

APPENDIX A

A-1 EDAS SITE NUMBER ASSIGNMENT PROCEDURES

APPENDIX A-1

The Ecological Data Application System (EDAS) Station IDs consist of 8 numbers. These 8 numbers are a combination of a watershed ID, a sub watershed ID, and a location ID. The following document explains how to derive these numbers. It is very important to follow these steps in order to maintain the integrity of the EDAS data base.

When assigning EDAS Station IDs it is very important to use the station table in EDAS to make sure there are not any stations in EDAS that already exist for the location. All new Station IDs should begin with DOW, signifying that the stations were created by the Division of Water.

In EDAS, each major watershed has been assigned a unique ID. The 13 watershed IDs can be found in Table 1. The first two numbers found in an EDAS Station ID consists of the unique watershed ID. For example, all EDAS stations that are located in the Licking River start with the numbers DOW05.

Table 1. EDAS Watershed IDs

Watershed	EDAS ID
Big Sandy River	01
Upper Cumberland River	02
Green River	03
Kentucky River	04
Licking River	05
Little Sandy River	06
Mississippi River	07
Ohio River	08
Tennessee River	09
Tradewater River	10
Tygart's River	11
Salt River	12
Lower Cumberland River	20

The next three numbers in an EDAS Station ID represent the sub watershed in which the sampling location is located. Table 2 lists all sub-basin watersheds. These sub watersheds do not necessarily follow HUC boundaries. The sub basin watershed map was digitized in 2007, and resides on the network drive S:\gis_portal\geoimagery\dow\dow_subbasins_of_kentucky.

Table 2 – Sub-watershed Basins for Kentucky

01 Big Sandy River	
001	Chadwell Cr.
002	Big Sandy R. – mouth to Blaine Cr.
003	Blaine Cr.
004	Tug Fk.
005	Rockcastle Cr.
006	Buck Cr.
007	Wolf Cr.
008	Big Cr.

009	Pond Cr.
010	Blackberry Cr.
011	Peter Cr.
012	Knox Cr.
013	Levisa Fk. – mouth to Paint Cr.
014	Toms Cr.
015	Paint Cr.
016	Levis Fk. – Paint Cr. to Abbott Cr.
017	Johns Cr. – mouth to Dewey Lake headwater
018	Johns Cr. – Dewey Lake headwater to headwater
019	Middle Cr.
020	Levisa Fk. – Abbott Cr. to Russell Fk.
021	Beaver Cr. – mouth to Arkansas Cr.
022	Beaver Cr. – Arkansas Cr. to headwater
023	Prater Cr.
024	Mud Cr.
025	Island Cr.
026	Shelby Cr.
027	Greasy Cr.
028	Levisa Fk. – Russell Fk. to Virginia State Line
029	Grapevine Cr.
030	Feds Cr.
031	Russell Fk.
032	Elkhorn Cr.

02 Upper Cumberland River	
001	Cumberland R. – Tennessee State Line to Wolf Cr. Dam
002	Dale Hollow Reservoir
003	Spring Cr.
004	Greasy Cr.
005	Lily Cr.
006	Cumberland R. – Wolf Cr. Dam to Falls
007	Beaver Cr.
008	Big South Fk. – Lake Cumberland headwater to Roaring Paunch Cr.
009	Big South Fk. – Roaring Paunch Cr. to Tennessee State Line
010	Fishing Cr.
011	Pitman Cr.
012	Buck Cr.
013	Indian Cr.
014	Marsh Cr.
015	Jellico Cr.
016	Cumberland R. – Jellico Cr. to Watts Cr.
017	Watts Cr.
018	Cumberland R. – Falls to Jellico Cr.
019	Rockcastle R. – Lake Cumberland headwater to Hawk Cr.
020	Rockcastle R. – Hawk Cr. to Roundstone Cr.
021	Little Rockcastle R.
022	Roundstone Cr.
023	Rockcastle R. – Roundstone Cr. to confluence of Middle Fk. and South Fk.
024	Middle Fk. Rockcastle R.
025	South Fk. Rockcastle R.
026	Laurel R. – Laurel R. Lake headwater to headwater
027	Little Laurel R.

028	Lynn Camp Cr.
029	Laurel R. Lake
030	Clear Fk.
031	Cumberland R. – Watts Cr. to Richland Cr.
032	Richland Cr.
033	Fighting Cr.
034	Cumberland R. – Richland Cr. to Straight Cr.
035	Laurel Fk.
036	Stinking Cr.
037	Yellow Cr.
038	Cumberland R. – Straight Cr. to Yellow Cr.
039	Straight Cr.
040	Clear Cr.
041	Cumberland R. – Yellow Cr. to Puckett Cr.
042	Cumberland R. – Puckett Cr. to confluence of Martins Fk., Clover Fk. and Poor Fk.
043	Martins Fk.
044	Clover Fk.
045	Poor Fk. – mouth to Looney Cr.
046	Poor Fk. – Looney Cr. to headwater

03 Green River	
001	Green R. – mouth to Pond R.
002	Panther Cr.
003	Green R. – Pond R. to Rough R.
004	Pond R.
005	Cypress Cr.
006	Flat Cr.
007	Rough R. – mouth to Rough R. Lake dam
008	Rough R. Lake and Rough R. above lake
009	Muddy Cr.
010	Green R. – Rough R. to Mud R.
011	Pond Cr.
012	Mud R.
013	Green R. – Mud R. to Barren R.
014	Muddy Cr.
015	Caney Cr.
016	Green R. – Barren R. to Nolin R.
017	Barren R. – mouth to Barren R. Lake dam
018	Gaspar R.
019	Drakes Cr.
020	Bays Fk.
021	Barren R. Lake and Barren R. above the lake
022	Beaver Cr.
023	Bear Cr.
024	Green R. – Nolin R. to Green R. Lake Dam
025	Nolin R. – mouth to Nolin R. Lake headwater
026	Nolin R. – Nolin R. Lake headwater to Valley Cr.
027	Valley Cr.
028	Nolin R. – Valley Cr. to headwater
029	Little Barren R.
030	Russell Cr.
031	Green R. Lake and Green R. above the lake

04 Kentucky River	
001	Little Kentucky R.
002	Kentucky R. – mouth to Lock and Dam #1
003	Kentucky R. – Lock and Dam #1 to Eagle Cr.
004	Kentucky R. – Eagle Cr. to Lock and Dam #2
005	Kentucky R. – Lock and Dam #2 to Lock and Dam #3
006	Kentucky R. – Lock and Dam #3 to Elkhorn Cr.
007	Eagle Cr. – mouth to Stephens Cr.
008	Tenmile Cr.
009	Clarks Cr.
010	Eagle Cr. – Stephens Cr. to headwater
011	Stevens Cr.
012	Kentucky R. – Elkhorn Cr. to Lock and Dam #4
013	Kentucky R. – Lock and Dam #4 to Lock and Dam #5
014	Kentucky R. – Lock and Dam #5 to Lock and Dam #6
015	Elkhorn Cr. – mouth to confluence of North Elkhorn Cr. and South Elkhorn Cr
016	North Elkhorn Cr.
017	South Elkhorn Cr.
018	Cane Run
019	Kentucky R. – Lock and Dam #6 to Lock and Dam #7
020	Kentucky R. – Lock and Dam #7 to Lock and Dam #8
021	Kentucky R. – Lock and Dam #8 to Lock and Dam #9
022	Kentucky R. – Lock and Dam #9 to Lock and Dam #10
023	Kentucky R. – Lock and Dam #10 to Red R.
024	Kentucky R. – Red R. to Lock and Dam #11
025	Hickman Cr.
026	Boone Cr.
027	Tate Cr.
028	Otter Cr.
029	Dix R. – mouth to Herrington L.
030	Herrington L.
031	Clarks Cr.
032	Dix R. – Herrington L. to Gilbert Cr.
033	Dix R. – Gilbert Cr. to headwater
034	Paint Lick Cr.
035	Silver Cr.
036	Kentucky R. – Lock and Dam #11 to Lock and Dam #12
037	Kentucky R. – Lock and Dam #12 to Lock and Dam #13
038	Kentucky R. – Lock and Dam #13 to Lock and Dam #14
039	Kentucky R. – Lock and Dam #14 to confluence of North Fork and South Fork
040	Red R. – mouth to Hardwick Cr.
041	Red R. – Hardwick Cr. to Middle Fork Red R.
042	Red R. – Middle Fork Red R. to Swift Camp Cr.
043	Red R. – Swift Camp Cr. to headwater
044	South Fork Kentucky R. – mouth to Redbird R.
045	Middle Fork Kentucky R. – mouth to Buckhorn L.
046	Buckhorn L.
047	North Fork Kentucky R. – mouth to Jackson
048	North Fork Kentucky R. – Jackson to Hazard
049	Quicksand Cr.
050	Troublesome Cr.
051	South Fork Kentucky R. – Redbird R. to headwater
052	Redbird R.

053	Middle Fork Kentucky R. – Buckhorn L. to Hyden
054	Middle Fork Kentucky R. – Hyden to headwater
055	North Fork Kentucky R. – Hazard to Kings Cr.
056	Carr Fork – mouth to Carr Fork Lake
057	Carr Fork Lake
058	Carr Fork – Carr Fork Lake to headwater
059	North Fork Kentucky R. – Kings Cr. to headwater

05 Licking River	
001	Licking R. – mouth to Banklick Cr.
002	Licking R. – Banlick Cr. to South Fork Licking R.
003	Banklick Cr.
004	DeCoursey Cr.
005	Riffle Cr.
006	Bowman Cr.
007	Cruises Cr.
008	Phillips Cr.
009	Grassy Cr.
010	Kincaid Cr.
011	South Fork Licking R. – mouth to Mill Cr.
012	Fork Lick Creek
013	Crooked Cr.
014	South Fork Licking R. – Mill Cr. to Townsend Cr.
015	Townsend Cr.
016	Hinkston Cr.
017	Stoner Cr. – mouth to Houston Cr.
018	Stoner Cr. – Houston Cr. to HW
019	Indian Cr.
020	Strodes Cr.
021	Licking R. – South Fork Licking R. to North Fork Licking R.
022	Blanket Cr.
023	North Fork Licking R. – mouth to Lee Cr.
024	Lee Cr.
025	Mill Cr.
026	North Fork Licking R. – Mill Cr. to headwater
027	Stone Lick Br.
028	Licking River – North Fork Licking R to Triplett Cr.
029	Fleming Cr.
030	Locust Cr.
031	Fox Cr.
032	Slate Cr.
033	Flat Cr.
034	Salt Lick Cr.
035	Triplett Cr.
036	Licking R. – Triplett Cr. to Middle Fork Licking R.
037	Beaver Cr.
038	Blackwater Cr.
039	Elk Fork
040	Licking R. – Middle Fork Licking R. to HW

06 Little Sandy River	
001	Little Sandy R. – mouth to East Fork Little Sandy R.
002	Little Sandy R. – East Fork Little Sandy R. to Lost Cr.
003	Greenbo Lake
004	East Fork Little Sandy R.
005	Everman Cr.
006	Barrett Cr.
007	Little Sandy R. – Lost Cr. to Little Fork Little Sandy R.
008	Wilson Cr.
009	Little Sinking Cr.
010	Big Sinking Cr.
011	Little Sandy R. – Little Fork Little Sandy R. to Big Sinking Cr.
012	Little Fork Little Sandy R.
013	Little Sandy R. – Big Sinking Cr. to headwater

07 Mississippi River	
001	Mississippi R. – Ohio R. to Mayfield Cr.
002	Shawnee Cr.
003	Mississippi R. – Mayfield Cr. to Bayou de Chien
004	Mayfield Cr. – mouth to West Fork Mayfield Cr.
005	Truman Cr.
006	West Fork Mayfield Cr.
007	Mayfield Cr. – West Fork Mayfield Cr. to Wilson Cr.
008	Wilson Cr.
009	Mayfield Cr. – Wilson Cr. to Little Mayfield Cr.
010	Mayfield Cr. – Little Mayfield Cr. to headwater
011	Obion Cr. – mouth to Hopewell Cr.
012	Cane Cr. – Hickman Co.
013	Hopewell Cr.
014	Obion Cr. – Hopewell Cr. to headwater
015	Cane Cr. – Graves Co.
016	Mississippi R. – Bayou de Chien to Tennessee State Line
017	Running Slough
018	Bayou de Chien – mouth to Mud Cr.
019	Mud Cr.
020	Little Mud Cr.
021	Bayou de Chien – Mud Cr. to Little Bayou de Chien
022	Little Bayou de Chien
023	Bayou de Chien – Little Bayou de Chien to HW
024	Harris Fork Cr.
025	Knob Cr.
026	Old Knob Cr.
027	Terrapin Cr.

08 Ohio River	
001	Clayton Cr.
002	Humphrey Cr.
003	Redstone Cr.
004	Newtons Cr.
005	Bayou Cr. – McCracken Co.

006	Little Bayou Cr.
007	Massac Cr.
008	Perkins Cr.
009	Bayou Cr. – Livingston Co.
010	Buck Cr.
011	Deer Cr.
012	Hurricane Cr.
013	Crooked Cr.
014	Camp Cr.
015	Goose Pond Ditch
016	Cypress Cr.
017	Sibley Cr.
018	Lost Cr.
019	Powells Lake Slough
020	Hogan Slough, Hogland Slough, and Ratter Slough
021	Highland Cr.
022	Little Bayou Slough, Deep Slough, Cypress Slough, and Saurer Slough
023	Canoe Cr.
024	Cowhide Slough and Fulkerson Slough
025	Yellow Cr. – Daviess Co.
026	Pup Cr.
027	Ohio R. UT's between Pup Cr. and Blackford Cr. – Daviess Co.
028	Blackford Cr.
029	Yellow Cr. – Hancock Co.
030	Lead Cr.
031	Indian Cr.
032	Clover Cr.
033	Bull Cr.
034	Town Cr.
035	Sinking Cr.
036	Lick Run
037	Yellowbank Cr.
038	Spring Cr.
039	Prather Hollow
040	Watson Run
041	Wolf Cr.
042	Meade County Karst Plain
043	Doe Run
044	Otter Cr.
045	Cane Run
046	Louisville
047	Beargrass Cr.
048	Ohio R UT's between Beargrass Cr. and Goose Cr.
049	Goose Cr. – Jefferson Co.
050	Harrods Cr. – mouth to South Fork
051	Harrods Cr. – South Fork to North Fork
052	Harrods Cr. – North Fork to headwater
053	Eighteen Mile Cr.
054	Pattons Cr.
055	Middle Cr.
056	Barebone Cr.
057	Corn Cr.
058	Gilmore Cr., Moreland Cr., Spring Cr., Cooper Cr., and Page Cr.
059	Canip Cr. and Tiber Cr.

060	Locust Cr. – Trimble Co. and Carroll Co.
061	McCools Cr., Fourmile Cr., South Fork, and Black Rock Cr. – Carroll Co.
062	Stephens Cr.
063	Craigs Cr.
064	Snake Cr.
065	Dry Cr. – Gallatin Co.
066	Sugar Cr. and Little Sugar Cr.
067	Paint Lick Cr. and Steele Cr.
068	Big Bone Cr.
069	Landing Cr.
070	Lick Cr.
071	Gunpowder Cr.
072	Middle Cr.
073	Woolper Cr.
074	Garrison Cr., Taylor Cr., and Second Cr.
075	Sand Run
076	Elijahs Cr.
077	Dry Cr. and Pleasant Run Cr. – Kenton Co.
078	Fourmile Cr. – Campbell Co.
079	Tenmile Cr.
080	Twelvemile Cr.
081	Goose Cr. – Campbell Co.
082	Stepstone Cr.
083	Holts Cr. and Willow Cr.
084	Snag Cr. and Little Snag Cr.
085	Locust Cr. – Bracken Co.
086	Turtle Cr. and Wrangling Run
087	Bracken Cr.
088	Lee Cr.
089	Lawrence Cr. and Beasley Cr.
090	Limestone Cr., Kennedy Cr., and Bull Fork Cr.
091	Cabin Cr.
092	Crooked Cr. and Sycamore Cr.
093	Quicks Run
094	Salt Lick Cr.
095	Kinniconick Cr.
096	Briery Br. and Vance Cr.
097	Rock Cr.
098	Scaffold Lick and Indian Run
099	Newberry Br.
100	Greys Br.
101	Smith Br.
102	Coal Br.
103	Uhlens Run
104	Pond Run
105	White Oak Cr.
106	Hood Cr.
107	Keys Cr.
108	Catletts Cr.
200	Ohio River – Big Sandy R. to Keys Cr.
201	Ohio River – Keys Cr. to White Oak Cr.
202	Ohio River – White Oak Cr. to Pond Run
203	Ohio River – Pond Run to Smith Br.
204	Ohio River – Smith Br. to Tygarts Cr.

205	Ohio River – Tygarts Cr. to Lawrence Cr.
206	Ohio River – Lawrence Cr. to Snag Cr.
207	Ohio River – Snag Cr. to Licking R.
208	Ohio River – Licking R. to Dry Cr.
209	Ohio River – Dry Cr. to Elijahs Cr.
210	Ohio River – Elijahs Cr. to Stephens Cr.
211	Ohio River – Stephens Cr. to Kentucky R.
212	Ohio River – Kentucky R. to Harrods Cr.
213	Ohio River – Harrods Cr. to McAlpin Lock and Dam
214	Ohio River – McAlpin Lock and Dam to Cane Run
215	Ohio River – Cane Run to Salt R.
216	Ohio River – Salt R. to Doe Run
217	Ohio River – Doe Run to Indian Cr.
218	Ohio River – Indian Cr. to Yellow Cr.(Hancock Co.)
219	Ohio River – Yellow Cr. (Hancock Co.) to Yellow Cr. (Daviness Co.)
220	Ohio River – Yellow Cr. (Daviness Co.) to Green R.
221	Ohio River – Green R. to Canoe Cr.
222	Ohio River – Canoe Cr. to Sibley Cr.
223	Ohio River – Sibley Cr. to Tradewater R.
224	Ohio River – Tradewater R. to Cumberland R.
225	Ohio River – Cumberland R. to Tennessee R.
226	Ohio River – Tennessee R. to Clayton Cr.
227	Ohio River – Clayton Cr. to Mississippi R

09 Tennessee River	
001	Tennessee R. – mouth to Clarks R.
002	Island Cr.
003	Clarks R. – mouth to West Fork Clarks R. and East Fork Clarks R.
004	East Fork Clarks R. – West Fork Clarks R. to Watches Cr.
005	East Fork Clarks R. – Watches Cr. to Martins Cr.
006	Martins Cr.
007	East Fork Clarks R. – Wades Cr. to Middle Fork Clarks R.
008	Middle Fork Clarks R.
009	East Fork Clarks R. – Middle Fork Clarks R. to headwater
010	West Fork Clarks R.
011	Tennessee R. – Clarks R. to Cypress Cr.
012	Cypress Cr. – mouth to Camp Cr.
013	Little Cypress Cr.
014	Cypress Cr. – Camp Cr. to headwater
015	Tennessee R. – mouth to Kentucky Lake dam
016	Kentucky Lake

10 Tradewater River	
001	Tradewater R. – mouth to Cypress Cr.
002	Cypress Cr.
003	Tradewater R. – Cypress Cr. to Craborchard Cr.
004	Craborchard Cr.
005	Tradewater R. – Craborchard Cr. to Owens Cr.
006	Owens Cr.
007	Wolf Cr.
008	Clear Cr. – mouth to Richland Cr.
009	Clear Cr. – Richland Cr. to headwater

010	Tradewater R. – Owens Cr. to Flynn Fk.
011	Flynn Fk.
012	Tradewater R. – Flynn Fk. to Lake Brashear
013	Lake Brashear
014	Tradewater R. – Lake Brashear to headwater

11 Tygart Creek	
001	Tygarts Cr. – mouth to White Oak Cr.
002	White Oak Cr.
003	Little White Oak Cr.
004	Tygarts Cr. – White Oak Cr. to Buffalo Cr.
005	Buffalo Cr.
006	Tygarts Cr. – Buffalo Cr. to headwater

12 Salt River	
001	Salt R. – mouth to Rolling Fk.
002	Salt R. – Rolling Fk. to Floyds Fk.
003	Long Lick Cr.
004	Salt R. – Floyds Fk. to Plum Cr.
005	Cox Cr.
006	Simpson Cr.
007	Salt R. – Plum Cr. to Brashears Cr.
008	Plum Cr.
009	Bullskin Cr.
010	Clear Cr. – East Fork Clear Cr. to headwater
011	Clear Cr. – mouth to East Fork Clear Cr.
012	Brashears Cr.
013	Salt R. – Brashears Cr. to Taylorsville Lake headwater
014	Salt R. – Taylorsville Lake headwater to Four Roses dam
015	Hammonds Cr.
016	Salt R. – Four Roses dam to Lyons Br.
017	Salt R. – Lyons Br. to Quicks Run
018	Salt R. – Quicks Run to headwater
019	Beech Fork – mouth to Rowan Cr.
020	Beech Fork – Rowan Cr. to source
021	Hardins Cr.
022	Cartwright Cr.
023	Chaplin R.
024	Doctors Fork
025	Floyds Fk. – mouth to Chenoweth Run
026	Chenoweth Run
027	Floyds Fk. – Chenoweth Run to Currys Fk.
028	Floyds Fk. – Currys Fk. to headwater
029	Mill Cr.
030	Mill Cr.
031	Knob Cr.
032	Pond Cr.
033	Rolling Fk. – mouth to Wilson Cr.
034	Rolling Fk. – Wilson Cr. to Pottinger Cr.
035	Rolling Fk. – Pottinger Cr. to Prather Cr.
036	Rolling Fk. – Prather Cr. to Big South Fk.
037	Big South Fork and North Fork

20 Lower Cumberland River	
001	Cumberland R. – mouth to Livingston Cr.
002	Sandy Cr.
003	Livingston Cr.
004	Cumberland R. – Livingston Cr. to Lake Barkley dam
005	Lake Barkley
006	Lick Cr.
007	Poplar Cr.
008	Eddy Cr.
009	Muddy Fork
010	Little R. – mouth to river mile 52.0
011	Dry Fork Cr.
012	Little R. – river mile 52.0 to North Fork Little R. and South Fork Little R.
013	North Fork Little R.
014	South Fork Little R.
015	West Fork Red R. – mouth to Montgomery Cr.
016	Montgomery Cr.
017	West Fork Red R. – Montgomery Cr. to headwater
018	Spring Cr.
019	Elk Fk.
020	Red R

The final three numbers in the EDAS Station ID represent the location ID. Each location of a sampling site within a sub watershed should have its own unique value.

To find out what the value should be, reference the ‘Stations Table’ in EDAS.

1. Click in the StationID heading and hit the sort in ascending order (the button with the A Z and up arrow) in order to put all IDs in numerical order.
2. Scroll down until you locate Station IDs that begin with DOW05017.
3. Highlight the DOW05017 in one of the cells and hit the filter button (the funnel with the lightning bolt). This will filter only the DOW05017 stations that already exist in EDAS. DOW may already have some stations that exist for the stream of interest.
4. A new sampling location would get the next numerical value as its unique ID.
5. To get the final EDAS Station ID put a zero’s in front of the location ID (if necessary) and tack these three numbers on the end, so the final number is 8 numbers, plus the precursor of ‘DOW’.

As an example:

Houston Creek in Bourbon County is in the Licking River watershed (05) and its sub watershed number is Stoner Creek, which is numbered 017. Therefore, the first 5 numbers of the station ID for this stream is **DOW05017**.

When referencing the Stations table in EDAS, Houston Creek already has 9 stations associated with it; the next numerical value is 10. Therefore, the final station number for the new station on Houston Creek would be: DOW05017010.

The EDAS Stations Table is a valuable tool to use when assigning EDAS IDs. The most important step to take before assigning new IDs is to make sure an ID does not already exist for your sampling location. Using the Stations Table will ensure that this duplication does not happen. Several agencies utilize EDAS; therefore there may already be an ID for a station in EDAS under a different agency code. It is always good practice to first filter the table to attempt to find the stream to which you want to assign an ID. If stations already exist for that stream check the location information to see if your location already has an EDAS ID. If it does, use that ID even if it is from a different agency (CFD, EKU, DBF, etc.).

EDAS Station IDs should be used for Station IDs on Chain of Custody sheets. The agency code DOW does not have to be kept if using the EDAS ID on a chain of custody (i.e. 05017010). Using EDAS IDs on chains of custody ensures that the data for each station can easily be retrieved by the data manager of the lab that analyzes the sample. This practice also lends to consistency in the Chain of Custody process and helps to prevent the mislabeling of sample bottles.

APPENDIX B

B-1 WATER QUALITY BRANCH FIELD DATA SHEET (HIGH GRADIENT)

B-2 WATER QUALITY BRANCH FIELD DATA SHEET (LOW GRADIENT)

APPENDIX B-1 HIGH GRADIENT STREAM DATA SHEET

STREAM NAME:		LOCATION:				
STATION #:		MILE:		BASIN/WATERSHED:		
LAT.:		LONG.:		COUNTY:		
DATE:		TIME: <input type="checkbox"/> AM <input type="checkbox"/> PM		USGS 7.5 TOPO:		
DATE:		TIME: <input type="checkbox"/> AM <input type="checkbox"/> PM		INVESTIGATORS:		
TYPE SAMPLE: <input type="checkbox"/> P-CHEM <input type="checkbox"/> Macroinvertebrate <input type="checkbox"/> FISH <input type="checkbox"/> BACT. <input type="checkbox"/> ALGAE						
WEATHER: Now Past 24 hours Has there been a heavy rain in the last 7 days? <input type="checkbox"/> <input type="checkbox"/> Heavy rain <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> <input type="checkbox"/> Steady rain Air Temperature _____ °C. Inches rainfall in past 24 hours _____ in. <input type="checkbox"/> <input type="checkbox"/> Intermittent showers _____ % Cloud Cover <input type="checkbox"/> <input type="checkbox"/> Clear/sunny						
P-Chem: Temp(°C) _____ D.O. (mg/l) _____ %Saturation _____ pH(S.U.) _____ Cond. _____ <input type="checkbox"/> Grab						
INSTREAM WATERSHED FEATURES: Stream Width _____ ft Range of Depth _____ ft Average Velocity _____ ft/s Discharge _____ cfs Est. Reach Length _____			LOCAL WATERSHED FEATURES: <u>Predominant Surrounding Land Use:</u> <input type="checkbox"/> Surface Mining <input type="checkbox"/> Construction <input type="checkbox"/> Forest <input type="checkbox"/> Deep Mining <input type="checkbox"/> Commercial <input type="checkbox"/> Pasture/Grazing <input type="checkbox"/> Oil Wells <input type="checkbox"/> Industrial <input type="checkbox"/> Silviculture <input type="checkbox"/> Land Disposal <input type="checkbox"/> Row Crops <input type="checkbox"/> Urban Runoff/Storm Sewers			
<u>Hydraulic Structures:</u> <input type="checkbox"/> Dams <input type="checkbox"/> Bridge Abutments <input type="checkbox"/> Island <input type="checkbox"/> Waterfalls <input type="checkbox"/> Other			<u>Stream Flow:</u> <input type="checkbox"/> Dry <input type="checkbox"/> Pooled <input type="checkbox"/> Low <input type="checkbox"/> Normal <input type="checkbox"/> High <input type="checkbox"/> Very Rapid or Torrential		<u>Stream Type:</u> <input type="checkbox"/> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/> Seep	
<u>Riparian Vegetation:</u> Dom. Tree/Shrub Taxa Dominate Type: <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Number of strata _____		<u>Canopy Cover:</u> <input type="checkbox"/> Fully Shaded (75-100%) <input type="checkbox"/> Partially Shaded (50-75%) <input type="checkbox"/> Partially Exposed (25-50%) <input type="checkbox"/> Fully Exposed (0-25%)		<u>Channel Alterations:</u> <input type="checkbox"/> Dredging <input type="checkbox"/> Channelization (0Full 0Partial)		
Substrate <input type="checkbox"/> Est. <input type="checkbox"/> P.C.		Rifle _____ %	Run _____ %		Pool _____ %	
Silt/Clay (<0.06 mm)						
Sand (0.06 – 2 mm)						
Gravel (2-64 mm)						
Cobble (64 – 256 mm)						
Boulders (>256 mm)						
Bedrock						
Habitat	Condition Category					
Parameter	Optimal	Suboptimal		Marginal		Poor
1. Epifaunal 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 <u>not</u> new fall and <u>not</u> 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 new fall, 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. Embeddedness	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). (Sow is < 0.3 m/s, deep is > 0.5 m.)	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% (<20% for low-gradient streams) of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% (20-50% for low-gradient) of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% (50-80% for low-gradient) of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% (80% for low-gradient) 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 25-57% 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
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 past 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.
Note: determine left or right side by facing downstream.				
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of the stream bank 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 stream bank 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 stream bank 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 stream bank surfaces covered by vegetation; disruption of stream bank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted 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 due to human activities.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0

Total Score

NOTES/COMMENTS:

