



# CALIFORNIA STATE SCIENCE FAIR 2002 PROJECT SUMMARY

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<b>Project Title</b> Stranded: An Analysis of Marine Mammal Rescues on the North Coast	
<b>Abstract</b> <b>Objectives/Goals</b> My objective was to aggregate data elements from files of rescued marine mammals (pinnepeds) at the North Coast Marine Mammal Center for the years 1997 through 2001. I wanted to analyze the data for seasonal and annual trends as well as patterns in the strandings for species and ages of the animals. I expected to see an increase in reported rescues each spring during the pupping season because pups and their mothers are vulnerable during the spring months each year. <b>Methods/Materials</b> I read every file of the animals rescued by the staff of the North Coast Marine Mammal Center in Crescent City, California. The files contain information entered by the Center veterinarian and each of the staff members who cared for the animal. I collected data on the date of rescue as well as the animal's apparent age, species, sex, condition at discharge and discharge disposition. I made graphs of the data elements and looked for patterns and trends over time, age groups, and among species. <b>Results</b> The files primarily included rescues for three species: <i>Phoca vitulina</i> , <i>Zalophus californianus</i> , and <i>Mirounga angustirostris</i> . The graphs show both an increase of rescues and an increase in the number of pups rescued during the spring months. I also noted overall increases in the reported rescues during some years, especially during the winter and spring of 1998. I noted that during that period, the increase in rescues of one species, the Northern Elephant Seal ( <i>M. angustirostris</i> ), was not as great as the observed increase in rescues for California Sea Lions ( <i>Z. californianus</i> ) and Harbor Seals ( <i>P. vitulina</i> ). <b>Conclusions/Discussion</b> Spring seems to be a time of increased rescues on the North Coast. The youngest animals are the most vulnerable but human interaction is also more likely when the weather improves in spring. Unusual sea and weather conditions due to the "El Niño/Southern Oscillation" conditions during 1998 may have contributed to an increase in marine mammal rescues. The ENSO phenomenon includes changes in the thermocline in near shore waters that may affect the ability of some species to feed.	
<b>Summary Statement</b> I aggregated data on date, species, age, sex and outcome for marine mammals rescued by the North Coast Marine Mammal Center during the years 1997 through 2001 and looked for patterns and trends.	
<b>Help Received</b> The North Coast Marine Mammal Center gave me access to all of the files for each animal rescued from 1997 through 2001 and staff helped me understand the contents of the files.	