma	Spirosperma ferox	3
HBT	Clitellata	Haplotaxida	Enchytraeidae		Cognettia	Cognettia	9
HBT	Oligochaeta	Tubificida	Tubificidae		Limnodrilus	Limnodrilus hoffmeisteri	1
HBT	Insecta	Diptera	Chironomidae		Procladius	Procladius	1
HBT	Insecta	Trichoptera	Limnephilidae		Limnephilidae	Limnephilidae	3
HBT	Oligochaeta	Tubificida	Enchytraeidae		Enchytraeidae	Enchytraeidae	15
HBT	Insecta	Diptera	Chironomidae		Orthocladius	Orthocladius	2
HBT	Insecta	Diptera	Chironomidae		Hydrobaenus	Hydrobaenus	13
HBT	Insecta	Diptera	Chironomidae		Georthocladius	Georthocladius	1
HBT	Insecta	Diptera	Chironomidae		Diamesa	Diamesa	1
HBT	Insecta	Coleoptera	Hydrophilidae		Cymbiodyta	Cymbiodyta	1
HBT	Insecta	Coleoptera	Dytiscidae		Lioporeus	Lioporeus	3
HBT	Insecta	Coleoptera	Dytiscidae		Agabus	Agabus	2
HBT	Insecta	Plecoptera	Capniidae		Allocapnia	Allocapnia	6
HBT	Insecta	Diptera	Ceratopogonidae		Culicoides	Culicoides	1
HBT	Insecta	Diptera	Tipulidae		Tipula	Tipula	1
HBT	Insecta	Diptera	Tipulidae		Ormosia	Ormosia	3
HBT	Insecta	Diptera	Simuliidae		Stegopterna	Stegopterna	9
HBT	Insecta	Diptera	Simuliidae		Prosimulium	Prosimulium	2
HBT	Insecta	Ephemeroptera	Baetidae		Baetis	Baetis	1

StationID	181	182	183	184	185	186	187	188	189	190
WaterbodyName	UT to Patuxent	UT to Patuxent	UT to Patuxent	UT to Patuxent	UT to Patuxent	UT to Patuxent	Patuxent River	Patuxent River	Patuxent River	Patuxent River
Location	US of 13491 Villadest Drive	13491 Villadest Drive	6685 Mink Hollow Road	Down drive before Deer Park Farm off Mink Hollow	7005 Deer Valley Road	13942 Rt. 108	Tucker Lane	River Hill Drive	End of B Street	Tucker Lane
CollDate	03-13-2003	03-13-2003	03-14-2003	03-19-2003	03-14-2003	03-13-2003	03-12-2003	03-13-2003	03-14-2003	03-12-2003
Order	1	1	1	1	1	1		4	4	
IBI-Spring-MBSS-NCP	2.33	3.67	2.56	2.78	4.11	4.11	3.89	2.11	3.67	3.67
NarRat-Spring-MBSS-NCP	Poor	Fair	Poor	Poor	Good	Good	Fair	Poor	Fair	Fair
TotalTax	17	38	19	33	40	31	35	16	29	32
TotalTaxSc	3	5	3	5	5	5	5	3	5	5
EPTTax	4	7	1	6	11	10	6	2	5	5
EPTTaxSc	1	3	1	3	3	3	3	1	3	3
EphemTax	1	3	0	0	5	3	4	0	3	4
EphemTaxSc	1	3	1	1	5	3	3	1	3	3
DipTax	7	24	12	16	21	15	20	6	11	17
DipTaxSc	3	5	5	5	5	5	5	3	5	5
EphemPct	2.04	2.65	0.00	0.00	12.04	31.96	17.65	0.00	15.31	18.27
EphemPctSc	1	1	1	1	3	5	3	1	3	3
TanytPct	0.00	3.54	0.85	1.68	12.96	4.12	7.84	1.96	1.02	1.92
TanytPctSc	1	3	3	3	5	3	5	3	3	3
IntolTax	7	11	2	7	11	11	5	0	5	3
IntolTaxSc	3	5	1	3	5	5	3	1	3	3
TolerPct	17.35	15.93	19.49	50.42	35.19	26.80	30.39	8.82	42.86	27.88
TolerPctSc	3	3	3	1	3	3	3	5	3	3
CllctPct	56.12	51.33	82.20	21.01	28.70	39.18	57.84	5.88	54.08	71.15
CllctPctSc	5	5	5	3	3	5	5	1	5	5
TotalInd	98	113	118	119	108	97	102	102	98	104
Watershed Mean	3.29									
Watershed Standard Deviation	0.80									
Combined Mean	2.88									