APPENDIX B-2 LOW GRADIENT STREAM DATA SHEET

STREAM NAME:		LOCATION:		
STATION #: _____ MILE: _____		BASIN/WATERSHED: _____		
LAT.: _____ LONG.: _____		COUNTY: _____ USGS 7.5 TOPO: _____		
DATE: _____ TIME: <input type="checkbox"/> AM <input type="checkbox"/> PM		INVESTIGATORS: _____		
TYPE SAMPLE: <input type="checkbox"/> P-CHEM <input type="checkbox"/> Macroinvertebrate <input type="checkbox"/> FISH <input type="checkbox"/> BACT. <input type="checkbox"/> ALGAE				
WEATHER: Now Past 24 hours Has there been a heavy rain in the last 7 days? <input type="checkbox"/> <input type="checkbox"/> Heavy rain <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> <input type="checkbox"/> Steady rain Air Temperature _____ °C. Inches rainfall in past 24 hours _____ in. <input type="checkbox"/> <input type="checkbox"/> Intermittent showers _____ % Cloud Cover <input type="checkbox"/> <input type="checkbox"/> Clear/sunny				
P-Chem: Temp(°C) _____ D.O. (mg/l) _____ %Saturation _____ pH(S.U.) _____ Cond. _____ <input type="checkbox"/> Grab				
INSTREAM WATERSHED FEATURES: Stream Width _____ ft Range of Depth _____ ft Average Velocity _____ ft/s Discharge _____ cfs Est. Reach Length _____		LOCAL WATERSHED FEATURES: <u>Predominant Surrounding Land Use:</u> <input type="checkbox"/> Surface Mining <input type="checkbox"/> Construction <input type="checkbox"/> Forest <input type="checkbox"/> Deep Mining <input type="checkbox"/> Commercial <input type="checkbox"/> Pasture/Grazing <input type="checkbox"/> Oil Wells <input type="checkbox"/> Industrial <input type="checkbox"/> Silviculture <input type="checkbox"/> Land Disposal <input type="checkbox"/> Row Crops <input type="checkbox"/> Urban Runoff/Storm Sewers		
<u>Hydraulic Structures:</u> <input type="checkbox"/> Dams <input type="checkbox"/> Bridge Abutments <input type="checkbox"/> Island <input type="checkbox"/> Waterfalls <input type="checkbox"/> Other		<u>Stream Flow:</u> <input type="checkbox"/> Dry <input type="checkbox"/> Pooled <input type="checkbox"/> Low <input type="checkbox"/> Normal <input type="checkbox"/> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> High <input type="checkbox"/> Very Rapid or Torrential <input type="checkbox"/> Ephemeral <input type="checkbox"/> Seep		
<u>Riparian Vegetation:</u> Dom. Tree/Shrub Taxa Dominate Type: <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Number of strata _____		<u>Canopy Cover:</u> <input type="checkbox"/> Fully Shaded (75-100%) <input type="checkbox"/> Partially Shaded (50-75%) <input type="checkbox"/> Partially Exposed (25-50%) <input type="checkbox"/> Fully Exposed (0-25%)		
<u>Channel Alterations:</u> <input type="checkbox"/> Dredging <input type="checkbox"/> Channelization (0Full 0Partial)				
Substrate <input type="checkbox"/> Est. <input type="checkbox"/> P.C.	Riffle _____ %	Run _____ %	Pool _____ %	
Silt/Clay (<0.06 mm)				
Sand (0.06 – 2 mm)				
Gravel (2-64 mm)				
Cobble (64 – 256 mm)				
Boulders (>256 mm)				
Bedrock				
Habitat	Condition Category			
Parameter	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 50% 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 <u>not</u> new fall and <u>not</u> transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of new fall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% 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 Characterization	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 20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; 80% 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 the channel substrate is exposed.	Water fill 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
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 past 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 to 3 times longer than if it was in a straight line.	The bends in the stream increase the stream length 2 to 1 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) Note: determine left or right side by facing downstream.	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.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of the stream bank 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 stream bank 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 stream bank 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 stream bank surfaces covered by vegetation; disruption of stream bank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted 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 due to human activities.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0

Total Score

NOTES/COMMENTS:

APPENDIX C

C-1 BENTHIC ALGAE FIELD DATA SHEET

C-2 NON-DIATOM BENCH SHEET

C-3 DIATOM BENCH SHEET

C-4 DIATOM MASTER TAXA LIST

C-5 PHYTOPLANKTON FIELD DATA SHEET

C-6 CHLOROPHYLL *a* BENCH SHEET

C-7 ASH-FREE DRY MASS BENCH SHEET

C-8 PHYTOPLANKTON BENCH SHEET

APPENDIX C-1
BENTHIC ALGAE FIELD DATA SHEET

DOW Station ID Number:	Stream Name:	Location:
Collection Date:	Time:	County:
River Basin:	DOW Program:	Name of Investigator(s):
Macrohabitats Sampled:	Riffle ____ Run ____ Pool ____	
Microhabitats Sampled:	Epipellic ____ Episammic ____ Epilithic ____ Epidendric ____ Epiphytic ____ Epizooic ____ Artificial Substrate ____	
Collection Method Used:	Periphytometer ____ Natural Scraping ____ Suction Device ____	
Macroalgae Present:	<i>Cladophora</i> ____ <i>Tetraspora</i> ____ <i>Hydrodictyon</i> ____ <i>Draparnaldia</i> ____ <i>Batrachospermum</i> ____ <i>Lemanea/Paralemanea</i> ____ <i>Thorea</i> ____ <i>Boldia</i> ____ <i>Vaucheria</i> ____ <i>Chara</i> ____ <i>Nitella</i> ____ Filamentous Green Filaments ____ Blue-Green Mats ____ Diatom Mats ____	
Periphyton Coverage:	Dense (>75%) ____ Moderate (25-75%) ____ Sparse (10-25%) ____ Absent (<10%) ____	

Field Algal Community Assessment Score

Excellent (5)	Phytobenthos appears diverse with several algal divisions represented, including chrysophytes, chlorophytes, cyanophytes, and rhodophytes. Phytoplankton sub-community not apparent. Floating algal mats are not present. The algal community is similar to that of reference stations within the same ecoregion.
Fair - Good (2 - 4)	Phytobenthic algae are present in moderate amount. The algal community may be dominated by one type of algal growth, such as long filaments of <i>Cladophora</i> . Diversity is low to moderate, and a phytoplankton sub-community is not apparent. Floating algal mats may be present, but are not extensive. Clean water algal taxa (e.g. red algae, <i>Chaetophora</i> , etc.) present in reference reach stations may not be present.
Poor (1)	In cases of toxic pollution (acid mine drainage, toxic discharges, etc.), substrates and water column may appear sterile, bleached, or rust-colored. Little or no algae are observed. With organic pollution (sewage discharges, etc.), substrates may be covered with thick white, black, or gray mats of filamentous bacteria, thick algal mats of cyanophytes (blue-green algae), and/or chlorophytes (green algae). The water column may have a "pea green" appearance as a result of high abundances of euglenophytes, or large floating mats of algae may be present, especially in pools and slow-moving streams. Look for extremes of either characteristic. Diversity is very low. Very few, if any, clean water taxa are present.

APPENDIX C-4
DIATOM MASTER TAXA LIST

Taxa	New Taxa Name	PTI Value
Achnanthes childanos		0
Achnanthes clevei	Karayevia clevei	4
Achnanthes clevei var. rostrata	Karayevia clevei var. rostrata	4
Achnanthes coarctata	Achnanthidium coarctatum	0
Achnanthes deflexa		4
Achnanthes deflexa var. alpestris		4
Achnanthes detha	Achnanthes subatomoides	0
Achnanthes exigua		4
Achnanthes hauckiana	Achnanthidium delicatulum	0
Achnanthes hungarica	Lemnicola hungarica	4
Achnanthes hustedtii		4
Achnanthes inflata		0
Achnanthes lanceolata	Planothidium lanceolata	3
Achnanthes lanceolata var. apiculata	Planothidium lanceolata var. apiculata	3
Achnanthes lanceolata var. dubia	Planothidium lanceolata var. dubia	3
Achnanthes lapponica var. ninckei	Achnanthes laevis	3
Achnanthes linearis	Rossithidium linearis	3
Achnanthes linearis f. curta	Rossithidium linearis f. curta	3
Achnanthes linearis var. pusilla	Rossithidium linearis var. pusilla	3
Achnanthes microcephala	Achnanthidium microcephalum	3
Achnanthes minutissima	Achnanthidium minutissimum	3
Achnanthes pinnata	Achnanthes conspicua	3
Achnanthes sp.		3
Achnanthes sp. 1		2
Achnanthes spp.		2
Achnanthes stewartii		4
Achnanthes wellsiae	Achnanthes solea	0
Actinocyclus normanii		0
Amphipleura pellucida		3
Amphora bullatoides		0
Amphora ovalis		3
Amphora ovalis var. affinis	Amphora libyca	3
Amphora ovalis var. pediculus	Amphora libyca	3
Amphora perpusilla	Amphora pediculus	3
Amphora sp.		3
Amphora submontana	Amphora montana	3
Amphora veneta		1
Anomoeoneis serians var. brachysira	Brachysira serians	0
Anomoeonies vitrea	Brachysira vitrea	2
Asterionella formosa		3
Aulacoseira alpigena		3
Aulacoseira distans		3
Aulacoseira granulata		3
Aulacoseira italica		3
Bacillaria paradoxa		2
Biddulphia laevis	Pleurosira laevis	3

Taxa	New Taxa Name	PTI Value
Caloneis amphisbaena	Pinnularia amphisbaena	0
Caloneis bacillaris var. thermalis	Pinnularia thermalis	0
Caloneis bacillum	Pinnularia bacillum	3
Caloneis branderi	Pinnularia branderi	0
Caloneis budensis	Pinnularia budensis	0
Caloneis hyalina	Pinnularia hyalina	0
Caloneis lewisii	Pinnularia schumanniana var. biconstricta	2
Caloneis lewisii var. inflata	Pinnularia schumanniana var. biconstricta	2
Caloneis limosa	Pinnularia schumanniana	0
Caloneis sp.	Pinnularia sp.	2
Caloneis undulata	Pinnularia undulata	2
Caloneis ventricosa	Pinnularia silicula	3
Caloneis ventricosa var. alpina	Pinnularia silicula var. alpina	3
Caloneis ventricosa var. minuta	Pinnularia silicula var. minuta	3
Caloneis ventricosa var. subundulata	Pinnularia silicula var. subundulata	3
Caloneis ventricosa var. truncatula	Pinnularia silicula var. truncatula	3
Campylodiscus hibernicus		0
Capartogramma crucicula		2
Cocconeis pediculus		3
Cocconeis placentula		3
Cocconeis placentula var. euglypta		3
Cocconeis placentula var. lineata		3
Cyclotella atomus		2
Cyclotella meneghiniana	Stephanocyclus meneghiniana	1
Cyclotella pseudostelligera		2
Cyclotella sp.		2
Cyclotella stelligera		3
Cyclotella striata		4
Cyclotella striata var. ambigua		2
Cylindrotheca gracilis		3
Cymatopleura solea		3
Cymbella affinis		4
Cymbella amphicephala	Cymbopleura amphicephala	4
Cymbella aspera		4
Cymbella cesatii	Encyonemopsis cesatii	4
Cymbella cistula		4
Cymbella cuspidata		4
Cymbella cymbiformis		4
Cymbella delicatula		4
Cymbella hauckii		0
Cymbella hebridica		4
Cymbella hustedtii		0
Cymbella laevis		0
Cymbella lanceolata		4
Cymbella leptoceros		4
Cymbella lunata	Encyonema lunatum	4
Cymbella mexicana		0
Cymbella microcephala		4
Cymbella minuta	Encyonema minutum	3

Taxa	New Taxa Name	PTI Value
Cymbella minuta var. pseudogracilis	Encyonema mesianum	3
Cymbella muelleri	Encyonema muelleri	4
Cymbella naviculiformis		4
Cymbella prostrata	Encyonema prostratum	4
Cymbella prostrata var. auerswaldii	Encyonema caespitosum	4
Cymbella pusilla	Navicella pusilla	0
Cymbella silesiaca	Encyonema silesiacum	4
Cymbella sinuata	Reimeria sinuata	4
Cymbella sp.		4
Cymbella sp. (K)		4
Cymbella subaequalis		0
Cymbella subcuspidata		4
Cymbella triangulum	Encyonema triangulum	4
Cymbella tumida		4
Cymbella turgidula		4
Denticula elegans		3
Denticula kuetzingii		3
Denticula sp.		3
Diatoma hiemale	Diatoma hyemalis	1
Diatoma tenue	Diatoma tenuis	0
Diatoma vulgare	Diatoma vulgaris	3
Diploneis elliptica		3
Diploneis finnica		0
Diploneis oblonella		3
Diploneis puella		0
Diploneis smithii var. dilatata		0
Diploneis sp.		3
Diploneis subovalis		0
Entomoneis alata		1
Entomoneis ornata		1
Epithemia adnata		2
Epithemia adnata var. saxonica		0
Epithemia argus		1
Epithemia argus var. protracta		1
Epithemia sorex		3
Epithemia sp.		2
Epithemia turgida		3
Epithemia turgida var. granulata		3
Eunotia arcus		2
Eunotia curvata	Eunotia bilunaris	3
Eunotia exigua		2
Eunotia formica		0
Eunotia incisa		0
Eunotia maior		3
Eunotia naegelii		0
Eunotia pectinalis		3
Eunotia pectinalis var. minor		3
Eunotia pectinalis var. undulata		3
Eunotia perpusilla	Eunotia muscicola var. tridentula	3

Taxa	New Taxa Name	PTI Value
Eunotia praeurupta		0
Eunotia quaternaria	Eunotia muscicola var. tridentula	0
Eunotia rhomboidea		4
Eunotia septentrionalis		0
Eunotia serra var. diadema		3
Eunotia sp.		3
Eunotia tenella		3
Eunotia triodon		0
Eunotia vanheurckii var. intermedia		0
Fragilaria brevistriata	Pseudostaurosira brevistriata	0
Fragilaria capucina var. mesolepta		2
Fragilaria construens	Staurosira construens	0
Fragilaria construens var. binodis	Pseudostaurosira binodis	0
Fragilaria construens var. pumila	Staurosira construens var. subsalina	0
Fragilaria construens var. venter	Staurosira construens f. venter	0
Fragilaria crotonensis		0
Fragilaria lapponica	Staurosirella lapponica	0
Fragilaria leptostauron	Staurosirella leptostauron	3
Fragilaria nanana		3
Fragilaria pinnata	Punctastriata pinnata	3
Fragilaria sp.		3
Fragilaria vaucheriae	Fragilaria capucina var. vaucheriae	2
Fragilaria virescens		2
Frustulia assymetrica		0
Frustulia rhomboides		3
Frustulia rhomboides var. amphipleuroides		3
Frustulia rhomboides var. capitata		3
Frustulia rhomboides var. crassinervia		4
Frustulia rhomboides var. saxonica		3
Frustulia sp.		3
Frustulia vulgaris		3
Frustulia weinholdii		3
Gomphoneis herculeana	Gomphoneis minutum	0
Gomphoneis herculeana var. robusta	Gomphoneis minutum	0
Gomphonema abbreviatum	Rhoicosphenia abbreviata	3
Gomphonema acuminatum		4
Gomphonema acuminatum var. elongatum		4
Gomphonema affine		3
Gomphonema angustatum		2
Gomphonema angustatum var. productum		2
Gomphonema apuncto		2
Gomphonema augur		2
Gomphonema brasiliense	Gomphonema grovei var. lingulatum	4
Gomphonema clevei		3
Gomphonema dichotomum	Gomphonema angustum	1
Gomphonema gracile		3
Gomphonema instabilis	Gomphonema angustatum	3
Gomphonema intricatum	Gomphonema angustum	3
Gomphonema intricatum var. pulvinatum	Gomphonema angustum	3

Taxa	New Taxa Name	PTI Value
Gomphonema manubrium		4
Gomphonema mehleri		0
Gomphonema olivaceoides	Gomphonema olivaceum var. minutissimum	0
Gomphonema olivaceum		2
Gomphonema parvulum		1
Gomphonema puiggarianum var. aequatorialis		2
Gomphonema rhombicum	Gomphonema clevei	4
Gomphonema sp.		3
Gomphonema sparsistriatum f. maculatum		4
Gomphonema sphaerophorum	Gomphonema hebridense var. sphaerophorum	4
Gomphonema subclavatum	Gomphonema clavatum	2
Gomphonema subclavatum	Gomphonema clavatum var. mexicanum	3
Gomphonema tenellum	Gomphonema minutum	2
Gomphonema tergestinum		0
Gomphonema truncatum		4
Gomphonema truncatum var. capitatum		4
Gomphonema truncatum var. turgidulum		4
Gyrosigma acuminatum		3
Gyrosigma attenuatum		3
Gyrosigma distortum	Gyrosigma parkerii	2
Gyrosigma nodiferum		4
Gyrosigma obscurum		0
Gyrosigma obtusatum		0
Gyrosigma scalproides		3
Gyrosigma sciotense		0
Gyrosigma sp.		3
Gyrosigma spencerii		3
Gyrosigma spencerii var. curvula		3
Hantzschia amphioxys		3
Hantzschia elongata		0
Mastogloia smithii		0
Melosira distans var. alpigena	Aulocoseira alpigena	3
Melosira granulata	Aulocoseira granulata	3
Melosira granulata var. angustissima	Aulocoseira granulata var. angustissima	3
Melosira italica	Aulocoseira italica	3
Melosira varians		2
Merideon circulare		3
Merideon circulare var. constrictum		3
Navicula accomoda	Craticula accomoda	1
Navicula agrestis		0
Navicula anglica var. subsalsa	Navicula pseudanglica var. signata	0
Navicula angusta		0
Navicula arvensis		3
Navicula atomus	Mayamaia atomus	1
Navicula auriculata	Fallacia auriculata	3
Navicula bacillum	Sellaphora bacillum	4
Navicula capitata	Hippodonta capitata	3
Navicula capitata var. luneburgensis	Hippodonta luneburgensis	3
Navicula cari		1

Taxa	New Taxa Name	PTI Value
Navicula clementioides		0
Navicula clementis		0
Navicula cocconeiformis	Cavinula cocconeiformis	0
Navicula confervacea	Diadесmis confervacea	2
Navicula confervacea var. peregrina	Diadесmis confervacea	2
Navicula contenta	Diadесmis contenta	2
Navicula contenta var. biceps	Diadесmis contenta	2
Navicula cryptocephala		3
Navicula cryptocephala var. exilis	Navicula cryptocephala	4
Navicula cryptocephala var. veneta	Navicula veneta	1
Navicula cuspidata	Craticula cuspidata	2
Navicula decussis		3
Navicula dibola		0
Navicula elginensis		3
Navicula elginensis var. neglecta		3
Navicula elginensis var. rostrata		3
Navicula exigua		3
Navicula exigua var. capitata		3
Navicula exigua var. signata		3
Navicula gastrum	Placoneis gastrum	0
Navicula gibbosa		0
Navicula gottlandica		2
Navicula graciloides	Navicula cari	1
Navicula gregaria		2
Navicula gysingensis		0
Navicula halophila	Craticula halophila	2
Navicula halophila var. tenuirostris	Craticula halophila	2
Navicula hasta		2
Navicula heuffleri var. leptcephala	Navicula erifuga	2
Navicula hustedtii		3
Navicula ingenua		0
Navicula integra		0
Navicula lacustris	Cavinula lacustris	0
Navicula laevissima	Sellaphora laevissima	0
Navicula lanceolata		2
Navicula lateropunctata		0
Navicula laterorostrata		1
Navicula luzonensis	Navicula subminuscula	1
Navicula menisculus		2
Navicula menisculus var. upsaliensis		2
Navicula minima		1
Navicula minuscula		0
Navicula mutica	Luticola mutica	2
Navicula mutica var. binodis	Luticola mutica	2
Navicula mutica var. cohnii	Luticola cohnii	1
Navicula mutica var. nivalis	Luticola nivalis	2
Navicula mutica var. stigma	Luticola mutica	2
Navicula mutica var. undulata	Luticola mutica	2
Navicula mutica var. ventricosa	Luticola mutica	2

Taxa	New Taxa Name	PTI Value
Navicula notha		3
Navicula paucivisitata		0
Navicula pelliculosa	Fistulifera pelliculosa	2
Navicula placenta		0
Navicula placentula		0
Navicula pseudarvensis		0
Navicula pseudolanceolata		0
Navicula pupula	Sellaphora pupula	3
Navicula pupula f. rostrata	Sellaphora pupula	3
Navicula pupula var. capitata	Sellaphora pupula	3
Navicula pupula var. elliptica	Sellaphora pupula	3
Navicula pupula var. mutata	Sellaphora pupula	3
Navicula pupula var. rectangularis	Sellaphora pupula	3
Navicula pupula var. subcapitata	Sellaphora pupula	3
Navicula pygmaea	Fallacia pygmaea	3
Navicula radiosa		3
Navicula radiosa var. parva		3
Navicula radiosa var. tenella	Navicula cryptotenella	2
Navicula rhynchocephala		3
Navicula rhynchocephala var. germanii	Navicula viridula var. rostellata	2
Navicula salinarum		2
Navicula salinarum var. intermedia	Navicula capitatoradiata	2
Navicula savannahiana		0
Navicula saxophila	Luticola saxophila	0
Navicula schroeteri var. escambia	Navicula schroeteri	3
Navicula scutelloides		0
Navicula secreta var. apiculata	Navicula expecta	2
Navicula seminulum	Sellaphora seminulum	1
Navicula seminulum var. hustedtii	Sellaphora seminulum	1
Navicula sp.		2
Navicula subhamulata	Fallacia subhamulata	3
Navicula subhamulata var. undulata	Fallacia helensis	3
Navicula subminuscula		1
Navicula symmetrica	Navicula schroeteri	2
Navicula tantula	Navicula minima	1
Navicula tenelloides		3
Navicula tenera	Fallacia tenera	2
Navicula tridentula		0
Navicula tripunctata		3
Navicula tripunctata var. schizonemoides	Navicula recens	2
Navicula trivialis		2
Navicula tuscula	Aneumastus tusculus	0
Navicula vanheurckii		0
Navicula viridula		2
Navicula viridula var. avenacea	Navicula lanceolata	2
Navicula viridula var. linearis		2
Navicula viridula var. rostellata		2
Navicula zanoni		2
Neidium affine		3

Taxa	New Taxa Name	PTI Value
Neidium affine var. amphirhynchus	Neidium affine	3
Neidium affine var. longiceps		3
Neidium affine var. undulatum	Neidium affine	3
Neidium apiculatum		0
Neidium binodis		0
Neidium bisulcatum		0
Neidium bisulcatum var. baicalense		0
Neidium dubium		0
Neidium dubium f. constrictum		0
Neidium iridis var. amphigomphus	Neidium iridis	0
Neidium ladogense var. densestriatum		0
Neidium sp.		3
Nitzschia accomoda		0
Nitzschia acicularioides		2
Nitzschia acicularis		2
Nitzschia acicula		0
Nitzschia adapta		2
Nitzschia agnita		3
Nitzschia amphibia		1
Nitzschia angustata var. acuta		2
Nitzschia angustula		2
Nitzschia apiculata	Tryblionella apiculata	1
Nitzschia brevissima		0
Nitzschia capitellata		1
Nitzschia chasei	Simonsenia delognei	3
Nitzschia clausii		2
Nitzschia coarctata	Tryblionella coarctata	3
Nitzschia communis		1
Nitzschia compressa		0
Nitzschia constricta	Psammodictyon constrictum	3
Nitzschia debilis		0
Nitzschia denticula		3
Nitzschia dissipata		3
Nitzschia dissipata var. media		3
Nitzschia dubia		2
Nitzschia elegantula		0
Nitzschia filiformis		1
Nitzschia fonticola		2
Nitzschia frustulum		1
Nitzschia frustulum var. perpusilla		1
Nitzschia gandersheimiensis		0
Nitzschia gracilis		2
Nitzschia hantzschiana		0
Nitzschia heufferiana		3
Nitzschia hungarica	Tryblionella hungarica	2
Nitzschia inconspicua		2
Nitzschia intermedia		2
Nitzschia kutzingiana	Nitzschia pusilla	0
Nitzschia levidensis	Tryblionella levidensis	3

Taxa	New Taxa Name	PTI Value
<i>Nitzschia linearis</i>		3
<i>Nitzschia linearis</i> var. <i>tenuis</i>		3
<i>Nitzschia littoralis</i>	<i>Tryblionella littoralis</i>	3
<i>Nitzschia lorenziana</i> var. <i>subtilis</i>	<i>Nitzschia lorenziana</i>	3
<i>Nitzschia microcephala</i>		1
<i>Nitzschia nana</i>		3
<i>Nitzschia obtusa</i>		0
<i>Nitzschia palea</i>		1
<i>Nitzschia palea</i> var. <i>debilis</i>		1
<i>Nitzschia palea</i> var. <i>tenuirostris</i>		1
<i>Nitzschia paleacea</i>		2
<i>Nitzschia parvula</i>		0
<i>Nitzschia pellucida</i>		0
<i>Nitzschia perminuta</i>		2
<i>Nitzschia pumila</i>		2
<i>Nitzschia pusilla</i>		1
<i>Nitzschia radicula</i>		0
<i>Nitzschia rautenbachiae</i>		3
<i>Nitzschia recta</i>		3
<i>Nitzschia reversa</i>		2
<i>Nitzschia romana</i>	<i>Nitzschia fonticola</i>	3
<i>Nitzschia rostellata</i>		0
<i>Nitzschia sigma</i>		1
<i>Nitzschia sigmoidea</i>		3
<i>Nitzschia sinuata</i> var. <i>tabellaria</i>		3
<i>Nitzschia sociabilis</i>		2
<i>Nitzschia</i> sp.		2
<i>Nitzschia stagnorum</i>	<i>Nitzschia umbonata</i>	0
<i>Nitzschia stricta</i>		0
<i>Nitzschia subacicularis</i>		0
<i>Nitzschia sublinearis</i>		2
<i>Nitzschia termalis</i>	<i>Nitzschia umbonata</i>	0
<i>Nitzschia tropica</i>		2
<i>Nitzschia tryblionella</i>	<i>Tryblionella gracilis</i>	3
<i>Nitzschia tryblionella</i> var. <i>levidensis</i>	<i>Tryblionella levidensis</i>	3
<i>Nitzschia tryblionella</i> var. <i>victoriae</i>	<i>Tryblionella victoriae</i>	3
<i>Nitzschia umbonata</i>		0
<i>Nitzschia vermicularis</i>		2
<i>Nitzschia vitrea</i>		0
<i>Orthoseira roseana</i>		0
<i>Pinnularia abaujensis</i>	<i>Pinnularia gibba</i>	3
<i>Pinnularia abaujensis</i> var. <i>rostrata</i>	<i>Pinnularia gibba</i> var. <i>rostrata</i>	3
<i>Pinnularia abaujensis</i> var. <i>subundulata</i>	<i>Pinnularia gibba</i> f. <i>subundulata</i>	3
<i>Pinnularia acrosphaeria</i> var. <i>turgidula</i>	<i>Pinnularia acrosphaeria</i>	0
<i>Pinnularia appendiculata</i>		2
<i>Pinnularia biceps</i>	<i>Pinnularia interrupta</i>	3
<i>Pinnularia borealis</i>		2
<i>Pinnularia borealis</i> var. <i>rectangularis</i>		2
<i>Pinnularia braunii</i> var. <i>amphicephala</i>		3

Taxa	New Taxa Name	PTI Value
Pinnularia legumen		3
Pinnularia maior		0
Pinnularia mesogonglya	Pinnularia gibba var. mesogonglya	3
Pinnularia mesolepta	Pinnularia interrupta	3
Pinnularia microstauron		0
Pinnularia nodosa		0
Pinnularia obscura		3
Pinnularia sp.		3
Pinnularia stomatophora		0
Pinnularia subcapitata		3
Pinnularia subcapitata var. paucistriata		3
Pinnularia termitina		0
Pinnularia viridis		0
Pinnularia viridis var. minor	Pinnularia streptoraphe	0
Plagiotropis lepidoptera var. proboscidea		3
Pleurosigma delicatulum		0
Rhoicosphenia curvata	Rhoicosphenia abbreviata	3
Rhopalodia gibba		3
Rhopalodia gibba var. ventricosa	Rhopalodia gibba	4
Rhopalodia gibberula var. vanheurckii		0
Skeletonema potomos		3
Stauroneis anceps		4
Stauroneis anceps var. americana		4
Stauroneis anceps var. gracilis		4
Stauroneis anceps var. linearis		4
Stauroneis kriegeri		0
Stauroneis legumen		0
Stauroneis nana		0
Stauroneis nobilis f. alabamae	Stauroneis nobilis	0
Stauroneis obtusa		0
Stauroneis phoenicenteron		0
Stauroneis phoenicenteron f. gracilis		0
Stauroneis sp.		4
Stauroneis smithii		4
Stauroneis smithii var. incisa		4
Stauroneis smithii var. sagitta		4
Stenopterobia delicatissima		4
Stephanodiscus alpinus		0
Stephanodiscus dubius	Cyclostephanos dubius	3
Stephanodiscus hantzschii		3
Stephanodiscus invisitatus	Cyclostephanos invisitatus	3
Stephanodiscus minutulus		3
Stephanodiscus niagarae		0
Stephanodiscus sp.		3
Stephanodiscus subtilis		0
Stephanodiscus tenuis	Stephanodiscus hantzschii	3
Surirella agmatilis		3
Surirella angustata		2
Surirella brebissonii		0

Taxa	New Taxa Name	PTI Value
Surirella elegans		4
Surirella gracilis		0
Surirella linearis		2
Surirella linearis var. helvetica		2
Surirella ovalis		3
Surirella ovata	Surirella minuta	2
Surirella ovata var. africana	Surirella minuta	2
Surirella ovata var. pinnata	Surirella minuta	3
Surirella robusta		0
Surirella robusta f. lata		0
Surirella robusta var. splendida	Surirella splendida	0
Surirella sp.		2
Surirella splendida		0
Surirella tenera		3
Surirella tenera var. nervosa		3
Synedra acus	Fragilaria ulna	3
Synedra capitata	Fragilaria dilatata	0
Synedra delicatissima	Fragilaria delicatissima	4
Synedra famelica	Fragilaria capucina	4
Synedra fasciculata	Fragilaria fasciculata	1
Synedra fasciculata var. truncata	Fragilaria fasciculata	1
Synedra filiformis var. exilis		4
Synedra nana	Fragilaria nanana	4
Synedra parasitica	Fragilaria parasitica	4
Synedra parasitica var. subconstricta	Fragilaria parasitica	4
Synedra pulchella	Ctenophora pulchella	1
Synedra pulchella var. lacerata	Ctenophora pulchella	1
Synedra radians	Fragilaria capucina	1
Synedra rumpens	Fragilaria capucina var. rumpens	4
Synedra rumpens var. familiaris	Fragilaria capucina var. gracile	4
Synedra rumpens var. fragilarioides	Fragilaria capucina var. vaucheriae	4
Synedra rumpens var. scotica	Fragilaria capucina var. gracilis	4
Synedra sp.		3
Synedra ulna	Fragilaria ulna	3
Synedra ulna var. amphirhynchus	Fragilaria ulna	3
Synedra ulna var. contracta	Fragilaria ulna	3
Synedra ulna var. danica	Fragilaria ulna	3
Synedra ulna var. oxyrhynchus	Fragilaria ulna	3
Synedra ulna var. oxyrhynchus f. mediocontracta	Fragilaria ulna	3
Synedra ulna var. ramesi	Fragilaria ulna	3
Tabellaria fenestrata		4
Tabellaria flocculosa		4
Tetracyclus glans		0
Tetracyclus rupestris		0
Thalassiosira weissflogii		2

Taxonomy is everchanging. This list is updated periodically. Please contact the Ecological Support Section for any changes.

