

CALIFORNIA STATE SCIENCE FAIR 2011 PROJECT SUMMARY

Nama(s)	Project Number
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	31511
Project Title	
T.R.E. Method of Forestry	
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Objectives/Goals Abstract	$(\sum_{i} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^$
My investigative question is which small sample surveying of a larger whole population to manage the growth of trees surveys, or all 3 combined? A forest is too large to count need to accurately represent a much larger population are larger population can be represented by smaller transect previous knowledge about radials and transects, I decided This method expands in the forest at a 90 degree angle. Methods/Materials I constructed 4 models of 24 scaled down #hectares#. Eac meters. I then labeled them. On model 1 I drew 2 transect drew 6 transects. On model 3, I drew 6 radials. On model sampling area was equal to 1 hectare in size. I randomly of determined the mean average of each smaller sample, and populations. I determined validity with a t-test in each ca Results Percentage of small samples that met the T-test © 95% cf Model 1: Combination of all three sampling methods Model 2: Transect sampling method	as sampling method has the lest representation s; transect surveys, radial surveys, equilateral every treef Sample surveys of smaller areas may a. My question examined what percentage of the radial, and equilateral survey samples. With to design a new method, called equilaterals. The hectare represents 2.4 acres or 10,000 sq. s, 2 radials, and 2 equilaterals. On model 2, I 4, 1 drew 6 equilaterals. Each representative reated a forest of 200 trees per model. I compared them to means of the larger to at a 95% confidence level.
Model 3: Radial sampling method Model 4: Equilateral sampling method Conclusions/Discussion Surprisingly, the equilateral methodology had by far, the best representation of the larger whole population at 76% accuracy. This is surprising as the surface area represented was equal in all sampling methods.	
Summary Statement This project mathematically examines the validity of three sampling methods used in field biology studies.	
Help Received	