BIODIVERSITY FOR THE NATIONAL PARKS

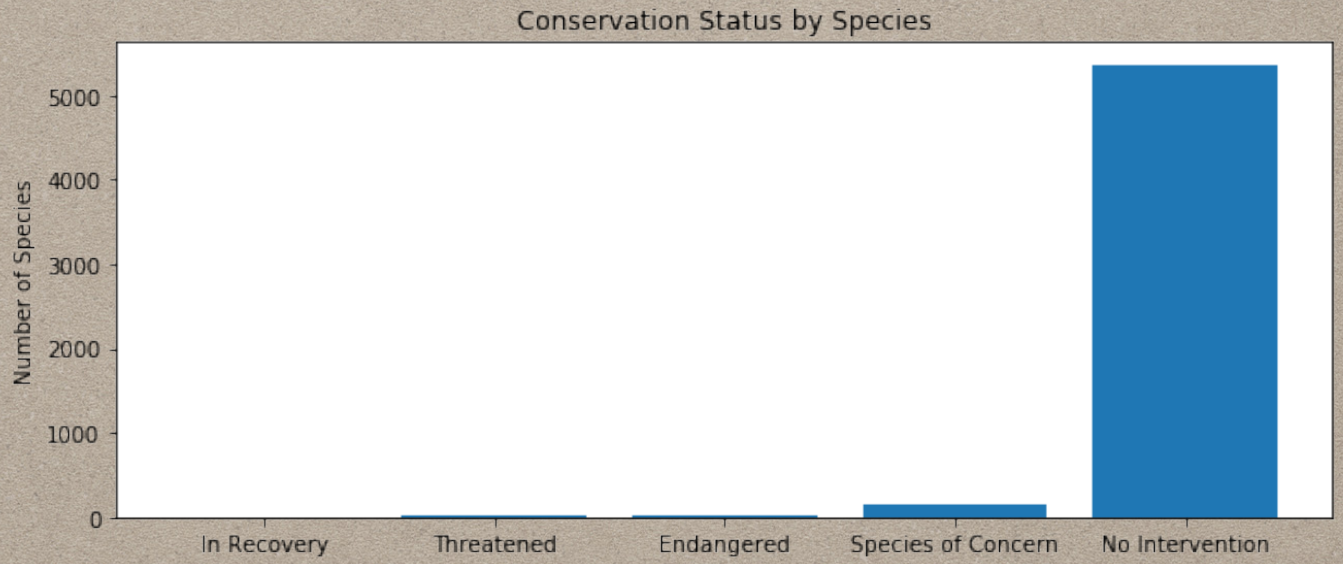
BRENT FORSYTH

INTRODUCTION TO DATA ANALYSIS

OBJECTIVES

- Provide status on current conservation effort
  - Determine if certain types of species more likely to be endangered
- Determine if Yellowstone program to curtail rate of foot and mouth disease is working
  - 15% of sheep at Bryce National Park have foot and mouth disease. Calculate the required sample size at each park to test whether or not this program is working

CURRENT CONSERVATION EFFORT



- 5824 species were examined
  - Mammal, Bird, Reptile, Amphibian, Fish, Vascular Plant, Nonvascular Plant
- Only 161 are Species of Concern or Endangered - 3%
- 4 Species are in recovery
- Through data analysis, reptiles are more likely to be endangered than mammals. Birds and Mammals are equally likely to be endangered.

YELLOWSTONE FOOT AND MOUTH EFFORT

- The species data was merged with recorded sightings of different sheep species at several national parks for the past week
- Statistical analysis was performed on the sheep observations to determine the appropriate sample size needed to detect a reduction in foot and mouth disease
  - A sample size of 520 sheep was found to be required

RECOMMENDATIONS

- Conservation efforts have been largely successful.
  - Need to investigate why Reptiles are more endangered than Mammals
- Additional observations are required at these parks to determine the foot and mouth results
  - Approximately 2.08 weeks of observation at Bryce National Park
  - Approximately 1.03 weeks of observation at Yellowstone National Park
  - Approximately 3.49 weeks of observation at Great Smoky Mountains National Park
  - Approximately 1.84 weeks of observation Yosemite National Park