

Biodiversity in the National Parks

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Species Dataframe

Species_info.csv contains information on all the species in the parks. This information includes the category of animal, such as mammal, amphibian, or fish, as well as the scientific name and common name and the conservation status of each animal. Most of the animals are in a state of 'no intervention', while there are some 'species of concern' and 'endangered species'.

Chi-Square Significance Testing

I ran two Chi-Square tests on the data to see if certain types of species were more likely to be endangered than others. This test allowed me to run a significance test independent of other variables. As a result, the test returned no significance in rated of endangerment between mammals and birds. However, the pvalues returned significance between reptiles and mammals. This results means that certain types of species are more likely to be endangered than others.

For scientists concerned about endangered species - as some are more likely to be endangered than others, there are likely other variables affecting this significance and it should be looked into futher.

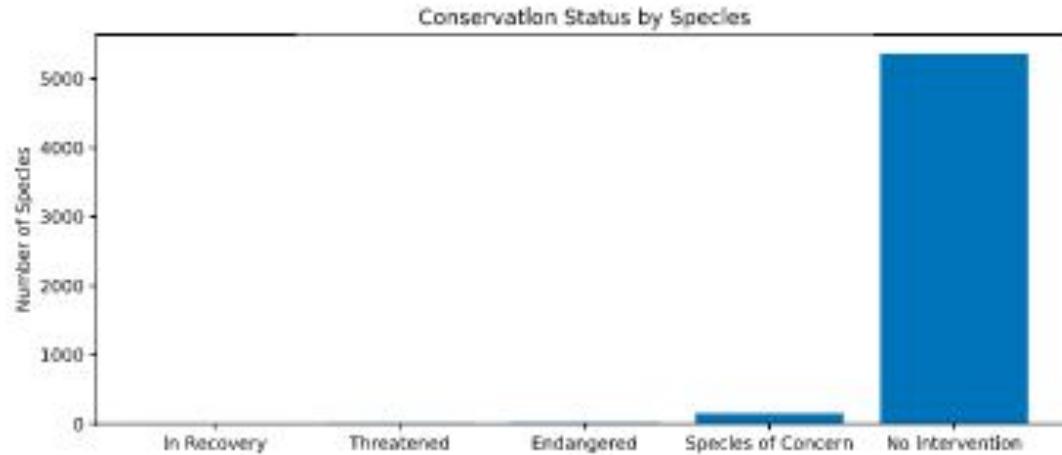
Foot & Mouth Disease Sample Size

For the baseline, I used 15% as it was the rate recorded the past year. The minimum detectable rate was calculated by knowing they wanted to detect a 5% change. So using the calculation $100 * (5/15)$, I got the rate 33%. Using the Sample Size calculator I reached the 520 sample size.

Percent Protected Pivot Table

```
protected    category  not_protected
protected    percent_protected
0            Amphibian      72
7            0.088608
1            Bird          413
75           0.153689
2            Fish          115
11           0.087302
3            Mammal        146
30           0.170455
4  Nonvascular Plant      328
5            0.015015
5            Reptile        73
5            0.064103
6  Vascular Plant        4216
46           0.010793
```

Conservation Status by Species



Observations of Sheep Each Week

