



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Juan Lopez; Andre Velasco	Project Number S1910
--	---------------------------------------

Project Title
Estimating the Population of Crayfish using the Tag and Recapture Method

Abstract

Objectives/Goals
Tag/Recapture is a method used to estimate the population size of a certain species in a given area. Many scientists use the method of tag/recapture in order to estimate a population size. It would very difficult, if not impossible, to figure out the population of a species in a large body of water, since the species tend to migrate and wander around. A calculation is made from the data collected to estimate the population size.

The purpose of this study was to estimate the population size of crayfish in a city pond. The study was completed in order to evaluate the effect of human activity on this important species.

Methods/Materials
Crayfish were captured by one person pulling back a rock and another person grabbing the crayfish. They were tagged by using scissors and clipping their left telson. Fourteen crayfish were originally marked by this method and released. After crayfish were recaptured on a different day, the number of previously tagged crayfish was determined. The following calculation was used to estimate population size: $T = \frac{Mt}{m}$
T= total population
M= captured and tagged individuals
t= captured 2nd time
m= marked individual in the recapturing trials

Results
Crayfish were recaptured on several subsequent weeks following the original capture and tagging. The average of these calculations was fairly constant.

Conclusions/Discussion
This tells us this method of population estimation is reliable. We also learned that the crayfish population is thriving in Murray Park, despite the apparent pollution and human intervention. This is important for other species that depend on the crayfish population.

Summary Statement
Estimating the population of Crayfish using the Tag and Recapture Method

Help Received
My teacher edited our manuscript