



CALIFORNIA STATE SCIENCE FAIR 2011 PROJECT SUMMARY

Name(s) Kaitlyn A. Russo	Project Number 31162
Project Title Determining the Level of Contamination in Stormwater	
Objectives/Goals After collecting rainwater and stormwater samples for three separate rainy days and testing them for nitrates, ammonia-nitrogen, sulfide, phosphate, total dissolved solids, and pH, the stormwater collected will... 1) be more contaminated than rainwater, and 2) show an overall decrease in level of contamination per rainy day. The first rainy day will be found to have the most contaminates. Then, the second rainy day water will have the second highest level of contaminates. The water samples from the third rainy day collection will have the least amount of contaminates. Abstract Methods/Materials (Materials: collection cups, duct tape, sample bottles with lids, transportation, La Motte Water Pollution Detection Kit, distilled water, map, flashlight, timer, Internet) First, when it began to rain, I used duct tape to attach the cups outside to catch rainwater. Then I waited and checked the gutters until they were one inch in depth. I labeled my bottles one through six. Then, I got the red cups, bottles, and distilled water and had my mom take me to my locations around Clovis. At each location, I dipped the red cup into the stormwater, and then I poured the stormwater into the labeled bottle. I did this for all six locations. After collecting, I went home and collected the red cups from my backyard and poured them into one bottle labeled as the control. Next, I tested my samples for each of the contaminants with the La Motte Water Pollution Detection Kit. I recorded all of my data. When I was done testing, I used distilled water and rinsed the sample bottles thoroughly and let them air dry. I then repeated both parts of my experiment two more times. Results For rainwater versus stormwater, my hypothesis was supported. Stormwater was more contaminated. However, my results did not show a decreasing pattern over the three collection days and did not support my hypothesis. Conclusions/Discussion Rainwater, once it reached the ground, became contaminated with nitrates, total dissolved solids, ammonia-nitrogen, and phosphate. Sulphide, though, showed only a little difference. In most locations, the pH level decreased to a level lower than normal. Each contaminate affects our environment in a different way and needs to be cleaned properly before given to the public. People need to be more careful about what chemicals and cleaning products they use outside that may end up in the gutters.	
Summary Statement I compared rainwater and stormwater during three different rains to determine the level of contamination that enters our water system due to oils, chemicals, and other garbage on the streets of Clovis.	
Help Received My mother drove me to the water collection locations and helped type my report, my older sister helped me use the cutting board	