

# Species in Need of Protection

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# About the Data

5541 Species

One problem: how conservation types are grouped

Under the original grouping: 4 categories that captures only 180 species

With “No Intervention” we are able to capture all species

Percentage of species protected: Mammals (17%), Birds (15%), Amphibian(8%), Reptile(6%), Non Vascular Plant (1%), and Vascular Plant (1%)

See Graph Conservation Status by Species

# Significant Calculations

# Recommendations for Conservationists

## CONCLUSION:

Some species are more likely to be endangered than others. You don't want to be a plant.

## Hypothesis

Testing the Hypothesis: Are some types of species more likely to be endangered?

## Chi-Squared Test

1. Testing categories and numerical values
2. If  $p\text{value} \geq 0.50$  then a result of chance or a null hypothesis
3. If  $p\text{value} \leq 0.50$  There is a significance
  - Pvalue for Birds and Mammals = 0.688
  - Pvalue for Reptiles and Mammals = 0.038 $\approx$



## RECOMMENDATIONS

Include 'No Intervention' in categories

As discussed in the Chi Squared tests, reptiles are more likely to be endangered than birds when compared to mammals.

Run further Chi Square tests to compare other categories of species.

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# Sample Size for Foot and Mouth

From observations of sheep in each national park, we also estimated a sample size for Foot and Mouth disease. See Graph Observations of Sheep per Week

Using a baseline of 15 percent of sheep who were found to have Food and Mouth disease from Bryce National Park, we were able to calculate a sample size of 520 needed to gain a confidence of 90 percent with a minimum detectable effect of 33.33 percent.

We estimate that it would take around just over 2 weeks in Bryce National Park and a little over a week for Yellowstone National Park to observe Foot and Mouth in sheep for the parks.

# Graphs

Conservation Status by Species





