



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Julia M. Riedelsheimer	Project Number J1921
Project Title Variables that Determine Effectiveness of Fish Predators in Controlling Mosquito Larvae Population	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of my project is to determine which type of fish will eat the most mosquito larvae in five minutes. I have chosen fish that can live in different temperatures and types of water. The reason I am doing this investigation is because there is a virus called the West Nile Virus which is contagious to humans and animals. The way it spreads is the bacteria is in mosquitoes and mosquitoes bite humans and animals which spreads the bacteria. This project is a two year study. In year one the fish were not fed and they were acclimated to the water. In year two the fish are fed twice a day and they were put in a different environment to see if this changed their feeding rate.</p> <p>Methods/Materials I am using four different species of fish: Guppy, Goldfish, Mosquito Fish, Minnow. They will be put in separate jars to conduct my experiment. The first part of my experiment I will test how quickly the fish eat and how many mosquito larvae the fish eat as they are acclimated to the water in a five minute time period. The second part of my experiment I will put ten mosquito larvae in the water and then add the fish and time the fish to see how quickly they eat and how much they eat not acclimated to the water in a five minute time period. I will do two trials a day for ten days (20 trials).</p> <p>Results In acclimated water the guppies ate the most larvae averaging at 7.95 mosquito larvae. In acclimated water the minnows ate the first larvae the quickest at an average time of 36.4 seconds. In not acclimated water the guppies ate the most larvae averaging at 8.1 larvae. In not acclimated water the guppies also ate the first larvae the quickest at an average time of 60.6 seconds.</p> <p>Conclusions/Discussion I learned that when I compare the feeding rate from year one to year two the fish eat less mosquito larvae when they are fed. I also learned that when fish are acclimated to the water they eat more larvae at a quicker rate then if they are not acclimated to the water. I learned that all these fish can be used to control mosquito larvae, although when goldfish are fed they are less likely to eat larvae. Stocking bodies of water is an excellent means of controlling mosquito populations because the fish will eat immature mosquitoes.</p>	
Summary Statement I will determine if the shock of a new environment and feeding the fish will make a difference in how much and how fast the fish eat mosquito larvae, compared to last years project where the fish were not fed at all.	
Help Received My Mom helped me type my investigation and the Mosquito Abatement District supplied all the mosquito larvae	