**APPENDIX C-5
PHYTOPLANKTON FIELD DATA SHEET**

DOW Station ID Number:	Stream Name:	Location:
Collection Date:	Time:	County:
River Basin:	Purpose of Study:	Name of Investigator(s):

Collection Method Used:	
Analyses to be Completed:	Chlorophyll <i>a</i> ____ Ash-Free Dry-Mass ____ Phytoplankton Count ____
Bloom Characteristics:	Is there an odor? Is there an oily sheen? What is the thickness of the bloom? What is the blooms color? What organism might be the problem?

Surface Bloom Coverage Assessment (Check One)

Total (100% Coverage; Bank to Bank)	
Dense (60 - 99% Coverage)	
Moderate (30 - 59% Coverage)	
Sparse (1 - 29% Coverage)	
Absent	

**APPENDIX C-6
CHLOROPHYLL a (mg/m²) BENCH SHEET**

Stream or Lake: _____ **Station #:** _____
Location: _____
Date Collected: _____ **Date Analyzed:** _____
Replicates: _____ **Vial #:** _____

	A	B	C
Area:	_____	_____	_____
Volume:	_____	_____	_____
Subsample:	_____	_____	_____
Extract ml:	_____	_____	_____
Dilution:	_____	_____	_____
Sensitivity:	_____	_____	_____
Fluorometer:	_____	_____	_____

Chlorophyll a: _____

Mean: _____
Standard Deviation: _____
c.v.%: _____

Sensitivity:

MS = 1
3.16 = 2
10 = 3
31.6 = 4

**APPENDIX C-7
ASH-FREE DRY MASS (g/m²) BENCH SHEET**

Stream or Lake: _____ Station #: _____
 Location: _____
 Date Collected: _____ Date Analyzed: _____
 Replicates: _____

	A	B	C
Crucible Number:	_____	_____	_____
Area:	_____	_____	_____
Volume:	_____	_____	_____
Subsample Volume:	_____	_____	_____
Crucible Weight:	_____	_____	_____
Dried Weight:	_____	_____	_____
Ashed Weight:	_____	_____	_____
Dry Weight:	_____	_____	_____
AFDM:	_____	_____	_____

DRY WEIGHT

Mean: _____
Standard Deviation: _____
c.v. %: _____

ASH-FREE DRY MASS

Mean: _____
Standard Deviation: _____
c.v. %: _____

APPENDIX D

D-1 MACROINVERTEBRATE MASTER TAXA LIST

D-2 KDOW MACROINVERTEBRATE BENCH SHEET

**APPENDIX D-1
MACROINVERTEBRATE MASTER TAXA LIST**

NOTE: A key to feeding groups is at the end of the appendix

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Amphipoda	-	Unid. Amphipod	7.97	8	CG	
Amphipoda	Crangonyctidae	Crangonyx obliquus richmondensis	8	8	SH	
Amphipoda	Crangonyctidae	Crangonyx sp	8	8	SH	
Amphipoda	Crangonyctidae	Stygobromus exilis gp	8	8	SH	
Amphipoda	Crangonyctidae	Unid. Crangonyctidae sp	8	8	SH	
Amphipoda	Gammaridae	Gammarus fasciatus	9.09	8	SH	
Amphipoda	Gammaridae	Gammarus lacustris	6.9	8	SH	
Amphipoda	Gammaridae	Gammarus sp	8	8	CG	
Amphipoda	Talitridae	Hyalella azteca	7.75	6	CG	
Annelida	-	Unid. Oligochaeta	8.2	8	CG	
Basommatophora	Physidae	Physella gyrina	8.8	9	SC	
Basommatophora	Physidae	Physella heterostropha	8.8	9	SC	
Basommatophora	Physidae	Physella integra	8.8	9	SC	
Basommatophora	Physidae	Physella integra brevispira	8.8	9	SC	
Basommatophora	Physidae	Physella sp	8.84	9	SC	
Basommatophora	Physidae	Unid. Physidae sp	8.81	9	SC	
Bryozoa	Pectinatellidae	Pectinatella magnifica	3	3	CG	
Bryozoa	Plumatellidae	Plumatella emarginata	5	5	CF	
Bryozoa	Plumatellidae	Plumatella repens	5	5	CF	
Bryozoa	Plumatellidae	Plumatella sp	5	5	CF	
Coleoptera	Chrysomelidae	Donacia sp	8	8	SH	
Coleoptera	Chrysomelidae	Unid. Chrysomelid sp	8	8	SH	clinger
Coleoptera	Curculionidae	Bagous sp	10	10	SH	
Coleoptera	Curculionidae	Lixus sp	10	10	SH	
Coleoptera	Curculionidae	Unid. Curculionid sp	10	10	SH	
Coleoptera	Dryopidae	Helichus basalis	4.6	5	SC	clinger
Coleoptera	Dryopidae	Helichus fastigiatus	4.6	5	SC	clinger
Coleoptera	Dryopidae	Helichus lithophilus	4.6	5	SC	clinger
Coleoptera	Dryopidae	Helichus sp	4.6	5	SC	clinger
Coleoptera	Dryopidae	Helichus striatus	4.6	5	SC	clinger
Coleoptera	Dryopidae	Pelonomus obscurus	5.4	5	SC	
Coleoptera	Dryopidae	Unid. Dryopidae sp	5	5	SC	
Coleoptera	Dystiscidae	Ilybius sp	9	9	PR	
Coleoptera	Dystiscidae	Lioporeus sp1	9	9	PR	
Coleoptera	Dystiscidae	Lioporeus sp2	9	9	PR	
Coleoptera	Dyticidae	Unid. Hydroporinid	8	9	PR	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Coleoptera	Dytiscidae	Acilius semisulcatus	9	9	PR	
Coleoptera	Dytiscidae	Acilius sp	9	9	PR	
Coleoptera	Dytiscidae	Agabus ambiguus	8.9	9	PR	
Coleoptera	Dytiscidae	Agabus disintergratus	8.9	9	PR	
Coleoptera	Dytiscidae	Agabus gatates	8.9	9	PR	
Coleoptera	Dytiscidae	Agabus glabrasellus	8.9	9	PR	
Coleoptera	Dytiscidae	Agabus johannis	8.9	9	PR	
Coleoptera	Dytiscidae	Agabus punctatus	8.9	9	PR	
Coleoptera	Dytiscidae	Agabus sp	8.9	9	PR	
Coleoptera	Dytiscidae	Agabus sp. A Epler	8.9	9	PR	
Coleoptera	Dytiscidae	Agabus staninus	8.9	9	PR	
Coleoptera	Dytiscidae	Anacaena sp	8.3	9	PR	
Coleoptera	Dytiscidae	Bidessonotus longovalis	9	9	PR	
Coleoptera	Dytiscidae	Celina sp	9	9	PR	
Coleoptera	Dytiscidae	Copelatus glyphicus	9.1	9	PC	
Coleoptera	Dytiscidae	Copelatus punctulatus		9	PC	
Coleoptera	Dytiscidae	Copelatus sp	9.1	9	PC	
Coleoptera	Dytiscidae	Coptotomus interrogatus	9.2	9	PR	
Coleoptera	Dytiscidae	Coptotomus loticus	9.2	9	PR	
Coleoptera	Dytiscidae	Coptotomus sp	9.26	9	PR	
Coleoptera	Dytiscidae	Coptotomus venustus	9.2	9	PR	
Coleoptera	Dytiscidae	Cybister sp	9.1	9	PR	
Coleoptera	Dytiscidae	Deronectes sp (larvae)	4	9	PR	
Coleoptera	Dytiscidae	Desmopachria convexa	8.9	9	PR	
Coleoptera	Dytiscidae	Dytiscus carolinus nimbatus	8.9	9	PR	
Coleoptera	Dytiscidae	Dytiscus hybridus	8	9	PR	
Coleoptera	Dytiscidae	Dytiscus sp	9.1	9	PR	
Coleoptera	Dytiscidae	Graphoderus sp	8	9	PR	
Coleoptera	Dytiscidae	Heterosternuta sp		9	PR	
Coleoptera	Dytiscidae	Hydaticus sp	9.1	9	PR	
Coleoptera	Dytiscidae	Hydrochus callosus	9	9	PR	
Coleoptera	Dytiscidae	Hydrochus sp	6.55	9	PR	
Coleoptera	Dytiscidae	Hydrocolus sp	8.9	9	PR	
Coleoptera	Dytiscidae	Hydroporus blanchardi	8.9	9	PR	
Coleoptera	Dytiscidae	Hydroporus niger		9	PR	
Coleoptera	Dytiscidae	Hydroporus sp	8.62	9	PR	
Coleoptera	Dytiscidae	Hydroporus sp B	8.9	9	PR	
Coleoptera	Dytiscidae	Hydroporus undalatus	8.9	9	PR	
Coleoptera	Dytiscidae	Hydrovatus platycornis	9	9	PR	
Coleoptera	Dytiscidae	Hydrovatus sp	10	9	PR	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Coleoptera	Dytiscidae	Hygrotus nubilus	9	9	PR	
Coleoptera	Dytiscidae	Hygrotus sp	9	9	PR	
Coleoptera	Dytiscidae	Ilybius biguttulus	8	9	PR	
Coleoptera	Dytiscidae	Ilybius oblitus	9.1	9	PR	
Coleoptera	Dytiscidae	Laccobius agilis	8	9	PR	
Coleoptera	Dytiscidae	Laccophilus fasciatus	10	9	PR	
Coleoptera	Dytiscidae	Laccophilus gentilis	10	9	PR	
Coleoptera	Dytiscidae	Laccophilus maculosus maculosus	10	9	PR	
Coleoptera	Dytiscidae	Laccophilus schwarzi	10	9	PR	
Coleoptera	Dytiscidae	Laccophilus sp	10	9	PR	
Coleoptera	Dytiscidae	Laccophilus vacaensis	9	9	PR	
Coleoptera	Dytiscidae	Lioporeus pilatei	9	9	PR	
Coleoptera	Dytiscidae	Lioporeus sp	9	9	PR	
Coleoptera	Dytiscidae	Lioporeus triangularis	9	9	PR	
Coleoptera	Dytiscidae	Nebrioporus/Stictotarsus gp	9.1	9	PR	
Coleoptera	Dytiscidae	Neoporus carolinus	8.9	9	PR	
Coleoptera	Dytiscidae	Neoporus clypealis	8.9	9	PR	
Coleoptera	Dytiscidae	Neoporus dixianus	8.9	9	PR	
Coleoptera	Dytiscidae	Neoporus hybridus	8.9	9	PR	
Coleoptera	Dytiscidae	Neoporus mellitus	8.9	9	PR	
Coleoptera	Dytiscidae	Neoporus mixtus	8.9	9	PR	
Coleoptera	Dytiscidae	Neoporus psammodytes	8.9	9	PR	
Coleoptera	Dytiscidae	Neoporus shermani	8.9	9	PR	
Coleoptera	Dytiscidae	Neoporus sp	8.9	9	PR	
Coleoptera	Dytiscidae	Neoporus straitopunctatus	8.9	9	PR	
Coleoptera	Dytiscidae	Neoporus undulatus	8.9	9	PR	
Coleoptera	Dytiscidae	Neoporus vittatipennis	8.9	9	PR	
Coleoptera	Dytiscidae	Oredytes sp	9.1	9	PR	
Coleoptera	Dytiscidae	Rhantus sp	3.61	9	PR	
Coleoptera	Dytiscidae	Thermonectus basillarus	9	9	PR	
Coleoptera	Dytiscidae	Unid. Dyticid sp	8	9	PR	
Coleoptera	Dytiscidae	Uvarus granarius	10	9	PR	
Coleoptera	Dytiscidae	Uvarus lacustris	10	9	PR	
Coleoptera	Dytiscidae	Uvarus sp	10	9	PR	
Coleoptera	Elmidae	Ancyronyx variegatus	6.49	5	SC	clinger
Coleoptera	Elmidae	Dubiraphia bivittata	5.9	5	SC	clinger
Coleoptera	Elmidae	Dubiraphia minima	4.05	5	SC	clinger
Coleoptera	Elmidae	Dubiraphia quadrinotata	5.9	5	SC	clinger
Coleoptera	Elmidae	Dubiraphia sp (adult)	6.4	5	SC	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Coleoptera	Elmidae	Dubiraphia sp (larvae)	5	5	SC	clinger
Coleoptera	Elmidae	Dubiraphia vittata	4.05	5	SC	clinger
Coleoptera	Elmidae	Gonielmis sp		5	SC	
Coleoptera	Elmidae	Macronychus glabratus	4.58	5	CG	clinger
Coleoptera	Elmidae	Macronychus sp	4.58	5	CG	
Coleoptera	Elmidae	Microcylloepus pusillus	2.11	5	SC	clinger
Coleoptera	Elmidae	Microcylloepus sp	2.11	5	SC	clinger
Coleoptera	Elmidae	Optioservus immunitis	2.36	5	SC	clinger
Coleoptera	Elmidae	Optioservus ovalis	2.36	5	SC	clinger
Coleoptera	Elmidae	Optioservus sp	2.36	5	SC	clinger
Coleoptera	Elmidae	Optioservus sp (larvae)	2.36	5	SC	clinger
Coleoptera	Elmidae	Optioservus trivittatus	2.36	5	SC	clinger
Coleoptera	Elmidae	Oulimnius latusculus	1.78	5	SC	clinger
Coleoptera	Elmidae	Promoresia elegans	2.15	5	SC	clinger
Coleoptera	Elmidae	Promoresia sp (larvae)	2.35	5	SC	clinger
Coleoptera	Elmidae	Promoresia tardella	0	5	SC	clinger
Coleoptera	Elmidae	Stenelmis humerosa	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis bicarinata	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis concinna	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis crenata	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis decorata	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis hungerfordi	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis lateralis	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis markeli	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis mera	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis morsei	5.1	5	SC	
Coleoptera	Elmidae	Stenelmis musgravei	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis quadrimaculata	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis sandersoni	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis sexlineata	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis sp	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis sp (larvae)	5.1	5	SC	clinger
Coleoptera	Elmidae	Stenelmis vittipennis	5.1	5	SC	clinger
Coleoptera	Elmidae	Unid. Elmid sp	4.2	5	SC	clinger
Coleoptera	Gyrinidae	Dineutus assimilis	5.5	6	PR	
Coleoptera	Gyrinidae	Dineutus ciliatus	5.5	6	PR	
Coleoptera	Gyrinidae	Dineutus discolor	5.5	6	PR	
Coleoptera	Gyrinidae	Dineutus emarginatus	5.5	6	PR	
Coleoptera	Gyrinidae	Dineutus nigrior	5.5	6	PR	
Coleoptera	Gyrinidae	Dineutus robertsi	5.5	6	PR	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Coleoptera	Gyrinidae	Dineutus serrulatus	5.5	6	PR	
Coleoptera	Gyrinidae	Dineutus sp	5.54	6	PR	
Coleoptera	Gyrinidae	Dineutus sp (larvae)	5.5	6	PR	
Coleoptera	Gyrinidae	Gyretes iricolor	5.8	6	PR	
Coleoptera	Gyrinidae	Gyretes sp	5.8	6	PR	
Coleoptera	Gyrinidae	Gyrinus analis	6.2	6	PR	
Coleoptera	Gyrinidae	Gyrinus borealis	6.2	6	PR	
Coleoptera	Gyrinidae	Gyrinus discolor	6.2	6	PR	
Coleoptera	Gyrinidae	Gyrinus lugens	6.2	6	PR	
Coleoptera	Gyrinidae	Gyrinus marginellus	6.2	6	PR	
Coleoptera	Gyrinidae	Gyrinus pachysomus	6.2	6	PR	
Coleoptera	Gyrinidae	Gyrinus sp	6.17	6	PR	
Coleoptera	Gyrinidae	Gyrinus sp (larvae)	8.3	6	PR	
Coleoptera	Gyrinidae	Gyrinus woodruffi		6	PR	
Coleoptera	Gyrinidae	Unid. Gyrinidae sp	6	6	PR	
Coleoptera	Haliplidae	Haliplus fasciatus	8.7	8	PH	
Coleoptera	Haliplidae	Haliplus sp	8.71	8	PH	
Coleoptera	Haliplidae	Haliplus triopsis	8.7	8	PH	
Coleoptera	Haliplidae	Peltodytes dietrichi	8.7	8	PH	
Coleoptera	Haliplidae	Peltodytes duodecimpunctatus	8.7	8	PH	
Coleoptera	Haliplidae	Peltodytes floridensis	8.7	8	PH	
Coleoptera	Haliplidae	Peltodytes lengi	8.7	8	PH	
Coleoptera	Haliplidae	Peltodytes muticus	8.7	8	PH	
Coleoptera	Haliplidae	Peltodytes oppositus	8.7	8	PH	
Coleoptera	Haliplidae	Peltodytes sexmaculatus	8.7	8	PH	
Coleoptera	Haliplidae	Peltodytes sp	8.73	8	PH	
Coleoptera	Helophoridae	Helophorus sp	7.57	8	SH	
Coleoptera	Hydraenidae	Hydraena sp	5	5	PR	clinger
Coleoptera	Hydrophilidae	Anacaena limbata	8.3	9	PR	
Coleoptera	Hydrophilidae	Berosus aculeatus	8.43	9	PH	
Coleoptera	Hydrophilidae	Berosus acuminatus	8.43	9	PH	
Coleoptera	Hydrophilidae	Berosus exiguus	8.43	9	PH	
Coleoptera	Hydrophilidae	Berosus ordinatus	8.43	9	PH	
Coleoptera	Hydrophilidae	Berosus pantherinus	8.43	9	PH	
Coleoptera	Hydrophilidae	Berosus peregrinus	8.43	9	PH	
Coleoptera	Hydrophilidae	Berosus sp	8.43	9	PH	
Coleoptera	Hydrophilidae	Berosus sp A	8.43	9	PH	
Coleoptera	Hydrophilidae	Berosus sp B	8.43	9	PH	
Coleoptera	Hydrophilidae	Berosus sp (larvae)	8.43	9	PH	
Coleoptera	Hydrophilidae	Berosus striatus	8.43	9	PH	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Coleoptera	Hydrophilidae	Berosus youngi	8.43	9	PH	
Coleoptera	Hydrophilidae	Cercyon sp		9	PR	
Coleoptera	Hydrophilidae	Colymbetes sp		9	PR	swimmer
Coleoptera	Hydrophilidae	Cymbiodyta chamberlaini		9	PR	burrower
Coleoptera	Hydrophilidae	Cymbiodyta sp	8.3	9	PR	
Coleoptera	Hydrophilidae	Cymbiodyta vindicta	8.3	9	PR	
Coleoptera	Hydrophilidae	Derallus altus	9	9	PR	
Coleoptera	Hydrophilidae	Derallus sp	9	9	PR	
Coleoptera	Hydrophilidae	Enochrus hamiltoni	8.75	9	PR	
Coleoptera	Hydrophilidae	Enochrus ochraceus	8.75	9	PH	
Coleoptera	Hydrophilidae	Enochrus pygmaeus nebulosus	8.75	9	PR	
Coleoptera	Hydrophilidae	Enochrus sayi	8.75	9	PR	
Coleoptera	Hydrophilidae	Enochrus sp	8.75	9	PR	
Coleoptera	Hydrophilidae	Helobata sp		9	CG	
Coleoptera	Hydrophilidae	Helochares maculicollis	8.3	9	PR	
Coleoptera	Hydrophilidae	Helochares sp	8.3	9	PR	
Coleoptera	Hydrophilidae	Helocombus bifidus	8.5	9	CG	
Coleoptera	Hydrophilidae	Helocombus sp	8.5	9	CG	
Coleoptera	Hydrophilidae	Hydrobiomorpha sp		9		climber
Coleoptera	Hydrophilidae	Hydrobius molaenus	8.3	9	PH	
Coleoptera	Hydrophilidae	Hydrobius sp	8.3	9	PH	
Coleoptera	Hydrophilidae	Hydrobius tumidus	8.3	9	PH	
Coleoptera	Hydrophilidae	Hydrochara sp	8.3	9	PR	
Coleoptera	Hydrophilidae	Hydrophilus sp		9	PR	
Coleoptera	Hydrophilidae	Hydrophilus triangularis	8.3	9	PR	
Coleoptera	Hydrophilidae	Laccobius sp	7.32	9	PR	
Coleoptera	Hydrophilidae	Paracymus sp	8	9	PR	
Coleoptera	Hydrophilidae	Paracymus sp (larvae)	8.3	9	PR	
Coleoptera	Hydrophilidae	Paracymus subcupreus	3.5	9	PR	
Coleoptera	Hydrophilidae	Sperchopsis sp	6.5	9		clinger
Coleoptera	Hydrophilidae	Sperchopsis tessellata	6.5	9		
Coleoptera	Hydrophilidae	Tropisternus blatchleyi blatchleyi	9.7	9	CG	
Coleoptera	Hydrophilidae	Tropisternus collaris	9.7	9	CG	
Coleoptera	Hydrophilidae	Tropisternus lateralis nimbatus	9.7	9	CG	
Coleoptera	Hydrophilidae	Tropisternus mixtus	9.7	9	CG	
Coleoptera	Hydrophilidae	Tropisternus natator	9.7	9	CG	
Coleoptera	Hydrophilidae	Tropisternus sp	9.68	9	CG	
Coleoptera	Hydrophilidae	Tropisternus sp (larvae)	9.7	9	CG	
Coleoptera	Hydrophilidae	Unid. Hydrophilid sp	6.3	9	PR	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Coleoptera	Limnichidae	Lutrochus laticeps	5	5	SC	clinger
Coleoptera	Noteridae	Hydrocanthus atripennis	6.9	7	PR	
Coleoptera	Noteridae	Hydrocanthus iricolor	6.9	7	PR	
Coleoptera	Noteridae	Hydrocanthus sp	6.9	7	PR	
Coleoptera	Noteridae	Suphisellus sp	7	7	CG	
Coleoptera	Psephenidae	Ectopria nervosa	4.16	4	SC	clinger
Coleoptera	Psephenidae	Ectopria sp larva	4.16	4	SC	clinger
Coleoptera	Psephenidae	Psephenus herricki	2.35	5	SC	clinger
Coleoptera	Psephenidae	Unid. Psephenidae sp	3.56	4	SC	
Coleoptera	Ptilodactylidae	Anchytarsus bicolor	3.64	2	SH	clinger
Coleoptera	Scirtidae	Cyphon sp	5	5	SC	
Coleoptera	Scirtidae	Elodes sp	5	5	SC	
Coleoptera	Scirtidae	Prionocyphon sp	5	5	SC	
Coleoptera	Scirtidae	Scirtes sp	5	5	SH	
Coleoptera	Scirtidae	Unid. Scirtid sp	5	5	SH	
Coleoptera	Staphylinidae	Micralymma sp	8		PR	
Coleoptera	Staphylinidae	Thinobius sp			PR	
Collembola	Entomobryidae	Unid. Entomobryid sp				
Collembola	Isotomidae	Folsomia sp	5	5	CG	
Collembola	Isotomidae	Isotoma sp	5	5	CG	
Collembola	Isotomidae	Isotomurus sp	5	5	CG	
Collembola	Isotomidae	Unid. Isotomid sp		5	CG	
Collembola	Sminthuridae	Unid. Sminthurid sp				
Decapoda	Cambaridae	Barbicambarus cornutus	4.6	6	CG	
Decapoda	Cambaridae	Cambarus bartonii cavatus	4.59	6	CG	
Decapoda	Cambaridae	Cambarus batchi	4.9	6	CG	
Decapoda	Cambaridae	Cambarus buntingi	4.9	6	CG	
Decapoda	Cambaridae	Cambarus cumberlandensis	4.14	6	CG	
Decapoda	Cambaridae	Cambarus diogenes	7.52	6	CG	
Decapoda	Cambaridae	Cambarus distans	3.88	6	CG	
Decapoda	Cambaridae	Cambarus dubius		6	CG	
Decapoda	Cambaridae	Cambarus friauffi	4.9	6	CG	
Decapoda	Cambaridae	Cambarus graysoni	4.9	6	CG	
Decapoda	Cambaridae	Cambarus ortmanni	6.15	6	CG	
Decapoda	Cambaridae	Cambarus parvocus	3.24	6	CG	
Decapoda	Cambaridae	Cambarus robustus	4.9	6	CG	
Decapoda	Cambaridae	Cambarus rusticiformis	3.97	6	CG	
Decapoda	Cambaridae	Cambarus sciotensis	6.36	6	CG	
Decapoda	Cambaridae	Cambarus sp	4.9	6	CG	
Decapoda	Cambaridae	Cambarus sphenoides	4.9	6	CG	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Decapoda	Cambaridae	Cambarus striatus	4.9	6	CG	
Decapoda	Cambaridae	Cambarus tenebrosus	6.45	6	CG	
Decapoda	Cambaridae	Cambarus veteranus	4.9	6	CG	
Decapoda	Cambaridae	Fallicambarus fodiens	7	6	CG	
Decapoda	Cambaridae	Orconectes australis australis	5.49	6	CG	
Decapoda	Cambaridae	Orconectes australis packardi	5.49	6	CG	
Decapoda	Cambaridae	Orconectes barrenensis	5.49	6	CG	
Decapoda	Cambaridae	Orconectes bisectus	5.49	6	CG	
Decapoda	Cambaridae	Orconectes burri	4.92	6	CG	
Decapoda	Cambaridae	Orconectes compressus	5.49	6	CG	
Decapoda	Cambaridae	Orconectes cristavarius	5.47	6	SC	
Decapoda	Cambaridae	Orconectes durelli	5.49	6	CG	
Decapoda	Cambaridae	Orconectes immunis	5.49	6	CG	
Decapoda	Cambaridae	Orconectes jeffersoni	5.49	6	CG	
Decapoda	Cambaridae	Orconectes juvenilis	5.99	6	CG	
Decapoda	Cambaridae	Orconectes kentuckiensis	5.49	6	CG	
Decapoda	Cambaridae	Orconectes palmeri palmeri	5.49	6	CG	
Decapoda	Cambaridae	Orconectes pellucidus	5.49	6	CG	
Decapoda	Cambaridae	Orconectes placidus	5.49	6	CG	
Decapoda	Cambaridae	Orconectes putnami	5.49	6	CG	
Decapoda	Cambaridae	Orconectes rafinesquei	5.49	6	CG	
Decapoda	Cambaridae	Orconectes rusticus	5.92	6	CG	
Decapoda	Cambaridae	Orconectes sanborni sanborni	6.54	6	CG	
Decapoda	Cambaridae	Orconectes sp	5.49	6	CG	
Decapoda	Cambaridae	Orconectes sp (nr putmani)	5.49	6	CG	
Decapoda	Cambaridae	Orconectes tricuspis	5.49	6	CG	
Decapoda	Cambaridae	Procambarus acutus acutus	7.02	6	CG	
Decapoda	Cambaridae	Procambarus clarkii	7.02	6	CG	
Decapoda	Cambaridae	Procambarus sp	7.02	6	CG	
Decapoda	Cambaridae	Unid. Cambaridae sp	6	6	OM	
Decapoda	Palaemonidae	Palaemonetes kadiakensis	5	6	CG	
Decapoda	Palaemonidae	Palaemonetes paludosus	5	6	CG	
Decapoda	Palaemonidae	Palaemonetes sp	7.1	6	CG	
Diptera	Athericidae	Atherix lantha	2.07	2	PR	
Diptera	Athericidae	Atherix sp	2.1	2	PR	
Diptera	Athericidae	Atherix variegata	2.1	2	PR	
Diptera	Ceratopogonidae	Alluaudomyia sp	6.8	7	PR	
Diptera	Ceratopogonidae	Atrichopogon sp	6.49	7	PR	
Diptera	Ceratopogonidae	Bezzia sp	6.9	7	PR	
Diptera	Ceratopogonidae	Bezzia/Palpomyia gp	6.9	7	PR	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Diptera	Ceratopogonidae	Bezzia/Probezzia gp	6.9	7	PR	
Diptera	Ceratopogonidae	Ceratopogon sp	6.8	7	PR	
Diptera	Ceratopogonidae	Culicoides sp	7.7	7	PR	
Diptera	Ceratopogonidae	Dasyhelea sp	6.7	7	CG	
Diptera	Ceratopogonidae	Forcipomyia sp	6.8	7	SC	
Diptera	Ceratopogonidae	Isohelea sp	6.8	7	PR	
Diptera	Ceratopogonidae	Monohelea sp	6.8	7	PR	
Diptera	Ceratopogonidae	Palpomyia sp	6.86	7	PR	
Diptera	Ceratopogonidae	Palpomyia/Sphaeromias gp	6.9	7	PR	
Diptera	Ceratopogonidae	Probezzia sp	6.9	7	PR	
Diptera	Ceratopogonidae	Serromyia sp		7	PR	
Diptera	Ceratopogonidae	Sphaeromias sp	6.9	7	PR	
Diptera	Ceratopogonidae	Stilobezzia sp	6.9	7	PR	
Diptera	Ceratopogonidae	Unid. Ceratopogonid sp	6.7	7	PR	
Diptera	Chaoboridae	Chaoborus punctipennis	8.5	9	PR	
Diptera	Chaoboridae	Chaoborus sp	8.5	9	PR	
Diptera	Chaoboridae	Eucorethra underwoodi	8	9	PR	
Diptera	Chironomidae	Parachironomus tenuicaudata gp	5.4	7	CG	
Diptera	Chironomidae	Ablabesmyia (Karelia) sp	7.2	7	PR	
Diptera	Chironomidae	Ablabesmyia annulata	2.04	7	PR	
Diptera	Chironomidae	Ablabesmyia janta	6	7	PR	
Diptera	Chironomidae	Ablabesmyia mallochi	7.19	7	PR	
Diptera	Chironomidae	Ablabesmyia parajanta	7.37	7	PR	
Diptera	Chironomidae	Ablabesmyia peleensis	9.67	7	PR	
Diptera	Chironomidae	Ablabesmyia rhamnpe	7.5	7	PR	
Diptera	Chironomidae	Ablabesmyia simpsoni	4	7	PR	
Diptera	Chironomidae	Ablabesmyia sp	7.2	7	PR	
Diptera	Chironomidae	Apedilum sp		7	CG	
Diptera	Chironomidae	Apsectrotanypus sp	0	7	PR	
Diptera	Chironomidae	Axarus sp	7	7	CG	
Diptera	Chironomidae	Brillia flavifrons	5.18	7	SH	
Diptera	Chironomidae	Brillia parva	5.18	7	SH	
Diptera	Chironomidae	Brillia sera	5.18	7	SH	
Diptera	Chironomidae	Brillia sp	5.18	7	SH	
Diptera	Chironomidae	Cardiocladius albiplumus	6.2	7	PR	clinger
Diptera	Chironomidae	Cardiocladius obscurus	6.2	7	PR	clinger
Diptera	Chironomidae	Cardiocladius sp	5.87	7	PR	clinger
Diptera	Chironomidae	Chaetocladius sp		7	CG	sprawler
Diptera	Chironomidae	Chironomus cf Florida	7	7	CG	burrower
Diptera	Chironomidae	Chironomus crassicaudatus	9.6	7	CG	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Diptera	Chironomidae	Chironomus decorus gp	9.6	7	CG	
Diptera	Chironomidae	Chironomus longipes	10	10	CG	burrower
Diptera	Chironomidae	Chironomus plumosus	9.6	7	CG	
Diptera	Chironomidae	Chironomus riparius	9.6	7	CG	
Diptera	Chironomidae	Chironomus sp	9.63	7	CG	
Diptera	Chironomidae	Chironomus staegeri		7	SH	
Diptera	Chironomidae	Chironomus stigmaterus	9.6	7	CG	
Diptera	Chironomidae	Cladopelma sp	3.49	7	CG	
Diptera	Chironomidae	Cladotanytarsus sp	4.09	7	CG	
Diptera	Chironomidae	Cladotanytarsus sp C. (Epler)	4	7	CG	
Diptera	Chironomidae	Clinotanypus pinguis	8.74	7	PR	
Diptera	Chironomidae	Clinotanypus sp	8.74	7	PR	
Diptera	Chironomidae	Coelotanypus scapularis	6.2	7	PR	
Diptera	Chironomidae	Coelotanypus sp	8	7	PR	
Diptera	Chironomidae	Conchapelopia aleta	8.7	7	PR	
Diptera	Chironomidae	Conchapelopia sp	8.7	7	PR	
Diptera	Chironomidae	Conchapelopia/Helopelopia sp	7.5	7	PR	
Diptera	Chironomidae	Constempellina sp	4.2	7	CG	
Diptera	Chironomidae	Corynoneura sp	6.01	7	CG	
Diptera	Chironomidae	Corynoneura sp B		7	CG	
Diptera	Chironomidae	Corynoneura sp C (Epler)	6.2	7	CG	
Diptera	Chironomidae	Corynoneura sp E	6.2	7	CG	
Diptera	Chironomidae	Corynoneura taris	6.2	7	CG	
Diptera	Chironomidae	Cricotopus absurdus	5	7	CG	
Diptera	Chironomidae	Cricotopus annulator	7	7	SH	clinger
Diptera	Chironomidae	Cricotopus annulator complex	7	7	SH	
Diptera	Chironomidae	Cricotopus bicinctus gp	8.54	7	SH	
Diptera	Chironomidae	Cricotopus cylindraceus	2.28	7	CG	
Diptera	Chironomidae	Cricotopus infuscatus	9	7	CG	
Diptera	Chironomidae	Cricotopus reversus gp		7	SH	
Diptera	Chironomidae	Cricotopus sp	7	7	SH	
Diptera	Chironomidae	Cricotopus sp 2 (Beck)	7.7	7	SH	clinger
Diptera	Chironomidae	Cricotopus sp Ozarks	7	7	CG	sprawler
Diptera	Chironomidae	Cricotopus sylvestris gp	10	7	SH	clinger
Diptera	Chironomidae	Cricotopus triannulatus	7	7	SH	clinger
Diptera	Chironomidae	Cricotopus trifascia	2.84	7	SH	clinger
Diptera	Chironomidae	Cricotopus trifasciatus	7	7	SH	clinger
Diptera	Chironomidae	Cricotopus vierriensis	4.35	7	SH	clinger
Diptera	Chironomidae	Cricotopus/Orthocladius gp	7.1	7	CG	
Diptera	Chironomidae	Cryptochironomus sp	6.4	7	PR	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Diptera	Chironomidae	Cryptotendipes sp	6.19	7	CG	
Diptera	Chironomidae	Demicryptochironomus sp	2.12	7	CG	
Diptera	Chironomidae	Diamesa sp	8.12	7	CG	clinger
Diptera	Chironomidae	Diamesa sp.B		7	CG	
Diptera	Chironomidae	Dicrotendipes fumidus	7.9	7	CG	
Diptera	Chironomidae	Dicrotendipes leucocelis	7.9	7	CG	
Diptera	Chironomidae	Dicrotendipes lucifer	7.95	7	CG	
Diptera	Chironomidae	Dicrotendipes modestus	8.73	7	CG	
Diptera	Chironomidae	Dicrotendipes neomodestus	8.1	7	CG	
Diptera	Chironomidae	Dicrotendipes nervosus	9.76	7	CG	
Diptera	Chironomidae	Dicrotendipes simpsoni	9.95	7	CG	
Diptera	Chironomidae	Dicrotendipes sp	8.1	7	CG	
Diptera	Chironomidae	Diplocladius sp	7	7	CG	
Diptera	Chironomidae	Djalmabatista pulcher	9.3	7	PR	
Diptera	Chironomidae	Einfeldia sp	7.08	7	CG	
Diptera	Chironomidae	Endochironomus nigricans	7.79	7	SH	clinger
Diptera	Chironomidae	Endochironomus sp	7.8	7	SH	
Diptera	Chironomidae	Endochironomus subtendens	7.8	7	SH	
Diptera	Chironomidae	Endotribelos sp		7	CG	
Diptera	Chironomidae	Epoicocladius #3 (Jacobsen)	0.1	7	OT	
Diptera	Chironomidae	Epoicocladius sp	2	7	CG	
Diptera	Chironomidae	Eukiefferiella brehmi gp	2.72	7	CG	
Diptera	Chironomidae	Eukiefferiella brevicalcar gp	2.23	7	CG	
Diptera	Chironomidae	Eukiefferiella claripennis gp	5.58	7	CG	
Diptera	Chironomidae	Eukiefferiella corulescens gp (Epler)	2.2	7	CG	
Diptera	Chironomidae	Eukiefferiella devonica gp	2.59	7	CG	
Diptera	Chironomidae	Eukiefferiella devonica gp B (Epler)	2.6	7	CG	
Diptera	Chironomidae	Eukiefferiella gracei gp	3.44	7	CG	
Diptera	Chironomidae	Eukiefferiella pseudomontana	4	7	CG	
Diptera	Chironomidae	Eukiefferiella sp	3.4	7	CG	
Diptera	Chironomidae	Eukiefferiella tirolensis		7	CG	
Diptera	Chironomidae	Euryhopsis sp		7	CG	
Diptera	Chironomidae	Glyptotendipes barbipes	9.4	7	SH	
Diptera	Chironomidae	Glyptotendipes lobiferus	9.4	7	SH	
Diptera	Chironomidae	Glyptotendipes meridionalis	9.4	7	SH	
Diptera	Chironomidae	Glyptotendipes paripes	9.4	7	SH	
Diptera	Chironomidae	Glyptotendipes sp	9.4	7	SH	
Diptera	Chironomidae	Glyptotendipes sp B (Epler)	9.4	7	SH	
Diptera	Chironomidae	Glyptotendipes sp.F		7	SH	

