Capstone Option 2: Biodiversity for the National Parks
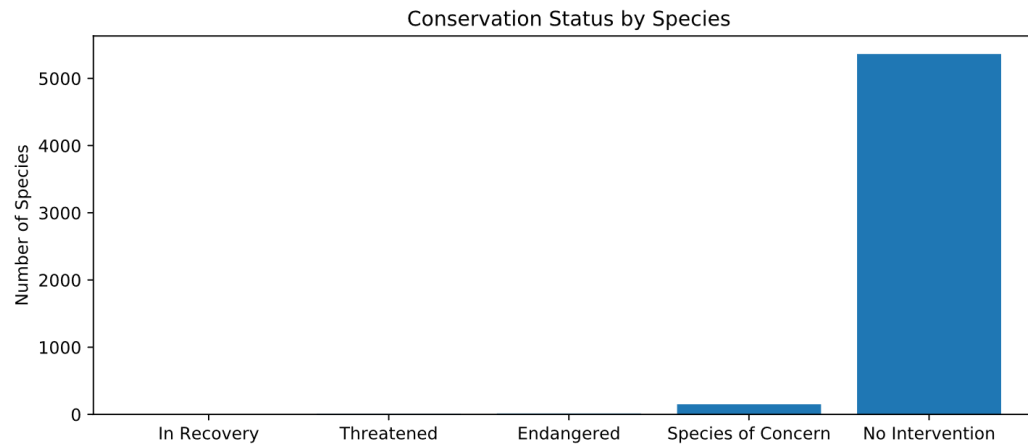
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Data in species_info.csv

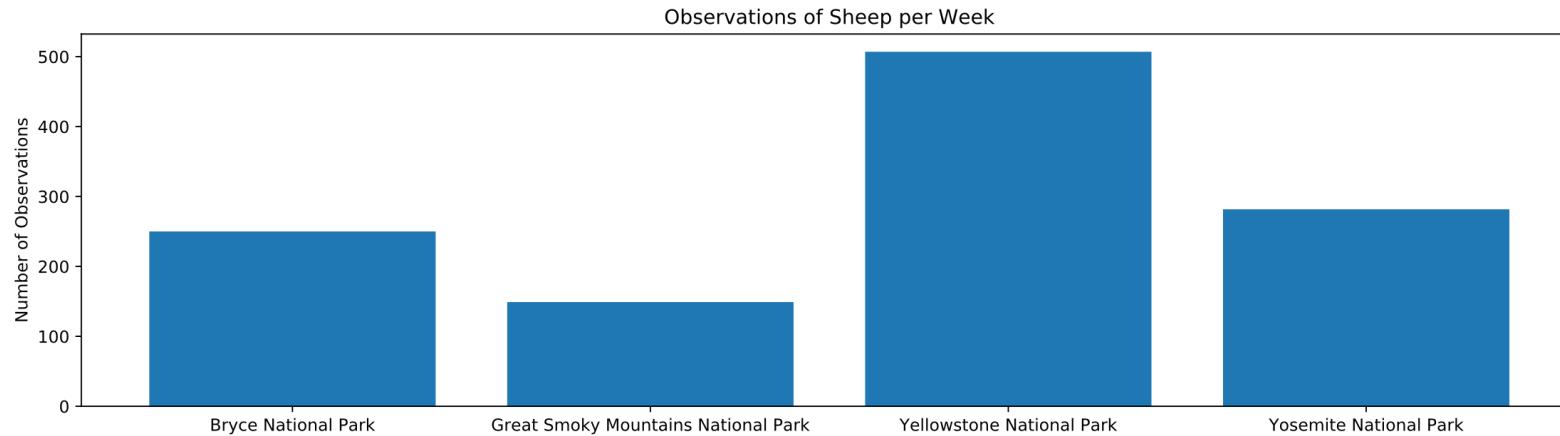|	category	not_protected	protected	percent_protected
0	Amphibian	72	7	0.088608
1	Bird	413	75	0.153689
2	Fish	115	11	0.087302
3	Mammal	146	30	0.170455
4	Nonvascular Plant	328	5	0.015015
5	Reptile	73	5	0.064103
6	Vascular Plant	4216	46	0.010793

- Only a small amount of all animals is protected
- Relatively, mammals are the type of animal with the largest protection rate
- Absolutely, birds are the most protected animals

Conservation Status by Species

Significance calculations

- Slight difference in the percentages of birds and mammals that fall into a protected category

- **Null hypothesis:** Is this difference just a coincidence?

- Chi-square test: **p-value=0.688** → **Coincidence**

- **Same test for reptiles and mammals**

- Chi-square test: **p-value=0.0383** → **Difference is significant**

- Certain types of species *are* more likely to be endangered than others

Sheep observations

Observations of Sheep per Week

- Sample size determination had a bug

- **Assuming a baseline of 15, a minimum detectable effect of 5%(33% change) and a statistical significance of 90%, i obtained a minimum sample size of 39000**