



# CALIFORNIA STATE SCIENCE FAIR 2016 PROJECT SUMMARY

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<b>Project Title</b> Black Bear Damage to Conifers in Redwood Forests	
<b>Abstract</b> <b>Objectives/Goals</b> Black bears strip the bark off conifers and eat the cambium as a food source. I wanted to determine if a redwood forest regenerating from a clear cut would create favored conditions for black bears to damage conifers. The project would show which silviculture type, previously clear cut in last 50 years or not clear cut, can be used to minimize the amount of conifers stripped by bears. <b>Methods/Materials</b> To conduct the project 30 plots were randomly selected with 15 in not clear cut and 15 in forest has been clear cut in the last 50 years. At each plot I counted the trees that had been stripped by bears and the total trees in the plot over 4 inches in diameter. I then found the percent of trees stripped by bears. I used a GPS (Global Positioning System), Laser Range Finder, and Wildlife Motion Cameras from the City of Arcata Environmental Services Department. <b>Results</b> The results of my experiment were that if the forest had been clear cut in the last 50 years, then the amount of trees stripped by bears will increase. The previously clear cut forest had a mean of 30.27% damaged trees. The not clear cut forest had a mean of 4.06% damaged trees. <b>Conclusions/Discussion</b> In conclusion, forest areas that have been recently clear cut will have more conifers that have been stripped by black bears. For land managers who harvest conifers in northern California selective logging should be considered instead of clear cutting. Although there would be an exchange for growth rate and logging volume it would help lessen black bear damage.	
<b>Summary Statement</b> This project tested the effect of silviculture type (clear cut or not clear cut) on the amount of conifers stripped by bears in north western California redwood forest.	
<b>Help Received</b> I used a GPS (Global Positioning System), Laser Range Finder, Biltmore Stick, and Wildlife Motion Cameras from the City of Arcata Environmental Services Department. I was granted access to Jacoby Creek Forest by the City of Arcata. Brian Kang GIS Coordinator for City of Arcata helped me put my plot	