StationID	261	262	263	264	265	266	267	269	271	274
WaterbodyName	UT to Dorsey Run	UT to Patapsco	Dorsey Run	Dorsey Run	Dorsey Run	Dorsey Run	Dorsey Run	Dorsey Run	UT to Dorsey Run	Dorsey Run
Location	Old Jessup Road	Old Jessup Road, 3 miles DS	Just north of intersection of Tamar Dr and Old Montgomery	Sea Light Lane	Ramp from 175E to 95S	Fairfield Inn parking lot	Behind Fremont Auto Parts	Dorsey Run Road crossing	0.2 m DS of Old Jessup Road	Maple Park
CollDate	02-28-2003	02-28-2003	02-28-2003	02-28-2003	02-28-2003	02-28-2003	02-28-2003	02-28-2003	02-28-2003	02-28-2003
Order	1	1	1	1	2	1	2	2	1	1
IBI-Spring-MBSS-NCP	2.56	2.11	3.44	3.44	3.22	3.22	1.44	1.89	2.33	1.44
NarRat-Spring-MBSS-NCP	Poor	Poor	Fair	Fair	Fair	Fair	Very Poor	Very Poor	Poor	Very Poor
TotalTax	34	22	48	34	35	40	15	18	22	13
TotalTaxSc	5	3	5	5	5	5	1	3	3	1
EPTTax	2	0	8	8	4	5	1	0	1	0
EPTTaxSc	1	1	3	3	1	3	1	1	1	1
EphemTax	0	0	1	1	0	1	0	0	0	0
EphemTaxSc	1	1	1	1	1	1	1	1	1	1
DipTax	14	10	27	17	18	17	3	6	14	5
DipTaxSc	5	5	5	5	5	5	1	3	5	1
EphemPct	0.00	0.00	1.83	3.74	0.00	0.99	0.00	0.00	0.00	0.00
EphemPctSc	1	1	1	1	1	1	1	1	1	1
TanytPct	0.00	0.98	11.01	6.54	9.17	1.98	0.00	0.00	0.99	0.00
TanytPctSc	1	3	5	5	5	3	1	1	3	1
IntolTax	3	0	7	6	7	5	0	2	1	1
IntolTaxSc	3	1	3	3	3	3	1	1	1	1
TolerPct	80.91	77.45	20.18	13.08	23.85	31.68	96.67	81.44	75.25	95.28
TolerPctSc	1	1	3	3	3	3	1	1	1	1
CllctPct	48.18	24.51	51.38	33.64	39.45	49.50	93.33	79.38	37.62	93.40
CllctPctSc	5	3	5	5	5	5	5	5	5	5
TotalInd	110	102	109	107	109	101	120	97	101	106
Watershed Mean	2.51									
Watershed Standard Deviation	0.74									
Combined Mean										

