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**SC DEPARTMENT of
ENVIRONMENTAL
SERVICES**

BUREAU OF WATER
AQUATIC SCIENCE DIVISION
AQUATIC BIOLOGY SECTION

STANDARD OPERATING AND QUALITY CONTROL PROCEDURES FOR
MACROINVERTEBRATE SAMPLING
ASDPROC 005

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1.0 Introduction

Aquatic macroinvertebrates are insects and other invertebrates living in waterbodies such as streams, rivers, lakes, and estuaries; that can be seen without the aid of a microscope. Aquatic macroinvertebrate communities are useful indicators of water quality because they respond to integrated stresses over time and reflect fluctuating environmental conditions. Community response to various pollutants (e.g. organic, toxic, and sediment) may be assessed through interpretation of diversity, known organism tolerances, and in some cases, relative abundance and feeding behavior types.

Regional ambient monitoring generates data, which represent the general biological condition of state waters that may be subject to impacts by a variety of point and nonpoint sources. The Aquatic Biology Section (ABS) uses these ambient macroinvertebrate data to support a variety of state and federal programs. Additionally, special macroinvertebrate studies are conducted at various sites to evaluate specific potential point and nonpoint source pollution impacts.

2.0 Field Collection Methods

2.1 Timed Qualitative Multiple Habitat Sampling Protocol

The ABS uses a timed, qualitative, multiple habitat sampling protocol (MHSP) to collect macroinvertebrates. Multiple habitat sampling of some type is widely used by many regulatory and non-regulatory agencies both in the United States and abroad (Barbour, Gerritsen, Snyder, & Stribling, 1999; Marchant, et al., 1997). The greatest benefit from using the MHSP is that it enables resource managers to collect representative macroinvertebrate taxa from the full range of natural habitats in a stream. Since macroinvertebrates occupy a variety of habitat types, many taxa may be excluded when only select habitats are sampled by specific sampling devices (e.g. Surber net, Ponar dredge, etc.). This can result in the exclusion of a variety of taxa from the sample and lead to spurious assessments.

At ambient monitoring sites, a team of two or three biologists (never less than two) samples for aquatic macroinvertebrates for three person-hours (three person-hours represent three biologists sampling for one hour, or two biologists sampling for one and one-half hours). With the aid of a d-frame dip net, kick net, metal sieve, white pans, bucket, and a fine mesh sampler, all the available habitats are sampled. Macroinvertebrates are also collected directly from the habitat with forceps. All macroinvertebrates are placed in jars or vials filled

with 85% ethanol (EtOH) and labeled with the station number and collection date. If a station number has not been established, other data such as county, stream name, and nearest road is listed on the label. It is highly desirable to list the latitude and longitude on the label unless this information is readily available through a geographic information system.

The goal of the sampling team is to collect as many different macroinvertebrate taxa as possible during the allotted time. The collection of samples is a disciplined procedure designed to ensure that all the habitats present at a site are thoroughly sampled, irrespective of what types of habitats are available or where the sample is collected. Rivers and streams from the mountains to the coastal plain of South Carolina vary in habitat types and amount available for colonization by macroinvertebrates. For example, mountain sites are often dominated by rock/gravel riffle stream substrate, woody debris, and root wads, while some coastal sites may be dominated by aquatic vegetation, woody debris, and sandy to muddy stream substrate. Between the mountains and coastal plain lies the piedmont, where sites may have a combination of some or all the above habitats. Regardless of what region or habitats are being sampled, the MHSP ensures that a sufficient representation of the macroinvertebrate community is obtained. The following is the equipment used and a discussion of the MHSP with detailed steps on how to properly collect macroinvertebrate samples from the various stream habitats.

Equipment:

1. d-frame dip net
2. Kick net (500 -1000 µm mesh size)
3. U.S. # 10 Sieve
4. Approximately 10 cm (dia) PVC fine mesh sampler
5. Fine mesh bag
6. Approximately 19 liter bucket
7. White pans (at least 29 x 43 cm)
8. Forceps and eyedroppers
9. Collection vials and jars filled with 85% EtOH
10. Collection labels and EtOH-proof pen or pencil
11. Multi-parameter meter or equivalent
12. Camera
13. U.S. # 30 Sieve, optional
14. Ponar, optional
15. Clam rake, optional

2.1.1 Chironomidae and Small Macroinvertebrate Collection Procedure

An important component of the macroinvertebrate community is the midge family Chironomidae. Midge larvae are important not because they are particularly intolerant to pollution, but because they can account for 50% or more of the total species diversity in some aquatic systems (Merritt, Cummins, & Berg, 2008). Since midges are relatively small, they are collected with the aid of fine mesh samplers. The fine mesh samplers are made with Nitex (micro-screen cloth material) that has a mesh size of 300 μm . One sampler is a mesh bag, 0.5 m by 1.0 m, made from a folded square sheet of Nitex sewn together on two sides. This bag is used to collect midges from the sand. The other sampler is an approximately 10 cm diameter piece of PVC pipe with Nitex mesh covering one end. This is used to strain water from the bucket into which midges are washed from the habitats. Although the objective of the fine mesh net is to collect midges, it can also collect other small macroinvertebrates.

Collection Steps:

1. Fill an approximately 19-liter bucket approximately one half full of water.
2. Collect two or three samples of all the habitat types present at a stream site by hand (rocks, sticks, mature leaf packs, root wads, etc.) and rinse in the bucket to remove midges and other macroinvertebrates. Mature leaf packs are leaves that have been caught up in the current against rocks or sticks and have been in the water long enough to have been fully colonized by macroinvertebrates. Root wads are masses of roots hanging in the water, often beneath undercut banks. Attached root wads and vegetation may be rinsed directly in the bucket without detachment.
3. Since some midge taxa are sand dwellers, select a sandy bottom site in the stream and collect midges by placing the small mesh bag on the bottom with the open end facing upstream. Disturb approximately a 1 m² area of the sand upstream of the bag and let the sand and midges drift into the bag. In areas with little current, the sandy area can be disturbed and the bag swept back and forth over that area to capture the midge larvae. Collect three sand samples from three different areas of the stream.
4. Empty the contents of the bag into the same bucket of water that contains the other habitat washes and rinse the bag up and down in the bucket to remove the attached midges.
5. Rinse and remove by hand as much of the larger debris as possible from the bucket and discard.
6. Stir the water in the bucket and strain through the Nitex covered pipe a little at a time. Remove small portions of the detritus left in the bottom of the Nitex pipe and place in

a white pan 1/4 filled with water. The pan should be placed on a secure and approximately level surface so that it remains still. Spread the detritus evenly in the pan by hand so that the macroinvertebrates can be seen against the white background. With the aid of forceps and an eyedropper, collect the midges and other small macroinvertebrates and preserve them in a jar filled with 85% EtOH.

7. Repeat step 6 so that all the water in the bucket is poured through the mesh-covered pipe and the detritus examined. Midge collection is complete once you have collected 100 midges or have been collecting them for 30 minutes. Collect midges in relative proportion to the size classes present. Although the emphasis of the fine mesh sampler is to collect small macroinvertebrates, larger macroinvertebrates are also collected as they are encountered.

2.1.2 D-frame Dip Net Collection Procedure

The habitat type most often sampled with the dip net is root wad habitat. They are present at most stream sites and support a variety of small caddisflies, odonates, and other taxa. Aquatic vegetation, when present, is also sampled with the d-frame net using several sweeps of the net. When using the d-frame, the contents of the net are examined in a white pan of water.

Collection Steps:

1. Root wads are sampled by repeatedly jabbing a d-frame dip net (500 μ m mesh size) upwardly into the roots along a stretch of bank until the net is about 1/4 full of detritus and root debris. Several root wads are washed into the dip net by shaking and using a stripping motion to remove firmly attached macroinvertebrates.
2. Rinse the bottom of the dip net in the stream to remove excess mud and silt. If excess sediment or silt is present it is helpful to rinse the sample by dipping water into the net and allowing it to drain as you would with a sieve. This can be done several times in rapid succession. Remove small portions of the detritus left in the net and spread it evenly in a white pan 1/4 filled with water. Do not attempt to sort through so much detritus at one time that the bottom of the pan is obscured.
3. Using forceps, remove macroinvertebrates from the pan and place in a jar of 85% EtOH. It is helpful to allow the contents of the pan to settle and become still. This facilitates seeing the small macroinvertebrates as they begin to move about.

Based on the quality of the root banks and/or aquatic vegetation, collect at least one or two dip net samples in the root banks and two or three samples in the aquatic vegetation if present. D-frame dip net collection is complete after 30 minutes.

2.1.3 Kick Net Collection Procedure

The kick net is an approximately 1.0 m² sheet of Nitex mesh (500 - 1000 µm mesh size) attached on two sides to 1.5 m long poles. The kick net is used to sample rock/gravel riffles and snags/leaf packs.

Collection Steps:

1. Place the kick net slightly downstream of the area to be sampled (snags/leaf packs or rock/gravel riffle) so that the bottom of the net is firmly against the stream bottom and the top of the net is just above the surface of the water. Disturb the habitat upstream of the net and catch the debris and macroinvertebrates that drift into the net. This is easier with the assistance of a second person. Lift the net up from the bottom edge so that the contents do not wash out.
2. Spread the kick net out on a sand bar or a flat area on the bank and collect macroinvertebrates from the net with forceps and preserve them in a jar of 85% EtOH. Alternatively, if there is not too much detritus in the net, the net can be shaken and rinsed into a large white pan of water and the macroinvertebrates picked from there where the smaller specimens are more easily seen. Ideally, both methods can be used.

If the habitat is mostly snags/leaf packs, a minimum of two kick net samples should be taken there. If the habitat is a mix of both rock/gravel riffle and snags/leaf packs, a minimum of one kick net sample should be taken from each habitat. In streams that are mostly rock/gravel riffle, a minimum of two kick net samples should be taken in the riffle areas. One kick net sample should be taken from a high velocity riffle area and the other from a low velocity riffle area. Additional kick net samples can be used if needed to ensure that the available habitats have been thoroughly sampled. Kick net collection is complete after 30 minutes.

2.1.4 Sieve Collection Procedure

Sieves are used to sample sand and sediment as well as other habitat types during visual collections. Sieve sizes used are the U.S. #30 (0.6 mm openings) and the U.S. #10 (2.0 mm openings). The #10 sieve is used primarily to sample sand and sediment. The #30 can be used as an aid to sweep and to hold material from all habitat types. The sieve enables the biologist to sample large amounts of habitat quickly and is invaluable for collecting sediment-dwelling taxa such as: Odonata (dragonflies), Gastropoda (snails), Bivalvia (clams, mussels), sand case building and burrowing caddisflies (Molannidae, Sericostomadidae, Dipseudopsidae, Odontoceridae), and Ephemeraeidae (burrowing mayflies).

Collection Steps:

1. Visually inspect the sand and mud for signs of macroinvertebrate activity. For example, the movements of burrowing odonates and mussels leave trails in the sand. Small holes can be seen in the mud, clay, or sand in areas where burrowing mayflies are found. The tubes of *Phylocentropus* sp. larvae can often be seen extending above the substrate where they are present.
2. With the #10 sieve, sample the mud or sand where there are signs of macroinvertebrate activity. Sift the sand, mud, silt, and detritus in the stream to trap macroinvertebrates in the sieve. A white pan can be used to examine the contents of the sieve if needed.
3. Collect macroinvertebrates from the sieve or pan and place them in jar of 85% EtOH.
4. The #30 sieve can be used to sample root wad and snag sites. Process as above.

2.1.5 Visual Collection Procedure

Collections using the kick net, d-frame dip net and the fine mesh samplers require a total of 1.5 person-hours to complete (thirty minutes for each). For an additional 1.5 person-hours, stream habitats are visually searched for macroinvertebrates and collected directly from the habitat with forceps and placed in jars filled with 85% EtOH. This includes all the sieving as well as removing rocks, logs, leaf packs, and accumulated leaves from the water for inspection. For example, rocks and logs are searched for taxa such as the retreat building *Psychomyia* sp. and *Hydropsychidae*. The undersides of rocks and logs are examined for macroinvertebrates such as *Ephemeroptera* (mayflies), *Plecoptera* (stoneflies), *Gastropoda* (snails), *Psephenidae* (water pennies) and *Megaloptera* (hellgrammites). The crevices in rocks and logs are searched for caddisflies such as *Nyctiophylax* sp., *Pycnopsyche* sp., and *Ceraclea* sp. Decaying logs are picked apart to reveal midges and other taxa. Aquatic vegetation, sticks, and limbs are visually searched for small caddisflies (*Hydroptilidae* and *Brachycentridae*) and other macroinvertebrates. Mature leaf packs often contain *Plecoptera* and accumulated leaves on the bottom, and snags are sampled to find crayfish, odonates, sponges and a variety of other macroinvertebrates. Unionid mussels are located using the #10 sieve as well as by sight and by feeling in the sediment. These are identified in the field, photographed, and released unharmed into the same habitat type from which they were collected.

2.1.6 Non-Wadeable Sampling

When sampling large rivers, a boat or kayaks may be used to access the habitats for sampling. The sampling methodology remains the same, but the duration may be increased

to ensure that all natural habitats have been adequately sampled. For the same reason, the length of the sampled reach of a river will usually be longer than that typical of wadeable streams. In shallow areas, the river is sampled as a wadeable stream. Otherwise, the available habitat is sampled from the boat with dip nets and sieves and/or by dragging logs, sticks, root wads, etc., into the boat. A clam rake can help to reach and bring up habitat in deep areas as well as to find unionid mussels. A ponar may be used to reach sediment-dwelling organisms in deep areas where the sieve is not practical.

2.1.7 Collection Procedures Summary

No attempt is made to collect all specimens encountered. If a taxon can be reliably identified in the field, only 10-15 specimens are collected, other taxa are collected in approximate proportion to their abundance in each sampling method (net, pan, sieve, etc.). Since the emphasis of the MHSP method is to collect different taxa, abundance is considered only in a relative sense (see Data Analysis). Some taxa are not collected including: Nematoda, Collembola, semiaquatic Coleoptera, and all Hemiptera except Naucoridae, Belostomatidae, Corixidae, Notonectidae, and Nepidae. These are not collected because they are most often found on the water surface or on the banks and are considered to be only semiaquatic and thus should not be part of the sample.

A few taxa are not collected but are identified and counted when seen so that they can be tallied as part of the sample. These include the mussels in the family Unionidae mentioned earlier as well as large *Corydalus cornutus* and all Cambaridae. Freshwater sponges (Porifera) are collected, but as these are colonial organisms, each distinct taxon present is recorded as 1 instead of attempting to count how many are present at a site.

There is no established distance of stream reach sampled at any particular site. If there is good, fairly evenly distributed natural habitat, approximately 100 m of stream (both sides) is routinely sampled. In streams where there is sparse habitat, the distance covered may be more than 100 m. For ambient monitoring activities most sites are accessed at road bridges and are usually sampled upstream of the bridge. Some situations, however, may warrant sampling downstream (e.g. access and/or habitat limitations).

As previously noted, the MHSP is a three person-hour sampling effort. Approximately one-half hour is devoted to use of the kick net, one half hour is devoted to use of the d-frame dip net, and about one half hour is devoted to the fine mesh samplers. The rest of the time (one and one-half person hours) is spent using sieves and forceps to make visual collections from all habitat types present. As a general rule, when teams of biologists sample a site, each one independently uses one of the three sampling devices (dip net, kick net, fine mesh nets) to

sample the appropriate habitat. In the second half of the sampling effort, the sieve is used and visual collections are begun. It is helpful for the sampling team to discuss the kinds and numbers of taxa present and absent at a site throughout the sampling event. This results in more efficient sampling. It is very important that the field staff be trained and experienced macroinvertebrate taxonomists to use the MHSP effectively.

High water conditions can impair sampling efficiency by making some critical habitats inaccessible due to water depth or clarity. If the biologists cannot see and access all the habitats, the sample may not represent the full diversity of the macroinvertebrate community and could lead to spurious results. If high water levels or turbid conditions make sampling difficult or unsafe, it is better to return to the site under more amenable sampling conditions. Having no sample at all is better than collecting a bad sample or risking the safety of the biologists.

Photographs are taken of the upstream and downstream ends of the reach sampled at each station to document conditions on the sampling day. It is a good idea to also take photos when a site is visited but not sampled. Photos are kept in an electronic file and named using the station ID (STN) and date in the format STN-designation-mo.day.yr (for example E-042-dn-8.10.17) so that they can be easily retrieved. Any mussel photos are included in this file as well. Ensure that photo files are labeled correctly by using the camera's date/time stamp and downloading them soon after returning to the lab.

3.0 Habitat Assessment

Habitat assessment is an important step towards understanding the effects of pollution on macroinvertebrate communities. The ABS conducts two kinds of habitat assessment at each sampling site. The first is a comprehensive assessment adopted from the Environmental Protection Agency's (EPA) Revisions to Rapid Bioassessment Protocols for Use in Streams and Rivers (Appendix 1), and the second is a form developed by ABS focused more specifically on instream habitat availability (Appendix 2) (Barbour, Gerritsen, Snyder, & Stribling, 1999). Instructions are included on the forms explaining how to evaluate each of the habitat metrics. Habitat metrics are independently evaluated by each biologist and averaged for a final score (on a single form).

The EPA habitat assessment (EPA-HA) provides a thorough evaluation of several conditions at a stream site that could affect stream habitat quality. It provides information about the general stream condition at the assessment site. Since the EPA-HA is a standardized form, it is very useful for reporting purposes and sharing data among the Southeastern states. In

South Carolina the EPA-HA high gradient form is used in Blue Ridge and Piedmont ecoregions while the low gradient form is used for sites in the Southeastern Plains and the Middle Atlantic Coastal Plain.

Our in-house habitat assessment form (ABS-HA) provides more detailed information about instream macroinvertebrate habitat. It enables ABS biologists to make better assessments of the role of stream habitat in situations where pollution is involved. The form classifies the instream habitats into five categories and rates them from excellent to non-existent. This permits visualization of the habitats when the data is being analyzed and helps to explain the presence or absence of certain taxa. In addition, the ABS-HA enables ABS biologists to cluster stations according to shared habitats when comparisons are made among stations. This form also provides space to record physicochemical parameter measurements.

4.0 Physicochemical Sampling Procedure

The stream dissolved oxygen, pH, temperature, and conductivity are measured at the time of macroinvertebrate sampling. Results are recorded in the Field Quality Control Logbook (DES 2561 Form). Specific operation and calibration procedures are followed as documented in the most recent version of Standard Operating Procedures, Multi-Parameter Field Measurements in Surface Water (BRLSPROC205) (South Carolina Department of Environmental Services, 2025).

5.0 Laboratory Methods and Data Analysis

5.1 Sample Handling and Identification

At the end of each sampling day EtOH is decanted and the samples are reconstituted with fresh 85% EtOH. After returning to the ABS laboratory the samples are logged into the Macroinvertebrate Central Receiving Logbook (MCRL) (Appendix 3) and stored in a locked area to await further processing.

Before the sorting and identification of a macroinvertebrate sample begins, the taxonomist assumes custody of the sample by signing for it in the MCRL. Custody remains with the taxonomist until the sample has been identified, and these data are recorded on the bench sheet (Appendix 5). Sample completion is noted in the MCRL.

Macroinvertebrates are generally sorted by taxonomic order or other convenient level and placed into divided petri dishes for further identification. Specimens not requiring slide

mounting are identified using a stereo dissecting scope capable of at least 60x magnification. Midges, some baetid mayflies, and on occasion other taxonomic groups are mounted on labeled (date and locality) slides using CMC-1019 mounting media and identified with a compound microscope capable of 1000x magnification. Identifications are made to the lowest practical taxonomic level using the appropriate taxonomic references.

When reliable keys are available, mature specimens of EPT taxa are typically taken to species level while most other groups are taken to species or genus. No specimens are taken to a level beyond which the taxonomist feels reasonably confident in his identification. The NC Department of Environmental Quality has provided online taxonomic guides which include suggested levels of taxonomic effort for the orders Ephemeroptera, Plecoptera, Trichoptera, and Coleoptera (Beaty, S. R. 2010, 2011, 2013, 2015). Staff in the SCDES ABS have found these to be useful and appropriate for most South Carolina species.

Midges are transferred to water and allowed to settle before mounting. A drop of CMC-1019 mounting media is placed on a labeled slide, and the specimen(s) is oriented in the media so that the ventral side of the head capsule is up. To get the head arranged properly, it may be necessary to separate it from the body. A cover slip is placed over the specimen, and gentle pressure is applied to spread the mouthparts. Several midges may be mounted on one slide. Slides are allowed to dry for at least two days before identification.

Baetidae and certain other taxa that require slide mounting are set aside in a petri dish and the entire body or body parts are mounted, as necessary, for identification. A drop of CMC-1019 mounting media is placed on a labeled slide. The whole specimen or parts such as the head or legs are placed in the drop of CMC-1019 and with forceps, a cover slip is placed over the specimen. Gentle pressure is applied to the cover slip to reveal the structures necessary for identification. Several specimens may be mounted on one slide. Slides are allowed to dry for at least two days before identification.

After the sorted macroinvertebrates from a station have been identified and these data recorded on bench sheets, they are placed together in a single jar of 85% EtOH. This jar is labeled with station, date collected, and person who identified the sample, and is stored at least ten years in the ABS voucher collection. If a new taxa record (i.e. one not previously collected from South Carolina) is identified from a site, it is stored separately in the ABS reference collection. Other taxa are occasionally placed in the reference collection as well, so as to keep recent specimens in the collection as well as older ones. Continually adding to the collection allows it to serve as a voucher to show exactly what was being referred to by a taxonomic name at a given time; very helpful as keys and taxonomy are constantly changing. A note is made on the bench sheet when a specimen is relocated to the reference

collection. Slide mounted specimens are placed in slide boxes and stored separately in cabinets according to sample date and station. If mounted Chironomidae or other taxa are transferred to the reference collection, this is noted on the bench sheet.

5.2 Data Analysis

The taxa list, physicochemical data, and habitat information are entered into an Access database. This program is used for data management and reporting purposes.

Because the MHSP is a timed-qualitative method, metrics that require quantitative collection methods are not used. Two metrics that have proven to be very effective in evaluating macroinvertebrate data collected by qualitative methods are the EPT and biotic indices (Lenat, 1993; Wallace, Grubaugh, & Whiles, 1996; Barbour, Gerritsen, Snyder, & Stribling, 1999). The EPT index is the total number of distinct Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddisflies) taxa collected at a site. Most EPT taxa are very intolerant of pollution and, in general, a high EPT count indicates excellent water quality.

The biotic index (BI) is the average pollution tolerance of all organisms collected (based on assigned tolerance values for taxa) and the calculation factors in relative abundances. The index is based on a scale from 0 to 10, with 10 representing taxa capable of tolerating the most impaired stream conditions.

$$\text{Biotic Index (BI)} = \frac{\sum(Tvi)(ni)}{N}$$

Tvi = i th taxon tolerance value

ni = i th taxon abundance value

N = sum of all abundance values

This index and the associated tolerance values were developed in North Carolina (Lenat, 1993) and SCDES uses a modification of these values (Appendix 4). Taxa with no assigned tolerance value are excluded from the biotic index calculation.

The calculation of the BI does not include all specimens collected in a sample but rather a maximum of 10 specimens per taxon. This is done to ensure that the BI for a site will not be skewed because some taxa are more successfully collected than others. Since most taxa cannot be accurately identified in the field, it is common for some taxa to be more abundant in a sample. Taxa collected are designated as Rare (1-2 individuals), Common (3-9 individuals) or Abundant (> 10 individuals) and are assigned a 1, 3, and 10, respectively, for

the calculation of the BI. If there are less than 100 total organisms in a sample, the BI is not used. Instead, the EPT index is used along with other data to assign a bioclassification.

Macroinvertebrate communities change across ecoregions so different BI and EPT criteria are used to establish bioclassifications for streams based on the ecoregion in which they occur.

Figure 1 shows the ecoregions in South Carolina, after Omernik (1987) and Griffith(2002). Macroinvertebrate biocriteria have been established for 3 of South Carolina's 5 level III ecoregions: Blue Ridge (66), Piedmont (45), and Southeastern Plains (65). Numeric biocriteria for the Middle Atlantic Coastal Plain (63) are being developed and fine-tuned and are becoming an increasingly important part of our in-house professional judgement assessments of these streams. Any questions regarding data analysis of sites in this region should be addressed directly to the biologists of the ABS.

Many of the streams in the Middle Atlantic Coastal Plain ecoregion are acidic and swamp-like and may become dry or stagnant in the summer months. Thus, the macroinvertebrate diversity in these systems is often naturally low and the organisms that are present tend to be hardy species that can tolerate extreme environmental conditions. This makes the stressor signal weak and often it is difficult to distinguish anthropogenic perturbation from natural environmental conditions. Waterways in the Southern Coastal Plain (75) tend to be tidally influenced and/or estuarine and so there are very few sampling stations there. Those few are treated the same as those in the Middle Atlantic Coastal Plain.

