Biodiversity Project

SEAN MCGRAW

Species Info

- The data provided in species_info.csv contained the category, common and scientific name, and the conservation status of 5541 different species.

- The data was not limited to animals and included plants as well, which made it necessary to include the category when searching for records based on common name.

- The conservation status information needed data manipulation to transform 'NaN' data points into 'No Intervention' data points.

  - Feedback to providers of the data would be to have this field filled out for all species and limit data manipulation as a means of creating data reliability.

Species Statistical Analysis

▶ The data showed that there were a higher percentage of Mammals protected as a whole of their category at 17%.

▶ Performed a Chi^2 test to verify if mammals are more likely to be endangered than birds.

  ▶ With a p-value of 0.688 we cannot reject the null hypothesis that there is no difference in the probability of a mammal or bird being endangered.

▶ Performed a Chi^2 test to verify if mammals are more likely to be endangered than reptiles.

  ▶ With a p-value of 0.038 we can reject the null hypothesis and state that there is independence between the two categories.

Recommendations to Conservationist

- It is recommended that conservationist look at ways to increase the population of mammal and bird species.

Foot and Mouth Sample Size

- We determined that the Minimum Detectable Effect needed to calculate the appropriate sample size is 33.33%

- Using the Optimizely sample size calculator it is determined that a sample size of 510 will provide the statistical confidence to determine the rate of foot and mouth in sheep populations

- It will take about 2 weeks to collect the necessary sample size at Bryce NP

- It will take about 1 week to collect this the necessary sample size at Yellowstone NP

Images