Biodiversity in Our National Parks

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Species Specific

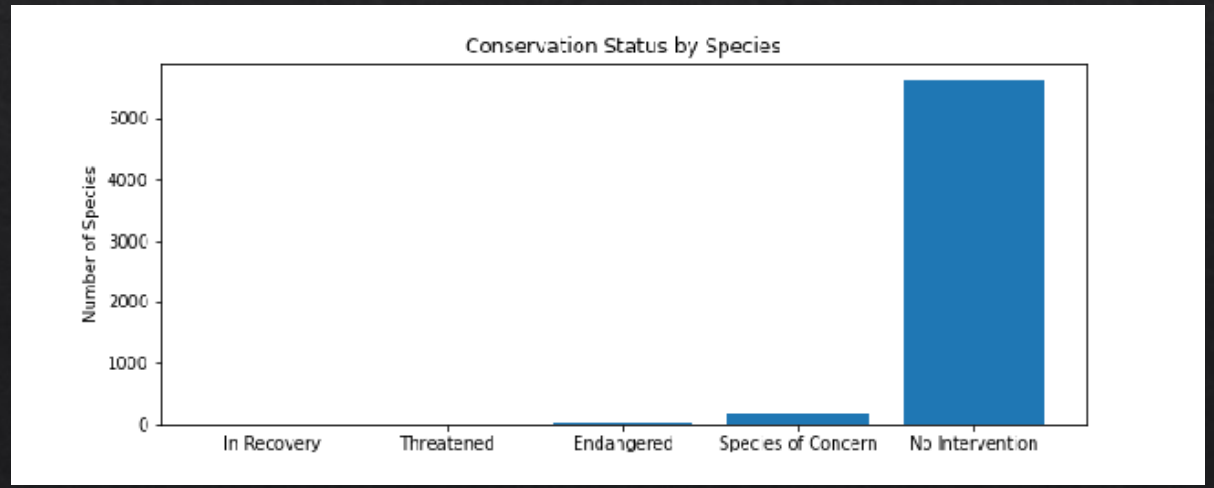
- This data spanned various National Parks and uniquely identified 5,541 different species.
- The data set provided us with the Scientific Name, Common Name, Category, and Conservation Status of each of the identified species.
- 7 different categories of species were identified in the data set: Mammal, Bird, Reptile, Amphibian, Fish, Vascular Plant, and Nonvascular Plant.
- There were 5 conservation statuses identified as well, they were as follows;
  - Species of Concern, Endangered, Threatened, In Recovery, & No Intervention

Status Report of Conservation

- Most species fall into the "No Intervention" category (5,363) which is a great sign.

- Additionally, on the opposite end of the spectrum is those species that are "in recovery" (4) which is also somewhat good news in that it is a small subset and is the smallest category by far.

	conservation_status	scientific_name
1	In Recovery	4
4	Threatened	10
0	Endangered	15
3	Species of Concern	151
2	No Intervention	5363



More Endangered Than Others?

- "Not Protected" represents the subset of a species that does not require intervention
- "Protected" on the other hand shows the portion that requires specific intervention
- The Percent Protected column shows the strength of that particular species, or which species are more endangered than others
- The Mammal by percentage is the most endangered species

	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

Endangered Species, Significant or Not?

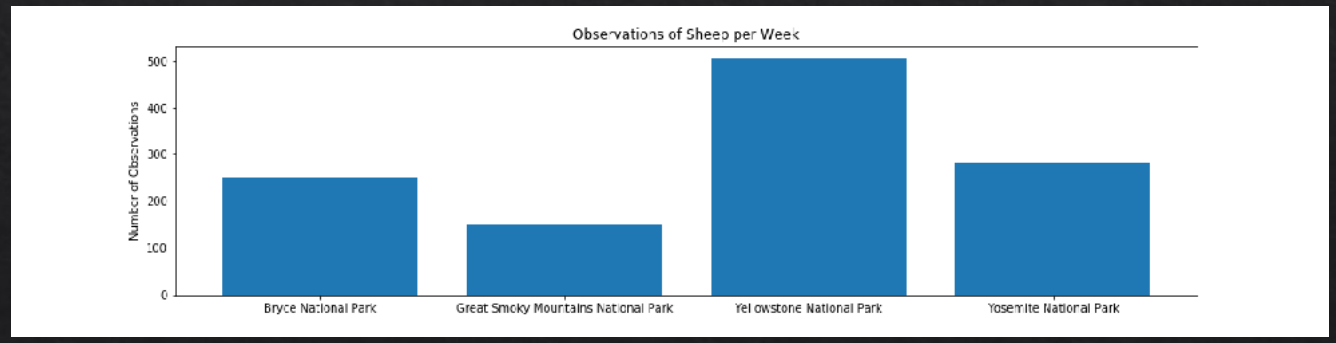
- After our test, we see that Mammals and Birds do not hold a significant difference in which species is most likely to become endangered.
- This is determined by the percent protected values. The higher the values is, the more likely the species to become endangered.
- The least likely species to become endangered are Vascular Plants and Nonvascular Plants. My recommendation for conservationists is that they focus their efforts on these particular species last.

Sheepish Observations

- The data identifies 3 specific species of sheep: Domestic Sheep, Bighorn Sheep, & Sierra Nevada Bighorn Sheep.

- When merging the species and observations data, we see that Yellowstone National Park leads the way with 507 sightings (observations)

	park_name	observations
0	Bryce National Park	250
1	Great Smoky Mountains National Park	149
2	Yellowstone National Park	507
3	Yosemite National Park	282



Foot & Mouth Study

- Data was provided to us that last year 15% of sheep at Bryce National Park have foot and mouth disease. This is considered to be the “baseline”
- The scientists want to be able to detect reductions of a minimum of 5% points
- It was instructed that the level of statistical significance would be set at 90%
- Using the equation 100*5/15 we determined the minimum detectible effect would be 33.333%
- This returned a sample size of 510 Sheep which could be observed over the course of 1 week at Yellowstone and 2 weeks at Bryce.