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Diptera	Chironomidae	Glyptotendipes testaceus	7	7	SH	burrower
Diptera	Chironomidae	Goeldichironomus holoprasinus	10	7	CG	
Diptera	Chironomidae	Guttipelopia sp	6.3	7	PR	
Diptera	Chironomidae	Harnischia curtilamellata	9	7	CG	
Diptera	Chironomidae	Harnischia sp	9.07	7	CG	
Diptera	Chironomidae	Hayesomyia senata		7	PR	
Diptera	Chironomidae	Hayesomyia sp	6.2	7	PR	
Diptera	Chironomidae	Heleniella sp	0	7	CG	clinger
Diptera	Chironomidae	Helopelopia sp	6.2	7	PR	
Diptera	Chironomidae	Heterotrissocladius marcidus	5.4	7	CG	
Diptera	Chironomidae	Heterotrissocladius sp	5.23	7	CG	
Diptera	Chironomidae	Hydrobaenus pilipes	9.5	7	SC	
Diptera	Chironomidae	Hydrobaenus sp	9.54	7	SC	
Diptera	Chironomidae	Kiefferulus dux	0	7	CG	
Diptera	Chironomidae	Krenopelopia sp	6.2	7	PR	
Diptera	Chironomidae	Krenosmittia sp	0	7	CG	
Diptera	Chironomidae	Labrundinia becki	5.9	7	PR	
Diptera	Chironomidae	Labrundinia maculata	6	7	PR	
Diptera	Chironomidae	Labrundinia pilosella	5.91	7	PR	
Diptera	Chironomidae	Labrundinia sp		7	PR	
Diptera	Chironomidae	Labrundinia virescens	4.33	7	PR	
Diptera	Chironomidae	Larsia decolorata	8.3	7	PR	
Diptera	Chironomidae	Larsia indistincta	8.3	7	PR	
Diptera	Chironomidae	Larsia sp	9.3	7	PR	
Diptera	Chironomidae	Limnophyes sp		7	CG	
Diptera	Chironomidae	Lopescladius sp	1.67	7	CG	
Diptera	Chironomidae	Lopescladius sp II	1.67	7	CG	
Diptera	Chironomidae	Macropelopia sp		7	PR	
Diptera	Chironomidae	Meropelopia americana	6.2	7	CG	
Diptera	Chironomidae	Meropelopia sp	6.2	7	CG	
Diptera	Chironomidae	Mesocricotopus sp		7	CG	
Diptera	Chironomidae	Mesosmittia sp		7	CG	
Diptera	Chironomidae	Micropsectra polita	1.4	7	CG	clinger
Diptera	Chironomidae	Micropsectra sp	1.52	7	CG	clinger
Diptera	Chironomidae	Micropsectra sp.E		7	CG	
Diptera	Chironomidae	Microtendipes pedellus gp	5.5	7	CF	clinger
Diptera	Chironomidae	Microtendipes rydalensis gp	5.5	7	CF	
Diptera	Chironomidae	Microtendipes sp	5.5	7	CF	
Diptera	Chironomidae	Monodiamesa bathyphila	7.9	7	CG	
Diptera	Chironomidae	Monodiamesa sp	5	7	CG	sprawler

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Diptera	Chironomidae	Monopelopia sp	6.2	7	PR	
Diptera	Chironomidae	Nanocladius alternantherae	7	7	CG	
Diptera	Chironomidae	Nanocladius branchicolus	5	7	OT	
Diptera	Chironomidae	Nanocladius distinctus	7.2	7	CG	
Diptera	Chironomidae	Nanocladius downesi	2.45	7	CG	
Diptera	Chironomidae	Nanocladius rectinervis	7.1	7	CG	
Diptera	Chironomidae	Nanocladius sp	7.07	7	CG	
Diptera	Chironomidae	Nanocladius sp.5 (Epler)	7.2	7	CG	sprawler
Diptera	Chironomidae	Nanocladius spiniplenus	7.2	7	CG	
Diptera	Chironomidae	Natarsia baltimoreus	10	7	PR	
Diptera	Chironomidae	Natarsia sp	9.95	7	PR	
Diptera	Chironomidae	Natarsia sp # 1	10	7	PR	
Diptera	Chironomidae	Natarsia sp A (Epler)	10	7	PR	
Diptera	Chironomidae	Neozavrelia sp	3	7	CG	climber
Diptera	Chironomidae	Nilotanypus americanus	3	7	PR	
Diptera	Chironomidae	Nilotanypus fimbriatus	4	7	PR	
Diptera	Chironomidae	Nilotanypus sp	3.9	7	PR	
Diptera	Chironomidae	Nilothauma babyi	5.5	7	CG	
Diptera	Chironomidae	Nilothauma sp	5.03	7	CG	
Diptera	Chironomidae	Omisus sp (Epler)	6.6	7	CG	
Diptera	Chironomidae	Orthocladius annectens	9.2	7	CG	
Diptera	Chironomidae	Orthocladius bicinctus		7	SH	
Diptera	Chironomidae	Orthocladius carlatus	6.4	7	CG	
Diptera	Chironomidae	Orthocladius dentifer	7	7	CG	sprawler/ burrower
Diptera	Chironomidae	Orthocladius dorenus	6.7	7	CG	
Diptera	Chironomidae	Orthocladius dubitatus	9.1	7	CG	
Diptera	Chironomidae	Orthocladius lignicola	3	7	CG	
Diptera	Chironomidae	Orthocladius mallochi	9.2	7	CG	
Diptera	Chironomidae	Orthocladius nigrinus	0.9	7	CG	
Diptera	Chironomidae	Orthocladius obumbratus	8.8	7	CG	
Diptera	Chironomidae	Orthocladius oliveri	6.4	7	CG	
Diptera	Chironomidae	Orthocladius rivulorum	3	7	CG	clinger
Diptera	Chironomidae	Orthocladius robacki	6.62	7	CG	
Diptera	Chironomidae	Orthocladius rubicundus	5.7	7	CG	sprawler
Diptera	Chironomidae	Orthocladius sp	7.3	7	CG	
Diptera	Chironomidae	Pagastia sp	1.77	7	CG	
Diptera	Chironomidae	Pagastiella sp	2.2	7	CG	
Diptera	Chironomidae	Paraboreochlis sp		7	CG	
Diptera	Chironomidae	Parachaetocladius abnobaeus	6.7	7	CG	

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Diptera	Chironomidae	Parachaetocladius sp	0	7	CG	
Diptera	Chironomidae	Parachironomus abortivus	8.32	7	PR	
Diptera	Chironomidae	Parachironomus carinatus	9.42	7	CG	
Diptera	Chironomidae	Parachironomus directus	9.42	7	PR	
Diptera	Chironomidae	Parachironomus frequens	9.42	7	PR	
Diptera	Chironomidae	Parachironomus hirtalatus	9.42	7	PR	
Diptera	Chironomidae	Parachironomus pectinatellae	6.45	7	PR	
Diptera	Chironomidae	Parachironomus schneideri	8.86	7	PR	
Diptera	Chironomidae	Parachironomus sp	9.42	7	PR	
Diptera	Chironomidae	Paracladopelma neries	0.9	7	CG	
Diptera	Chironomidae	Paracladopelma sp	5.51	7	CG	
Diptera	Chironomidae	Paracladopelma undine	4.9	7	CG	
Diptera	Chironomidae	Paracricotopus sp	4.7	7	CG	
Diptera	Chironomidae	Parakiefferiella sp	5.4	7	CG	
Diptera	Chironomidae	Parakiefferiella sp A (Epler)	5	7	CG	
Diptera	Chironomidae	Paralauterborniella nigrohalteralis	4.77	7	CG	clinger
Diptera	Chironomidae	Paramerina cf anomalum	5	7	PR	sprawler
Diptera	Chironomidae	Paramerina sp	4.29	7	PR	
Diptera	Chironomidae	Parametriocnemus lundbecki	3.65	7	CG	
Diptera	Chironomidae	Parametriocnemus sp	3.65	7	CG	clinger
Diptera	Chironomidae	Paraphaenocladius exagitans		7	CG	
Diptera	Chironomidae	Paratanytarsus dissimilis	8.45	7	CG	
Diptera	Chironomidae	Paratanytarsus sp	8.45	7	CG	clinger
Diptera	Chironomidae	Paratendipes albimanus	9.2	7	CG	clinger
Diptera	Chironomidae	Paratendipes sp	5.11	7	CG	
Diptera	Chironomidae	Paratrichocladius sp		7	CG	
Diptera	Chironomidae	Pentaneura sp	4.7	7	PR	
Diptera	Chironomidae	Pentaneurella sp		7	PR	
Diptera	Chironomidae	Phaenopsectra flavipes	7.94	7	SC	clinger
Diptera	Chironomidae	Phaenopsectra obediens gp	6.8	7	SC	clinger
Diptera	Chironomidae	Phaenopsectra punctipes gp	6	7	CG	clinger
Diptera	Chironomidae	Phaenopsectra sp	6.5	7	SC	clinger
Diptera	Chironomidae	Phaenopsectra/Tribelos sp	6.8	7	CG	clinger
Diptera	Chironomidae	Platysmitia sp	4	7	CG	clinger
Diptera	Chironomidae	Platysmittia fimbriata		7	CG	
Diptera	Chironomidae	Polypedilum aviceps	3.65	7	SH	clinger
Diptera	Chironomidae	Polypedilum bergi	7	7	SC	clinger
Diptera	Chironomidae	Polypedilum braseniae	6.1	7	SH	
Diptera	Chironomidae	Polypedilum fallax	6.39	7	SH	clinger

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Diptera	Chironomidae	Polypedilum fallax gp	6.39	7	SH	clinger
Diptera	Chironomidae	Polypedilum flavum	5.3	7	SH	clinger
Diptera	Chironomidae	Polypedilum halterale	7.31	7	SH	clinger
Diptera	Chironomidae	Polypedilum illinoense	9	7	SH	clinger
Diptera	Chironomidae	Polypedilum illinoense gp	9	7	SH	clinger
Diptera	Chironomidae	Polypedilum laetum	1.37	7	SH	clinger
Diptera	Chironomidae	Polypedilum ontario	6.8	7	SH	
Diptera	Chironomidae	Polypedilum scalaenum gp	8.4	7	SH	clinger
Diptera	Chironomidae	Polypedilum simulans/digitifer	6.8	7	SH	clinger
Diptera	Chironomidae	Polypedilum sp	6.8	7	SH	clinger
Diptera	Chironomidae	Polypedilum sp C (Epler)	6.8	7	SH	clinger
Diptera	Chironomidae	Polypedilum trigonus	6.8	7	CG	clinger
Diptera	Chironomidae	Polypedilum tritum	6.8	7	SH	clinger
Diptera	Chironomidae	Potthastia longimanus	6.46	7	CG	
Diptera	Chironomidae	Potthastia sp	6.4	7	CG	
Diptera	Chironomidae	Procladius bellus	9.3	7	PR	
Diptera	Chironomidae	Procladius sp	9.1	7	PR	
Diptera	Chironomidae	Procladius sublettei	9.3	7	PR	
Diptera	Chironomidae	Psectrocladius psilopterus gp	3.8	7	CG	
Diptera	Chironomidae	Psectrocladius simulans		7	CG	
Diptera	Chironomidae	Psectrocladius sp	3.59	7	CG	
Diptera	Chironomidae	Psectrotanypus dyari	10	7	PR	
Diptera	Chironomidae	Psectrotanypus sp	0	7	PR	
Diptera	Chironomidae	Pseudochironomus sp	5.36	7	CG	
Diptera	Chironomidae	Pseudorthocladus sp	1.51	7	CG	
Diptera	Chironomidae	Pseudosmittia sp	6	7	CG	
Diptera	Chironomidae	Psilometriocnemus sp		7	CG	
Diptera	Chironomidae	Rheocricotopus pauciseta	6.8	7	CG	
Diptera	Chironomidae	Rheocricotopus robacki	7.28	7	CG	
Diptera	Chironomidae	Rheocricotopus sp	7.3	7	CG	
Diptera	Chironomidae	Rheocricotopus tuberculatus		7	CG	
Diptera	Chironomidae	Rheocricotopus unidentatus		7	CG	
Diptera	Chironomidae	Rheopelopia paramaculipennis		7	CG	
Diptera	Chironomidae	Rheopelopia sp		7	PR	
Diptera	Chironomidae	Rheosmittia sp	7	7	CG	
Diptera	Chironomidae	Rheotanytarsus exiguus gp	6.4	7	CF	clinger
Diptera	Chironomidae	Rheotanytarsus pellucidus	5.89	7	CG	
Diptera	Chironomidae	Rheotanytarsus sp	6.4	7	CF	clinger
Diptera	Chironomidae	Robakia demeijerei	3.74	7	CG	clinger
Diptera	Chironomidae	Saetheria sp 1 (Epler)	4	7	CG	

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Diptera	Chironomidae	Saetheria tylus	7.07	7	CG	
Diptera	Chironomidae	Smittia sp	6	7	CG	
Diptera	Chironomidae	Stelechomyia perpulchra	5.02	7	SH	
Diptera	Chironomidae	Stempellina sp	0	7	CG	clinger
Diptera	Chironomidae	Stempellina sp A (Epler)	0	7	CG	clinger
Diptera	Chironomidae	Stempellinella cf leptocelloides	4	7	CG	clinger
Diptera	Chironomidae	Stempellinella sp	4.62	7	CG	clinger
Diptera	Chironomidae	Stempellinella sp A (Epler)	3	7	CG	sprawler
Diptera	Chironomidae	Stenochironomus hilaris	6.4	7	CG	
Diptera	Chironomidae	Stenochironomus sp	6.45	7	CG	
Diptera	Chironomidae	Stictochironomus devinctus	6.5	7	CG	
Diptera	Chironomidae	Stictochironomus sp	6.52	7	CG	
Diptera	Chironomidae	Stilocladius sp	5	7	CG	
Diptera	Chironomidae	Sublettea sp	7	7	CF	
Diptera	Chironomidae	Symposiocladius sp	5.4	7	CG	
Diptera	Chironomidae	Sympotthastia sp	5.09	7	CG	
Diptera	Chironomidae	Sympotthastia spinifera	5.7	7	CG	
Diptera	Chironomidae	Sympotthastia zarreli		7	CG	sprawler
Diptera	Chironomidae	Syndiamesa sp	5.1	7	CG	
Diptera	Chironomidae	Synorthocladius semivirens	4.7	7	CG	
Diptera	Chironomidae	Synorthocladius sp	4	7	SC	
Diptera	Chironomidae	Tanypus carinatus	9.2	7	PR	
Diptera	Chironomidae	Tanypus neopunctipennis	9.2	7	PR	
Diptera	Chironomidae	Tanypus punctipennis	9.2	7	PR	
Diptera	Chironomidae	Tanypus sp	9.19	7	PR	
Diptera	Chironomidae	Tanypus stellatus	9.2	7	PR	
Diptera	Chironomidae	Tanytarsus sp	6.7	7	CF	clinger
Diptera	Chironomidae	Tanytarsus sp A (Epler)	7	7	CG	sprawler
Diptera	Chironomidae	Tanytarsus sp C		7	CG	clinger
Diptera	Chironomidae	Tanytarsus sp D (Epler)	6	7	CG	
Diptera	Chironomidae	Tanytarsus sp E		7	CG	clinger
Diptera	Chironomidae	Tanytarsus sp G (Epler)	6.7	7	CG	clinger
Diptera	Chironomidae	Tanytarsus sp L		7	CG	clinger
Diptera	Chironomidae	Tanytarsus sp M		7	CG	clinger
Diptera	Chironomidae	Tanytarsus sp P		7	CG	clinger
Diptera	Chironomidae	Tanytarsus sp S		7	CG	clinger
Diptera	Chironomidae	Tanytarsus sp T (Epler)	6.7	7	CF	clinger
Diptera	Chironomidae	Tanytarsus sp U (Epler)	7	7	CG	clinger
Diptera	Chironomidae	Tanytarsus sp. N	6.7	7	CF	clinger
Diptera	Chironomidae	Thienemanniella similis	5.86	7	CG	

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Diptera	Chironomidae	Thienemanniella sp	5.86	7	CG	
Diptera	Chironomidae	Thienemanniella sp B	5.9	7	CG	
Diptera	Chironomidae	Thienemanniella xena	5.9	7	CG	
Diptera	Chironomidae	Thienemannimyia gp	5.9	7	PR	
Diptera	Chironomidae	Tribelos atrum	6.3	7	CG	
Diptera	Chironomidae	Tribelos fuscicorne	6.3	7	CG	
Diptera	Chironomidae	Tribelos jucundum	6.3	7	CG	
Diptera	Chironomidae	Tribelos sp	6.31	7	CG	
Diptera	Chironomidae	Tribelos/Phaenopsectra gp	6.6	7	CG	
Diptera	Chironomidae	Trissopelopia ogemawi	5	7	PR	
Diptera	Chironomidae	Tvetenia bavarica gp	3.65	7	CG	
Diptera	Chironomidae	Tvetenia discoloripes gp	3.61	7	CG	
Diptera	Chironomidae	Tvetenia paucunca	3.65	7	CG	
Diptera	Chironomidae	Tvetenia sp	3.6	7	CG	
Diptera	Chironomidae	Tvetenia vitracies	4	7	CG	
Diptera	Chironomidae	Unid. Chironomid sp	7	7	CG	
Diptera	Chironomidae	Unid. Diamesinae sp		7	CG	clinger
Diptera	Chironomidae	Unid. Orthoclad sp	7	7	CG	
Diptera	Chironomidae	Unid. Podonominae sp		7	CG	
Diptera	Chironomidae	Unid. Pupae sp	7	7		
Diptera	Chironomidae	Unid. Tanypodinae sp	6.2	7	PR	
Diptera	Chironomidae	Xenochironomus sp	7	7	PR	
Diptera	Chironomidae	Xenochironomus xenolabis	7.1	7	PR	
Diptera	Chironomidae	Xestochironomus sp		7	OM	
Diptera	Chironomidae	Xylotopus par	5.99	7	SH	
Diptera	Chironomidae	Zalutschia sp	5	7	SC	
Diptera	Chironomidae	Zavrelia sp	5.3	7	CG	
Diptera	Chironomidae	Zavrelimyia sinuosa complex	9.1	7	PR	
Diptera	Chironomidae	Zavrelimyia sp	9.11	7	PR	
Diptera	Chironomidae	Zavrelimyia thryptica complex	9.1	7	PR	
Diptera	Corethrellidae	Corethrella sp	5		PR	
Diptera	Culicidae	Aedes cinereus	9.4	9	CG	
Diptera	Culicidae	Anopheles (pupae)	8.58	9	CG	
Diptera	Culicidae	Anopheles atropos	8.58	9	CF	
Diptera	Culicidae	Anopheles crucians	8.58	9	CF	
Diptera	Culicidae	Anopheles punctipennis/perplexens	8.58	9	CF	
Diptera	Culicidae	Anopheles sp	8.58	9	CF	
Diptera	Culicidae	Culex pipiens	10	9	CF	
Diptera	Culicidae	Culex restuans	10	9	CF	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Diptera	Culicidae	Culex sp	10	9	CF	
Diptera	Culicidae	Unid. Culicidae sp	9	9	FC	
Diptera	Dixidae	Dixa sp	2.55	4	CG	
Diptera	Dixidae	Dixella sp	5	4	PR	
Diptera	Dolichopodidae	Unid. Dolichopodid sp	5	5	PR	
Diptera	Empididae	Chelifera sp	8.1	8	PR	
Diptera	Empididae	Clinocera sp	8.1	8	PR	clinger
Diptera	Empididae	Hemerodromia sp	8.1	8	PR	
Diptera	Empididae	Trichoclinocera sp		8	PR	
Diptera	Empididae	Unid. Empidid sp	8.1	8	PR	
Diptera	Ephydriidae	Brachydeutera sp	9	9	CG	
Diptera	Ephydriidae	Ephydra sp	9	9	SH	
Diptera	Ephydriidae	Hydrellia sp	8	9	SH	
Diptera	Ephydriidae	Scatella sp	9	9	CG	
Diptera	Ephydriidae	Setacera sp	9	9	SH	sprawler
Diptera	Ephydriidae	Unid. Ephydrid sp	9	9	SH	
Diptera	Muscidae	Limnophora sp	8.4	8	PR	
Diptera	Muscidae	Unid. Muscid sp	8	8		
Diptera	Psychodidae	Maruina sp	10	10	SC	
Diptera	Psychodidae	Pericoma sp	10	10	CG	
Diptera	Psychodidae	Psychoda alternata	9.9	10	CG	
Diptera	Psychodidae	Psychoda sp	9.9	10	CG	
Diptera	Ptychopteridae	Bittacomorpha sp	7	7	CG	
Diptera	Ptychopteridae	Ptychoptera sp	7	7	CG	
Diptera	Sciaridae	Unid. Sciarid sp	5	5	SH	
Diptera	Sciomyzidae	Sepedon sp	6	6	PR	
Diptera	Sciomyzidae	Unid. Sciomyzid sp	6	6	PR	
Diptera	Simuliidae	Cnephia sp	4	5	CF	clinger
Diptera	Simuliidae	Prosimulium magnum	2.6	5	CF	clinger
Diptera	Simuliidae	Prosimulium mixtum	4	5	CF	clinger
Diptera	Simuliidae	prosimulium multidentatum		5	cf	clinger
Diptera	Simuliidae	Prosimulium rhizophorum		5	CF	clinger
Diptera	Simuliidae	Prosimulium sp	4.01	5	CF	clinger
Diptera	Simuliidae	Simulium decorum	4.4	5	CF	clinger
Diptera	Simuliidae	Simulium slossonae	4.4	5	CF	clinger
Diptera	Simuliidae	Simulium sp	4.4	5	CF	clinger
Diptera	Simuliidae	Simulium tuberosum	4.42	5	CF	clinger
Diptera	Simuliidae	Simulium venustum	7.06	5	CF	clinger
Diptera	Simuliidae	Simulium vittatum	8.65	5	CF	clinger
Diptera	Simuliidae	Unid. Simuliid sp	4.6	5	CF	clinger

