# NATIONAL PARK SERVICE BIODIVERSITY DATA

Analysis and observations

# CONSERVATION CONCERNS

Using datasets to test hypotheses

# RAW DATA SAMPLE – CONSERVATION DATA

| Classification | Species name | Common name | Conservation Status |
|---|---|---|---|
| Mammal | Myotis septentrionalis | Northern Long-Eared Bat | Threatened |
| Vascular Plant | Geum radiatum | Mountain Avens | Endangered |
| Fish | Percina squamata | Olive Darter | Species of Concern |
| Bird | Falco peregrinus anatum | American Peregrine Falcon | In Recovery |

# CONSERVATION STATUS – GLOBAL SUMMARY

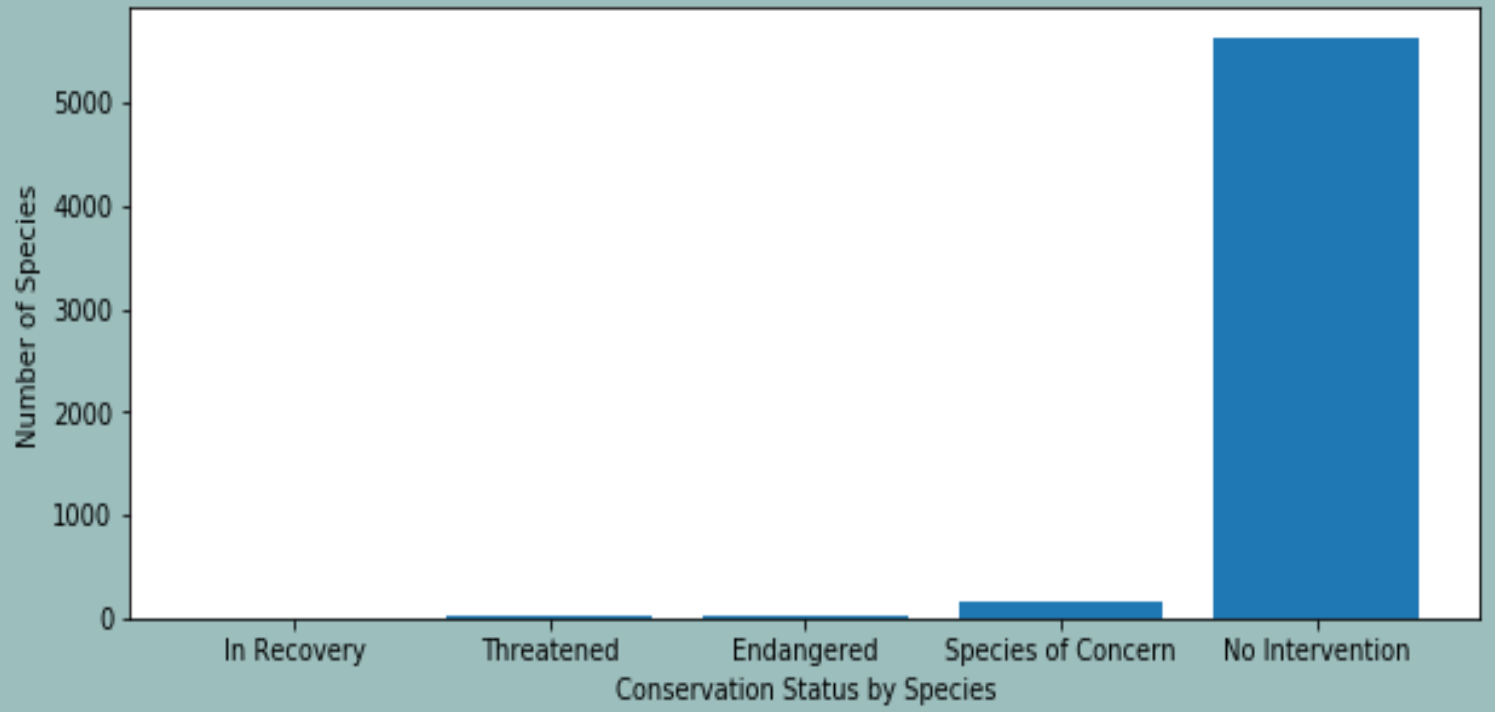
Data contains 5,541 species

Ranging over 7 Scientific Classes

5 Conservation categories

No Intervention = ‘Not Protected’

All other statuses = ‘Protected’

