

## MACROINVERTEBRATE DATA SHEET

Please check the box next to the "Site #" *if this is a new site and please be sure to attach a map.* (PLEASE PRINT)

Site # \_\_\_\_\_ Stream \_\_\_\_\_ County \_\_\_\_\_

Site Location \_\_\_\_\_

Date \_\_\_\_/\_\_\_\_/\_\_\_\_ Time (military time) \_\_\_\_\_ Rainfall (inches in last 7 days) \_\_\_\_\_ Water Temp. (°C) \_\_\_\_\_

Trained Data Submitter (responsible volunteer) \_\_\_\_\_ Stream Team Number \_\_\_\_\_

Participants \_\_\_\_\_

<i><b>Invertebrate Type</b></i>	<i><b>Net Set #1</b></i>	<i><b>Net Set #2</b></i>	<i><b>Net Set #3</b></i>	<i><b>Score</b></i>
<i><b>Habitat type</b></i> →				<i>After entering the number(#) of organisms collected, circle the number below for every type of organism collected. Add the numbers circled and record the totals as your Water Quality Rating.</i>
<i><b>Net Type</b></i> (circle type) →	<i><b>Kick Net or D-Net</b></i>	<i><b>Kick Net or D-Net</b></i>	<i><b>Kick Net or D-Net</b></i>	
<i>Time Spent Picking</i> <i>(Minutes picking x number of people picking)</i>	min. picking _____ × # people _____ = total min. _____	min. picking _____ × # people _____ = total min. _____	min. picking _____ × # people _____ = total min. _____	
<b>Sensitive</b>	<b># of Organisms</b>	<b># of Organisms</b>	<b># of Organisms</b>	<b>Circle Types Present</b>
Caddisfly Larvae				3
Hellgrammites				3
Mayfly Nymphs				3
Gilled Snails (right)				3
Riffle Beetles				3
Stonefly Nymphs				3
Water Penny Larvae				3
<b>Somewhat Tolerant</b>	<b># of Organisms</b>	<b># of Organisms</b>	<b># of Organisms</b>	<b>Circle Types Present</b>
Other Beetle Larvae				2
Clams/Mussels				2
Crane Fly Larvae				2
Crayfish				2
Dragonfly Nymphs				2
Damselfly Nymphs				2
Scuds				2
Sowbugs				2
Fishfly Larvae				2
Alderfly Larvae				2
Watersnipe Fly				2
<b>Tolerant</b>	<b># of Organisms</b>	<b># of Organisms</b>	<b># of Organisms</b>	<b>Circle Types Present</b>
Aquatic Worms				1
Black Fly Larvae				1
Leeches				1
Midge Larvae				1
Pouch Snails (left)				1
Other Snails (flat)				1
< 12 = Poor	12-17 = Fair	18-23 = Good	>23 = Excellent	<b>Water Quality Rating</b> _____
Comments (mention any changes from your usual readings) _____ _____ _____				
<b>Fish Present</b> (Please Mark) Yes <input type="checkbox"/> or No <input type="checkbox"/>				

## Instructions for Biological Monitoring

- Collect three net sets of invertebrates from three different microhabitats. This ensures a more complete picture of what lives in your stream and more accurately reflects health. Adequate sampling requires two people and the use of a kick net. If sampling by yourself, a D-frame net may be needed.
- If possible, take all three net sets from different areas within a stable riffle. Microhabitats to sample include differences in: rock size, flow, leaf packs and emergent vegetation.
- Be sure to note which type of net you use to sample: kick net or D-frame net.
- Always work in an upstream direction so sampling activities do not disturb portions of the riffle to be sampled later.
- *If, and only if, you do not have enough riffle habitat within your 300 ft. sampling site* to collect three net sets, you may also want to sample alternative microhabitats.
  - Prioritize sampling of habitat types as follows:
    - Riffle
    - Root mat
    - Snags
    - Non-flow
  - Whatever habitats you decide to sample at your site (e.g., two riffle net sets and one root mat), always sample those same three habitats at the site every time you sample there and list the habitat type for each sample. This will ensure that the data you collect remains consistent over time.

### **Sampling Streams With Riffles**

Adequate sampling requires two people, one to hold the net and the other to dislodge invertebrates from the substrate.

1. Place the net in the riffle facing upstream, and tilt it enough to provide a “pocket.”
2. Ensure the bottom of the net is on the stream bottom leaving no room between the net and the substrate. This prevents organisms from washing under the net.
3. Rub all large stones in the 3-foot by 3-foot (3’x3’) area immediately upstream of the net to dislodge invertebrates and wash them into the net.
4. “Dance and Kick” with your feet in the 3’x3’ area until you have disturbed all the substrate 3 inches to 6 inches deep to dislodge the invertebrates into the net.

### **Streams Without Riffles (or without riffles large enough for 3 net sets)**

**Sample Collection from Root Mats** - Adequate sampling requires two people

1. Have one person place the side of the kick net against the bank on the downstream side of the root mat.
2. Make sure that the net is anchored to the stream bed.
3. The other person will then kick the root mat in a swirling motion with one foot to create a circular current in order to dislodge the invertebrates from the root mat. The circular motion of the sampler’s foot will drive the invertebrates into the net, even if there is no current.

**Sample Collection from Snags** - Adequate sampling requires two people.

1. Have one person hold the net horizontal position about 6-12 inches under the water.
2. The 2nd volunteer will remove the snag from the water. When removing the snag from the water pull the snag out of the water quickly. If the snag is removed too slowly, the invertebrates may swim off.
3. Brush the snag down with a brush above the net to dislodge invertebrates.
4. Sample approximately 3-5 snags for one net set.

**Sample non-flow areas** in the same manner as a riffle, collecting three separate samples. However, the sampler will need to use a swirling motion with the foot to create a current to move debris into the net. Although this habitat can be sampled using a kick net, it is easier with a D-frame net. If using a D-frame net, you will need to disturb the substrate and sweep the net in a circular motion over the disturbed substrate to collect the organisms. Be sure to run two passes with the D-frame net to equal one net set.

PLEASE KEEP A COPY AND SEND ORIGINAL DATA TO:

Stream Team Coordinator/Water Protection Program  
Department of Natural Resources  
P.O. Box 176  
Jefferson City, MO 65102-0176

Volunteer Monitoring - 12/15

