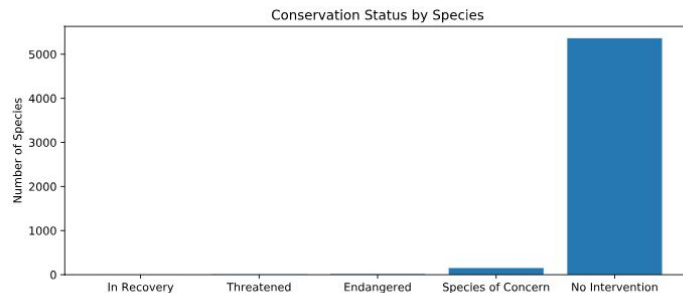


A lush, dense tropical rainforest scene. The image is filled with various types of green plants, including large ferns, broad-leafed shrubs, and tall, slender tree trunks. Sunlight filters through the dense canopy, creating a dappled light effect. The overall atmosphere is vibrant and natural.

Capstone 2: Biodiversity for the National Parks

Species Information CSV

- The CSV includes the category, scientific name, common name and the conservation status of the animal or plant
- There are 5541 unique species listed in the CSV
- There are 7 species types: Mammal, Bird, Reptile, Amphibian, Fish, Vascular, Plant, Nonvascular Plant
- There are 5 conservation statuses: Not Protected, Species of Concern, Endangered, Threatened, In Recovery



category	not_protected	protected	percent_protected
Amphibian	73	7	0.087500
Bird	442	79	0.151631
Fish	116	11	0.086614
Mammal	176	38	0.177570
Nonvascular Plant	328	5	0.015015

Significance calculations for endangered status

- From the chi-squared test of protected birds and mammals we concluded that there was a p-value of ~ 0.688
 - This means that there is not a significant difference between the percentages of protected birds and mammals
- From the chi-squared test of protected reptiles and mammals we concluded that there was a p-value of ~ 0.038
 - This means that there is a significant difference between the percentages of protected reptiles and mammals

Recommendation for Conservationists

- From the significance calculations one can conclude that certain types of species are more likely to be endangered than others.
- This means that conservationists should focus more attention on those species that are more likely to be endangered.

Sample Size Determination: Foot & Mouth Disease

- There was a baseline of 15% occurrence of foot and mouth disease in sheep at Bryce National Park
- Scientists would need to observe at least 510 sheep
- To observe this many sheep they would need to take around one week of observing in Yellowstone that or around two weeks in Bryce to see that many sheep.

