Capstone Project - Biodiversity for the National Parks

Species Observations

- 5541 unique species are represented in the National Parks
- 7 different categories of species
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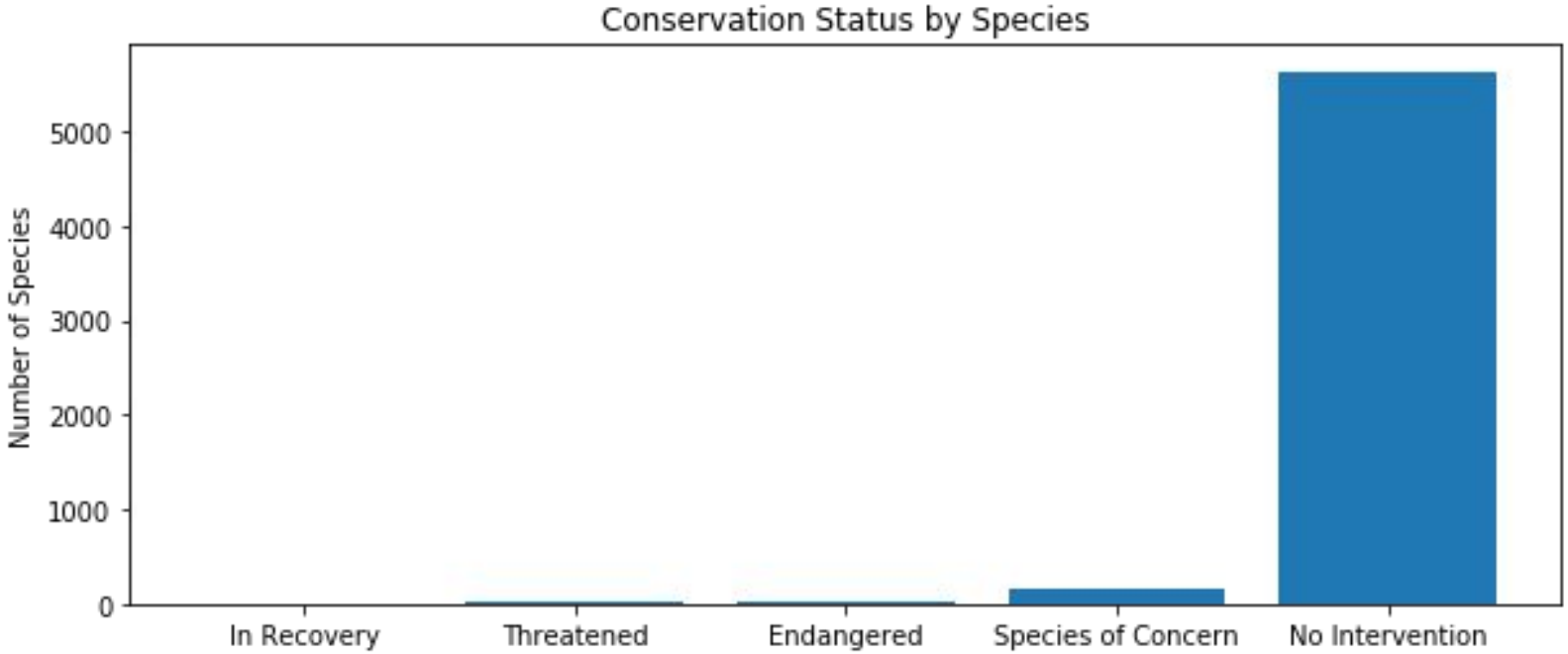
	category	not_protected	protected	percent_protected
0	Amphibian	72	7	0.088608
1	Bird	413	75	0.153689
2	Fish	115	11	0.087302
3	Mammal	146	30	0.170455
4	Nonvascular Plant	328	5	0.015015
5	Reptile	73	5	0.064103
6	Vascular Plant	4216	46	0.010793

- Mammals & Birds have the highest % of protected species


Conservation Status by Species
Number of Species
0
1000
2000
3000
4000
5000
In Recovery
Threatened
Endangered
Species of Concern
No Intervention

Significant Calculations

Endangered Status between category of species

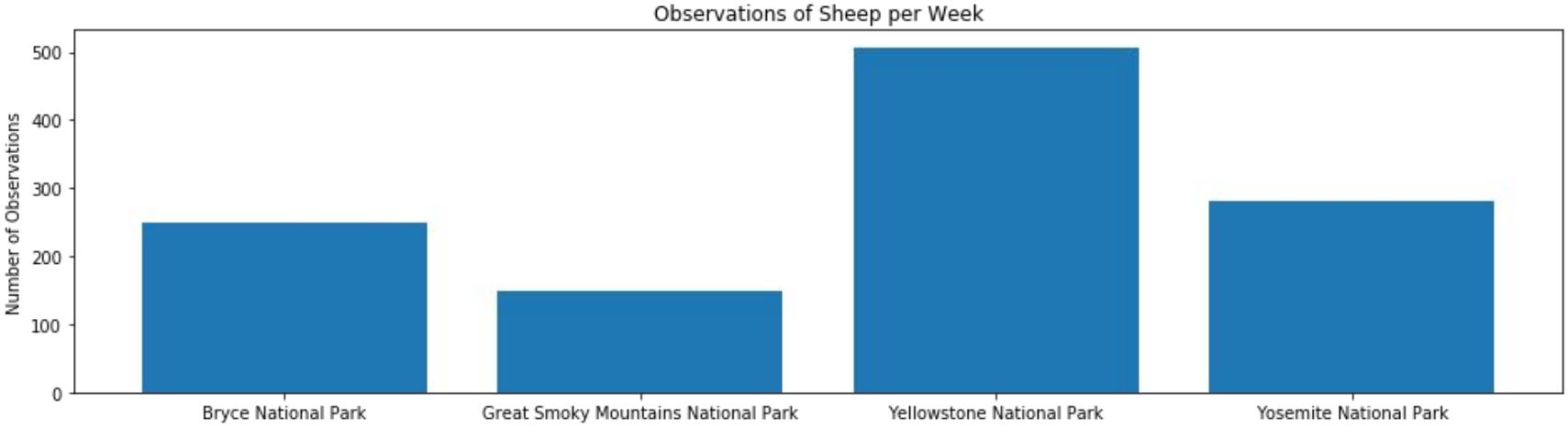
- Mammals & Birds have the highest % of species to be protected. The difference in percentage between the two categories is not significant at a 69% contingency.
- Mammal & Reptiles on the other hand have very different % of species protected, 17.0% and 6.4%. The difference in percentage between in these two categories is significant at a 4% contingency.

Recommendations

- Continue to work to reduce the number of protected status species of the Mammal and Bird categories by building healthy populations of the protected group
- Continue to monitor the other categories to keep their protected status reduced and healthy

Sheep - Foot & Mouth Disease

- Looking for a 5% decrease in Sheep afflicted with Foot & Mouth Disease in Bryce and Yellowstone National Parks
- Using the following criteria - the sample size is 520 sheep
  - Baseline 15%
  - Minimum detectable Effect 100*(0.05/0.15) = 33%
  - Level of significance 90%
- Rangers will need the following number of weeks to observe 520 sheep
  - 2 weeks at Bryce
  - 1 week at Yellowstone


Observations of Sheep per Week
Number of Observations
0
100
200
300
400
500
Bryce National Park
Great Smoky Mountains National Park
Yellowstone National Park
Yosemite National Park