



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.)

Ryan S. Terrill

Science Fair Use Only

S1824

Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9)

**Morphological Correlates of Ecological Distribution
Among Shorebirds**

Division

 Junior (6-8) X Senior (9-12)

Preferred Category (See page 5 for descriptions.)

18 - Zoology

Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.)

Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.

The central California coast hosts highly significant populations of Pacific shorebirds. Large-scale anthropogenic factors have dramatically altered their environment. Yet, it seems that little information exists regarding factors that determine what shorebirds occur in particular habitats and why. This information is crucial to understanding the effects of these environmental changes on shorebirds and how best to correct for detrimental changes that have occurred. I am in the process of testing hypotheses regarding the ecological distribution of shorebirds within and between habitats along the central California coast. One the primary factors I am looking at is the relationship between morphology and habitat occupation across species. I am also censusing shorebirds in different habitats to obtain a measure of relative habitat use to determine habitat importance. My preliminary results indicate a fairly high degree of specialization and substantial difference in habitat use during the winter (salt marsh mudflats being very important followed by salt ponds with shallow water) and that there are morphological correlates of habitat distribution (medium to large shorebirds with long legs and bills are habitat generalists). These data are quite interesting, and I plan on taking at least 4 more seasons of data.

Summary Statement (In one sentence, state what your project is about.)

My research is concerned with morphological correlates of ecological distribution and the relative importance of habitats to shorebirds.

Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4.

Father with research