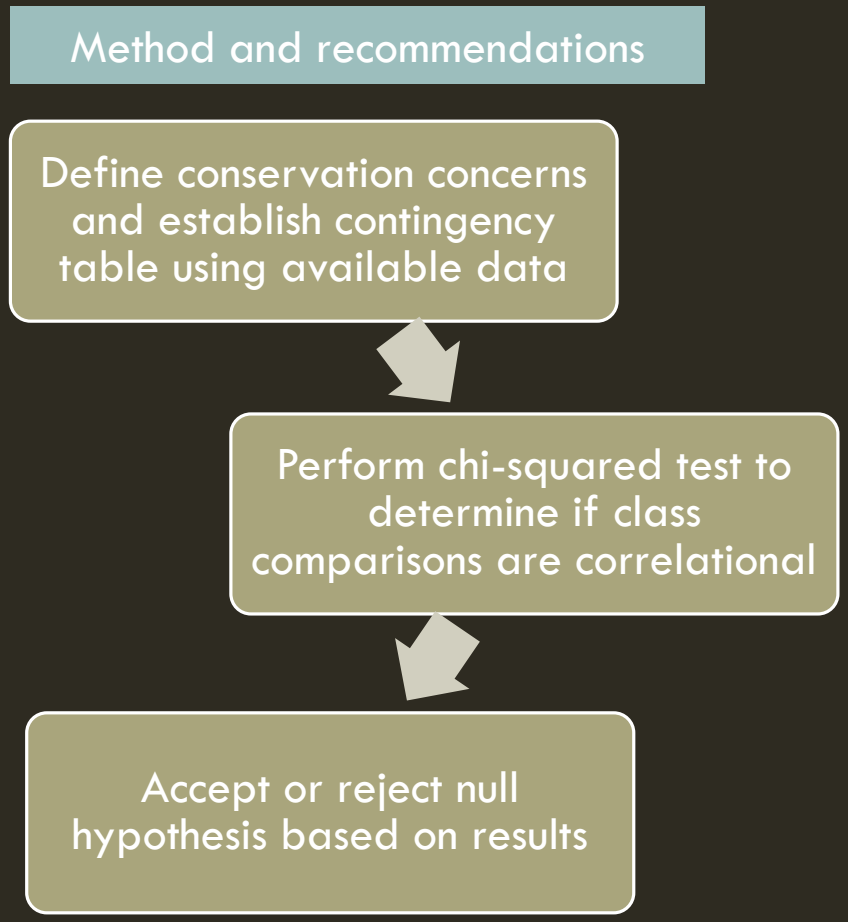


# INTERVENTION PERCENTAGES BY CLASS

- Amphibian (*Amphibia*) → 8.9% Protected
- Bird (*Aves*) → 15.4% Protected
- Fish (Inclusive) → 8.7% Protected
- Mammal (*Mammalia*) → 17% Protected
- Nonvascular plant (Inclusive) → 1.5% Protected
- Vascular plant (Inclusive) → 1.1% Protected
- Reptile (*Reptilia*) → 6.4% Protected

# DEMONSTRATIVE SIGNIFICANCE TESTS

| Selected comparisons | $\chi^2$ p value / $H_0$ rejected? |
|---|---|
| Mammal / Bird | 0.69 / No (Not significant) |
| Mammal / Reptile | 0.04 / Yes (Significant) |
| Amphibian / Fish | 0.82 / No (Not significant) |
| Non-Vascular / Vascular plant | 0.66 / No (Not significant) |
| Reptile / Fish | 0.74 / No (Not significant) |
| Bird / Reptile | 0.53 / Subjective (Threshold) |
| Bird / Vascular plant | $4.61 \times 10^{-79}$ / Yes (Significant) |



# FOOT AND MOUTH DISEASE STUDY

Using observational data to evaluate remedial programs

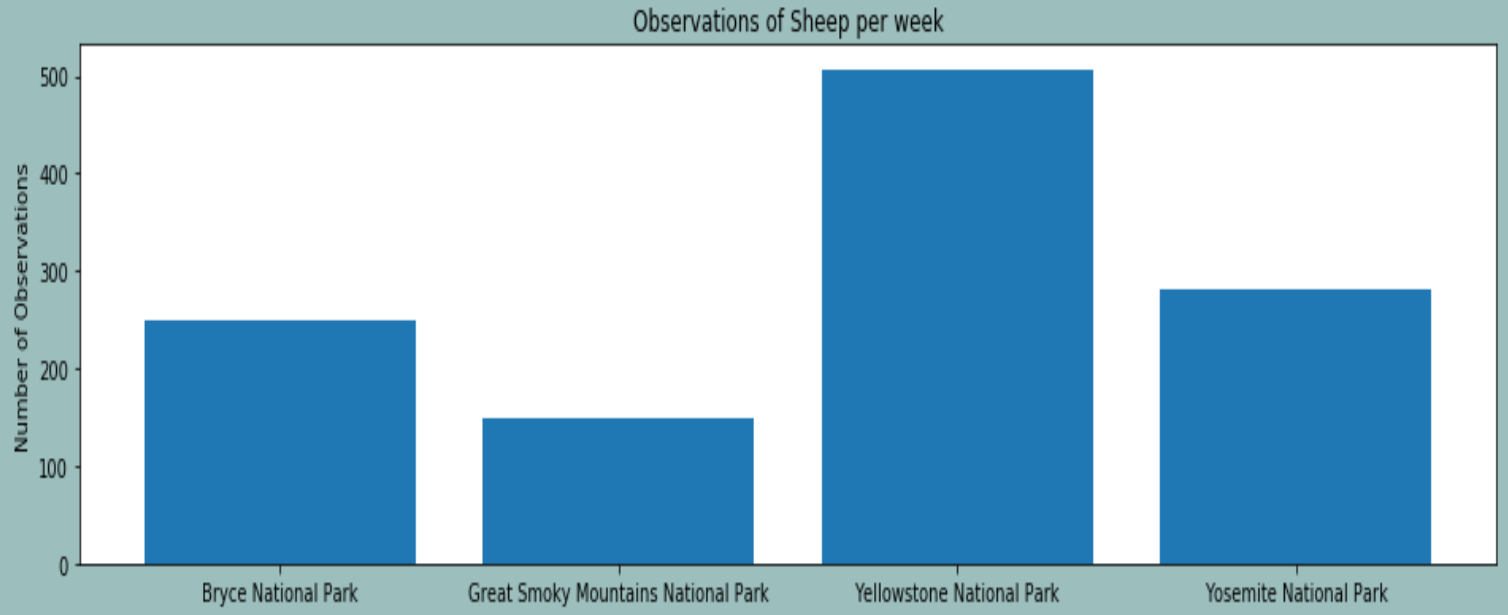
# RAW DATA SAMPLE – PARK OBSERVATION DATA

