



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

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| <b>Name(s)</b><br><b>Leigh M. Sherwood</b>   | <b>Project Number</b><br><b>J1920</b> |
| <b>Project Title</b><br><b>The Edge Effects of Different Development Types on Bird Species Diversity</b>   |                                       |
| <b>Abstract</b><br><b>Objectives/Goals</b><br>In several studies it has been shown that urban development can affect the number and type of bird species in the adjacent habitat. This is known as edge effects. Edge effects can include pets, exotic plants, lighting, and noise. The goal of the project is to determine if these edge effects from different development types causes bird numbers and species composition to also be different in the adjacent habitat.<br><b>Methods/Materials</b><br>Materials used to conduct the study included a measuring tape to layout the transects, flagging to set transect points, binoculars, field log, and field guide. Transects were established in coastal sage scrub habitat adjacent to residential, school, and commercial areas. A control transect in undisturbed habitat was also set up. Observations of total birds and species, and activity levels at the development edge were documented during the trials.<br><b>Results</b><br>The results of the study indicated that the transects adjacent to the school and commercial areas, where there are high activity levels, had the greatest number of birds and species diversity. These transects also had the greatest number of species that would not be expected in coastal sage scrub habitat. At the residential and control sites, where activity levels were lower, there were fewer total birds and species, but a greater continuity in species composition.<br><b>Conclusions/Discussion</b><br>Overall, the conclusions tend to support the hypothesis, that the different types of development edges can affect bird species composition and diversity in the adjacent habitat. It also appears that residential development has less of an edge effect and results in less habitat fragmentation than commercial or school development. |                                       |
| <b>Summary Statement</b><br>The project focused on the edge effects from different development types on bird species diversity and composition in the adjacent habitat.  |                                       |
| <b>Help Received</b><br>Father helped with transects layout.   |                                       |