



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Dana M. Walker	Project Number J1927
Project Title Distribution of Western Snowy Plover Food at Sands Beach, Goleta	
Objectives/Goals One of my purposes was to find if there are more insects available to plovers as food in the fresh kelp in wet sand or in the dry kelp in the dry sand. My hypothesis was that there would be more insects in the wet sand than in the dry sand. My other purpose was to find the best spots for collecting food for the plover chicks that hatch from abandoned eggs.	
Abstract	
Methods/Materials <ol style="list-style-type: none">1. Get a permit to do research2. Make a carrier for the traps3. Make the traps. The traps should be 4#x6# cards of corrugated plastic labeled A on one side and B on the other. The cards should also be labeled 1-10.4. Spread Tanglefoot# on both sides of the cards with a putty knife.5. Choose a day that is not very windy or cold, since insect movement can be adversely affected by both.6. Erect the cards in the sand near some kelp with side A facing the ocean, noting their location. Run wire stakes through the ends of the cards and into the sand.7. Note the windspeed and temperature.8. Wait for 2 hours, then place the cards back in the slots in the carrier and proceed to lab.9. Secure the first card to a stand, and then use the tweezers to place the insects from each side of the card into different jars of acetone. When the Tanglefoot# has completely dissolved, transfer the bugs from acetone to a labeled jar alcohol. Repeat with the other cards.10. Empty jar 1A into the Petri dish and place under the dissecting scope. Sort the insects by physical appearance, then count out the amount of each type of bug and record. Return the insects to the jar. Repeat with the rest of the jars.11. Summarize data in excel for analysis and graphing.	
Results <p>Overall, I found that both wet and dry seaweed are good sources of plover food. If you want small flies, you should look in the wet seaweed. If you want to find beach hoppers, look in the dry seaweed.</p>	
Conclusions/Discussion <p>In conclusion, my hypothesis was proven correct by the fact that, overall, there are more insects in the fresh kelp in the wet sand than in the dry kelp in the dry sand. One limitation of this study is that I only had samples from one time of day on one day during one season (spring). More samples would have helped to strengthen my conclusion.</p>	
Summary Statement <p>I was counting the amount of insects Coal Oil Point Reserve to find the best spots for collecting food for abandoned plover chicks.</p>	
Help Received <p>Dr. Cristina Sandoval gave me advice and helped me sort out the insects; my dad watched traps with me and took bugs off traps; Dr. Micheal Caterino IDed bugs.</p>	