



## Biological Monitoring Data Form for Stream Monitors

Your Name: \_\_\_\_\_

Group Name: \_\_\_\_\_ Number of Participants: \_\_\_\_\_

Name of Stream: \_\_\_\_\_ GPS Coordinates: \_\_\_\_\_

City/State: \_\_\_\_\_ Survey Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Description of Site Location: \_\_\_\_\_

### ROCKY BOTTOM SAMPLING

Before sampling, record the riffle composition on the back of this form. Using a kick-siene net, take one 60-second sample in a riffle area (40 seconds to rub rocks, 20 seconds to disturb the streambed). Ensure you sample the entire 3'x 3' area in front of the net. If you do not collect at least 100 macroinvertebrates in the first net, take a second sample in the same riffle. Please place a checkmark next to the number of samples collected.

\_\_\_\_\_ Sample 1    \_\_\_\_\_ Sample 2

### MUDDY BOTTOM SAMPLING

Record the total number scoops taken from each habitat type (20 scoops total) and provide details to best describe the specific habitat on the lines below.

- Steep bank/vegetated margin \_\_\_\_\_  Woody debris with organic matter \_\_\_\_\_
- Rock/gravel/sand substrate \_\_\_\_\_  Silty bottom with organic matter \_\_\_\_\_

### MACROINVERTEBRATE COUNT

Please consult biological monitoring instructions on how to conduct the macroinvertebrate count. Use the attached tally sheet to track numbers of each macroinvertebrate found. Once sampling and identification are complete, place a check mark next to each type of macroinvertebrate identified and list the total number found. Add up the number of checkmarks in each category (sensitive, less sensitive, tolerant) and multiply those numbers by the indicated index value.

<b>Sensitive</b> (Ex: <input checked="" type="checkbox"/> 10 Caddisflies)	<b>Less Sensitive</b> (Ex: <input checked="" type="checkbox"/> 2 Dobsonflies)	<b>Tolerant</b> (Ex: <input checked="" type="checkbox"/> 3 Leeches)
<input type="checkbox"/> _____ Caddisflies (except net spinners)	<input type="checkbox"/> ___ Dobsonflies <input type="checkbox"/> ___ Crayfish	<input type="checkbox"/> _____ Aquatic worms
<input type="checkbox"/> _____ Mayflies	<input type="checkbox"/> ___ Fishflies <input type="checkbox"/> ___ Scuds	<input type="checkbox"/> _____ Black flies
<input type="checkbox"/> _____ Stoneflies	<input type="checkbox"/> ___ Crane flies <input type="checkbox"/> ___ Aquatic sowbugs	<input type="checkbox"/> _____ Midge flies
<input type="checkbox"/> _____ Watersnipe flies	<input type="checkbox"/> ___ Damselflies	<input type="checkbox"/> _____ Leeches
<input type="checkbox"/> _____ Riffle beetles	<input type="checkbox"/> ___ Dragonflies <input type="checkbox"/> ___ Clams	<input type="checkbox"/> _____ Lunged snails
<input type="checkbox"/> _____ Water pennies	<input type="checkbox"/> ___ Alderflies <input type="checkbox"/> ___ Mussels	
<input type="checkbox"/> _____ Gilled snails	<input type="checkbox"/> ___ Common net spinning Caddisflies	
_____ # of check marks multiplied by 3 = _____	_____ # of check marks multiplied by 2 = _____	_____ # of check marks multiplied by 1 = _____
Now add the three totals from each column for your stream's index value. Total index value = _____		
Total number of macroinvertebrates in sample: _____		

Compare the final index value to the following ranges of numbers to determine the water quality of the stream sample site.

