Biodiversity for the National Parks

By Ethan Pelletier

species_info.csv Data Observations
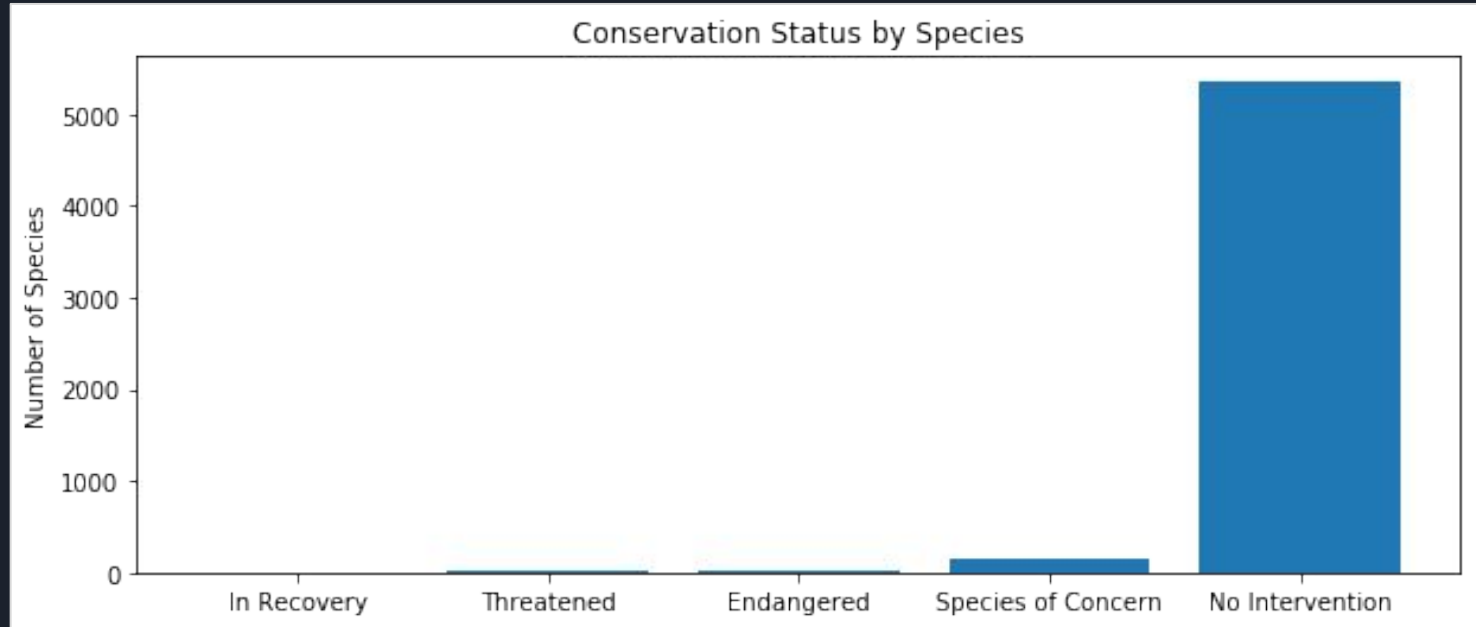
5541 Different Species

Categories of Species:

Mammal
Bird
Reptile
Amphibian
Fish
Vascular Plant
Nonvascular Plant

Conservation Statuses:

Species of Concern
Threatened
Endangered
In Recovery
No Intervention

species_info.csv Data Observations

In Recovery: 4   Threatened: 10   Endangered: 15   Species of Concern: 151   No Intervention: 5363

Endangered Species Significance Calculations
Mammals & Birds

Performing a chi square test comparing the protection rates of mammals and birds reveals that they are not statistically different. p-value = ~0.6876

	Protected	Not Protected
Mammal	30	146
Bird	75	413

Endangered Species Significance Calculations
Mammals & Reptiles

Performing a chi square test comparing the protection rates of mammals and reptiles reveals that they are statistically different. p-value = ~0.0384

	Protected	Not Protected
Mammal	30	146
Reptiles	5	73

Recommendations for Conservationists

➢ Understand that some types of species are more likely to be endangered than others.

➢ Increase protective measures for reptile species as they are almost three times as likely to be endangered when compared to mammal species.

Foot in Mouth Disease Study
Sample Size Determination

Baseline Conversion Rate = 15%

Minimal Detectable Effect = 100 * 5 / Baseline = 33.33%
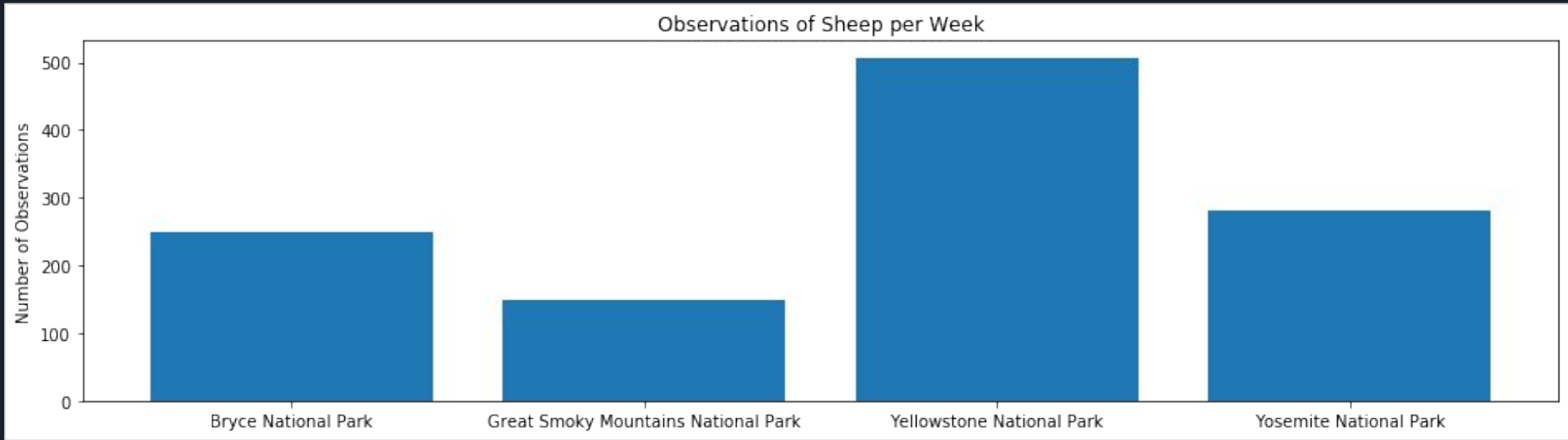
Statistical Significance = 90%

Sample Size per Variation = 510

# of Weeks of Observation at Bryce = Sample Size per Variation / 250 = ~2

# of Weeks of Observation at Yellowstone = Sample Size per Variation / 507 = ~1

Foot in Mouth Disease Study
Weekly Sheep Observations

Observations of Sheep per Week

Bryce: 250 282   *Great Smoky Mountains: 149*   *Yellowstone: 507*   *Yosemite:*