



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Jorie A. Moore	Project Number 29091
Project Title Testing the Toxicity Level of Different Residues Produced by Various Aquatic Environments	
Abstract Objectives/Goals The objective of my project is to determine the toxicity level of different residues produced by various aquatic environments. My hypotheses were the residue from the heat pesticide environment would be the most harmful to the African Dwarf frog eggs hatch rate, the residue from the aeration fertilizer would be the least harmful to the frog eggs hatch rate, and each different environment will decrease the toxicity level of the toxins. The goal of the project was to determine if these residues produced would hinder the hatch rate of the frogs. The objective is to determine which of the four marine environments would be the most effective in diluting the toxins. Methods/Materials I used oil, Malathion, Ammonia Sulfate, and materials to create twelve different residues with the four marine environments heat, wave, cold, and aeration, 640 African Dwarf frog eggs. I put the toxins through the four environments for two days then I took the residue from the environments and placed 1 ml in to the twenty ml. container with the eggs. I had one control which had the eggs in their natural environment and three direct controls where I put the toxins directly into the frog eggs# environment for five days along with the other tests. Results I used oil, Malathion, Ammonia Sulfate, and materials to create twelve different residues with the four marine environments heat, wave, cold, and aeration, 640 African Dwarf frog eggs. I put the toxins through the four environments for two days then I took the residue from the environments and placed 1 ml in to the twenty ml. container with the eggs. I had one control which had the eggs in their natural environment and three direct controls where I put the toxins directly into the frog eggs# environment for five days along with the other tests. Conclusions/Discussion I concluded that the different environments had a positive effect on the toxicity of the pollutions when compared to the direct pollution but the residue still harmed the frog eggs# hatch rate when compared to the natural hatch rate of the eggs. The marine environments differed in results because of the unique aspects of each environment. The aeration environment or the heat environment would be the best methods to utilize in creating systems in bodies of waters to help pollution.	
Summary Statement To determine the effects of toxic residues produced by marine environments on African Dwarf frog eggs	
Help Received Frog eggs provided by Mr. Stewart Wiley. Mother helped revise project. Father supervised experiment involving toxic chemicals	