Biodiversity for the National Parks

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Introduction to Data Analysis

species_info.csv

The file "species_info.csv" has data on the different species that inhabit the National Parks. In turn, the file has the following columns:

- The category.
- The scientific name of each species.
- The common name of each species.
- The state of conservation of the species.

species_info.csv

Some of the data that appear are the following:

- Category: mammal, bird.

- Scientific name of each species: Bos bison, Anas americana.

- Common name of each species: Northern Pintail, Brant.

- State of preservation of the species: In Recovery, Threatened

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Initially note that there was a slight difference in the percentages of birds and mammals that fall into a protected category. The calculated null hypothesis is that this difference was a result of chance.

At the time of the chi-square test, I figure a p-value of ~ 0.688, so it can be concluded that the difference between the percentages of protected birds and mammals is not significant and that it is a result of chance.

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On the other hand, when the percentages of protected reptiles and mammals are compared and I repeat the same chi-square test, the value of p is ~ 0.038, which is significant.

Therefore, I can conclude that certain types of species are more likely to be in danger than others.

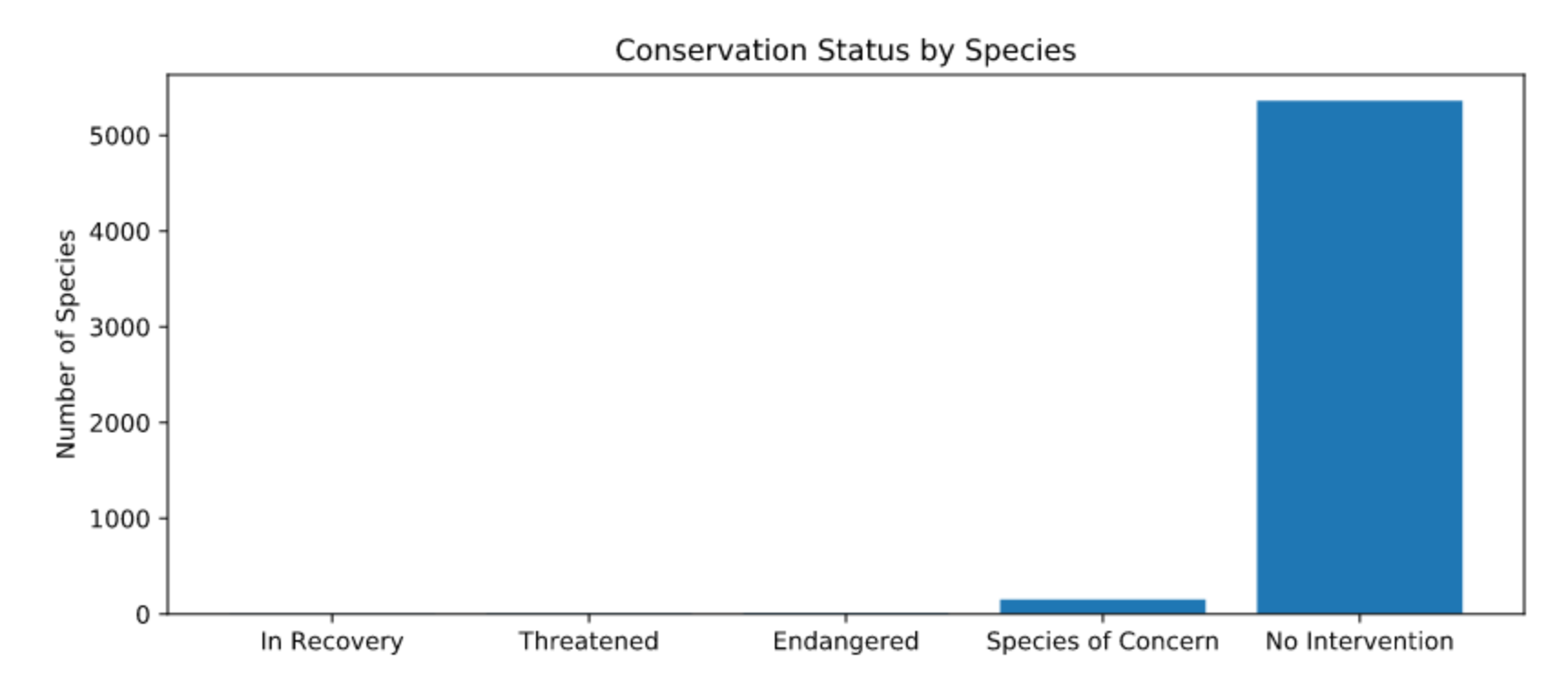
Foot and Mouth Reduction Effort

Given a baseline of 15% occurrence of foot-and-mouth disease in sheep in Bryce National Park, I could find that if the scientists wanted to make sure that a fall of> 5% in the observed cases of foot-and-mouth disease in sheep in Yellowstone was significant they would have to observe at least 510 sheep.

Then, using the observation data discussed above, I discovered that this would take approximately one week of observation in Yellowstone to see that many sheep, or about two weeks in Bryce, could see so many sheep.

Graphs

Conservation Status by Species



Graphs

Observations of Sheep per Week