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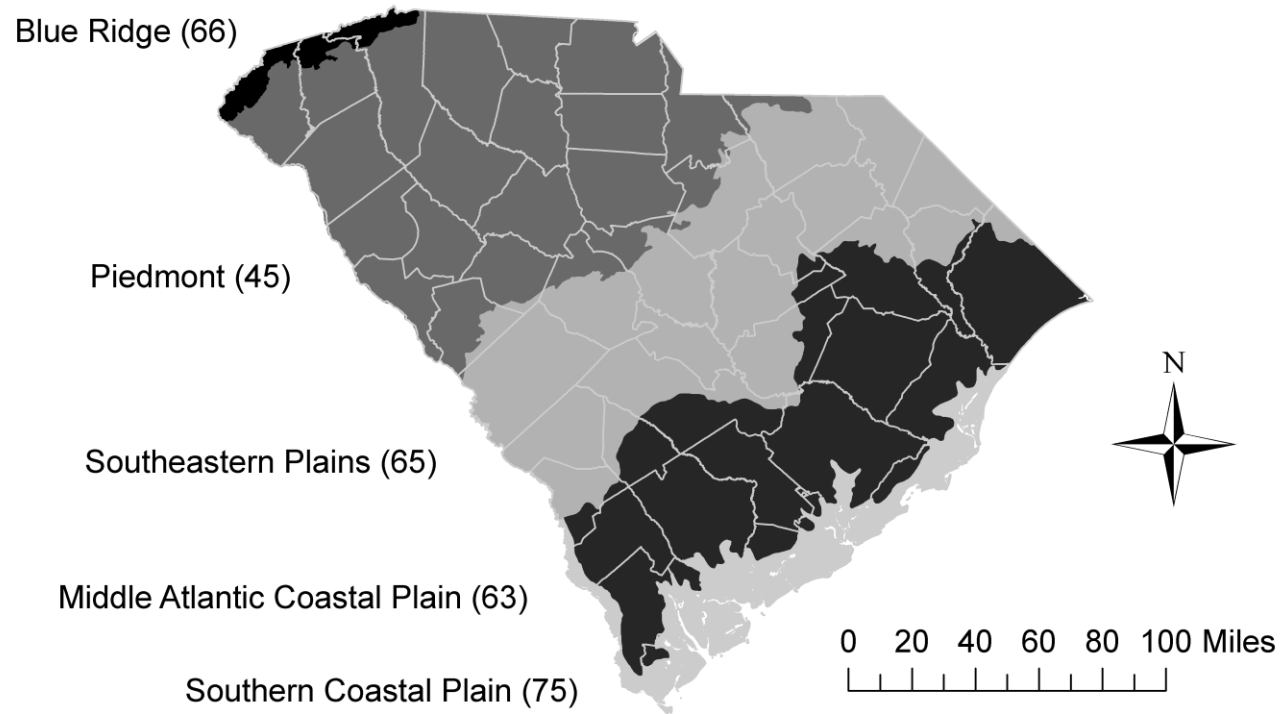


Figure 1: Level 3 Ecoregions of South Carolina (after Omernik, 1987).

The bioclassification of streams in South Carolina is based on the combination of equally weighted BI and EPT scores, and parallels North Carolina's criteria range:

Excellent = 5 Good = 4 Good-Fair = 3 Fair = 2 Poor = 1

The following linear equations are used to determine the scores for the EPT taxa richness values and BI values. These produce scores as a continuous variable roughly equivalent to those found in Lenat (1993). The highest and lowest values remain 5.0 and 1.0 respectively.

EPT Scores	
Southeastern Plains	Score = $0.1431 \times \text{EPT index} + 0.568$
Piedmont and Blue Ridge	Score = $0.1247 \times \text{EPT index} + 0.568$
Biotic Index Scores	
Southeastern Plains	Score = $-1.3599 \times \text{biotic index} + 11.832$
Piedmont and Blue Ridge	Score = $-1.3241 \times \text{biotic index} + 11.264$

The biotic index score and the EPT score are averaged together to produce a combined bioclassification score, which determines the final bioclassification. Rounding is used only to format the combined score to show a single decimal place, and this is done using the standard rules where digits of five or greater round up while digits under 5 round down.

Bioclassification of streams is important because it helps resource managers prioritize cleanup and protection efforts. This information is reported in the Section 303(d) report to the United States Environmental Protection Agency. The Clean Water Act (Section 303(d)) requires that States report on waters not meeting designated uses or water quality standards. In the 303(d) report, macroinvertebrates are used to determine a stream's level of aquatic life use support (ALUS). The criteria used to measure ALUS are summarized in three categories: Fully Supporting, Partially Supporting and Not Supporting.

Fully Supporting: Reliable data indicate a functioning, sustainable, biological assemblage of macroinvertebrates which has not been modified significantly beyond the natural range of the reference condition.

Partially Supporting: The macroinvertebrate assemblage indicates moderate modification of the biological community as compared to the reference condition.

Not Supporting: The macroinvertebrate assemblage indicates a severely impacted community structure. Data clearly indicates severe modification of the biological community compared to the reference condition.

The ABS determines the ALUS based on the bioclassification of the stream:

Combined Score	Bioclassification	ALUS
4.5 – 5.0	Excellent	Fully Supporting
3.5 – 4.4	Good	Fully Supporting
2.5 – 3.4	Good-Fair	Partially Supporting
1.5 – 2.4	Fair	Partially Supporting
1.0 – 1.4	Poor	Not Supporting

This method is also used to make stream impairment judgments for point and nonpoint source impact assessments.

5.3 Data Analysis for Special Studies

Special studies often involve using sites upstream from a point source discharge or a non-point source area as a control. The site downstream from the potential impact can then be compared with this upstream reference station for assessment purposes. By comparing final bioclassification scores an assessment can be made. The following represents the levels of impairment and their associated change in bioclassification scores.

Level of Impairment	Decrease in Bioclassification Score
Unimpaired	≤0.5
Slightly Impaired	0.6 – 1.5
Moderately Impaired	1.6 – 2.5
Severely Impaired	>2.5

The above scale is used as a general guide and there are situations in both special studies and routine monitoring where professional judgment of the ABS may override the assessment metrics. This may happen in the Middle Atlantic Coastal Plain where criteria are still being developed or where the control site is also impaired. This is common in urban watersheds where the biological community is often stressed. In such streams if the control is Poor (1.0), for example, it is a mathematical impossibility to show a decrease in the bioassessment score since 1.0 is the lowest possible score. This is not to suggest that the

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point source discharge could not still contribute to the degradation of water quality. In this situation, water chemistry, toxicity tests, or other means may be more appropriately used to determine the potential for an effluent to cause degradation. However, even in these situations, macroinvertebrate bioassessments can be valuable. The change in species composition, feeding groups, or habits of the animals making up the macroinvertebrate communities can sometimes help determine impact. These studies can also help track long-term trends or provide clues to catastrophic events in which substantial numbers of species are missing from a downstream site relative to the control.

In situations where a bioclassification cannot be calculated for a downstream site due to a paucity of organisms (<100), an assessment of impact will be based on weight of evidence. Metrics such as EPT taxa richness and total taxa richness can be used to compare the control site with the study site.

6.0 Quality Assurance

All macroinvertebrate samples are logged into the ABS's Macroinvertebrate Central Receiving Logbook upon delivery to the lab. Entries on the ABS Habitat Form (Appendix 2) are checked for agreement as to the number of jars and vials collected from each station. These are checked again when the sample is signed out for identification. The logbook serves to track sample possession and to document progress through initial log in, sorting, and taxonomic identification. The identification data are recorded on a macroinvertebrate bench sheet (Appendix 5). Completed bench sheets along with habitat assessment forms and any other hard copy related to a sample are kept on permanent file. Using the completed bench sheet, the data are entered into an Access database. After data are entered into the database, they are printed and each line is checked against the original bench sheets and corrections are made if needed.

Ten percent of all identified samples are selected at random and re-identified by a different biologist for taxonomic and count accuracy. The quality assurance (QA)/quality control (QC) reviewer records the findings in the permanently bound Macroinvertebrate QA/QC Logbook (Appendix 6). If a taxonomist incorrectly identifies more than 10% of taxa in a sample, other samples done by that taxonomist will also be checked. A sample is chosen for QA/QC after 10 samples have been identified. Each set of 10 completed samples is numbered. A single sample is randomly chosen from each group. The taxonomist to do the re-identification is randomly chosen from the skilled taxonomists in the ABS, not to include the original taxonomist. Disagreements are resolved between the QA/QC taxonomist and the original

taxonomist, using the input from a third taxonomist when needed, and the results are recorded in the QA/QC logbook.

To evaluate the precision of the field techniques, 5% of the stations are sampled twice. This involves the selection of two adjacent stream reaches on the same stream. Reaches should be similar to each other with respect to habitat and hydrology. Each reach is sampled using the timed MHSP described above, preferably on the same day. Each reach is treated as a separate sample with a final bioclassification score calculated for each segment. The first sample collected is used for the official water quality assessment and the second sample only to calculate precision. Precision is determined by comparing the two bioclassification scores. For the ABS, the difference in the two scores has historically averaged about 0.2 and that value is used as the margin of error for our bioassessment scores.

Taxonomists use current, accepted taxonomic texts in making identifications as well as in interpreting the results. In addition, primary literature is kept on file and used when appropriate. Taxonomists also attend workshops and training sessions when available to expand their knowledge and competence and to remain current in the ever-changing realm of taxonomy. Some texts that our taxonomists find particularly useful include, but are not limited to:

“An Introduction to the Aquatic Insects of North America” (Merritt, Cummins, & Berg, 2008)

“Larvae of the Southeastern USA Mayfly, Stonefly, and Caddisfly Species” (Morse, McCafferty, Stark, & Jacobus, 2017)

“Dragonfly Nymphs of North America: An Identification Guide” (Tennessen, 2019)

“Water Beetles of South Carolina” (Ciegler, 2003)

“The Water Beetles of Florida” (Epler, The Water Beetles of Florida, 2010)

“Aquatic and Semi-Aquatic Heteroptera of Florida” (Epler, Aquatic and Semi-Aquatic Heteroptera of Florida, 2006)

“Nymphs of North American Stonefly Genera (Plecoptera)” (Stewart & Stark, 1988)

“Larvae of the North American Caddisfly Genera (Trichoptera) 2nd Ed.” (Wiggins, 1996)

“Key to the Freshwater Malacostraca (Crustacea) of the Mid-Atlantic Region (Rogers, 2008)

“Identification Manual for the Larval Chironomidae (Diptera) of North and South Carolina (Epler, Identification manual for the larval Chironomidae (Diptera) of Florida, 2001)

“Freshwater Invertebrates of the United States. 3rd Ed” (Pennak, 1989)

“Workbook and Key to the Freshwater Bivalves of South Carolina” (Bogan, 2008)

“Biology of Freshwater Corbiculid and Sphaeriid Clams of North America” (Mackie, 2007)

7.0 Index Period

For ambient macroinvertebrate monitoring, SCDES’s index period is approximately 15 June to 15 September for the Blueridge, Piedmont, and Southeastern Plains ecoregions and approximately 15 January to 15 March for the Middle Atlantic Coastal Plain Ecoregion. As the program observes the effects of changing temperature patterns on the yearly development of plants and animals, including macroinvertebrates, the program has begun to use modified growing degree days to determine more precisely each year when the winter sampling season should end and when the summer sampling season should begin. These dates are calculated based on the high and low temperatures recorded in Columbia using the 86/50 formula¹ beginning on the first day of January. The program determines the winter season concludes when 385 accumulated degree days are reached and begins the summer season at 2050 degree days. The start of winter sampling remains 15 January as there are very few accumulated degree days that early in the year. Likewise, based on programmatic experience with other invertebrates, the exact count of degree days at the end of the summer season is less critical and summer sampling is concluded on 15 September.

¹ The Growing Degree Day (GDD) 86/50 formula is also known as the “simple average” method with an upper threshold cap. The formula is calculated as follows:

$$\text{Daily GDD} = \max(0, ((\min(86, \text{MaxTemp}) + \max(50, \text{MinTemp}))/2) - 50)$$

For each day beginning on January 1 of each year, the recorded low temperature is averaged with the recorded high to produce a daily average. Before averaging, if the low is below 50 °F, it is adjusted up to 50. If the high is above 86 °F, it is adjusted down to 86. After the average is calculated, the base temperature of 50 °F is subtracted to give the daily growing degree days. Accumulated degree days are the total of all daily degree days since January 1. Days when the average temperature is less than 50 °F do not add to the total.

While all organisms develop at different rates, the logic behind the 86/50 formula is that most will have little development during colder weather and develop faster as it becomes warmer. This increase is believed to plateau with additional warming beyond that temperature resulting in little or no increase in developmental rate. This formula is often used by entomologists as well as farmers growing corn.

ABS recommends the degree day calculator at EntoTools.org because it uses a reasonable estimation of degree days for days when temperature data is missing, as opposed to adding zeros for those days. See the documentation section of the EntoTools.org website for more details on how these calculations are made.

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Special studies in which an upstream control site is available can be conducted at any time of the year; however, a summer sample is often preferred as it can be more easily compared to historical monitoring data in addition to the upstream study site. In the Middle Atlantic Coastal Plain, a winter sample might be preferred for the same reason.

8.0 Revision History

Date	Revision No.	Change	Section
9/30/2026	0	ASDPROC 005 – Macroinvertebrate Sampling SOP	

References

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Appendix 1: EPA Habitat Assessment Forms (high gradient for mountain and piedmont ecoregions)

HABITAT ASSESSMENT FIELD DATA SHEET

HIGH GRADIENT

Date

Collectors

Station No.

Location

Habitat parameter	Condition category																				
	Excellent					Good					Fair					Poor					
1. Epifaunal (bottom) substrate / available cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e. logs/snags that are not new fall and not transient).					40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).					20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.					Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
2. Embed-dedness	Gravel, cobble and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.					Gravel, cobble and boulder particles are 25-50% surrounded by fine sediment.					Gravel, cobble and boulder particles are 50-75% surrounded by fine sediment.					Gravel, cobble and boulder particles are more than 75% surrounded by fine sediment.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
3. Velocity / depth regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). Slow is <0.3m/s, deep is >0.5m).					Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).					Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).					Dominated by 1 velocity/depth regime (usually slow-deep).					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
4. Sediment deposition	Little or no enlargement of islands or point bars and less than 5% of the bottom affected by sediment deposition.					Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% of the bottom affected; slight deposition in pools.					Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected; sediment deposits at obstructions, constrictions and bends; moderate deposition in pools prevalent.					Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
5. Channel flow status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.					Water fills >75% of the available channel; or <25% of channel substrate is exposed.					Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.					Very little water in channel and mostly present as standing pools.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

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Habitat parameter	Condition category																				
	Excellent					Good					Fair					Poor					
6. Channel alteration	Channelization or dredging absent or minimal; stream with normal pattern.					Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e. dredging (greater than 20 yr) may be present, but recent channelization is not present.					Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.					Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
7.Frequency of riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.					Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.					Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.					Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
8.Bank stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.					Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.					Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.					Unstable; many eroded areas; 'raw' areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.					
Left Bank	10	9	8	7	6	5	4	3	2	1	0										
Right Bank	10	9	8	7	6	5	4	3	2	1	0										
9.Vegetative protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or non woody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.					70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one half of the potential plant stubble height remaining.					50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.					Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.					
Left Bank	10	9	8	7	6	5	4	3	2	1	0										
Right Bank	10	9	8	7	6	5	4	3	2	1	0										
10.Riparian zone (score each bank)	Width of riparian zone >18 meters; human activities (i.e. roads, lawns, crops etc.) have not impacted the riparian zone.					Width of riparian zone 12-18 meters; human activities have impacted riparian zone only minimally.					Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.					Width of riparian zone <6 meters; little or no riparian vegetation is present because of human activities.					
Left Bank	10	9	8	7	6	5	4	3	2	1	0										
Right Bank	10	9	8	7	6	5	4	3	2	1	0										

Appendix 1: EPA Habitat Assessment Forms (low gradient for coastal plain ecoregions)

HABITAT ASSESSMENT FIELD DATA SHEET

LOW GRADIENT

Date

Collectors

Station No.

Location

Habitat parameter	Condition category																				
	Excellent					Good					Fair					Poor					
1. Epifaunal (bottom) substrate / available cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e. logs/snags that are not new fall and not transient).					40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).					20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.					Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
2. Pool substrate	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.					Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.					All mud or clay or sand bottom; little or no root mat; no submerged vegetation.					Hard-pan clay or bedrock; no root mat or vegetation.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
3. Pool variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.					Majority of pools large-deep; very few shallow.					Shallow pools much more prevalent than deep pools.					Majority of pools small-shallow or pools absent.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
4. Sediment deposition	Little or no enlargement of islands or point bars and less than 5% of the bottom affected by sediment deposition.					Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% of the bottom affected; slight deposition in pools.					Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected; sediment deposits at obstructions, constrictions and bends; moderate deposition in pools prevalent.					Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
5. Channel flow status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.					Water fills >75% of the available channel; or <25% of channel substrate is exposed.					Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.					Very little water in channel and mostly present as standing pools.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

Subject to change without notice

Habitat parameter	Condition category																				
	Excellent					Good					Fair					Poor					
6. Channel alteration	Channelization or dredging absent or minimal; stream with normal pattern.					Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e. dredging (greater than 20 yr) may be present, but recent channelization is not present.					Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.					Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
7.Channel sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)					The bends in the stream increase the stream length 2-3 times longer than if it was in a straight line.					The bends in the stream increase the stream length 1-2 times longer than if it was in a straight line.					Channel straight; waterway has been channelized for a long distance.					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
8.Bank stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.					Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.					Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.					Unstable; many eroded areas; 'raw' areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.					
Left Bank	10	9	8	7	6	5	4	3	2	1	0										
Right Bank	10	9	8	7	6	5	4	3	2	1	0										
9.Vegetative protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or non woody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.					70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one half of the potential plant stubble height remaining.					50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.					Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.					
Left Bank	10	9	8	7	6	5	4	3	2	1	0										
Right Bank	10	9	8	7	6	5	4	3	2	1	0										
10.Riparian zone (score each bank)	Width of riparian zone >18 meters; human activities (i.e. roads, lawns, crops etc.) have not impacted the riparian zone.					Width of riparian zone 12-18 meters; human activities have impacted riparian zone only minimally.					Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.					Width of riparian zone <6 meters; little or no riparian vegetation is present because of human activities.					
Left Bank	10	9	8	7	6	5	4	3	2	1	0										
Right Bank	10	9	8	7	6	5	4	3	2	1	0										

Appendix 2: ABS Habitat Assessment

SC DES ABS

Macroinvertebrate Habitat Assessment

Station _____ Date _____ Time _____ Jars _____ Vials _____

Stream _____ Location _____ County _____

Collectors _____ Field QC Logbook _____ Page# _____

pH (SU) _____ DO (mg/L) _____ H₂O Temp (C°) _____ Cond (umhos/cm) _____

Aquatic Habitat Score: Excellent = 5 Good = 4 Good-Fair = 3 Fair = 2 Poor = 1 Nonexistent = 0

Habitat	Score						Comments
Root Banks	5	4	3	2	1	0	
Logs, Sticks, Snags	5	4	3	2	1	0	
Rock/Gravel Riffle	5	4	3	2	1	0	
Mature Leaf Pack	5	4	3	2	1	0	
Aquatic Vegetation	5	4	3	2	1	0	

*If aufwuchs and/or sediment on the habitats appear to adversely affect colonization by macroinvertebrates, this impact is noted in the comments section; however, the habitat score does not change.

Braided channel:	(coastal plain only)	5	4	3	2	1	0
	Multiple channels with water under most conditions. "Main" channel hard to distinguish.			Side channel(s) present but with less flow/water.		Islands or side channels only during high water.	Not braided
Velocity/Flow:	more	5	4	3	2	1	less
Sedimentation:	3 (Little or No)		2 (Moderate)		1 (Severe)		

Species observed but not collected:

Subject to change without notice

Appendix 3: Macroinvertebrate Central Receiving Logbook

Macroinvertebrate Central Receiving Logbook

[illegible]

Legend: T = Trend, S = Special, ini = biologist's initials, J = jars, V = vials

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Appendix 4: South Carolina master list of benthic macroinvertebrates with associated tolerance values (TV). Tolerance values are based on values calculated by North Carolina DEQ and range from 0 to 10, with lower values being more sensitive to pollution and higher values more tolerant.

SC Master List of Benthic Macroinvertebrates

Phylum	Class	Order	Family	Genus species	TV
Annelida	Clitellata	Arhynchobdellida	Erpobdellidae	Erpobdellidae	-
Annelida	Clitellata	NA	NA	Hirudinea	-
Annelida	Clitellata	NA	NA	Oligochaeta	-
Annelida	Clitellata	Rhynchobdellida	Glossiphoniidae	Glossiphoniidae	9.00
Arthropoda	Arachnida	Trombidiformes	NA	Hydracarina	5.53
Arthropoda	Insecta	Coleoptera	Dryopidae	Dryopidae	-
Arthropoda	Insecta	Coleoptera	Dryopidae	Helichus basalis	0.50
Arthropoda	Insecta	Coleoptera	Dryopidae	Helichus fastigiatus	4.60
Arthropoda	Insecta	Coleoptera	Dryopidae	Helichus lithophilus	3.00
Arthropoda	Insecta	Coleoptera	Dryopidae	Helichus sp.	4.10
Arthropoda	Insecta	Coleoptera	Dryopidae	Helichus striatus	4.60
Arthropoda	Insecta	Coleoptera	Dryopidae	Pelonomus obscurus	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Acilius fraternus	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Acilius sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Agabetes acuductus	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Agabetes sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Agabus sp.	8.30
Arthropoda	Insecta	Coleoptera	Dytiscidae	Agabus/Platambus	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Anodocheilus exiguus	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Bidessonotus longovalis	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Bidessonotus sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Boreonectes griseostriatus	4.90
Arthropoda	Insecta	Coleoptera	Dytiscidae	Celina sp.	8.04
Arthropoda	Insecta	Coleoptera	Dytiscidae	Clemnius faretus	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Copelatus glyphicus	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Copelatus sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Coptotomus interrogatus	8.50
Arthropoda	Insecta	Coleoptera	Dytiscidae	Coptotomus loticus	9.26
Arthropoda	Insecta	Coleoptera	Dytiscidae	Coptotomus sp.	8.50
Arthropoda	Insecta	Coleoptera	Dytiscidae	Cybister sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Deronectes sp.	4.00
Arthropoda	Insecta	Coleoptera	Dytiscidae	Desmopachria grana	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Dytiscidae	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Dytiscus fasciventris	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Dytiscus hybridus	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Dytiscus sp.	7.70
Arthropoda	Insecta	Coleoptera	Dytiscidae	Eretes sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Graphoderus liberus	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Hoperius planatus	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Hydaticus bimarginatus	9.10
Arthropoda	Insecta	Coleoptera	Dytiscidae	Hydaticus sp.	9.10

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Coleoptera	Dytiscidae	Hydrocolus sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Hydroporus sp.	7.00
Arthropoda	Insecta	Coleoptera	Dytiscidae	Hydroporus/Hygrotus	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Hydrovatus sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Hygrotus sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Ilybius sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Laccophilus fasciatus	9.80
Arthropoda	Insecta	Coleoptera	Dytiscidae	Laccophilus sp.	9.80
Arthropoda	Insecta	Coleoptera	Dytiscidae	Laccornis difformis	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Laccornis sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Liodessus crotchii	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Liodessus sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Lioporeus pilatei	3.00
Arthropoda	Insecta	Coleoptera	Dytiscidae	Lioporeus sp.	4.00
Arthropoda	Insecta	Coleoptera	Dytiscidae	Lioporeus triangularis	3.00
Arthropoda	Insecta	Coleoptera	Dytiscidae	Matus leechi	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Matus ovatus	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Matus sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Neoporus aulicus	5.00
Arthropoda	Insecta	Coleoptera	Dytiscidae	Neoporus blanchardi	5.00
Arthropoda	Insecta	Coleoptera	Dytiscidae	Neoporus clypealis	8.62
Arthropoda	Insecta	Coleoptera	Dytiscidae	Neoporus mellitus	3.90
Arthropoda	Insecta	Coleoptera	Dytiscidae	Neoporus sp.	5.00
Arthropoda	Insecta	Coleoptera	Dytiscidae	Neoporus undulatus	8.62
Arthropoda	Insecta	Coleoptera	Dytiscidae	Neoporus vittatipennis	8.62
Arthropoda	Insecta	Coleoptera	Dytiscidae	Neoporus vittatipennis	5.00
Arthropoda	Insecta	Coleoptera	Dytiscidae	Platambus sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Rhantus sp.	3.61
Arthropoda	Insecta	Coleoptera	Dytiscidae	Thermonectus sp.	-
Arthropoda	Insecta	Coleoptera	Dytiscidae	Uvarus sp.	-
Arthropoda	Insecta	Coleoptera	Elmidae	Ancyronyx variegatus	6.80
Arthropoda	Insecta	Coleoptera	Elmidae	Dubiraphia bivittata	5.93
Arthropoda	Insecta	Coleoptera	Elmidae	Dubiraphia quadrinotata	5.50
Arthropoda	Insecta	Coleoptera	Elmidae	Dubiraphia sp.	5.50
Arthropoda	Insecta	Coleoptera	Elmidae	Dubiraphia vittata	5.00
Arthropoda	Insecta	Coleoptera	Elmidae	Elmidae	-
Arthropoda	Insecta	Coleoptera	Elmidae	Heterlimnius (G.) dietrichi	-
Arthropoda	Insecta	Coleoptera	Elmidae	Heterlimnius (O.) sp.	2.10
Arthropoda	Insecta	Coleoptera	Elmidae	Heterlimnius (P.) elegans	2.10
Arthropoda	Insecta	Coleoptera	Elmidae	Heterlimnius (P.) sp.	3.10
Arthropoda	Insecta	Coleoptera	Elmidae	Heterlimnius (P.) tardellus	0.001
Arthropoda	Insecta	Coleoptera	Elmidae	Macronychus glabratus	4.70
Arthropoda	Insecta	Coleoptera	Elmidae	Microcylloepus pusillus	3.30
Arthropoda	Insecta	Coleoptera	Elmidae	Oulimnius latiusculus	1.90
Arthropoda	Insecta	Coleoptera	Elmidae	Oulimnius nitidulus	1.80
Arthropoda	Insecta	Coleoptera	Elmidae	Oulimnius sp.	1.80
Arthropoda	Insecta	Coleoptera	Elmidae	Stenelmis sp.	5.60
Arthropoda	Insecta	Coleoptera	Gyrinidae	Dineutus sp.	5.00
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyretes sp.	-
Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinidae	-

