CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY

Name(s)

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Project Number

J2221

Project Title

Territorial Relationships and Social Interactions of Migratory and Resident Duck Species

Abstract

Objectives/Goals

During winter, migratory ducks come to the San Elijo Lagoon from as far away as Canada and Alaska. The purpose of my project was to observe territorial relationships and social interactions between duck species in the San Elijo Lagoon. With a declining number of some duck species, determining why ducks stay in certain areas is crucial. I hypothesized that certain duck species would stay in specific parts of the lagoon based on many factors, including the food available, other species of ducks with which they may interact, and a sufficient number of the opposite sex.

Methods/Materials

The materials I used were a laser rangefinder, an anemometer, a hygro-thermometer clock, two types of binoculars, and log forms I developed to record my data. I visited the lagoon 20 times and documented the time of day, wind speed, tide, temperature, humidity and weather at every visit. I searched for ducks and recorded the numbers and species. I then analyzed my raw data, classified the ducks into three categories based on my observations, and generated graphs and tables to present my findings.

Results

Based on my observations during my 20 visits to the San Elijo Lagoon, I classified the ducks into three groups I designated as Types "A", "B" and
"C", according to their behaviors. I classified Green-winged Teals and Gadwalls as "Type A" ducks because they stayed very near the shore to feed, and roosted throughout the lagoon. Northern Pintails and American Wigeons were "Type B" ducks because they mainly fed near the shore, but occasionally would feed elsewhere. Buffleheads and diving ducks were "Type C" ducks in the San Elijo Lagoon because they fed in the middle of the waterway and roosted out of sight.

Conclusions/Discussion

According to my findings, specific species of ducks appeared to prefer different areas of the lagoon. Through my field observations, I noticed that migratory ducks seemed to stay in sections of the lagoon that replicate their nesting sites. For example, Northern Pintails nest in prairies in Alaska; in the San Elijo Lagoon, they roosted in grass, much like prairies. Also, some ducks seemed more social with other species and their mates than others. Type "A" ducks were the most social, followed by Type "B" ducks. I would like to visit other lagoons and make observations to confirm my findings. The results of my project can be used when taking a census of duck species in Southern California.

Summary Statement

The purpose of my project was to observe territorial relationships and social interactions between duck species in a lagoon environment.

Help Received

Mother drove me to the San Elijo Lagoon