



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Kaylah M. Clement-Harris	Project Number J0905
Project Title E. coli Happens!	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of my project was to determine if higher water levels in the Kern River, following a storm contribute to higher levels of fecal coliform and bacteria.</p> <p>Methods/Materials This is an extension of my project last year where I took water samples at 8 locations along the Kern River and tested for fecal coliform and E Coli. This year I took samples at the same locations, exactly 1 year/1 day apart, yet following a storm. I followed the Standard Methods for the Examination of Water and Wastewater 19th Edition under the direction of Gary Hill of McRay Laboratory. I again tested for fecal coliform and E Coli, though this year I tested the pH before and after incubation. I also ran the API 20E test, which identifies 20 bio chemicals.</p> <p>Results My results confirmed that fecal coliform and bacteria levels will be higher following a storm. The 2004 samples testing for fecal coliform produced 5 positive results where as the 2005 samples produced 8 positive results. In addition, testing for E Coli had higher results in 2005 than 2004 with 2 positive sample sites in 2004, compared to 6 in 2005. The pH results before incubating were standard with the lowest result being 7.71 and the highest being 8.17. Results of the API 20E confirmed 27.6% identification for E Coli at my first sample location (Kernville) and a possibility of Brucella spp at my last location (Truxtun Lake).</p> <p>Conclusions/Discussion I have concluded that storm run-off will contribute to higher levels of fecal coliform and other bacteria. I am interested in continuing this study next year and focusing more attention on the API 20E test and learning more about the bio chemicals being identified. The information I have obtained from my results is valuable to the public who come in contact with these waters. Truxtun Lake, where Brusella spp was detected, is located in the middle of town and is heavily used for fishing. I feel it is important for the public to be made aware of the possible dangers of bacteria found in the water.</p>	
Summary Statement I have completed a two-year study comparing water samples taken in 2004 to samples taken after run-off from a heavy storm in 2005. I feel that storm run-off will contribute to higher levels of fecal coliform and other bacteria.	
Help Received Used equipment at McRay Laboratory under the supervision of Gary Hill. My mom drove me to the lab and video taped and took pictures. My uncle Pat drove me to the sample locations.	