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Arthropoda	Insecta	Coleoptera	Gyrinidae	Gyrinus sp.	5.80
Arthropoda	Insecta	Coleoptera	Gyrinidae	Spanglerogyrus sp.	-
Arthropoda	Insecta	Coleoptera	Haliplidae	Haliplidae	-
Arthropoda	Insecta	Coleoptera	Haliplidae	Halipus sp.	8.71
Arthropoda	Insecta	Coleoptera	Haliplidae	Peltodytes sp.	8.40
Arthropoda	Insecta	Coleoptera	Helophoridae	Helophorus sp.	7.60
Arthropoda	Insecta	Coleoptera	Hydraenidae	Gymnochthebius/Ochthebius	-
Arthropoda	Insecta	Coleoptera	Hydraenidae	Hydraena sp.	-
Arthropoda	Insecta	Coleoptera	Hydraenidae	Hydraenidae	-
Arthropoda	Insecta	Coleoptera	Hydrochidae	Hydrochus sp.	6.55
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Anacaena sp.	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Berosus sp.	8.80
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Cercyon sp.	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Cymbiodyta sp.	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Derallus altus	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Enochrus sayi	8.75
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Enochrus sp.	8.50
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Enochrus sublongus	8.75
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Helobata larvalis	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Helochares maculicollis	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Helochares sp.	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Helocombus bifidus	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrobiomorpha casta	0.001
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrobiomorpha sp.	0.001
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrobius sp.	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrochara soror	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrochara sp.	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilidae	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Hydrophilus triangularis	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Laccobius agilis	6.50
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Laccobius reflexipennis	6.50
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Laccobius sp.	6.50
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Paracymus confusus	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Paracymus nanus	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Paracymus sp.	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Phaenonotum sp.	-
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Sperchopsis tessellata	4.40
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Tropisternus blatchleyi	9.68
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Tropisternus collaris	9.30
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Tropisternus glaber	9.68
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Tropisternus lateralis	9.30
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Tropisternus natator	9.30
Arthropoda	Insecta	Coleoptera	Hydrophilidae	Tropisternus sp.	9.30
Arthropoda	Insecta	Coleoptera	NA	Coleoptera	-
Arthropoda	Insecta	Coleoptera	Noteridae	Hydrocanthus atripennis	7.14
Arthropoda	Insecta	Coleoptera	Noteridae	Hydrocanthus iricolor	7.14
Arthropoda	Insecta	Coleoptera	Noteridae	Hydrocanthus sp.	7.14
Arthropoda	Insecta	Coleoptera	Noteridae	Noteridae	-
Arthropoda	Insecta	Coleoptera	Noteridae	Notomicrus manulus	-
Arthropoda	Insecta	Coleoptera	Noteridae	Notomicrus sp.	-

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Arthropoda	Insecta	Coleoptera	Noteridae	Suphis inflatus	-
Arthropoda	Insecta	Coleoptera	Noteridae	Suphisellus sp.	-
Arthropoda	Insecta	Coleoptera	Psephenidae	Ectopria nervosa	4.30
Arthropoda	Insecta	Coleoptera	Psephenidae	Psephenidae	-
Arthropoda	Insecta	Coleoptera	Psephenidae	Psephenus herricki	2.30
Arthropoda	Insecta	Coleoptera	Ptilodactylidae	Anchytarsus bicolor	2.40
Arthropoda	Insecta	Coleoptera	Ptilodactylidae	Ptilodactyla augustata	-
Arthropoda	Insecta	Coleoptera	Ptilodactylidae	Ptilodactyla serricollis	-
Arthropoda	Insecta	Coleoptera	Ptilodactylidae	Ptilodactyla sp.	-
Arthropoda	Insecta	Coleoptera	Ptilodactylidae	Ptilodactylidae	-
Arthropoda	Insecta	Coleoptera	Scirtidae	Contacyphon sp.	-
Arthropoda	Insecta	Coleoptera	Scirtidae	Elodes sp.	-
Arthropoda	Insecta	Coleoptera	Scirtidae	Ora sp.	-
Arthropoda	Insecta	Coleoptera	Scirtidae	Prionocyphon sp.	-
Arthropoda	Insecta	Coleoptera	Scirtidae	Scirtes sp.	-
Arthropoda	Insecta	Coleoptera	Scirtidae	Scirtidae	-
Arthropoda	Insecta	Coleoptera	Staphylinidae	Staphylinidae	-
Arthropoda	Insecta	Coleoptera	Staphylinidae	Stenus sp.	-
Arthropoda	Insecta	Diptera	Athericidae	Atherix lantha	1.80
Arthropoda	Insecta	Diptera	Bibionidae	Dilophus sp.	-
Arthropoda	Insecta	Diptera	Blephariceridae	Blepharicera sp.	0.001
Arthropoda	Insecta	Diptera	Ceratopogonidae	Alluaudomyia neehami	5.99
Arthropoda	Insecta	Diptera	Ceratopogonidae	Alluaudomyia sp.	5.99
Arthropoda	Insecta	Diptera	Ceratopogonidae	Atrichopogon sp.	6.10
Arthropoda	Insecta	Diptera	Ceratopogonidae	Bezzia sp.	5.70
Arthropoda	Insecta	Diptera	Ceratopogonidae	Culicoides sp.	8.60
Arthropoda	Insecta	Diptera	Ceratopogonidae	Dasyhelea sp.	5.00
Arthropoda	Insecta	Diptera	Ceratopogonidae	Forcipomyia sp.	-
Arthropoda	Insecta	Diptera	Ceratopogonidae	Forcipomyiinae	-
Arthropoda	Insecta	Diptera	Ceratopogonidae	Leptoconops sp.	-
Arthropoda	Insecta	Diptera	Ceratopogonidae	Mallochohelea sp.	-
Arthropoda	Insecta	Diptera	Ceratopogonidae	Palpomyia complex	5.70
Arthropoda	Insecta	Diptera	Ceratopogonidae	Palpomyia sp.	-
Arthropoda	Insecta	Diptera	Ceratopogonidae	Probezzia sp.	-
Arthropoda	Insecta	Diptera	Ceratopogonidae	Sphaeromyia sp.	-
Arthropoda	Insecta	Diptera	Ceratopogonidae	Stilobezzia sp.	-
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogonidae	-
Arthropoda	Insecta	Diptera	Ceratopogonidae	Ceratopogoninae	-
Arthropoda	Insecta	Diptera	Chaoboridae	Chaoboridae	-
Arthropoda	Insecta	Diptera	Chaoboridae	Chaoborus albatus	-
Arthropoda	Insecta	Diptera	Chaoboridae	Chaoborus americanus	-
Arthropoda	Insecta	Diptera	Chaoboridae	Chaoborus flavicans	-
Arthropoda	Insecta	Diptera	Chaoboridae	Chaoborus punctipennis	8.50
Arthropoda	Insecta	Diptera	Chaoboridae	Chaoborus sp.	8.50
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia (Asayia) annulata	2.04
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia (Karelia) sp.	7.20
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia aspera	7.20
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia aspera/hauberi	-
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia cinctipes	-
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia hauberi	-

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Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia ideii	-
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia janta	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia mallochi	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia monilis	-
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia monilis/rhamphe gr	6.80
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia parajanta	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia parajanta/janata	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia peleensis	9.67
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia philosphagnos	-
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia rhamphe gr	6.80
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia simpsoni	4.00
Arthropoda	Insecta	Diptera	Chironomidae	Ablabesmyia sp.	7.20
Arthropoda	Insecta	Diptera	Chironomidae	Acamptocladus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Acricotopus	-
Arthropoda	Insecta	Diptera	Chironomidae	Alotanyus aris	-
Arthropoda	Insecta	Diptera	Chironomidae	Antillocladius arcuatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Antillocladius pluspilalus	-
Arthropoda	Insecta	Diptera	Chironomidae	Antillocladius sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Apedilum elachistus	-
Arthropoda	Insecta	Diptera	Chironomidae	Apedilum sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Apedilum subcinctum	-
Arthropoda	Insecta	Diptera	Chironomidae	Apsectrotanyus johnsoni	0.10
Arthropoda	Insecta	Diptera	Chironomidae	Axarus festivus	-
Arthropoda	Insecta	Diptera	Chironomidae	Axarus rogersi	-
Arthropoda	Insecta	Diptera	Chironomidae	Axarus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Axarus taenionotus	-
Arthropoda	Insecta	Diptera	Chironomidae	Beardius truncatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Beckidia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Boreochlus persimilis	-
Arthropoda	Insecta	Diptera	Chironomidae	Brillia flavifrons	3.90
Arthropoda	Insecta	Diptera	Chironomidae	Brillia parva	-
Arthropoda	Insecta	Diptera	Chironomidae	Brillia sera	5.20
Arthropoda	Insecta	Diptera	Chironomidae	Brillia sp.	5.70
Arthropoda	Insecta	Diptera	Chironomidae	Brillia/Euryhopsis	-
Arthropoda	Insecta	Diptera	Chironomidae	Brundiniella eumorpha	2.00
Arthropoda	Insecta	Diptera	Chironomidae	Bryophaenocladus digitatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Bryophaenocladus flavoscutellatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Bryophaenocladus fuminosus	-
Arthropoda	Insecta	Diptera	Chironomidae	Bryophaenocladus impectinus	-
Arthropoda	Insecta	Diptera	Chironomidae	Bryophaenocladus psilacrus	-
Arthropoda	Insecta	Diptera	Chironomidae	Bryophaenocladus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Bryophaenocladus sp. 1	-
Arthropoda	Insecta	Diptera	Chironomidae	Bryophaenocladus sp. 2	-
Arthropoda	Insecta	Diptera	Chironomidae	Bryophaenocladus sp. 3	-
Arthropoda	Insecta	Diptera	Chironomidae	Camptocladus stercorarius	-
Arthropoda	Insecta	Diptera	Chironomidae	Cantopelopia aleta	-
Arthropoda	Insecta	Diptera	Chironomidae	Cantopelopia gesta	-
Arthropoda	Insecta	Diptera	Chironomidae	Cardiocladius albiplumus	6.20
Arthropoda	Insecta	Diptera	Chironomidae	Cardiocladius obscurus	6.20
Arthropoda	Insecta	Diptera	Chironomidae	Cardiocladius sp.	6.20

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Arthropoda	Insecta	Diptera	Chironomidae	Chaetocladius ligni	-
Arthropoda	Insecta	Diptera	Chironomidae	Chaetocladius piger	-
Arthropoda	Insecta	Diptera	Chironomidae	Chaetocladius sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Chasmatonotus bicolor	-
Arthropoda	Insecta	Diptera	Chironomidae	Chasmatonotus bimaculatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Chasmatonotus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Chasmatonotus unimaculatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Chernovskiiia orbicus	9.63
Arthropoda	Insecta	Diptera	Chironomidae	Chernovskiiia sp.	9.63
Arthropoda	Insecta	Diptera	Chironomidae	Chironomidae	-
Arthropoda	Insecta	Diptera	Chironomidae	Chironominae	-
Arthropoda	Insecta	Diptera	Chironomidae	Chironomini	-
Arthropoda	Insecta	Diptera	Chironomidae	Chironomini genus III	-
Arthropoda	Insecta	Diptera	Chironomidae	Chironomini genus IV	-
Arthropoda	Insecta	Diptera	Chironomidae	Chironomus austini	-
Arthropoda	Insecta	Diptera	Chironomidae	Chironomus crassicaudatus	9.30
Arthropoda	Insecta	Diptera	Chironomidae	Chironomus decorus complex	9.30
Arthropoda	Insecta	Diptera	Chironomidae	Chironomus longipes	-
Arthropoda	Insecta	Diptera	Chironomidae	Chironomus major	-
Arthropoda	Insecta	Diptera	Chironomidae	Chironomus ochreateus	-
Arthropoda	Insecta	Diptera	Chironomidae	Chironomus plumosus	-
Arthropoda	Insecta	Diptera	Chironomidae	Chironomus riparius	9.30
Arthropoda	Insecta	Diptera	Chironomidae	Chironomus sp.	9.30
Arthropoda	Insecta	Diptera	Chironomidae	Chironomus staegeri	-
Arthropoda	Insecta	Diptera	Chironomidae	Chironomus stigmaterus	-
Arthropoda	Insecta	Diptera	Chironomidae	Chironomus tuxis	-
Arthropoda	Insecta	Diptera	Chironomidae	Cladopelma amachaerus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cladopelma collator	-
Arthropoda	Insecta	Diptera	Chironomidae	Cladopelma edwardsi	-
Arthropoda	Insecta	Diptera	Chironomidae	Cladopelma forcipis	-
Arthropoda	Insecta	Diptera	Chironomidae	Cladopelma galeator	-
Arthropoda	Insecta	Diptera	Chironomidae	Cladopelma sp.	4.09
Arthropoda	Insecta	Diptera	Chironomidae	Cladopelma spectabilis	-
Arthropoda	Insecta	Diptera	Chironomidae	Cladopelma virudulus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cladotanytarsus aciparthenus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cladotanytarsus cf. daviesi	2.80
Arthropoda	Insecta	Diptera	Chironomidae	Cladotanytarsus sp.	4.00
Arthropoda	Insecta	Diptera	Chironomidae	Cladotanytarsus sp. A (Epler)	4.00
Arthropoda	Insecta	Diptera	Chironomidae	Cladotanytarsus sp. B (Epler)	7.00
Arthropoda	Insecta	Diptera	Chironomidae	Cladotanytarsus sp. D (Epler)	2.00
Arthropoda	Insecta	Diptera	Chironomidae	Cladotanytarsus sp. E (Epler)	4.00
Arthropoda	Insecta	Diptera	Chironomidae	Cladotanytarsus sp. F (Epler)	3.20
Arthropoda	Insecta	Diptera	Chironomidae	Cladotanytarsus sp. H (Epler)	4.00
Arthropoda	Insecta	Diptera	Chironomidae	Cladotanytarsus sp. I (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Cladotanytarsus viridiventris	4.70
Arthropoda	Insecta	Diptera	Chironomidae	Clinotanypus pinguis	7.80
Arthropoda	Insecta	Diptera	Chironomidae	Clinotanypus sp.	7.80
Arthropoda	Insecta	Diptera	Chironomidae	Clunio marshalli	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Coelotanypus concinnus	-
Arthropoda	Insecta	Diptera	Chironomidae	Coelotanypus scapularis	-

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Arthropoda	Insecta	Diptera	Chironomidae	Coelotanypus sp.	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Coelotanypus tricolor	-
Arthropoda	Insecta	Diptera	Chironomidae	Compteromesa oconeensis	-
Arthropoda	Insecta	Diptera	Chironomidae	Compterosmittia nerius	-
Arthropoda	Insecta	Diptera	Chironomidae	Conchapelopia currani	-
Arthropoda	Insecta	Diptera	Chironomidae	Conchapelopia fasciata	-
Arthropoda	Insecta	Diptera	Chironomidae	Conchapelopia gr	8.43
Arthropoda	Insecta	Diptera	Chironomidae	Conchapelopia pallens	-
Arthropoda	Insecta	Diptera	Chironomidae	Conchapelopia rurika	-
Arthropoda	Insecta	Diptera	Chironomidae	Conchapelopia sp.	8.43
Arthropoda	Insecta	Diptera	Chironomidae	Conchapelopia telema	-
Arthropoda	Insecta	Diptera	Chironomidae	Constempellina brevicosta	-
Arthropoda	Insecta	Diptera	Chironomidae	Constempellina sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Constempellina sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Corynoneura cf. oxfordana	-
Arthropoda	Insecta	Diptera	Chironomidae	Corynoneura floridaensis	-
Arthropoda	Insecta	Diptera	Chironomidae	Corynoneura lobata	-
Arthropoda	Insecta	Diptera	Chironomidae	Corynoneura sp.	5.70
Arthropoda	Insecta	Diptera	Chironomidae	Corynoneura sp. C (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Corynoneura sp. D (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Corynoneura sp. E (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Corynoneura/Thienemanniella	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus absurdus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus albiforceps	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus annulator complex	8.40
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus belkini	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus bicinctus	8.70
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus cf. fuscus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus cf. patens	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus cylindraceus	2.30
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus elegans	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus festivellus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus fugax	5.60
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus fugax gr	5.60
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus infuscatus gr	9.10
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus intersectus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus lebetis	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus luciae	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus nostocicola	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus nr trifascia	2.80
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus politus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus slossonae	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus sp. "Ozarks" (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus sp. "Santa Fe" (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus sp. 2 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus sylvestris	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus tremulus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus triannulatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus tricinctus	-

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Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus varipes	-
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus vierriensis gr	5.40
Arthropoda	Insecta	Diptera	Chironomidae	Cricotopus/Orthocladius	-
Arthropoda	Insecta	Diptera	Chironomidae	Cryptochironomus argus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cryptochironomus blarina gr	8.50
Arthropoda	Insecta	Diptera	Chironomidae	Cryptochironomus digitatus	6.40
Arthropoda	Insecta	Diptera	Chironomidae	Cryptochironomus fulvus	6.70
Arthropoda	Insecta	Diptera	Chironomidae	Cryptochironomus NR ponderosus	6.40
Arthropoda	Insecta	Diptera	Chironomidae	Cryptochironomus parafulvus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cryptochironomus psittacinus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cryptochironomus scimitarus	-
Arthropoda	Insecta	Diptera	Chironomidae	Cryptochironomus sorex	6.40
Arthropoda	Insecta	Diptera	Chironomidae	Cryptochironomus sp.	6.40
Arthropoda	Insecta	Diptera	Chironomidae	Cryptotendipes casuarius	-
Arthropoda	Insecta	Diptera	Chironomidae	Cryptotendipes emorsus	6.20
Arthropoda	Insecta	Diptera	Chironomidae	Cryptotendipes pseudotener	-
Arthropoda	Insecta	Diptera	Chironomidae	Cryptotendipes sp.	6.20
Arthropoda	Insecta	Diptera	Chironomidae	Demeijerea atrimanus	-
Arthropoda	Insecta	Diptera	Chironomidae	Demeijerea brachialis	-
Arthropoda	Insecta	Diptera	Chironomidae	Demeijerea obreptus	-
Arthropoda	Insecta	Diptera	Chironomidae	Demeijerea sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Demicryptochironomus cuneatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Demicryptochironomus sp.	2.20
Arthropoda	Insecta	Diptera	Chironomidae	Demicryptochironomus sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Demicryptochironomus sp. B (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Demicryptochironomus sp. C (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Denopelopia atria	-
Arthropoda	Insecta	Diptera	Chironomidae	Diamesa nivoriunda	-
Arthropoda	Insecta	Diptera	Chironomidae	Diamesa sp.	6.60
Arthropoda	Insecta	Diptera	Chironomidae	Diamesa sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Diamesa sp. B (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Diamesa sp. C (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae	-
Arthropoda	Insecta	Diptera	Chironomidae	Diamesinae genus P (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Dicrotendipes fumidus	8.80
Arthropoda	Insecta	Diptera	Chironomidae	Dicrotendipes hulberti	-
Arthropoda	Insecta	Diptera	Chironomidae	Dicrotendipes leucoscelis	-
Arthropoda	Insecta	Diptera	Chironomidae	Dicrotendipes lobus	-
Arthropoda	Insecta	Diptera	Chironomidae	Dicrotendipes lucifer	7.95
Arthropoda	Insecta	Diptera	Chironomidae	Dicrotendipes modestus	9.40
Arthropoda	Insecta	Diptera	Chironomidae	Dicrotendipes neomodestus	7.90
Arthropoda	Insecta	Diptera	Chironomidae	Dicrotendipes nervosus	9.50
Arthropoda	Insecta	Diptera	Chironomidae	Dicrotendipes simpsoni	9.80
Arthropoda	Insecta	Diptera	Chironomidae	Dicrotendipes sp.	7.20
Arthropoda	Insecta	Diptera	Chironomidae	Dicrotendipes thanatogratus	-
Arthropoda	Insecta	Diptera	Chironomidae	Dicrotendipes tritonus	-
Arthropoda	Insecta	Diptera	Chironomidae	Diplocladius cultriger	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Diplosmittia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Djalmabatista pulcher	-
Arthropoda	Insecta	Diptera	Chironomidae	Djalmabatista pulcher variant	-

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Arthropoda	Insecta	Diptera	Chironomidae	Djalmabatista sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Doithrix dillona	-
Arthropoda	Insecta	Diptera	Chironomidae	Doithrix parvilliosa	-
Arthropoda	Insecta	Diptera	Chironomidae	Doithrix sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Doithrix villosa	-
Arthropoda	Insecta	Diptera	Chironomidae	Einfeldia brunneipennis	-
Arthropoda	Insecta	Diptera	Chironomidae	Einfeldia natchitocheae	-
Arthropoda	Insecta	Diptera	Chironomidae	Einfeldia pagana	-
Arthropoda	Insecta	Diptera	Chironomidae	Einfeldia sp.	7.10
Arthropoda	Insecta	Diptera	Chironomidae	Einfeldia sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Endochironomus nigricans	7.79
Arthropoda	Insecta	Diptera	Chironomidae	Endochironomus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Endochironomus sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Endochironomus subtendens	-
Arthropoda	Insecta	Diptera	Chironomidae	Endotribelos hesperium	-
Arthropoda	Insecta	Diptera	Chironomidae	Epoicocladius flavens	0.001
Arthropoda	Insecta	Diptera	Chironomidae	Epoicocladius sp.	0.001
Arthropoda	Insecta	Diptera	Chironomidae	Epoicocladius sp. 2 (Jacobsen)	0.10
Arthropoda	Insecta	Diptera	Chironomidae	Epoicocladius sp. 3 (Jacobsen)	0.001
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella brehmi gr	2.50
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella brevicar gr	2.90
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella brevicar gr sp. A (Epler)	2.20
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella brevinervis	-
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella claripennis gr	6.20
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella coerulescens	-
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella devonica sp. A (Epler)	3.40
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella devonica sp. B (Epler)	3.40
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella gracei gr	4.40
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella ilkleyensis	-
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella pseudomontana gr	1.30
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella similis gr	-
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella tirolensis	-
Arthropoda	Insecta	Diptera	Chironomidae	Eukiefferiella/Tvetenia	-
Arthropoda	Insecta	Diptera	Chironomidae	Euryhopsis sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Euryhopsis sp. 1 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Fissimentum sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Fittkauimyia sarta	-
Arthropoda	Insecta	Diptera	Chironomidae	Georthocladius curticornus	-
Arthropoda	Insecta	Diptera	Chironomidae	Georthocladius fimbriatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Georthocladius sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Georthocladius triquetrus	-
Arthropoda	Insecta	Diptera	Chironomidae	Gillotia albobiridis	-
Arthropoda	Insecta	Diptera	Chironomidae	Glyptotendipes amplus	-
Arthropoda	Insecta	Diptera	Chironomidae	Glyptotendipes barbipes	-
Arthropoda	Insecta	Diptera	Chironomidae	Glyptotendipes meridionalis	-
Arthropoda	Insecta	Diptera	Chironomidae	Glyptotendipes paripes	-
Arthropoda	Insecta	Diptera	Chironomidae	Glyptotendipes seminole	-
Arthropoda	Insecta	Diptera	Chironomidae	Glyptotendipes sp.	8.60
Arthropoda	Insecta	Diptera	Chironomidae	Glyptotendipes sp. B (Epler)	-

