Lake Ecology Education Program

MACROINVERTEBRATES
OUTDOOR LAB

PART 1

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

Relative Size Key: (+) = larger than picture; (-) = smaller than picture


Stonefly Larva

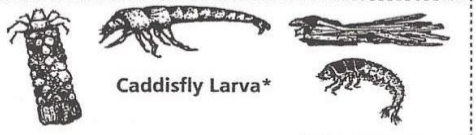

Dobsonfly Larva


Alderfly Larva


Water Snipe Fly Larva

Number of group 1 animals circled: ☐

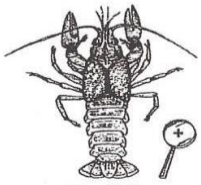
Group 2: These are semi-sensitive to pollutants. Circle each animal found.


Caddisfly Larva*

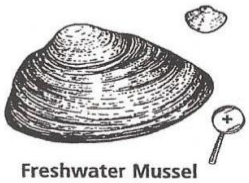
*All Caddisfly Larva = 1


Dragonfly Larva


Water Penny

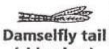

Crawfish


Crane Fly Larva


Freshwater Mussel or Fingernail clam


Mayfly Larva


Damselfly Larva


Damselfly tail (side view)


Riffle Beetle Larva*

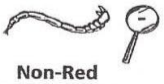

Riffle Beetle Adult*

*All Riffle Beetles = 1

Number of group 2 animals circled: ☐

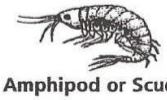
Group 3: These are semi-tolerant of pollutants. Circle each animal found.


Black Fly Larva


Non-Red Midge Larva



Snails: Orb or Gilled (right side opening)


Amphipod or Scud

Number of group 3 animals circled: ☐

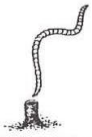
Group 4: These are tolerant of pollutants. Circle each animal found.


Pouch Snail (left side opening)


Isopod or Aquatic Sowbug


Bloodworm Midge Larva (red)


Leech


Tubiflex Worm

Number of group 4 animals circled: ☐

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).

Index Score = $\frac{(B)}{(A)}$ = _____

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