National Parks Biodiversity

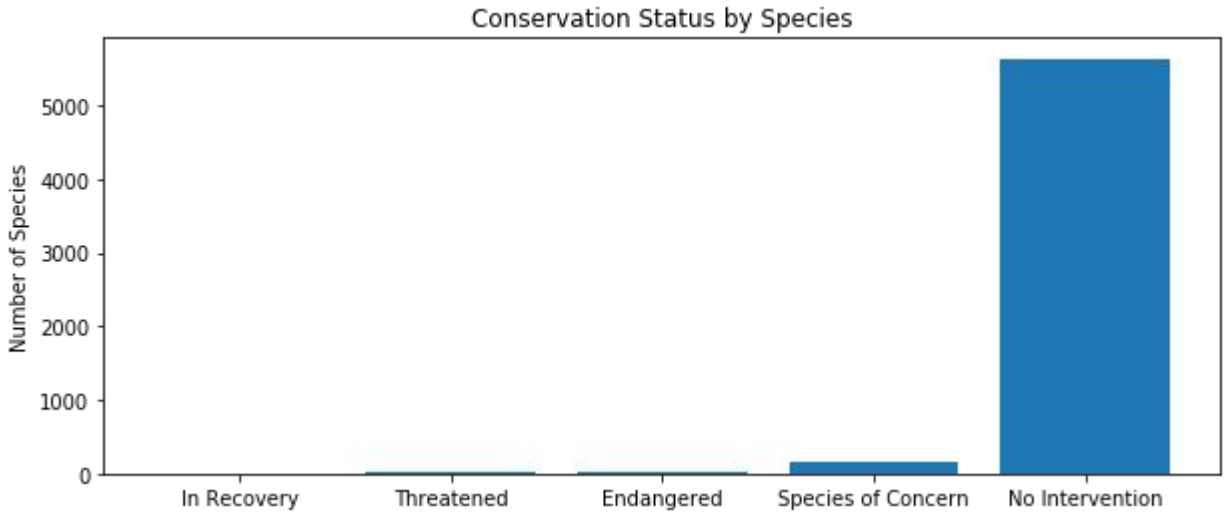
Conservation Status Analysis

The data for this analysis came from two csv files; species.csv and observations.csv.

The species file included data about the different species in our national parks including:

- The scientific name of each species
- The common name of each species
- The conservation status of the species

The conservation status listed as ‘none’ had to be replaced with ‘No Intervention’ for the analysis.


Conservation Status by Species
Number of Species
5000
4000
3000
2000
1000
0
In Recovery
Threatened
Endangered
Species of Concern
No Intervention

The most threatened species are mammals and birds and the least threatened species are vascular and nonvascular plants.

A Chi Square test was conducted to test if the species Mammal was more likely to be endangered than the species Bird. The test showed that there was no statistical significance between the two groups.

Another Chi Square test was conducted to test if the species Mammal was more likely to be endangered than the species Reptile. The test showed that the species Mammal was significantly more likely to be endangered than the species Reptile.

Recommendation

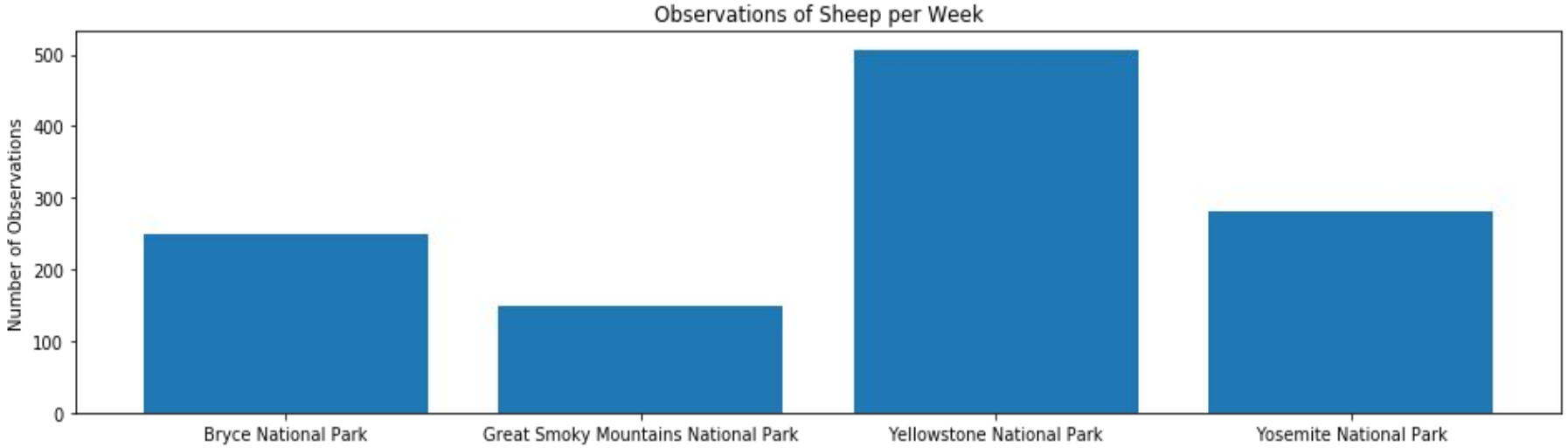
Based on the results of the Chi Square tests, it is recommended that more conservation efforts are put in place to protect species in the Mammal group.

- Mammals are more likely to be endangered than Reptiles.
- The species Mammal is the most endangered species.

Foot and Mouth disease

Park Rangers in Yellowstone National Park have been running a program to reduce the rate of foot and mouth disease in sheep in that park.

- In order to test if the program is working we need to calculate the number of sheep they would need to observe in each park.
- With a baseline of 15% infection, a minimum detectable effect of 33.3% and a 90% level of significance; the number of observations per park should be 510.



Based on the number of observations recorded each week at each national park, it will take 2 weeks at Bryce, 3.5 weeks at GSM, 1 week at Yellowstone and just under 2 weeks at Yosemite to record the 510 observations needed for the test.