Biodiversity in the National Parks

AN ANALYSIS OF WILDLIFE IN THE NATIONAL PARKS

Obsrevations of the Data

The dataframe had 4 columns made up of Category, Scientific Name, common names and Conservation status.

Many of the conservation status had NaN as values meaning the data hadn’t been recorded for these species.

All four columns were made up of strings and therefore we were looking at discrete data rather than continuous. This affects the types of analysis we can do over the data.

The category appears to be related to the

Chi Squared test for significance

MAMMAL AND BIRD

When calculating significance on the percentage of endangered mammals vs birds it was found that there was no significant difference.

Had a P-Value of 0.688

MAMMAL AND REPTILE

When performing a chi squared test over the percentage of endangered mammals vs reptiles it was found that the percentages of mammals endangered was significantly different to the percentage of Reptiles.

Had a P-Value of 0.0384

Recommendation

Based on our Chi Squared test of Mammals vs Reptiles, It can be shown that certain types of species are more likely to be endangered than others.

Further testing may be required to identify which particular species will be more likely to be endangered than others.

Sample size for Foot and Mouth

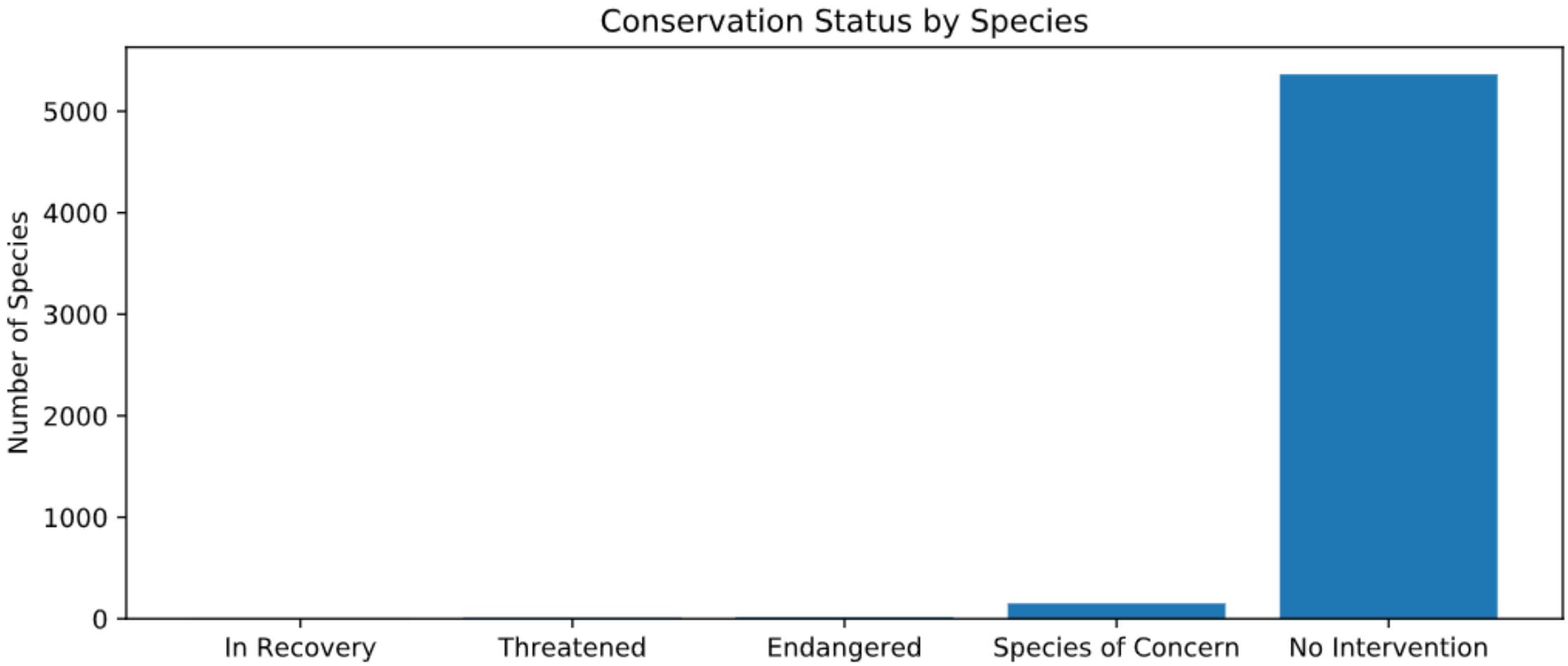
We used an online calculator to determine an acceptable sample size for detecting a reduction of Foot and Mouth in Sheep.

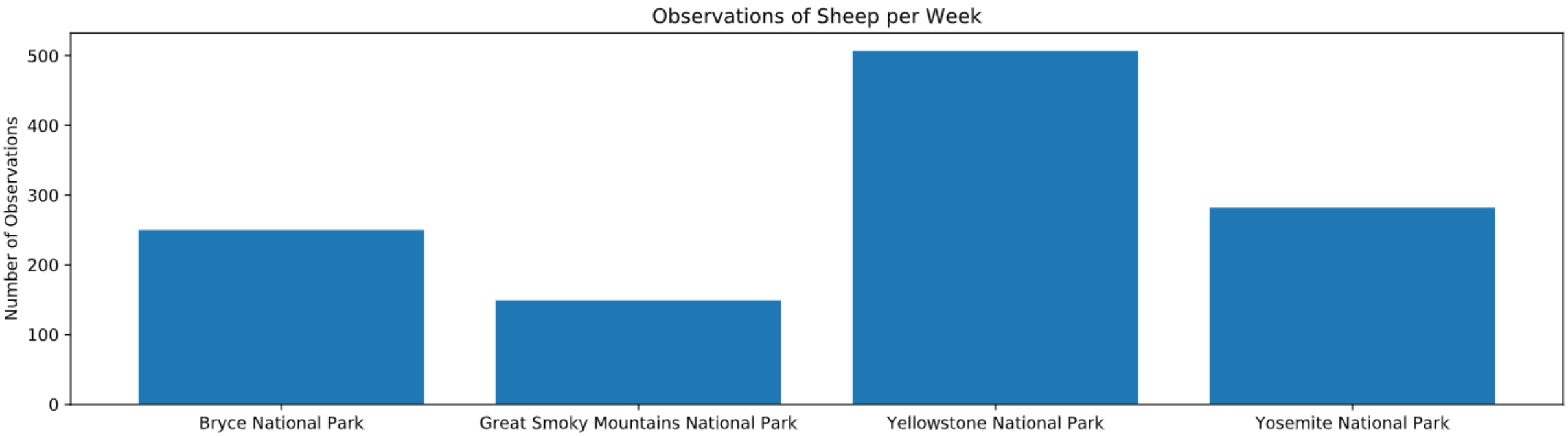
Based on prior year information we had a baseline rate of observed foot and mouth cases of 15%

Scientists wanted to know how big of a sample would need be 90% confident that there was a reduction in this number of 5%.

This means the minimum detectable difference would be 33.333%

The result was a sample of 870 would need to be conducted to be 90% confident of a 5% reduction in foot and mouth cases


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


Observations of Sheep per Week
Number of Observations
0
100
200
300
400
500
Bryce National Park
Great Smoky Mountains National Park
Yellowstone National Park
Yosemite National Park