Biodiversity of the National Parks

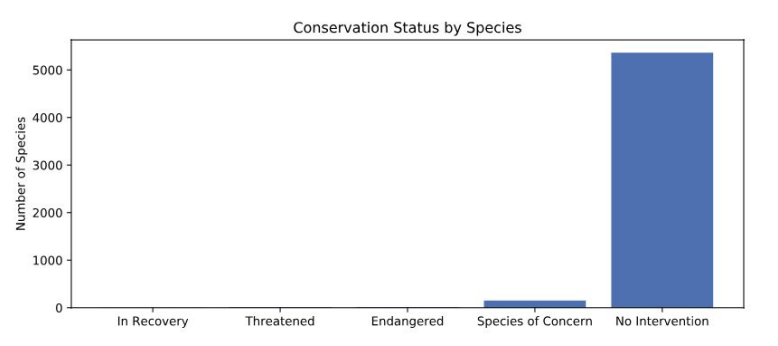
An Analysis of the Wildlife Population

Population Overview

Types of Species included in the Analysis: Mammal, Bird, Reptile, Amphibian, Fish, Vascular Plant and Nonvascular Plant

Total Number of Species: 5541

Species Conservation Status:



Status	Number of Species
In Recovery	4
Threatened	10
Endangered	15
Species of Concern	151
No Intervention	5363

Population Overview Cont'd

Category	Not Protected	Protected	% Protected
Amphibian	72	7	8.86
Bird	413	75	15.37
Fish	115	11	8.73
Mammal	146	30	17.05
Nonvascular Plant	328	5	1.05
Reptile	73	5	6.41
Vascular Plant	4216	46	1.08

Are Some Species More Likely to be Endangered?

Used Chi Squared test for significance

Is the difference between the percentages of protected Mammals and birds significant?

- Pval: 0.6876
- The difference is not statistically significant.

Between mammals and reptiles?

- Pval: 0.0384
- The difference is statistically significant

Some species are statistically more likely to be endangered.

	Protected	Not Protected
Mammal	30	146
Bird	75	413

	Protected	Not Protected
Mammal	30	146
Reptile	5	73

Recommendations to Conservationists

As shown in the previous slide, some species are statistically more likely to be endangered than others

A greater effort should be made to focus on the species that have a higher likelihood of being endangered. Resources can also be better allocated based in this information to help prevent more species from becoming endangered or to help species to recover.

Sheep Foot and Mouth Disease Study

Last year 15% of the sheep population had foot and mouth disease.

The park rangers have been running a program to reduce the rate of the disease and would like to see a reduction of at least 5 percentage points.

Calculated sample size required = 890 sheep

- Baseline: 15%
- Minimum Detectable Effect: 33%
- Statistical Significance of at least 90%

Time to sample 890 sheep

- 1.76 weeks at Yellowstone National Park
- 3.56 weeks at Bryce National Park