BRIAN EJSMONT - CODECADEMY

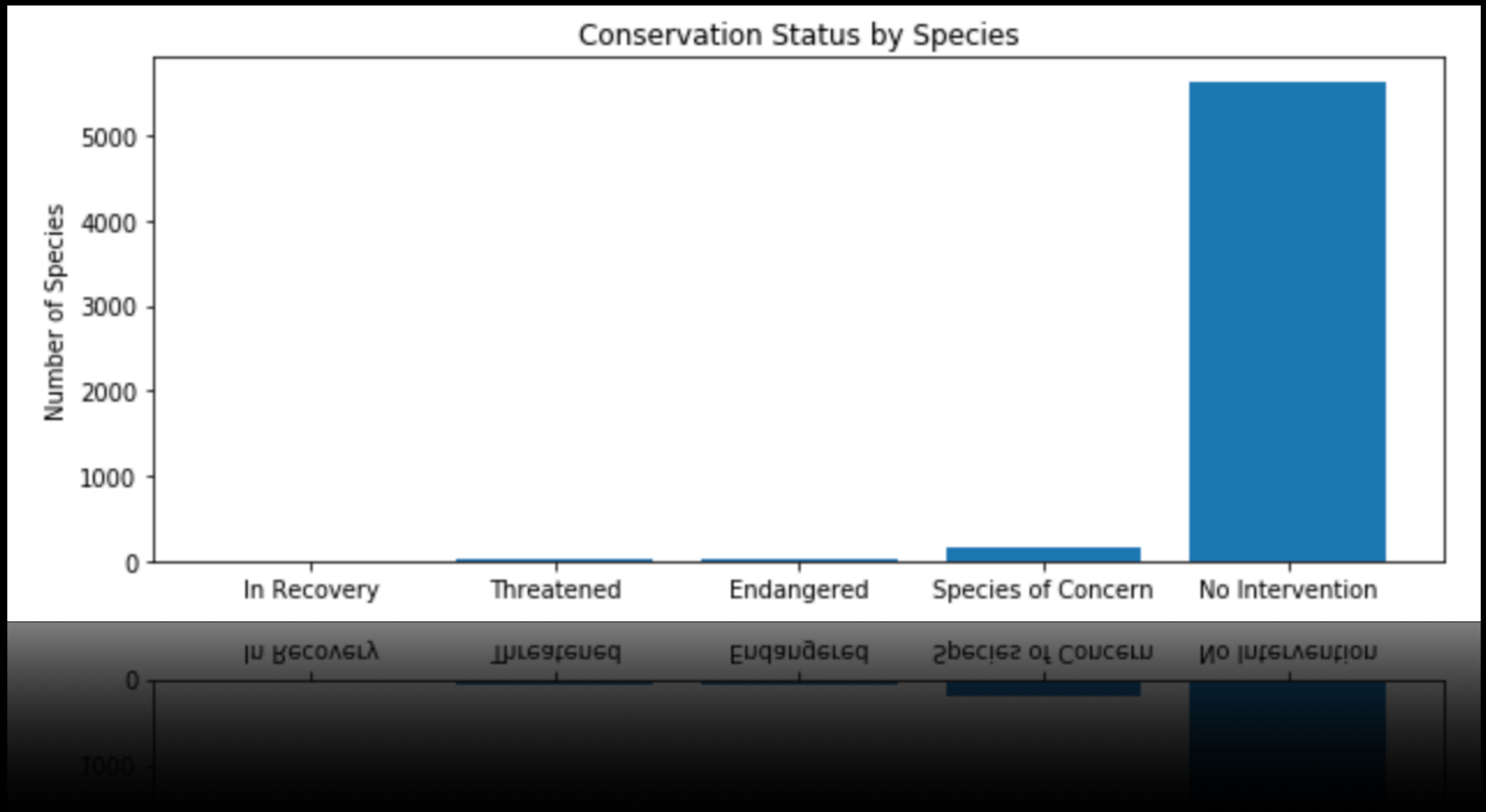
BIODIVERSITY FOR THE NATIONAL PARKS

Species Data

SPECIES DATA

- 5,541 unique species in total
- Species categorized as: Mammal, Bird, Reptile, Amphibian, Fish, Vascular Plant, & Nonvascular Plant
- 5,363 out of 5,541, or almost 97% of species, require no intervention
- Mammals and Birds are the most protected categories; both over 15% of species protected
- Plants, vascular and nonvascular, are the least protected