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Diptera	Stratiomyidae	Allognosta sp	10	10	CG	
Diptera	Stratiomyidae	Caloparyphus sp	10	10	CG	
Diptera	Stratiomyidae	Myxosargus sp	10	10	CG	
Diptera	Stratiomyidae	Odontomyia cinacta		10	CG	
Diptera	Stratiomyidae	Odontomyia sp	10	10	CG	
Diptera	Stratiomyidae	Oxycera sp	10	10	SC	
Diptera	Stratiomyidae	Stratiomys sp	8.08	10	CG	
Diptera	Stratiomyidae	Unid. Stratiomyidae sp	9.68	9	CG	
Diptera	Syrphidae	Chrysogaster sp	10	10	CG	
Diptera	Tabanidae	Chlorotabanus sp	9	9	PR	
Diptera	Tabanidae	Chrysops furcatus	6.7	9	PR	
Diptera	Tabanidae	Chrysops sp	6.73	9	PR	
Diptera	Tabanidae	Haematopota sp	8	9	PR	
Diptera	Tabanidae	Hybomitra sp	5	9	PR	sprawler/ burrower
Diptera	Tabanidae	Tabanus reinwardtii	9.2	9	PR	
Diptera	Tabanidae	Tabanus sp	9.22	9	PR	
Diptera	Tabanidae	Tabanus/Whitneyomyia/ Atylotus sp	9.2	9	PR	
Diptera	Tabanidae	Unid. Tabanid sp	8.6	9	PR	
Diptera	Tanyderidae	Protoplasa fitchii	4.33	4	PR	
Diptera	Tipulidae	Antocha saxicola	4.25	5	PR	clinger
Diptera	Tipulidae	Antocha sp	4.25	5	PR	clinger
Diptera	Tipulidae	Cryptolabis sp	4.9	5	SH	
Diptera	Tipulidae	Dicranota sp	0	5	PR	
Diptera	Tipulidae	Dolichocheza sp	5.5	5	CG	
Diptera	Tipulidae	Erioptera sp	5	5	PR	
Diptera	Tipulidae	Gonomyia sp	5	5		
Diptera	Tipulidae	Helius sp	5.3	5	CG	
Diptera	Tipulidae	Hexatoma longicornis	4.31	5	PR	
Diptera	Tipulidae	Hexatoma sp	4.31	5	PR	
Diptera	Tipulidae	Limnophila macrocera	4.9	5	PR	
Diptera	Tipulidae	Limnophila sp	4.9	5	PR	
Diptera	Tipulidae	Limonia sp	9.64	5	SC	
Diptera	Tipulidae	Lipsothrix sp	1	7	CG	miner
Diptera	Tipulidae	Molophilus sp	5	5	SH	
Diptera	Tipulidae	Ormosia sp	4.9	5	CG	
Diptera	Tipulidae	Pedicia sp	4.9	5	PR	
Diptera	Tipulidae	Pilaria sp	4.9	5	PR	
Diptera	Tipulidae	Prionocera sp	4.9	5	SH	
Diptera	Tipulidae	Pseudolimnophila sp	7.22	5	PR	

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Diptera	Tipulidae	Tipula abdominalis	7.3	5	SH	
Diptera	Tipulidae	Tipula furca	7.3	5	SH	
Diptera	Tipulidae	Tipula paleedosa		5	SH	
Diptera	Tipulidae	Tipula reinwardtii	7.3	8	sh	burrower
Diptera	Tipulidae	Tipula sp	7.33	5	SH	
Diptera	Tipulidae	Tipula strepens	7.3	5	SH	
Diptera	Tipulidae	Unid. Tipulid sp	5	5	CG	
Ephemeroptera	Ameletidae	Ameletus lineatus	2.38	2	SC	
Ephemeroptera	Ameletidae	Ameletus sp	2.38	2	SC	
Ephemeroptera	Ameletidae	Unid. Ameletidae sp	2	2	SC	
Ephemeroptera	Baetidae	Acentrella ampla	3.61	5	CG	
Ephemeroptera	Baetidae	Acentrella sp	3.6	5	CG	
Ephemeroptera	Baetidae	Acentrella turbida	3.6	5	CG	
Ephemeroptera	Baetidae	Acerpenna macdunnoughi	5.4	5	CG	
Ephemeroptera	Baetidae	Acerpenna pygmaea	3.88	5	CG	
Ephemeroptera	Baetidae	Acerpenna sp	5	5	CG	
Ephemeroptera	Baetidae	Baetis brunneicolor	5.4	5	CG	
Ephemeroptera	Baetidae	Baetis flavistriga	6.58	5	CG	
Ephemeroptera	Baetidae	Baetis intercalaris	4.99	5	CG	
Ephemeroptera	Baetidae	Baetis pluto	4.28	5	CG	
Ephemeroptera	Baetidae	Baetis sp	5.4	5	CG	
Ephemeroptera	Baetidae	Baetis tricaudatus	1.63	5	CG	
Ephemeroptera	Baetidae	Callibaetis pretiosus	9.84	5	CG	
Ephemeroptera	Baetidae	Callibaetis sp	9.84	5	CG	
Ephemeroptera	Baetidae	Centroptilum sp	6.6	5	CG	
Ephemeroptera	Baetidae	Centroptilum vividocularis	6.6	5	CG	
Ephemeroptera	Baetidae	Cloeon sp	7.4	5	CG	
Ephemeroptera	Baetidae	Dipheter hageni	1.62	5	CG	
Ephemeroptera	Baetidae	Dipheter sp		5	CG	
Ephemeroptera	Baetidae	Fallceon quilleri	5.4	5	CG	
Ephemeroptera	Baetidae	Fallceon sp	5.4	5	CG	
Ephemeroptera	Baetidae	Heterocloeon curiosum	3.5	5	CG	
Ephemeroptera	Baetidae	Heterocloeon frivolus	3.6	5	CG	
Ephemeroptera	Baetidae	Paracloeodes minutum	8.3	5	SC	
Ephemeroptera	Baetidae	Paracloeodes sp	8.3	5	SC	
Ephemeroptera	Baetidae	Plauditus dubius	5.4	5	CG	
Ephemeroptera	Baetidae	Plauditus sp	5.4	5	CG	
Ephemeroptera	Baetidae	Procloeon sp	5	5	CG	
Ephemeroptera	Baetidae	Pseudocentroptiloides sp	5	5	CG	
Ephemeroptera	Baetidae	Pseudocloeon ehippiatus	3.7	5	CG	

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Ephemeroptera	Baetidae	Pseudocloeon frondalis	7.4	5	CG	
Ephemeroptera	Baetidae	Pseudocloeon longipalpus	5.6	5	CG	
Ephemeroptera	Baetidae	Pseudocloeon propinquus	5.7	5	CG	
Ephemeroptera	Baetidae	Pseudocloeon sp	4.02	5	CG	
Ephemeroptera	Baetidae	Unid. Baetid sp	5	5	CG	
Ephemeroptera	Baetiscidae	Baetisca berneri	2.02	2	SC	
Ephemeroptera	Baetiscidae	Baetisca gibbera	1.43	2	SC	
Ephemeroptera	Baetiscidae	Baetisca lacustris	1	2	SC	
Ephemeroptera	Baetiscidae	Baetisca sp	2.1	2	SC	
Ephemeroptera	Caenidae	Brachycercus sp	3.01	8	CG	
Ephemeroptera	Caenidae	Caenis amica	7.41	8	CG	
Ephemeroptera	Caenidae	Caenis anceps	7.41	8	CG	
Ephemeroptera	Caenidae	Caenis diminuta	7.4	8	CG	
Ephemeroptera	Caenidae	Caenis hilaris	7.4	8	CG	
Ephemeroptera	Caenidae	Caenis latipennis	7.4	8	CG	
Ephemeroptera	Caenidae	Caenis macafferti	7.4	8	CG	
Ephemeroptera	Caenidae	Caenis punctata	7.4	8	CG	
Ephemeroptera	Caenidae	Caenis sp	7.41	8	CG	
Ephemeroptera	Caenidae	Caenis tardata	7.4	8	CG	
Ephemeroptera	Caenidae	Cercobrachys sp	1	8	CG	
Ephemeroptera	Caenidae	Unid. Caenid sp	7.6	8	CG	
Ephemeroptera	Ephemerellidae	Attenella attenuata	1.56	2	CG	clinger
Ephemeroptera	Ephemerellidae	Attenella sp	1.56	2	CG	clinger
Ephemeroptera	Ephemerellidae	Drunella cornutella	0	2	SC	clinger
Ephemeroptera	Ephemerellidae	Drunella lata	0	2	SC	clinger
Ephemeroptera	Ephemerellidae	Drunella longicornis	0.7	2	SC	clinger
Ephemeroptera	Ephemerellidae	Drunella sp	0.7	2	SC	clinger
Ephemeroptera	Ephemerellidae	Drunella walkeri	0.98	2	SC	clinger
Ephemeroptera	Ephemerellidae	Ephemerella argo	1.7	2	CG	clinger
Ephemeroptera	Ephemerellidae	Ephemerella catawba	4.4	2	CG	clinger
Ephemeroptera	Ephemerellidae	Ephemerella crenula	1.7	2	CG	clinger
Ephemeroptera	Ephemerellidae	Ephemerella dorothea	1.7	2	CG	clinger
Ephemeroptera	Ephemerellidae	Ephemerella hispida	0.84	2	CG	clinger
Ephemeroptera	Ephemerellidae	Ephemerella inconstans	1.7	2	CG	clinger
Ephemeroptera	Ephemerellidae	Ephemerella needhami	0	2	CG	clinger
Ephemeroptera	Ephemerellidae	Ephemerella rotunda	2.6	2	CG	clinger
Ephemeroptera	Ephemerellidae	Ephemerella septentrionalis	2	2	CG	clinger
Ephemeroptera	Ephemerellidae	Ephemerella sp	2.04	2	CG	clinger
Ephemeroptera	Ephemerellidae	Ephemerella subvaria	0	2	CG	clinger
Ephemeroptera	Ephemerellidae	Eurylophella bicolor	4.86	2	CG	clinger

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Ephemeroptera	Ephemerellidae	Eurylophella funeralis	2.05	2	CG	clinger
Ephemeroptera	Ephemerellidae	Eurylophella sp	4.34	2	CG	clinger
Ephemeroptera	Ephemerellidae	Eurylophella temporalis	4.32	2	CG	clinger
Ephemeroptera	Ephemerellidae	Eurylophella verisimilis	0.31	2	CG	clinger
Ephemeroptera	Ephemerellidae	Serratella deficiens	2.75	2	CG	clinger
Ephemeroptera	Ephemerellidae	Serratella serrata	1.88	2	CG	clinger
Ephemeroptera	Ephemerellidae	Serratella sordida	1.7	2	CG	clinger
Ephemeroptera	Ephemerellidae	Serratella sp	2.7	2	CG	clinger
Ephemeroptera	Ephemerellidae	Serratella spiculosa	2.7	2	CG	clinger
Ephemeroptera	Ephemerellidae	Timpanoga lita	0	2	CG	clinger
Ephemeroptera	Ephemerellidae	Timpanoga simplex	3.9	2	CG	clinger
Ephemeroptera	Ephemerellidae	Timpanoga sp	2	2	CG	clinger
Ephemeroptera	Ephemerellidae	Unid. Ephemerellid sp	1	2	CG	clinger
Ephemeroptera	Ephemeridae	Ephemera blanda		2	CG	burrower
Ephemeroptera	Ephemeridae	Ephemera guttulata	0	4	CG	
Ephemeroptera	Ephemeridae	Ephemera simulans	2.2	4	CG	
Ephemeroptera	Ephemeridae	Ephemera sp	1.1	4	CG	
Ephemeroptera	Ephemeridae	Ephemera varians	2.2	4	CG	
Ephemeroptera	Ephemeridae	Hexagenia sp	4.9	4	CG	
Ephemeroptera	Heptageniidae	Cinygmula subequalis	0	3	SC	clinger
Ephemeroptera	Heptageniidae	Epeorus dispar	1.03	3	SC	clinger
Ephemeroptera	Heptageniidae	Epeorus rubidus	1.22	3	SC	clinger
Ephemeroptera	Heptageniidae	Epeorus sp	1.27	3	SC	clinger
Ephemeroptera	Heptageniidae	Heptagenia julia	0	3	SC	clinger
Ephemeroptera	Heptageniidae	Heptagenia marginalis	2.26	3	SC	clinger
Ephemeroptera	Heptageniidae	Heptagenia pulla	1.94	3	SC	clinger
Ephemeroptera	Heptageniidae	Heptagenia sp	2.57	3	SC	clinger
Ephemeroptera	Heptageniidae	Leucrocuta aphrodite	2.42	3	SC	clinger
Ephemeroptera	Heptageniidae	Leucrocuta hebe	2.8	3	SC	clinger
Ephemeroptera	Heptageniidae	Leucrocuta junco	2.8	3	SC	clinger
Ephemeroptera	Heptageniidae	Leucrocuta maculipennis	2.8	3	SC	clinger
Ephemeroptera	Heptageniidae	Leucrocuta sp	2.4	3	SC	clinger
Ephemeroptera	Heptageniidae	Nixe sp		3	CG	clinger
Ephemeroptera	Heptageniidae	Rhithrogena amica	0.3	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenacron candidum	4	3	CG	clinger
Ephemeroptera	Heptageniidae	Stenacron carolina	1.14	3	CG	clinger
Ephemeroptera	Heptageniidae	Stenacron gildersleevi	2.5	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenacron interpunctatum	6.87	3	CG	clinger
Ephemeroptera	Heptageniidae	Stenacron minnetonka	4	3	CG	clinger
Ephemeroptera	Heptageniidae	Stenacron pallidum	2.72	3	SC	clinger

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Ephemeroptera	Heptageniidae	Stenacron sp	4	3	CG	clinger
Ephemeroptera	Heptageniidae	Stenonema bednariki	5	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema carlsoni	2.08	3	SC	
Ephemeroptera	Heptageniidae	Stenonema exiguum	3.83	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema femoratum	7.18	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema integrum	5.75	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema interpunctatum		3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema ithaca	3.58	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema mediopunctatum	3.77	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema meririvulanum	0.13	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema modestum	5.5	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema pudicum	2.01	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema pulchellum	4.1	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema sp	4.1	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema terminatum	4.1	3	SC	clinger
Ephemeroptera	Heptageniidae	Stenonema vicarium	1.26	3	SC	clinger
Ephemeroptera	Heptageniidae	Unid. Heptageniid sp	3.2	3	SC	clinger
Ephemeroptera	Isonychiidae	Isonychia sp	3.45	4	CF	
Ephemeroptera	Leptophlebiidae	Choroterpes sp	2.3	3	SC	clinger
Ephemeroptera	Leptophlebiidae	Habrophlebia sp	0.5	3	SC	
Ephemeroptera	Leptophlebiidae	Habrophlebiodes sp	2.3	3	SC	
Ephemeroptera	Leptophlebiidae	Leptophlebia sp	6.23	3	CG	
Ephemeroptera	Leptophlebiidae	Paraleptophlebia debilis	0.9	3	CG	
Ephemeroptera	Leptophlebiidae	Paraleptophlebia sp	0.94	3	CG	clinger
Ephemeroptera	Leptophlebiidae	Unid. Leptophlebiid sp	3.3	3	CG	
Ephemeroptera	Neophemeridae	Neophemera purpurea	1.57	2	CG	
Ephemeroptera	Palingeniidae	Pentagenia sp	5	5	CG	
Ephemeroptera	Polymitarcyidae	Ephoron sp		2	CG	
Ephemeroptera	Polymitarcyidae	Ephoron album	2	2	CG	
Ephemeroptera	Polymitarcyidae	Ephoron leukon	1.32	2	CG	
Ephemeroptera	Potamanthidae	Anthopotamus myops	1.6	2	CG	
Ephemeroptera	Potamanthidae	Anthopotamus sp	1.6	2	CG	
Ephemeroptera	Potamanthidae	Anthopotamus verticis	1.6	2	CG	
Ephemeroptera	Siphonuridae	Siphonurus sp	5.81	4	CG	
Ephemeroptera	Tricorythidae	Tricorythodes sp	5.06	5	CG	
Gnathobdellida	Hirudinidae	Haemopsis grandis	8.2	8	PC	
Gnathobdellida	Hirudinidae	Haemopsis marmorata	8.2	8	PC	
Gnathobdellida	Hirudinidae	Unid. Hirudinea sp	8.2	8	PC	
Gordioidea	Gordiidae	Gordius sp	5	5	OT	
Gordioidea	Gordiidae	Unid. Gordiidae sp	5	5	OT	

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Gordioidea	Parachordodidae	Paragordius sp	5.9	6	OT	
Haplosclerina	Spongillidae	Spongilla sp	3	3	CF	
Haplosclerina	Spongillidae	Unid. Spongillid sp	3	3	CF	
Haplotaxida	Enchytraeidae	Enchytraeus sp	10	10	CG	
Haplotaxida	Enchytraeidae	Unid. Enchytraeid sp	10	10	CG	
Haplotaxida	Lumbricidae	Haplotaxis sp	9	9	CG	
Haplotaxida	Lumbricidae	Unid. Lumbricid sp	5	9	CG	
Haplotaxida	Tubificidae	Arcteonais lomondi	8	9	CG	
Haplotaxida	Tubificidae	Aulodrilus pigueti	5.52	9	CG	
Haplotaxida	Tubificidae	Aulodrilus pleuriseta	5	9	CG	
Haplotaxida	Tubificidae	Aulodrilus sp	5.5	9	CG	
Haplotaxida	Tubificidae	Branchiura sowerbyi	8.28	9	CG	
Haplotaxida	Tubificidae	Bratislavia unidentata	9	9	CG	
Haplotaxida	Tubificidae	Chaetogaster sp	6	9	CG	
Haplotaxida	Tubificidae	Dero digitata	10	9	CG	
Haplotaxida	Tubificidae	Dero furcata	9	9	CG	
Haplotaxida	Tubificidae	Dero nivea	10	9	CG	
Haplotaxida	Tubificidae	Dero sp	9	9	CG	
Haplotaxida	Tubificidae	Dero trifida	8	9	CG	
Haplotaxida	Tubificidae	Haemonais waldvogeli	9.5	9	CG	
Haplotaxida	Tubificidae	Ilyodrilus templetoni	9.26	9	CG	
Haplotaxida	Tubificidae	Limnodrilus cervix	9	9	CG	
Haplotaxida	Tubificidae	Limnodrilus claparedeianus	9.6	9	CG	
Haplotaxida	Tubificidae	Limnodrilus hoffmeisteri	9.47	9	CG	
Haplotaxida	Tubificidae	Limnodrilus maumeensis	9	9	CG	
Haplotaxida	Tubificidae	Limnodrilus rubripenis		9	CG	
Haplotaxida	Tubificidae	Limnodrilus sp	9.5	9	CG	
Haplotaxida	Tubificidae	Limnodrilus ukedemianus	9.49	9	CG	
Haplotaxida	Tubificidae	Nais barbata	5	9	CG	
Haplotaxida	Tubificidae	Nais bretscheri	8	9	CG	
Haplotaxida	Tubificidae	Nais communis	8.81	9	CG	
Haplotaxida	Tubificidae	Nais simplex	8.8	9	CG	
Haplotaxida	Tubificidae	Nais sp	8.88	9	CG	
Haplotaxida	Tubificidae	Nais variabilis	8.9	9	CG	
Haplotaxida	Tubificidae	Ophidonais serpentina	7.5	9	CG	
Haplotaxida	Tubificidae	Pristina aequiseta	9	9	CG	
Haplotaxida	Tubificidae	Pristina jenkiniae		9	CG	
Haplotaxida	Tubificidae	Pristina leidyi	9	9	CG	
Haplotaxida	Tubificidae	Pristina longeseta		9	CG	
Haplotaxida	Tubificidae	Pristina longidentata	8	9	CG	

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Haplotaxida	Tubificidae	Pristina longisoma	7.74	9	CG	
Haplotaxida	Tubificidae	Pristina osborni	8	9	CG	
Haplotaxida	Tubificidae	Pristina sp	9.56	9	CG	
Haplotaxida	Tubificidae	Pristina synclites	8	9	CG	
Haplotaxida	Tubificidae	Ripistes parasita	2	9	CG	
Haplotaxida	Tubificidae	Slavina appendiculata	7.06	9	CG	
Haplotaxida	Tubificidae	Slavina sp	7	9	CG	
Haplotaxida	Tubificidae	Spirosperma ferox	7.7	9	CG	
Haplotaxida	Tubificidae	Stephensoniana trivandrana	9.1	9	CG	
Haplotaxida	Tubificidae	Stylaria fossularis	8.5	9	CG	
Haplotaxida	Tubificidae	Stylaria lacustris	8.5	9	CG	
Haplotaxida	Tubificidae	Stylaria sp	8.5	9	CG	
Haplotaxida	Tubificidae	Tubifex sp	10	9	CG	
Haplotaxida	Tubificidae	Tubifex tubifex	10	9	CG	
Haplotaxida	Tubificidae	UIW/OCS sp	9	9	CG	
Haplotaxida	Tubificidae	UIWCS sp	9	9	CG	
Haplotaxida	Tubificidae	Uncinaiis uncinata		9	CG	
Haplotaxida	Tubificidae	Unid. Naidid sp	9.1	9	CG	
Haplotaxida	Tubificidae	Unid. Tubificidae sp	9	9	CG	
Hemiptera	Belostomatidae	Belostoma flumineum	9.8	10	PR	
Hemiptera	Belostomatidae	Belostoma lutarium	9.8	10	PR	
Hemiptera	Belostomatidae	Belostoma sp	9.8	10	PR	
Hemiptera	Belostomatidae	Unid. Belostomatidae sp	10	10	PR	
Hemiptera	Corixidae	Corixini sp	9	9	PH	
Hemiptera	Corixidae	Hesperocorixa brimleyi	9	9	PH	
Hemiptera	Corixidae	Hesperocorixa sp	9	9	PH	
Hemiptera	Corixidae	Palmacorixa sp	9	9	PH	
Hemiptera	Corixidae	Sagara sp	9	9	PH	
Hemiptera	Corixidae	Sigara modesta	9	9	PH	
Hemiptera	Corixidae	Sigara sp	9.06	9	PH	
Hemiptera	Corixidae	Sigara variabilis	9	9	PH	
Hemiptera	Corixidae	Trichocorixa sp	9	9	PR	
Hemiptera	Corixidae	Unid. Corixid sp	9	9	PH	
Hemiptera	Gelastocoridae	Gelastocoris oculatus	9	9	PR	
Hemiptera	Gelastocoridae	Gelastocoris sp		7	PR	
Hemiptera	Gerridae	Aquarius remigeris		9	PR	
Hemiptera	Gerridae	Aquarius sp		9	PR	
Hemiptera	Gerridae	Gerris conformis	9	9	PR	
Hemiptera	Gerridae	Gerris marginatus	9	9	PR	
Hemiptera	Gerridae	Gerris nebularis	9	9	PR	

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Hemiptera	Gerridae	Gerris remigis	9	9	PR	
Hemiptera	Gerridae	Gerris sp	9	9	PR	
Hemiptera	Gerridae	Limnopus canaliculatus	9	9	PR	
Hemiptera	Gerridae	Limnopus sp	9	9	PR	
Hemiptera	Gerridae	Metrobates hesperius	9	9	PR	
Hemiptera	Gerridae	Metrobates sp	9	9	PR	
Hemiptera	Gerridae	Neogerris sp	9	9	PR	
Hemiptera	Gerridae	Rheumatobates rileyi	9	9	PR	
Hemiptera	Gerridae	Rheumatobates sp	9	9	PR	
Hemiptera	Gerridae	Rheumatobates tenuipes	9	9	PR	
Hemiptera	Gerridae	Trepobates imermis	9	9	PR	
Hemiptera	Gerridae	Trepobates pictus	9	9	PR	
Hemiptera	Gerridae	Trepobates sp	9	9	PR	
Hemiptera	Gerridae	Trepobates subnitidus	9	9	PR	
Hemiptera	Gerridae	Unid. Gerrid sp	9	9	PR	
Hemiptera	Hebridae	Hebrus sp		10	PR	skimmer
Hemiptera	Hebridae	Merragata sp	10	10	PR	
Hemiptera	Hydrometridae	Hydrometra australis	9	9	PR	
Hemiptera	Hydrometridae	Hydrometra hungerfordi	9	9	PR	
Hemiptera	Hydrometridae	Hydrometra martini	9	9	PR	
Hemiptera	Hydrometridae	Hydrometra sp	9	9	PR	
Hemiptera	Hydrometridae	Hydrometra wileyae	9	9	PR	
Hemiptera	Mesoveliidae	Mesovelia amoena	9.8	10	PR	
Hemiptera	Mesoveliidae	Mesovelia cryptophila	9.8	10	PR	
Hemiptera	Mesoveliidae	Mesovelia mulsanti	9.8	10	PR	
Hemiptera	Mesoveliidae	Mesovelia sp	9.8	10	PR	
Hemiptera	Nepidae	Nepa apiculata	9	8	PR	
Hemiptera	Nepidae	Nepa sp	9	8	PR	
Hemiptera	Nepidae	Ranatra australis	7.8	8	PR	
Hemiptera	Nepidae	Ranatra buenoi	7.8	8	PR	
Hemiptera	Nepidae	Ranatra fusca	7.8	8	PR	
Hemiptera	Nepidae	Ranatra kirkaldyi	7.8	8	PR	
Hemiptera	Nepidae	Ranatra nigra	7.8	8	PR	
Hemiptera	Nepidae	Ranatra sp	7.82	8	PR	
Hemiptera	Notonectidae	Notonecta irrorata	9	9	PR	
Hemiptera	Notonectidae	Notonecta rahleighi	9	9	PR	
Hemiptera	Notonectidae	Notonecta sp	8.71	9	PR	
Hemiptera	Notonectidae	Unid. Notonectidae sp	9	9	PR	
Hemiptera	Pleidae	Neoplea sp	9	9	PR	
Hemiptera	Pleidae	Neoplea striola	9	9	PR	