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Arthropoda	Insecta	Diptera	Chironomidae	Glyptotendipes sp. F (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Glyptotendipes sp. G (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Glyptotendipes testaceus	-
Arthropoda	Insecta	Diptera	Chironomidae	Goeldichironomus amazonicus	-
Arthropoda	Insecta	Diptera	Chironomidae	Goeldichironomus carus	-
Arthropoda	Insecta	Diptera	Chironomidae	Goeldichironomus cf. natans	-
Arthropoda	Insecta	Diptera	Chironomidae	Goeldichironomus devineyae	9.47
Arthropoda	Insecta	Diptera	Chironomidae	Goeldichironomus fluctuans	10.00
Arthropoda	Insecta	Diptera	Chironomidae	Goeldichironomus holoprasinus	10.00
Arthropoda	Insecta	Diptera	Chironomidae	Goeldichironomus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Guttipeloplia guttipennis	-
Arthropoda	Insecta	Diptera	Chironomidae	Gymnometriocnemus brumalis	-
Arthropoda	Insecta	Diptera	Chironomidae	Gymnometriocnemus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Gymnometriocnemus sp. 1 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Gymnometriocnemus subnudus	-
Arthropoda	Insecta	Diptera	Chironomidae	Harnischia complex genus A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Harnischia complex genus B (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Harnischia complex genus C (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Harnischia curtilamelata	9.07
Arthropoda	Insecta	Diptera	Chironomidae	Harnischia incidata	-
Arthropoda	Insecta	Diptera	Chironomidae	Harnischia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Heleniella hirta	-
Arthropoda	Insecta	Diptera	Chironomidae	Heleniella parva	-
Arthropoda	Insecta	Diptera	Chironomidae	Heleniella sp.	0.001
Arthropoda	Insecta	Diptera	Chironomidae	Heterotrissocladius marcidus gr	-
Arthropoda	Insecta	Diptera	Chironomidae	Heterotrissocladius sp.	5.23
Arthropoda	Insecta	Diptera	Chironomidae	Heterotrissocladius sp. "Caldwell" (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Heterotrissocladius sp. C (Saether)	-
Arthropoda	Insecta	Diptera	Chironomidae	Hudsonimyia karelena	-
Arthropoda	Insecta	Diptera	Chironomidae	Hudsonimyia parrishi	-
Arthropoda	Insecta	Diptera	Chironomidae	Hudsonimyia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Hydrobaenus johannseni	-
Arthropoda	Insecta	Diptera	Chironomidae	Hydrobaenus pilipes	9.20
Arthropoda	Insecta	Diptera	Chironomidae	Hydrobaenus sp.	9.20
Arthropoda	Insecta	Diptera	Chironomidae	Hyporhygma quadripunctatum	-
Arthropoda	Insecta	Diptera	Chironomidae	Kiefferulus dux	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Kiefferulus pungens	-
Arthropoda	Insecta	Diptera	Chironomidae	Kiefferulus sp.	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Kiefferulus sp. B (Epler)	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Krenopelopia hudsoni	-
Arthropoda	Insecta	Diptera	Chironomidae	Krenosmittia sp.	0.001
Arthropoda	Insecta	Diptera	Chironomidae	Kribiodorum perpulchrum	4.00
Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia becki	6.20
Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia floridana	6.20
Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia johannseni	6.20
Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia maculata	-
Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia neopilosella	5.97
Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia pilosella	6.20
Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia sp.	6.20
Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia sp. 3 nr. Virescens (Roback)	-

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Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia sp. 6 (Roback)	-
Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia sp. B (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia sp. virescens	4.33
Arthropoda	Insecta	Diptera	Chironomidae	Labrundinia/Nilotanyus	-
Arthropoda	Insecta	Diptera	Chironomidae	Larsia bernerii	-
Arthropoda	Insecta	Diptera	Chironomidae	Larsia canadensis	-
Arthropoda	Insecta	Diptera	Chironomidae	Larsia decolorata	-
Arthropoda	Insecta	Diptera	Chironomidae	Larsia indistincta	-
Arthropoda	Insecta	Diptera	Chironomidae	Larsia sp.	6.50
Arthropoda	Insecta	Diptera	Chironomidae	Larsia sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Larsia sp. B (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Lauterborniella agrayloides	-
Arthropoda	Insecta	Diptera	Chironomidae	Limnophyes asquamatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Limnophyes brachytomus	-
Arthropoda	Insecta	Diptera	Chironomidae	Limnophyes carolinensis	-
Arthropoda	Insecta	Diptera	Chironomidae	Limnophyes cf. pilicistulus	-
Arthropoda	Insecta	Diptera	Chironomidae	Limnophyes fumosus	-
Arthropoda	Insecta	Diptera	Chironomidae	Limnophyes minimus	-
Arthropoda	Insecta	Diptera	Chironomidae	Limnophyes natalensis	-
Arthropoda	Insecta	Diptera	Chironomidae	Limnophyes pumilo	-
Arthropoda	Insecta	Diptera	Chironomidae	Limnophyes sp.	7.43
Arthropoda	Insecta	Diptera	Chironomidae	Limnophyes sp. 1 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Lipiniella sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Lipuometriocnemus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Lipuometriocnemus vixlobatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Lopescladius sp.	1.20
Arthropoda	Insecta	Diptera	Chironomidae	Lopescladius sp. 1 (Coffman & Roback)	1.20
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopia decedens	-
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopia floridensis	-
Arthropoda	Insecta	Diptera	Chironomidae	Macropelopia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Meropelopia americana	-
Arthropoda	Insecta	Diptera	Chironomidae	Meropelopia flavifrons	-
Arthropoda	Insecta	Diptera	Chironomidae	Meropelopia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Mesocricotopus loticus	-
Arthropoda	Insecta	Diptera	Chironomidae	Mesocricotopus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Mesocricotopus sp. 1 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Mesosmittia mina	-
Arthropoda	Insecta	Diptera	Chironomidae	Mesosmittia patrihortae	-
Arthropoda	Insecta	Diptera	Chironomidae	Mesosmittia proluxa	-
Arthropoda	Insecta	Diptera	Chironomidae	Mesosmittia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Metriocnemus eurynotus	-
Arthropoda	Insecta	Diptera	Chironomidae	Metriocnemus knabi	-
Arthropoda	Insecta	Diptera	Chironomidae	Metriocnemus NR fuscipes	-
Arthropoda	Insecta	Diptera	Chironomidae	Metriocnemus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Microchironomus nigrovittatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Microchironomus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra dives	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra geminata	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra polita	-

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra recurvata	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra sp.	2.40
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra sp. 1 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra sp. 6 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra sp. 7 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra sp. B (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra sp. C (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra sp. D (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra sp. E (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra xantha	-
Arthropoda	Insecta	Diptera	Chironomidae	Micropsectra/Tanytarsus	-
Arthropoda	Insecta	Diptera	Chironomidae	Microtendipes caducus	-
Arthropoda	Insecta	Diptera	Chironomidae	Microtendipes caetum	-
Arthropoda	Insecta	Diptera	Chironomidae	Microtendipes pedellus gr	3.90
Arthropoda	Insecta	Diptera	Chironomidae	Microtendipes rydalensis gr	1.10
Arthropoda	Insecta	Diptera	Chironomidae	Microtendipes sp.	4.60
Arthropoda	Insecta	Diptera	Chironomidae	Microtendipes sp. 1 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Monodiamesa cf. depectinata	-
Arthropoda	Insecta	Diptera	Chironomidae	Monodiamesa sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Monopelopia boliekae	-
Arthropoda	Insecta	Diptera	Chironomidae	Monopelopia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Monopelopia tenuicalcar	-
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius alternantherae	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius balticus	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius branchicolus	-
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius cf. rectinervis	-
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius crassicornis/rectinervis	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius crassicornus	-
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius distinctus	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius downesi	2.40
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius incomptus	-
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius minimus	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius NR balticus	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius parvulus	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius sp.	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius sp. #1 (Jacobsen)	-
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius sp. #3 (Jacobsen)	-
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius sp. #5 (Jacobsen)	-
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius sp. D (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius spiniplenus	-
Arthropoda	Insecta	Diptera	Chironomidae	Nanocladius/Psectrocladius	-
Arthropoda	Insecta	Diptera	Chironomidae	Natarsia baltimoreus	-
Arthropoda	Insecta	Diptera	Chironomidae	Natarsia sp.	9.60
Arthropoda	Insecta	Diptera	Chironomidae	Natarsia sp. A (Epler)	9.60
Arthropoda	Insecta	Diptera	Chironomidae	Neostempellina reissi	-
Arthropoda	Insecta	Diptera	Chironomidae	Neozavrelia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Nilotanypus fimbriatus	4.90
Arthropoda	Insecta	Diptera	Chironomidae	Nilotanypus sp.	4.10
Arthropoda	Insecta	Diptera	Chironomidae	Nilothauma babyi	-

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Diptera	Chironomidae	Nilothauma bicorne	-
Arthropoda	Insecta	Diptera	Chironomidae	Nilothauma mirabile	-
Arthropoda	Insecta	Diptera	Chironomidae	Nilothauma sp.	5.10
Arthropoda	Insecta	Diptera	Chironomidae	Nilothauma sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Odontomesa fulva	4.90
Arthropoda	Insecta	Diptera	Chironomidae	Omisus browni	-
Arthropoda	Insecta	Diptera	Chironomidae	Omisus pica	-
Arthropoda	Insecta	Diptera	Chironomidae	Omisus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Omisus/Phaenopsectra	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae genus 2 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae genus I (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae species A (Saether)	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae species B (Saether)	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthoclaadiinae species C (Saether)	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus annectens	4.40
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus carlatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus dentifer	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus doreus	5.80
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus dubitatus	9.00
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus frigidus	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus hellenthali	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus lignicola	5.40
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus luteipes	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus luteipes/thienemanni	6.30
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus mallochii	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus nigritus	3.80
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus nr nigritus	0.40
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus obumbratus gr	8.10
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus oliveri	4.40
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus rivulorum	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus robacki	6.40
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus rubicundus	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus saxosus	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus sp.	4.40
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus sp. "Jacobsen"	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus subletti	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus thienemanni	-
Arthropoda	Insecta	Diptera	Chironomidae	Orthocladus vaillanti	-
Arthropoda	Insecta	Diptera	Chironomidae	Pagastia orthogonia	1.50
Arthropoda	Insecta	Diptera	Chironomidae	Pagastiella orophila	-
Arthropoda	Insecta	Diptera	Chironomidae	Pagastiella ostansa	2.50
Arthropoda	Insecta	Diptera	Chironomidae	Pagastiella sp.	2.50
Arthropoda	Insecta	Diptera	Chironomidae	Paraboreochlus stahli	-
Arthropoda	Insecta	Diptera	Chironomidae	Parachaetocladius abnobaes	0.70
Arthropoda	Insecta	Diptera	Chironomidae	Parachaetocladius sp.	0.001
Arthropoda	Insecta	Diptera	Chironomidae	Parachaetocladius sp. B (Saether & Sublette)	-
Arthropoda	Insecta	Diptera	Chironomidae	Parachaetocladius/Pseudorthocladus	-
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus alatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus carinatus	8.00

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus chaetoalus complex	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus digitalus	-
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus directus	-
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus frequens	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus hazelriggi	-
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus hirtalatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus pectinatellae	6.45
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus potamogetti	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus schneideri	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus sp.	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus subletti	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus supparilis	-
Arthropoda	Insecta	Diptera	Chironomidae	Parachironomus tenuicaudatus complex	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Paracladopelma doris	6.30
Arthropoda	Insecta	Diptera	Chironomidae	Paracladopelma loganeae	6.30
Arthropoda	Insecta	Diptera	Chironomidae	Paracladopelma nereis	0.94
Arthropoda	Insecta	Diptera	Chironomidae	Paracladopelma sp.	6.30
Arthropoda	Insecta	Diptera	Chironomidae	Paracladopelma sp. 1 (Jackson)	-
Arthropoda	Insecta	Diptera	Chironomidae	Paracladopelma sp. 2 (Jackson)	-
Arthropoda	Insecta	Diptera	Chironomidae	Paracladopelma sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Paracladopelma undine	4.50
Arthropoda	Insecta	Diptera	Chironomidae	Paracricotopus glaber	-
Arthropoda	Insecta	Diptera	Chironomidae	Paracricotopus millrockensis	-
Arthropoda	Insecta	Diptera	Chironomidae	Paracricotopus mozleyi	-
Arthropoda	Insecta	Diptera	Chironomidae	Paracricotopus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Parakiefferiella sp. D (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Parakiefferiella cf. bathophila	-
Arthropoda	Insecta	Diptera	Chironomidae	Parakiefferiella coronata	-
Arthropoda	Insecta	Diptera	Chironomidae	Parakiefferiella sp.	4.80
Arthropoda	Insecta	Diptera	Chironomidae	Parakiefferiella sp. A (Epler)	8.50
Arthropoda	Insecta	Diptera	Chironomidae	Parakiefferiella sp. B (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Parakiefferiella sp. C (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Parakiefferiella sp. E (Epler)	5.40
Arthropoda	Insecta	Diptera	Chironomidae	Parakiefferiella sp. F (Epler)	5.40
Arthropoda	Insecta	Diptera	Chironomidae	Parakiefferiella sp. G (Mozley)	-
Arthropoda	Insecta	Diptera	Chironomidae	Paralauterborniella nigrohalteralis	4.90
Arthropoda	Insecta	Diptera	Chironomidae	Parametrioctenemus cf. vespertinus	-
Arthropoda	Insecta	Diptera	Chironomidae	Parametrioctenemus eoclivus	-
Arthropoda	Insecta	Diptera	Chironomidae	Parametrioctenemus hamatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Parametrioctenemus lundbecki	3.65
Arthropoda	Insecta	Diptera	Chironomidae	Parametrioctenemus sp.	3.90
Arthropoda	Insecta	Diptera	Chironomidae	Parametrioctenemus sp. 1 Epler	-
Arthropoda	Insecta	Diptera	Chironomidae	Parametrioctenemus sp. F Epler	-
Arthropoda	Insecta	Diptera	Chironomidae	Paraphaenocladus exagitans	-
Arthropoda	Insecta	Diptera	Chironomidae	Paraphaenocladus innasus	-
Arthropoda	Insecta	Diptera	Chironomidae	Paraphaenocladus pseudirritus	-
Arthropoda	Insecta	Diptera	Chironomidae	Paraphaenocladus pusillus	-
Arthropoda	Insecta	Diptera	Chironomidae	Paraphaenocladus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Paraphaenocladus/Parametrioctenemus	-
Arthropoda	Insecta	Diptera	Chironomidae	Parapsectra sp. 1 (Epler)	-

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Diptera	Chironomidae	Parasmittia carinata	-
Arthropoda	Insecta	Diptera	Chironomidae	Paratanytarsus cf laccophilus	-
Arthropoda	Insecta	Diptera	Chironomidae	Paratanytarsus dissimilis	8.45
Arthropoda	Insecta	Diptera	Chironomidae	Paratanytarsus dubius	-
Arthropoda	Insecta	Diptera	Chironomidae	Paratanytarsus quadratus	-
Arthropoda	Insecta	Diptera	Chironomidae	Paratanytarsus sp.	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Paratanytarsus sp. 2 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Paratanytarsus sp. D (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Paratanytarsus sp. E (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Paratendipes albimanus	5.60
Arthropoda	Insecta	Diptera	Chironomidae	Paratendipes basidens	-
Arthropoda	Insecta	Diptera	Chironomidae	Paratendipes nitidulus	-
Arthropoda	Insecta	Diptera	Chironomidae	Paratendipes sp.	5.60
Arthropoda	Insecta	Diptera	Chironomidae	Paratendipes subequalis	5.11
Arthropoda	Insecta	Diptera	Chironomidae	Paratendipes/Omisus	-
Arthropoda	Insecta	Diptera	Chironomidae	Paratrichocladius rufiventris	-
Arthropoda	Insecta	Diptera	Chironomidae	Paratrichocladius sp.	8.50
Arthropoda	Insecta	Diptera	Chironomidae	Pentaneura inconspicua	5.00
Arthropoda	Insecta	Diptera	Chironomidae	Pentaneura sp.	4.70
Arthropoda	Insecta	Diptera	Chironomidae	Phaenopsectra flavipes	7.94
Arthropoda	Insecta	Diptera	Chironomidae	Phaenopsectra obediens gr	6.60
Arthropoda	Insecta	Diptera	Chironomidae	Phaenopsectra punctipes	7.10
Arthropoda	Insecta	Diptera	Chironomidae	Phaenopsectra punctipes gr	7.10
Arthropoda	Insecta	Diptera	Chironomidae	Phaenopsectra sp.	6.50
Arthropoda	Insecta	Diptera	Chironomidae	Phaenopsectra vittata	-
Arthropoda	Insecta	Diptera	Chironomidae	Platysmittia fimbriata	-
Arthropoda	Insecta	Diptera	Chironomidae	Platysmittia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Pludsonia partita	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum acifer	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum albicorne	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum albinodus	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum angulum	5.20
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum angustum	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum artifer	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum aviceps	3.60
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum aviceps/flavum	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum beckae	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum bergi	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum branseniae	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum calopterus	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum cinctum	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum digitifer	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum epleri/fallax gr	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum falciforme	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum fallax	6.50
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum fallax gr	6.50
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum flavum	5.70
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum gomphus	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum griseopunctatum	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum halterale	7.40

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum halterale gr	7.40
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum illinoense	8.70
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum illinoense gr	8.70
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum laetum	2.20
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum nymphaeorum	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum ontario	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum ophiodes	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum pardus	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum parvum	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum pedatum	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum scalaenum	8.50
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum scalaenum gr	8.50
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum scalaenum/halterale	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum simulans	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum sordens	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum trigonus	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum tritum	-
Arthropoda	Insecta	Diptera	Chironomidae	Polypedilum vibex	-
Arthropoda	Insecta	Diptera	Chironomidae	Potthastia cf gaedii	2.40
Arthropoda	Insecta	Diptera	Chironomidae	Potthastia cf montium	-
Arthropoda	Insecta	Diptera	Chironomidae	Potthastia gaedii	2.40
Arthropoda	Insecta	Diptera	Chironomidae	Potthastia longimana	8.40
Arthropoda	Insecta	Diptera	Chironomidae	Potthastia montium	-
Arthropoda	Insecta	Diptera	Chironomidae	Potthastia sp.	6.40
Arthropoda	Insecta	Diptera	Chironomidae	Procladius bellus	8.80
Arthropoda	Insecta	Diptera	Chironomidae	Procladius denticulatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Procladius freemani	-
Arthropoda	Insecta	Diptera	Chironomidae	Procladius sp.	8.80
Arthropoda	Insecta	Diptera	Chironomidae	Procladius sublettei	-
Arthropoda	Insecta	Diptera	Chironomidae	Procladius/Djalmabatista	-
Arthropoda	Insecta	Diptera	Chironomidae	Prodiamesa olivacea	8.80
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius cf. calcaratus	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius cf. octomaculatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius elatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius flavus	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius limbatellus group	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius NR elatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius pilosus	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius psilopterus group sp. 1 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius psilopterus group sp. 2 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius simulans	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius sordidellus group	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius sp.	3.60
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius sp. 1 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrocladius vernalis	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrotanypus dyari	10.00
Arthropoda	Insecta	Diptera	Chironomidae	Psectrotanypus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Psectrotanypus sp. A (Epler)	-

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Arthropoda	Insecta	Diptera	Chironomidae	Pseudochironomus fulviventris	4.90
Arthropoda	Insecta	Diptera	Chironomidae	Pseudochironomus julia	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudochironomus middlekauffi	4.90
Arthropoda	Insecta	Diptera	Chironomidae	Pseudochironomus rex	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudochironomus richardsoni	4.90
Arthropoda	Insecta	Diptera	Chironomidae	Pseudochironomus sp.	4.90
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius amplicaudus	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius clavatosus	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius curticornus	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius destitutus	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius dumicaudus	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius macrovirgatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius morsei	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius rectangilobus	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius rectilobus	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius sp.	1.51
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius sp. B (Saether & Sublette)	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius tricanthus	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius uniserratus	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudorthocladius wingoi	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudosmittia forcipata	-
Arthropoda	Insecta	Diptera	Chironomidae	Pseudosmittia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Psilometriocnemus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Psilometriocnemus triannulatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheocricotopus amplicristatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheocricotopus conflusirus	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheocricotopus effusus	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheocricotopus eminellobus	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheocricotopus glabricollis	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheocricotopus robacki	7.90
Arthropoda	Insecta	Diptera	Chironomidae	Rheocricotopus sp.	4.70
Arthropoda	Insecta	Diptera	Chironomidae	Rheocricotopus sp. VA (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheocricotopus tuberculatus	4.70
Arthropoda	Insecta	Diptera	Chironomidae	Rheocricotopus unidentatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheopelopia acra	0.30
Arthropoda	Insecta	Diptera	Chironomidae	Rheopelopia cf. paramaculipennis	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheopelopia perda	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheopelopia sp.	0.30
Arthropoda	Insecta	Diptera	Chironomidae	Rheopelopia sp. 3 (Roback)	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheopelopia sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheosmittia arcuata	7.00
Arthropoda	Insecta	Diptera	Chironomidae	Rheosmittia sp.	6.80
Arthropoda	Insecta	Diptera	Chironomidae	Rheotanytarsus exiguus	5.89
Arthropoda	Insecta	Diptera	Chironomidae	Rheotanytarsus exiguus gr	5.89
Arthropoda	Insecta	Diptera	Chironomidae	Rheotanytarsus pellucidus	5.89
Arthropoda	Insecta	Diptera	Chironomidae	Rheotanytarsus sp.	6.50
Arthropoda	Insecta	Diptera	Chironomidae	Rheotanytarsus sp. 4 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Rheotanytarsus sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Robackia claviger	1.90
Arthropoda	Insecta	Diptera	Chironomidae	Robackia demeijerei	4.30

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Arthropoda	Insecta	Diptera	Chironomidae	Robackia sp.	2.16
Arthropoda	Insecta	Diptera	Chironomidae	Saetheria hirta	-
Arthropoda	Insecta	Diptera	Chironomidae	Saetheria sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Saetheria sp. 1	-
Arthropoda	Insecta	Diptera	Chironomidae	Saetheria tylus	7.30
Arthropoda	Insecta	Diptera	Chironomidae	Saetheriella amplicristata	-
Arthropoda	Insecta	Diptera	Chironomidae	Skutzia sp. 1 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Smittia aterrima	-
Arthropoda	Insecta	Diptera	Chironomidae	Smittia lasiops	-
Arthropoda	Insecta	Diptera	Chironomidae	Smittia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Smittia sp. 1 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Smittia sp. 2 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Stempellina almi	-
Arthropoda	Insecta	Diptera	Chironomidae	Stempellina rodesta	-
Arthropoda	Insecta	Diptera	Chironomidae	Stempellina sp.	0.001
Arthropoda	Insecta	Diptera	Chironomidae	Stempellina sp. B (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Stempellina subglabripennis	-
Arthropoda	Insecta	Diptera	Chironomidae	Stempellinella brevis	-
Arthropoda	Insecta	Diptera	Chironomidae	Stempellinella leptoceloides	-
Arthropoda	Insecta	Diptera	Chironomidae	Stempellinella sp.	5.60
Arthropoda	Insecta	Diptera	Chironomidae	Stenochironomus aestivalis	-
Arthropoda	Insecta	Diptera	Chironomidae	Stenochironomus cinctus	-
Arthropoda	Insecta	Diptera	Chironomidae	Stenochironomus hilaris	-
Arthropoda	Insecta	Diptera	Chironomidae	Stenochironomus macateeii	-
Arthropoda	Insecta	Diptera	Chironomidae	Stenochironomus poecilopterus	-
Arthropoda	Insecta	Diptera	Chironomidae	Stenochironomus sp.	6.30
Arthropoda	Insecta	Diptera	Chironomidae	Stenochironomus unictus	-
Arthropoda	Insecta	Diptera	Chironomidae	Stictochironomus annulicris	-
Arthropoda	Insecta	Diptera	Chironomidae	Stictochironomus cafrarius group sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Stictochironomus devinctus	6.52
Arthropoda	Insecta	Diptera	Chironomidae	Stictochironomus palliatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Stictochironomus sp.	5.40
Arthropoda	Insecta	Diptera	Chironomidae	Stilocladius clinopecten	0.98
Arthropoda	Insecta	Diptera	Chironomidae	Sublettea coffmani	1.40
Arthropoda	Insecta	Diptera	Chironomidae	Sublettiella calvata	-
Arthropoda	Insecta	Diptera	Chironomidae	Symbiocladius sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Sympotthastia cf. zavreli	4.50
Arthropoda	Insecta	Diptera	Chironomidae	Sympotthastia sp.	4.50
Arthropoda	Insecta	Diptera	Chironomidae	Sympotthastia zavreli	4.50
Arthropoda	Insecta	Diptera	Chironomidae	Synorthocladius semivirens	-
Arthropoda	Insecta	Diptera	Chironomidae	Synorthocladius sp.	4.20
Arthropoda	Insecta	Diptera	Chironomidae	Synorthocladius sp. 1 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanypodinae	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanypus carinatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanypus clavatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanypus concavus	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanypus neopunctipennis	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanypus punctipennis	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanypus sp.	9.19
Arthropoda	Insecta	Diptera	Chironomidae	Tanypus stellatus	-

