



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Connor M. Pofahl	Project Number 33258
Project Title Phytoremediation Plants that Clean Aquatic Environments	
Abstract Objectives/Goals The purpose of the project was to determine which plant would absorb copper at the fastest rate. I believe soft rush will be most effective at absorbing copper. Methods/Materials I created aquatic environments by using one of the three selected plants: cattail, soft rush, and elodea (independent variable) in a 1ppm copper solution (dependent variable). Each environment was also given a control with 0ppm of copper. For five days, I tested each environment for the amount of copper in the water using copper test strips. Three trials of this experiment were completed. Results I averaged the results of all three trials to determine which plant absorbed the most copper at the fastest rate. By day five, the environments for cattail and soft rush measured 0ppm. During the five-day period, soft rush left smaller amounts of copper in the environments than cattail and elodea. Soft rush averages were: 0.37 (day 2), 0.17 (day 3), 0.03 (day 4), and 0.0 (day 5). Cattail averages were: 0.40 (day 2), 0.23 (day 3), 0.1 (day 4), and 0.0 (day 5). Elodea absorbed no copper leaving it at 1ppm at day 5. Conclusions/Discussion My results did support my hypothesis of soft rush being most effective at absorbing copper from the water environment. I believe that soft rush's root system benefits its performance in this task. I think that other plants with a massive root structure would also perform well at absorbing contaminants from aquatic environments. The ability of plants to safely remove contaminants from waterways benefits our efforts to keep the environment healthy and safe.	
Summary Statement This project is about using plants to remove contaminants (i.e. copper) from water environments.	
Help Received A family friend helped me retrieve some of the plants.	