Estimating Population Size

PRE-LAB

1. What is the purpose of estimating population size? (Who uses it, how is it used, for what type of population, etc.)

2. What is the Lincoln Index? What does each of the letters in the formula represent?

3. What assumptions must be made to ensure an accurate estimate of a population size?

A	B	C	D	E	F	G
Trial number	Total # of marbles marked (N_1)	Size of both recapture samples (N_2)	# marked marbles in sample #1, out of 10 (R_a)	# marked marbles in sample #2, out of 10 (R_b)	**Total R for the trial** $(D + E)$	**Population size estimate***
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Average population size estimate**: _____

CONCLUSION QUESTIONS:

1) How does the average value compare to the actual population size of 50? If there is a difference, explain what might cause the difference.

2) What problems might scientists encounter in using this method in the field that you would not have encountered in the simulation?