StationID	281	282	283	284	285	286	287	289	291	292
WaterbodyName	Hammond Branch	Hammond Branch	Hammond Branch	Hammond Branch	Hammond Branch	Hammond Branch	Hammond Branch	Hammond Branch	Hammond Branch	Hammond Branch
Location	Approx. 50 m into woods behind 7 104 Crabbury Ct.	~ 200m into woods @ cul-de-sac (Crabbury Ct.)	Wayne's Ridge - yards go to stream	11697 Wayne's Ridge Road 260 m through yar into woods	approx. 100 m behind house	approx. 200m behind Glen Hannah end townhomes	220 m behind houses on Heatherwold - thru current construction	630 m along gravel access road next to power lines I 95 off ramps	~ 50m W into woods @ Crabbury Ct culdesac	approx. 150 m behind houses on Grayrock
CollDate	02-28-2003	02-28-2003	02-28-2003	02-28-2003	02-28-2003	02-28-2003	02-28-2003	02-28-2003	02-28-2003	02-28-2003
Order	1	1	1	1	1	1	1	1	1	1
IBI-Spring-MBSS-NCP	1.67	1.89	3.44	3.22	2.56	3.22	3.44	3.00	2.11	3.89
NarRat-Spring-MBSS-NCP	Very Poor	Very Poor	Fair	Fair	Poor	Fair	Fair	Fair	Poor	Fair
TotalTax	9	15	38	37	22	35	39	39	21	36
TotalTaxSc	1	1	5	5	3	5	5	5	3	5
EPTTax	0	2	11	9	6	10	13	4	3	11
EPTTaxSc	1	1	3	3	3	3	5	1	1	3
EphemTax	0	0	2	2	1	1	1	1	0	5
EphemTaxSc	1	1	3	3	1	1	1	1	1	5
DipTax	6	11	14	15	9	13	15	16	15	15
DipTaxSc	3	5	5	5	3	5	5	5	5	5
EphemPct	0.00	0.00	3.85	2.75	1.92	1.85	0.96	0.98	0.00	7.69
EphemPctSc	1	1	1	1	1	1	1	1	1	3
TanytPct	0.00	0.89	2.88	1.83	1.92	3.70	2.88	7.84	0.00	3.85
TanytPctSc	1	3	3	3	3	3	3	5	1	3
IntolTax	0	4	10	7	7	10	9	8	3	8
IntolTaxSc	1	3	5	3	3	5	5	3	3	3
TolerPct	94.34	75.00	43.27	31.19	6.73	17.59	18.27	18.63	66.67	17.31
TolerPctSc	1	1	3	3	5	3	3	3	1	3
CllctPct	94.34	13.39	26.92	26.61	11.54	25.93	24.04	28.43	24.24	32.69
CllctPctSc	5	1	3	3	1	3	3	3	3	5
TotalInd	106	112	104	109	104	108	104	102	99	104
Watershed Mean	2.84									
Watershed Standard Deviation	0.69									
Combined Mean										

StationID	Collection Date	Channel Area
181	03-13-2003	95.66600308
183	03-14-2003	19.86749829
184	03-19-2003	0
185	03-14-2003	0
186	03-13-2003	0
189	03-14-2003	609.5420114
261	03-07-2003	0
264	03-04-2003	0
265	03-12-2003	29.65999882
266	03-06-2003	81.41299822
267	03-10-2003	50.99050411
269	03-10-2003	146.0779937
271	03-07-2003	100.9444971
274	03-10-2003	0
281	03-07-2003	0
282	03-07-2003	17.72275103
283	03-11-2003	48.8537516
284	03-11-2003	56.21449797
285	03-10-2003	78.57189421
286	03-11-2003	81.84500241
287	03-07-2003	146.4419464
289	03-10-2003	70.40670189
292	03-10-2003	98.16559693

*Due to snow-covered banks and slopes, bankfull measurements were not always obtainable. Channel Area was not calculated at those sites.

Robert L. Ehrlich, Jr.
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Lt. Governor

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Secretary

W. P. Jensen
Deputy Secretary

Maryland Department of Natural Resources
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580 Taylor Avenue
Annapolis, Maryland 21401

20 November 2003

Memorandum

From: Dan Boward
Cc: Paul Kazyak
To: QC file; Ron Klauda
Subject: 2003 Spring Index Period QC audits with Tetra Tech field crew.