| Species name | Park name | Observations |
|---|---|---|
| Vicia benghalensis | Great Smoky Mountains National Park | 68 |
| Prunus subcordata | Yosemite National Park | 138 |
| Abutilon theophrasti | Bryce National Park | 84 |

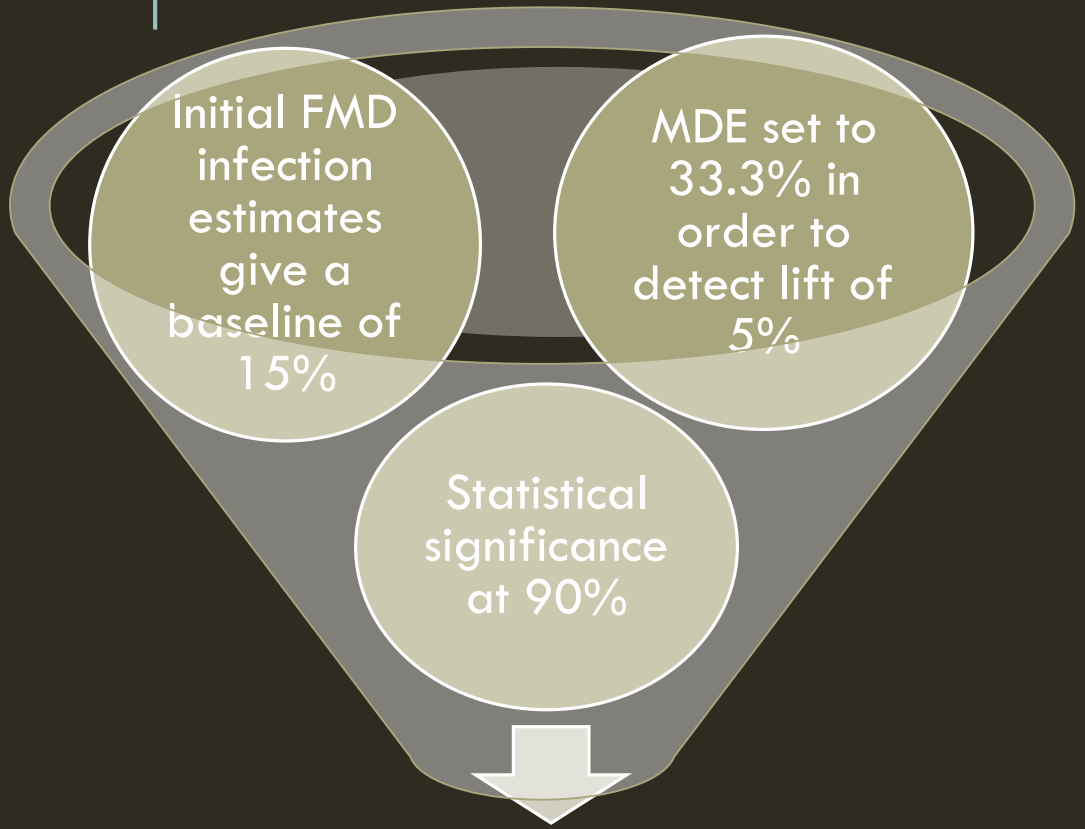
Note that shown data includes only the scientific names of observed species. As such, the conservation dataset was used in this study in order to properly identify relevant sheep species.

# OBSERVATIONS – GLOBAL SUMMARY

- Combined datasets
- 1,188 total sheep observations
- Over 4 national parks
- During the span of 7 days
- Data utilized to test efficacy of FMD reduction program



# FMD STUDY – METHOD AND RESULTS




Results in an estimated sample size of 510

- 510 sheep observations over the 4 national parks must be made to confidently assess levels of post-program FMD
- At current observation rates, the approximate assessment time for each park:

  Bryce – 2 weeks
  Great Smoky Mountains – 3.5 weeks
  Yellowstone – 1 week
  Yosemite – 2 weeks