



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Andrew B. Roman	Project Number J1118
Project Title Can the New River Be Cleaned So that Invertebrates Can Survive in Its Reclaimed Water?	
Abstract Objectives/Goals My goal is to determine that invertebrates will have a healthy survival and reproduction rate in reclaimed water from the New River in order to assess the effectiveness of the wetlands project as a method to clean the polluted river. Methods/Materials Three water samples were collected, from the end of the wetlands, another from water entering the wetlands project and a third was a control sample of a super clean nutrient water from the Lab. I filled testing vials with each of the samples for the bio-assay test. I selected 25 healthy Ceriodaphnia from a lab culture and placed one in each vial of water; I then added feeding solution. The Ceriodaphnia Dubia in the vials were checked daily for survival and reproduction. For a period of seven days I extracted the Ceriodaphnia with a pipette, emptied vial, refilled vials with water samples accordingly; placed the Ceriodaphnia back in vial and using a micro pipette fed all Ceriodaphnia with feeding a solution. Results In Sample A, water exiting from the Wetlands Project, most of Ceriodaphnia in this sample survived with a fare amount of reproduction. Sample B, the water sample entering the wetlands project, by day 2 of my project the Ceriodaphnia started to die, and only reproduced small amounts of neonates. Sample C, my control which consisted of clean nutrient rich water from the lab; all the Ceriodaphnia survived in this sample with a healthy amount of reproduction. Conclusions/Discussion my hypothesis based on my research on the New River, Salton Sea and the wet lands project was proved wrong, because, I predicted that the invertebrate, Ceriodaphnia, will not survive in Sample A. (water coming out of the wet lands project). The man-made wetlands appear to be an effective way to improve the New River#s water quality; however the project needs to be expanded to include a larger amount of water.	
Summary Statement My project demonstrates that Ceriodaphnia can survive in reclaimed water from the New River, therefore demonstrates that the wetlands project is an effective way to improve the water quality of the New River.	
Help Received Used lab equipment at I.V. Environmental Lab under the supervision of Miguel Ortega, Father helped type report	