Biodiversity Capstone Project

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Species Info - Data

- The species info file contains the data of the conservation status of the various animals categorised based on their common & scientific nomenclature in addition to the categories
- The animals are categorised as Amphibian, Bird, Fish, Mammal, Non vascular Plant, Reptile & Vascular plant
- Vascular plant are about 76.9 % and Reptiles contributes about 1.407% to the total population of 5541
- It is also noticed that a large number of species(5363) falls under the category that do not require any intervention

Endangered Species - Calculations

- The various categories from the species data are sorted on the basis of protection status
- This data helps us to see if there is a certain trend in the species that are endangered and needs to be protected
- It shows that mammals are most likely to be endangered
- To verify the result, we carried out Chi Squared test between Mammals and birds that resulted in P –value > 0.05. This shows the difference between them is not significant
- But the test between mammals and reptiles yields a result of an existence of significant difference, showing mammals are more significantly endangered than reptiles

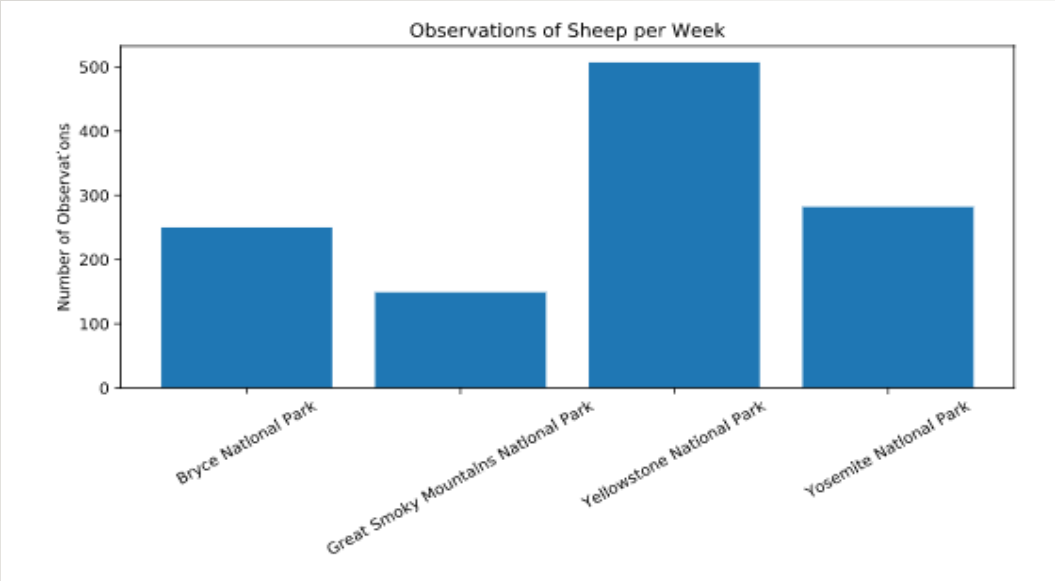
Data Insights for Conservationists

- From the significance calculations carried out between the different categories on the species we could infer various useful insights that could help better preserve them
- The various protection percentages respective to the categories are identified and the most protected are the mammals at about 17.7%
- In close correlation to this other categories of species like
  - Birds – 15.16%
  - Amphibians – 8.75%
  - Fish – 8.66 % are in the list of potential verge to be endangered
- These needs more attention so as to revive them from going extinct

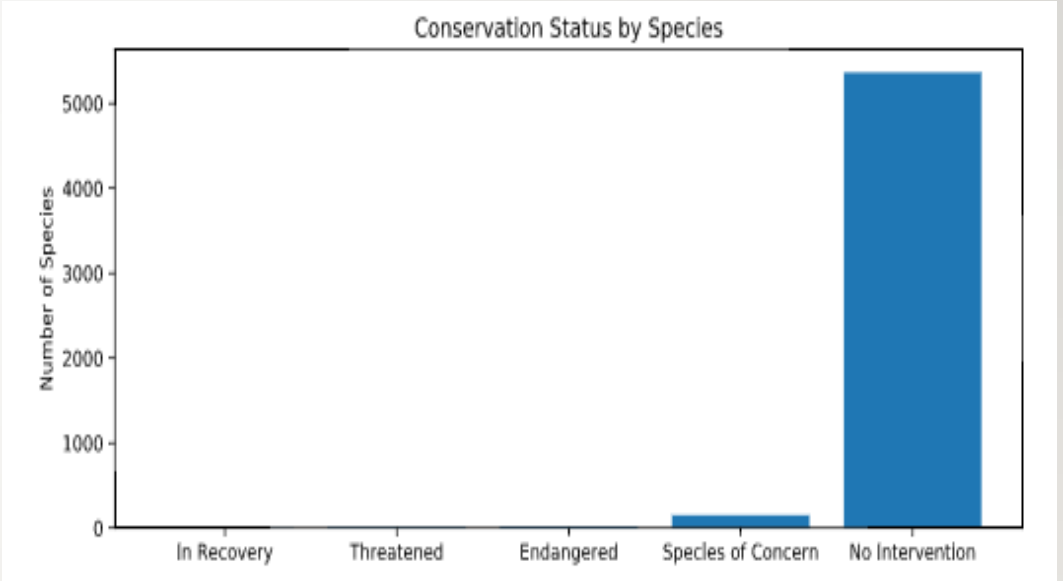
Foot & Mouth Disease Study

- With the known fact that the Park Rangers have been trying to reduce foot & mouth diseases in various parks, the scientists want to validate the efficiency of the test programme
- They want to detect 5% reductions that will yield the baseline value of 15% (from previous year data)
- With the calculated minimum detectable effect of 33% and a confidence level of 90%, the sample size was calculated to be 890
- To effectively observe the determined sample size of sheep the scientists need to spend 2 weeks and 4 weeks respectively at Yellow stone and Bryce National park.

Graphs



This graph depicts the number of sheep being observed in a given week in different national parks across the country



This graph shows the conservation status of the different species in relation to the number of species