Biodiversity Capstone Project

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Species_info.csv

The endangered species data portrayed many different species of wildlife and categorized them by their current level of endangerment: “Concern”, “Threatened”, “Endangered”, and “In Recovery”.

Then, we pivoted the species conservation data to easily be able to see each protected category by grouping them as “True”, protected or “False”, not protected.

Endangered Species Calculations

The null hypothesis is that the difference in endangered status of birds and mammals, as well as the endangered status of most other species only occurs due to chance.

A chi-squared test is used because we are using numerical data to compare two sets of data.

When the p-value was greater than 0.05 for birds compared to mammals, the result is not significant and is a product of chance.

When the p-value was less than 0.05 for mammals and reptiles then this is significant and would infer that certain types of species are more likely to be endangered than others.

Recommendations for Conservationists

After performing a chi-squared test, the p-value of ~0.688, shows that there was no significant difference between endangered birds and mammals but a p-value of ~0.038 did show a significant difference between mammals and reptiles.

In conclusion, conservationists should be mindful of some species as being more likely to be endangered than others.

Sample Size Determination

In order to determine sample sizes for the Sheep foot and mouth study;

First, the baseline percentage was found to be 15%.

Second, the minimum detectable effect was calculated as 33%

Finally, with a significance level set to 90%, the sample size variant is 870.

Graphs

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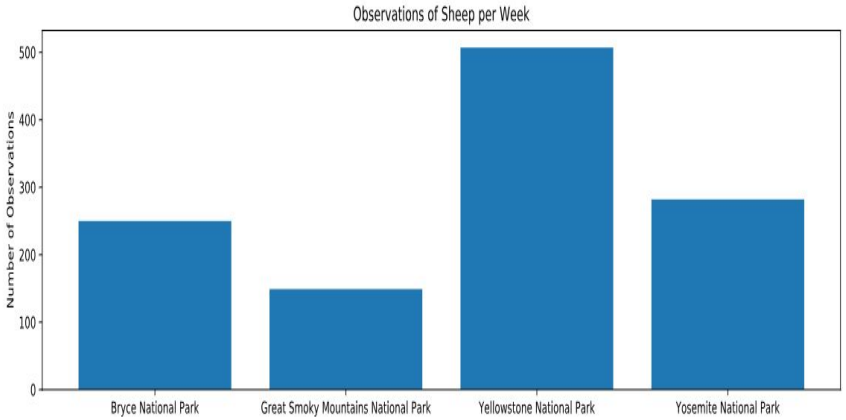

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