



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Raymond P.M. Hurst	Project Number S1111
Project Title Cut It or Keep It? A Study of Carbon Sequestration in Redwood Trees	
Abstract Objectives/Goals Carbon Sequestration in Coastal Redwoods is a valuable resource to reduce Global Warming. My project's purpose was to evaluate whether or not Coastal Redwood owners should cut their trees or keep them so they sequester more carbon. Methods/Materials My experiment determined the Carbon Density of Coastal Redwoods sampled in a previously harvested area from a 1997 Timber Harvest Plan. I then compared my results to a standard Carbon Sequestration formula. My hypothesis was that Carbon Sequestration (not harvesting) was a more valuable Timber Management practice than harvesting for Coastal Redwood trees. Results Analysis of the data made it clear that the standard formula measures Carbon Content incorrectly. The formula also greatly overestimates the dry weight biomass of a tree at 70% whereas my findings indicate 34% biomass. Conclusions/Discussion Analysis of the data made it clear that the standard formula measures Carbon Content incorrectly. The formula also greatly overestimates the dry weight biomass of a tree at 70% whereas my findings indicate 34% biomass. Based on the data and the formula's room for error, it is clear that harvesting trees is more lucrative than it is to save them and be compensated for Carbon Credits. As long as standard formulas remain in use, they will be measure Carbon Sequestration incorrectly and therefore Carbon Credit will be allocated improperly and owners of coastal redwoods will be motivated to harvest their trees rather than keep them growing.	
Summary Statement Carbon sequestration in Coastal Redwood trees.	
Help Received Father supervised experiment; Mother drove and filled out forms	