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Hemiptera	Pleidae	Paraplea sp	9	9	PR	
Hemiptera	Saldidae	Pentacora sp		9	PR	
Hemiptera	Veliidae	Microvelia americana	9	9	PR	
Hemiptera	Veliidae	Microvelia paludicola	9	9	PR	
Hemiptera	Veliidae	Microvelia sp	9	9	PR	
Hemiptera	Veliidae	Rhagovelia obesa	9	9	PR	
Hemiptera	Veliidae	Rhagovelia sp	9	9	PR	
Hemiptera	Veliidae	Steinovelina sp	9	9	PR	
Hemiptera	Veliidae	Unid. Veliid sp	9	9	PR	
Heterodonta	Sphaeriidae	Musculium lacustre	7.7	7	CF	
Heterodonta	Sphaeriidae	Musculium partumeium	7.7	7	CF	
Heterodonta	Sphaeriidae	Musculium securis	7.7	7	CF	
Heterodonta	Sphaeriidae	Musculium sp	7.7	7	CF	
Heterodonta	Sphaeriidae	Musculium transversum	7.7	7	CF	
Heterodonta	Sphaeriidae	Pisidium dubium	6.5	7	CF	
Heterodonta	Sphaeriidae	Pisidium fallax	6.5	7	CF	
Heterodonta	Sphaeriidae	Pisidium sp	6.48	7	CF	
Heterodonta	Sphaeriidae	Sphaerium fabale	7.6	7	CF	
Heterodonta	Sphaeriidae	Sphaerium occidentale	7.6	7	CF	
Heterodonta	Sphaeriidae	Sphaerium rhomboideum	7.6	7	CF	
Heterodonta	Sphaeriidae	Sphaerium sexmaculatus	7.6	7	CF	
Heterodonta	Sphaeriidae	Sphaerium simile	7.6	7	CF	
Heterodonta	Sphaeriidae	Sphaerium sp	7.58	7	CF	
Heterodonta	Sphaeriidae	Sphaerium striatinum	7.6	7	CF	
Heterodonta	Sphaeriidae	Unid. Sphaeriid sp		7	CF	
Hoploneurata	Prostomidae	Prostoma sp	6.14	8	PR	clinger
Hydracarina	Hydrachnidae	Unid. Hydracarina (mite) sp	5.5	6	PR	
Hydroida	Hydridae	Hydra sp	5	5	CG	
Isopoda	Asellidae	Caecidotea sp	9.11	8	CG	
Isopoda	Asellidae	Lirceus fontinalis	7.85	8	CG	
Isopoda	Asellidae	Lirceus sp	7.85	8	CG	
Isopoda	Asellidae	Unid. Asellidae sp	8	8	CG	
Isopoda	Asellidae	Unid. Isopoda sp	8	8	CG	
Lepidoptera	Nepticulidae	Nepticula sp				
Lepidoptera	Noctuidae	Archanara sp	5	3	SH	
Lepidoptera	Noctuidae	Simyra sp		3	SH	climber
Lepidoptera	Pyralidae	Acentria sp		3	SH	
Lepidoptera	Pyralidae	Crambus sp	5	3	SH	
Lepidoptera	Pyralidae	Munroessa gyralis	5	3	SH	
Lepidoptera	Pyralidae	Munroessa/Synclita sp		3	SH	

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Lepidoptera	Pyralidae	Parapoynx obscuralis	1	3	SH	clinger
Lepidoptera	Pyralidae	Parapoynx sp	3	3	SH	climber
Lepidoptera	Pyralidae	Petrophila confusalis	1.8	3	SC	clinger
Lepidoptera	Pyralidae	Petrophila fulcalis	1.8	3	SC	clinger
Lepidoptera	Pyralidae	Petrophila sp	1.8	3	SH	clinger
Lepidoptera	Pyralidae	Unid. Pyralidae sp	8	3	SH	
Lepidoptera	Tortricidae	Archips sp			SH	burrower/ climber
Lumbriculida	Lumbriculidae	Eclipidrilus palustris		7	CG	
Lumbriculida	Lumbriculidae	Eclipidrilus sp	7.3	7	CG	
Lumbriculida	Lumbriculidae	Lumbriculus sp	7.3	7	CG	
Lumbriculida	Lumbriculidae	Lumbriculus variegatus	7.3	7	CG	
Lumbriculida	Lumbriculidae	Unid. Lumbriculid sp	7.3	7	CG	
Lymnophila	Ancylidae	Ferrissia fragilis	6.55	7	SC	
Lymnophila	Ancylidae	Ferrissia rivularis	6.55	7	SC	
Lymnophila	Ancylidae	Ferrissia sp	6.55	7	SC	
Lymnophila	Ancylidae	Laevapex fuscus	7.49	7	SC	
Lymnophila	Ancylidae	Laevapex sp	7.5	7	SC	
Lymnophila	Ancylidae	Unid. Ancylidae sp	5	7	SC	
Lymnophila	Lymnaeidae	Fossaria sp	7	8	SC	
Lymnophila	Lymnaeidae	Lymnaea sp	7	8	SC	
Lymnophila	Lymnaeidae	Pseudosuccinea columella	7.65	8	SC	
Lymnophila	Lymnaeidae	Radix auricularia	8.5	8	SC	
Lymnophila	Lymnaeidae	Stagnicola sp	8.22	8	SC	
Lymnophila	Lymnaeidae	Unid. Lymnaeid sp	7	8	SC	
Lymnophila	Planorbidae	Gyraulus parvus	7.5	7	SC	
Lymnophila	Planorbidae	Gyraulus sp	7.5	7	SC	
Lymnophila	Planorbidae	Helisoma anceps anceps	6.23	7	SC	
Lymnophila	Planorbidae	Helisoma sp	6.2	7	SC	
Lymnophila	Planorbidae	Helisoma trivolis	6.2	7	SC	
Lymnophila	Planorbidae	Micromenetus dilatatus	8.23	7	SC	
Lymnophila	Planorbidae	Micromenetus sp		7	SC	
Lymnophila	Planorbidae	Planorbella sp	6.82	7	SC	
Lymnophila	Planorbidae	Planorbula sp	6.8	7	SC	
Lymnophila	Planorbidae	Promenetus exacuus	7.5	7	SC	
Lymnophila	Planorbidae	Promenetus sp	7.5	7	SC	
Lymnophila	Planorbidae	Unid. Planorbid sp	7	7	SC	
Megaloptera	Corydalidae	Chauloides pecticornis	9.55	6	PR	clinger
Megaloptera	Corydalidae	Chauloides pectinicornis	9.55	6	PR	clinger
Megaloptera	Corydalidae	Chauloides rastricornis	8.42	6	PR	clinger

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Megaloptera	Corydalidae	Chauloides sp	9.17	6	PR	clinger
Megaloptera	Corydalidae	Corydalus cornutus	5.16	6	PR	clinger
Megaloptera	Corydalidae	Nigronia fasciatus	5.55	6	PR	clinger
Megaloptera	Corydalidae	Nigronia serricornis	4.95	6	PR	clinger
Megaloptera	Corydalidae	Nigronia sp	5.3	6	PR	clinger
Megaloptera	Corydalidae	Unid. Corydalid sp	6	6	PR	
Megaloptera	Sialidae	Sialis aequalis	7.2	8	PR	burrower
Megaloptera	Sialidae	Sialis americana	7.2	8	PR	burrower
Megaloptera	Sialidae	Sialis infumata	7.2	8	PR	
Megaloptera	Sialidae	Sialis iola	7.2	8	PR	burrower
Megaloptera	Sialidae	Sialis itasca	7.2	8	PR	burrower
Megaloptera	Sialidae	Sialis mohri	7.2	8	PR	burrower
Megaloptera	Sialidae	Sialis sp	7.17	8	PR	burrower
Megaloptera	Sialidae	Sialis vagans	7.2	8	PR	burrower
Megaloptera	Sialidae	Sialis velata	7.2	8	PR	burrower
Megaloptera	Sialidae	Unid. Sialid sp	8	8	PR	
Mesogastropoda	Hydrobiidae	Amnicola sp	5.2	6	SC	
Mesogastropoda	Hydrobiidae	Cincinnatia integra	5.7	6	SC	
Mesogastropoda	Hydrobiidae	Somatogyrus integra	6.5	6	SC	
Mesogastropoda	Hydrobiidae	Somatogyrus sp	6.37	6	SC	
Mesogastropoda	Hydrobiidae	Unid. Hydrobiid sp	5.6	6	SC	
Mesogastropoda	Pleuroceridae	Elimia costifera	2.5	3	SC	
Mesogastropoda	Pleuroceridae	Elimia curreyana	2.5	3	SC	
Mesogastropoda	Pleuroceridae	Elimia ebum	2.5	3	SC	
Mesogastropoda	Pleuroceridae	Elimia laqueata costulata	2.5	3	SC	
Mesogastropoda	Pleuroceridae	Elimia laqueata laqueata	2.5	3	SC	
Mesogastropoda	Pleuroceridae	Elimia livescens	2.5	3	SC	
Mesogastropoda	Pleuroceridae	Elimia plicatastriata	2.5	3	SC	
Mesogastropoda	Pleuroceridae	Elimia semicarinata	2.5	3	SC	
Mesogastropoda	Pleuroceridae	Elimia sp	2.46	3	SC	
Mesogastropoda	Pleuroceridae	Leptoxis praerosa	1.6	3	SC	
Mesogastropoda	Pleuroceridae	Leptoxis sp	1.79	3	SC	
Mesogastropoda	Pleuroceridae	Lithasia obovata	3	3	SC	
Mesogastropoda	Pleuroceridae	Lithasia sp	3	3	SC	
Mesogastropoda	Pleuroceridae	Pleurocera acuta	3	3	SC	
Mesogastropoda	Pleuroceridae	Pleurocera canaliculata	3	3	SC	
Mesogastropoda	Pleuroceridae	Pleurocera sp	3	3	SC	
Mesogastropoda	Pleuroceridae	Pleurocera sp 1	3	3	SC	
Mesogastropoda	Pleuroceridae	Unid. Pleuroceridae sp	2.69	3	SC	
Mesogastropoda	Pomatiopsidae	Pomatiopsis cincinnatiensis	5	5	SC	

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Mesogastropoda	Viviparidae	Campeloma crassulum	5	5	SH	
Mesogastropoda	Viviparidae	Campeloma decisum	6.45	5	SH	
Mesogastropoda	Viviparidae	Campeloma integrumd	5	5	SH	
Mesogastropoda	Viviparidae	Campeloma sp	5	5	SH	
Mesogastropoda	Viviparidae	Unid. Viviparid sp	5	5	SC	
Mesogastropoda	Viviparidae	Viviparus sp	5	5	SC	
Neuroptera	Sisyridae	Climacia areolaris	8.4	7	PR	
Neuroptera	Sisyridae	Climacia sp	8.4	7	PR	
Neuroptera	Sisyridae	Sisyra sp	5	7	PR	
Odonata	Aeshnidae	Aeshna sp	7.1	7	PR	
Odonata	Aeshnidae	Aeshna umbrosa	7.1	7	PR	
Odonata	Aeshnidae	Aeshna verticalis	7.1	7	PR	
Odonata	Aeshnidae	Anax junius	7.1	7	PR	
Odonata	Aeshnidae	Anax longipes	7.1	7	PR	
Odonata	Aeshnidae	Anax sp	7.1	7	PR	
Odonata	Aeshnidae	Basiaeschna janata	7.35	7	PR	climber
Odonata	Aeshnidae	Basiaeschna pentacantha	7.7	7	PR	
Odonata	Aeshnidae	Basiaeschna sp	7.7	7	PR	
Odonata	Aeshnidae	Boyeria grafiana	6.05	7	PR	
Odonata	Aeshnidae	Boyeria sp	6	7	PR	
Odonata	Aeshnidae	Boyeria vinosa	5.89	7	PR	
Odonata	Aeshnidae	Nasiaeschna pentacantha	8.14	7	PR	climber
Odonata	Aeshnidae	Nasiaeschna sp	8	7	PR	
Odonata	Aeshnidae	Unid. Aeshnidae sp	7	7	PR	
Odonata	Calopterygidae	Calopteryx angustipennis	7.8	7	PR	
Odonata	Calopterygidae	Calopteryx dimidiata	7.8	7	PR	climber
Odonata	Calopterygidae	Calopteryx maculata	7.8	7	PR	climber
Odonata	Calopterygidae	Calopteryx sp	7.8	7	PR	
Odonata	Calopterygidae	Hetaerina americana	6.2	7	PR	
Odonata	Calopterygidae	Hetaerina sp	5.61	7	PR	
Odonata	Calopterygidae	Hetaerina titia	6.2	7	PR	
Odonata	Calopterygidae	Unid. Calopterygid sp	7	7	PR	
Odonata	Calopterygidae	Unid. Calopterygidae sp	7	7	PR	
Odonata	Coenagrionidae	Amphiagrion saucium	9	9	PR	
Odonata	Coenagrionidae	Anomalagrion hastatum	9	9	PR	
Odonata	Coenagrionidae	Argia apicalis	8.2	9	PR	
Odonata	Coenagrionidae	Argia bipunctulata	8.2	9	PR	
Odonata	Coenagrionidae	Argia fumipennis violacea	8.2	9	PR	climber
Odonata	Coenagrionidae	Argia moesta	8.2	9	PR	
Odonata	Coenagrionidae	Argia sedula	8.46	9	PR	

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Odonata	Coenagrionidae	Argia sp	8.17	9	PR	
Odonata	Coenagrionidae	Argia tibialis	8.2	9	PR	
Odonata	Coenagrionidae	Argia translata	8.2	9	PR	
Odonata	Coenagrionidae	Enallagma basidens	8.9	9	PR	
Odonata	Coenagrionidae	Enallagma civile	8.9	9	PR	
Odonata	Coenagrionidae	Enallagma daeckii	8.9	9	PR	climber
Odonata	Coenagrionidae	Enallagma divagans	8.9	9	PR	climber
Odonata	Coenagrionidae	Enallagma dubium	8.9	9	PR	climber
Odonata	Coenagrionidae	Enallagma exsulans	8.9	9	PR	
Odonata	Coenagrionidae	Enallagma geminatum	8.9	9	PR	
Odonata	Coenagrionidae	Enallagma pallidum	8.9	9	PR	climber
Odonata	Coenagrionidae	Enallagma sexsulans	8.9	9	PR	
Odonata	Coenagrionidae	Enallagma signatum	8.9	9	PR	climber
Odonata	Coenagrionidae	Enallagma sp	8.91	9	PR	
Odonata	Coenagrionidae	Enallagma sulcatum	8.9	9	PR	
Odonata	Coenagrionidae	Enallagma traviatum	8.9	9	PR	
Odonata	Coenagrionidae	Enallagma vesperum	8.9	9	PR	climber
Odonata	Coenagrionidae	Ischnura kellicotti	9.5	9	PR	
Odonata	Coenagrionidae	Ischnura posita	9.5	9	PR	climber
Odonata	Coenagrionidae	Ischnura prognatha	9.5	9	PR	
Odonata	Coenagrionidae	Ischnura ramburi	9.5	9	PR	climber
Odonata	Coenagrionidae	Ischnura sp	9.52	9	PR	
Odonata	Coenagrionidae	Ischnura verticalis	9.5	9	PR	
Odonata	Coenagrionidae	Nahalennia irene		9	PR	
Odonata	Coenagrionidae	Unid. Coenagrionid sp	9	9	PR	
Odonata	Cordulegastridae	Cordulegaster erronea	5.7	6	PR	
Odonata	Cordulegastridae	Cordulegaster fasciata	5.7	6	PR	
Odonata	Cordulegastridae	Cordulegaster maculata	5.7	6	PR	burrower
Odonata	Cordulegastridae	Cordulegaster obliqua	5.7	6	PR	
Odonata	Cordulegastridae	Cordulegaster sp	5.73	6	PR	
Odonata	Corduliidae	Macromia annulata	6.2	7	PR	sprawler
Odonata	Corduliidae	Didymops sp	5.9	7	PR	
Odonata	Corduliidae	Didymops transversa	5.9	7	PR	sprawler
Odonata	Corduliidae	Epicordulia princeps	5.6	7	PR	
Odonata	Corduliidae	Helocordulia selysii	5.9	7	PR	
Odonata	Corduliidae	Helocordulia sp	4.83	7	PR	
Odonata	Corduliidae	Helocordulia uhleri	4.86	7	PR	
Odonata	Corduliidae	Macromia alleghaniensis	6.2	7	PR	
Odonata	Corduliidae	Macromia illinoiensis/georgina	6.2	7	PR	

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Odonata	Corduliidae	Macromia illinoensis/illinoensis	6.2	7	PR	
Odonata	Corduliidae	Macromia sp	6.16	7	PR	
Odonata	Corduliidae	Macromia taeniolata	6.2	7	PR	sprawler
Odonata	Corduliidae	Neurocordulia alabamensis	5.4	7	PR	
Odonata	Corduliidae	Neurocordulia molesta	1.8	7	PR	
Odonata	Corduliidae	Neurocordulia obsoleta	5.15	7	PR	
Odonata	Corduliidae	Neurocordulia sp	5.03	7	PR	
Odonata	Corduliidae	Neurocordulia virginensis	2.05	7	PR	
Odonata	Corduliidae	Neurocordulia yamaskanensis		7	PR	
Odonata	Corduliidae	Somatochlora provocans	9.15	7	PR	
Odonata	Corduliidae	Somatochlora sp	9.15	7	PR	
Odonata	Corduliidae	Somatochlora tenebrosa	9.15	7	PR	
Odonata	Corduliidae	Unid. Corduliid sp	6.6	7	PR	
Odonata	Gomphidae	Dromogomphus armatus	5.9	6	PR	
Odonata	Gomphidae	Dromogomphus sp	5.92	6	PR	
Odonata	Gomphidae	Dromogomphus spinosus	5.9	6	PR	
Odonata	Gomphidae	Dromogomphus spoliatus	5.9	6	PR	
Odonata	Gomphidae	Erpetogomphus designatus	6.3	6	PR	
Odonata	Gomphidae	Gomphus abbreviatus	5.8	6	PR	
Odonata	Gomphidae	Gomphus borealis	5.8	6	PR	
Odonata	Gomphidae	Gomphus cavillaris	5.8	6	PR	
Odonata	Gomphidae	Gomphus descriptus	5.8	6	PR	
Odonata	Gomphidae	Gomphus dilatatus	5.8	6	PR	
Odonata	Gomphidae	Gomphus externus	5.8	6	PR	
Odonata	Gomphidae	Gomphus fraternus	5.8	6	PR	
Odonata	Gomphidae	Gomphus hybridus		6	PR	burrower
Odonata	Gomphidae	Gomphus lineatifrons	5.8	6	PR	
Odonata	Gomphidae	Gomphus lividus	5.8	6	PR	
Odonata	Gomphidae	Gomphus notatus	5.8	6	PR	
Odonata	Gomphidae	Gomphus pallidus	5.8	6	PR	
Odonata	Gomphidae	Gomphus quadricolor		6	PR	
Odonata	Gomphidae	Gomphus rogersi	5.8	6	PR	
Odonata	Gomphidae	Gomphus sp	5.8	6	PR	
Odonata	Gomphidae	Gomphus spiniceps	5.8	6	PR	
Odonata	Gomphidae	Gomphus vastus	5.8	6	PR	
Odonata	Gomphidae	Gomphus viridifrons	5.8	6	PR	
Odonata	Gomphidae	Hagenius brevistylus	3.99	6	PR	
Odonata	Gomphidae	Hagenius sp	4	6	PR	
Odonata	Gomphidae	Lanthus parvulus	1.8	6	PR	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Odonata	Gomphidae	Lanthus sp	1.77	6	PR	
Odonata	Gomphidae	Lanthus vernalis	1.8	6	PR	
Odonata	Gomphidae	Ophiogomphus carolinus	5.5	6	PR	
Odonata	Gomphidae	Ophiogomphus mainensis	5.5	6	PR	
Odonata	Gomphidae	Ophiogomphus rupinsulensis	5.5	6	PR	
Odonata	Gomphidae	Ophiogomphus sp	5.54	6	PR	
Odonata	Gomphidae	Progomphus obscurus	8.22	6	PR	burrower
Odonata	Gomphidae	Progomphus sp	8.7	6	PR	
Odonata	Gomphidae	Stylogomphus albistylus	4.72	6	PR	
Odonata	Gomphidae	Stylogomphus sigmastylus	4.7	6	PR	
Odonata	Gomphidae	Stylogomphus sp		6	PR	
Odonata	Gomphidae	Stylurus laurae		6	PR	
Odonata	Gomphidae	Stylurus sp	6.2	6	PR	
Odonata	Gomphidae	Stylurus spiniceps	6.2	6	PR	
Odonata	Gomphidae	Unid. Gomphid sp	6	6	PR	
Odonata	Lestidae	Archilestes grandis	8	9	PR	
Odonata	Lestidae	Lestes sp	9.42	9	PR	
Odonata	Libellulidae	Celithemis amanda	9	9	PR	
Odonata	Libellulidae	Celithemis elisa	9	9	PR	
Odonata	Libellulidae	Erythemis simplicicollis	9.72	9	PR	sprawler
Odonata	Libellulidae	Erythrodiplax berenice	9	9	PR	
Odonata	Libellulidae	Erythrodiplax sp	9	9	PR	
Odonata	Libellulidae	Libellula auripennis	9.6	9	PR	
Odonata	Libellulidae	Libellula insecta	9.6	9	PR	
Odonata	Libellulidae	Libellula luctuosa	9.6	9	PR	
Odonata	Libellulidae	Libellula needhami	9.6	9	PR	
Odonata	Libellulidae	Libellula pulchella	9.6	9	PR	
Odonata	Libellulidae	Libellula semifasciata	9.6	9	PR	
Odonata	Libellulidae	Libellula sp	9.64	9	PR	
Odonata	Libellulidae	Libellula vibrans	9.6	9	PR	
Odonata	Libellulidae	Nannothemis bella	9	9	PR	sprawler
Odonata	Libellulidae	Pachydiplax longipennis	9.86	9	PR	sprawler
Odonata	Libellulidae	Perithemis sp	9.85	9	PR	
Odonata	Libellulidae	Perithemis tenera	9.85	9	PR	sprawler
Odonata	Libellulidae	Plathemis lydia	10	9	PR	sprawler
Odonata	Libellulidae	Sympetrum ambiguum	7.3	9	PR	
Odonata	Libellulidae	Sympetrum sp	7.29	9	PR	
Odonata	Libellulidae	Sympetrum vicinum	7.3	9	PR	
Odonata	Libellulidae	Tetragoneuria cynosura		9	PR	
Odonata	Libellulidae	Tetragoneuria sp	9	9	PR	

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Odonata	Libellulidae	Tetragoneuria spinosa	9	9	PR	
Odonata	Libellulidae	Tramea carolina	9.8	9	PR	
Odonata	Libellulidae	Unid. Libellulid sp	9.1	9	PR	
Pelecypoda	Corbiculidae	Corbicula fluminea	6.12	6	CF	
Pelecypoda	Dreissenidae	Dreissena polymorpha	5	5	CF	
Pelecypoda	Unionidae	Actinonaias ligamentina	5	4	CF	
Pelecypoda	Unionidae	Actinonaias pectorosa	1	4	CF	
Pelecypoda	Unionidae	Alasmidonta atropurpurea	1	4	CF	
Pelecypoda	Unionidae	Alasmidonta marginata	3	4	CF	
Pelecypoda	Unionidae	Alasmidonta viridis	3	4	CF	
Pelecypoda	Unionidae	Amblema plicata	5	4	CF	
Pelecypoda	Unionidae	Anodonta suborbiculata	5	4	CF	
Pelecypoda	Unionidae	Anodontooides ferussacianus	3	4	CF	
Pelecypoda	Unionidae	Arcidens confragosus	3	4	CF	
Pelecypoda	Unionidae	Cumberlandia monodonta	1	4	CF	
Pelecypoda	Unionidae	Cyclonaias tuberculata	5	4	CF	
Pelecypoda	Unionidae	Cyprogenia stegaria	1	4	CF	
Pelecypoda	Unionidae	Dromus dromas	1	4	CF	
Pelecypoda	Unionidae	Ellipsaria lineolata	3	4	CF	
Pelecypoda	Unionidae	Elliptio crassidens	5	4	CF	
Pelecypoda	Unionidae	Elliptio dilatata	5	4	CF	
Pelecypoda	Unionidae	Epioblasma arcaeformis	1	4	CF	
Pelecypoda	Unionidae	Epioblasma biemarginata	1	4	CF	
Pelecypoda	Unionidae	Epioblasma brevidens	1	4	CF	
Pelecypoda	Unionidae	Epioblasma capsaeformis	1	4	CF	
Pelecypoda	Unionidae	Epioblasma flexuosa	1	4	CF	
Pelecypoda	Unionidae	Epioblasma florentina florentina	1	4	CF	
Pelecypoda	Unionidae	Epioblasma florentina walkeri	1	4	CF	
Pelecypoda	Unionidae	Epioblasma haysiana	1	4	CF	
Pelecypoda	Unionidae	Epioblasma lewisii	1	4	CF	
Pelecypoda	Unionidae	Epioblasma obliquata obliquata	1	4	CF	
Pelecypoda	Unionidae	Epioblasma obliquata perobliqua	1	4	CF	
Pelecypoda	Unionidae	Epioblasma personata	1	4	CF	
Pelecypoda	Unionidae	Epioblasma propinqua	1	4	CF	
Pelecypoda	Unionidae	Epioblasma sampsonii	1	4	CF	
Pelecypoda	Unionidae	Epioblasma stewardsonii	1	4	CF	
Pelecypoda	Unionidae	Epioblasma torulosa rangiana	1	4	CF	
Pelecypoda	Unionidae	Epioblasma torulosa torulosa	1	4	CF	
Pelecypoda	Unionidae	Epioblasma triquetra	1	4	CF	
Pelecypoda	Unionidae	Fusconaia ebena	5	4	CF	

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Pelecypoda	Unionidae	Fusconaia flava	5	4	CF	
Pelecypoda	Unionidae	Fusconaia subrotunda	1	4	CF	
Pelecypoda	Unionidae	Glebula rotundata	3	4	CF	
Pelecypoda	Unionidae	Lampsilis abrupta	1	4	CF	
Pelecypoda	Unionidae	Lampsilis cardium	3	4	CF	
Pelecypoda	Unionidae	Lampsilis fasciola	3	4	CF	
Pelecypoda	Unionidae	Lampsilis ovata	1	4	CF	
Pelecypoda	Unionidae	Lampsilis siliquoidea	5	4	CF	
Pelecypoda	Unionidae	Lampsilis teres	3	4	CF	
Pelecypoda	Unionidae	Lasmigona complanata complanata	3	4	CF	
Pelecypoda	Unionidae	Lasmigona compressa	3	4	CF	
Pelecypoda	Unionidae	Lasmigona costata	5	4	CF	
Pelecypoda	Unionidae	Lasmigona subviridis	3	4	CF	
Pelecypoda	Unionidae	Leptodea fragilis	5	4	CF	
Pelecypoda	Unionidae	Leptodea leptodon	1	4	CF	
Pelecypoda	Unionidae	Lexingtonia dolabelloides	1	4	CF	
Pelecypoda	Unionidae	Ligumia recta	3	4	CF	
Pelecypoda	Unionidae	Ligumia subrostrata	3	4	CF	
Pelecypoda	Unionidae	Medionidus conradicus	1	4	CF	
Pelecypoda	Unionidae	Megaloniaias nervosa	5	4	CF	
Pelecypoda	Unionidae	Obliquaria reflexa	1	4	CF	
Pelecypoda	Unionidae	Obovaria olivaria	1	4	CF	
Pelecypoda	Unionidae	Obovaria retusa	1	4	CF	
Pelecypoda	Unionidae	Obovaria subrotunda	1	4	CF	
Pelecypoda	Unionidae	Pegias fabula	1	4	CF	
Pelecypoda	Unionidae	Plectomerus dombeyanus	1	4	CF	
Pelecypoda	Unionidae	Plethobasus cicatricosus	1	4	CF	
Pelecypoda	Unionidae	Plethobasus cooperianus	1	4	CF	
Pelecypoda	Unionidae	Plethobasus cyphus	3	4	CF	
Pelecypoda	Unionidae	Pleurobema clava	1	4	CF	
Pelecypoda	Unionidae	Pleurobema coccineum	1	4	CF	
Pelecypoda	Unionidae	Pleurobema cordatum	5	4	CF	
Pelecypoda	Unionidae	Pleurobema oviforme	1	4	CF	
Pelecypoda	Unionidae	Pleurobema plenum	1	4	CF	
Pelecypoda	Unionidae	Pleurobema rubrum	1	4	CF	
Pelecypoda	Unionidae	Pleurobema sintoxia	1	4	CF	
Pelecypoda	Unionidae	Potamilus alatus	5	4	CF	
Pelecypoda	Unionidae	Potamilus capax	1	4	CF	
Pelecypoda	Unionidae	Potamilus ohioensis	3	4	CF	