### WATER QUALITY RATING

\_\_\_\_\_ Excellent (> 22)    \_\_\_\_\_ Good (17-22)    \_\_\_\_\_ Fair (11-16)    \_\_\_\_\_ Poor (< 11)

**BIOLOGICAL MONITORING DATA FORM FOR STREAM MONITORS**

**WATERSHED CONDITIONS** (check all that apply)

Today:  Sunny  Overcast  Intermittent Rain  Steady Rain  Heavy Rain  Snow  
 Yesterday:  Sunny  Overcast  Intermittent Rain  Steady Rain  Heavy Rain  Snow  
 Day Before Yesterday:  Sunny  Overcast  Intermittent Rain  Steady Rain  Heavy Rain  Snow  
 Water Temperature \_\_\_\_\_ F° or C° Avg. Stream Width \_\_\_\_\_ ft. Avg. Stream Depth \_\_\_\_\_ ft. Flow Rate \_\_\_\_\_  
(circle F° or C°) (above or below average)

<p><b>Fish Populations:</b></p> <input type="checkbox"/> scattered individuals <input type="checkbox"/> scattered schools <input type="checkbox"/> no fish seen	<p><b>Barriers to fish movement:</b></p> <input type="checkbox"/> beaver dams <input type="checkbox"/> man-made dams <input type="checkbox"/> waterfalls (> 1 ft.) <input type="checkbox"/> none <input type="checkbox"/> other _____	<p><b>Refer to the IWLA monitoring instructions to learn how to score these stream characteristics</b></p> <p>Please refer to the Izaak Walton League's volunteer stream monitoring protocol and identification guides to learn how to complete this form. Please use the League's <i>Field Guide to Aquatic Macroinvertebrates</i> to complete portions of this stream quality survey form.</p>	
<p><b>Surface water appearance:</b></p> <input type="checkbox"/> clear <input type="checkbox"/> clear, but tea-colored <input type="checkbox"/> colored sheen (oily) <input type="checkbox"/> foamy <input type="checkbox"/> milky <input type="checkbox"/> muddy <input type="checkbox"/> black <input type="checkbox"/> grey <input type="checkbox"/> other _____	<p><b>Streambed deposit (bottom):</b></p> <input type="checkbox"/> grey <input type="checkbox"/> orange/red <input type="checkbox"/> yellow <input type="checkbox"/> black <input type="checkbox"/> brown <input type="checkbox"/> silt <input type="checkbox"/> sand <input type="checkbox"/> other _____	<p><b>Odor:</b></p> <input type="checkbox"/> rotten eggs <input type="checkbox"/> musky <input type="checkbox"/> oil <input type="checkbox"/> sewage <input type="checkbox"/> other _____ <input type="checkbox"/> none	<p><b>Stability of streambed</b> (bed sinks beneath your feet in):</p> <input type="checkbox"/> no spots <input type="checkbox"/> a few spots <input type="checkbox"/> many spots
<p><b>Stream channel shade:</b></p> <input type="checkbox"/> > 80% excellent <input type="checkbox"/> 50%-80% high <input type="checkbox"/> 20%-49% moderate <input type="checkbox"/> < 20% almost none	<p><b>Streambank composition (=100%):</b></p> _____% trees _____% shrubs _____% grass _____% bare soil _____% rocks _____% other	<p><b>Streambank erosion:</b></p> <input type="checkbox"/> > 80% severe <input type="checkbox"/> 50%-80% high <input type="checkbox"/> 20%-49% moderate <input type="checkbox"/> < 20% slight	<p><b>Riffle composition (=100%)</b></p> _____% silt (mud) _____% sand (1/16" - 1/4" grains) _____% gravel (1/4" - 2" stones) _____% cobbles (2" - 10" stones) _____% boulders (> 10" stones) (Not applicable to Muddy Bottom Sampling.)

**LAND USES IN THE WATERSHED (UPSTREAM AND SURROUNDING SAMPLING SITE):**

Indicate whether the following land uses within a one-mile radius of your sampling site have a high (H), moderate (M), slight (S), or no (N) potential impact to the quality of your stream.

_____ Oil & gas drilling	_____ Urban uses (parking lots, highways, etc.)	_____ Agriculture (type: _____)
_____ Housing developments	_____ Sanitary landfill	_____ Trash dump
_____ Forestry	_____ Active construction	_____ Fields
_____ Logging	_____ Mining (type: _____)	_____ Other _____

**COMMENTS:** Indicate the current and potential future threats to the stream's health and attach additional pages or photographs to better describe the condition of the stream.

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