



**CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY**

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| <b>Name(s)</b><br><b>Jessica A. Schager</b>  | <b>Project Number</b><br><b>S1126</b> |
| <b>Project Title</b><br><b>The Correlation between Nurdles and Surface Currents</b>  |                                       |
| <p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b><br/>Preproduction plastic pellets, called nurdles, are one of the most common pollutants along the coastline. The objective of this project is to determine if the presence of nurdles on the beach may be affected by the direction of the surface current. It was hypothesized that if the current pushes towards the shore, there will be more nurdles found at the location.</p> <p><b>Methods/Materials</b><br/>Three locations with different directions of surface currents were chosen to conduct nurdles counts repeatedly. At the arrival of each site, the time was recorded. Then, a measuring tape was used to mark off a 70 centimeters square in the sand. Nurdles were collected using a sifter and counted from that square. Using the time recorded prior to the count, the direction of the surface current was noted for each trial.</p> <p><b>Results</b><br/>The sites with the current pushing towards the shore had the most nurdles, while the least amount of nurdles came from the trials with the current pulling away from the coast.</p> <p><b>Conclusions/Discussion</b><br/>My conclusion is that amount of nurdles I found on the shore supports that there may be a correlation with the directions of surface currents and nurdles. Nurdles float when put in water. Therefore, since surface currents push around the top 400 meters of the ocean, it is likely that the nurdles are being moved around with the water. With this in mind, perhaps clean-ups can be effectively planned at places where the surface current pushes floating debris onto the coast.</p> |                                       |
| <b>Summary Statement</b><br>My project exhibits that surface currents may play a role in the distribution of nurdles along the shore.  |                                       |
| <b>Help Received</b><br>My parents drove me to the sites.  |                                       |