

# STREAMSIDE BIOSURVEY: MACROINVERTEBRATES

Stream Name: \_\_\_\_\_

County: \_\_\_\_\_ State: \_\_\_\_\_

Investigators: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Site (description): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Site or Map Number: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Weather in past 24 hours:

- Storm (heavy rain)
- Rain (steady rain)
- Showers (intermittent rain)
- Overcast
- Clear/Sunny

## Weather now:

- Storm (heavy rain)
- Rain (steady rain)
- Showers (intermittent rain)
- Overcast
- Clear/Sunny

## MACROINVERTEBRATE SURVEY

Type of Sampling (check one)

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Rocky bottom \_\_\_\_\_ Muddy bottom \_\_\_\_\_

Muddy Bottom Sampling Only: Record the number of jabs taken in each habitat type.

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Vegetated bank margin \_\_\_\_\_

Snags and logs \_\_\_\_\_

Aquatic vegetation beds \_\_\_\_\_

Silt/sand/gravel substrate \_\_\_\_\_

## MACROINVERTEBRATE COUNT

1. Identify the macroinvertebrates in your sample and assign them letter codes based on their abundance: R (rare) = 1-9 organisms; C (common) = 10-99 organisms; and D (dominant) = 100 plus organisms.

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| Group I<br>Sensitive                    | Group II<br>Somewhat-Sensitive      | Group III<br>Tolerant |
|---|-------------------------------------|-----------------------|
| _____ Water penny larvae                | _____ Beetle larvae                 | _____ Aquatic worms   |
| _____ Hellgrammites                     | _____ Clams                         | _____ Blackfly larvae |
| _____ Mayfly nymphs                     | _____ Crane fly larvae              | _____ Leeches         |
| _____ Gilled snails                     | _____ Crayfish                      | _____ Midge larvae    |
| _____ Riffle beetle adult               | _____ Damselfly nymphs              | _____ Snails          |
| _____ Stonefly nymphs                   | _____ Scuds                         |                       |
| _____ Non net-spinning caddisfly larvae | _____ Sowbugs                       |                       |
|   | _____ Fishfly larvae                |                       |
|   | _____ Alderfly larvae               |                       |
|   | _____ Net-spinning caddisfly larvae |                       |

## WATER QUALITY RATING

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2. To calculate the index value, add the number of letters found in the three Groups above and multiply by the indicated weighting factor.

| Group I   | Group II   | Group III   |
|---|--|---|
| _____ (# of R's) x 5.0                            | _____ (# of R's) x 3.2                             | _____ (# of R's) x 1.2                              |
| = _____   | = _____  | = _____   |
| _____ (# of C's) x 5.6                            | _____ (# of C's) x 3.4                             | _____ (# of C's) x 1.1                              |
| = _____   | = _____  | = _____   |
| _____ (# of D's) x 5.3                            | _____ (# of D's) x 3.0                             | _____ (# of D's) x 1.0                              |
| = _____   | = _____  | = _____   |
| <b>Sum of the Index value for Group I = _____</b> | <b>Sum of the Index value for Group II = _____</b> | <b>Sum of the Index value for Group III = _____</b> |

To calculate the water quality score for the stream site, add together the index values for each group. The sum of these values equals the water quality score.

Water quality score = \_\_\_\_\_

Compare this score to the following number ranges to determine the quality of your stream site.

|   |      |         |
|---|------|---------|
| 0 | Good | >40     |
| 0 | Fair | 20 - 40 |
| 0 | Poor | <20     |

**NOTE:** The tolerance groupings (Group I, II, and III) and the water quality rating categories were developed for streams in the Mid-Atlantic states. A trained biologist familiar with local stream fauna should help determine if these tolerance and water quality rating categories should be modified for your geographic region and program.