Biodiversity Capstone Project

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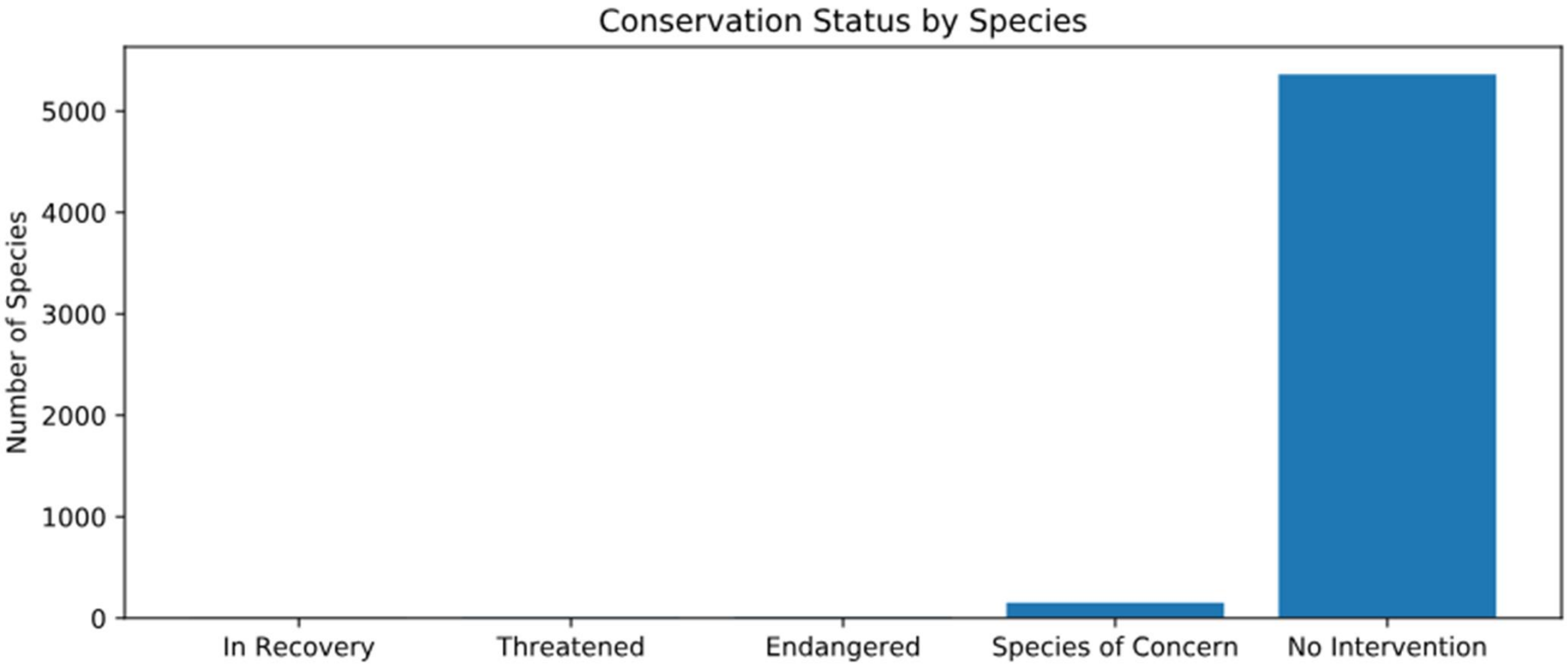
The Data: species_info.csv

- Columns are broken up into:
  - Categories
  - Scientific name
  - Common name
- There are 5541 unique scientific names
- Species are put into 7 categories
  - Mammal
  - Bird
  - Reptile
  - Amphibian
  - Fish
  - Vascular plant
  - Nonvascular plant



15 species are endangered, 4 are recovering, 151 are a concern, 10 are threatened, and 5364 need no intervention

Endangered Species

Category	Protected	Not Protected
Mammals	17.05%	82.95%
Bird	15.37%	84.63%
Nonvascular Plant	15.01%	84.99%
Amphibian	8.86%	91.14%
Fish	8.73%	91.27%
Reptile	6.41%	93.59%
Vascular Plant	1.08%	98.20%

Mammals are the most endangered category while vascular plants are the least endangered.

Chi Squared Test for Significance: Mammals and Birds

Is the difference between a mammal's likeliness to be endangered and a bird's likeliness to be endangered significant?

- p-value 0.688 > 0.05
- Difference is not significant
- The difference between the mammal and bird's percentages are due to chance.

Chi Squared Test for Significance: Mammals and Reptiles

Is the difference between a mammal's likeliness to be endangered and a reptile's likeliness to be endangered significant?

- p-value 0.038 < 0.05
- Difference is significant
- The difference concludes that mammals are more likely to be endangered than reptiles.

Sample Sized Determination for Foot and Mouth Disease

Baseline Conversation Rate	15.00%
• Given in the record of last year	
Statistical Significance	90.00%
• Level requested	
Minimum Detectable Effect	33.33%
• Detect reductions of at least 5%	
• (100*5)/15	
Sample Size	870
• Plug previous values into calculator	

Observations at Parks?

- Yellowstone requires approximately one week to see that many sheep
- Bryce requires approximately two weeks to see that many sheep