A decorative graphic on the left side of the slide consisting of two overlapping parallelograms. The front one is blue and the back one is a light green. They are positioned diagonally, with the blue one partially covering the green one.

Biodiversity in National Parks

By: Ethan Tashman



Species Info

The CSV file for this project contained data highlighting the varying species that make their habitats in National Parks within the United States. The key focus of this project was to evaluate which among these species were endangered, or at risk of becoming endangered while attempting to identify if there was any correlation between certain species or locations.



Other observations from data analysis

- Approximately 3% of animals in national parks are at some level of risk of extinction
- Mammals and Birds have the highest percentage protected of species types in national parks



Significance Calculations

- The P-value comparing Mammals and Birds came out to approximately .69 which means there is not a significant difference between the likelihood of one of the two species being at risk for extinction.
- The P-value comparing Mammals and Reptiles, however, came out to approximately .038 which means there is a statistical significance to the difference in likelihood of a mammal being at risk of extinction over a reptile being at risk for extinction.
 - This in turn implies that certain species are more at risk than others of extinction, however it largely depends on the pairings of species.



Conservationist Recommendation

Based on the information in the previous few slides, it is clear that certain species, like mammals and birds, are at greater risk of extinction. As a result we do recommend that there be a slightly greater emphasis on protection for these two species and their corresponding sub-species.



Foot and Mouth Disease: Sample Size Determination

This section of the project required analysis that would allow park rangers at Yellowstone to determine the appropriate sample size to evaluate whether their efforts to reduce foot and mouth disease in sheep had been successful.

Possessing only one piece of information, that 15% of sheep at Bryce National Park suffered from the malady (our baseline), we were able to use the sample size calculator to determine the necessary sample size for rangers to evaluate their efforts was 870 sheep, which would require testing over 2 weeks of time.

Tables/Graphs





Conservation Status

Conservation Status	Scientific Name (count)
Endangered	15
In Recovery	4
Species of Concern	151
Threatened	10
No Intervention	5363



Protected Species Grouped by Type

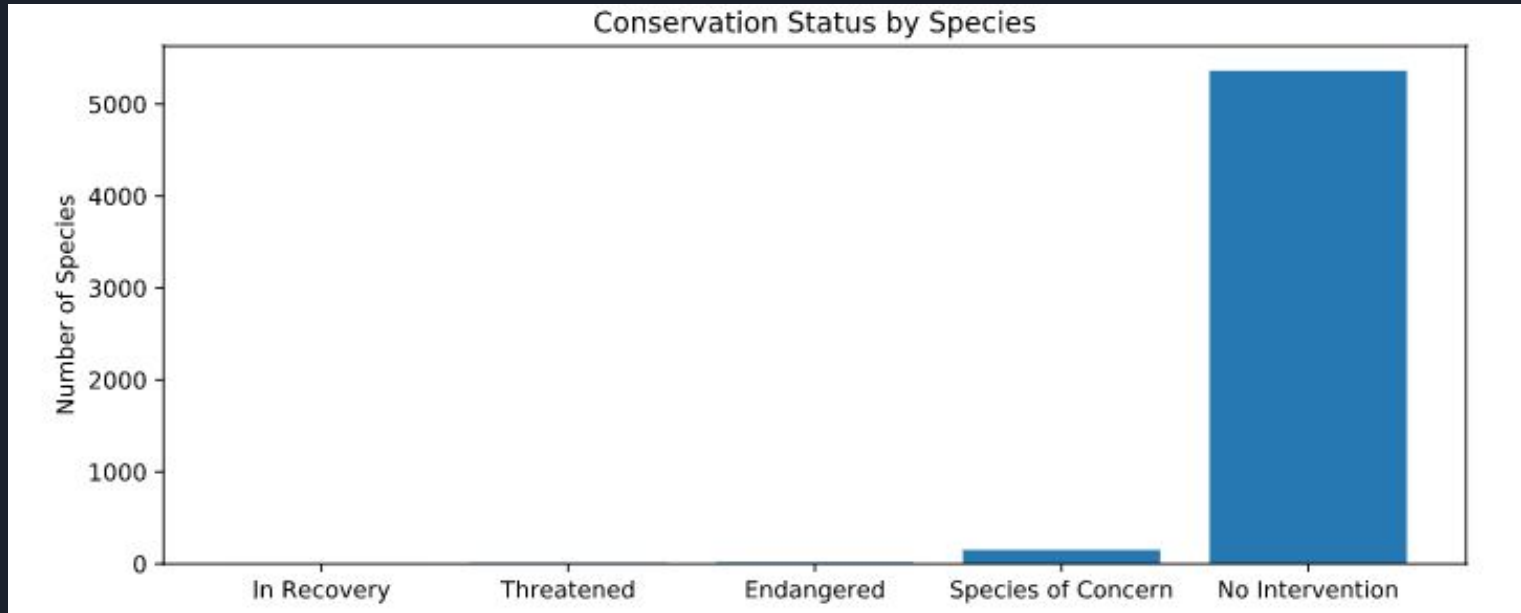
Category	Not Protected	Protected	% Protected
Mammal	146	30	17%
Bird	413	75	15%
Amphibian	72	7	8.8%
Fish	115	11	8.7%
Reptile	73	5	6%
Non-Vascular Plant	328	5	1.5%
Vascular Plant	4216	46	1%



Sheep Observations by Park

Park	Number of Sheep Observations
Bryce National Park	250
Great Smoky Mountains National Park	149
Yellowstone National Park	507
Yosemite National Park	282

Conservation Status by Species



Sheep Observations per Week

