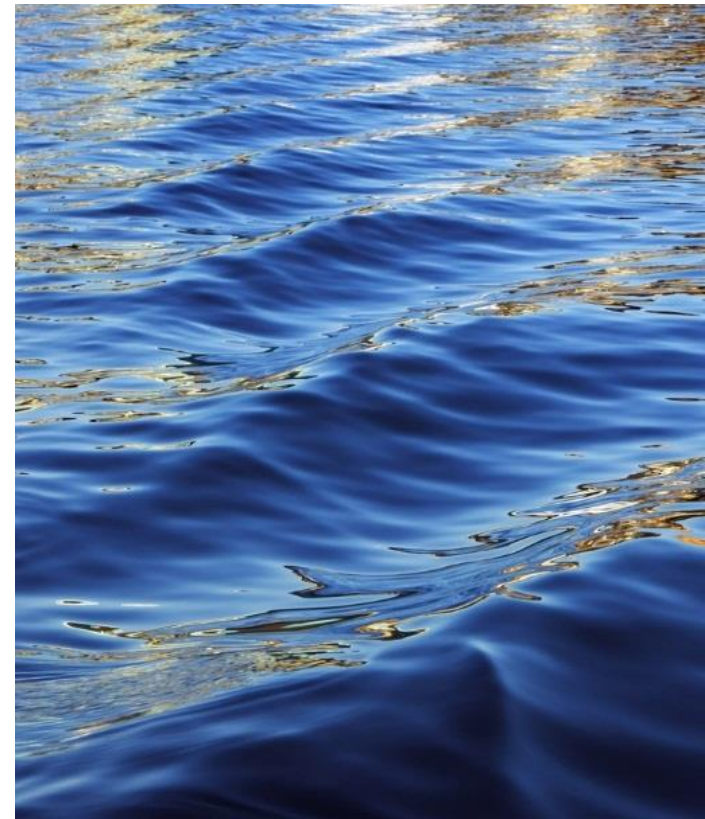




Biodiversity Capstone Project

Investigating Protected Species

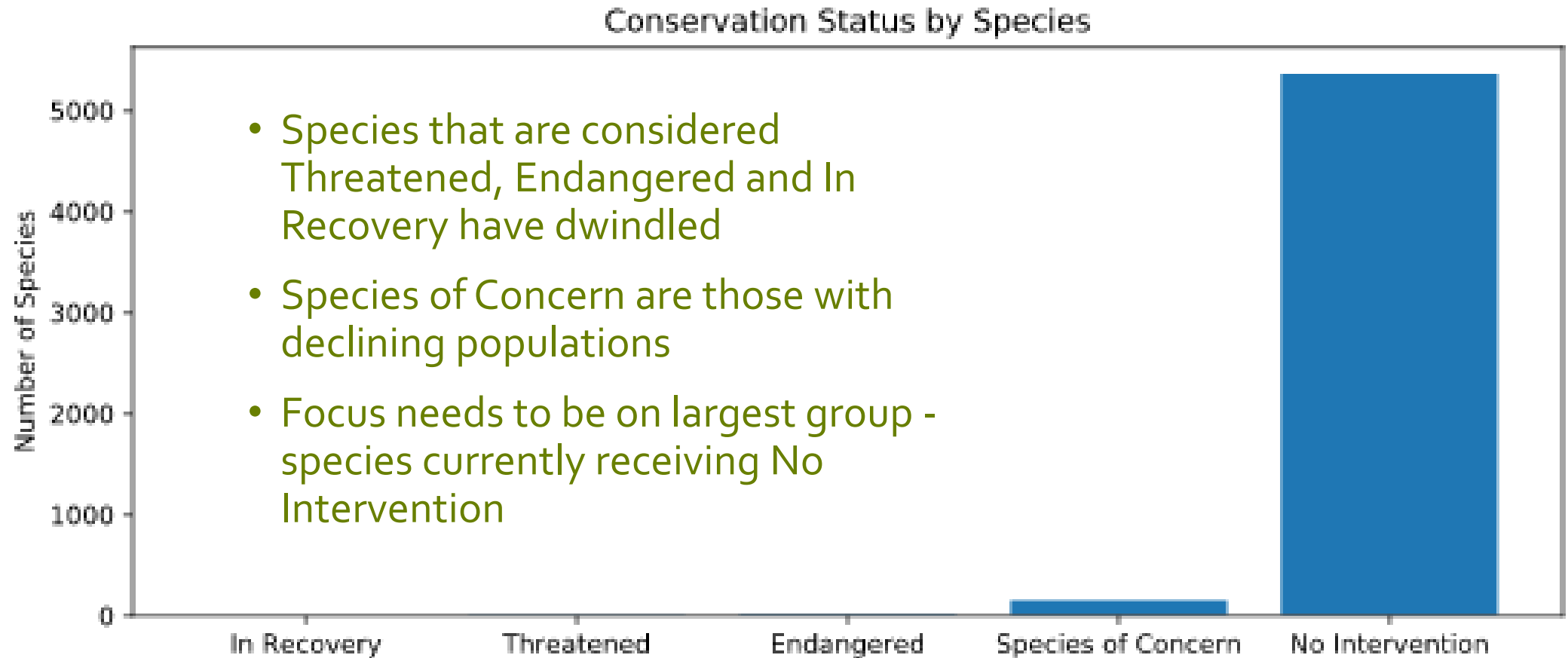
Capstone Project 2
4/09/18



An investigation of species protection and conservation within the National Parks

- National Park Service shared data for analysis on conservation statuses
- Our goal is to identify and review:
 - Patterns or themes to types of species becoming endangered
 - Identify various species in National Parks
 - Identify conservation status of these species
 - Identify the species currently more likely to be endangered
 - Use one species to model data trends and conservation efforts

Observations from data



Protection Findings from Statistical Analysis

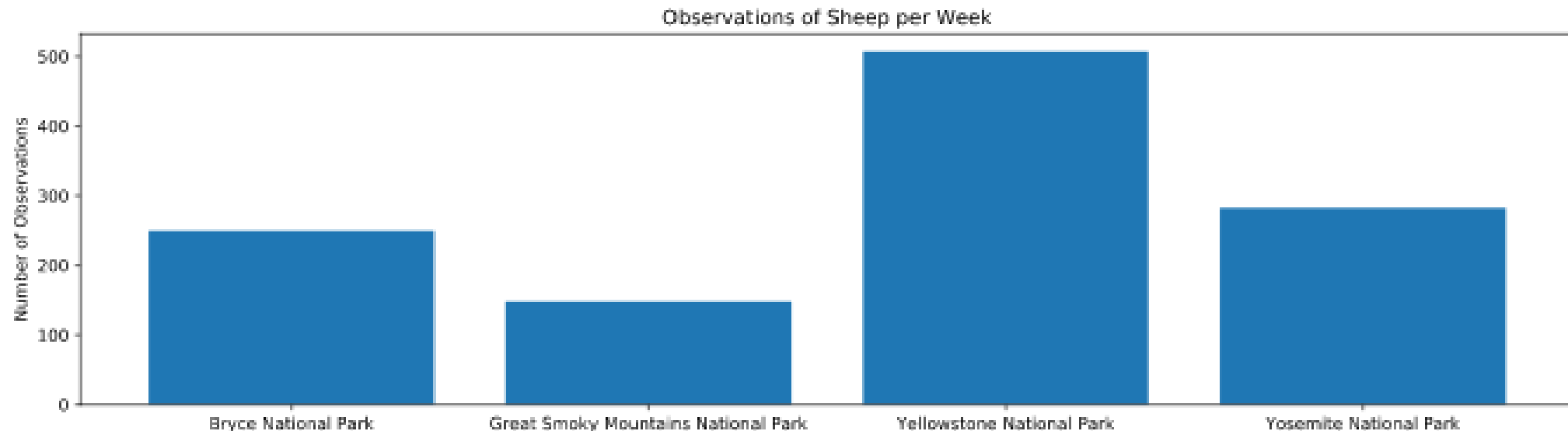
- Mammals hold the highest percentage of protection
- Vascular Plants are at the lowest percentage of protection
- Per the results of chi-square test, Reptiles are more likely to be endangered than Mammals, yet currently are at less than half the percentage level of protection

Category	Not Protected	Protected	Percent Protected
Amphibian	72	7	8.9%
Bird	413	75	15.4%
Fish	115	11	8.7%
Mammal	146	30	17%
Nonvascular Plant	328	5	1.5%
Reptile	73	5	6.4%
Vascular Plant	4216	46	1%

Sheep sightings in the National Parks

- Yellowstone National Park at highest # of sightings - 507 per week
- Lowest # at Great Smoky Mountains National Park

park_name	observations
0 Bryce National Park	250
1 Great Smoky Mountains National Park	149
2 Yellowstone National Park	507
3 Yosemite National Park	282



Sample Recommendation

- Using the data in prior slide, Park Rangers can test success of program to reduce rate of foot and mouth disease at their park
- Can calculate the optimal number of observations needed to determine program success
- Then calculate the number of weeks needed to obtain optimal sample size
- Diagram baseline of 15% is prior year results at Bryce National Park





Thank You

"Wildness is the preservation of the World."
- Henry David Thoreau, Walking