On 19 March 2003, I conducted field audits at two sites with Tetra Tech's Howard County crew (Kristen Pavlik and Colin Hill; Crew #2). Tetra Tech is using methods comparable to those of MBSS.

After a brief discussion with Kristen regarding the nature of their Howard County sampling program, we proceeded to the first site (Site 209) on a small (first order) unnamed tributary to South Branch Patapsco River. The crew informed me that the single landowner who owns the land around the site and the access route had been contacted and that permission had been granted to access and sample the site.

I was pleased to see that Tetra Tech has reduced the impact on streamside trees by using small, permanent yellow plastic marking plates nailed (aluminum) to the tree. Previously, crews were removing a substantial amount of bark and spray painting the bare spot orange.

The crew took physico-chemical measurements (D.O., water temperature, pH, and conductivity) according to accepted protocols. I did not duplicate this effort. The crew records several parameters from the MBSS Spring Habitat Data Sheet and several from the Summer Habitat Data Sheet. Those not recorded include temperature logger location (the Howard County SWMD does not deploy temperature loggers), QC label information, and fish sampling considerations (since they will not sample fish in the summer). The crew also records physical habitat data listed in the Rapid Bioassessment Protocol Second Edition Habitat Assessment Form, conducts Wolman pebble counts (10 counts per site/10 particles per count), measures stream cross section with a Spectra Precision Laser Level (also used for straight line distance). Most physical habitat data I recorded for the site was comparable to those recorded by the crew.

After the crew completed the physical habitat assessment and benthic sampling (comparable to MBSS methods), I collected a "replicate" benthic sample upstream of the Howard County site. Results from this sample are pending from the DNR benthic lab. I also listed proportions of benthic habitats I would have sampled had I sampled within the Tetra Tech segment. My proportions were – 12 sq. ft. riffle, 5 sq. ft.

rootwad/woody debris, 3 sq. ft. leaf pack, while the crew sampled less riffle (9 sq. ft.) and more rootwad/woody debris and leaf pack (11 sq. ft.). I do, however, feel that the differences in habitats sampled will have little effect on benthic sample results.

Our second site (Site 184) was on an unnamed tributary to the Patuxent River. We had a little trouble finding the correct access road and there was some confusion around which landowners had been contacted for approval to access the site. A phone call to the Tetra Tech office cleared things up. Upon arrival at the site, we found that there was a fence traversing the sample segment. The landowner who owned the property upstream of the fence was not available to request permission to sample. Thus, new segment boundaries were established – the upstream boundary became the fence and just downstream of the segment was a road culvert. This adjustment could compromise the random nature of site selection, but I think the crew did a good job of adjusting to this unusual circumstance.

All procedures followed at Site 209 were repeated at this site and my most of my observations of physical habitat conditions were comparable to those measured by the crew. My estimates of benthic habitats to sample were also comparable to theirs. Unfortunately, I could not take a benthic sample at this site because I would have needed to do this downstream from the road culvert where landowner permission had not been acquired. In the future, it may be better to conduct field audits at sites that may not present such problems (e.g., one landowner with a large tract of land or sites on public property).

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Field Audits – Spring 2003

Field audits are an integral part of the training and retraining of field crews. They are performed to ensure that all procedures are being carried out as described in the relevant SOPs. Audits are performed by a qualified individual with over 5 years of experience in sampling as a crew leader.

The auditor is familiar with the SOPs, does not act as a crew member during the audit and is present on-site as an observer only. A detailed checklist is completed on-site by the auditor to evaluate the field teams (completed audit checklists are attached) and reviewed with the field team at the conclusion of the visit. If field teams do not complete any task as outlined in the SOP notes are made as to the discrepancies and any reasons for the discrepancies. At times the discrepancies are necessary due to field conditions and do not affect the quality of the sample (e.g., not being able to do a pebble count because of fast or deep water). Other discrepancies could potentially affect the quality of the samples (e.g., not picking all organisms off of the net between samples) and are addressed in the field with the crews before any sample is affected.

