Student names: _____ Block _____

Student Data Sheet for Mud Creek Case Study:
Biological Measurement of Stream Health

A. Use the dichotomous key to identify macroinvertebrates at your site, and record your data below by checking off the appropriate box as you find each new type of macroinvertebrate.

Type of macroinvertebrate	1 type found	2 types found	3 types found	4 types found	5 types found	Total number of types found
Backswimmer adult						
Black fly larva						
Caddisfly larva						
Crane fly larva						
Damselfly nymph						
Dobsonfly larva						
Dragonfly nymph						
Freshwater clam						
Freshwater worm						
Leech						
Mayfly nymph						
Midge larva						
Pouch snail						
Riffle beetle adult						
Scud						
Stonefly nymph						
Water penny beetle larva						

B. Calculate metrics of stream health based on the macroinvertebrate data.

Below, record the results of all three research teams.

1. Total number of taxa found (add up the right hand column for the entire data sheet):

   Upper Mud Creek: _____ Lower Mud Creek: _____ Mud Tributary: _____

2. Total number of EPT taxa found (add up the right hand column for mayflies, stoneflies, and caddisflies only):

   Upper Mud Creek: _____ Lower Mud Creek: _____ Mud Tributary: _____

C. Interpret the class results.

1. Why does counting the total number of types macroinvertebrates (total number of taxa) at a site provide information about stream health?

2. Why does counting the total number of types of mayflies, stoneflies, and caddisflies (total number of EPT taxa) at a site provide information about stream health?

3. Based on these biological measurements, how does stream health compare between the three Mud Creek sites?

4. What do these results tell us about the ability of Mud Creek to recover from urbanization? Explain your answer.