Biodiversity for the National Parks

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Species_info.csv: What's Inside?

Columns

1.Category 2. Scientific_Name 3. Common_Name 4. Conservation_Status

Mammals

0	Mammal	Clethrionomys gapperi gapperi	Gapper's Red-Backed Vole
1	Mammal	Bos bison	American Bison, Bison

Birds

90	Bird	Vermivora pinus X chrysoptera	Brewster's Warbler
91	Bird	Accipiter cooperii	Cooper's Hawk

Species_info.csv: What's Inside?

Amphibians

418	Amphibian	Pseudacris feriarum feriarum	Upland Chorus Frog
419	Amphibian	Pseudacris triseriata	Striped Chorus Frog, Western Chorus Frog

Fish

500	Fish	Notropis leuciodus	Tennessee Shiner
501	Fish	Notropis photogenis	Silver Shiner

Vascular Plants

596	Vascular Plant	Angelica atropurpurea	Purplestem Angelica
597	Vascular Plant	Angelica triquinata	Filmy Angelica

Reptile

362	Reptile	Carphophis	Worm Snakes, Wormsnakes
363	Reptile	Carphophis amoenus amoenus	Eastern Worm Snake

Relative Endangerment of Species

Birds and mammals are more likely to be protected.

	category	not_protected	protected	percent_protected
0	Amphibian	72	7	0.088608
1	Bird	413	75	0.153689
2	Fish	115	11	0.087302
3	Mammal	146	30	0.170455
4	Nonvascular Plant	328	5	0.015015
5	Reptile	73	5	0.064103
6	Vascular Plant	4216	46	0.010793

.00015

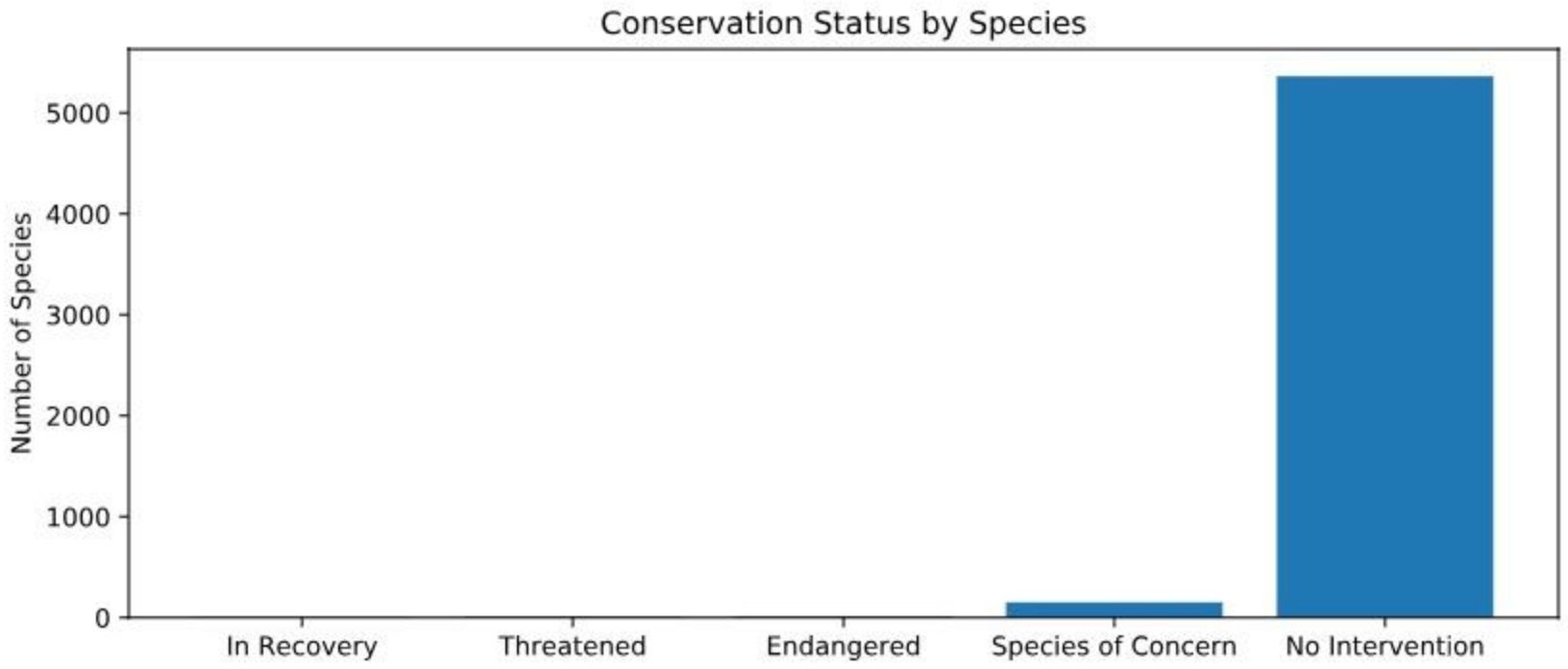
The p-value for the chi-squared tests between reptiles and vascular plants.