Howard County

The sampling for Howard County consisted of 2 field teams of 2 persons each. Field audits were conducted on separate days. Only minor discrepancies were noted during the audits and these did not affect the quality of the samples. Field teams were made aware of the discrepancies and field audit form was reviewed with the field crews at the end of the visit.

Team 1

The audit of the Howard County team number one was conducted by Erik Leppo on March 12, 2003 at Station 225. The field team was comprised of two members; Kristen Pavlik (team leader) and Colin Hill (team member and QC Officer).

Discrepancies are noted below along with corrective action:

- Not carrying the USGS topological map into the field to confirm the location of the site. Maps are provided to assist the teams in locating the sites. In this case the map was checked with the GPS unit prior to leaving the car. There was no chance in this instance of sampling an incorrect stream. The field team was advised to carry the map to the site to provide an added level of confidence that they are sampling the correct location, as all sampling locations are marked on the maps.
- Calibration of the in-situ multiparameter chemical monitoring device was not observed. According to the team leader the calibration of the instrument was conducted earlier in the day with the proper standards and recorded in the calibration log book. The log book was checked and verified as complete.
- During the measurement of the cross-section the note taker was advised to call back all readings to the person taking the measurements to ensure that the proper reading is recorded. No incorrect measurements were recorded.

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None of the above noted discrepancies affected the quality of this sample.

Team 2

The audit of the Howard County team number two was conducted by Erik Leppo on March 13, 2003 at Station 181, Unnamed tributary to Patuxent River. The field team was comprised of two members; David Bressler (team leader) and Jennifer Pitt (team member and QC officer).

Discrepancies are noted below along with corrective action:

- During the pebble count the field crew used a ruler rather than the calipers to measure the size of the pebbles. Not using calipers could result in inaccurate measurements that could be greater than the size classes the pebbles are categorized on the data sheets. Before any measurements were recorded the field team was advised to use the calipers to measure pebble sizes, per the SOP.
- Calibration of the in-situ multiparameter chemical monitoring device was not observed. According to the team leader the calibration of the instrument was conducted earlier in the day with the proper standards and recorded in the calibration log book. The log book was checked and verified as complete.

StationID	181	182	183	184	185	186	186QC	187	188	189
Collection Date	03-13-2003	03-13-2003	03-14-2003	03-19-2003	03-14-2003	03-13-2003	03-13-2003	03-12-2003	03-13-2003	03-14-2003
Order	1	1	1	1	1	1	1	4	4	4
FormVersion	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams
Total Habitat Score	129	125	87	111	121	145	146	105	132	88
% Compared to Maximum	64.5	62.5	43.5	55.5	60.5	72.5	73	52.5	66	44
Narrative Category	Partially Supporting	Partially Supporting	Non Supporting	Non Supporting	Partially Supporting	Partially Supporting	Partially Supporting	Non Supporting	Partially Supporting	Non Supporting
Bank Stability (Left Bank)	3	2	6	6	3	6	9	6	2	3
Bank Stability (Right Bank)	3	2	6	6	4	8	9	6	4	3
Channel Alteration	18	18	15	12	20	19	18	11	15	14
Channel Flow Status	11	11	14	11	14	18	18	19	17	14
Channel Sinuosity										
Embeddedness	12	13	3	12	10	11	13	6	12	7
Epifaunal Substrate/Available Cover	11	12	4	12	12	13	14	8	13	7
Frequency of Riffles (or bends)	17	17	11	12	15	15	11	3	15	8
Pool Substrate Characterization										
Pool Variability										
Riparian Vegetative Zone Width (Left Bank)	9	9	1	3	9	9	9	9	9	8
Riparian Vegetative Zone Width (Right Bank)	9	9	1	3	9	9	9	9	9	4
Sediment Deposition	14	12	7	12	10	8	8	15	12	6
Vegetative Protection (Left Bank)	3	2	5	6	3	6	6	4	4	3
Vegetative Protection (Right Bank)	3	2	5	6	3	7	6	4	4	3
Velocity/Depth Regime	16	16	9	10	9	16	16	5	16	8

