



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Carynn M. Milne	Project Number S1314
Project Title What Inspired Alfred Hitchcock? Toxic Phytoplankton Monitoring	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals To monitor the populations of marine phytoplankton (especially Psuedo-nitzschia, Alexandrium, and Dinophysis) in the Santa Cruz Harbor and watch what affects their fluctuations over the course of two collecting seasons and see what trends arise. Because equipment efficient enough to monitor oceanic weather patterns is unavailable along with records of terrestrial weather patterns, salinity, turbidity, and temperature are the only factors that will be effectively monitored.</p> <p>Methods/Materials A sample is taken at the Santa Cruz harbor using a 20 micron netand then bottled and perserved with an iodine solution. Recording data in the lab book such as weather and other qualitative observations, temperature (taken with a thermometer), salinity (taken with a refractometer), and turbidity (taken with a secchi disk). Once in the lab, 2ml or so of the sample is put into a petri disk, used as a slide, and then is looked at under a microscope where relative abundance is recorded into the notebook along with scientific illustrations of the specimens.</p> <p>Results In conclusion, I was unable to prove that salinity, turbidity, and temperature had any relation to the populations of these toxic phytoplankton in the past two years. In the previous year there were three harmful blooms recorded. These blooms mainly consisted of Psuedo-nitzschia and occasionally Dinophysis. Alexandrium was never specified as being found in the Santa Cruz Harbor. This current year resulted in a bloom of Dinophysis in the early fall which was not expected because the event did not correlate with the previous year. From October 2003 to the present no harmful blooms of Psuedo-nitzschia have been found, only a single larger bloom of Dinophysis and some appearances of both. Once again, Alexandrium was never considered found.</p> <p>Conclusions/Discussion Compared to the previous year in general, the appearances of the three plankton were relatively similar. I was unable to pinpoint that storms or dredging in the harbor had an influence because there was never any apparent pattern.</p>	
Summary Statement Monitoring what effects three toxic species of phytoplankton in the Santa Cruz Harbor	
Help Received April Milne (transportation) Jane Orbuch (Mentor, instructor) Gregg Langlois (Mentor) Susan Coale (Mentor) Lea Bond (Former Partner)	