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Pelecypoda	Unionidae	Potamilus purpuratus	3	4	CF	
Pelecypoda	Unionidae	Ptychobranhus fasciolaris	5	4	CF	
Pelecypoda	Unionidae	Ptychobranhus subtentum	1	4	CF	
Pelecypoda	Unionidae	Pyganodon grandis	5	4	CF	
Pelecypoda	Unionidae	Quadrula apiculata	1	4	CF	
Pelecypoda	Unionidae	Quadrula cylindrica	1	4	CF	
Pelecypoda	Unionidae	Quadrula fragosa	1	4	CF	
Pelecypoda	Unionidae	Quadrula metanevra	3	4	CF	
Pelecypoda	Unionidae	Quadrula nodulata	3	4	CF	
Pelecypoda	Unionidae	Quadrula pustulosa	5	4	CF	
Pelecypoda	Unionidae	Quadrula quadrula	5	4	CF	
Pelecypoda	Unionidae	Quadrula sparsa	1	4	CF	
Pelecypoda	Unionidae	Simpsonaias ambigua	1	4	CF	
Pelecypoda	Unionidae	Strophitus undulatus	3	4	CF	
Pelecypoda	Unionidae	Toxolasma lividus	3	4	CF	
Pelecypoda	Unionidae	Toxolasma parvus	5	4	CF	
Pelecypoda	Unionidae	Toxolasma texasiensis	5	4	CF	
Pelecypoda	Unionidae	Tritogonia verrucosa	5	4	CF	
Pelecypoda	Unionidae	Truncilla donaciformis	3	4	CF	
Pelecypoda	Unionidae	Truncilla truncata	3	4	CF	
Pelecypoda	Unionidae	Unid. Unionidae sp		4	CF	
Pelecypoda	Unionidae	Uniomerus tetralasmus	5	4	CF	
Pelecypoda	Unionidae	Utterbackia imbecillis	5	4	CF	
Pelecypoda	Unionidae	Villosa fabalis	1	4	CF	
Pelecypoda	Unionidae	Villosa iris	3	4	CF	
Pelecypoda	Unionidae	Villosa lienosa	3	4	CF	
Pelecypoda	Unionidae	Villosa ortmanni	3	4	CF	
Pelecypoda	Unionidae	Villosa taeniata	5	4	CF	
Pelecypoda	Unionidae	Villosa trabalis	1	4	CF	
Pelecypoda	Unionidae	Villosa vanuxemensis	3	4	CF	
Pharyngobdellidae	Erpobdellidae	Mooreobdella melanostoma	7.8	8	CG	
Pharyngobdellida	Eropolellidae	Erpobdella sp	8.33	8	CG	
Pharyngobdellida	Erpobdellidae	Dina anocolata	8.2	8	PC	
Pharyngobdellida	Erpobdellidae	Dina parva	8.2	8	CG	
Pharyngobdellida	Erpobdellidae	Erpobdella punctata	7.8	8	CG	
Pharyngobdellida	Erpobdellidae	Mooreobdella fervida	7.8	8	CG	
Pharyngobdellida	Erpobdellidae	Mooreobdella microstoma	7.8	8	CG	
Pharyngobdellida	Erpobdellidae	Mooreobdella sp	7.8	8	CG	
Pharyngobdellida	Erpobdellidae	Unid. Erpobdellid sp	8.2	8	CG	
Plecoptera	Capniidae	Allocaenia forbesi	2.52	3	SH	

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Plecoptera	Capniidae	Allocaupnia rickeri	2.52	3	SH	
Plecoptera	Capniidae	Allocaupnia sp	2.52	3	SH	
Plecoptera	Capniidae	Allocaupnia vivipara	2.52	3	SH	
Plecoptera	Capniidae	Neocaupnia carolina	1.5	3	SH	
Plecoptera	Capniidae	Paracaupnia angulata	0.12	3	SH	
Plecoptera	Capniidae	Paracaupnia sp	0.12	3	SH	
Plecoptera	Capniidae	Unid. Capniid sp	2.8	3	SH	
Plecoptera	Chloroperlidae	Alloperla sp	1.22	1	PR	clinger
Plecoptera	Chloroperlidae	Haploperla brevis	0.98	1	PR	clinger
Plecoptera	Chloroperlidae	Haploperla sp		1	PR	
Plecoptera	Chloroperlidae	Sweltsa sp	0	1	PR	clinger
Plecoptera	Chloroperlidae	Unid. Chloroperlid sp	0.8	1	PR	clinger
Plecoptera	Leuctridae	Leuctra sp	0.67	1	SH	sprawler
Plecoptera	Leuctridae	Megaleuctra sp	1	1	SH	sprawler
Plecoptera	Leuctridae	Paraleuctra sara	2.8	1	SH	
Plecoptera	Leuctridae	Paraleuctra sp	2.8	1	SH	sprawler
Plecoptera	Leuctridae	Unid. Leuctrid sp	1	1	SH	sprawler
Plecoptera	Leuctridae	Zealeuctra claasseni	1	1	SH	sprawler
Plecoptera	Leuctridae	Zealeuctra sp		1	SH	
Plecoptera	Nemouridae	Amphinemura delosa	3.33	4	SH	sprawler
Plecoptera	Nemouridae	Amphinemura nigritta	3.33	4	SH	sprawler
Plecoptera	Nemouridae	Amphinemura sp	3.33	4	SH	sprawler
Plecoptera	Nemouridae	Amphinemura wui	3.33	4	SH	sprawler
Plecoptera	Nemouridae	Ostrocerca sp	2.5	4	SH	
Plecoptera	Nemouridae	Paranemura perfecta	2	4	SH	sprawler
Plecoptera	Nemouridae	Prostoia sp	5.78	4	SH	sprawler
Plecoptera	Nemouridae	Soyedina vallicularia	0	4	SH	
Plecoptera	Nemouridae	Unid. Nemourid sp	4.5	4	SH	sprawler
Plecoptera	Peltoperlidae	Peltoperla arcuata	1	2	SH	clinger
Plecoptera	Peltoperlidae	Peltoperla sp	1	2	SH	clinger
Plecoptera	Peltoperlidae	Tallaperla sp	1.2	2	SH	clinger
Plecoptera	Perlidae	Acroneuria abnormis	2.06	2	PR	clinger
Plecoptera	Perlidae	Acroneuria arenosa	1.4	2	PR	clinger
Plecoptera	Perlidae	Acroneuria carolinensis	0	2	PR	clinger
Plecoptera	Perlidae	Acroneuria evoluta	1.4	2	PR	clinger
Plecoptera	Perlidae	Acroneuria frisoni	4	2	PR	clinger
Plecoptera	Perlidae	Acroneuria internata	1.4	2	PR	clinger
Plecoptera	Perlidae	Acroneuria lycorias	2.12	2	PR	clinger
Plecoptera	Perlidae	Acroneuria mela	0.89	2	PR	clinger
Plecoptera	Perlidae	Acroneuria perplexa	1.4	2	PR	clinger

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Plecoptera	Perlidae	Acroneuria sp	1.4	2	PR	clinger
Plecoptera	Perlidae	Agnetina capitata	0	2	PR	clinger
Plecoptera	Perlidae	Agnetina flavescens	3	2	PR	clinger
Plecoptera	Perlidae	Agnetina sp	1.5	2	PR	
Plecoptera	Perlidae	Attaneuria ruralis	3	2	PR	clinger
Plecoptera	Perlidae	Beloneuria sp	0	2	PR	clinger
Plecoptera	Perlidae	Eccoptura xanthenes	3.74	2	PR	clinger
Plecoptera	Perlidae	Neoperla sp	5	2	PR	clinger
Plecoptera	Perlidae	Paragnetina immarginata	1.38	2	PR	clinger
Plecoptera	Perlidae	Paragnetina kansensis	1.99	2	PR	clinger
Plecoptera	Perlidae	Paragnetina media	1.8	2	PR	clinger
Plecoptera	Perlidae	Paragnetina sp	1.54	2	PR	clinger
Plecoptera	Perlidae	Perlesta sp	4.7	2	PR	clinger
Plecoptera	Perlidae	Unid. Perlid sp	3	2	PR	clinger
Plecoptera	Perlodidae	Clioperla clio	4.72	2	PR	clinger
Plecoptera	Perlodidae	Cultus decisus	1.57	2	PR	clinger
Plecoptera	Perlodidae	Diploperla duplicata	2.68	2	PR	clinger
Plecoptera	Perlodidae	Diploperla robusta	2.7	2	PR	clinger
Plecoptera	Perlodidae	Diploperla sp		2	PR	clinger
Plecoptera	Perlodidae	Isoperla bilineata	5.44	2	PR	clinger
Plecoptera	Perlodidae	Isoperla cotta	2.2	2	SC	clinger
Plecoptera	Perlodidae	Isoperla holochlora	0	2	PR	clinger
Plecoptera	Perlodidae	Isoperla lata	0	2	PR	clinger
Plecoptera	Perlodidae	Isoperla nana	1.8	2	PR	clinger
Plecoptera	Perlodidae	Isoperla similis	0.2	2	PR	clinger
Plecoptera	Perlodidae	Isoperla sp	1.8	2	PR	clinger
Plecoptera	Perlodidae	Malirekus hastatus	1.15	2	PR	clinger
Plecoptera	Perlodidae	Malirekus sp	1.15	2	PR	clinger
Plecoptera	Perlodidae	Remenus bilobatus	0.28	2	PR	clinger
Plecoptera	Perlodidae	Unid. Perlodid sp	2	2	PR	clinger
Plecoptera	Perlodidae	Yugus kirchneri	0	2	PR	clinger
Plecoptera	Perlodidae	Yugus sp	0	2	PR	clinger
Plecoptera	Pteronarcyidae	Pteronacys comstocki	1.7	2	SH	clinger
Plecoptera	Pteronarcyidae	Pteronarcys biloba	1.7	2	SH	clinger
Plecoptera	Pteronarcyidae	Pteronarcys dorsata	1.76	2	SH	clinger
Plecoptera	Pteronarcyidae	Pteronarcys proteus	1.7	2	SH	clinger
Plecoptera	Pteronarcyidae	Pteronarcys sp	1.67	2	SH	clinger
Plecoptera	Taeniopterygidae	Strophopteryx appalachia	2.5	5	SC	sprawler
Plecoptera	Taeniopterygidae	Strophopteryx fasciata	2.5	5	SC	sprawler
Plecoptera	Taeniopterygidae	Strophopteryx sp	2.7	5	SC	sprawler

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Plecoptera	Taeniopterygidae	Taenionema atlanticum	5	5	SH	sprawler
Plecoptera	Taeniopterygidae	Taeniopteryx burksi	6.12	5	SH	sprawler
Plecoptera	Taeniopterygidae	Taeniopteryx metequi	1.42	5	SH	sprawler
Plecoptera	Taeniopterygidae	Taeniopteryx sp	5.37	5	SH	sprawler
Rhynchobdellida	Glossiphoniidae	Batracobdella phalera	7.61	8	PC	
Rhynchobdellida	Glossiphoniidae	Desserobdella phalera	8.5	8	PC	
Rhynchobdellida	Glossiphoniidae	Gloiobdella elongata		8	CG	
Rhynchobdellida	Glossiphoniidae	Helobdella elongata	9.47	8	PC	
Rhynchobdellida	Glossiphoniidae	Helobdella fusca	8.2	8	PC	
Rhynchobdellida	Glossiphoniidae	Helobdella papillata	8.2	8	PC	
Rhynchobdellida	Glossiphoniidae	Helobdella sp	8.2	8	PC	
Rhynchobdellida	Glossiphoniidae	Helobdella stagnalis	8.63	8	PC	
Rhynchobdellida	Glossiphoniidae	Helobdella transversa	8.2	8	PC	
Rhynchobdellida	Glossiphoniidae	Helobdella triserialis	9.2	8	PC	
Rhynchobdellida	Glossiphoniidae	Oligobdella biannulata	8.2	8	PC	
Rhynchobdellida	Glossiphoniidae	Placobdella montifera	8.2	8	PC	
Rhynchobdellida	Glossiphoniidae	Placobdella multilineata	8.2	8	PC	
Rhynchobdellida	Glossiphoniidae	Placobdella ornata	8.2	8	PC	
Rhynchobdellida	Glossiphoniidae	Placobdella papillifera	8.96	8	PC	
Rhynchobdellida	Glossiphoniidae	Placobdella parasitica	8.69	8	PC	
Rhynchobdellida	Glossiphoniidae	Placobdella sp	9	8	PC	
Rhynchobdellida	Glossiphoniidae	Unid. Glossiphoniid sp	8.2	8	PC	
Rhynchobdellida	Piscicolidae	Myzobdella lugubris	8.2	8	PC	
Rhynchobdellida	Piscicolidae	Piscicola punctata	8.2	8	PC	
Rhynchobdellida	Piscicolidae	Piscicolaria reducta	8.2	8	PC	
Trichoptera	Brachycentridae	Brachycentrus nigrosoma	2.33	1	CF	clinger
Trichoptera	Brachycentridae	Brachycentrus numerosus	1.74	1	CG	clinger
Trichoptera	Brachycentridae	Brachycentrus sp	2.08	1	CG	clinger
Trichoptera	Brachycentridae	Micrasema charonis	0.75	1	SH	clinger
Trichoptera	Brachycentridae	Micrasema rusticum	0	1	SH	clinger
Trichoptera	Brachycentridae	Micrasema sp	1	1	SH	clinger
Trichoptera	Brachycentridae	Micrasema wataga	2.6	1	CG	clinger
Trichoptera	Brachycentridae	Unid. Brachycentrid	2.2	1	CF	
Trichoptera	Calamoceratidae	Anisocentropus pyraloides	0.85	1	SH	
Trichoptera	Calamoceratidae	Heteroplectron americanum	3.23	1	SH	sprawler
Trichoptera	Dipsuedopsidae	Phylocentropus carolinus	5.6	4	CF	
Trichoptera	Dipsuedopsidae	Phylocentropus placidus	3.5	4	CF	clinger
Trichoptera	Dipsuedopsidae	Phylocentropus sp	4.5	4	CF	
Trichoptera	Glossosomatidae	Agapetus hessi	0	1	SC	clinger
Trichoptera	Glossosomatidae	Agapetus illini	3	1	SC	clinger

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Trichoptera	Glossosomatidae	Agapetus sp	0	1	SC	clinger
Trichoptera	Glossosomatidae	Glossosoma intermedium	1.55	1	SC	clinger
Trichoptera	Glossosomatidae	Glossosoma nigrior	1.55	1	SC	clinger
Trichoptera	Glossosomatidae	Glossosoma sp	1.55	1	SC	clinger
Trichoptera	Glossosomatidae	Matrioptila jeanae	0	1	SC	clinger
Trichoptera	Glossosomatidae	Protoptila maculata	2.6	1	SC	clinger
Trichoptera	Glossosomatidae	Protoptila palina	2.6	1	SC	clinger
Trichoptera	Glossosomatidae	Protoptila sp	2.55	1	SC	clinger
Trichoptera	Glossosomatidae	Unid. Glossosomatidae sp	1.42	1	SC	
Trichoptera	Helicopsychidae	Helicopsyche borealis	5	5	SC	clinger
Trichoptera	Helicopsychidae	Helicopsyche sp	5	5	SC	clinger
Trichoptera	Helicopsychidae	Unid. Helicopsychidae sp	5	5	SC	
Trichoptera	Hydropsychidae	Ceratopsyche alhedra	0	4	CF	clinger
Trichoptera	Hydropsychidae	Ceratopsyche bifida	1	4	CF	clinger
Trichoptera	Hydropsychidae	Ceratopsyche bronta	2.7	4	CF	clinger
Trichoptera	Hydropsychidae	Ceratopsyche cheilonis	1.4	4	CF	clinger
Trichoptera	Hydropsychidae	Ceratopsyche morosa	3.2	4	CF	clinger
Trichoptera	Hydropsychidae	Ceratopsyche slossonae	0	4	CF	clinger
Trichoptera	Hydropsychidae	Ceratopsyche sp	1.4	4	CF	clinger
Trichoptera	Hydropsychidae	Ceratopsyche sparna	3.2	4	CF	clinger
Trichoptera	Hydropsychidae	Ceratopsyche ventura	0	4	CF	clinger
Trichoptera	Hydropsychidae	Cheumatopsyche sp	6.22	4	CF	clinger
Trichoptera	Hydropsychidae	Diplectrona metaqui	2	4	CF	clinger
Trichoptera	Hydropsychidae	Diplectrona modesta	2.21	4	CF	clinger
Trichoptera	Hydropsychidae	Diplectrona sp	4	4	CF	
Trichoptera	Hydropsychidae	Homoplectra doringa	3	4	CF	clinger
Trichoptera	Hydropsychidae	Homoplectra sp		4	CF	
Trichoptera	Hydropsychidae	Hydropsyche betteni gp	7.78	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsyche bidens	4	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsyche cuanis	5	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsyche demora	2.06	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsyche depravata	4	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsyche dicantha	4	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsyche frisoni	4	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsyche hageni	5	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsyche orris	4	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsyche patera	4	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsyche phalerata	3.62	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsyche simulans	4	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsyche sp	4	4	CF	clinger

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Trichoptera	Hydropsychidae	Hydropsyche valanis	4	4	CF	clinger
Trichoptera	Hydropsychidae	Hydropsychidae (pupa)	4	4	CF	clinger
Trichoptera	Hydropsychidae	Macrostemum sp	3.6	4	CF	clinger
Trichoptera	Hydropsychidae	Macrostemum zebratum	3.6	4	CF	clinger
Trichoptera	Hydropsychidae	Paraspyche cardis	0	4	CF	clinger
Trichoptera	Hydropsychidae	Potamyia flava	5	4	CF	clinger
Trichoptera	Hydropsychidae	Unid. Hydropsychidae sp	4	4	CG	
Trichoptera	Hydroptilidae	Agraylea multipunctata	5.9	3	PH	clinger
Trichoptera	Hydroptilidae	Agraylea sp	5.9	3	PH	clinger
Trichoptera	Hydroptilidae	Dibusa angata	3	3	SH	clinger
Trichoptera	Hydroptilidae	Hydroptila sp	6.22	3	PH	clinger
Trichoptera	Hydroptilidae	Ithytrichia sp	3	3	SC	clinger
Trichoptera	Hydroptilidae	Leucotrichia pictipes	4.06	3	SC	clinger
Trichoptera	Hydroptilidae	Mayatrichia ayama	1	3	SC	clinger
Trichoptera	Hydroptilidae	Neotrichia sp	2	3	SC	clinger
Trichoptera	Hydroptilidae	Ochrotrichia arva	1.5	3	SC	clinger
Trichoptera	Hydroptilidae	Ochrotrichia eliaga	1	3	SC	clinger
Trichoptera	Hydroptilidae	Ochrotrichia reisi	1	3	SC	clinger
Trichoptera	Hydroptilidae	Ochrotrichia shawnee	1	3	SC	clinger
Trichoptera	Hydroptilidae	Ochrotrichia sp	3.95	3	CG	clinger
Trichoptera	Hydroptilidae	Ochrotrichia spinosa	4	3	CG	clinger
Trichoptera	Hydroptilidae	Ochrotrichia tarsalis	3.5	3	SC	clinger
Trichoptera	Hydroptilidae	Ochrotrichia xena	3	3	SC	clinger
Trichoptera	Hydroptilidae	Orthotrichia sp	5	3	CG	clinger
Trichoptera	Hydroptilidae	Oxyethira sp	2.22	3	CG	clinger
Trichoptera	Hydroptilidae	Stactobiella delira	1.5	3	SC	clinger
Trichoptera	Hydroptilidae	Stactobiella palmata	1.5	3	CG	clinger
Trichoptera	Hydroptilidae	Stactobiella sp	1.29	3	CG	clinger
Trichoptera	Hydroptilidae	Unid. Hydroptilid sp	3	3	CG	clinger
Trichoptera	Lepidostomatidae	Lepidostoma sp	0.9	1	SH	
Trichoptera	Lepidostomatidae	Lepidostoma togatum	1	1	SH	
Trichoptera	Lepidostomatidae	Theliopsyche melas	1	1	SC	clinger
Trichoptera	Leptoceridae	Ceraclea ancylus	2.29	4	PR	
Trichoptera	Leptoceridae	Ceraclea cancellata	2.5	4	PR	
Trichoptera	Leptoceridae	Ceraclea diluta	2.3	4	PR	
Trichoptera	Leptoceridae	Ceraclea flava	1	4	PR	
Trichoptera	Leptoceridae	Ceraclea maculata	6.5	4	PR	
Trichoptera	Leptoceridae	Ceraclea neffi	1	4	PR	
Trichoptera	Leptoceridae	Ceraclea punctata	5	4	SC	
Trichoptera	Leptoceridae	Ceraclea sp	2.01	4	PR	clinger

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Trichoptera	Leptoceridae	Ceraclea tarsipunctata	3	4	PR	
Trichoptera	Leptoceridae	Ceraclea transversa	2.54	4	PR	
Trichoptera	Leptoceridae	Mystacides sepulchralis	2.69	4	PR	
Trichoptera	Leptoceridae	Mystacides sp	2.5	4	PR	
Trichoptera	Leptoceridae	Nectopsyche candida	5.46	4	PR	climber
Trichoptera	Leptoceridae	Nectopsyche exquisita	4.1	4	PR	
Trichoptera	Leptoceridae	Nectopsyche pavida	4.14	4	PR	
Trichoptera	Leptoceridae	Nectopsyche sp	2.94	4	PR	
Trichoptera	Leptoceridae	Oecetis avara	5.7	4	PR	
Trichoptera	Leptoceridae	Oecetis cinerascens	5.7	4	PR	
Trichoptera	Leptoceridae	Oecetis ditissa	5.7	4	PR	
Trichoptera	Leptoceridae	Oecetis inconspicua	1.85	4	PR	
Trichoptera	Leptoceridae	Oecetis nocturna	4.1	4	PR	
Trichoptera	Leptoceridae	Oecetis parva	5.7	4	PR	
Trichoptera	Leptoceridae	Oecetis persimilis	4.7	4	PR	
Trichoptera	Leptoceridae	Oecetis sp	4.7	4	PR	
Trichoptera	Leptoceridae	Setodes sp	0	4	SC	
Trichoptera	Leptoceridae	Trienodes abus	4.06	4	PR	
Trichoptera	Leptoceridae	Trienodes cumberlandensis	3.5	4	SC	
Trichoptera	Leptoceridae	Trienodes flavescens	3	4	PR	
Trichoptera	Leptoceridae	Trienodes helo		4	PR	
Trichoptera	Leptoceridae	Trienodes ignitus	4.58	4	PR	
Trichoptera	Leptoceridae	Trienodes injustus	2.47	4	PR	
Trichoptera	Leptoceridae	Trienodes marginatus	4.5	4	PR	
Trichoptera	Leptoceridae	Trienodes melacus		4	PR	
Trichoptera	Leptoceridae	Trienodes nox		4	PR	
Trichoptera	Leptoceridae	Trienodes perna	4.06	4	PR	
Trichoptera	Leptoceridae	Trienodes perna/helo	4.5	4	PR	
Trichoptera	Leptoceridae	Trienodes sp	4.46	4	PR	
Trichoptera	Leptoceridae	Trienodes tardus	4.58	4	PR	
Trichoptera	Leptoceridae	Unid. Leptocerid sp	3.6	4	PR	
Trichoptera	Limnephilidae	Goera sp	0.13	3	SC	
Trichoptera	Limnephilidae	Goera stylata	0.13	3	SC	
Trichoptera	Limnephilidae	Goerita betteni	0.5	3	SC	
Trichoptera	Limnephilidae	Hydatophylax argus	2.17	3	SH	
Trichoptera	Limnephilidae	Ironoquia punctatissima	7.78	3	SH	
Trichoptera	Limnephilidae	Ironoquia sp	7.7	3	SH	
Trichoptera	Limnephilidae	Limnephilus sp		3	SH	
Trichoptera	Limnephilidae	Pseudostenophylax sp	2	3	SC	
Trichoptera	Limnephilidae	Pycnopsyche gentilis	0.57	3	SH	

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Trichoptera	Limnephilidae	Pycnopsyche lepida	2.68	3	SH	
Trichoptera	Limnephilidae	Pycnopsyche sp	2.52	3	SH	
Trichoptera	Limnephilidae	Unid. Limnephilid sp	7.7	3	SH	
Trichoptera	Molannidae	Molanna blenda	2	2	SC	
Trichoptera	Molannidae	Molanna sp	2	2	SC	
Trichoptera	Odontoceridae	Psilotreta labida	0	0	SC	clinger
Trichoptera	Odontoceridae	Psilotreta sp	0	0	SC	clinger
Trichoptera	Philopotamidae	Chimarra sp	2.76	2	CF	clinger
Trichoptera	Philopotamidae	Dolophilodes distinctus	0.8	2	CF	clinger
Trichoptera	Philopotamidae	Dolophilodes sp	0.81	2	CF	clinger
Trichoptera	Philopotamidae	Unid. Philopotamidae sp	2	2	CF	
Trichoptera	Philopotamidae	Wormaldia moesta	0.65	2	CF	clinger
Trichoptera	Philopotamidae	Wormaldia shawnee	0.65	2	CF	clinger
Trichoptera	Philopotamidae	Wormaldia sp	0.65	2	CF	clinger
Trichoptera	Phryganeidae	Phryganea sayi	6	6	SH	
Trichoptera	Phryganeidae	Phryganea sp	6	6	SH	
Trichoptera	Phryganeidae	Ptilostomis postica	6.4	6	SH	
Trichoptera	Phryganeidae	Ptilostomis sp	6.37	6	SH	
Trichoptera	Polycentropodidae	Cernotina sp	4	4	PR	clinger
Trichoptera	Polycentropodidae	Cynellus fraternus	7.34	4	CF	clinger
Trichoptera	Polycentropodidae	Neureclipsis crepuscularis	4.2	4	CF	clinger
Trichoptera	Polycentropodidae	Neureclipsis parvulus	4.2	4	CF	clinger
Trichoptera	Polycentropodidae	Neureclipsis sp	4.19	4	CF	clinger
Trichoptera	Polycentropodidae	Nyctiophylax affinis	0.9	4	PR	clinger
Trichoptera	Polycentropodidae	Nyctiophylax moestus	0.31	4	PR	clinger
Trichoptera	Polycentropodidae	Nyctiophylax sp	0.85	4	PR	clinger
Trichoptera	Polycentropodidae	Polycentropus sp	3.53	4	PR	clinger
Trichoptera	Polycentropodidae	Polycentropus sp1 (short tarsus)	3.5	4	PR	clinger
Trichoptera	Polycentropodidae	Polycentropus sp2 (long tarsus)	3.5	4	PR	clinger
Trichoptera	Polycentropodidae	Unid. Polycentropodid sp	4	4	PR	
Trichoptera	Psychomyiidae	Lype diversa	4.05	3	SC	clinger
Trichoptera	Psychomyiidae	Psychomyia flavida	2.91	3	CG	clinger
Trichoptera	Psychomyiidae	Psychomyia sp	2.47	3	CG	clinger
Trichoptera	Rhyacophilidae	Rhyacophila carolina	1	1	PR	clinger
Trichoptera	Rhyacophilidae	Rhyacophila carpenteri	1	1	PR	clinger
Trichoptera	Rhyacophilidae	Rhyacophila fuscula	1.88	1	PR	clinger
Trichoptera	Rhyacophilidae	Rhyacophila glaberrima	0.8	1	PR	clinger
Trichoptera	Rhyacophilidae	Rhyacophila invaria gp	0	1	PR	clinger
Trichoptera	Rhyacophilidae	Rhyacophila ledra/fenestra	3.86	1	PR	clinger
Trichoptera	Rhyacophilidae	Rhyacophila lobifera	2.5	1	PR	clinger

Order	Family	FinalID	Tol Val	Fam TV	FFG	Habit
Trichoptera	Rhyacophilidae	Rhyacophila minor	0	1	PR	clinger
Trichoptera	Rhyacophilidae	Rhyacophila nigrita	0	1	PR	clinger
Trichoptera	Rhyacophilidae	Rhyacophila sp	0.8	1	PR	clinger
Trichoptera	Rhyacophilidae	Rhyacophila torva	1.59	1	PR	clinger
Trichoptera	Rhyacophilidae	Rhyacophila vibox	0.8	1	PR	clinger
Trichoptera	Rhyacophilidae	Unid. Rhyacophilidae sp	1.19	1	PR	
Trichoptera	Uenoidae	Neophylax autumnus	1.6	2	SC	clinger
Trichoptera	Uenoidae	Neophylax concinnus		2	SC	clinger
Trichoptera	Uenoidae	Neophylax consimilis	1.46	2	SC	clinger
Trichoptera	Uenoidae	Neophylax fuscus	0	2	SC	clinger
Trichoptera	Uenoidae	Neophylax mitchelli	0	2	SC	clinger
Trichoptera	Uenoidae	Neophylax oligius	2.23	2	SC	clinger
Trichoptera	Uenoidae	Neophylax sp	2.2	2	SC	clinger
Trichoptera	Uenoidae	Unid. Uenoidae sp	1.3	2	SC	
Tricladida	Planariidae	Dugesia sp	5	7	CG	
Tricladida	Planariidae	Phagocata sp	5	7	CG	
Tricladida	Planariidae	Planaria sp	5	7	CG	
Tricladida	Planariidae	Unid. Planariid sp	5	7	CG	
Vestimentifera	Aeolosomatidae	Aeolosoma sp	5	5	CG	

CF= Collector/filterer, CG=Collector/gatherer, OT=Other, OM=Omnivore, PC=Parasite carnivore, PH=Predator herbivore, PR=Predator, SC=Scraper, SH=Shredder

APPENDIX E

E-1 KY DOW FISH COLLECTION DATA SHEET

E-2 THREATENED/ENDANGERED SPECIES REPORT FORM

E-3 FISH MASTER TAXA LIST

E-4 CALCULATION OF KIBI

FISH COLLECTION FIELD DATA SHEET (CONT'D)

