BioDiversity for the National Parks
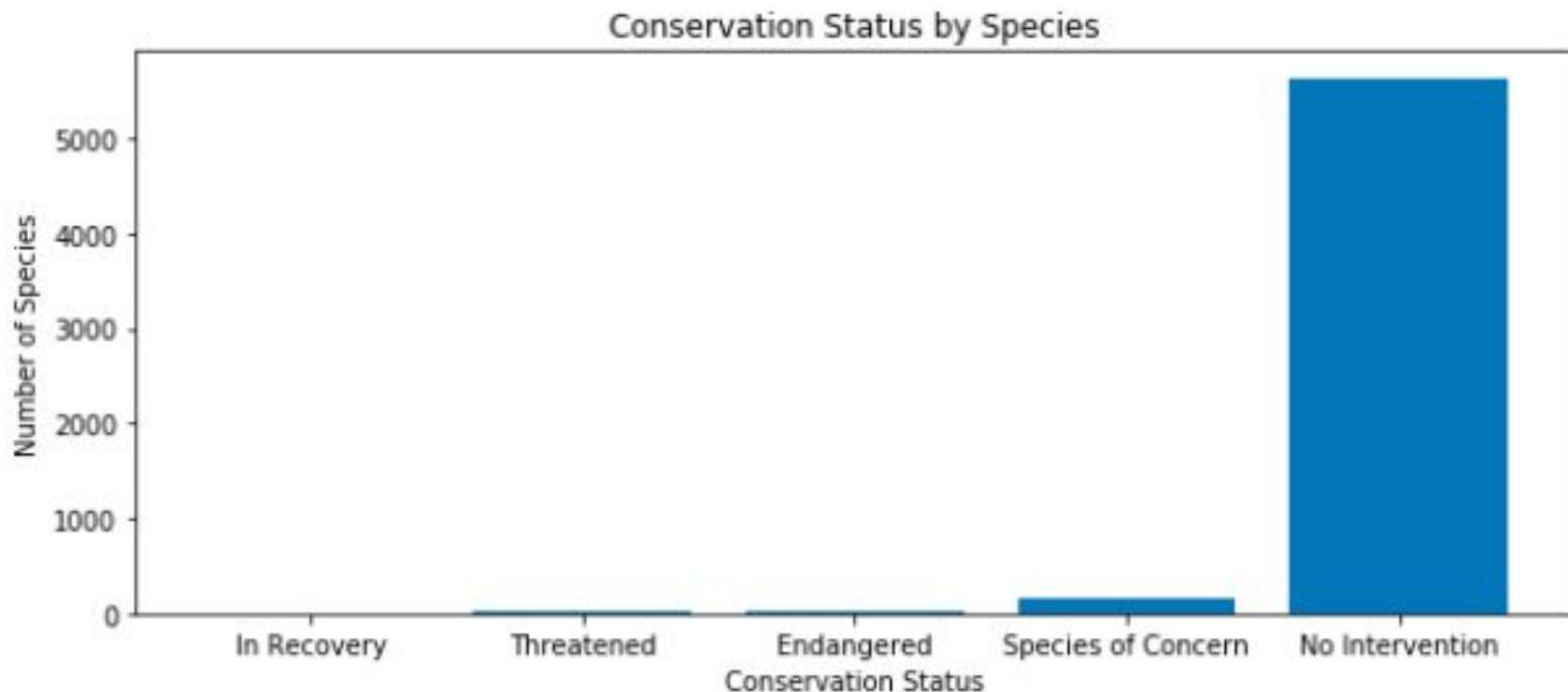
created by Meredith McAfee

Species Data

There are 5,541 different species in our National Parks

Categories: Mammal, Bird, Reptile, Amphibian, Fish, and Vascular Plant

Each species has been assigned a conservation status:

- Species of Concern: 151
- Threatened: 10
- Endangered: 15
- In Recovery: 4
- No Intervention: 5,363

Species Data (cont.)

Conservation Status by Species

Significance Data

We used a chi square test to run significance testing to determine:

1. If there was significance between the endangerment of Mammals and Birds. There was no significance since our test came back > 0.05.
2. If there was significance between Mammals and Reptiles. We found significance here with a pval of 0.03835 (< 0.05)

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

Note: We used the Chi Square test because there were more than two pieces of categorical data.

Recommendation for Conservationists

There are certain species across the four national parks that are more likely to be endangered. We know from our findings that there is significance between Reptiles and Mammals (reference previous slide).

Further testing needs to be done to continue to identify which species are at greater risk of endangerment so that protection measures can be put in place earlier rather than later.

Observations Data

Some of our scientists have been studying the number of sheep (common name includes "sheep" and is a mammal) sightings at the different national parks over the last 7 days:

Observations of Sheep per Week
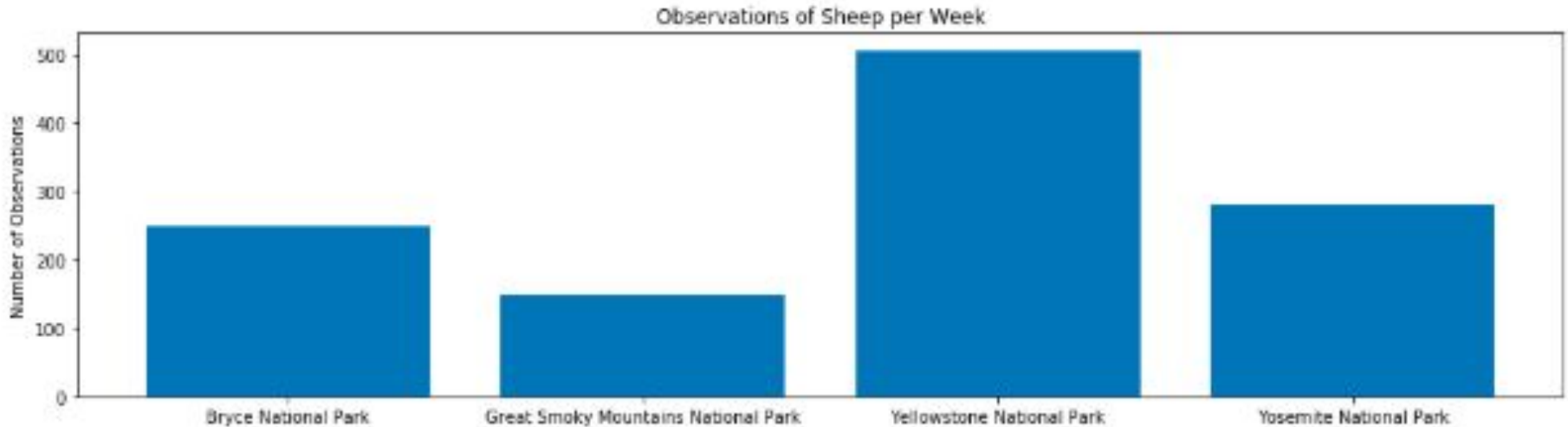
Foot and Mouth Disease Study:
Sample Size Determination

Our scientists wanted to test whether or not the program that the Park Rangers are doing at Yellowstone National Park to reduce the rate of foot and mouth disease is working. We used a sample size calculator to determine how many sheep would need to be included in the sample size.

- Baseline Conversion Rate: 15%
- Minimum Detectiable Effect: 33.33%
- Statistical Significance: 90%

510

Sample Size per Variation

Foot and Mouth Disease Study: Sample Size Determination

Based on the sample size per variation that we calculated, it will take scientists about 2 weeks to observe 510 sheep at Bryce National Park and about 1 week to observe the 510 sheep at Yellowstone National Park.