



**CALIFORNIA STATE SCIENCE FAIR  
2015 PROJECT SUMMARY**

<b>Name(s)</b> Natachi M. Onwudiwe	<b>Project Number</b> <b>S1113</b>
<b>Project Title</b> <b>How Does Proximity to the Pacific Ocean Affect the Conductivity of the Los Angeles River?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this project is to determine how proximity to the Pacific Ocean affects the conductivity of the Los Angeles (L.A.) River in order to subsequently analyze its possible impact on native species in future investigations.</p> <p><b>Methods/Materials</b> Water samples were collected from seventeen sites spaced three miles apart along the L.A. River's 51 mile course from its source in Canoga Park, California to its estuary in Long Beach, California. A total of 34 samples were collected on two days spaced two weeks apart and tested for conductivity using an EC meter.</p> <p><b>Results</b> There was no statistical difference in the conductivity of the individual sites on the L.A. River except at the source and estuary. The average conductivity at the source, about 51 miles from the Pacific Ocean, was 50% higher than the average for the entire river, most likely due to increased debris flow from equestrian activity along one of the source creeks. Backwash from the Pacific Ocean very likely caused the conductivity at the estuary, beginning approximately three miles from the Pacific Ocean, to be at least 94% higher than the river's average. The data shows the river remains freshwater throughout most of its course.</p> <p><b>Conclusions/Discussion</b> Conductivity measures how easily electricity flows through a substance and is an indicator of the amount of dissolved salts present. Contrary to the predicted result, the conductivity of the L.A. River remains within the range of freshwater, though on the higher end of the range. The river thus can support native ecosystems and urban revitalization projects based on them.</p>	
<b>Summary Statement</b> In this investigation, the effect of the proximity to the Pacific Ocean on the conductivity of the Los Angeles was examined in order to subsequently analyze its possible impact on native species in future investigations.	
<b>Help Received</b> Father helped with purchase of project material and transportation to sample collection sites.	