Protect them

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 species
- The scientific name of each species
- The common names of each species
- The species conservation status
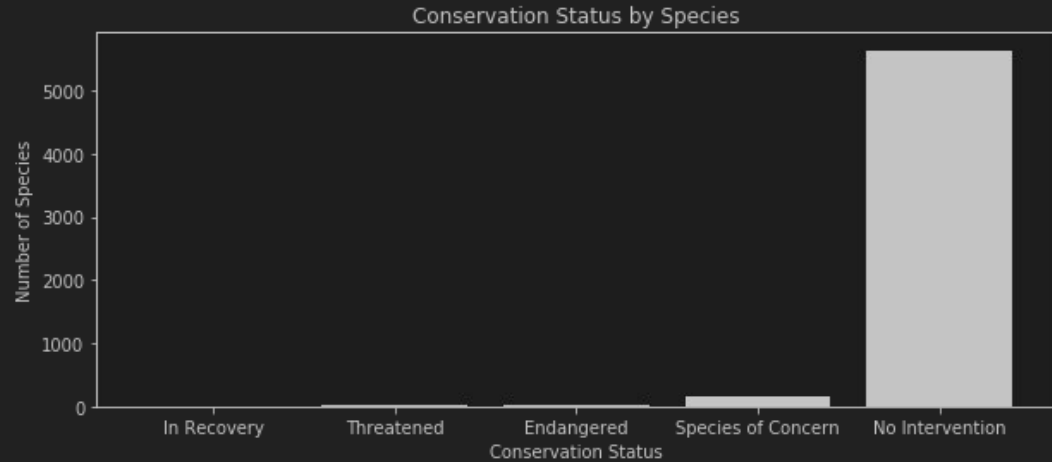
Inspired on real data.

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.

Conservation Status by Species

Some don't need intervention...

Mammals & birds

Mammals are the category most protected having 17% under care.

Followed by birds with 15%

Protection by category

	Category	Unprotected	Protected	Protection ratio
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

Mammals & birds

The 2% difference seems irrelevant as a Chi-Squared test show:

Value P ≃ 0.6875 > 0.05

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90%

Bird's protection compared to mammals protection.

Most of our effort goes to these categories.

Cold blooded

Reptiles need care too.

Reptiles are relatively deprotected even when recreating their habitats is archived in smaller spaces.

5 / 73

Reptiles are less species than mammals.

Is it relevant that are less protected?

Reptile's protection

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

It's one of the most meaningful differences between the groups.

Value P ≃ 0.0383 < 0.05

30%

Is as much protection reptile get compared to mammals.

Only 5 reptile species are under protection

Suggestions

For endangered species.

Prioritize the need for protection.

Create strategies and collaboration between parks.

Conscientization within seasonal hunters.

Optimization of protection spaces
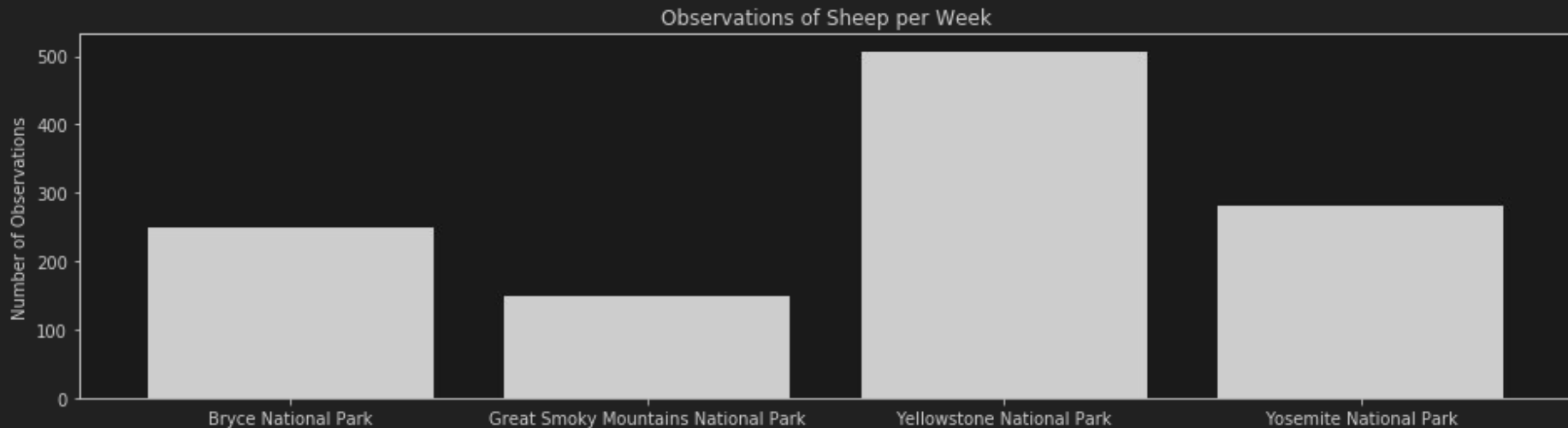
Sheeps: Feet and mouth disease

From the 1188 sheep's observations at 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 the detectable goal.

Calculate the duration of the test:

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

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