



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Elizabeth M. Dambra	Project Number J1203
Project Title Storm Drains: Safe Water Ways or Pollution High Ways?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective was to analyze the amount of pollution carried through the Storm Drains to our Ocean at both Rat Beach and Torrance Beach. Test sites were inside the Storm Drain, at the mouth of the Storm Drain and 15 Meters into the Ocean. The sites were tested before rain, 2 days after rain and 6 days after rain to see the affect of rain on the levels of pollution.</p> <p>Methods/Materials Materials needed to complete my project included: three urban water testing kits;test tubes,Coliform Bacteria tablets,Chlorine TesTabs, Copper TesTabs,Dissolved Oxygen TesTabs,Iron TesTabs,Nitrate TesTabs,pH TesTabs, and Phosphate TesTabs and a color detection chart. I also needed: a camera,safety materials and a map of our city storm drains. Samples were taken at 2 sites, three different times at three different locations on each site and tested for 8 elements. After each test, results were charted and pictures were taken.</p> <p>Results Storm drains have a great affect on the pollution in our oceans before and after rain fall. Before a rain fall, inside the storm drain was the most polluted, two days after rain the ocean was most polluted and six days after rain everything went back to it's original pollutant state before rain. One surprise result was the high amount of Iron found at Rat beach 6 days after the Rain. It is possible that an underground spring may be draining into the Storm Drain however further testing is needed. Overall, Rat Beach was the most contaminated site.</p> <p>Conclusions/Discussion Storm Drain Pollution is a significant factor in our shoreline and ocean contamination. The water at the mouth of the drain, and in the ocean were more polluted after the rain fall, suggesting that the water running from the storm drain into the ocean brings pollutants into the ocean. Six days after rainfall appears to be the safest time to reenter the ocean water, the ocean is back to its original balance of pollutants (safe to swim in however not save to swallow). The overall hypothesis was wrong, it was thought that every thing would be more polluted after rain; yet, only the ocean was, the storm drain was cleaner.</p>	
Summary Statement How does the pollution in local Los Angeles Storm Drains affect the amount of pollution in the ocean before and after rain, at various points around each specific storm drain?	
Help Received My mom drove me to each location for water samples; Teacher helped organize data.	