

The background features abstract, overlapping green geometric shapes, primarily triangles and polygons, in various shades of green, creating a modern and dynamic visual effect.

# Biodiversity of the National Parks

# Species Data Observations

- Data has been collected on 5,541 species from 7 categories:

Mammal	Bird	Reptile
Amphibian	Fish	Vascular Plant
Nonvascular Plant		

- For each species, conservation status has also been categorized:

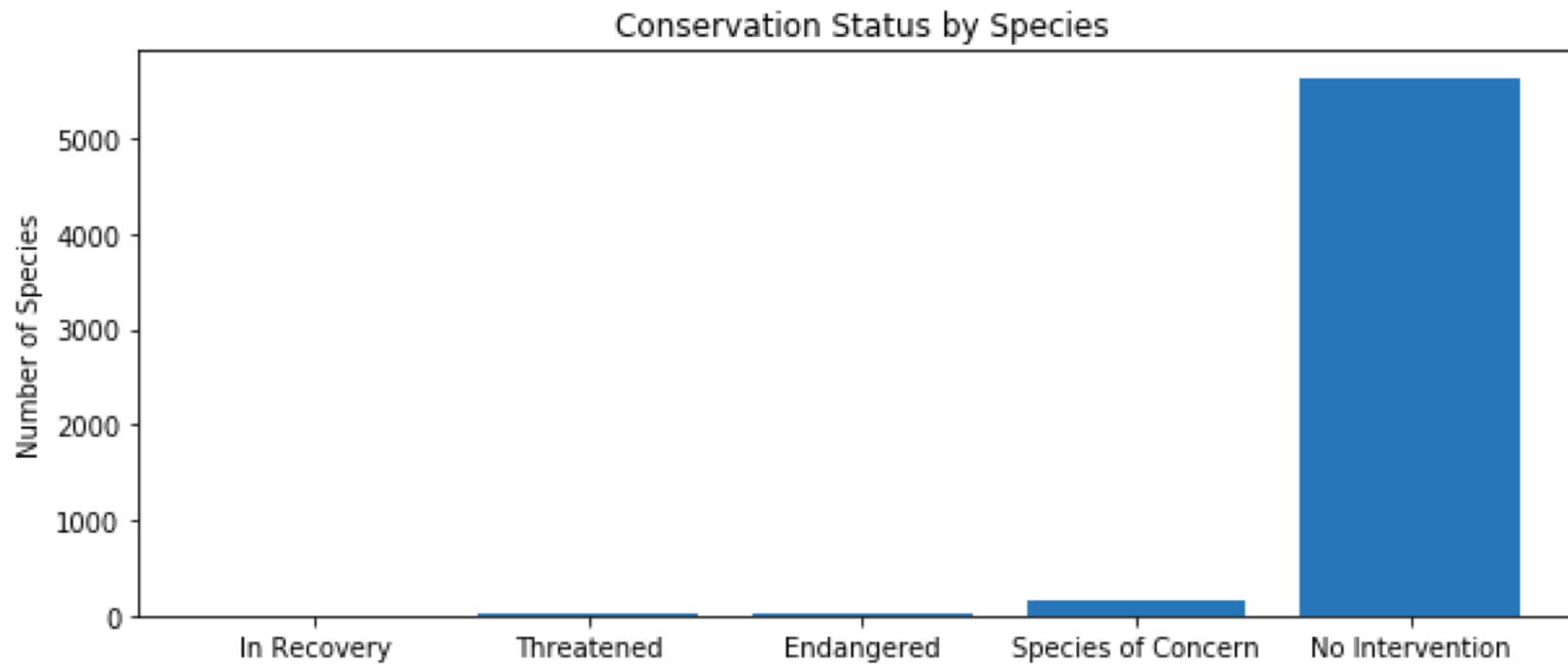
Species of Concern	Endangered
Threatened	In Recovery
No Intervention	

# Species Data Observations cont.

- Conservation status counts are noted below and visualized on the next slide:

Endangered	16
In Recovery	4
No Intervention	5,633
Species of Concern	161
Threatened	10

# Conservation Status by Species



# Endangered Status Significance Calculations

- ▶ Although the below table indicates that more Mammals than Birds are protected, the difference is not statistically significant.
- ▶ The difference between Reptiles and Mammals is statistically significant though, as our chi square test resulted in a p-value under 0.05.

category	not_protected	protected	percent_protected
Amphibian	72	7	8.860759
Bird	413	75	15.368852
Fish	115	11	8.730159
Mammal	146	30	17.045455
Nonvascular Plant	328	5	1.501502
Reptile	73	5	6.410256
Vascular Plant	4216	46	1.079305

# Recommendations: Endangered Species

- ▶ Based on the data collected and the statistical tests completed, Mammals and Birds are more likely to be endangered than other species.
- ▶ Conservation efforts should be concentrated on Birds and Mammals. This will be the best use of National Park Resources as these species are most at risk.

# Sheep Sample Size: Foot and Mouth Disease

- ▶ A Data has been collected on 3 species of sheep.
- ▶ 12 observations of sheep have been recorded over the past 7 days. See next slide for a visualization of these sightings.
- ▶ In order to support your study of Foot and Mouth Disease, we have calculated the sample size needed for an effective study.
- ▶ Based on the following parameters, we have calculated a sample size of 510 sheep
  - ▶ Minimum Detectable Effect: 33.33
  - ▶ Significance Level: 90%
  - ▶ Baseline: 15%
- ▶ Observations will need to be collected at Bryce Park for 2 weeks and at Yellowstone for 1 week to gather the required sample size for this study.

# Sheep Observations per Park

