

Biodiversity for the National Parks

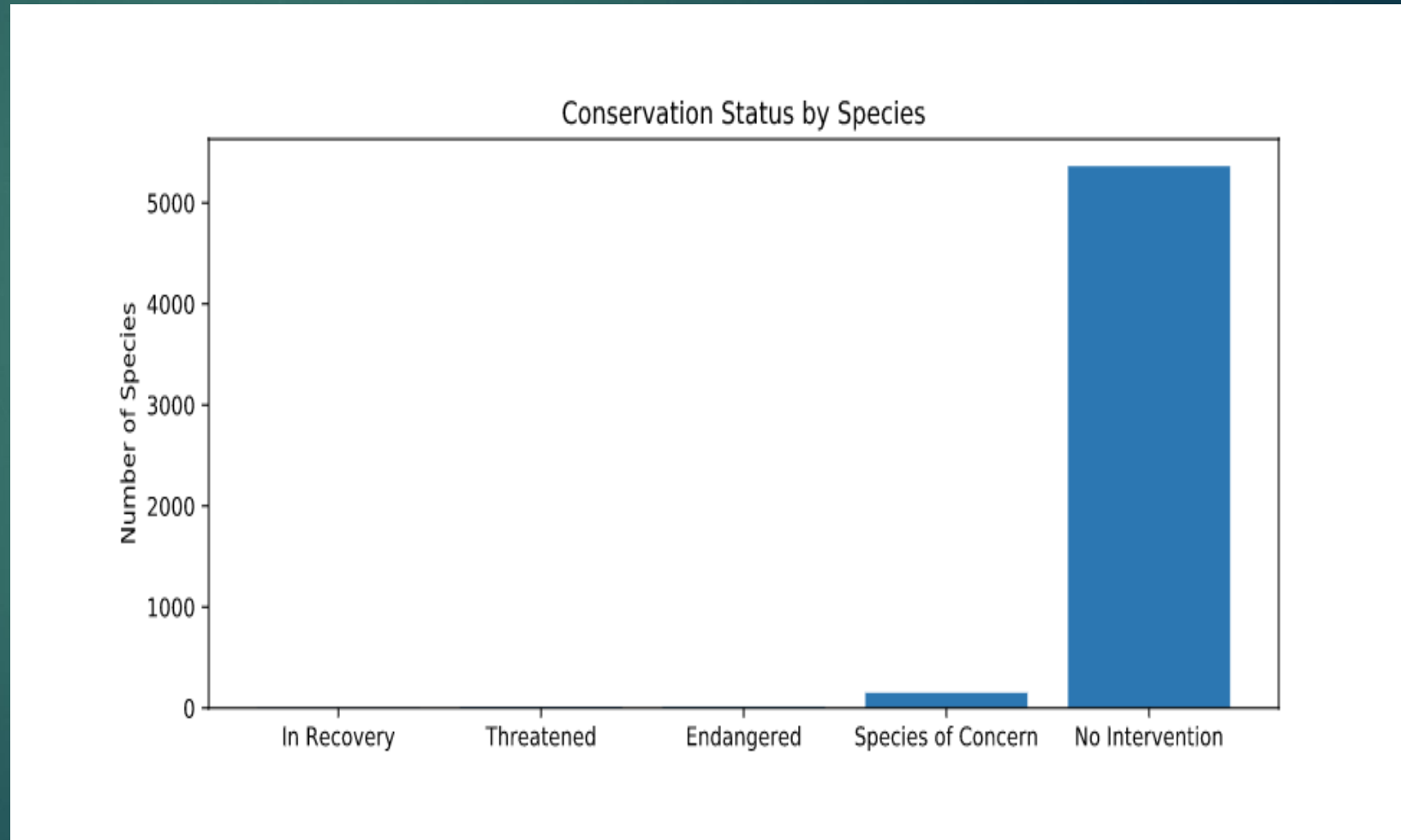
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Conservation Status

- ▶ There are 5,541 unique species located within the national parks
- ▶ There are 7 different categories of species:
 - ▶ Mammal
 - ▶ Bird
 - ▶ Reptile
 - ▶ Amphibian
 - ▶ Fish
 - ▶ Vascular Plant
 - ▶ Non-Vascular Plant

Conservation Status

- ▶ Conservation status:
 - ▶ 15 species are Endangered
 - ▶ 4 species are In Recovery
 - ▶ 151 species are Species of Concern
 - ▶ 10 species are Threatened
 - ▶ 5363 species currently have no intervention



Equally Protected?

Species	Not Protected	Protected	Percentage Protected
Amphibian	72	7	8.86%
Bird	413	75	15.34%
Fish	115	11	8.73%
Mammal	146	30	17.05%
Nonvascular Plant	328	5	1.50%
Reptile	73	5	6.41%
Vascular Plant	4216	46	1.08%

Equally Protected?

