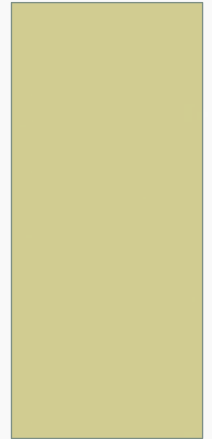


# BIODIVERSITY FOR THE NATIONAL PARKS

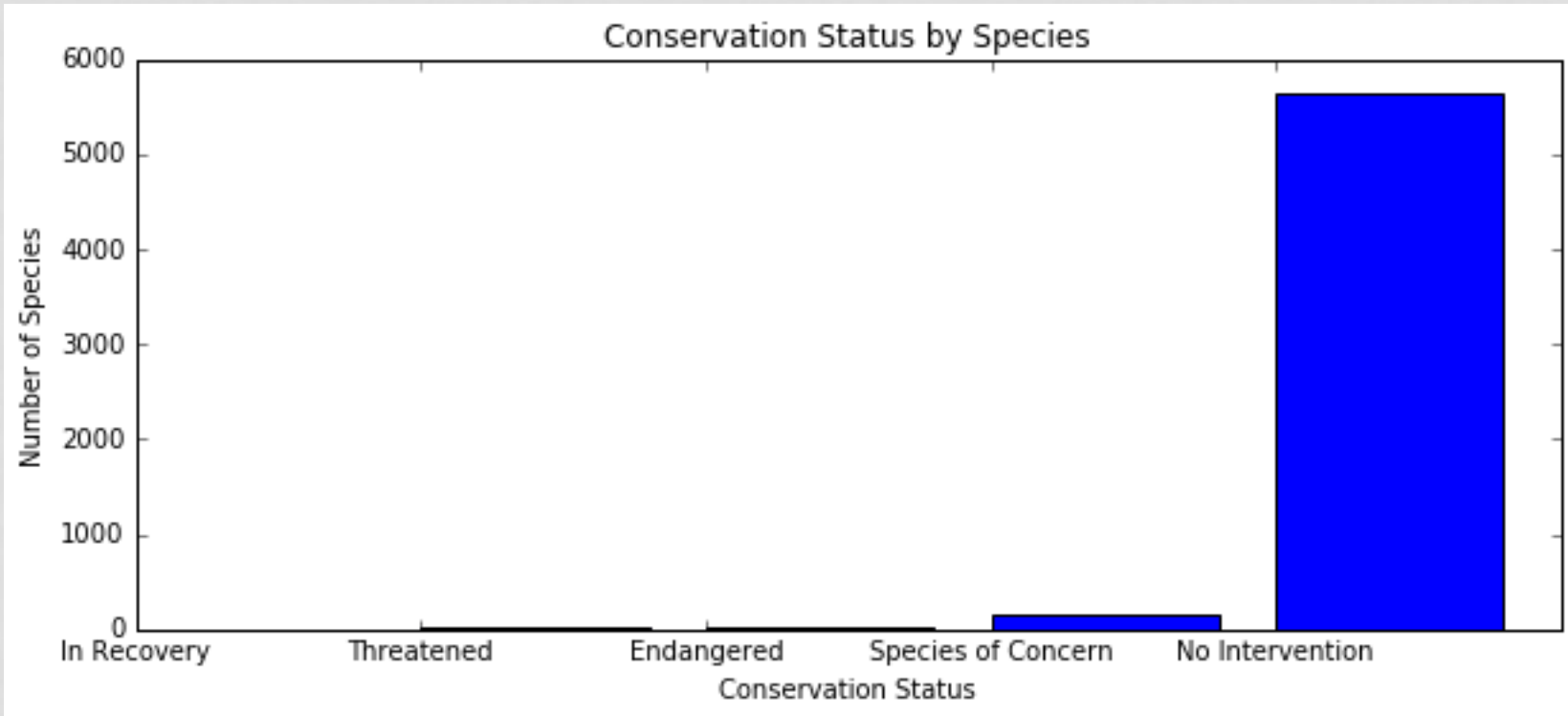
ENDANGERED SPECIES ANALYSIS  
BY CHERYL KLISCH - JUNE 2018



# SPECIES DATA

- 5541 unique species in our data set
- Categories:
  - Amphibian,
  - Bird,
  - Fish,
  - Mammal,
  - Nonvascular Plant,
  - Reptile,
  - Vascular Plant
- 96% of the species did not have a conservation status

# CONSERVATION STATUS



# PROTECTED CATEGORIES

- Protected definition excludes species where there is no conservation status
- Results before significance testing:

Category	Percent Protected
Amphibian	8.9%
Bird	15.3%
Fish	8.7%
Mammal	17.0%
Nonvascular Plant	1.5%
Reptile	6.4%
Vascular Plant	1.1%

# CHI SQUARED TEST FOR SIGNIFICANCE OF DIFFERENCES

- Test 1: `Mammal` are more likely to be endangered than species in `Bird`
  - Result: Not Significant
- Test 2: `Mammal` are more likely to be endangered than species in `Reptile`
  - Result: Significant
- Test 3: `Amphibian` are more likely to be endangered than species in `Fish`
  - Result: Not Significant
- Test 4: `Nonvascular Plants` are more likely to be endangered than species in `Vascular Plants`
  - Result: Not Significant

# RECOMMENDATIONS

- Prioritize resources around Mammals, which are most likely to become endangered
- Analyze further to determine next priorities

# FOOT AND MOUTH DISEASE FINDINGS

- Goal: To detect reductions of at least 5 percentage points
- Calculating Sample Size
  - Level of significance 90%
  - 15% conversion rate – we expect this rate of foot and mouth disease
  - Minimum Detectable Effect – 33% since we are checking whether we are down by 5% (from 15% to 10%)

Sample Size = 520

# FOOT AND MOUTH DISEASE FINDINGS

Time needed (in weeks) to test each park and obtain sample size of 520 sheep per park