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Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsini	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus buckleyi	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus cf. allicis	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus cf. brundini	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus confusus	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus debilis	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus dendyi	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus guerlus	6.60
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus limneticus	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus mendax	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus neoflavellus	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus recurvatus	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp.	6.60
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. 10 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. 11 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. 13 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. 14 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. 3 (Epler)	7.30
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. 7 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. 8 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. 9 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. D (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. F (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. G (Epler) (T. martini)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. I (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. M (Epler)	3.20
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. O (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. P (Epler)	4.80
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. S (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. T (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. U (Epler)	6.40
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. V (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus sp. Z (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tanytarsus tibialis	-
Arthropoda	Insecta	Diptera	Chironomidae	Tavastia cristicauda	-
Arthropoda	Insecta	Diptera	Chironomidae	Telmatogeton japonicus	-
Arthropoda	Insecta	Diptera	Chironomidae	Thienemania pilinucha	-
Arthropoda	Insecta	Diptera	Chironomidae	Thienemanniella boltoni	5.90
Arthropoda	Insecta	Diptera	Chironomidae	Thienemanniella lobapodema	5.90
Arthropoda	Insecta	Diptera	Chironomidae	Thienemanniella similis	5.90
Arthropoda	Insecta	Diptera	Chironomidae	Thienemanniella sp.	6.40
Arthropoda	Insecta	Diptera	Chironomidae	Thienemanniella sp. B (Epler)	5.90
Arthropoda	Insecta	Diptera	Chironomidae	Thienemanniella taurocapita	-
Arthropoda	Insecta	Diptera	Chironomidae	Thienemanniella xena	8.00
Arthropoda	Insecta	Diptera	Chironomidae	Thienemannimyia gr	8.40
Arthropoda	Insecta	Diptera	Chironomidae	Tokunagaia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Tribelos atrum	6.31
Arthropoda	Insecta	Diptera	Chironomidae	Tribelos fusicorne	6.31
Arthropoda	Insecta	Diptera	Chironomidae	Tribelos jucundum	5.70
Arthropoda	Insecta	Diptera	Chironomidae	Tribelos sp.	6.40

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Arthropoda	Insecta	Diptera	Chironomidae	Tribelos/Phaenopsectra	-
Arthropoda	Insecta	Diptera	Chironomidae	Trichochilus lacteipennis	-
Arthropoda	Insecta	Diptera	Chironomidae	Trissopelopia ogemawi	-
Arthropoda	Insecta	Diptera	Chironomidae	Tvetenia bavarica gr	3.6
Arthropoda	Insecta	Diptera	Chironomidae	Tvetenia paucunca	-
Arthropoda	Insecta	Diptera	Chironomidae	Tvetenia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Tvetenia sp. GA (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tvetenia sp. NC (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Tvetenia tshernovskii	-
Arthropoda	Insecta	Diptera	Chironomidae	Tvetenia vitracies	3.50
Arthropoda	Insecta	Diptera	Chironomidae	Unniella multivirga	-
Arthropoda	Insecta	Diptera	Chironomidae	Virgatanytarsus sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Xenochironomus xenolabis	6.60
Arthropoda	Insecta	Diptera	Chironomidae	Xestochironomus sp.	5.99
Arthropoda	Insecta	Diptera	Chironomidae	Xestochironomus subletti	-
Arthropoda	Insecta	Diptera	Chironomidae	Xylotopus par	6.10
Arthropoda	Insecta	Diptera	Chironomidae	Zalutschia briani	-
Arthropoda	Insecta	Diptera	Chironomidae	Zalutschia cf. zalutschicola	-
Arthropoda	Insecta	Diptera	Chironomidae	Zalutschia sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Zalutschia sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelia sp.	6.10
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelia sp. 1 (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Zavreliella marmorata	-
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelimyia (P.) fragilis	-
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelimyia (P.) NR anomala	4.10
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelimyia (P.) sp.	4.10
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelimyia (P.) testa	-
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelimyia (R.) sp.	-
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelimyia (R.) sp. A	-
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelimyia (Z.) bifasciata	-
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelimyia (Z.) sinuosa	-
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelimyia (Z.) sp.	8.60
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelimyia (Z.) sp. A (Epler)	-
Arthropoda	Insecta	Diptera	Chironomidae	Zavrelimyia (Z.) thryptica	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes aegypti	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes albopictus	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes atlanticus	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes atropalpus	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes canadensis	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes cinereus	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes dupreei	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes fulvus	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes grossbecki	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes hendersoni	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes infirmatus	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes japonicus	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes mitchellae	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes sollicitans	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes sp.	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes sticticus	-

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Diptera	Culicidae	Aedes taeniorhynchus	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes thibaulti	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes tormentor	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes triseriatus	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes trivittatus	-
Arthropoda	Insecta	Diptera	Culicidae	Aedes vexans	-
Arthropoda	Insecta	Diptera	Culicidae	Anopheles atropos	8.60
Arthropoda	Insecta	Diptera	Culicidae	Anopheles barberi	8.60
Arthropoda	Insecta	Diptera	Culicidae	Anopheles bradleyi	8.60
Arthropoda	Insecta	Diptera	Culicidae	Anopheles crucians complex	8.60
Arthropoda	Insecta	Diptera	Culicidae	Anopheles georgianus	8.60
Arthropoda	Insecta	Diptera	Culicidae	Anopheles maverlius	8.60
Arthropoda	Insecta	Diptera	Culicidae	Anopheles punctipennis	8.60
Arthropoda	Insecta	Diptera	Culicidae	Anopheles quadrimaculatus	8.60
Arthropoda	Insecta	Diptera	Culicidae	Anopheles smaragdinus	8.60
Arthropoda	Insecta	Diptera	Culicidae	Anopheles sp.	8.60
Arthropoda	Insecta	Diptera	Culicidae	Anopheles walkeri	8.60
Arthropoda	Insecta	Diptera	Culicidae	Coquillettidia perturbans	-
Arthropoda	Insecta	Diptera	Culicidae	Coquillettidia sp.	-
Arthropoda	Insecta	Diptera	Culicidae	Culex coronator	-
Arthropoda	Insecta	Diptera	Culicidae	Culex erraticus	-
Arthropoda	Insecta	Diptera	Culicidae	Culex nigripalpus	-
Arthropoda	Insecta	Diptera	Culicidae	Culex peccator	-
Arthropoda	Insecta	Diptera	Culicidae	Culex pilosus	-
Arthropoda	Insecta	Diptera	Culicidae	Culex pipiens x quinquefasciatus (hybrids)	-
Arthropoda	Insecta	Diptera	Culicidae	Culex quinquefasciatus	-
Arthropoda	Insecta	Diptera	Culicidae	Culex restuans	-
Arthropoda	Insecta	Diptera	Culicidae	Culex salinarius	-
Arthropoda	Insecta	Diptera	Culicidae	Culex sp.	-
Arthropoda	Insecta	Diptera	Culicidae	Culex tarsalis	-
Arthropoda	Insecta	Diptera	Culicidae	Culex territans	-
Arthropoda	Insecta	Diptera	Culicidae	Culicidae	-
Arthropoda	Insecta	Diptera	Culicidae	Culiseta inornata	-
Arthropoda	Insecta	Diptera	Culicidae	Culiseta melanura	-
Arthropoda	Insecta	Diptera	Culicidae	Culiseta sp.	-
Arthropoda	Insecta	Diptera	Culicidae	Mansonia dyari	-
Arthropoda	Insecta	Diptera	Culicidae	Mansonia sp.	-
Arthropoda	Insecta	Diptera	Culicidae	Mansonia titillans	-
Arthropoda	Insecta	Diptera	Culicidae	Orthopodomyia alba	-
Arthropoda	Insecta	Diptera	Culicidae	Orthopodomyia signifera	-
Arthropoda	Insecta	Diptera	Culicidae	Orthopodomyia sp.	-
Arthropoda	Insecta	Diptera	Culicidae	Psorophora ciliata	-
Arthropoda	Insecta	Diptera	Culicidae	Psorophora columbiae	-
Arthropoda	Insecta	Diptera	Culicidae	Psorophora cyanescens	-
Arthropoda	Insecta	Diptera	Culicidae	Psorophora discolor	-
Arthropoda	Insecta	Diptera	Culicidae	Psorophora ferox	-
Arthropoda	Insecta	Diptera	Culicidae	Psorophora horrida	-
Arthropoda	Insecta	Diptera	Culicidae	Psorophora howardii	-
Arthropoda	Insecta	Diptera	Culicidae	Psorophora mathesoni	-
Arthropoda	Insecta	Diptera	Culicidae	Psorophora sp.	-

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Arthropoda	Insecta	Diptera	Culicidae	Toxorhynchites rutilus	-
Arthropoda	Insecta	Diptera	Culicidae	Uranotaenia lowii	-
Arthropoda	Insecta	Diptera	Culicidae	Uranotaenia sapphirina	-
Arthropoda	Insecta	Diptera	Culicidae	Uranotaenia sp.	-
Arthropoda	Insecta	Diptera	Dixidae	Dixa sp.	2.50
Arthropoda	Insecta	Diptera	Dixidae	Dixella sp.	4.90
Arthropoda	Insecta	Diptera	Dixidae	Dixidae	-
Arthropoda	Insecta	Diptera	Dolichopodidae	Dolichopodidae	-
Arthropoda	Insecta	Diptera	Empididae	Chelifera sp.	7.57
Arthropoda	Insecta	Diptera	Empididae	Empididae	7.57
Arthropoda	Insecta	Diptera	Empididae	Hemerodromia sp.	-
Arthropoda	Insecta	Diptera	Empididae	Roederiodes sp.	7.57
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydra sp.	-
Arthropoda	Insecta	Diptera	Ephydriidae	Ephydriidae	-
Arthropoda	Insecta	Diptera	Limoniidae	Antocha sp.	4.40
Arthropoda	Insecta	Diptera	Limoniidae	Cryptolabis sp.	-
Arthropoda	Insecta	Diptera	Limoniidae	Erioptera sp.	4.62
Arthropoda	Insecta	Diptera	Limoniidae	Gonomyia gr	-
Arthropoda	Insecta	Diptera	Limoniidae	Helius flavipes	-
Arthropoda	Insecta	Diptera	Limoniidae	Hexatoma sp.	3.50
Arthropoda	Insecta	Diptera	Limoniidae	Limnophila sp.	-
Arthropoda	Insecta	Diptera	Limoniidae	Limonia sp.	9.30
Arthropoda	Insecta	Diptera	Limoniidae	Limoniidae	-
Arthropoda	Insecta	Diptera	Limoniidae	Lipsothrix sp.	-
Arthropoda	Insecta	Diptera	Limoniidae	Molophilus sp.	-
Arthropoda	Insecta	Diptera	Limoniidae	Ormosia sp.	6.30
Arthropoda	Insecta	Diptera	Limoniidae	Pilaria sp.	-
Arthropoda	Insecta	Diptera	Limoniidae	Pseudolimnophila sp.	6.20
Arthropoda	Insecta	Diptera	Limoniidae	Rhabdomastix sp.	-
Arthropoda	Insecta	Diptera	Limoniidae	Ulomorpha sp.	-
Arthropoda	Insecta	Diptera	Muscidae	Limnophora sp.	8.40
Arthropoda	Insecta	Diptera	Muscidae	Muscidae	-
Arthropoda	Insecta	Diptera	NA	Diptera	-
Arthropoda	Insecta	Diptera	NA	Tipuloidea	-
Arthropoda	Insecta	Diptera	Pediciidae	Dicranota sp.	0.001
Arthropoda	Insecta	Diptera	Pediciidae	Pedicia sp.	-
Arthropoda	Insecta	Diptera	Pediciidae	Pediciidae	-
Arthropoda	Insecta	Diptera	Phoridae	Phoridae	-
Arthropoda	Insecta	Diptera	Psychodidae	Maruina sp.	-
Arthropoda	Insecta	Diptera	Psychodidae	Pericoma sp.	-
Arthropoda	Insecta	Diptera	Psychodidae	Psychoda sp.	9.64
Arthropoda	Insecta	Diptera	Psychodidae	Psychodidae	-
Arthropoda	Insecta	Diptera	Psychodidae	Telmatoscopus sp.	-
Arthropoda	Insecta	Diptera	Ptychopteridae	Bittacomorpha clavipes	-
Arthropoda	Insecta	Diptera	Ptychopteridae	Bittacomorpha sp.	-
Arthropoda	Insecta	Diptera	Ptychopteridae	Bittacomorphella sp.	-
Arthropoda	Insecta	Diptera	Ptychopteridae	Ptychoptera sp.	-
Arthropoda	Insecta	Diptera	Ptychopteridae	Ptychopteridae	-
Arthropoda	Insecta	Diptera	Rhagionidae	Rhagionidae	-
Arthropoda	Insecta	Diptera	Sciaridae	Sciaridae	-

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Diptera	Sciomyzidae	Sepedon sp.	-
Arthropoda	Insecta	Diptera	Simuliidae	Cnephia sp.	-
Arthropoda	Insecta	Diptera	Simuliidae	Ectemnia sp.	-
Arthropoda	Insecta	Diptera	Simuliidae	Prosimulium sp.	4.50
Arthropoda	Insecta	Diptera	Simuliidae	Simuliidae	-
Arthropoda	Insecta	Diptera	Simuliidae	Simulium sp.	4.90
Arthropoda	Insecta	Diptera	Simuliidae	Stegopterna mutata	-
Arthropoda	Insecta	Diptera	Stratiomyidae	Nemotelus sp.	-
Arthropoda	Insecta	Diptera	Stratiomyidae	Odontomyia sp.	-
Arthropoda	Insecta	Diptera	Stratiomyidae	Oxycera sp.	-
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomyidae	-
Arthropoda	Insecta	Diptera	Stratiomyidae	Stratiomys sp.	8.10
Arthropoda	Insecta	Diptera	Syrphidae	Chrysogaster sp.	-
Arthropoda	Insecta	Diptera	Syrphidae	Eristalis sp.	9.70
Arthropoda	Insecta	Diptera	Syrphidae	Neoascia sp.	-
Arthropoda	Insecta	Diptera	Syrphidae	Syrphidae	-
Arthropoda	Insecta	Diptera	Tabanidae	Chrysops sp.	6.70
Arthropoda	Insecta	Diptera	Tabanidae	Tabanidae	-
Arthropoda	Insecta	Diptera	Tabanidae	Tabanus sp.	8.50
Arthropoda	Insecta	Diptera	Tanyderidae	Protoplasa fitchii	4.00
Arthropoda	Insecta	Diptera	Tanyderidae	Tanyderidae	-
Arthropoda	Insecta	Diptera	Tipulidae	Brachypremna dispellens	-
Arthropoda	Insecta	Diptera	Tipulidae	Tipula sp.	7.50
Arthropoda	Insecta	Diptera	Tipulidae	Tipulidae	-
Arthropoda	Insecta	Ephemeroptera	Ameletidae	Ameletus cryptostimulus	2.38
Arthropoda	Insecta	Ephemeroptera	Ameletidae	Ameletus lineatus	2.40
Arthropoda	Insecta	Ephemeroptera	Ameletidae	Ameletus sp.	2.38
Arthropoda	Insecta	Ephemeroptera	Ameletidae	Ameletus tarteri	2.38
Arthropoda	Insecta	Ephemeroptera	Ameletidae	Ameletus tertius	2.38
Arthropoda	Insecta	Ephemeroptera	Ameletidae	Ameletus tertius	2.38
Arthropoda	Insecta	Ephemeroptera	Baetidae	Acentrella alachua	3.00
Arthropoda	Insecta	Ephemeroptera	Baetidae	Acentrella alachua/parvula	3.90
Arthropoda	Insecta	Ephemeroptera	Baetidae	Acentrella barbarae	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Acentrella nadineae	1.90
Arthropoda	Insecta	Ephemeroptera	Baetidae	Acentrella parvula	4.80
Arthropoda	Insecta	Ephemeroptera	Baetidae	Acentrella sp.	2.50
Arthropoda	Insecta	Ephemeroptera	Baetidae	Acentrella turbida	2.00
Arthropoda	Insecta	Ephemeroptera	Baetidae	Acerpenna macdunnoughi	
Arthropoda	Insecta	Ephemeroptera	Baetidae	Acerpenna pygmaea	3.70
Arthropoda	Insecta	Ephemeroptera	Baetidae	Acerpenna sp.	3.88
Arthropoda	Insecta	Ephemeroptera	Baetidae	Anafroptilum album	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Anafroptilum minor	2.00
Arthropoda	Insecta	Ephemeroptera	Baetidae	Anafroptilum sp.	3.80
Arthropoda	Insecta	Ephemeroptera	Baetidae	Anafroptilum/Neocloeon	3.80
Arthropoda	Insecta	Ephemeroptera	Baetidae	Baetidae	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Baetidae (2-tailed)	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Baetis brunneicolor	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Baetis brunneicolor/tricaudatus	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Baetis flavistriga	6.80
Arthropoda	Insecta	Ephemeroptera	Baetidae	Baetis intercalaris	5.00

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Ephemeroptera	Baetidae	Baetis intercalaris/flavistriga	4.99
Arthropoda	Insecta	Ephemeroptera	Baetidae	Baetis pluto	3.40
Arthropoda	Insecta	Ephemeroptera	Baetidae	Baetis sp.	5.40
Arthropoda	Insecta	Ephemeroptera	Baetidae	Baetis tricaudatus	1.50
Arthropoda	Insecta	Ephemeroptera	Baetidae	Baetopus trishae	0.10
Arthropoda	Insecta	Ephemeroptera	Baetidae	Barbaetis benfieldi	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Callibaetis floridanus	9.20
Arthropoda	Insecta	Ephemeroptera	Baetidae	Callibaetis flunctuans	9.20
Arthropoda	Insecta	Ephemeroptera	Baetidae	Callibaetis pretiosus	9.20
Arthropoda	Insecta	Ephemeroptera	Baetidae	Callibaetis sp.	9.20
Arthropoda	Insecta	Ephemeroptera	Baetidae	Dipheter hageni	1.10
Arthropoda	Insecta	Ephemeroptera	Baetidae	Heterocloeon amplum	3.40
Arthropoda	Insecta	Ephemeroptera	Baetidae	Heterocloeon bernerii	3.48
Arthropoda	Insecta	Ephemeroptera	Baetidae	Heterocloeon curiosum	2.10
Arthropoda	Insecta	Ephemeroptera	Baetidae	Heterocloeon grande	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Heterocloeon petersi	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Heterocloeon sp.	3.70
Arthropoda	Insecta	Ephemeroptera	Baetidae	Iswaeon anoka	4.40
Arthropoda	Insecta	Ephemeroptera	Baetidae	Iswaeon davidi	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Iswaeon sp.	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Labiobaetis dardanus	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Labiobaetis dardanus/ephippiatus	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Labiobaetis ephippia	3.50
Arthropoda	Insecta	Ephemeroptera	Baetidae	Labiobaetis frondalis	4.60
Arthropoda	Insecta	Ephemeroptera	Baetidae	Labiobaetis propinquus	5.80
Arthropoda	Insecta	Ephemeroptera	Baetidae	Labiobaetis sp.	5.77
Arthropoda	Insecta	Ephemeroptera	Baetidae	Neocloeon alamance	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Neocloeon sp.	3.80
Arthropoda	Insecta	Ephemeroptera	Baetidae	Neocloeon triangulifer	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Paracloeodes fleeki	8.00
Arthropoda	Insecta	Ephemeroptera	Baetidae	Paracloeodes minutus	8.00
Arthropoda	Insecta	Ephemeroptera	Baetidae	Paracloeodes sp.	8.00
Arthropoda	Insecta	Ephemeroptera	Baetidae	Plauditus bimaculatus	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Plauditus cestus	4.60
Arthropoda	Insecta	Ephemeroptera	Baetidae	Plauditus cingulatus	2.00
Arthropoda	Insecta	Ephemeroptera	Baetidae	Plauditus dubius	2.20
Arthropoda	Insecta	Ephemeroptera	Baetidae	Plauditus dubius gr	2.20
Arthropoda	Insecta	Ephemeroptera	Baetidae	Plauditus gloveri	5.40
Arthropoda	Insecta	Ephemeroptera	Baetidae	Plauditus punctiventris	4.00
Arthropoda	Insecta	Ephemeroptera	Baetidae	Plauditus sp.	5.40
Arthropoda	Insecta	Ephemeroptera	Baetidae	Plauditus virilis	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Proclloeon fragile	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Proclloeon pennulatum	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Proclloeon quaesitum	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Proclloeon rivulare	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Proclloeon rubropictum	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Proclloeon rufostriatum	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Proclloeon sp.	1.90
Arthropoda	Insecta	Ephemeroptera	Baetidae	Proclloeon sp. A	-
Arthropoda	Insecta	Ephemeroptera	Baetidae	Proclloeon viridoculare	-

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Ephemeroptera	Baetidae	Pseudocentropiloides usa	6.00
Arthropoda	Insecta	Ephemeroptera	Baetiscidae	Baetisca becki	3.20
Arthropoda	Insecta	Ephemeroptera	Baetiscidae	Baetisca berneri	1.40
Arthropoda	Insecta	Ephemeroptera	Baetiscidae	Baetisca carolina	4.20
Arthropoda	Insecta	Ephemeroptera	Baetiscidae	Baetisca escambiensis	-
Arthropoda	Insecta	Ephemeroptera	Baetiscidae	Baetisca gibbera	1.43
Arthropoda	Insecta	Ephemeroptera	Baetiscidae	Baetisca lacustris	3.20
Arthropoda	Insecta	Ephemeroptera	Baetiscidae	Baetisca laurentina	3.20
Arthropoda	Insecta	Ephemeroptera	Baetiscidae	Baetisca obesa	3.20
Arthropoda	Insecta	Ephemeroptera	Baetiscidae	Baetisca rogersi	3.20
Arthropoda	Insecta	Ephemeroptera	Baetiscidae	Baetisca rubescens	-
Arthropoda	Insecta	Ephemeroptera	Baetiscidae	Baetisca sp.	3.20
Arthropoda	Insecta	Ephemeroptera	Caenidae	Amercaenis cusabo	1.00
Arthropoda	Insecta	Ephemeroptera	Caenidae	Brachycercus berneri	-
Arthropoda	Insecta	Ephemeroptera	Caenidae	Brachycercus nitidus	3.01
Arthropoda	Insecta	Ephemeroptera	Caenidae	Brachycercus sp.	2.10
Arthropoda	Insecta	Ephemeroptera	Caenidae	Caenidae	-
Arthropoda	Insecta	Ephemeroptera	Caenidae	Caenis sp.	6.80
Arthropoda	Insecta	Ephemeroptera	Caenidae	Cercobrachys etowha	1.00
Arthropoda	Insecta	Ephemeroptera	Caenidae	Cercobrachys pomeiok	1.00
Arthropoda	Insecta	Ephemeroptera	Caenidae	Cercobrachys sp.	1.00
Arthropoda	Insecta	Ephemeroptera	Caenidae	Sparbarus lacustris	-
Arthropoda	Insecta	Ephemeroptera	Caenidae	Sparbarus maculatus	3.01
Arthropoda	Insecta	Ephemeroptera	Caenidae	Sparbarus nasutus	-
Arthropoda	Insecta	Ephemeroptera	Caenidae	Sparbarus sp.	-
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Attenella attenuata	1.10
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Dannella lita	0.001
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Dannella provonshai	-
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Dannella simplex	3.40
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Dannella sp.	3.60
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Drunella allegheniensis	0.30
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Drunella cornuta	0.001
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Drunella cornutella	0.001
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Drunella lata	0.001
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Drunella longicornis	-
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Drunella sp.	-
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Drunella tuberculata	0.001
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Drunella walkeri	0.60
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Ephemerella (non-hispida) sp.	2.10
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Ephemerella catawba	0.001
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Ephemerella dorothea	3.30
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Ephemerella excrucians	-
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Ephemerella floripara	2.00
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Ephemerella hispida	0.10
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Ephemerella invaria gr	2.60
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Ephemerella needhami	0.001
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Ephemerella sp.	2.10
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Ephemerella subvaria	0.001
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Ephemerellidae	-
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella aestiva	-

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella bicolor	4.80
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella doris	7.00
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella enoensis	4.00
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella funeralis	2.50
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella lutulenta	4.00
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella macdunnoughi	-
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella minimella	2.00
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella oviruptis	-
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella prudentialis	4.34
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella sp.	4.00
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella temporalis	4.80
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella temporalis gr	4.80
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Eurylophella verisimilis	3.90
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Penelomax septentrionalis	2.10
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Serratella frisoni	1.70
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Serratella serrata	1.40
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Serratella serratoides	1.70
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Serratella sp.	1.70
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Teloganopsis deficiens	2.60
Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	Tsalia beneri	0.001
Arthropoda	Insecta	Ephemeroptera	Ephemeridae	Ephemerella blanda	2.40
Arthropoda	Insecta	Ephemeroptera	Ephemeridae	Ephemerella guttulata	0.001
Arthropoda	Insecta	Ephemeroptera	Ephemeridae	Ephemerella simulans	2.00
Arthropoda	Insecta	Ephemeroptera	Ephemeridae	Ephemerella sp.	2.00
Arthropoda	Insecta	Ephemeroptera	Ephemeridae	Ephemerella varia	2.00
Arthropoda	Insecta	Ephemeroptera	Ephemeridae	Ephemeridae	-
Arthropoda	Insecta	Ephemeroptera	Ephemeridae	Hexagenia sp.	4.40
Arthropoda	Insecta	Ephemeroptera	Ephemeridae	Litobranchia recurvata	0.001
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Cinygmula subaequalis	0.001
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Epeorus dispar	1.00
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Epeorus fragilis	1.50
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Epeorus pleuralis	1.50
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Epeorus pleuralis gr	1.50
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Epeorus sp.	1.60
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Epeorus subpallidus	1.22
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Epeorus vitreus	1.20
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Epeorus vitreus gr	1.22
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Heptagenia flavescens	-
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Heptagenia julia	0.001
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Heptagenia marginalis gr	2.20
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Heptagenia non-marginalis gr	1.90
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Heptagenia pulla	2.20
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Heptagenia sp.	1.90
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Heptageniidae	-
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Leucocuta sp.	2.00
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium (patterned) sp.	-
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium carlsoni	2.10
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium exiguum	3.80
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium ithaca	3.00
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium lenati	2.50

