

# Analysis of Endangered Species in National Parks

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# Introduction

**Project Goal:** Analyze conservation statuses of species and their distribution across U.S. National Parks.

**Key Areas:**

- Distribution of conservation statuses.
- Significance of differences across species categories.
- Most observed species in each park.

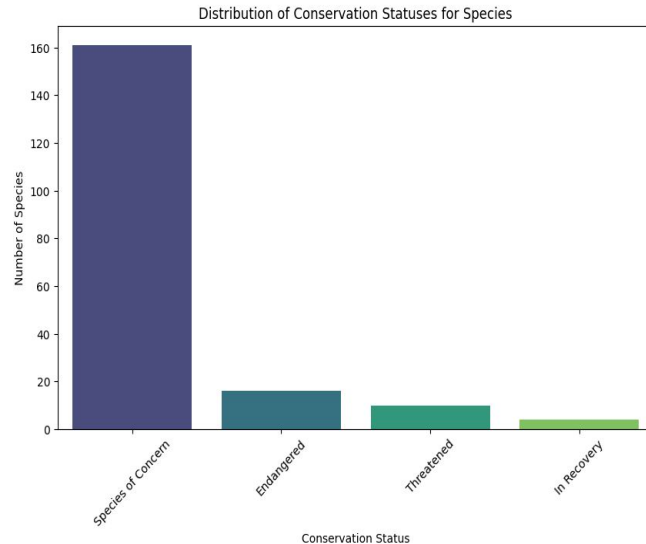
# Data Overview: species\_info.csv

## Columns:

- **category**: Class of species (e.g., Mammal, Bird).
- **scientific\_name**: Scientific name of species.
- **common\_name**: Common names.
- **conservation\_status**: Current conservation status.

## Observations:

- Most species are categorized under "Species of Concern."
- Fewer species fall under "Endangered," "Threatened," or "In Recovery."



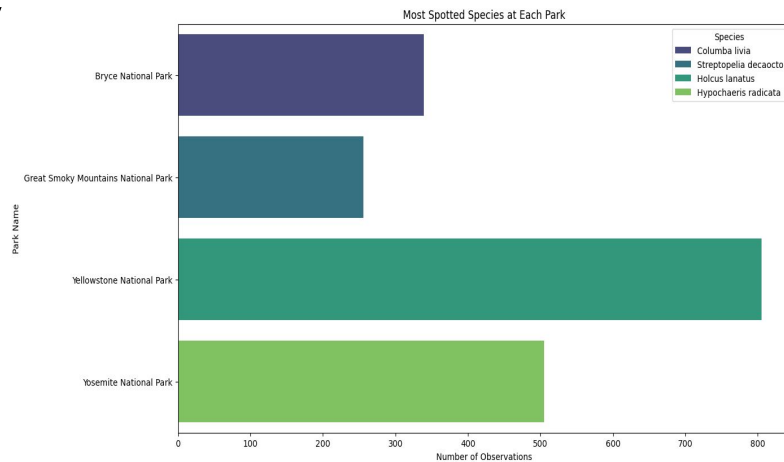
# Data Overview: observations.csv

## Columns:

- **scientific\_name**: Scientific name of species.
- **park\_name**: Park where species were observed.
- **observations**: Number of times each species was observed.

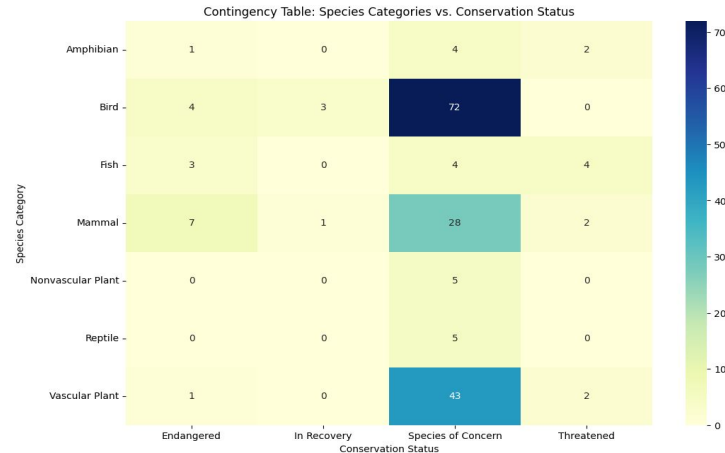
## Purpose:

- Used to determine the most observed species at each park.



# Significance of Conservation Status Across Species Categories

- **Chi-Square Test:**
  - Purpose: Test if the differences in conservation statuses across species categories are significant.
  - Result: Significant differences found ( $p\text{-value} < 0.05$ ).
- **Interpretation:**
  - Some species categories are more prone to being endangered.



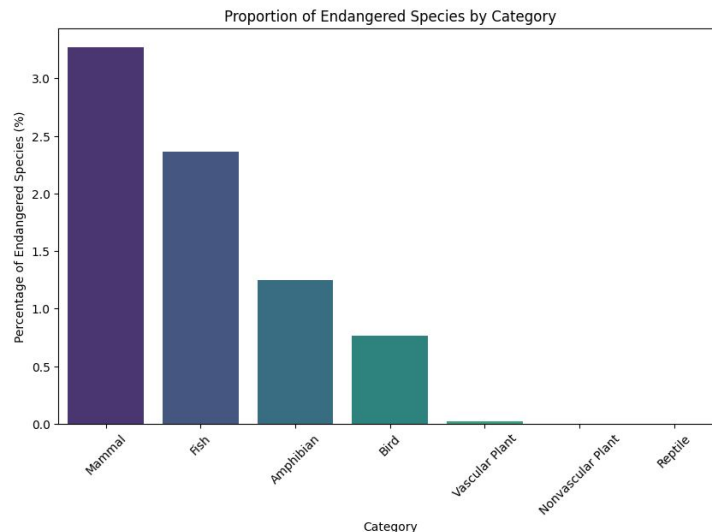
# Conservation Recommendations

## Focus Areas:

- **Mammals, Fish, and Amphibians:** High proportions of endangered species.
- **Species of Concern:** Need monitoring to prevent further decline.

## Actions:

- Prioritize conservation resources for at-risk categories.
- Continue monitoring species in less critical categories.



# Conclusion

## Recap:

- **Distribution of Conservation Statuses:**
  - Majority of species are classified as "Species of Concern."
  - Smaller numbers fall under "Endangered," "Threatened," or "In Recovery."
- **Significance of Differences:**
  - Chi-Square test indicates significant differences in conservation statuses across species categories.
  - Some categories (e.g., Mammals, Fish) are more prone to endangerment.
- **Most Observed Species by Park:**
  - Each park has a distinct species that is most frequently observed.
  - Highlights biodiversity and species prevalence in different parks.

## Final Thoughts:

- **Data-Driven Insights:**
  - Crucial for prioritizing conservation efforts.
  - Focus on species categories with higher endangerment risks.
  - Continued monitoring of "Species of Concern" is essential.