Biodiversity for the National Parks

INTRODUCTION TO DATA ANALYSIS
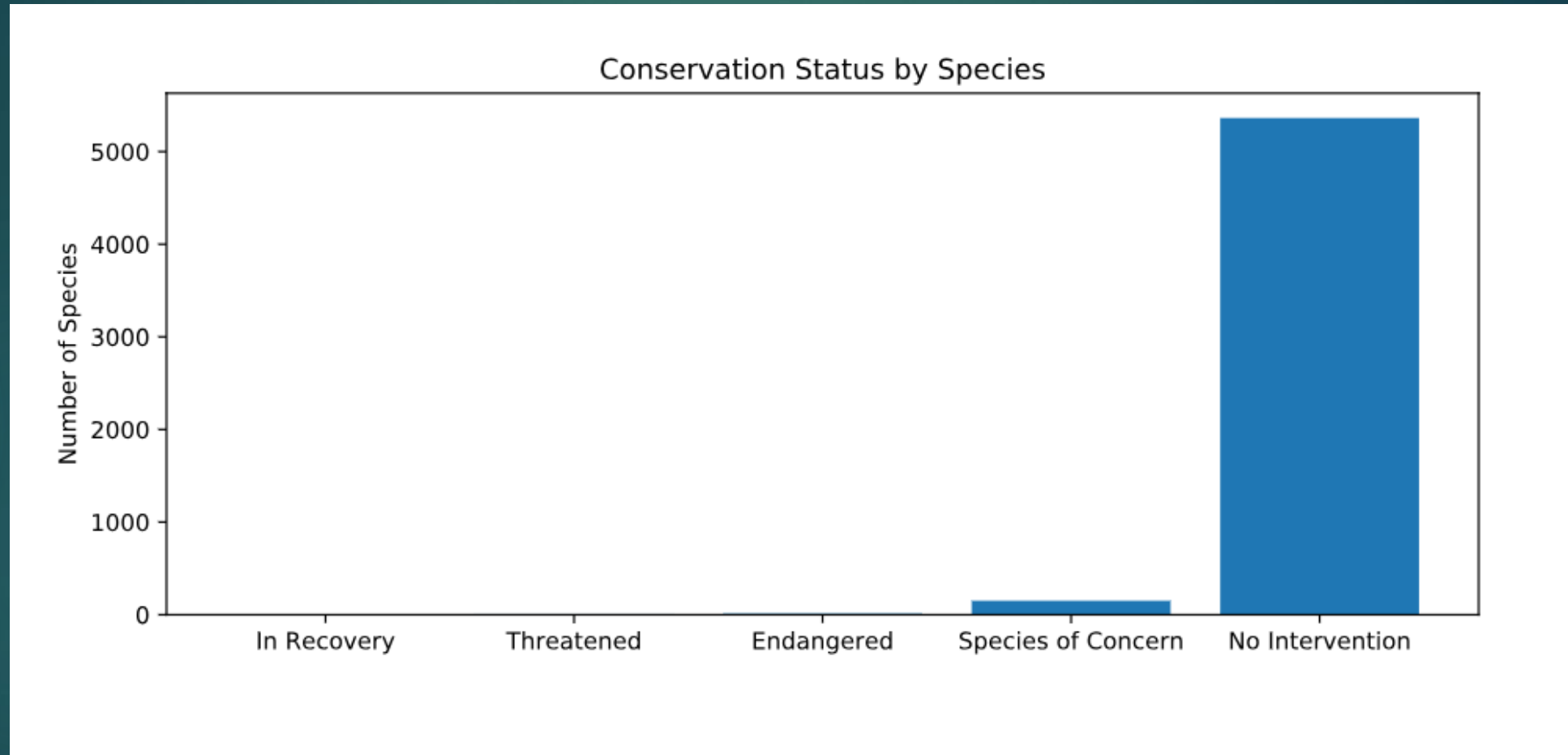
CAPSTONE OPTION 2

DANIEL RAMIREZ

Data: Species Info (.csv)