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Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium mediopunctatum	4.20
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium meririvulanum	0.50
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium mexicanum	4.70
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium modestum	5.70
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium pudicum	2.10
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium pulchellum	-
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium sinclairi	-
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium smithae	5.50
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium sp.	-
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium terminatum	4.40
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium vicarium	1.50
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Maccaffertium wudigeum	-
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Macdunnoa brunnea	0.58
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Macdunnoa persimplex	-
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Macdunnoa sp.	-
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Nixe sp.	0.001
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Rhithrogena sp.	0.001
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Stenacron carolina	1.30
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Stenacron gildersleevei	-
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Stenacron interpunctatum	6.40
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Stenacron pallidum	2.80
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Stenacron sp.	-
Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Stenonema femoratum	6.90
Arthropoda	Insecta	Ephemeroptera	Isonychiidae	Isonychia sp.	3.60
Arthropoda	Insecta	Ephemeroptera	Leptohyphidae	Asioplax dolani	1.37
Arthropoda	Insecta	Ephemeroptera	Leptohyphidae	Leptohyphidae	-
Arthropoda	Insecta	Ephemeroptera	Leptohyphidae	Tricorythodes sp.	5.00
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Choroterpes basalis	-
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Habrophlebia vibrans	0.30
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Habrophlebiodes americana	1.00
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Habrophlebiodes brunneipennis	1.00
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Habrophlebiodes celeteria	1.00
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Habrophlebiodes sp.	1.00
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Leptophlebia bradleyi	3.00
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Leptophlebia cupida/nebulosa	6.00
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Leptophlebia intermedia	6.00
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Leptophlebia johnsoni	-
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Leptophlebia sp.	6.00
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Leptophlebiidae	-
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Neoleptophlebia sp.	1.20
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Paraleptophlebia sp.	1.20
Arthropoda	Insecta	Ephemeroptera	Leptophlebiidae	Paraleptophlebia/Neoleptophlebia	1.20
Arthropoda	Insecta	Ephemeroptera	Metretopodidae	Siphonoplecton sp.	3.31
Arthropoda	Insecta	Ephemeroptera	NA	Ephemeroptera	-
Arthropoda	Insecta	Ephemeroptera	Neoephemeridae	Neoephemera bicolor	-
Arthropoda	Insecta	Ephemeroptera	Neoephemeridae	Neoephemera compressa	0.001
Arthropoda	Insecta	Ephemeroptera	Neoephemeridae	Neoephemera purpurea	1.50
Arthropoda	Insecta	Ephemeroptera	Neoephemeridae	Neoephemera sp.	-
Arthropoda	Insecta	Ephemeroptera	Neoephemeridae	Neoephemera youngi	0.86
Arthropoda	Insecta	Ephemeroptera	Oligoneuriidae	Homoeoneuria cahabensis	-

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Ephemeroptera	Oligoneuriidae	Homoeoneuria dolani	-
Arthropoda	Insecta	Ephemeroptera	Oligoneuriidae	Homoeoneuria sp.	-
Arthropoda	Insecta	Ephemeroptera	Polymitarcyidae	Ephoron leukon	1.50
Arthropoda	Insecta	Ephemeroptera	Polymitarcyidae	Tortopsis puella	-
Arthropoda	Insecta	Ephemeroptera	Potamanthidae	Anthopotamus distinctus	1.60
Arthropoda	Insecta	Ephemeroptera	Potamanthidae	Anthopotamus myops	-
Arthropoda	Insecta	Ephemeroptera	Potamanthidae	Anthopotamus sp.	1.50
Arthropoda	Insecta	Ephemeroptera	Pseudironidae	Pseudiron centralis	-
Arthropoda	Insecta	Ephemeroptera	Siphonuridae	Siphonurus sp.	6.00
Arthropoda	Insecta	Hemiptera	Belostomatidae	Belostoma sp.	9.50
Arthropoda	Insecta	Hemiptera	Belostomatidae	Belostomatidae	-
Arthropoda	Insecta	Hemiptera	Belostomatidae	Benacus griseus	-
Arthropoda	Insecta	Hemiptera	Belostomatidae	Lethocerus americanus	-
Arthropoda	Insecta	Hemiptera	Belostomatidae	Lethocerus sp.	-
Arthropoda	Insecta	Hemiptera	Belostomatidae	Lethocerus uhleri	-
Arthropoda	Insecta	Hemiptera	Corixidae	Corixidae	9.00
Arthropoda	Insecta	Hemiptera	Corixidae	Hesperocorixa sp.	-
Arthropoda	Insecta	Hemiptera	Corixidae	Palmacorixa sp.	-
Arthropoda	Insecta	Hemiptera	Corixidae	Ramphocorixa acuminata	-
Arthropoda	Insecta	Hemiptera	Corixidae	Sigara sp.	8.70
Arthropoda	Insecta	Hemiptera	Corixidae	Trichocorixa sp.	-
Arthropoda	Insecta	Hemiptera	NA	Heteroptera	-
Arthropoda	Insecta	Hemiptera	Naucoridae	Pelocoris sp.	7.01
Arthropoda	Insecta	Hemiptera	Nepidae	Ranatra australis	7.80
Arthropoda	Insecta	Hemiptera	Nepidae	Ranatra buenoi	7.82
Arthropoda	Insecta	Hemiptera	Nepidae	Ranatra drakei	-
Arthropoda	Insecta	Hemiptera	Nepidae	Ranatra kirkaldyi	7.80
Arthropoda	Insecta	Hemiptera	Nepidae	Ranatra nigra	7.80
Arthropoda	Insecta	Hemiptera	Nepidae	Ranatra sp.	6.30
Arthropoda	Insecta	Hemiptera	Notonectidae	Buenoa sp.	-
Arthropoda	Insecta	Hemiptera	Notonectidae	Notonecta irrorata	8.71
Arthropoda	Insecta	Hemiptera	Notonectidae	Notonecta sp.	8.71
Arthropoda	Insecta	Hemiptera	Notonectidae	Notonectidae	-
Arthropoda	Insecta	Hemiptera	Pleidae	Neoplea sp.	-
Arthropoda	Insecta	Hemiptera	Pleidae	Paraplea sp.	-
Arthropoda	Insecta	Lepidoptera	Crambidae	Crambidae	-
Arthropoda	Insecta	Lepidoptera	Crambidae	Neargytractis slosonalis	-
Arthropoda	Insecta	Lepidoptera	Crambidae	Parapoynx sp.	-
Arthropoda	Insecta	Lepidoptera	Crambidae	Petrophila sp.	3.60
Arthropoda	Insecta	Lepidoptera	NA	Lepidoptera	-
Arthropoda	Insecta	Megaloptera	Corydalidae	Chauliodes pectinicornis	9.55
Arthropoda	Insecta	Megaloptera	Corydalidae	Chauliodes rastricornis	8.42
Arthropoda	Insecta	Megaloptera	Corydalidae	Chauliodes sp.	-
Arthropoda	Insecta	Megaloptera	Corydalidae	Corydalidae	-
Arthropoda	Insecta	Megaloptera	Corydalidae	Corydalis cornutus	5.20
Arthropoda	Insecta	Megaloptera	Corydalidae	Neohermes sp.	-
Arthropoda	Insecta	Megaloptera	Corydalidae	Nigronia fasciata	6.10
Arthropoda	Insecta	Megaloptera	Corydalidae	Nigronia serricornis	4.60
Arthropoda	Insecta	Megaloptera	Corydalidae	Nigronia sp.	-
Arthropoda	Insecta	Megaloptera	NA	Megaloptera	-

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Arthropoda	Insecta	Megaloptera	Sialidae	Sialis sp.	7.00
Arthropoda	Insecta	NA	NA	Insecta	-
Arthropoda	Insecta	Neuroptera	Sisyridae	Climacia areolaris	6.50
Arthropoda	Insecta	Neuroptera	Sisyridae	Sisyra apicalis	-
Arthropoda	Insecta	Neuroptera	Sisyridae	Sisyra sp.	-
Arthropoda	Insecta	Neuroptera	Sisyridae	Sisyra vicaria	-
Arthropoda	Insecta	Neuroptera	Sisyridae	Sisyridae	-
Arthropoda	Insecta	Odonata	Aeshnidae	Aeshna sp.	-
Arthropoda	Insecta	Odonata	Aeshnidae	Aeshna umbrosa	-
Arthropoda	Insecta	Odonata	Aeshnidae	Aeshnidae	-
Arthropoda	Insecta	Odonata	Aeshnidae	Anax junius	-
Arthropoda	Insecta	Odonata	Aeshnidae	Anax longipes	-
Arthropoda	Insecta	Odonata	Aeshnidae	Anax sp.	-
Arthropoda	Insecta	Odonata	Aeshnidae	Basiaeschna janata	7.10
Arthropoda	Insecta	Odonata	Aeshnidae	Boyeria grafiana	3.80
Arthropoda	Insecta	Odonata	Aeshnidae	Boyeria sp.	-
Arthropoda	Insecta	Odonata	Aeshnidae	Boyeria vinosa	5.80
Arthropoda	Insecta	Odonata	Aeshnidae	Coryphaeschna ingens	-
Arthropoda	Insecta	Odonata	Aeshnidae	Epiaeschna heros	-
Arthropoda	Insecta	Odonata	Aeshnidae	Gomphaeschna antilope	6.00
Arthropoda	Insecta	Odonata	Aeshnidae	Gomphaeschna furcillata	6.00
Arthropoda	Insecta	Odonata	Aeshnidae	Gomphaeschna sp.	6.00
Arthropoda	Insecta	Odonata	Aeshnidae	Nasiaeschna pentacantha	6.60
Arthropoda	Insecta	Odonata	Aeshnidae	Triacanthagyna trifida	-
Arthropoda	Insecta	Odonata	Calopterygidae	Calopterygidae	-
Arthropoda	Insecta	Odonata	Calopterygidae	Calopteryx amata	7.50
Arthropoda	Insecta	Odonata	Calopterygidae	Calopteryx augustinpennis	7.50
Arthropoda	Insecta	Odonata	Calopterygidae	Calopteryx dimidiata	7.78
Arthropoda	Insecta	Odonata	Calopterygidae	Calopteryx maculata	8.30
Arthropoda	Insecta	Odonata	Calopterygidae	Calopteryx sp.	7.50
Arthropoda	Insecta	Odonata	Calopterygidae	Hetaerina americana	4.90
Arthropoda	Insecta	Odonata	Calopterygidae	Hetaerina sp.	4.90
Arthropoda	Insecta	Odonata	Calopterygidae	Hetaerina titia	4.90
Arthropoda	Insecta	Odonata	Coenagrionidae	Amphiagrion saucium	-
Arthropoda	Insecta	Odonata	Coenagrionidae	Argia apicalis	8.30
Arthropoda	Insecta	Odonata	Coenagrionidae	Argia bipunctulata	8.17
Arthropoda	Insecta	Odonata	Coenagrionidae	Argia fumipennis	8.17
Arthropoda	Insecta	Odonata	Coenagrionidae	Argia moesta	8.30
Arthropoda	Insecta	Odonata	Coenagrionidae	Argia sedula	8.46
Arthropoda	Insecta	Odonata	Coenagrionidae	Argia sp.	8.30
Arthropoda	Insecta	Odonata	Coenagrionidae	Argia tibialis	8.30
Arthropoda	Insecta	Odonata	Coenagrionidae	Argia translata	8.17
Arthropoda	Insecta	Odonata	Coenagrionidae	Chromagrion conditum	-
Arthropoda	Insecta	Odonata	Coenagrionidae	Coenagrionidae	-
Arthropoda	Insecta	Odonata	Coenagrionidae	Enallagma sp.	8.50
Arthropoda	Insecta	Odonata	Coenagrionidae	Enallagma/Ischnura	-
Arthropoda	Insecta	Odonata	Coenagrionidae	Ischnura hastata	9.50
Arthropoda	Insecta	Odonata	Coenagrionidae	Ischnura kellicotti	9.50
Arthropoda	Insecta	Odonata	Coenagrionidae	Ischnura posita	9.50
Arthropoda	Insecta	Odonata	Coenagrionidae	Ischnura prognata	9.50

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Arthropoda	Insecta	Odonata	Coenagrionidae	Ischnura ramburii	9.50
Arthropoda	Insecta	Odonata	Coenagrionidae	Ischnura sp.	9.50
Arthropoda	Insecta	Odonata	Coenagrionidae	Ischnura verticalis	9.50
Arthropoda	Insecta	Odonata	Coenagrionidae	Nehalennia gracilis	-
Arthropoda	Insecta	Odonata	Coenagrionidae	Nehalennia integricollis	-
Arthropoda	Insecta	Odonata	Coenagrionidae	Nehalennia sp.	-
Arthropoda	Insecta	Odonata	Coenagrionidae	Telebasis byersi	-
Arthropoda	Insecta	Odonata	Cordulegastridae	Zoraena bilineata	5.70
Arthropoda	Insecta	Odonata	Cordulegastridae	Zoraena erronea	5.70
Arthropoda	Insecta	Odonata	Cordulegastridae	Zoraena maculata	5.70
Arthropoda	Insecta	Odonata	Cordulegastridae	Zoraena obliqua	5.70
Arthropoda	Insecta	Odonata	Cordulegastridae	Zoraena sayi	5.70
Arthropoda	Insecta	Odonata	Cordulegastridae	Zoraena sp.	5.70
Arthropoda	Insecta	Odonata	Corduliidae	Corduliidae	-
Arthropoda	Insecta	Odonata	Corduliidae	Epithea costalis	8.00
Arthropoda	Insecta	Odonata	Corduliidae	Epithea cynosura	8.00
Arthropoda	Insecta	Odonata	Corduliidae	Epithea princeps	7.30
Arthropoda	Insecta	Odonata	Corduliidae	Epithea semiaquea	8.00
Arthropoda	Insecta	Odonata	Corduliidae	Epithea sepia	8.00
Arthropoda	Insecta	Odonata	Corduliidae	Epithea sp.	8.00
Arthropoda	Insecta	Odonata	Corduliidae	Epithea spinosa	8.00
Arthropoda	Insecta	Odonata	Corduliidae	Helocordulia selysii	5.80
Arthropoda	Insecta	Odonata	Corduliidae	Helocordulia sp.	5.80
Arthropoda	Insecta	Odonata	Corduliidae	Helocordulia uhleri	4.86
Arthropoda	Insecta	Odonata	Corduliidae	Neurocordulia alabamensis	5.30
Arthropoda	Insecta	Odonata	Corduliidae	Neurocordulia molesta	1.80
Arthropoda	Insecta	Odonata	Corduliidae	Neurocordulia obsoleta	5.30
Arthropoda	Insecta	Odonata	Corduliidae	Neurocordulia sp.	5.30
Arthropoda	Insecta	Odonata	Corduliidae	Neurocordulia virginensis	1.10
Arthropoda	Insecta	Odonata	Corduliidae	Neurocordulia yamaskanensis	-
Arthropoda	Insecta	Odonata	Corduliidae	Somatochlora calverti	8.90
Arthropoda	Insecta	Odonata	Corduliidae	Somatochlora elongata	8.90
Arthropoda	Insecta	Odonata	Corduliidae	Somatochlora filosa	8.90
Arthropoda	Insecta	Odonata	Corduliidae	Somatochlora georgiana	8.90
Arthropoda	Insecta	Odonata	Corduliidae	Somatochlora linearis	8.90
Arthropoda	Insecta	Odonata	Corduliidae	Somatochlora provocans	8.90
Arthropoda	Insecta	Odonata	Corduliidae	Somatochlora sp.	8.90
Arthropoda	Insecta	Odonata	Corduliidae	Somatochlora tenebrosa	8.90
Arthropoda	Insecta	Odonata	Gomphidae	Aphylla williamsoni	-
Arthropoda	Insecta	Odonata	Gomphidae	Arigomphus pallidus	5.80
Arthropoda	Insecta	Odonata	Gomphidae	Arigomphus sp.	5.80
Arthropoda	Insecta	Odonata	Gomphidae	Arigomphus villosipes	5.80
Arthropoda	Insecta	Odonata	Gomphidae	Dromogomphus armatus	5.60
Arthropoda	Insecta	Odonata	Gomphidae	Dromogomphus sp.	5.60
Arthropoda	Insecta	Odonata	Gomphidae	Dromogomphus spinosus	5.60
Arthropoda	Insecta	Odonata	Gomphidae	Erpetogomphus designatus	-
Arthropoda	Insecta	Odonata	Gomphidae	Erpetogomphus/Ophiogomphus	-
Arthropoda	Insecta	Odonata	Gomphidae	Gomphidae	-
Arthropoda	Insecta	Odonata	Gomphidae	Gomphurus dilatatus	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Gomphurus fraternus	5.90

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Arthropoda	Insecta	Odonata	Gomphidae	Gomphurus hybridus	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Gomphurus lineatifrons	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Gomphurus septima	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Gomphurus sp.	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Gomphurus vastus	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Gomphurus ventricosus	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Gomphus gr	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Hagenius brevistylus	4.40
Arthropoda	Insecta	Odonata	Gomphidae	Hylogomphus abbreviatus	5.9
Arthropoda	Insecta	Odonata	Gomphidae	Hylogomphus adelphus	5.9
Arthropoda	Insecta	Odonata	Gomphidae	Hylogomphus apomyius	5.9
Arthropoda	Insecta	Odonata	Gomphidae	Hylogomphus parvidens	5.9
Arthropoda	Insecta	Odonata	Gomphidae	Hylogomphus sp.	5.9
Arthropoda	Insecta	Odonata	Gomphidae	Hylogomphus viridifrons	5.9
Arthropoda	Insecta	Odonata	Gomphidae	Lanthus vernalis	0.80
Arthropoda	Insecta	Odonata	Gomphidae	Ophiogomphus aspersus	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Ophiogomphus edmundi	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Ophiogomphus howei	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Ophiogomphus incurvatus	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Ophiogomphus mainensis	5.54
Arthropoda	Insecta	Odonata	Gomphidae	Ophiogomphus sp.	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Phanogomphus australis	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Phanogomphus cavillaris	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Phanogomphus diminutus	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Phanogomphus exilis	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Phanogomphus lividus	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Phanogomphus minutus	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Phanogomphus quadricolor	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Phanogomphus sp.	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Progomphus belli	-
Arthropoda	Insecta	Odonata	Gomphidae	Progomphus obscurus	8.22
Arthropoda	Insecta	Odonata	Gomphidae	Progomphus sp.	8.20
Arthropoda	Insecta	Odonata	Gomphidae	Stenogomphus consanguis	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Stenogomphus rogersi	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Stenogomphus sp.	5.90
Arthropoda	Insecta	Odonata	Gomphidae	Stylogomphus albistylus	4.72
Arthropoda	Insecta	Odonata	Gomphidae	Stylurus amnicola	5.80
Arthropoda	Insecta	Odonata	Gomphidae	Stylurus ivae	5.80
Arthropoda	Insecta	Odonata	Gomphidae	Stylurus laurae	5.80
Arthropoda	Insecta	Odonata	Gomphidae	Stylurus plagiatus	5.80
Arthropoda	Insecta	Odonata	Gomphidae	Stylurus scudderii	5.80
Arthropoda	Insecta	Odonata	Gomphidae	Stylurus sp.	5.80
Arthropoda	Insecta	Odonata	Gomphidae	Stylurus spiniceps	5.80
Arthropoda	Insecta	Odonata	Gomphidae	Stylurus townesi	5.80
Arthropoda	Insecta	Odonata	Lestidae	Archilestes grandis	-
Arthropoda	Insecta	Odonata	Lestidae	Lestes australis/rectangularis	9.42
Arthropoda	Insecta	Odonata	Lestidae	Lestes eurinus	9.42
Arthropoda	Insecta	Odonata	Lestidae	Lestes forcipatus	9.42
Arthropoda	Insecta	Odonata	Lestidae	Lestes inaequalis	9.42
Arthropoda	Insecta	Odonata	Lestidae	Lestes rectangularis	9.42

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Arthropoda	Insecta	Odonata	Lestidae	Lestes sp.	9.42
Arthropoda	Insecta	Odonata	Lestidae	Lestes vidua	9.42
Arthropoda	Insecta	Odonata	Lestidae	Lestes vigilax	9.42
Arthropoda	Insecta	Odonata	Lestidae	Lestidae	-
Arthropoda	Insecta	Odonata	Libellulidae	Brachymesia gravida	-
Arthropoda	Insecta	Odonata	Libellulidae	Celithemis amanda	-
Arthropoda	Insecta	Odonata	Libellulidae	Celithemis bertha	-
Arthropoda	Insecta	Odonata	Libellulidae	Celithemis elisa	-
Arthropoda	Insecta	Odonata	Libellulidae	Celithemis eponina	-
Arthropoda	Insecta	Odonata	Libellulidae	Celithemis fasciata	-
Arthropoda	Insecta	Odonata	Libellulidae	Celithemis ornata	-
Arthropoda	Insecta	Odonata	Libellulidae	Celithemis sp.	-
Arthropoda	Insecta	Odonata	Libellulidae	Celithemis verna	-
Arthropoda	Insecta	Odonata	Libellulidae	Dythemis velox	-
Arthropoda	Insecta	Odonata	Libellulidae	Erythemis simplicicollis	9.72
Arthropoda	Insecta	Odonata	Libellulidae	Erythemis sp.	-
Arthropoda	Insecta	Odonata	Libellulidae	Erythrodiplax miniscula	-
Arthropoda	Insecta	Odonata	Libellulidae	Ladona deplanata	-
Arthropoda	Insecta	Odonata	Libellulidae	Libellula auripennis	9.40
Arthropoda	Insecta	Odonata	Libellulidae	Libellula axilena	9.40
Arthropoda	Insecta	Odonata	Libellulidae	Libellula cyanea	9.40
Arthropoda	Insecta	Odonata	Libellulidae	Libellula flavida	9.40
Arthropoda	Insecta	Odonata	Libellulidae	Libellula incesta	9.40
Arthropoda	Insecta	Odonata	Libellulidae	Libellula luctuosa	9.40
Arthropoda	Insecta	Odonata	Libellulidae	Libellula needhami	9.40
Arthropoda	Insecta	Odonata	Libellulidae	Libellula pulchella	9.40
Arthropoda	Insecta	Odonata	Libellulidae	Libellula semifasciata	9.40
Arthropoda	Insecta	Odonata	Libellulidae	Libellula sp.	9.40
Arthropoda	Insecta	Odonata	Libellulidae	Libellula vibrans	9.40
Arthropoda	Insecta	Odonata	Libellulidae	Libellulidae	-
Arthropoda	Insecta	Odonata	Libellulidae	Macrodiplax balteata	-
Arthropoda	Insecta	Odonata	Libellulidae	Miathyria marcella	-
Arthropoda	Insecta	Odonata	Libellulidae	Nannothemis bella	-
Arthropoda	Insecta	Odonata	Libellulidae	Orthemis ferruginea	-
Arthropoda	Insecta	Odonata	Libellulidae	Pachydiplax longipennis	9.60
Arthropoda	Insecta	Odonata	Libellulidae	Pantala flavescens	-
Arthropoda	Insecta	Odonata	Libellulidae	Pantala hymanaea	-
Arthropoda	Insecta	Odonata	Libellulidae	Pantala sp.	-
Arthropoda	Insecta	Odonata	Libellulidae	Perithemis tenera	9.85
Arthropoda	Insecta	Odonata	Libellulidae	Plathemis lydia	9.80
Arthropoda	Insecta	Odonata	Libellulidae	Sympetrum ambiguum	7.29
Arthropoda	Insecta	Odonata	Libellulidae	Sympetrum corruptum	7.29
Arthropoda	Insecta	Odonata	Libellulidae	Sympetrum rubicundulum	7.29
Arthropoda	Insecta	Odonata	Libellulidae	Sympetrum semicinctum	7.29
Arthropoda	Insecta	Odonata	Libellulidae	Sympetrum sp.	7.29
Arthropoda	Insecta	Odonata	Libellulidae	Sympetrum vicinum	7.29
Arthropoda	Insecta	Odonata	Libellulidae	Tamea calverti	-
Arthropoda	Insecta	Odonata	Libellulidae	Tamea carolina	-
Arthropoda	Insecta	Odonata	Libellulidae	Tamea lacerata	-
Arthropoda	Insecta	Odonata	Libellulidae	Tamea onusta	-

