Extinct

When they leave. It’s forever.

The dataset

We’ll present the data analysis from the conservation status of different species and categories with data from the National Park Service.

With Python, Pandas, Matplot and Chi-Squared test we’ll understand this information presented as .csv including:

- The category of each specie
- The scientific name of each species
- The common names of each species
- The species conservation status

Inspired on real data.

SitRep

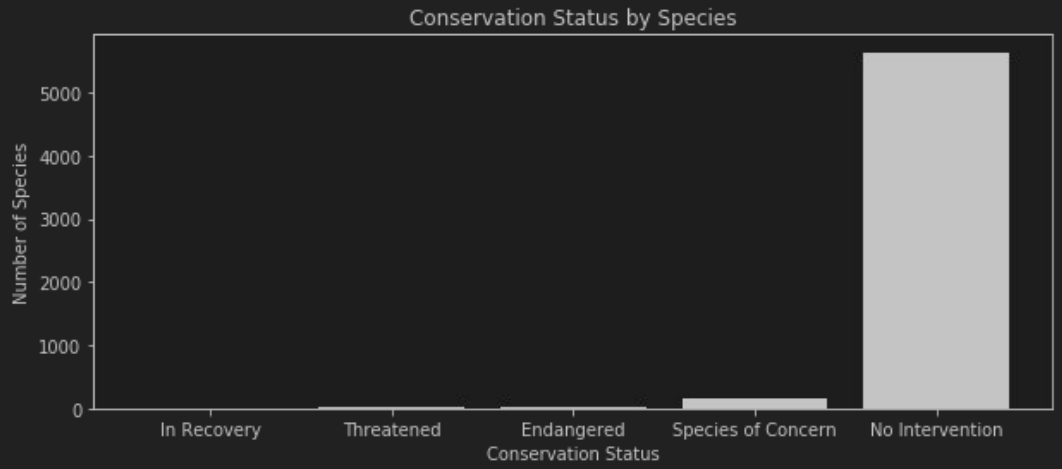
For every **1** specie in **recovery**:

There are **2.5 Threatened**

About **4 Endangered**

More than **37** Species of concern

… and over **1340** without intervention.



Some don’t need intervention...

Cold blooded

Need care too.

Some of the species in most danger belong to category you are not even thinking about.

Protection by category

Let’s run a pivot table showing the species by category next to their protected and unprotected

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

30%

Is as much protection reptile get compared to mammals.

Relevance

A Chi-Squared test will reveal that difference of intervened species between reptile and mammal is not only enormous but also significat.

Value P ≃ 0.0383 < 0.05

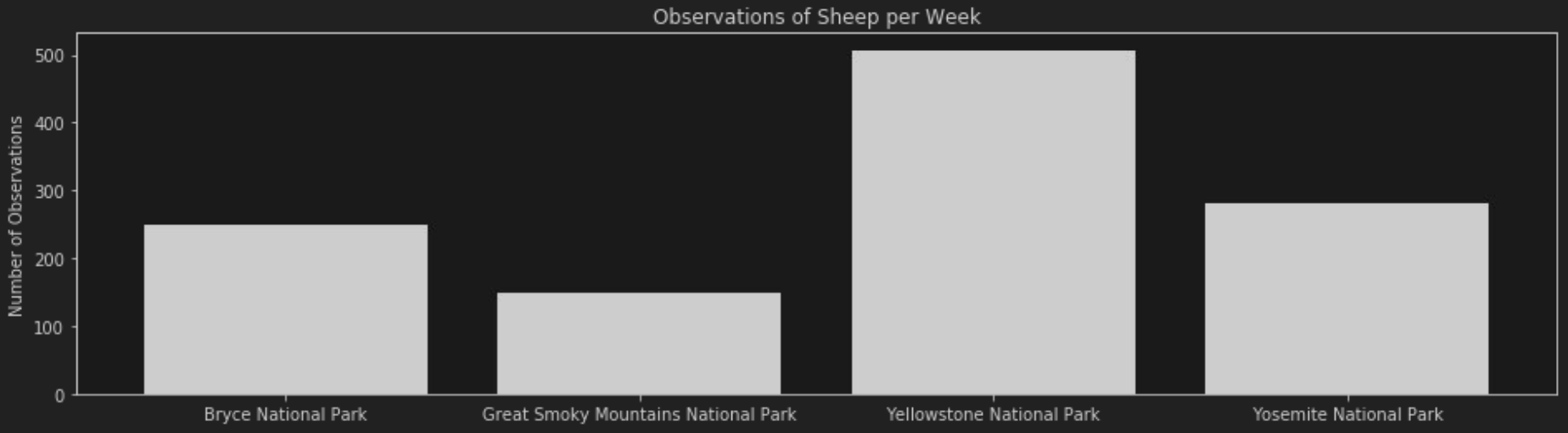
Baa. Sheeps

Results from 1188 sheep’s observations of our 4 National Parks.

15%

Have food and mouth disease.

Sheep’s observations per week by park



Working program

Park rangers at Yellowstone N.P. started running a program to reduce the rate of foot and mouth disease.

Reduction of 5 percentage points is detectable goal.

Calculate the duration of the test:

Total sheeps	870	
Sheep with disease	15%	–baseline
Reduction points	5%	

Then: Sample = 870 observations

Duration

Bryce 3 weeks, 4 days
= 870 / 250 = 3.48 weeks

Yellowstone 1 week, 5 days
= 810 / 507 = 1.59 weeks

33.3% minimum detectable effect