

# **Biodiversity for the National Parks**

Insights from the species conservation data

# Species general aggregate data

There are 5541 species listed.

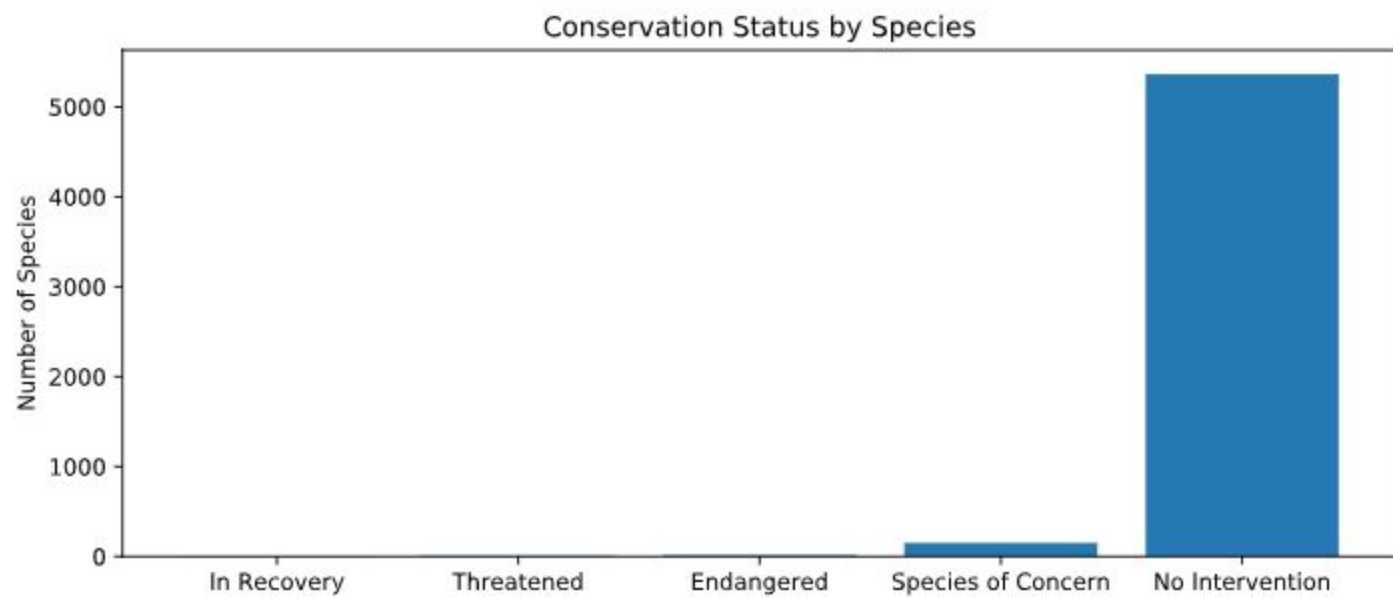
The species are categorised into seven different types, namely 'Mammal', 'Bird', 'Reptile', 'Amphibian', 'Fish', 'Vascular Plant' and 'Nonvascular Plant.'

# Conservation status

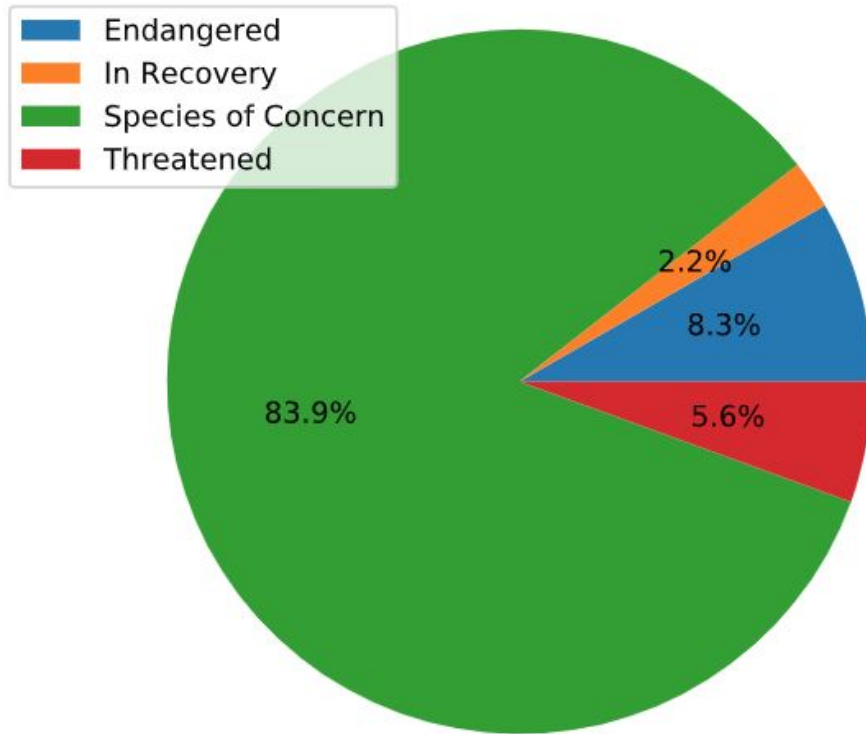
There are four conservation status assigned to a total of 180 protected species, namely 'Species of Concern', 'Endangered', 'Threatened' and 'In Recovery'.

“No intervention” has been applied to the rest of the species listed (96.8%) (see the bar chart).

The percentage of the conservation status among protected species is shown on the pie chart.



Conservation status percentage (protected species only)



# Endangered species by category

category	not_protected	protected	percent_protected
Amphibian	72	7	8.86%
Bird	413	75	15.37%
Fish	115	11	8.73%
Mammal	146	30	17.05%
Nonvascular Plant	328	5	1.50%
Reptile	73	5	6.41%
Vascular Plant	4216	46	1.08%

# Certain types of species more likely to be endangered

p-values	Amphibian	Bird	Fish	Mammal	Nonvascular Plant	Reptile	Vascular Plant
<b>Amphibian</b>	n/a	0.18	0.82	0.13	0.002	0.78	0.000
<b>Bird</b>	0.18	n/a	0.08	0.69	0.000	0.053	0.000
<b>Fish</b>	0.82	0.08	n/a	0.06	0.000	0.74	0.000
<b>Mammal</b>	0.13	0.69	0.06	n/a	0.000	0.04	0.000
<b>Nonvascular Plant</b>	0.002	0.000	0.000	0.000	n/a	0.03	0.66
<b>Reptile</b>	0.78	0.053	0.74	0.04	0.03	n/a	0.001
<b>Vascular Plant</b>	0.000	0.000	0.000	0.000	0.66	0.001	n/a

# Conservation findings and recommendations

Based on the significance calculations of the endangered status among various categories of species, we can find that

Flora species are significantly less endangered compared to fauna species

There are no significant differences between nonvascular plants and vascular plants regarding endangered status.

Mammals are significantly more endangered compared to reptile species.

Conservation resources should prioritise mammals over reptiles as they are more likely to be endangered.



# Foot and Mouth Reduction Effort - Sample Size Determination

Baseline conversion rate = 15%

Level of significance = 90%

Minimum\_detectable\_effect =  $5/15 = 33.3\%$

Sample\_size = **870**

# Observations of sheep in the national parks