StationID	190	261	262	263	264	265	266	267	269	271
Collection Date	03-12-2003	03-07-2003	03-07-2003	03-04-2003	03-04-2003	03-12-2003	03-06-2003	03-10-2003	03-10-2003	03-07-2003
Order	4	1	1	1	1	2	1	2	2	1
FormVersion	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams
Total Habitat Score	100	82	75	111	110	133	145	84	96	68
% Compared to Maximum	50	41	37.5	55.5	55	66.5	72.5	42	48	34
Narrative Category	Non Supporting	Non Supporting	Non Supporting	Non Supporting	Non Supporting	Partially Supporting	Partially Supporting	Non Supporting	Non Supporting	Non Supporting
Bank Stability (Left Bank)	6	6	6	4	4	5	7	6	3	5
Bank Stability (Right Bank)	6	9	2	5	4	6	7	6	3	2
Channel Alteration	13	4	3	9	18	13	17	7	16	3
Channel Flow Status	16	16	17	17	16	15	18	16	13	16
Channel Sinuosity										
Embeddedness	6	9	10	11	8	15	14	11	6	10
Epifaunal Substrate/Available Cover	7	6	9	13	11	13	15	7	10	8
Frequency of Riffles (or bends)	5	7	5	15	12	13	16	6	6	1
Pool Substrate Characterization										
Pool Variability										
Riparian Vegetative Zone Width (Left Bank)	9	1	3	2	6	8	2	1	8	4
Riparian Vegetative Zone Width (Right Bank)	9	0	1	5	3	8	9	1	8	0
Sediment Deposition	8	9	8	8	7	11	14	7	6	8
Vegetative Protection (Left Bank)	5	4	4	5	5	5	6	3	3	4
Vegetative Protection (Right Bank)	5	0	1	6	5	5	6	3	3	0
Velocity/Depth Regime	5	11	6	11	11	16	14	10	11	7

StationID	274	274QC	281	282	283	284	285	285QC	286	287
Collection Date	03-10-2003	03-10-2003	03-07-2003	03-07-2003	03-11-2003	03-11-2003	03-10-2003	03-10-2003	03-11-2003	03-07-2003
Order	1	1	1	1	1	1	1	1	1	1
FormVersion	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams	High Gradient Streams
Total Habitat Score	99	95	114	142	109	102	118	109	130	101
% Compared to Maximum	49.5	47.5	57	71	54.5	51	59	54.5	65	50.5
Narrative Category	Non Supporting	Non Supporting	Non Supporting	Partially Supporting	Non Supporting	Non Supporting	Non Supporting	Non Supporting	Partially Supporting	Non Supporting
Bank Stability (Left Bank)	5	5	4	6	4	3	4	3	4	4
Bank Stability (Right Bank)	5	5	4	6	4	3	5	5	4	4
Channel Alteration	15	16	16	18	16	16	16	15	16	15
Channel Flow Status	10	10	15	14	13	13	15	15	14	15
Channel Sinuosity										
Embeddedness	7	9	8	11	11	11	9	10	11	7
Epifaunal Substrate/Available Cover	7	9	8	15	11	12	12	11	13	12
Frequency of Riffles (or bends)	13	10	11	17	11	12	14	12	14	16
Pool Substrate Characterization										
Pool Variability										
Riparian Vegetative Zone Width (Left Bank)	5	4	8	9	4	2	2	2	10	3
Riparian Vegetative Zone Width (Right Bank)	3	4	9	9	4	2	9	4	10	2
Sediment Deposition	6	6	10	12	9	9	11	10	10	8
Vegetative Protection (Left Bank)	5	4	4	6	4	2	3	3	4	4
Vegetative Protection (Right Bank)	4	4	4	6	4	2	4	5	4	4
Velocity/Depth Regime	14	9	13	13	14	15	14	14	16	7