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Arthropoda	Insecta	Odonata	Libellulidae	Tramea sp.	-
Arthropoda	Insecta	Odonata	Macromiidae	Macromia alleganiensis	6.20
Arthropoda	Insecta	Odonata	Macromiidae	Macromia illinoensis	6.20
Arthropoda	Insecta	Odonata	Macromiidae	Macromia margarita	6.20
Arthropoda	Insecta	Odonata	Macromiidae	Macromia sp.	6.20
Arthropoda	Insecta	Odonata	Macromiidae	Macromia taeniolata	6.16
Arthropoda	Insecta	Odonata	Macromiidae	Macromia transversa	2.36
Arthropoda	Insecta	Odonata	NA	Corduliidae/Libellulidae	-
Arthropoda	Insecta	Odonata	NA	Odonata	-
Arthropoda	Insecta	Plecoptera	Capniidae	Allocaenia sp.	3.30
Arthropoda	Insecta	Plecoptera	Capniidae	Capniidae	-
Arthropoda	Insecta	Plecoptera	Capniidae	Nemocaenia carolina	-
Arthropoda	Insecta	Plecoptera	Capniidae	Paracaenia angulata	0.12
Arthropoda	Insecta	Plecoptera	Capniidae/Leuctridae	Capniidae/Leuctridae	-
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Alloperla sp.	1.00
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Chloroperlidae	-
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Haploperla brevis	1.40
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Haploperla sp.	1.40
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Rasveta terna	-
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Suwallia marginata	2.60
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Sweltsa lateralis	0.20
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Sweltsa mediana	0.20
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Sweltsa sp.	0.20
Arthropoda	Insecta	Plecoptera	Chloroperlidae	Sweltsa urticae	0.20
Arthropoda	Insecta	Plecoptera	Leuctridae	Leuctra sp.	1.50
Arthropoda	Insecta	Plecoptera	Leuctridae	Leuctridae	-
Arthropoda	Insecta	Plecoptera	Leuctridae	Megaleuctra williamsae	-
Arthropoda	Insecta	Plecoptera	Leuctridae	Paraleuctra sara	-
Arthropoda	Insecta	Plecoptera	Leuctridae	Zealeuctra sp.	-
Arthropoda	Insecta	Plecoptera	NA	Plecoptera	-
Arthropoda	Insecta	Plecoptera	Nemouridae	Amphinemura sp.	3.80
Arthropoda	Insecta	Plecoptera	Nemouridae	Nemouridae	-
Arthropoda	Insecta	Plecoptera	Nemouridae	Paranemoura perfecta	-
Arthropoda	Insecta	Plecoptera	Nemouridae	Prostoia sp.	5.20
Arthropoda	Insecta	Plecoptera	Nemouridae	Shipsa rotunda	0.33
Arthropoda	Insecta	Plecoptera	Nemouridae	Soyedina sp.	0.001
Arthropoda	Insecta	Plecoptera	Nemouridae	Zapada chila	-
Arthropoda	Insecta	Plecoptera	Nemouridae	Zapada sp.	-
Arthropoda	Insecta	Plecoptera	Nemouridae	Zapada sp. A	-
Arthropoda	Insecta	Plecoptera	Peltoperlidae	Peltoperlidae	-
Arthropoda	Insecta	Plecoptera	Peltoperlidae	Tallaperla sp.	1.30
Arthropoda	Insecta	Plecoptera	Peltoperlidae	Viehopera ada	1.18
Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria abnormis	2.10
Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria arenosa	2.40
Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria arenosa/evoluta	-
Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria carolinensis	1.20
Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria carolinensis/lycorias	2.06
Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria evoluta	1.70
Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria filicis	-
Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria frisoni	-

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Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria lycorias	2.10
Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria nr internata	-
Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria perplexa	1.00
Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria sp.	2.06
Arthropoda	Insecta	Plecoptera	Perlidae	Acroneuria/Eccoptura	-
Arthropoda	Insecta	Plecoptera	Perlidae	Agnentina capitata	0.001
Arthropoda	Insecta	Plecoptera	Perlidae	Agnentina flavescens	0.001
Arthropoda	Insecta	Plecoptera	Perlidae	Agnentina sp.	1.10
Arthropoda	Insecta	Plecoptera	Perlidae	Attaneuria ruralis	-
Arthropoda	Insecta	Plecoptera	Perlidae	Beloneuria sp.	0.001
Arthropoda	Insecta	Plecoptera	Perlidae	Eccoptura xanthenes	4.70
Arthropoda	Insecta	Plecoptera	Perlidae	Hansonoperla appalachia	-
Arthropoda	Insecta	Plecoptera	Perlidae	Neoperla sp.	2.10
Arthropoda	Insecta	Plecoptera	Perlidae	Paragnetina fumosa	3.60
Arthropoda	Insecta	Plecoptera	Perlidae	Paragnetina ichusa/media	0.20
Arthropoda	Insecta	Plecoptera	Perlidae	Paragnetina immarginata	1.10
Arthropoda	Insecta	Plecoptera	Perlidae	Paragnetina kansensis	1.90
Arthropoda	Insecta	Plecoptera	Perlidae	Paragnetina sp.	1.54
Arthropoda	Insecta	Plecoptera	Perlidae	Perlesta sp.	2.90
Arthropoda	Insecta	Plecoptera	Perlidae	Perlidae	-
Arthropoda	Insecta	Plecoptera	Perlidae	Perlinella drymo	1.30
Arthropoda	Insecta	Plecoptera	Perlidae	Perlinella ephyre	1.26
Arthropoda	Insecta	Plecoptera	Perlidae	Perlinella sp.	-
Arthropoda	Insecta	Plecoptera	Perlidae	Perlinella zwicki	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Agnentina annulipes	0.001
Arthropoda	Insecta	Plecoptera	Perlodidae	Clioperla clio	5.20
Arthropoda	Insecta	Plecoptera	Perlodidae	Cultus decesus isolatus	1.50
Arthropoda	Insecta	Plecoptera	Perlodidae	Cultus sp.	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Cultus verticalis	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Diploperla duplicata	2.80
Arthropoda	Insecta	Plecoptera	Perlodidae	Diploperla kanawholensis	1.44
Arthropoda	Insecta	Plecoptera	Perlodidae	Diploperla kanawholensis/morgani	1.44
Arthropoda	Insecta	Plecoptera	Perlodidae	Diploperla morgani	1.44
Arthropoda	Insecta	Plecoptera	Perlodidae	Diploperla sp.	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Helopicus bogaloosa	0.001
Arthropoda	Insecta	Plecoptera	Perlodidae	Helopicus sp.	0.81
Arthropoda	Insecta	Plecoptera	Perlodidae	Helopicus subvarians	1.20
Arthropoda	Insecta	Plecoptera	Perlodidae	Hydroperla phormidia	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isogenoides hansonii	0.54
Arthropoda	Insecta	Plecoptera	Perlodidae	Isogenoides sp.	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isogenoides varians	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla arcana	0.001
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla bellona	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla borisi	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla burksi	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla catawba	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla cf. fauschi	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla cotta	0.001
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla davisii	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla davisii/lenati	-

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Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla dicala	2.10
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla frisoni	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla holochlora	0.95
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla kirchneri complex	2.50
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla lenati	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla montana	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla nr transmarina	3.20
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla orata	0.001
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla poffi	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla riverae	3.20
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla similis complex	0.80
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla similis/pseudosimilis gr	0.80
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla slossonae	1.80
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla sp.	3.20
Arthropoda	Insecta	Plecoptera	Perlodidae	Isoperla sp. 10	0.001
Arthropoda	Insecta	Plecoptera	Perlodidae	Malirekus hastatus	1.00
Arthropoda	Insecta	Plecoptera	Perlodidae	Oconoperla innubila	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Perlodidae	-
Arthropoda	Insecta	Plecoptera	Perlodidae	Remenus bilobatus	0.28
Arthropoda	Insecta	Plecoptera	Perlodidae	Remenus sp.	0.90
Arthropoda	Insecta	Plecoptera	Perlodidae	Yugus arinus	0.001
Arthropoda	Insecta	Plecoptera	Perlodidae	Yugus bulbosus	0.001
Arthropoda	Insecta	Plecoptera	Perlodidae	Yugus bulbosus gr	0.001
Arthropoda	Insecta	Plecoptera	Perlodidae	Yugus kondratieffi	0.001
Arthropoda	Insecta	Plecoptera	Perlodidae	Yugus sp.	0.001
Arthropoda	Insecta	Plecoptera	Pteronarcyidae	Pteronarcys (non-dorsata) sp.	1.80
Arthropoda	Insecta	Plecoptera	Pteronarcyidae	Pteronarcys biloba	0.001
Arthropoda	Insecta	Plecoptera	Pteronarcyidae	Pteronarcys comstocki	-
Arthropoda	Insecta	Plecoptera	Pteronarcyidae	Pteronarcys dorsata	2.40
Arthropoda	Insecta	Plecoptera	Pteronarcyidae	Pteronarcys proteus	0.40
Arthropoda	Insecta	Plecoptera	Pteronarcyidae	Pteronarcys scotti	-
Arthropoda	Insecta	Plecoptera	Pteronarcyidae	Pteronarcys sp.	1.80
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Bolotoperla rossi	-
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Oemopteryx contorta	-
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Strophopteryx appalachia	3.30
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Strophopteryx fasciata	3.30
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Strophopteryx limata	3.30
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Strophopteryx sp.	3.30
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Taenionema atlanticum	-
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Taeniopterygidae	-
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Taeniopteryx burksi	6.60
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Taeniopteryx lita	6.00
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Taeniopteryx lonicera	6.00
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Taeniopteryx maura	6.00
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Taeniopteryx maura	6.00
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Taeniopteryx meteui	1.42
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Taeniopteryx parvula	6.00
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Taeniopteryx robinae	6.00
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Taeniopteryx sp.	6.00
Arthropoda	Insecta	Plecoptera	Taeniopterygidae	Taeniopteryx ugola	6.00

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Arthropoda	Insecta	Trichoptera	Apataniidae	Apatania incerta	0.60
Arthropoda	Insecta	Trichoptera	Brachycentridae	Brachycentridae	-
Arthropoda	Insecta	Trichoptera	Brachycentridae	Brachycentrus appalachia	1.00
Arthropoda	Insecta	Trichoptera	Brachycentridae	Brachycentrus chelatus	0.60
Arthropoda	Insecta	Trichoptera	Brachycentridae	Brachycentrus etowahensis	-
Arthropoda	Insecta	Trichoptera	Brachycentridae	Brachycentrus incanus	2.20
Arthropoda	Insecta	Trichoptera	Brachycentridae	Brachycentrus lateralis	1.90
Arthropoda	Insecta	Trichoptera	Brachycentridae	Brachycentrus lunatus	-
Arthropoda	Insecta	Trichoptera	Brachycentridae	Brachycentrus nigrosoma	3.10
Arthropoda	Insecta	Trichoptera	Brachycentridae	Brachycentrus numerosus	1.70
Arthropoda	Insecta	Trichoptera	Brachycentridae	Brachycentrus sp.	2.20
Arthropoda	Insecta	Trichoptera	Brachycentridae	Brachycentrus spinae	0.001
Arthropoda	Insecta	Trichoptera	Brachycentridae	Micrasema bennetti	0.001
Arthropoda	Insecta	Trichoptera	Brachycentridae	Micrasema burksi	0.001
Arthropoda	Insecta	Trichoptera	Brachycentridae	Micrasema charonis	1.00
Arthropoda	Insecta	Trichoptera	Brachycentridae	Micrasema rickeri	0.001
Arthropoda	Insecta	Trichoptera	Brachycentridae	Micrasema rusticum	0.001
Arthropoda	Insecta	Trichoptera	Brachycentridae	Micrasema scotti	-
Arthropoda	Insecta	Trichoptera	Brachycentridae	Micrasema sp.	-
Arthropoda	Insecta	Trichoptera	Brachycentridae	Micrasema sprulesi	-
Arthropoda	Insecta	Trichoptera	Brachycentridae	Micrasema wataga	2.20
Arthropoda	Insecta	Trichoptera	Calamoceratidae	Anisocentropus pyraloides	1.30
Arthropoda	Insecta	Trichoptera	Calamoceratidae	Calamoceratidae	-
Arthropoda	Insecta	Trichoptera	Calamoceratidae	Heteroplectron americanum	2.00
Arthropoda	Insecta	Trichoptera	Dipseudopsidae	Phylocentropus sp.	4.80
Arthropoda	Insecta	Trichoptera	Glossosomatidae	Agapetus sp.	0.001
Arthropoda	Insecta	Trichoptera	Glossosomatidae	Culoptila plummerensis	-
Arthropoda	Insecta	Trichoptera	Glossosomatidae	Glossosoma nigrior	1.40
Arthropoda	Insecta	Trichoptera	Glossosomatidae	Glossosomatidae	-
Arthropoda	Insecta	Trichoptera	Glossosomatidae	Padunia jeanae	0.001
Arthropoda	Insecta	Trichoptera	Glossosomatidae	Protoptila sp.	2.30
Arthropoda	Insecta	Trichoptera	Goeridae	Goera calcarata	1.00
Arthropoda	Insecta	Trichoptera	Goeridae	Goera fuscula	0.40
Arthropoda	Insecta	Trichoptera	Goeridae	Goera sp.	0.70
Arthropoda	Insecta	Trichoptera	Goeridae	Goera stylata	-
Arthropoda	Insecta	Trichoptera	Goeridae	Goeridae	-
Arthropoda	Insecta	Trichoptera	Goeridae	Goerita betteni	-
Arthropoda	Insecta	Trichoptera	Goeridae	Goerita flinti	-
Arthropoda	Insecta	Trichoptera	Goeridae	Goerita semata	-
Arthropoda	Insecta	Trichoptera	Goeridae	Goerita sp.	-
Arthropoda	Insecta	Trichoptera	Helicopsychidae	Helicopsyche borealis	0.001
Arthropoda	Insecta	Trichoptera	Helicopsychidae	Helicopsyche paralimnella	0.001
Arthropoda	Insecta	Trichoptera	Helicopsychidae	Helicopsyche sp.	0.001
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Arctopsyche irrorata	0.001
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Cheumatopsyche sp.	6.60
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Diplectrona metaqui	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Diplectrona modesta	2.30
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Diplectrona sp.	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Homoplectra doringa	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Homoplectra flinti	-

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Arthropoda	Insecta	Trichoptera	Hydropsychidae	Homoplectra monticola	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Homoplectra sp.	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (C.) alhedra	0.001
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (C.) bronta	2.30
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (C.) cheilonis	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (C.) macleodi	0.70
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (C.) morosa	2.30
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (C.) slossonae	0.001
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (C.) sp.	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (C.) sparna	2.50
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (C.) walkeri	1.00
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) betteni	7.90
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) carolina	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) decalda	3.20
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) demora	2.60
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) elissoma	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) franclemonti	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) incommoda	4.60
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) mississippiensis	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) phalerata	3.70
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) scalaris	2.60
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) simulans/rossi	4.80
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) sp.	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) venularis	5.10
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche (H.) venularis gr	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsychidae	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Macrostemum sp.	3.40
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Parapsyche apicalis	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Parapsyche cardis	0.001
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Parapsyche sp.	-
Arthropoda	Insecta	Trichoptera	Hydropsychidae	Potamyia flava	-
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Dibusa angata	-
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptila sp.	6.50
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Hydroptilidae	-
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Leucotrichia pictipes	4.60
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Mayatrichia ayama	-
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Neotrichia sp.	-
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Ochrotrichia sp.	3.95
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Orthotrichia sp.	8.29
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Oxyethira sp.	2.22
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Palaeagapetus celsus	-
Arthropoda	Insecta	Trichoptera	Hydroptilidae	Stactobiella sp.	1.29
Arthropoda	Insecta	Trichoptera	Lepidostomatidae	Lepidostoma sp.	1.00
Arthropoda	Insecta	Trichoptera	Lepidostomatidae	Lepidostomatidae	-
Arthropoda	Insecta	Trichoptera	Lepidostomatidae	Theliopsyche sp.	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea ancylus	2.80
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea ancylus/flava	2.01
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea cama	2.50
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea cancellata	2.20
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea diluta	2.20

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea enodis	2.01
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea excisa	0.001
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea flava	0.001
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea joannae	0.001
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea maculata	6.20
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea mentiea	0.001
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea neffi	2.20
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea nepha	2.00
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea ophioderus	2.38
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea protonepha	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea punctata	2.20
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea resurgens	2.87
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea slossonae	2.20
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea sp.	2.20
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea tarsipunctata	2.20
Arthropoda	Insecta	Trichoptera	Leptoceridae	Ceraclea transversa	2.80
Arthropoda	Insecta	Trichoptera	Leptoceridae	Leptoceridae	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Leptocerus americanus	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Mystacides sepulchralis	2.60
Arthropoda	Insecta	Trichoptera	Leptoceridae	Nectopsyche albida	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Nectopsyche candida	6.50
Arthropoda	Insecta	Trichoptera	Leptoceridae	Nectopsyche exquisita	4.30
Arthropoda	Insecta	Trichoptera	Leptoceridae	Nectopsyche exquisita/candida	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Nectopsyche pavidia	3.90
Arthropoda	Insecta	Trichoptera	Leptoceridae	Nectopsyche sp.	2.94
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis avara	5.10
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis cinerascens	5.10
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis georgia	3.60
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis inconspicua complex	1.90
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis nocturna	5.00
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis ochracea	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis osteni	5.10
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis parva	5.10
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis persimilis	4.60
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis porteri	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis scala gr	2.70
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis sp.	5.10
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis Sp. A (Floyd, 95)	2.00
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis Sp. C (Floyd, 95)	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis sp. D (Floyd, 95)	0.10
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis Sp. E (Floyd, 95)	4.70
Arthropoda	Insecta	Trichoptera	Leptoceridae	Oecetis Sp. F (Floyd, 95)	3.50
Arthropoda	Insecta	Trichoptera	Leptoceridae	Setodes sp.	0.001
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes aba	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes bicornis	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes cumberlandensis	4.46
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes dendyi	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes flavescens	4.10
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes ignitus	4.80
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes injustus	2.70

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes marginatus	4.10
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes melacus	4.10
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes melacus/cumberlandensis	4.10
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes morsei	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes nox	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes ochraceus	4.46
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes perna gr	4.06
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes sp.	4.10
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes taenia	-
Arthropoda	Insecta	Trichoptera	Leptoceridae	Triaenodes tarda	-
Arthropoda	Insecta	Trichoptera	Limnephilidae	Hydatophylax argus	2.40
Arthropoda	Insecta	Trichoptera	Limnephilidae	Ironoquia punctatissima	6.70
Arthropoda	Insecta	Trichoptera	Limnephilidae	Limnephilidae	-
Arthropoda	Insecta	Trichoptera	Limnephilidae	Limnephilus submonilifer	-
Arthropoda	Insecta	Trichoptera	Limnephilidae	Platycentropus radiatus	-
Arthropoda	Insecta	Trichoptera	Limnephilidae	Platycentropus uniformis	-
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche flavata	1.80
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche gentilis	1.80
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche guttifera	2.20
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche indiana	3.90
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche lepida	3.90
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche lepida gr	3.90
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche letova	1.80
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche luculenta	2.50
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche luculenta/sonso	2.50
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche scabripennis	2.50
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche sonso	2.50
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche sp.	2.50
Arthropoda	Insecta	Trichoptera	Limnephilidae	Pycnopsyche subfasciata	3.90
Arthropoda	Insecta	Trichoptera	Molannidae	Molanna blenda	1.60
Arthropoda	Insecta	Trichoptera	Molannidae	Molanna sp.	-
Arthropoda	Insecta	Trichoptera	Molannidae	Molanna tryphena	2.40
Arthropoda	Insecta	Trichoptera	Molannidae	Molanna ulmerina	-
Arthropoda	Insecta	Trichoptera	Molannidae	Molanna uniophila	-
Arthropoda	Insecta	Trichoptera	NA	Trichoptera	-
Arthropoda	Insecta	Trichoptera	Odontoceridae	Odontoceridae	-
Arthropoda	Insecta	Trichoptera	Odontoceridae	Pseudogoera singularis	-
Arthropoda	Insecta	Trichoptera	Odontoceridae	Psilotreta amera	-
Arthropoda	Insecta	Trichoptera	Odontoceridae	Psilotreta frontalis	0.001
Arthropoda	Insecta	Trichoptera	Odontoceridae	Psilotreta indecisa	-
Arthropoda	Insecta	Trichoptera	Odontoceridae	Psilotreta labida	0.001
Arthropoda	Insecta	Trichoptera	Odontoceridae	Psilotreta rossi	-
Arthropoda	Insecta	Trichoptera	Odontoceridae	Psilotreta rufa	-
Arthropoda	Insecta	Trichoptera	Odontoceridae	Psilotreta sp.	0.50
Arthropoda	Insecta	Trichoptera	Philopotamidae	Chimarra aterrima gr	2.76
Arthropoda	Insecta	Trichoptera	Philopotamidae	Chimarra obscura	2.76
Arthropoda	Insecta	Trichoptera	Philopotamidae	Chimarra sp.	3.30
Arthropoda	Insecta	Trichoptera	Philopotamidae	Dolophilodes distincta	0.81
Arthropoda	Insecta	Trichoptera	Philopotamidae	Fumonta major	-
Arthropoda	Insecta	Trichoptera	Philopotamidae	Philopotamidae	-

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Insecta	Trichoptera	Philopotamidae	Wormaldia sp.	2.40
Arthropoda	Insecta	Trichoptera	Phryganeidae	Agrypnia improba	-
Arthropoda	Insecta	Trichoptera	Phryganeidae	Agrypnia sp.	-
Arthropoda	Insecta	Trichoptera	Phryganeidae	Agrypnia vestita	-
Arthropoda	Insecta	Trichoptera	Phryganeidae	Banksiola sp.	-
Arthropoda	Insecta	Trichoptera	Phryganeidae	Oligostomis pardalis	6.20
Arthropoda	Insecta	Trichoptera	Phryganeidae	Phryganeidae	-
Arthropoda	Insecta	Trichoptera	Phryganeidae	Phyryganea sayi	-
Arthropoda	Insecta	Trichoptera	Phryganeidae	Ptilostomis sp.	5.90
Arthropoda	Insecta	Trichoptera	Polycentropodidae	Cyrnellus fraternus	6.80
Arthropoda	Insecta	Trichoptera	Polycentropodidae	Neureclipsis sp.	4.00
Arthropoda	Insecta	Trichoptera	Polycentropodidae	Nyctiophylax sp.	0.80
Arthropoda	Insecta	Trichoptera	Polycentropodidae	Polycentropodidae	-
Arthropoda	Insecta	Trichoptera	Polycentropodidae	Polycentropus gr	3.53
Arthropoda	Insecta	Trichoptera	Psychomyiidae	Lype diversa	3.90
Arthropoda	Insecta	Trichoptera	Psychomyiidae	Psychmyiidae	-
Arthropoda	Insecta	Trichoptera	Psychomyiidae	Psychomyia flavida	3.00
Arthropoda	Insecta	Trichoptera	Psychomyiidae	Psychomyia nomada	2.00
Arthropoda	Insecta	Trichoptera	Psychomyiidae	Psychomyia sp.	-
Arthropoda	Insecta	Trichoptera	Psychomyiidae	Psychomyiidae	-
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila acutiloba	0.001
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila amicus	-
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila appalachia	0.001
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila atrata	0.001
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila banksi complex	-
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila carolina	0.40
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila carpenteri	-
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila celadon	-
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila formosa	0.10
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila fuscula	1.60
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila glaberrima/montana	-
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila invaria gr	-
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila ledra/fenestra	4.60
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila minora	0.001
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila nigrita	0.001
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila nr lobifera	-
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila sp.	-
Arthropoda	Insecta	Trichoptera	Rhyacophilidae	Rhyacophila torva	1.50
Arthropoda	Insecta	Trichoptera	Sericostomatidae	Agarodes sp.	0.69
Arthropoda	Insecta	Trichoptera	Sericostomatidae	Fattigia pele	0.001
Arthropoda	Insecta	Trichoptera	Sericostomatidae	Sericostomatidae	-
Arthropoda	Insecta	Trichoptera	Thremmatidae	Neophylax aniqua	-
Arthropoda	Insecta	Trichoptera	Thremmatidae	Neophylax atlanta	-
Arthropoda	Insecta	Trichoptera	Thremmatidae	Neophylax concinnus	1.45
Arthropoda	Insecta	Trichoptera	Thremmatidae	Neophylax consimilis	0.30
Arthropoda	Insecta	Trichoptera	Thremmatidae	Neophylax fuscus	0.001
Arthropoda	Insecta	Trichoptera	Thremmatidae	Neophylax mitchelli	0.001
Arthropoda	Insecta	Trichoptera	Thremmatidae	Neophylax oligius	2.40
Arthropoda	Insecta	Trichoptera	Thremmatidae	Neophylax ornatus	1.30
Arthropoda	Insecta	Trichoptera	Thremmatidae	Neophylax sp.	1.60