- Data on different species in our National Parks
  - Scientific and common names of each species
  - Conservation status for each species
- Conservation status for many were "blank" or "null"
  - A conservation status of 'No Intervention' was added to the other 4
- Conservation Statuses
  - Endangered, In Recovery, No Intervention, Species of Concern, Threatened
- 5,541 unique species

Conservation Status by Species

Significant Calculations
(between categories of species)

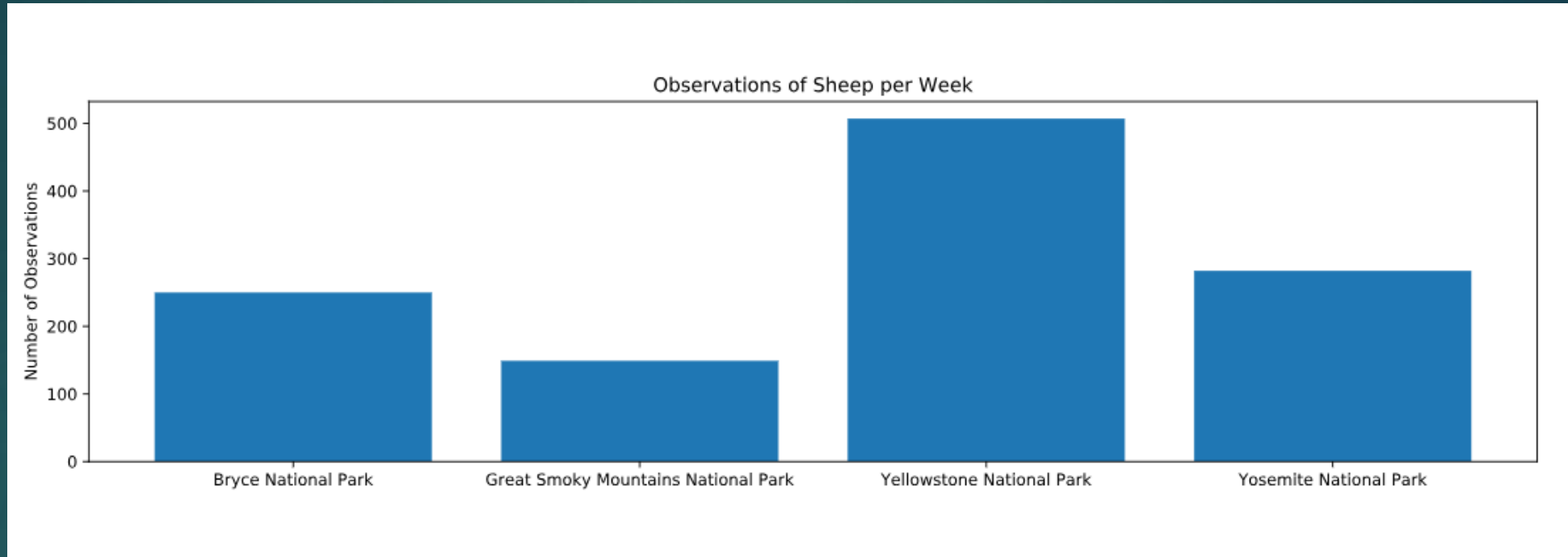| category	not_protected	protected	percent_protected
Amphibian	72	7	0.088608
Bird	413	75	0.153689
Fish	115	11	0.087302
Mammal	146	30	0.170455
Nonvascular Plant	328	5	0.015015
Reptile	73	5	0.064103
Vascular Plant	4216	46	0.010793

Chi-squared test between bird & mammal: p-val ~0.688
Chi-squared test between reptile & mammal: p-val ~0.038

Certain types of species *are* more likely to be endangered than others.

Recommendation: Conduct Chi-squared tests between all species to identify which are endanger-prone

Foot and Mouth Disease Study

Observations of Sheep per Week

Sheep sample size: 870
Weeks needed to observe sheep at Yellowstone National Park: 1.72
Weeks needed to observe sheep at Bryce National Park 3.48