Name_____

Stream Sampling Worksheet

Part I.

Sample 1

Group I

$\times\ 3\ =\ $ _____

+

Group II

$\times\ 2\ =\ $ _____

+

Group III

$\times\ 1\ =\ $ _____

+

Other

$\times\ 0\ =\ $ _____

Biotic Index Total = _____

Sample 2

Group I

$\times\ 3\ =$ _____

$+$

Group II

$\times\ 2\ =$ _____

$+$

Group III

$\times\ 1\ =$ _____

$+$

Other

$\times\ 0\ =$ _____

Biotic Index Total $=$ _____

Part II.

Target Organism _____

Number of Target Organisms Originally Captured and Marked _____

Number of Marked Target Organisms in Second Round Capture _____

Total Number of Target Organisms in Second Round Capture _____

$$N = nT/t \hspace{6cm} Equation\ 1$$

where

T is the number of Target Organisms Originally Captured and Marked
t is the number of Marked Target Organisms Recaptured
n is the Total Number of Target Organisms Recaptured
N is the Population Estimate of Targeted Organisms

Population Estimate of Target Organisms _____

Actual Number of Counted Target Organisms _____

Post-Lab Questions

1. Which group level of organisms was most prevalent in your samples?

2. The following chart can be used as a guide to determine the Biotic Index of Water Quality.

Greater than 22	Excellent
22–17	Good
16–11	Fair
Less than 11	Poor

Use the chart above to determine the overall water quality rating of the two given samples.

Water Quality

Sample 1 _____

Sample 2 _____

3. Describe three factors that could affect water quality.

4. What steps could be taken to improve the water quality of a body of water?

5. What factors could affect the overall population estimates found in Part II?

6. How close was the calculated estimate of target species to the actual amount counted in step 17? Calculate the percent error using the following equation.

$$\text{Percent Error } = \frac{|\text{ Estimated Target Organism Population } - \text{ Actual Target Organism Population }|}{\text{Actual Target Organism Population}} \times 100 = \underline{\hspace{1cm}}$$

7. Name an organism (other than the two examples given in the *Background* section) that the mark-and-recapture technique would work well for. Explain why.