- ▶ Chi-Squared Test was used to see if certain types of species are more likely to be endangered.
- ▶ Two Chi-Squared Tests were conducted
 - ▶ 1. Mammal vs. Bird
 - ▶ There was not a significant difference between the percentage of mammals and birds that were protected.
 - ▶ Thus, the differences that we are seeing are a result of chance.
 - ▶ 2. Mammal vs. Reptile
 - ▶ There was a significant difference between the percentage of mammals and reptiles that were protected.
 - ▶ Mammals are more likely to be protected than reptiles.

Conservation Conclusion

- ▶ Results

- ▶ Certain species are more likely to be endangered than others

- ▶ Recommendation

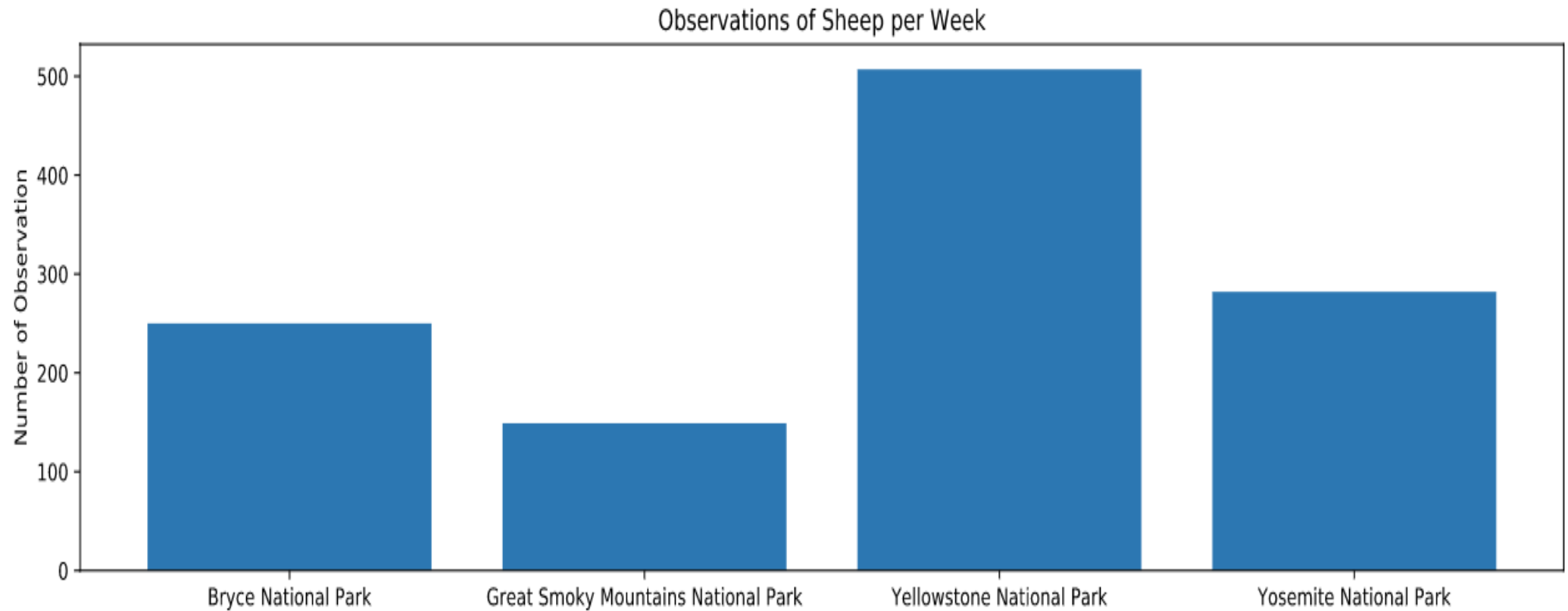
- ▶ Research needs to be conducted to discover the reason why certain species are more protected than others

Foot and Mouth Disease Study

- ▶ Sheep observed in each park over the past 7 days

National Park	Observation
Bryce National Park	250
Great Smoky Mountains National Park	149
Yellowstone National Park	507
Yosemite National Park	282

Foot and Mouth Disease Study



Foot and Mouth Disease Study

- ▶ Last year, 15% of sheep at Bryce National Park had foot and mouth disease.
- ▶ Goal:
 - ▶ Detect reductions of at least 5%
- ▶ Level of Significance :
 - ▶ 90%
- ▶ Minimum detectable effect:
 - ▶ 33.33%
- ▶ Sample size needed to observe to ensure that percentages are significant:
 - ▶ 890 sheep

Foot and Mouth Disease Study

- Observation time needed at each national park

National Park	Observation Time(In Weeks)
Bryce National Park	3.56
Great Smoky Mountains National Park	5.97
Yellowstone National Park	1.76
Yosemite National Park	3.16