Biodiversity Capstone Project

Codecademy Pro : Intro to Data Analysis

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Analyzing species_info.csv

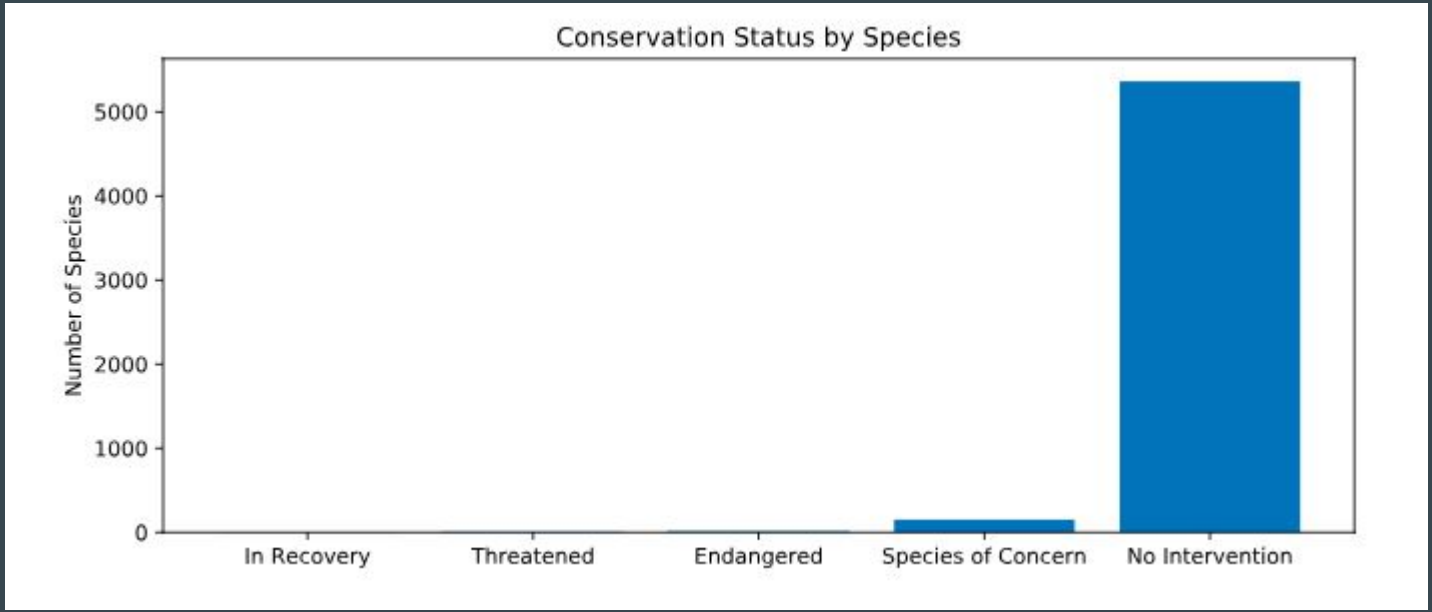
5541 Total Species

- Category
  - Mammal, Bird, Reptile, Amphibian, Fish, Vascular Plant, Nonvascular Plant
- Scientific Name
- Common Name
- Conservation Status
  - No Intervention, Species of Concern, Endangered, Threatened, In Recovery

Conservation Status

Conservation Status	*Count*
Endangered	15
In Recovery	4
Species of Concern	151
Threatened	10
No Intervention	5361

Conservation Status in Bar Chart



Pivot Table to group by category and protected status

Category	*Not Protected*	*Protected*	*Percentage Protected*
Amphibian	72	7	0.088608
Bird	413	75	0.153689
Mammal	146	30	0.170455
Nonvascular Plant	328	5	0.015015
Reptile	73	5	0.064103
Vascular Plant	4216	46	0.010793

Significance Test

- Are mammals more endangered?
- We can check by using a Chi-squared test, a test that helps us investigate if distributions of variables differ from each other
- If a p-value is greater than 0.05, the difference is not significant
- Comparing mammals and birds:
  - P-value is 0.68759
  - There is not a significant difference
- Comparing mammals and reptiles
  - P-value is 0.03835
  - There is a significant difference

Recommendations

- Prioritize mammals and birds when allocating resources
- These categories are similarly likely to become endangered

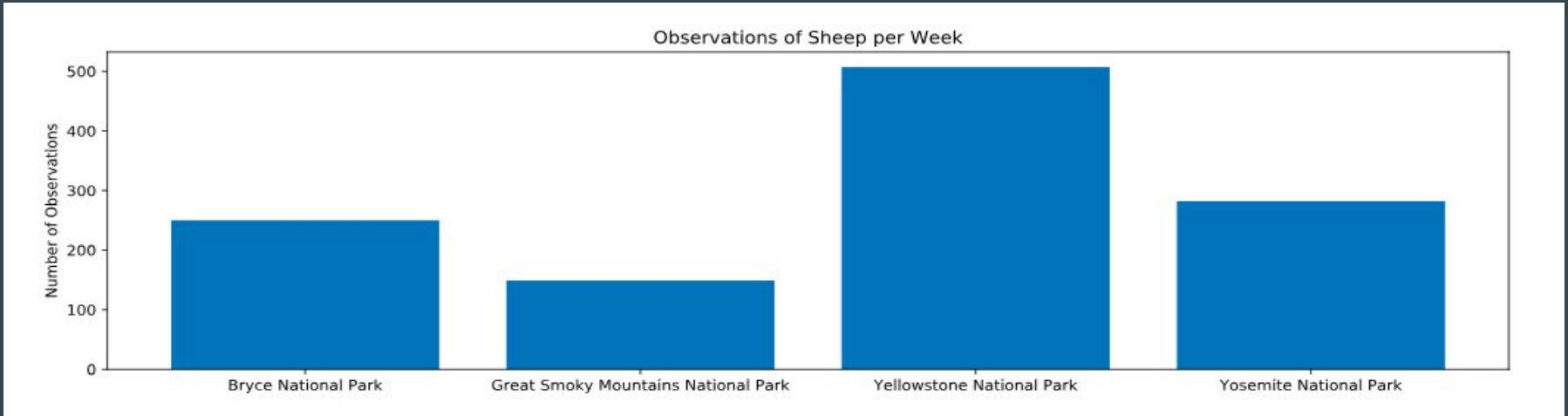
Sheep Analysis

- Recordings of sightings over 7 days
- First chart is sorted into columns
  - Scientific name, Park Name, Number of Observations, Category of Animal, Common Name, Conservation Status, Protected Status, Sheep Status
- Second chart
  - Park names, Number of Observations

Park Name	Observations
Bryce Canyon National Park	250
Great Smoky Mountains National Park	149
Yellowstone National Park	507
Yosemite National Park	282

Sheep Analysis

- Yellowstone National Park experienced the most sheep sightings



Detecting Foot and Mouth Disease

- Find out if the program to reduce the rate of foot and mouth disease is working. Detect reductions of at least 5%.
- We know that 15% of Bryce Canyon National Park sheep had foot and mouth disease last year.
- How many sheep need to be observed from each park?

Recommendations

- According to our calculator, we need to observe 870 sheep
- We would have to observe sheep in Bryce Canyon for 2 weeks and in Yellowstone for 1 week to see this many sheep.