

Biodiversity for the National Parks

codecademy / PRO | Introduction to Data Analysis

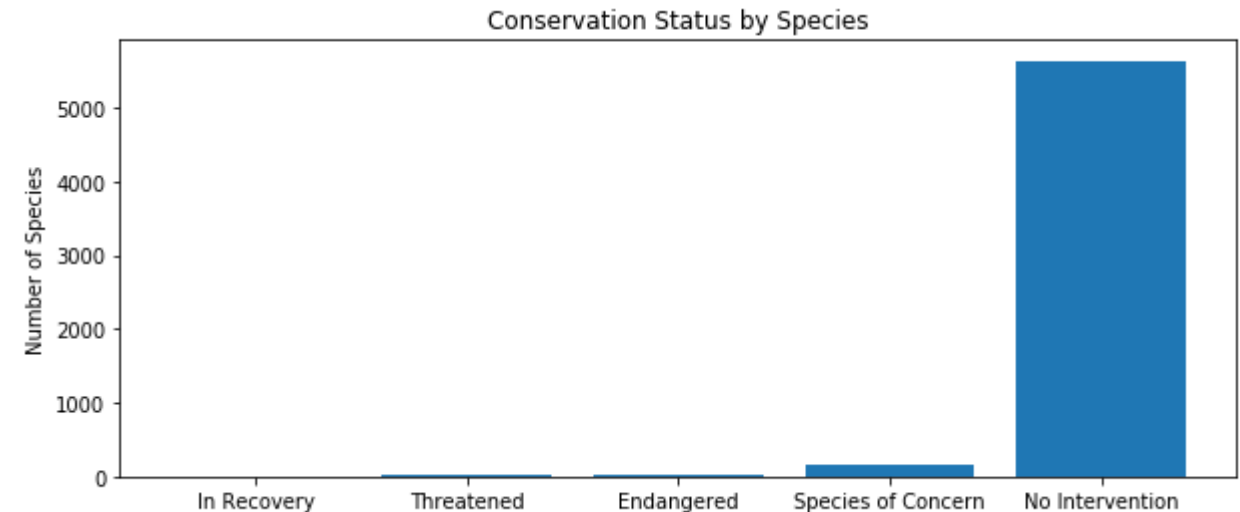
by Markus Claudy
filed on 27th Mai 2018

Categories of Animals

- 7 different categories of species are documented
 - Mammal
 - Bird
 - Reptile
 - Amphibian
 - Fish
 - Vascular Plant
 - Nonvascular Plant

Analyzing Content of Data

- Conservation Status of species
 - Endangered: **16**
 - In Recovery: **4**
 - No Intervention: **5633**
 - Species of Concern: **161**
 - Threatened: **10**



Protection of Species

- Mammal are most likely to be endangered of all species

Category	Not Protected	Protected	Percent Protected
Amphibian	73	7	8,75%
Bird	442	79	15,16%
Fish	116	11	8,66%
Mammal	176	38	17,75%
Nonvascular Plant	328	5	1,50%
Reptile	74	5	6,33%
Vascular Plant	4424	46	1,03%

Chi² Test – Mammal & Bird

- Comparing two pieces of numerical data
- Significance: **0,446** > 0.05

There is **no** significant difference between the datasets!

Chi² Test – Mammal & Bird

*The different observations are not
the result of different conditions.*

It is just the result of random chance!

The conservation status should rethink.

Chi² Test – Reptile & Mammal

- Significance: **0,023** < 0.05

There **is** significant difference between the datasets!

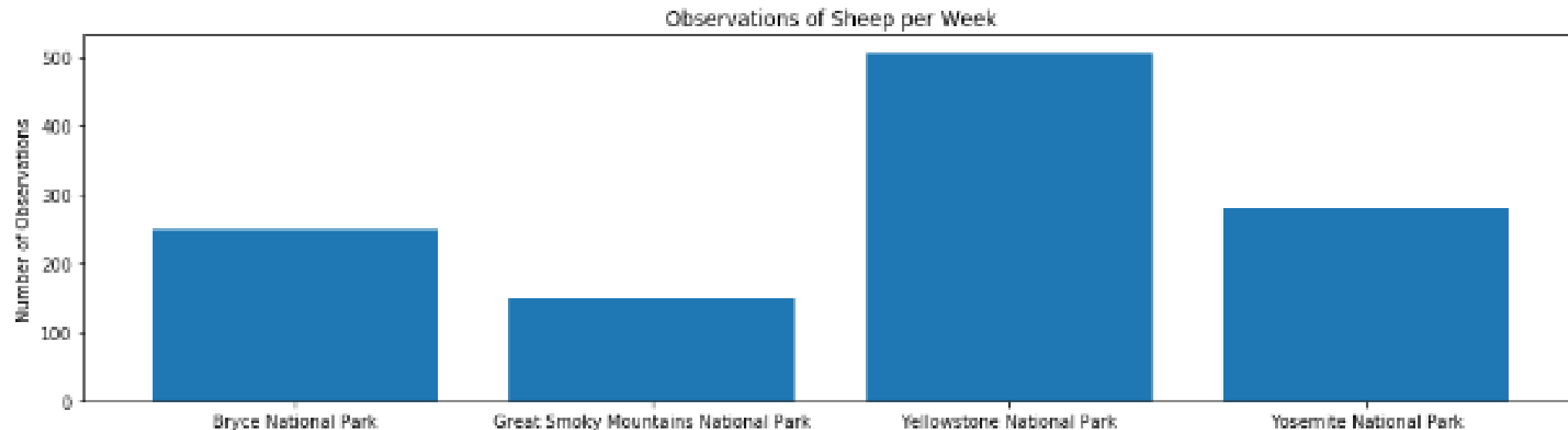
*The different observations are
the result of different conditions.*

Sheep sightings at different national parks

- **9** different **sheep types** are observed at different national parks
- **2** observed sheep types are **protected**
 - Ovis canadensis (Mammal)
 - Ovis canadensis sierrae (Mammal)
- **3** of them are **animals** (Mammal)
- **6** of them are **plants**

Sheep sightings at different national parks

- Total sheep observations at each national park over the past 7 days



Sheep sightings at different national parks

- Significance:
 - **90%** (default level)
- foot and mouth disease
 - Baseline:
 - **15%** of sheep at Bryce National Park have foot and mouth disease.
- Minimum Detectable Effect:
 - 5 percent point / 15% = **33,33%**

Sheep sightings at different national parks

- foot and mouth disease
 - **510 samples** are necessary for confidence statements if the scientists' program detect reductions of at least 5 percentage points
 - **2 weeks** are needed to observe enough sheep in Bryce National Park
 - **1 week** is needed to observe enough sheep in Yellowstone National Park