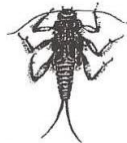


## MACROINVERTEBRATES OUTDOOR LAB

### PART 1

**Group 1: These are sensitive to pollutants. Circle each animal found.**



Stonefly Larva



Dobsonfly Larva

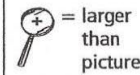


Alderfly Larva

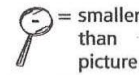


Water Snipe Fly Larva

Relative Size Key:



= larger than picture



= smaller than picture

Number of group 1 animals circled:

**Group 2: These are semi-sensitive to pollutants. Circle each animal found.**



Caddisfly Larva\*



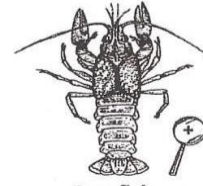
\*All Caddisfly Larva = 1



Dragonfly Larva



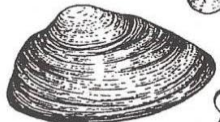
Water Penny



Crawfish



Crane Fly Larva



Freshwater Mussel or Fingernail clam



Mayfly Larva



Damselfly Larva

Damselfly tail (side view)



Riffle Beetle Larva\*



Riffle Beetle Adult\*

\*All Riffle Beetles = 1

Number of group 2 animals circled:

**Group 3: These are semi-tolerant of pollutants. Circle each animal found.**



Black Fly Larva



Non-Red Midge Larva



Snails: Orb or Gilled (right side opening)



Amphipod or Scud

Number of group 3 animals circled:

**Group 4: These are tolerant of pollutants. Circle each animal found.**



Pouch Snail (left side opening)



Isopod or Aquatic Sowbug



Bloodworm Midge Larva (red)



Leech



Tubiflex Worm

Number of group 4 animals circled:

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*Water Action Volunteers*

Collected samples of macros (5 pts) \_\_\_\_\_

## PART 2

1. Calculate how many of each category of *benthic macroinvertebrates* you have counted and multiply by the designated number.

	(A)	(B)
Number of animal types from group 1: Sensitive	_____	X 4 = _____
Number of animal types from group 2: Semi-sensitive	_____	X 3 = _____
Number of animal types from group 3: Semi-tolerant	_____	X 2 = _____
Number of animal types from group 4: Tolerant	_____	X 1 = _____
TOTAL NUMBER OF ANIMAL TYPES (A)	_____	
TOTAL VALUE AFTER MULTIPLYING (B)		_____

**Calculated Total Values (5 pts.)** \_\_\_\_\_

2. Calculate the **Index Score**: divide the total value of (B) by the total number of animal types (A).

$$\text{Index Score} = \frac{(B)}{(A)} = \underline{\hspace{2cm}}$$

3. The **Index Score** will tell us how healthy our lake/river/wetland is. Circle the appropriate health:

**Excellent** (index score of 3.6 or higher)  
**Good** (index score of 2.6 - 3.5)  
**Fair** (index score of 2.1 - 2.5)  
**Poor** (index score of 1.0 - 2.0)

**Calculated Index Score (5 pts.)** \_\_\_\_\_

4. How did the various types of macroinvertebrates in your sample influence your evaluation of the lake?

**Determined "Health" of lake area (5 pts.)** \_\_\_\_\_

5. List some characteristics that may be affecting the health of the lake area based on the index score that you calculated.

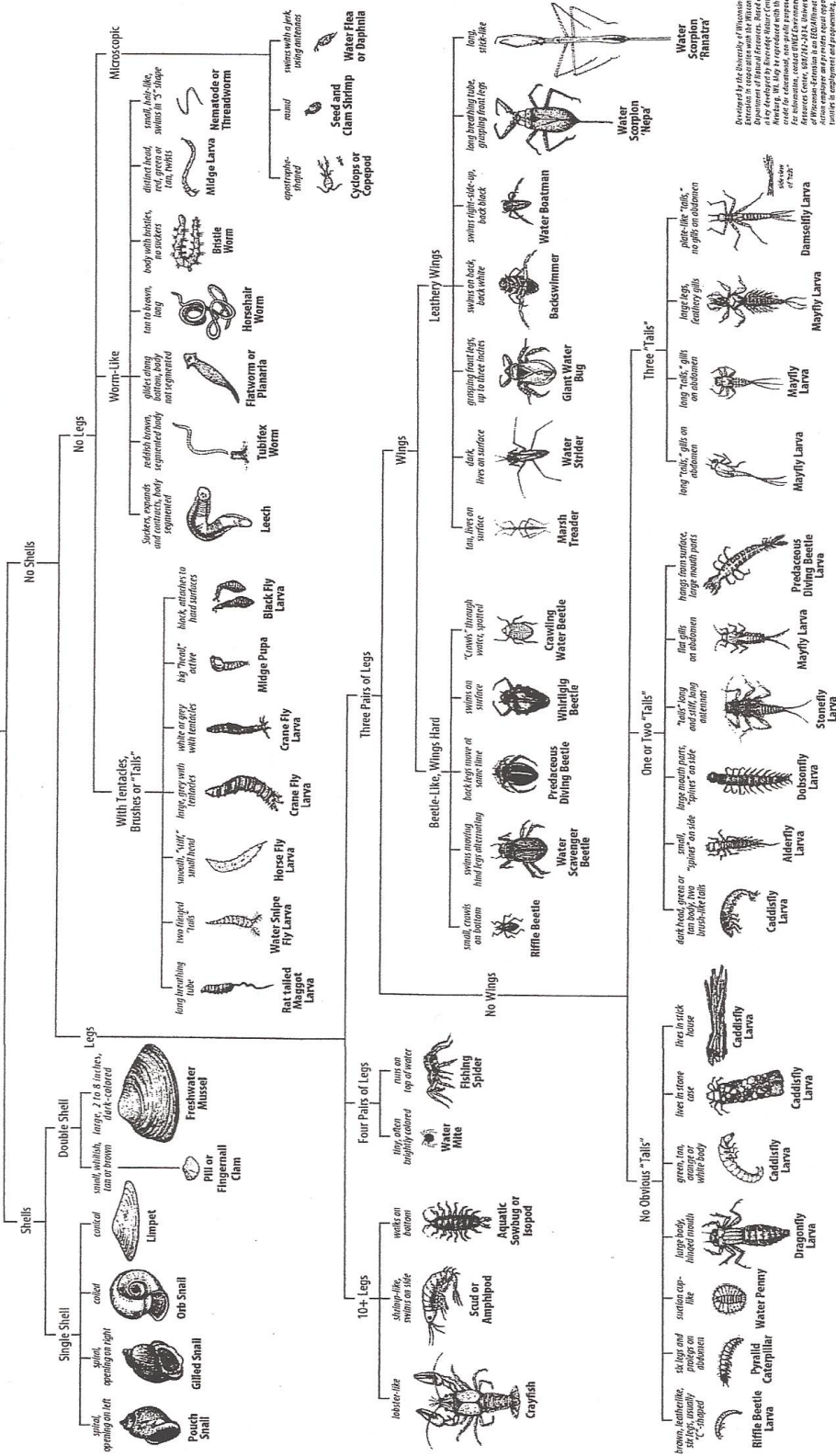
**Comment about water resource (5 pts.)** \_\_\_\_\_

**TOTAL MACRO POINTS (25 pts.)** \_\_\_\_\_

# MACROINVERTEBRATE RESOURCE MATERIAL

## Key to Macroinvertebrate Life in the River

(Sizes of illustrations are not proportional.)



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GPO: U.S. GOVERNMENT PRINTING OFFICE: 2008-560-014/2034