Biodiversity for the National Parks

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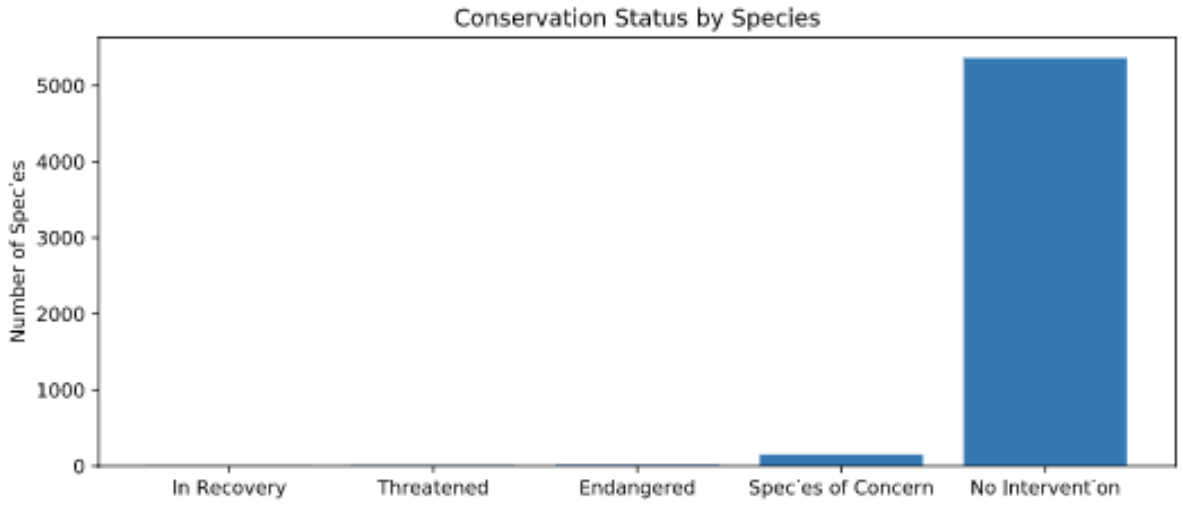
Data in species_info.csv

- There are 5541 Different species in Species_info.csv file.
- Different Categories include Mammal ,Bird ,Reptile, Amphibian, Fish ,Vascular Plant and Nonvascular Plant.
- Species found in “species_info.csv” are grouped in the following conservation statuses: In recovery, Threatened, Endangered, Species of Concern and No Intervention

Conservation Status	Total
Endangered	15
In Recovery	4
No Intervention	5363
Species of Concern	151
Threatened	10



Are certain types of species more likely to be endangered?

- A chi-squared test was conducted to determine significance on the claim that certain types of species are more likely to be endangered.

- The table below show the number of protected types of species and their respective protected percentage.

Category	Not Protected	Protected	Percent Protected
Amphibian	72	7	8.86%
Bird	413	75	15.36%
Fish	115	11	8.73%
Mammal	146	30	17.04%
Nonvascular Plant	328	5	1.50%
Reptile	73	5	6.41%
Vascular Plant	4216	46	1.07%

Recommendations for Conservationists

- The recommendation at hand will be to place more importance on the preservation of Mammal species over the Reptile species since the test concluded that there is statistical significance on Mammals being more likely to be endangered than Reptiles.

- Based on this study, there is no significant difference between Mammals and Birds being more likely to be endangered.
  For this test our p-value was 0.687 which is greater than .05 making it not significant.

- There is however a significance when comparing Mammals and Reptiles being more likely to be endangered.
  For this test our p-values was .038 which is less than .05 making it significant.

Foot & Mouth Disease Study

- In order to reduce the rate of foot and mouth disease in sheep across all National Parks, the graph below shows the number of sheep that were observed on a weekly bases.
- The baseline provided from the previous year data was that 15% of the sheep at Bryce National Park had foot and mouth disease.
- To calculate the required sample size needed to ensure that the percentages of the disease were significant; a 90% level of significance was used on the Sample size calculator.
- To calculate the minimum detectable effect, we need to multiply the desired reduction (5%) by 100 and then divide by the baseline (15) which results in a desired sample size of **870 sheep**.