CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY

Name(s)
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Project Number
J1111

Project Title
When and Where Do Harbor Seals Haul Out on Mudflats?

Abstract

Objectives/Goals
In this project, I wanted to determine what causes harbor seals to haul out in different places at different times. My hypotheses were that more harbor seals would haul out: on horizontal mudflats, when there was less wind, at low tides, and at midday.

Methods/Materials
During the time period of September 22, 2007 to November 10, 2007, I counted harbor seals along the mudflats using the binoculars mounted on the deck of the Moss Landing Marine Laboratories. I recorded counts in different sections of the mudflats. Four times a week, on average depending on my school schedule, I made observations at most hours of daylight. I recorded counts in different sections of the mudflats and noted the time of day, tidal height, and the wind speed. At the end of the study, using a kayak at low tide, I photographed the different mudflat sections to note their shapes.

Results
My results indicate that the number of harbor seals on a mudflat is affected by tidal height, time of day, shape of the mudflat, but not the wind speed. Harbor seals are most abundant from noon to 4 PM, a tidal height of two to five feet, and on mudflats that are flat with a slope that goes into a deep channel.

Conclusions/Discussion
Every one to three years, the population of harbor seals gets estimated by scientists, and they could use my results to know when would be the best tide and time of day to count harbor seals. The Elkhorn Slough National Estuarine Research Reserve is making restoration plans that will change the mudflats around this area, so they could use the data I have collected to design the best harbor seal haul out habitat.

Summary Statement
In this project I determined where and when harbor seals haul out on mudflats in Moss Landing, California.

Help Received
Dr. James Harvey let me use the observation deck and the binoculars at the Moss Landing Marine Labs, and shared ideas with me. My dad let me use his kayak and camera.