NATIONAL PARK SERVICE

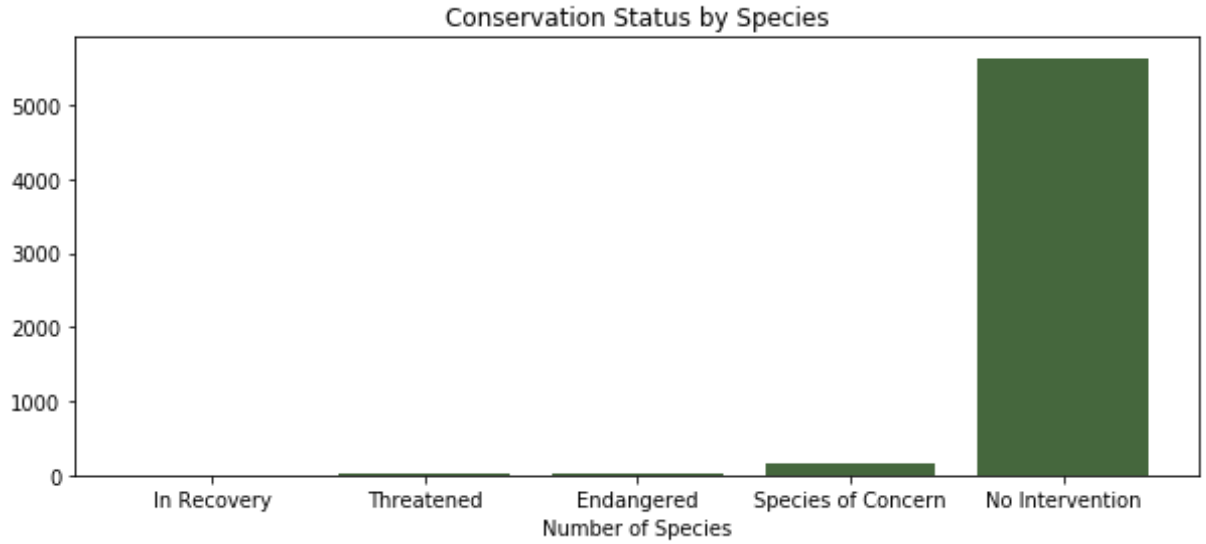
Conservation status of Species analysis
February 2018

SPECIES OF OUR PARKS

Our parks are the home of 5541 unique species of organisms

- Our species include Mammals, Birds, Reptiles, Amphibians, Fish, Vascular and Nonvascular plants.

- 180 of those species have a conservation status that request our intervention:
  - 151 are Species of concern.
  - 10 are Threatened Species.
  - 15 are Endangered Species.
  - 4 are Species in Recovery.



ENDANGERED SPECIES

Conservation status across species and its categories

- Mammals and Birds have more species at risk than other groups.
  - Of this two categories, more than 15 % of species are protected by our procedures based on their conservation status.
- Amphibians, Fish and Reptiles are less prone to be endangered.
  - These categories have a protection rate of 6 – 9 %.
- Plants, either Vascular or Nonvascular have a very low risk status.
  - They have a protection rate of 1 – 1.50 %, being higher on the first subgroup.

WHAT DATA TELL US

1	WE SHOULD FOCUS OUR CONSERVATION EFFORTS ON MAMMALS AND BIRDS These two categories are clearly the ones at higher risk. Having analyzed all data provided, there are not significant difference between both of them, but they are consistently at higher risk in comparison to the other animal groups. We should apply 60% of our budget for conservation efforts related to these categories.
2	AMPHIBIANS, FISH, REPTILES ARE OUR SECOND PRIORITY Our cold-blooded species are more resilient to be endangered. They are not out of the danger zone, but they show a marked trend of medium risk. We should apply 30% of our budget for conservation efforts related to these groups.
3	VASCULAR AND NONVASCULAR PLANTS ARE OUR LEAST CONCERNED GROUPS Wild Flora shows a low risk ratio. There may be a slight difference between the two subgroups worth further analysis. We should apply 10% of our budget for conservation efforts related to these categories.

FOOT AND MOUTH DISEASE IN SHEEP

Yellowstone program analysis

- Our Park Rangers at Yellowstone have been carrying out a specific program to reduce Foot and Mouth disease in that park.
- Their goal is to detect reductions of at least 5 percentage points.
- Our task is to provide a frame to analyze the scenario and conclude if their goal has been reached.
- We will base our analysis on the existing weekly observation data for the different species of sheep at the different parks.

FOOT AND MOUTH DISEASE IN SHEEP

Sample size determination for analysis of the effects of the program

- To calculate our sample size, we use the following figures:
  - Our scientists know that 15% of sheep at Bryce National Park have the disease. We would considerate that as our baseline for our analysis.
  - A Minimum Detectable Effect that represents their 5% reduction goal was calculated on that baseline to be around 33%.
  - A Statistical Significance level of 90% was deemed appropiate.

- The sample size is 520 observations per park.

- For Bryce National Park, considering there are 250 confirmed sightings per week, it would take us two full weeks and a day to gather the needed information.
- For Yellowstone National Park, considering there are 507 confirmed sightings per week, it would take us one full week and a day to gather the needed information.

ADDITIONAL INFORMATION REGARDING THIS PRESENTATION

THIS PRESENTATION WAS CREATED AS A CAPSTONE PROJECT FOR CODECADEMY.COM
BY FABRICIO DI SALVO, FEBRUARY 2018.

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