StationID	289	291	292
Collection Date	03-10-2003	03-07-2003	03-10-2003
Order	1	1	1
FormVersion	High Gradient Streams	High Gradient Streams	High Gradient Streams
Total Habitat Score	87	129	119
% Compared to Maximum	43.5	64.5	59.5
Narrative Category	Non Supporting	Partially Supporting	Non Supporting
Bank Stability (Left Bank)	2	5	5
Bank Stability (Right Bank)	2	5	5
Channel Alteration	16	18	16
Channel Flow Status	18	15	16
Channel Sinuosity			
Embeddedness	6	9	9
Epifaunal Substrate/Available Cover	6	12	13
Frequency of Riffles (or bends)	10	14	12
Pool Substrate Characterization			
Pool Variability			
Riparian Vegetative Zone Width (Left Bank)	2	9	2
Riparian Vegetative Zone Width (Right Bank)	5	8	8
Sediment Deposition	5	10	11
Vegetative Protection (Left Bank)	2	5	4
Vegetative Protection (Right Bank)	2	5	4
Velocity/Depth Regime	11	14	14

StationID	WaterbodyName	Location	Latitude	Longitude
181	UT to Patuxent	US of 13491 Villadest Drive	39.18949842	-76.99023494
182	UT to Patuxent	13491 Villadest Drive	39.18766916	-76.99074992
183	UT to Patuxent	6685 Mink Hollow Road	39.18685913	-76.97836884
184	UT to Patuxent	Down drive before Deer Park Farm off Mink Hollow	39.18539000	-76.97869000
185	UT to Patuxent	7005 Deer Valley Road	39.18143570	-76.97534331
186	UT to Patuxent	13942 Rt. 108	39.17012751	-76.97296151
187	Patuxent River	Tucker Lane	39.15673256	-76.97517701
188	Patuxent River	River Hill Drive	39.11467000	-76.87189000
189	Patuxent River	End of B Street	39.10661000	-76.84350000
190	Patuxent River	Tucker Lane	39.15983000	-76.97411000
261	UT to Dorsey Run	Old Jessup Road	39.15088534	-76.77677401
262	UT to Patapsco	Old Jessup Road, 3 miles DS	39.14769888	-76.77954742
263	Dorsey Run	Just north of intersection of Tamar Dr and Old Montgomery	39.20214772	-76.80114993
264	Dorsey Run	Sea Light Lane	39.19971228	-76.80014678
265	Dorsey Run	Ramp from 175E to 95S	39.17930603	-76.79402598
266	Dorsey Run	Fairfield Inn parking lot	39.17072296	-76.78866693
267	Dorsey Run	Behind Fremont Auto Parts	39.16445196	-76.79008313
269	Dorsey Run	Dorsey Run Road crossing	39.15135741	-76.78887614
271	UT to Dorsey Run	0.2 m DS of Old Jessup Road	39.14856255	-76.77883395
274	Dorsey Run	Maple Park	39.16024089	-76.79034063
281	Hammond Branch	Approx. 50 m into woods behind 7 104 Crabbury Ct.	39.17102873	-76.93719157
282	Hammond Branch	~ 200m into woods @ cul-de-sac (Crabbury Ct.)	39.16755795	-76.93505653
283	Hammond Branch	Wayne's Ridge - yards go to stream	39.15899098	-76.92042240
284	Hammond Branch	11697 Wayne's Ridge Road - 260 m through yard into woods	39.15829360	-76.91682824
285	Hammond Branch	approx. 100 m behind house	39.15251076	-76.88901910
286	Hammond Branch	approx. 200m behind Glen Hannah end townhomes	39.14617002	-76.88357958
287	Hammond Branch	220 m behind houses on Heatherwold - thru current construction	39.14180875	-76.87831172
289	Hammond Branch	630 m along gravel access road next to power lines I 95 off ramps	39.13567185	-76.86399409
291	Hammond Branch	~ 50m W into woods @ Crabbury Ct culdesac	39.16845381	-76.93622597
292	Hammond Branch	approx. 150 m behind houses on Grayrock	39.15188313	-76.88642272

