



# CALIFORNIA STATE SCIENCE FAIR 2011 PROJECT SUMMARY

<b>Name(s)</b> <b>Alessandro Ginella; Rafael Rivas</b>	<b>Project Number</b> <b>J1109</b>
<b>Project Title</b> <b>How You Affect the Slough</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> By studying micro-invertebrates as bio-indicators and measuring water quality indices we want to determine the health of our local wetland in order to determine the effect that human activity has on the wetlands.</p> <p><b>Methods/Materials</b> Materials: Boots and waders, two dippers, sample jars, Estuary Marine Monitoring Kit, notebooks, microscope. Methods: We visited Harkins Slough in Watsonville. We took 3 samples (Two weeks apart) from 3 different areas of the slough: West Branch, Struve and Hanson. Westbranch was the control as it is more isolated. Hanson is surrounded by some houses and organic farms and Struve is surrounded by many houses and a bridge. We got our samples and identified creatures swimming in the water. We also tested the water for water quality indices: phosphates, salinity, PH, nitrates and dissolved oxygen.</p> <p><b>Results</b> Our results from the Estuary Water Quality Kit ranking shows that West Branch Site (control) is the healthiest with the rank of 14 points for its water quality indices then comes Hanson site, surrounded by organic fields, with 13 points and last but not least, Struve site, surrounded by roads, houses and commercial strawberry fields, with 11 points.</p> <p><b>Conclusions/Discussion</b> In conclusion, our hypothesis was partly correct; however, Hanson wasn't the best environment of them all. Westbranch was the best environment because it had more dissolved oxygen and less phosphates. We also found more aquatic invertebrates at Westbranch site which has a lot of plants, animals and ground squirrels. There are fewer houses and roads. Struve is surrounded by houses, roads and commercial strawberry fields. We are still wondering, as you can see on the nitrate chart, the third time we visited the three sites, we strangely had much lower results. Maybe it's because the first two samples were taken after the rain, and maybe there was more run-off.</p>	
<b>Summary Statement</b> Examining the health of our local slough, we observed the effect that human activity has on the wetlands.	
<b>Help Received</b> SC Vector Control Specialists showed dipping techniques, suggested control site; Mothers ordered Water Quality kit, helped with some typing, took pictures and drove to the sites	