



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Stephany R. Brundage	Project Number S1503
Project Title The Death of Diatoms	
Abstract Objectives/Goals Looking at which genus of diatom survives and reproduces the most successfully to the rise in salinity of the sample. Methods/Materials Pond water samples rich in Diatoms, microscope with camera and computer hook-up, materials to make slides, saltwater solution, ATC saltwater refractometer, 1 mL/cc syringes. Add a measured amount of salt-water solution daily. Sample and count diatoms in each genus every three days for two weeks with one set of samples. Leave all samples with no disturbance for 3 weeks. Take final population counts. Results Diatom AO (unidentified) was the most successful in adapting and surviving the rise of salinity in the sample. This diatom had no population in control samples, very low population in salinity level one, the highest population in level two salinity, and level three salinity had the second highest populations of this diatom. Conclusions/Discussion It is possible for diatoms commonly found in freshwater to adapt to the rise of salinity in the sample. The diatom that adapted the most successfully actually had the highest population in salinity level two (the second highest level). This is important to know because diatoms are a major part of the trophic level in aquatic ecosystems and with the California drought, bodies of water are drying up and the parts per million of salt is rising, which may cause diatoms to reduce in population.	
Summary Statement I looked at which species of diatom could adapt and reproduce the most successfully with the rise of salinity in its habitat and I found that there is a diatom that thrives in higher salinity.	
Help Received My Biology teacher helped me narrow down my topic and she provided me with some resources for identifying diatoms and other pond water microorganisms.	