CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)

John A. Sherwood

Project Number

22092

Project Title

The Effects of Roadway Noise on Bird Species Composition and Diversity

Abstract

Objectives/Goals

The project focused on roadway noise from vehicles and its effect on bird species composition and diversity. The main purpose of this project is to find out if increased noise levels affect the number of birds using a similar habitat. The hypothesis is: If noise levels from a constant noise source decrease with distance, then bird species composition and diversity will increase at locations furthest from the noise source.

Methods/Materials

To measure noise levels in decibels (dB), a noise meter was used. Flagging, measuring tape, binoculars, mapping, logbook, and field guide are some of the other materials used. Three transects were laid out at different distances from the roadway noise source (State Highway 94) in coastal sage scrub habitat. Noise measurements were taken at each transect and bird totals by species were observed at three points on each transect during five trials.

Results

It was observed the species diversity and composition was greater at transects further from the noise source. Transect #1 was closest to the road (noise levels of 63-71 dB) had a total of 86 birds in 10 species. Transect #2 (noise levels of 52-58 dB)had 161 total birds with 12 species. Transect #3 was furthest from the road(noise levels of 43-51 dB)and had a total of 147 birds with 15 species.

Conclusions/Discussion

These results support the hypothesis in that there appears to be both a greater number and broader range of species at distances further from a roadway noise soruce. These results could be useful to scientists in the future as the effects of noise on wildlife become an important issue for endangered habitats and species.

Summary Statement

My project looked at roadway noise and its effect on bird species diversity and composition.

Help Received

My dad helped me with the fieldwork.