Noturus flavus	_____	_____	Etheostoma blennioides	_____	_____
Noturus gyrinus	_____	_____	Etheostoma caeruleum	_____	_____
Noturus hildebrandi (SE)	_____	_____	Etheostoma camurum	_____	_____
Noturus miurus	_____	_____	Etheostoma chienense (SE FE)	_____	_____
Noturus nocturnus	_____	_____	Etheostoma chlorosomum	_____	_____
Noturus phaeus (SE)	_____	_____	Etheostoma cinereum (SC)	_____	_____
Noturus stigmatosus (SC)	_____	_____	Etheostoma crossopterum	_____	_____
Pylodictus olivaris	_____	_____	Etheostoma flabellare	_____	_____
Esox americanus	_____	_____	Etheostoma flavum	_____	_____
Esox lucius	_____	_____	Etheostoma fusiforme (SE)	_____	_____
Esox masquinongy	_____	_____	Etheostoma gracile	_____	_____
Esox niger (SC)	_____	_____	Etheostoma histrio	_____	_____
Umbra limi (ST)	_____	_____	Etheostoma kennicotti	_____	_____
Osmerus mordax	_____	_____	Etheostoma kantuckeense	_____	_____
Oncorhynchus kisutch	_____	_____	Etheostoma lynceum (SE)	_____	_____
Oncorhynchus mykiss	_____	_____	Etheostoma maculatum (ST)	_____	_____
Salmo trutta	_____	_____	Etheostoma microlepidum (SE)	_____	_____
Salvelinus fontinalis	_____	_____	Etheostoma microperca	_____	_____
Salvelinus namaycush	_____	_____	Etheostoma n. nigrum	_____	_____
Percopsis omiscomaycus (SC)	_____	_____	Etheostoma n. susanae (SE)	_____	_____
Aphredoderus sayanus	_____	_____	Etheostoma obeyense	_____	_____
Amblyopsis spelaea (SC)	_____	_____	Etheostoma oophylax	_____	_____
Forbesichthys agassizi	_____	_____	Etheostoma parvipinne (SE)	_____	_____
Typhlichthys subterraneus (SC)	_____	_____	Etheostoma percnum (SE FE)	_____	_____
Lota lota (SC)	_____	_____	Etheostoma proeliare (ST)	_____	_____
Fundulus catenatus	_____	_____	Etheostoma pyrrhogaster (SE)	_____	_____
Fundulus chrysotus (SE)	_____	_____	Etheostoma rafinesquei	_____	_____
Fundulus dispar (SE)	_____	_____	Etheostoma rufilineatum	_____	_____
Fundulus notatus	_____	_____	Etheostoma s. sagitta	_____	_____
Fundulus olivaceus	_____	_____	Etheostoma s. spilotum	_____	_____
Gambusia affinis	_____	_____	Etheostoma sanguifluum	_____	_____
Labidesthes sicculus	_____	_____	Etheostoma simoterum	_____	_____
Menidia beryllina (ST)	_____	_____	Etheostoma smithi	_____	_____
Culaea inconstans	_____	_____	Etheostoma spectabile	_____	_____
Cottus bairdi	_____	_____	Etheostoma cf. spectabile "Cumberland"	_____	_____
Cottus carolinae	_____	_____	Etheostoma cf. spectabile "Headwater"	_____	_____
Morone chrysops	_____	_____	Etheostoma cf. spectabile "Sheltoewe"	_____	_____
Morone mississippiensis	_____	_____	Etheostoma squamiceps	_____	_____
Morone saxatilis	_____	_____	Etheostoma stigmaeum	_____	_____
Ambloplites rupestris	_____	_____	Etheostoma cf. stigmaeum "Bluegrass"	_____	_____
Centrarchus macropterus	_____	_____	Etheostoma cf. stigmaeum "Longhunt"	_____	_____
Lepomis sp.	_____	_____	Etheostoma swaini (SE)	_____	_____
Lepomis auritus	_____	_____	Etheostoma tippecanoe	_____	_____
Lepomis cyanellus	_____	_____	Etheostoma tecumsehi (ST)	_____	_____
Lepomis gibbosus	_____	_____	Etheostoma variatum	_____	_____
Lepomis gulosus	_____	_____	Etheostoma virgatum	_____	_____
Lepomis humilis	_____	_____	Etheostoma zonale	_____	_____
Lepomis macrochirus	_____	_____	Etheostoma zonistium	_____	_____
Lepomis marginatus (SE)	_____	_____	Perca flavescens	_____	_____
Lepomis megalotis	_____	_____	Percina burtoni	_____	_____
Lepomis microlophus	_____	_____	Percina caprodes	_____	_____
Lepomis miniatus (ST)	_____	_____	Percina copelandi	_____	_____
Lepomis symmetricus	_____	_____	Percina evides	_____	_____
Micropterus coosae	_____	_____	Percina macrocephala (ST)	_____	_____
Micropterus dolomieu	_____	_____	Percina maculata	_____	_____
Micropterus punctulatus	_____	_____	Percina oxyrhyncha	_____	_____
Micropterus salmoides	_____	_____	Percina phoxocephala	_____	_____
Pomoxis annularis	_____	_____	Percina sciera	_____	_____
Pomoxis nigromaculatus	_____	_____	Percina shumardi	_____	_____
Elassoma zonatum	_____	_____	Percina squamata (SE)	_____	_____
Ammocrypta clara (SE)	_____	_____	Percina stictogaster	_____	_____
Ammocrypta pellucida (SC)	_____	_____	Percina vigil	_____	_____
Ammocrypta vivax (SH)	_____	_____	Stizostedion canadense	_____	_____
Crystallaria asprella (SH)	_____	_____	Stizostedion vitreum	_____	_____
Etheostoma asprigene	_____	_____	Aplodinotus grunniens	_____	_____

APPENDIX E-2
THREATENED/ENDANGERED SPECIES REPORT FORM

Species collected: _____ Date collected: __/__/__
collected: _____ Released? Yes No: If no, explain _____
Stream: _____ Site #: _____ Basin: _____
County: _____ Location: _____
Quad: _____ Collected/Identified by: _____ Collection method: _____
Comments: _____

**APPENDIX E-3
FISH MASTER SPECIES LIST**

Family	Species	Fish Type	Native	OMN	INS	INT	TOL	SL	WC
Petromyzontidae	Ichthyomyzon bdellium		X						
Petromyzontidae	Ichthyomyzon castaneus		X						
Petromyzontidae	Ichthyomyzon fossor		X						
Petromyzontidae	Ichthyomyzon gagei		X						
Petromyzontidae	Ichthyomyzon greeleyi		X						
Petromyzontidae	Ichthyomyzon unicuspis		X						
Petromyzontidae	Lampetra aepyptera		X						
Petromyzontidae	Lampetra appendix		X						
Petromyzontidae	Lamprey ammocoete		X						
Petromyzontidae	Lamprey spp.		X						
Acipenseridae	Acipenser fulvescens		X					X	
Acipenseridae	Scaphirhynchus albus		X					X	
Acipenseridae	Scaphirhynchus platyrhynchus		X					X	
Polyodontidae	Polyodon spathula		X			X		X	
Lepisosteidae	Atractosteus spatula	TC	X						X
Lepisosteidae	Lepisosteus oculatus	TC	X						X
Lepisosteidae	Lepisosteus osseus	TC	X						X
Lepisosteidae	Lepisosteus platostomus	TC	X						X
Lepisosteidae	Lepisosteus spp.	TC	X						X
Amiidae	Amia calva	TC	X						X
Hiodontidae	Hiodon alosoides		X		X				
Hiodontidae	Hiodon tergisus		X		X				
Anguillidae	Anguilla rostrata		X						
Clupeidae	Alosa alabamae		X					X	
Clupeidae	Alosa chrysochloris		X						
Clupeidae	Alosa pseudoharengus								
Clupeidae	Dorosoma cepedianum		X	X					

Clupeidae	Dorosoma petenense		X	X					
Cyprinidae	Campostoma anomalum	MIN	X						
Cyprinidae	Campostoma oligolepis	MIN	X						
Cyprinidae	Carassius auratus	MIN	X	X			X		
Cyprinidae	Clinostomus elongatus	MIN	X		X	X		X	X
Cyprinidae	Clinostomus funduloides	MIN	X		X	X		X	X
Cyprinidae	Ctenopharyngodon idella	MIN							
Cyprinidae	Cyprinella camura	MIN	X		X	X			X
Cyprinidae	Cyprinella galactura	MIN	X		X	X			X
Cyprinidae	Cyprinella lutrensis	MIN	X	X					
Cyprinidae	Cyprinella spiloptera	MIN	X		X				X
Cyprinidae	Cyprinella venusta	MIN	X		X				X
Family	Species	Fish Type	Native	OMN	INS	INT	TOL	SL	WC
Cyprinidae	Cyprinella whipplei	MIN	X		X				X
Cyprinidae	Cyprinus carpio	MIN		X			X		
Cyprinidae	Ericymba buccata	MIN	X	X					
Cyprinidae	Erimystax dissimilis	MIN	X		X	X		X	X
Cyprinidae	Erimystax insignis	MIN	X		X			X	X
Cyprinidae	Erimystax x-punctatus	MIN	X		X	X		X	X
Cyprinidae	Hemitremia flammea	MIN	X		X				X
Cyprinidae	Hybognathus hayi	MIN	X						
Cyprinidae	Hybognathus nuchalis	MIN	X						
Cyprinidae	Hybognathus placitus	MIN							
Cyprinidae	Hybopsis amblops	MIN	X		X	X		X	X
Cyprinidae	Hybopsis amnis	MIN	X		X				X
Cyprinidae	Hypophthalmichthys molitrix	MIN							
Cyprinidae	Luxilus chrysocephalus	MIN	X				X	X	
Cyprinidae	Lythrurus fasciolaris	MIN	X		X				X
Cyprinidae	Lythrurus fumeus	MIN	X				X		
Cyprinidae	Lythrurus umbratilis	MIN	X		X			X	X
Cyprinidae	Macrhybopsis aestivalis	MIN	X		X	X			X

Cyprinidae	<i>Macrhybopsis gelida</i>	MIN	X		X	X			X
Cyprinidae	<i>Macrhybopsis meeki</i>	MIN	X		X	X			X
Cyprinidae	<i>Macrhybopsis storeriana</i>	MIN	X		X				X
Cyprinidae	<i>Nocomis biguttatus</i>	MIN	X	X		X		X	X
Cyprinidae	<i>Nocomis effusus</i>	MIN	X		X	X		X	X
Cyprinidae	<i>Nocomis micropogon</i>	MIN	X		X	X		X	X
Cyprinidae	<i>Notemigonus crysoleucas</i>	MIN	X	X			X		
Cyprinidae	<i>Notropis albizonatus</i>	MIN	X		X	X		X	X
Cyprinidae	<i>Notropis ariommus</i>	MIN	X		X	X		X	X
Cyprinidae	<i>Notropis atherinoides</i>	MIN	X	X				X	
Cyprinidae	<i>Notropis blennioides</i>	MIN	X		X			X	X
Cyprinidae	<i>Notropis boops</i>	MIN	X		X			X	X
Cyprinidae	<i>Notropis buchanaui</i>	MIN	X		X				X
Cyprinidae	<i>Notropis hudsonius</i>	MIN	X		X				
Cyprinidae	<i>Notropis leuciodus</i>	MIN	X		X	X			X
Cyprinidae	<i>Notropis ludibundus</i>	MIN	X	X					
Cyprinidae	<i>Notropis maculatus</i>	MIN	X						X
Cyprinidae	<i>Notropis nubilus</i>	MIN	X		X				
Cyprinidae	<i>Notropis photogenis</i>	MIN	X		X	X		X	X
Cyprinidae	<i>Notropis rubellus</i>	MIN	X		X	X		X	X
Cyprinidae	<i>Notropis shumardi</i>	MIN	X						
Cyprinidae	<i>Notropis</i> sp.	MIN	X						
Cyprinidae	<i>Notropis</i> spp. (sawfin shiner)	MIN	X		X	X		X	X
Cyprinidae	<i>Notropis telescopus</i>	MIN	X		X	X			X
Family	Species	Fish Type	Native	OMN	INS	INT	TOL	SL	WC
Cyprinidae	<i>Notropis volucellus</i>	MIN	X	X					
Cyprinidae	<i>Opsopoeodus emiliae</i>	MIN	X	X		X			
Cyprinidae	<i>Phenacobius mirabilis</i>	MIN	X		X			X	X
Cyprinidae	<i>Phenacobius uranops</i>	MIN	X		X	X		X	X
Cyprinidae	<i>Phoxinus cumberlandensis</i>	MIN	X	X		X		X	
Cyprinidae	<i>Phoxinus erythrogaster</i>	MIN	X	X		X		X	

Cyprinidae	<i>Pimephales notatus</i>	MIN	X	X			X		
Cyprinidae	<i>Pimephales promelas</i>	MIN	X	X			X		
Cyprinidae	<i>Pimephales</i> spp.	MIN	X	X			X		
Cyprinidae	<i>Pimephales vigilax</i>	MIN	X	X					
Cyprinidae	<i>Platygobio gracilis</i>	MIN	X				X		
Cyprinidae	<i>Rhinichthys atratulus</i>	MIN	X				X	X	
Cyprinidae	<i>Rhinichthys cataractae</i>	MIN	X		X			X	X
Cyprinidae	<i>Semotilus atromaculatus</i>	MIN	X	X			X		
Catostomidae	<i>Carpiodes carpio</i>	SUC	X	X					
Catostomidae	<i>Carpiodes cyprinus</i>	SUC	X	X					
Catostomidae	<i>Carpiodes velifer</i>	SUC	X	X					
Catostomidae	Catostomid fry	SUC	X				X	X	
Catostomidae	<i>Catostomus commersoni</i>	SUC	X				X	X	
Catostomidae	<i>Catostomus</i> sp.	SUC	X				X	X	
Catostomidae	<i>Cycleptus elongatus</i>	SUC	X		X	X		X	X
Catostomidae	<i>Erimyzon oblongus</i>	SUC	X		X				X
Catostomidae	<i>Erimyzon sucetta</i>	SUC	X	X					X
Catostomidae	<i>Hypentelium nigricans</i>	SUC	X		X			X	X
Catostomidae	<i>Ictiobus bubalus</i>	SUC	X	X					
Catostomidae	<i>Ictiobus cyprinellus</i>	SUC	X	X					
Catostomidae	<i>Ictiobus niger</i>	SUC	X	X					
Catostomidae	<i>Lagochila lacera</i>	SUC	X					X	X
Catostomidae	<i>Minytrema melanops</i>	SUC	X		X			X	X
Catostomidae	<i>Moxostoma anisurum</i>	SUC	X		X	X		X	X
Catostomidae	<i>Moxostoma carinatum</i>	SUC	X		X	X		X	X
Catostomidae	<i>Moxostoma duquesnei</i>	SUC	X		X	X		X	X
Catostomidae	<i>Moxostoma erythrurum</i>	SUC	X		X			X	X
Catostomidae	<i>Moxostoma macrolepidotum breviceps</i>	SUC	X		X			X	X
Catostomidae	<i>Moxostoma poecilurum</i>	SUC	X		X			X	X
Catostomidae	<i>Moxostoma</i> sp.	SUC	X		X			X	X
Catostomidae	<i>Moxostoma valenciennesi</i>	SUC	X		X			X	X

Catostomidae	<i>Thoburnia atripinne</i>	SUC	X		X	X		X	X
Ictaluridae	<i>Ameiurus catus</i>			X					
Ictaluridae	<i>Ameiurus melas</i>		X	X			X		
Ictaluridae	<i>Ameiurus natalis</i>		X	X			X		
Ictaluridae	<i>Ameiurus nebulosus</i>		X	X			X		
Family	Species	Fish Type	Native	OMN	INS	INT	TOL	SL	WC
Ictaluridae	<i>Ameiurus</i> spp.		X	X					
Ictaluridae	<i>Ictalurus furcatus</i>		X	X					
Ictaluridae	<i>Ictalurus punctatus</i>		X	X					
Ictaluridae	<i>Noturus elegans</i>	MAD	X		X	X			
Ictaluridae	<i>Noturus eleutherus</i>	MAD	X		X	X			
Ictaluridae	<i>Noturus exilis</i>	MAD	X		X	X			
Ictaluridae	<i>Noturus flavus</i>	MAD	X		X	X			
Ictaluridae	<i>Noturus gyrinus</i>	MAD	X		X	X			
Ictaluridae	<i>Noturus hildebrandi</i>	MAD	X		X	X			
Ictaluridae	<i>Noturus miurus</i>	MAD	X		X	X			
Ictaluridae	<i>Noturus nocturnus</i>	MAD	X		X	X			
Ictaluridae	<i>Noturus phaeus</i>	MAD	X		X	X			
Ictaluridae	<i>Noturus stigmosus</i>	MAD	X		X	X			
Ictaluridae	<i>Pylodictus olivaris</i>	TC	X						X
Esocidae	<i>Esox americanus vermiculatus</i>	TC	X						X
Esocidae	<i>Esox lucius</i>								
Esocidae	<i>Esox masquinongy</i>	TC	X						X
Esocidae	<i>Esox niger</i>	TC	X						X
Umbridae	<i>Umbra limi</i>		X				X		
Osmeridae	<i>Osmerus mordax</i>								
Salmonidae	<i>Oncorhynchus kisutch</i>								
Salmonidae	<i>Oncorhynchus mykiss</i>					X			
Salmonidae	<i>Salmo trutta</i>								
Salmonidae	<i>Salvelinus fontinalis</i>								
Salmonidae	<i>Salvelinus namaycush</i>								

Percopsidae	Percopsis omiscomaycus		X		X	X			
Aphredoderidae	Aphredoderus sayanus		X		X				
Amblyopsidae	Amblyopsis spelaea		X						
Amblyopsidae	Forbesichthys agassizi		X						
Amblyopsidae	Typhlichthys subterraneus		X						
Gadidae	Lota lota		X					X	
Fundulidae	Fundulus catenatus		X		X			X	
Fundulidae	Fundulus chrysotus		X		X				
Fundulidae	Fundulus dispar		X		X				
Fundulidae	Fundulus notatus		X		X				
Fundulidae	Fundulus olivaceus		X		X				
Poeciliidae	Gambusia affinis		X				X		
Atherinidae	Labidesthes sicculus		X		X				
Atherinidae	Menidia beryllina		X		X				
Gasterosteidae	Culaea inconstans								
Cottidae	Cottus bairdi	COT	X		X	X			
Cottidae	Cottus carolinae	COT	X		X	X			
Family	Species	Fish Type	Native	OMN	INS	INT	TOL	SL	WC
Moronidae	Morone chrysops		X						
Moronidae	Morone chrysops x M. saxatilis								
Moronidae	Morone mississippiensis		X						
Moronidae	Morone saxatilis								
Centrarchidae	Ambloplites rupestris	SUN	X			X			X
Centrarchidae	Centrarchus macropterus	SUN	X						X
Centrarchidae	Elassoma zonatum	SUN	X		X				X
Centrarchidae	Lepomis auritus	SUN					X		
Centrarchidae	Lepomis cyanellus	SUN	X				X		
Centrarchidae	Lepomis gibbosus	SUN	X						X
Centrarchidae	Lepomis gulosus	SUN	X						X
Centrarchidae	Lepomis humilis	SUN	X						X
Centrarchidae	Lepomis macrochirus	SUN	X				X		

Centrarchidae	Lepomis macrochirus X L. cyanelus						X		
Centrarchidae	Lepomis macrochirus X L. megalotis	SUN							
Centrarchidae	Lepomis marginatus	SUN	X						X
Centrarchidae	Lepomis megalotis	SUN	X						X
Centrarchidae	Lepomis microlophus	SUN	X						X
Centrarchidae	Lepomis miniatus	SUN	X			X			X
Centrarchidae	Lepomis sp.	SUN	X						
Centrarchidae	Lepomis symmetricus	SUN	X						X
Centrarchidae	Micropterus coosae								
Centrarchidae	Micropterus dolomieu	TC	X						X
Centrarchidae	Micropterus punctulatus	TC	X						X
Centrarchidae	Micropterus salmoides		X						
Centrarchidae	Micropterus spp.		X						
Centrarchidae	Pomoxis annularis	TC	X						X
Centrarchidae	Pomoxis nigromaculatus	TC	X						X
Percidae	Ammocrypta clara	DAR	X		X	X		X	
Percidae	Ammocrypta pellucida	DAR	X		X	X		X	
Percidae	Ammocrypta vivax	DAR	X		X	X		X	
Percidae	Crystallaria asprella	DAR	X		X	X		X	
Percidae	Etheostoma asprigene	DAR	X		X				
Percidae	Etheostoma baileyi	DAR	X		X	X		X	
Percidae	Etheostoma barbouri	DAR	X		X	X			
Percidae	Etheostoma barrenense	DAR	X		X	X			
Percidae	Etheostoma bellum	DAR	X		X	X			
Percidae	Etheostoma bison	DAR	X		X			X	
Percidae	Etheostoma blennioides	DAR	X		X			X	
Percidae	Etheostoma caeruleum	DAR	X		X			X	
Percidae	Etheostoma camurum	DAR	X		X	X		X	
Family	Species	Fish Type	Native	OMN	INS	INT	TOL	SL	WC
Percidae	Etheostoma chienense	DAR	X		X	X			

Percidae	<i>Etheostoma chlorosomum</i>	DAR	X		X				
Percidae	<i>Etheostoma cinereum</i>	DAR	X		X	X			
Percidae	<i>Etheostoma crossopterus</i>	DAR	X		X	X			
Percidae	<i>Etheostoma flabellare</i>	DAR	X		X				
Percidae	<i>Etheostoma flavum</i>	DAR	X		X	X		X	
Percidae	<i>Etheostoma fusiforme</i>	DAR	X		X	X			
Percidae	<i>Etheostoma gracile</i>	DAR	X		X				
Percidae	<i>Etheostoma histrio</i>	DAR	X		X	X		X	
Percidae	<i>Etheostoma kantuckeense</i>	DAR	X		X			X	
Percidae	<i>Etheostoma kennicotti</i>	DAR	X		X			X	
Percidae	<i>Etheostoma lynceum</i>	DAR	X		X			X	
Percidae	<i>Etheostoma maculatum</i>	DAR	X		X	X		X	
Percidae	<i>Etheostoma microlepidum</i>	DAR	X		X	X			
Percidae	<i>Etheostoma microperca</i>	DAR	X		X	X			
Percidae	<i>Etheostoma nigrum</i>	DAR	X		X				
Percidae	<i>Etheostoma obeyense</i>	DAR	X		X	X			
Percidae	<i>Etheostoma oophylax</i>	DAR	X		X	X			
Percidae	<i>Etheostoma parvipinne</i>	DAR	X		X	X			
Percidae	<i>Etheostoma percnum</i>	DAR	X		X	X			
Percidae	<i>Etheostoma proeliare</i>	DAR	X		X	X			
Percidae	<i>Etheostoma pyrrhogaster</i>	DAR	X		X	X			
Percidae	<i>Etheostoma rafinesquei</i>	DAR	X		X	X			
Percidae	<i>Etheostoma rufilineatum</i>	DAR	X		X	X			
Percidae	<i>Etheostoma sagitta</i>	DAR	X		X	X			
Percidae	<i>Etheostoma sanguifluum</i>	DAR	X		X	X			
Percidae	<i>Etheostoma simoterum</i>	DAR	X		X	X		X	
Percidae	<i>Etheostoma smithi</i>	DAR	X		X	X		X	
Percidae	<i>Etheostoma sp.</i>	DAR	X		X	X		X	
Percidae	<i>Etheostoma spectabile</i>	DAR	X		X			X	
Percidae	<i>Etheostoma squamiceps</i>	DAR	X		X	X			
Percidae	<i>Etheostoma stigmaeum</i>	DAR	X		X	X		X	

Percidae	Etheostoma swaini	DAR	X		X	X		X	
Percidae	Etheostoma tecumsehi	DAR	X		X			X	
Percidae	Etheostoma tippecanoe	DAR	X		X	X		X	
Percidae	Etheostoma variatum	DAR	X		X	X		X	
Percidae	Etheostoma virgatum	DAR	X		X	X			
Percidae	Etheostoma zonale	DAR	X		X			X	
Percidae	Etheostoma zonistium	DAR	X		X	X		X	
Percidae	Perca flavescens		X						
Percidae	Percina burtoni	DAR	X		X	X		X	
Percidae	Percina caprodes	DAR	X		X			X	
Family	Species	Fish Type	Native	OMN	INS	INT	TOL	SL	WC
Percidae	Percina copelandi	DAR	X		X	X		X	
Percidae	Percina evides	DAR	X		X	X		X	
Percidae	Percina macrocephala	DAR	X		X	X		X	
Percidae	Percina maculata	DAR	X		X			X	
Percidae	Percina oxyrhynchus	DAR	X		X	X		X	
Percidae	Percina phoxocephala	DAR	X		X	X		X	
Percidae	Percina sciera	DAR	X		X	X		X	
Percidae	Percina shumardi	DAR	X		X			X	
Percidae	Percina squamata	DAR	X		X	X		X	
Percidae	Percina stictogaster	DAR	X		X	X		X	
Percidae	Percina vigil	DAR	X		X	X		X	
Percidae	Stizostedion canadense	TC	X						X
Percidae	Stizostedion vitreum	TC	X						X
Sciaenidae	Aplodinotus grunniens		X						

COT= sculpin, DAR= darter, MAD= madtom, MIN= minnow, SL= simple lithophilic spawner, SUC= sucker, SUN= sunfish, TC= top carnivore, OMV=omnivore, INS=insectivore, INT=intolerant, TOL=tolerant, WC=Water Column

APPENDIX F

F-1 FISH TISSUE SAMPLES

**APPENDIX F-1
FISH TISSUE SAMPLES**

Site No.	Date	County	Filleted _____ Field _____ Lab
Stream		Location	
Lat./Long.		Basin	
Coll. Method		Collectors	
Conductivity			

Fish Species	Length mm / in	Weight g / lbs	Aging Method *	Fillet type: (RF LF BF WB)

CHAIN OF CUSTODY:

See Reverse for continuation page

Samples:

Continued on Reverse YES NO

Field processed by: _____

Date : _____ Time _____

Placed in freezer by: _____

Date: _____ Time _____

Freezer Temp °C _____

* O – Otolith S – Scale F - Fin

APPENDIX G

G-1 HABITAT ASSESSMENT LOGBOOK

G-2 HABITAT TRAINING LOGBOOK

G-3 FISH COMMUNITY COLLECTION LOGBOOK

G-4 MACROINVERTEBRATE PROCESSING LOGBOOK

G-5 DIATOM PROCESSING LOGBOOK

G-6 FISH TISSUE PROCESSING LOGBOOK

G-7 FIELD INSTRUMENT CALIBRATION LOGBOOK

G-8 FIELD INSTRUMENT MAINTENANCE LOGBOOK

G-9 WATER SAMPLE LOGBOOK

G-10 BIOLOGICAL MONITORING STATIONS LOGBOOK

APPENDIX H

H-1 SPILL RESPONSE STUDY PLAN OUTLINE

H-2 SPILL RESPONSE ASSESSMENT REPORT OUTLINE

APPENDIX H-1
SPILL RESPONSE STUDY PLAN OUTLINE

I. Study Objective(s)

II. Study Area

- A. Water Body Name:
- B. Spill Location:
- C. Spill Date:
- D. Physiographic Region:
- E. Ecoregion:
- F. Major River Basin:
- G. Stream Order (at spill site):
- H. Drainage Area (from spill site):
- I. Counties Included in Survey:
- J. USGS 7.5 Map Names:
- K. 303e Basin Number:
- L. 303e Segment Number(s):
- M. Flow Data (from impacted water body):
- N. Location of Point and Non-point Source Pollution:
- O. Physical Description of Study Area (include topography, geology, stream gradient, major land uses, major tributaries, etc.):

III. Survey Dates (beginning and estimated completion date):

IV. Parameter Coverage:

- A. List habitat, biological (algae, aquatic invertebrates, fish), bacteriological (fecal coliform, *E. coli*, etc.), physicochemical, sediment, and tissue (fish, aquatic invertebrate, etc.) data to be collected:

- B. Survey EDAS for sample locations and existing data from the impacted area:

V. Purposed Sampling Locations:

VI. Staffing Requirements (the field crew should have a minimum of three biologist):

VII. Quality Assurance/Quality Control: QA/QC will follow the procedures outlined in the latest edition of “Methods for Assessing Biological Integrity of Surface Waters in Kentucky, Kentucky Department for Environmental Protection, Kentucky Division of Water, Ecological Support Section, Frankfort, Kentucky”.

APPENDIX H-2 SPILL RESPONSE ASSESSMENT REPORT OUTLINE

I. Introduction

- A. Purpose of study.
- B. Description of impacted stream reach (information from study area section of the study plan).
- C. Survey dates.
- D. Map (depicting spill site and sampling locations).
- E. Table listing point and non-point source pollution locations.
- F. An accounting of WQB personnel will be presented in tabular form.

II. Methods

- A. Biological, bacteriological, and tissue methods follow those outlined in “Kentucky Division of Water, 2007, Methods for Assessing Biological Integrity of Surface Waters in Kentucky, Kentucky Department for Environmental Protection, Kentucky Division of Water, Ecological Support Section, Frankfort, Kentucky”.
- B. Physicochemical and sediment methods for collection and analysis follow either the latest edition of the United States Environmental Protection Agency’s physicochemical and sediment methods or the latest edition of the Standard Methods for the Examination of Water and Wastewater.

III. Results

- A. Present water quality, flow, and sediment data in tables, noting any values that exceed Kentucky water quality standards, and with a brief discussion of the major constituents.
- B. Present habitat data for each site in table with a brief discussion of the overall quality.
- C. Present biological data [i.e., Diatom Bioassessment Index (DBI), Macroinvertebrate Bioassessment Index (MBI), and/or the fish Index of Biotic Integrity (IBI)], including tables with metric scores and species list with both quantitative and qualitative data. Briefly discuss each index used in the assessment and the combining the above indices into the Biotic Assessment Index (BAI) to give an overall rating of each site.
- D. Present bacteriological data in tabular form with a brief discussion of the data.

IV. Discussion

- A. Discuss the overall severity of the spill to the impacted water body.
- B. Discuss future activities by the WQB to monitor recovery.