StationID	Collection Date	Silt/Clay	Sand	Hard Pan Clay	Gravel	Cobble	Boulder	Bedrock
181	03-13-2003	20	41		26	12	1	
182	03-13-2003	3	45		47	5		
183	03-14-2003	87	13					
184	03-19-2003	33	21		35	11		
185	03-14-2003	17	46		18	19		
186	03-13-2003	1	50		26	18		5
188	03-13-2003	4	18		27	18	33	
189	03-14-2003		69		31			
261	03-07-2003	1	20		12	6		61
262	03-07-2003	12	17		18	3		50
263	03-04-2003		58	5	29	6	2	
264	03-04-2003	4	58		30	7	1	
265	03-12-2003	2	28		41	26	3	
266	03-06-2003		30		48	22		
267	03-10-2003		44		46	9	1	
269	03-10-2003		73	4	23			
271	03-07-2003	23	56		21			
274	03-06-2003	5	63		28		4	
281	03-07-2003	60	12		25	3		
282	03-07-2003	8	24		56	12		
283	03-11-2003	24	29		34	13		
284	03-11-2003	6	29		40	24	1	
285	03-10-2003	14	28		45	13		
286	03-11-2003	17	39		38	6		
287	03-07-2003	6	33		50	6	5	
289	03-10-2003	10	47		41		2	
291	03-07-2003		46		51	3		
292	03-10-2003	11	34		49	6		

StationID	Collection Date	Conductivity	Dissolved Oxygen	pH	Water Temperature
181	03-13-2003	54.8	10.4	7.7	4.44
182	03-13-2003	65.5	10.61	8.08	6.5
183	03-14-2003	92.4	10.8	8.31	4.2
184	03-19-2003	127	11.62	7.21	8.83
185	03-14-2003	82.9	9.13	8.09	6.18
186	03-13-2003	113.4	11.08	8.1	8.72
186	03-13-2003	109.6	10.19	7.72	8.41
187	03-12-2003	126	10.27	8.3	4.09
188	03-13-2003	124.2	10.95	7.93	3.25
189	03-14-2003	132.6	10.6	8.1	4.3
190	03-12-2003	125.7	11.38	7.98	4.16
261	03-07-2003	219	9.64	8.38	1.11
262	03-07-2003	227	9.62	8.27	2.67
263	03-04-2003	412	12.81	8.29	0.85
264	03-04-2003	462	13.16	8.48	2.21
265	03-12-2003	508	11.18	8.05	1.69
266	03-06-2003	516	11.87	8.24	3.41
267	03-10-2003	425	10.9	8.22	2.63
269	03-10-2003	467	11.41	8.07	5.19
271	03-07-2003	229	8.85	7.88	2.97
274	03-10-2003	394	10.58	8.3	1.6
274	03-10-2003	402	10.03	8.09	1.68
281	03-07-2003	260	11.34	5.07	2.23
283	03-11-2003	101	13.17	6.26	2.01
284	03-11-2003	108	13.32	6.47	1.95
285	03-10-2003	169	13.31	7.06	2.47
286	03-11-2003	194	13.44	7.03	3.36
287	03-07-2003	491	12.76	6.88	4.4
289	03-10-2003	283	12.31	7.2	6.1
292	03-10-2003	177	13.26	7.3	1.61