Conservation Data:

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An Analysis of wildlife in our National Parks

The Datasets

Today we'll be exploring two datasets about wildlife:

A table of information regarding inluding each organism's:

- Scientific name
- Common Name
- Conservation Status

A table of observed animals in National Parks across the USA

SET 1: Conservating our Organisms

Through the use of matplotlib and pandas through python we have determined the amount of animals in each conservation category. Of the organisms observed:

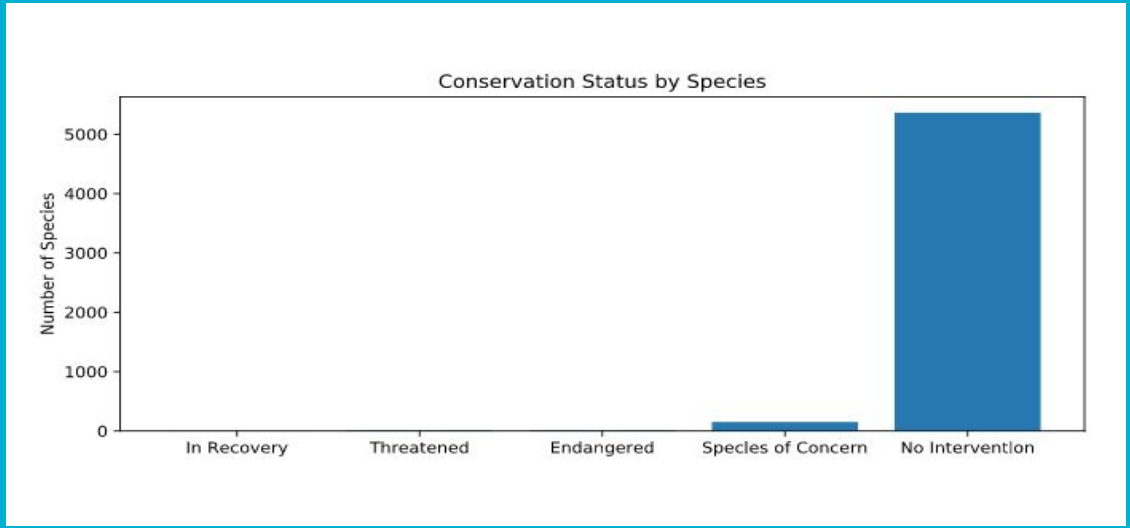
15 were endangered

4 were in recovery

151 were species of concern

10 were threatened

5363 required no intervention



The Likelihood of Endangerment

Through our calculations, we found that vascular plants were the least protected species while mammals were the most protected.

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

Is this likelihood significant

We ran this data through a chi-square test to see if the difference in likelihood of endangerement was, in fact, significatant.

- The difference between mammals and birds was found to be *insignificant*
- The difference between mammals and reptiles was found to be *significant*

This proves that though the difference is not significant between all species, there is a significant difference between *some* species.

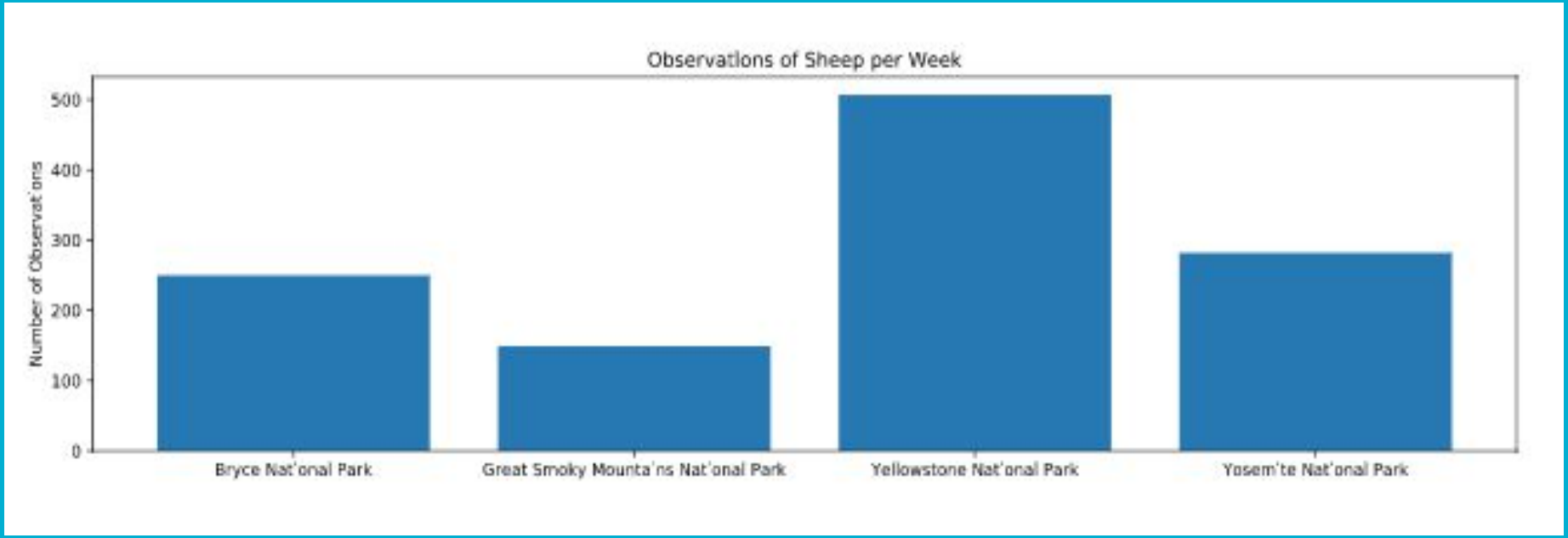
SET 2: Observed Animals in National Parks

Here we find some data on sheep in American National Parks:

	scientific_name	park_name	observations	category	common_names	conservation_status	is_protected	is_sheep
0	Ovis canadensis	Yellowstone National Park	219	Mammal	Bighorn Sheep, Bighorn Sheep	Species of Concern	True	True
1	Ovis canadensis	Bryce National Park	109	Mammal	Bighorn Sheep, Bighorn Sheep	Species of Concern	True	True
2	Ovis canadensis	Yosemite National Park	117	Mammal	Bighorn Sheep, Bighorn Sheep	Species of Concern	True	True
3	Ovis canadensis	Great Smoky Mountains National Park	48	Mammal	Bighorn Sheep, Bighorn Sheep	Species of Concern	True	True
4	Ovis canadensis sierrae	Yellowstone National Park	67	Mammal	Sierra Nevada Bighorn Sheep	Endangered	True	True

	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

Observations per week: A Visualization



Reducing Foot & Mouth Disease

Last year, the parks 15% of Sheep at Bryce National park had Foot & Mouth disease.'

We can observe from this that it will take 1.7 weeks for us to get a reasonable estimate of the percentage of diseased sheep at Yellowstone National park. It will take 3.48 weeks for us to gather the same information at Bryce National Park.

It would take this long because we would need to observe 510 sheep at each park.

Thank you. The End