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Phylum	Class	Order	Family	Genus species	TV
Arthropoda	Malacostraca	Amphipoda	Crangonyctidae	Crangonyctidae	-
Arthropoda	Malacostraca	Amphipoda	Crangonyctidae	Crangonyx sp.	7.20
Arthropoda	Malacostraca	Amphipoda	Crangonyctidae	Synurella sp.	-
Arthropoda	Malacostraca	Amphipoda	Gammaridae	Gammarus sp.	7.10
Arthropoda	Malacostraca	Amphipoda	Hyalellidae	Hyalella sp.	7.20
Arthropoda	Malacostraca	Amphipoda	NA	Amphipoda	-
Arthropoda	Malacostraca	Decapoda	Cambaridae	Cambaridae	7.50
Arthropoda	Malacostraca	Decapoda	Cambaridae	Cambarus sp.	7.50
Arthropoda	Malacostraca	Decapoda	Cambaridae	Orconectes sp.	2.70
Arthropoda	Malacostraca	Decapoda	Cambaridae	Procambarus sp.	9.30
Arthropoda	Malacostraca	Decapoda	Palaemonidae	Palaemon paludosus	6.10
Arthropoda	Malacostraca	Isopoda	Asellidae	Asellidae	-
Arthropoda	Malacostraca	Isopoda	Asellidae	Caecidotea sp.	8.40
Arthropoda	Malacostraca	Isopoda	Asellidae	Lirceus sp.	7.40
Arthropoda	Malacostraca	Isopoda	NA	Isopoda	-
Arthropoda	NA	NA	NA	Hexapoda	-
Mollusca	Bivalvia	NA	NA	Bivalvia	-
Mollusca	Bivalvia	Sphaeriida	Sphaeriidae	Euglesa/Pisidium	6.60
Mollusca	Bivalvia	Sphaeriida	Sphaeriidae	Eupera cubensis	5.70
Mollusca	Bivalvia	Sphaeriida	Sphaeriidae	Sphaeriidae	-
Mollusca	Bivalvia	Sphaeriida	Sphaeriidae	Sphaerium sp.	7.20
Mollusca	Bivalvia	Unionida	Unionidae	Alasmidonta undulata	1.20
Mollusca	Bivalvia	Unionida	Unionidae	Alasmidonta varicosa	0.10
Mollusca	Bivalvia	Unionida	Unionidae	Atlanticoncha ochracea	-
Mollusca	Bivalvia	Unionida	Unionidae	Elliptio angustata	4.90
Mollusca	Bivalvia	Unionida	Unionidae	Elliptio complanata	4.70
Mollusca	Bivalvia	Unionida	Unionidae	Elliptio complanata/icterina	4.90
Mollusca	Bivalvia	Unionida	Unionidae	Elliptio congaraea	4.90
Mollusca	Bivalvia	Unionida	Unionidae	Elliptio fisheriana	4.90
Mollusca	Bivalvia	Unionida	Unionidae	Elliptio folliculata	4.90
Mollusca	Bivalvia	Unionida	Unionidae	Elliptio icterina	4.90
Mollusca	Bivalvia	Unionida	Unionidae	Elliptio producta	4.90
Mollusca	Bivalvia	Unionida	Unionidae	Elliptio roanokensis	4.90
Mollusca	Bivalvia	Unionida	Unionidae	Elliptio sp.	4.90
Mollusca	Bivalvia	Unionida	Unionidae	Fusconaia masoni	-
Mollusca	Bivalvia	Unionida	Unionidae	Lampsilis cariosa	-
Mollusca	Bivalvia	Unionida	Unionidae	Lampsilis splendida	-
Mollusca	Bivalvia	Unionida	Unionidae	Platynaias decorata	-
Mollusca	Bivalvia	Unionida	Unionidae	Pyganodon cataracta	-
Mollusca	Bivalvia	Unionida	Unionidae	Sagittunio nasutus	-
Mollusca	Bivalvia	Unionida	Unionidae	Sagittunio vughanianus	-
Mollusca	Bivalvia	Unionida	Unionidae	Strophitus undulatus	-
Mollusca	Bivalvia	Unionida	Unionidae	Toxolasma pullus	-
Mollusca	Bivalvia	Unionida	Unionidae	Uniomereus carolinianus	-
Mollusca	Bivalvia	Unionida	Unionidae	Unionidae	-
Mollusca	Bivalvia	Unionida	Unionidae	Utterbackia imbecillis	-
Mollusca	Bivalvia	Unionida	Unionidae	Utterbackiana couperiana	-
Mollusca	Bivalvia	Unionida	Unionidae	Utterbackiana implicata	-
Mollusca	Bivalvia	Unionida	Unionidae	Venustaconcha constricta	-
Mollusca	Bivalvia	Unionida	Unionidae	Villosa delumbis	-

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Phylum	Class	Order	Family	Genus species	TV
Mollusca	Bivalvia	Unionida	Unionidae	Villosa sp.	-
Mollusca	Bivalvia	Unionida	Unionidae	Villosa vibex	-
Mollusca	Bivalvia	Venerida	Cyrenidae	Corbicula fluminea	6.60
Mollusca	Bivalvia	Venerida	Cyrenidae	Corbicula Form D	-
Mollusca	Bivalvia	Venerida	Mactridae	Rangia cuneata	-
Mollusca	Gastropoda	Architaenioglossa	Viviparidae	Callinina georgiana	-
Mollusca	Gastropoda	Architaenioglossa	Viviparidae	Callinina intertexta	-
Mollusca	Gastropoda	Architaenioglossa	Viviparidae	Callinina sp.	-
Mollusca	Gastropoda	Architaenioglossa	Viviparidae	Callinina subpurpurea	-
Mollusca	Gastropoda	Architaenioglossa	Viviparidae	Campeloma sp.	5.80
Mollusca	Gastropoda	Architaenioglossa	Viviparidae	Cipangopaludina japonica	-
Mollusca	Gastropoda	Architaenioglossa	Viviparidae	Lioplax subcarinata	-
Mollusca	Gastropoda	Architaenioglossa	Viviparidae	Viviparidae	-
Mollusca	Gastropoda	Cerithioidea	Pleuroceridae	Elimia catenaria	2.70
Mollusca	Gastropoda	Cerithioidea	Pleuroceridae	Elimia proxima	2.70
Mollusca	Gastropoda	Cerithioidea	Pleuroceridae	Elimia sp.	2.70
Mollusca	Gastropoda	Littorinimorpha	Amnicolidae	Amnicola limosus	5.20
Mollusca	Gastropoda	Littorinimorpha	Amnicolidae	Amnicolidae	-
Mollusca	Gastropoda	Littorinimorpha	Amnicolidae	Lyogyrus granum	-
Mollusca	Gastropoda	Littorinimorpha	Amnicolidae	Lyogyrus latus	-
Mollusca	Gastropoda	Littorinimorpha	Lithoglyphidae	Gillia altilis	-
Mollusca	Gastropoda	Littorinimorpha	Lithoglyphidae	Somatogyrus virginicus	-
Mollusca	Gastropoda	Lymnaeoidea	Lymnaeidae	Galba sp.	-
Mollusca	Gastropoda	Lymnaeoidea	Lymnaeidae	Pseudosuccinea columella	7.70
Mollusca	Gastropoda	Lymnaeoidea	Physidae	Physella sp.	8.70
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Ferrissia californica	6.55
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Ferrissia rivularis	6.55
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Ferrissia sp.	6.60
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Gyraulus parvus	6.00
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Hebetancylus excentricus	-
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Helisoma anceps	6.60
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Helisoma sp.	6.23
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Laevapex fuscus	6.60
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Menetus dilitatus	7.60
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Micromenetus dilatatus	8.20
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Planorbella scalare	-
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Planorbella sp.	6.82
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Planorbella trivolvis	5.90
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Planorbidae	-
Mollusca	Gastropoda	Lymnaeoidea	Planorbidae	Promenetus exacuus	5.00
Mollusca	Gastropoda	NA	NA	Caenogastropoda	-
Mollusca	Gastropoda	NA	NA	Gastropoda	-
Mollusca	Gastropoda	NA	NA	Heterobranchia	-
Mollusca	Gastropoda	Valvatoidea	Valvatidae	Valvata bicarinata	8.00
Mollusca	Gastropoda	Valvatoidea	Valvatidae	Valvata sp.	-
Mollusca	Gastropoda	Valvatoidea	Valvatidae	Valvata tricarinata	-
Platyhelminthes	Turbellaria	Tricladida	NA	Tricladida	-
Porifera	Demospongiae	Spongillida	Spongillidae	Spongillidae	-

Appendix 5: Macroinvertebrate Bench Sheet

2017	Station						
Phylum	Collection Date						
Class	ID by						
Order	Midge ID by						
Family							
Genus species							
EPT Taxa							
Arthropoda							
Hexapoda							
Ephemeroptera							
Baetidae							
Acentrella carolina							
Acentrella sp.							
Acerpenna pygmaea							
Acerpenna sp.							
Baetis brunneicolor							
Baetis flavistriga							
Baetis intercalaris							
Baetis pluto							
Baetis sp.							
Baetidae (two tail)							
Callibaetis sp.							
Centroptilum sp.							
Dipheter hageni							
Heterocloeon amplum							
Heterocloeon sp.							
Paracloeodes sp.							
Plauditus sp.							
Procloeon sp.							
Labiobaetis dardanus							
Labiobaetis ephippiatus							
Labiobaetis frondalis							
Labiobaetis propinquus							
Labiobaetis sp.							
Baetiscidae							
Baetisca carolina							
Caenidae							
Caenis diminuta							
Caenis diminuta/punctata							
Caenis maccaferti							
Caenis sp.							
Sparbarus maculatus							
Ephemerellidae							
Dannella simplex							
Drunella lata							
Drunella sp.							

Subject to change without notice

Drunella tuberculata							
Ephemerella dorothea							
Ephemerella sp.							
Eurylophella sp.							
Serratella sp.							
Teloganopsis deficiens							
Ephemeridae							
Ephemera sp.							
Hexagenia sp.							
2017							
Heptageniidae							
Cinygmula subequalis							
Epeorus pleuralis							
Epeorus vitreus gp.							
Epeorus pleuralis gp.							
Epeorus sp.							
Heptagenia sp.							
Leucrocuta sp.							
Maccaffertium carlsoni							
Maccaffertium exiguum							
Maccaffertium mexicanum							
Maccaffertium modestum							
Maccaffertium pudicum							
Maccaffertium (patterned) sp.							
Maccaffertium sp.							
Maccaffertium terminatum							
Rithrogena sp.							
Stenacron interpunctatum							
Stenacron pallidum							
Stenacron sp.							
Stenonema femoratum							
Isonychiadea							
Isonychia sp.							
Leptohyphidae							
Asioplax dolani							
Tricorythodes sp.							
Leptophlebiidae							
Habrophlebiodes sp.							
Leptophlebia sp.							
Paraleptophlebia sp.							
Neophemeridae							
Neophemera purpurea							
Plecoptera							
Chloroperlidae							
Leuctridae							

Subject to change without notice

Leuctra sp.							
Nemouridae							
Amphinemura sp.							
Peltoperlidae							
Tallaperla sp.							
Perlidae							
Acroneuria abnormis							
Acroneuria arenosa/evoluta							
Acroneuria sp.							
Acroneuria/Eccoptura.							
Beloneuria sp.							
Eccoptura xanthenes							
Neoperla sp.							
Paragnetina fumosa							
Paragnetina immarginata							
Paragnetina kansensis							
Paragnetina sp.							
Perlesta sp.							
Perlodidae							
Clioperla clio							
2017							
Isoperla sp.							
Malirekus hastatus							
Remenus sp.							
Pteronarcidae							
Pteronarcys dorsata							
Pteronarcys sp.							
Taeniopterygidae							
Strophopteryx sp.							
Taeniopteryx sp.							
Trichoptera							
Brachycentridae							
Brachycentrus chelatus							
Brachycentrus nigrosoma							
Brachycentrus numerosus							
Brachycentrus sp.							
Micrasema sp.							
Micrasema wataga							
Calamoceratidae							
Anisocentropus pyraloides							
Heteroplectron americanum							
Dipseudopsidae							
Phylocentropus sp.							
Glossosomatidae							
Glossosoma sp.							

Subject to change without notice

Helicopsychidae							
Helicopsyche borealis							
Hydropsychidae							
Hydropsyche (C.) sp.							
Cheumatopsyche sp.							
Diplectrona modesta							
Hydropsyche betteni							
Hydropsyche elissoma							
Hydropsyche incommoda							
Hydropsyche simulans/rossi							
Hydropsyche (C.) sparna							
Hydropsyche (H.) sp.							
Hydropsyche venularis							
H. venularis/rossi/simulans							
Macrostemum sp.							
Hydroptilidae							
Hydroptila sp.							
Lepidostomatidae							
Lepidostoma sp.							
Leptoceridae							
Ceraclea ancylus/flavus							
Ceraclea near transversa							
Ceraclea sp.							
Ceraclea transversa							
Mystacides spulchralis							
Nectopsyche candida							
Nectopsyche exquisita/candida							
Nectopsyche exquisita							
Nectopsyche pavidia							
Nectopsyche sp.							
Oecetis georgia							
2017							
Oecetis morsei/sphyra							
Oecetis nocturna							
Oecetis persimilis							
Oecetis sp.							
Triaenodes ignitus							
Triaenodes injustus							
Triaenodes perna							
Triaenodes perna/helo							
Triaenodes sp.							
Limnephilidae							
Ironoquia sp.							
Pycnopsyche antica							
Pycnopsyche antica/guttifer							

Subject to change without notice

Pycnopsyche gentilis							
Pycnopsyche lepida gp.							
Pycnopsyche luculenta							
Pycnopsyche sp.							
Molannidae							
Molanna tryphena							
Odontoceridae							
Psilotreta sp.							
Philopotamidae							
Chimarra aterrima gp.							
Chimarra obscura							
Chimarra sp.							
Dolophilodes sp.							
Phryganeidae							
Ptilostomis sp.							
Polycentropodidae							
Cymellus fraternus							
Neureclipsis sp.							
Nyctiophylax sp.							
Polycentropus sp.							
Polycentropus/Cernotina							
Psychomyiidae							
Lype diversa							
Rhyacophilidae							
Rhyacophila carolina							
Rhyacophila fuscula							
Rhyacophila nr lobifera							
Rhyacophila sp.							
Thremmatidae							
Neophylax sp.							
<u>Non-EPT Taxa</u>							
Annelida							
Branchiobdellida							
Hirudinea							
Pharyngobdellida							
Erpobdellidae							
Rhynchobdellida							
Glossiphoniidae							
Hirudinidae							
Oligochaeta							
Haplotaxida							
2017							
Naididae							
Tubificidae							

Subject to change without notice

Lumbriculida							
Lumbriculidae							
Megasolecidae							
Tubificida							
Opistocystidae							
Platyhelminthes							
Turbellaria							
Arthropoda							
Arachnida							
Trombidiformes							
Hydracarina							
Crustacea							
Amphipoda							
Gammaridae							
Crangonyx sp.							
Gammarus sp.							
Synurella sp.							
Talitridae							
Hyallega sp.							
Decapoda							
Cambaridae							
Cambarus sp.							
Procambarus sp.							
Palaemonidae							
Palaemonetes paludosus							
Palaemonetes sp.							
Isopoda							
Asellidae							
Caecidotea sp.							
Lirceus sp.							
Hexapoda							
Coleoptera							
Dryopidae							
Helichus sp.							
Dytiscidae							
Coptotomus sp.							
Hydroporus sp.							
Hygrotus sp.							
Laccophilus sp.							
Neoporus sp.							
Elmidae							
Ancyronyx variegatus							
Dubiraphia sp.							
Gonielmis dietrichi							
Macronychus glabratus							
Microcylloepus pusillus							
Optioservus sp.							
Promoresia elegans							
Promoresia tardella							

Subject to change without notice

Stenelmis sp.							
Gyrinidae							
Dineutus sp.							
Gyrinus sp.							
2017							
Haliplidae							
Halipus sp.							
Peltodytes sp.							
Hydrophilidae							
Berosus sp.							
Hydrochus sp.							
Sperchopsis tessellatus							
Tropisternus sp.							
Noteridae							
Hydrocanthus sp.							
Psephenidae							
Ectopria sp.							
Psephenus herricki							
Ptilodactylidae							
Anchytarsus bicolor							
Scirtidae							
Cyphon sp.							
Collembola							
Entomobryidae							
Diptera							
Athericidse							
Atherix lantha							
Ceratopogonidae							
Atrichopogon							
Ceratopogoniinae							
Palpomyia (Complex)							
Chironomidae							
Chironominae							
Chironomus sp.							
Cladopelma							
Cladotanytarsus sp.							
Cladotanytarsus sp. H							
Cryptochironomus sp.							
Cryptotendipes sp.							
Demicryptochironomus sp.							
Dicrotendipes neomodestus							
Dicrotendipes sp.							
Endochironomus nigricans							
Endochironomus sp.							
Glyptotendipes sp.							

Subject to change without notice

Goeldechironomus holoprasinus							
Goeldichironomus sp.							
Kiefferulus sp.							
Kribiodorum perpulchra							
Lauterborniella agrayloides							
Micropsectra sp.							
Microtendipes pedellus GR							
Microtendipes rydalensis GR							
Microtendipes sp.							
Neostempellina sp.							
Nilothauma sp.							
Pagastiella sp.							
Parachironomus carinatus							
Parachironomus sp.							
Paracladopelma sp.							
2017							
Paralauterborniella nigrohalteralis							
Paratanytarsus longistilus							
Paratanytarsus sp.							
Paratendipes albimanus							
Paratendipes sp.							
Paratendipes subequalis							
Phaenopsectra obediens gr							
Phaenopsectra punctipes gr							
Phaenopsectra sp.							
Tribelos/Phaenopsectra							
Polypedilum aviceps							
Polypedilum epleri/fallax							
Polypedilum flavum							
Polypedilum halterale group							
Polypedilum illinoense							
Polypedilum laetum							
Polypedilum scalaenum gr							
Polypedilum sp.							
Polypedilum trigonus							
Polypedilum tritum							
Pseudochironomus sp.							
Rheotanytarsus exiguus gr							
Rheotanytarsus pellucidus							
Rheotanytarsus sp.							
Robackia demeijerei							
Saetheria hirta							
Saetheria sp.							
Stelechomyia perpulchra							

Subject to change without notice

Stempellina sp.							
Stempellina sp. C							
Stempellinella fimbriata							
Stempellinella sp.							
Stenochironomus sp.							
Stictochironomus cafferarius							
Stictochironomus devinctus							
Stictochironomus sp.							
Sublettea sp.							
Tanytarsini							
Tanytarsus sp.							
Tribelos fusicorne							
Tribelos jucundum							
Tribelos sp.							
Xenochironomus xenolabis							
Xestochironomus sp.							
Zavrelia sp.							
Zavreliella marmorata							
Zavreliomyia sp.							
Diamesinae							
Diamesa sp.							
Potthastia longimana							
Orthoclaadiinae							
Acricotopus sp.							
Brillia flavifrons							
Brillia sp.							
Cardiocladius obscurus							
2017							
Cardiocladius sp.							
Corynoneura sp.							
Cricotopus bicinctus							
Cricotopus sp.							
Cricotopus/Orthoclaadius							
Diplocladius cultriger							
Epoicocladius flavens							
Epoicocladius sp.							
Eukiefferiella claripennis gr							
Eukiefferiella devonica gp							
Eukiefferiella sp.							
Eukiefferiella/Tvetenia							
Euryhapsis sp.							
Heterotrissocladius marcidus							
Heterotrissocladius sp.							
Hydrobaenus sp.							
Krenosmittia sp.							

Subject to change without notice

Limnophyes sp.							
Lopescladius sp.							
Nanocladius sp.							
Orthoclaadiinae species C							
Orthocladus (S.) annectens							
Orthocladus lignicola							
Orthocladus (O.) oliveri							
Orthocladus sp.							
Parachaetocladius sp.							
Paracricotopus sp.							
Parakiefferiella coronata							
Parakiefferiella sp.							
Parametriocnemus sp.							
Parametriocnemus/Paraphaenocladius							
Paraphaenocladius sp.							
Psectrocladius elatus							
Psectrocladius sp.							
Rheocricotopus robacki							
Rheocricotopus sp.							
Rheocricotopus tuberculatus							
Rheosmittia sp.							
Synorthocladus sp.							
Thienemanniella lobapodema							
Thienemanniella sp.							
Thienemanniella xena							
Tvetenia sp.							
Tvetenia vitracies							
Uniella multivirga							
Xylotopus par							
Podonominae							
Prodiamesinae							
Odontomesa fulva							
Prodiamesa olivacea							
Tanypodinae							
Ablabesmyia (Asayia) annulata							
Ablabesmyia hauberi							
Ablabesmyia (Karelia) sp.							
Ablabesmyia mallochi							
2017							
Ablabesmyia peleensis							
Ablabesmyia rhamphe gr							
Ablabesmyia sp.							
Alotanypus aris							
Apsectrotanypus johnsoni							
Bethbilbeckia sp.							

Subject to change without notice

Brundiniella eumorpha							
Clinotanypus sp.							
Coelotanypus							
Conchapelopia Group							
Djalmabatista pulchra							
Djalmabatista pulchra variant							
Fittkauimyia serti							
Guttipelopia guttipennis							
Labrundinia pilosella							
Labrundinia sp.							
Larsia sp.							
Natarsia sp.							
Natarsia sp. A							
Nilotanypus fimbriatus							
Nilotanypus sp.							
Paramerina sp.							
Pentaneura inconspicua							
Pentaneura sp.							
Procladius bellus							
Procladius sp.							
Tanypus carinatus							
Tanypus punctipennis							
Tanypus neopunctipennis							
Tanypus sp.							
Thienemannimyia GR							
Zavrelimyia sp.							
Culicidae							
Anopheles sp.							
Dixidae							
Dixa sp.							
Dixella sp.							
Empididae							
Hemerodromia sp.							
Psychodidae							
Simuliidae							
Prosimulium sp.							
Simulium sp.							
Tabanidae							
Tabanus sp.							
Tipulidae							
Antocha sp.							
Dicranota sp.							
Hexatoma sp.							
Pilaria sp.							
Pseudolimnophila sp.							
Tipula sp.							
Heteroptera							
Belostomatidae							
Belostoma sp.							

Subject to change without notice

2017							
Corixidae							
Trichocorixa sp.							
Gerridae							
Nepidae							
Ranatra sp.							
Notonectidae							
Notonecta sp.							
Vellidae							
Microvelia sp.							
Rhagovelia obesa							
Lepidoptera							
Pyrilidae							
Megaloptera							
Corydalidae							
Chauliodes pectinicornis							
Corydalus cornutus							
Nigronia fasciatus							
Nigronia serricornis							
Nigronia sp.							
Sialidae							
Sialis sp.							
Neuroptera							
Sisyridae							
Odonata							
Aeshnidae							
Basiaeschna janata							
Boyeria sp.							
Boyeria vinosa							
Nasiaeschna pentacantha							
Calopterygidae							
Calopteryx maculata							
Calopteryx sp.							
Hetaerina americana							
Hetaerina sp.							
Hetaerina tittia							
Coenagrionidae							
Argia sp.							
Enallagma sp.							
Enallagma/Ischnura							
Ischnura sp.							
Cordulegasteridae							
Cordulegaster maculata							
Cordulegaster sp.							
Corduliidae							

Subject to change without notice

Epithea sp.							
Helocordulia sp.							
Neurocordulia molesta							
Neurocordulia sp.							
Somatochlora sp.							
Tetragoneuria sp.							
Corduliidae/Libellulidae							
Gomphidae							
Arigomphus sp.							
Dromogomphus sp.							
Gomphus sp.							
2017							
Hagenius brevistylus							
Lanthus vernalis							
Ophiogomphus sp.							
Progomphus sp.							
Stylogomphus albistylus							
Stylurus sp.							
Libellulidae							
Erythemis simplicicollis							
Libellula sp.							
Pachydiplax longipennis							
Macromiidae							
Didymops transversa							
Macromia sp.							
Mollusca							
Gastropoda							
Basommatophora							
Ancylidae							
Ferrissia sp.							
Laevapex fuscus							
Lymnaeidae							
Pseudosuccinea columella							
Physidae							
Physella sp.							
Planorbidae							
Helisoma anceps							
Helisoma trivolvis							
Menetus dilitatus							
Mesogastropoda							
Hydrobiidae							
Amnicola limosa							
Somatogyrus virginicus							
Pleuroceridae							
Pleurocera (Elimia) catenaria.							

Subject to change without notice

Pleurocera (Elimia) proxima							
Pleurocera (Elimia) sp.							
Viviparidae							
Campeloma sp.							
Pelecypoda							
Heterodonta							
Corbiculidae							
Corbicula fluminea							
Sphaeriidae							
Eupera cubensis							
Musculium sp.							
Pisidium sp.							
Sphaerium sp.							
Unionoida							
Unionidae							
Elliptio angustata							
Elliptio complanata							
Elliptio complanata/icterina							
Elliptio icterina							
Elliptio sp.							
Villosa delumbis							

Subject to change without notice

Appendix 6: QA/QC Logbook. PCCode stands for physicochemical code, which is a unique identifier that links the station macroinvertebrate data to the physical habitat and chemical field data in the database.

Macroinvertebrate QA/QC Logbook

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