



Biodiversity for the National Parks

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Capstone

Conservation Status

- Number of Species: 5541
- Category: Mammal, Bird, Reptile, Amphibian, Fish, Vascular Plant, Nonvascular Plant
- Conservation Statuses:



Percent of Protected

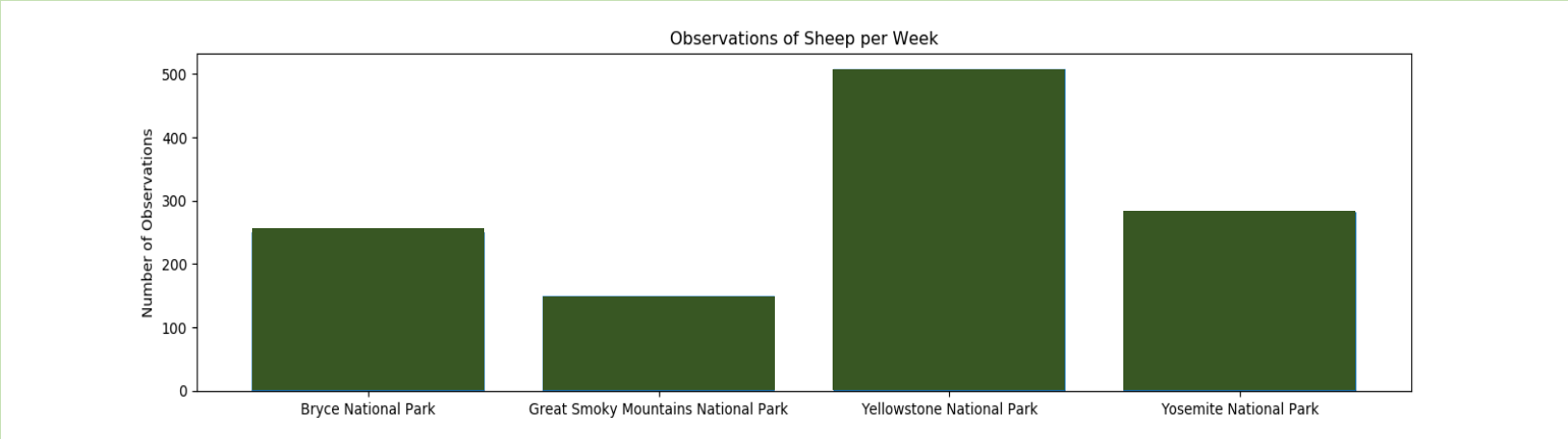
Category	Number of Not Protected	Number of Protected	Percent of Protected
Mammal	146	30	17.05%
Bird	413	75	15.37%
Reptile	73	5	6.41%
Amphibian	72	7	8.86%
Fish	115	11	8.73%
Vascular Plant	4216	46	1.08%
Nonvascular Plant	328	5	1.50%

Chi-Squared Test for Significance

- P-value of the difference between the percentages of protected Birds and Mammals: 68.76%
- P-value Of the difference between the percentages of protected Reptiles and Mammals: 3.84%
- Conclusion:
Birds and Mammals are more likely to be endangered than others. Conservationists should concerned more about them.

Observations of Sheep

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



Sample Size for the Foot and Mouth Disease Study

- Baseline conversion rate : Last year it was recorded that 15% of sheep at Bryce National Park have foot and mouth disease
- Minimum Detectable Effect: $100\% \times \frac{\text{change with confidence}}{\text{Baseline}} = 100\% \times \frac{5}{15} = 33.33\%$
- Significance: 90%
- Sample Size per Variant: 870
- Weeks of Observing Yellowstone: $\frac{870}{507} = 1.72$
- Weeks of Observing Bryce: $\frac{870}{250} = 3.48$

Thank you!