



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Kaitlyn A. Russo	Project Number J1119
Project Title Determining the Effect of Ammonium-Nitrogen on Aquatic Life	
Abstract Objectives/Goals To determine whether the level of Ammonium-Nitrogen in Clovis Stormwater is toxic to aquatic life. Hypothesis: The toxic level of ammonium-nitrogen to the aquatic life will be a solution of .5 ppm; the level of ammonium-nitrogen in the Clovis stormwater will be toxic to the aquatic life. Methods/Materials Materials: Dissolved Oxygen Kit, Algae, Distilled Water, Ammonium-Nitrogen Testing Kit, Glass Jars, Ammonium-Sulfate, Graduated Cylinders Methods 1. Add ammonium-sulfate to distilled water to create four levels of ammonium-nitrogen: 0ppm, .5ppm, 1ppm, 2ppm. 2. Add algae and seal for 60 hours. 3. Test for dissolved oxygen to determine if the levels are detrimental to fish. 4. Test the level of ammonium-nitrogen in Clovis stormwater collected from 20 different gutters throughout the city. Results At the .5ppm of ammonium-nitrogen, the level of dissolved oxygen was the highest at 8mg/l. At the 2ppm level, the dissolved oxygen was at 5.17 mg/l--the lowest in the experiment. Clovis stormwater was found to have 3.5ppm of ammonium-nitrogen. Conclusions/Discussion At 2ppm of ammonium-nitrogen, the dissolved oxygen levels were borderline unhealthy. Clovis stormwater exceeded 2ppm and could be toxic to aquatic life. My first hypothesis was not supported. The second part of my hypothesis could not be supported since my testing range was not broad enough. However, the toxicity level of ammonium-nitrogen is much lower than what I found in the storm water. We can use this information to inform the public about lawn run-off and contaminates in the gutters and to help water districts realize that they need to find ways to lower the amount of ammonium-nitrogen in our waterways.	
Summary Statement Determining at what level ammonium-nitrogen becomes toxic to aquatic life.	
Help Received Mother helped me type and drove me to gather storm water.	