SPECIES DATA



Significance of the Data

SIGNIFICANCE OF THE DATA

- By running a *chi squared test* on protected status for certain categories of species, I looked for a statistically significant level of difference in endangerment between certain sets
- Between mammals and birds, with a *p* value of 0.4459, there was no significant difference found
- Between mammals and reptiles, with a *p* value of 0.0234, there was a significant difference found

Recommendations

RECOMMENDATIONS

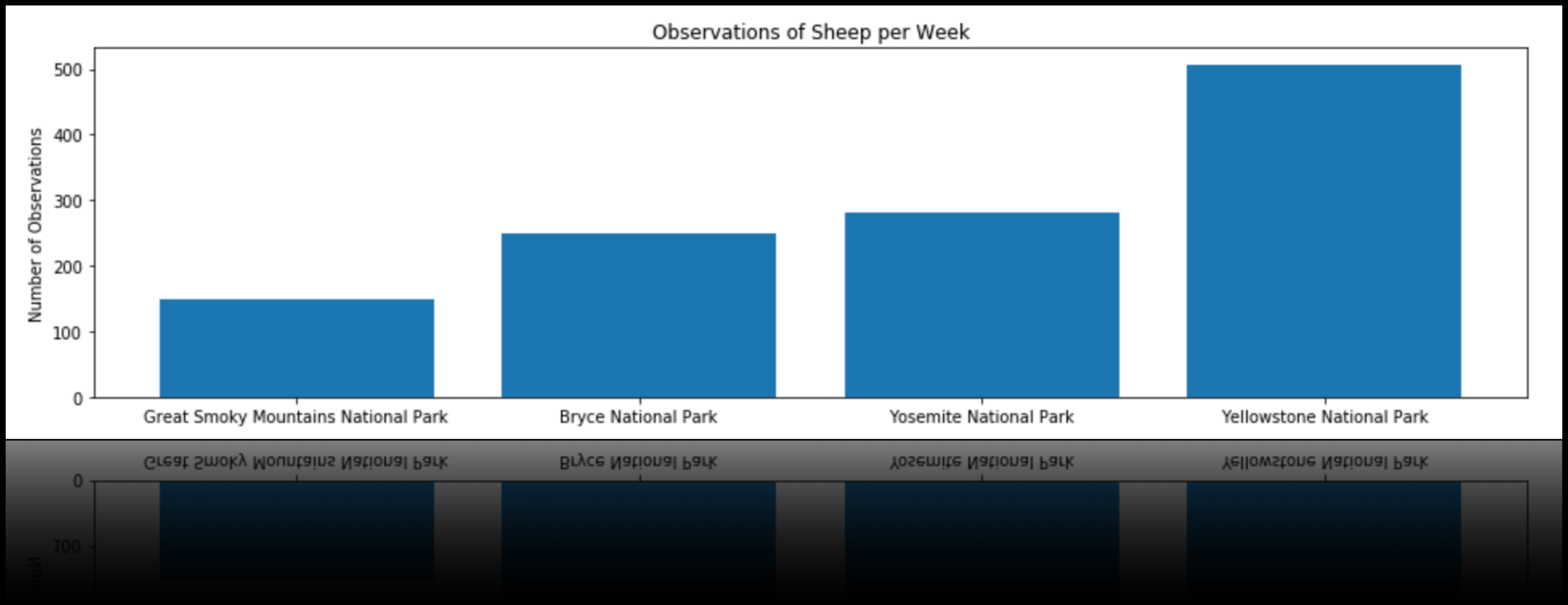
- Based on the high rate of endangerment for mammals, at over 17%, energy should be focused here
- Secondarily, focus should be put on birds
- Plants are the most safe categories of species at this moment

Sheep Observations

SHEEP OBSERVATIONS

- Problem:
    - Our scientists know that 15% of sheep at Bryce National Park have foot and mouth disease. Park rangers at Yellowstone National Park have been running a program to reduce the rate of foot and mouth disease at that park. The scientists want to test whether or not this program is working. They want to be able to detect reductions of at least 5 percentage point. For instance, if 10% of sheep in Yellowstone have foot and mouth disease, they'd like to be able to know this, with confidence.
- Sample Size Determination using these inputs:
    - https://www.optimizely.com/sample-size-calculator/?conversion=15&effect=33&significance=90
- Sample Size Output: **520**

SHEEP OBSERVATIONS



PREPARED BY BRIAN
EJSMONT FOR CODECADEMY

THANK YOU!