Is this significant?

P-value of reptiles and fish
=
0.741
Therefore, reptiles and fish are similarly protected

p<=.05

The point at where there is a significant difference between two data sets, and we can reject the null hypothesis


Conservation Status by Species
Number of Species
5000
4000
3000
2000
1000
0
In Recovery
Threatened
Endangered
Species of Concern
No Intervention

Ruminant Datasets

We were able to identify three species of sheep.

1. Ovis Aries the Domestic Sheep
2. Ovis canadensis the Bighorn Sheep
3. Ovis Canadensis the Sierra Nevada Bighorn Sheep

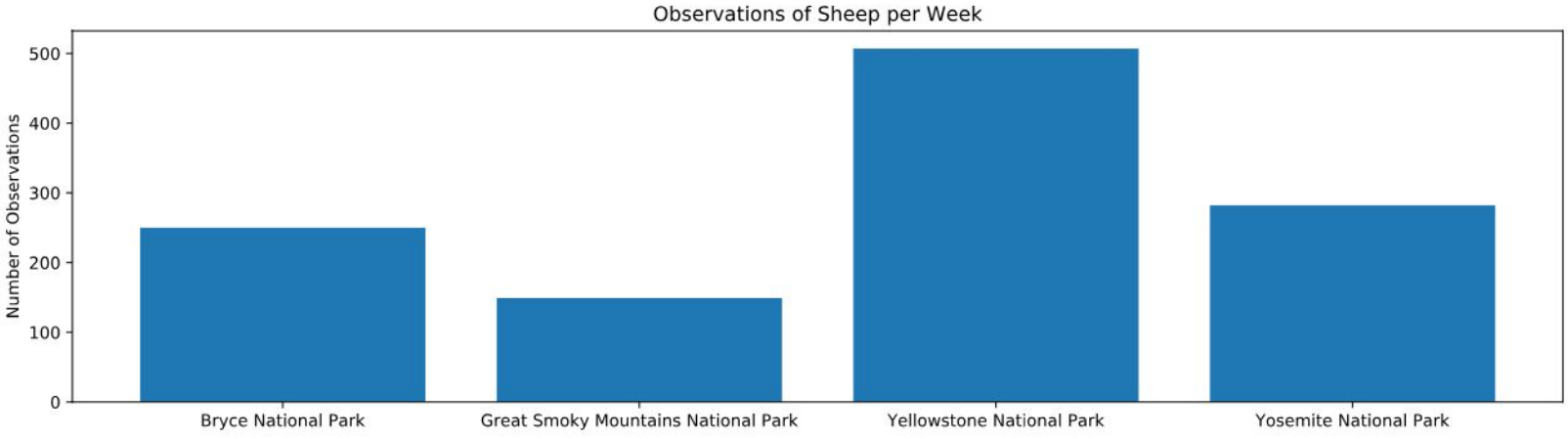
Ruminant Conservation Status

1. Domestic Sheep
    a. No Intervention
2. Bighorn Sheep
    a. Species of Concern
3. Sierra Nevada Bighorn Sheep
    a. Endangered

Where are your sheep?

	park_name	observations
0	Bryce National Park	250
1	Great Smoky Mountains National Park	149
2	Yellowstone National Park	507
3	Yosemite National Park	282

Where are your sheep? (cont.)



Foot and Mouth Disease Sample Sizing

1. Baseline
    a. 15
2. Minimum Detectable Effect
    a. 33.3
3. Sample Size
    a. 870

12 Days

Time allotment for

Yellowstone observations

25 Days

Time allotment for

Bryce National Park Observations

5 Conclusions

1. There is a bias towards land mammals and birds in terms of protection
2. Plants need considerable better protection
3. Climate change considerations for vascular plant species loss.
4. Common names of species will help general public better understand conservation efforts
5. Further research into low amount of sheep sightings in the Great Smoky Mountains National Park is needed.