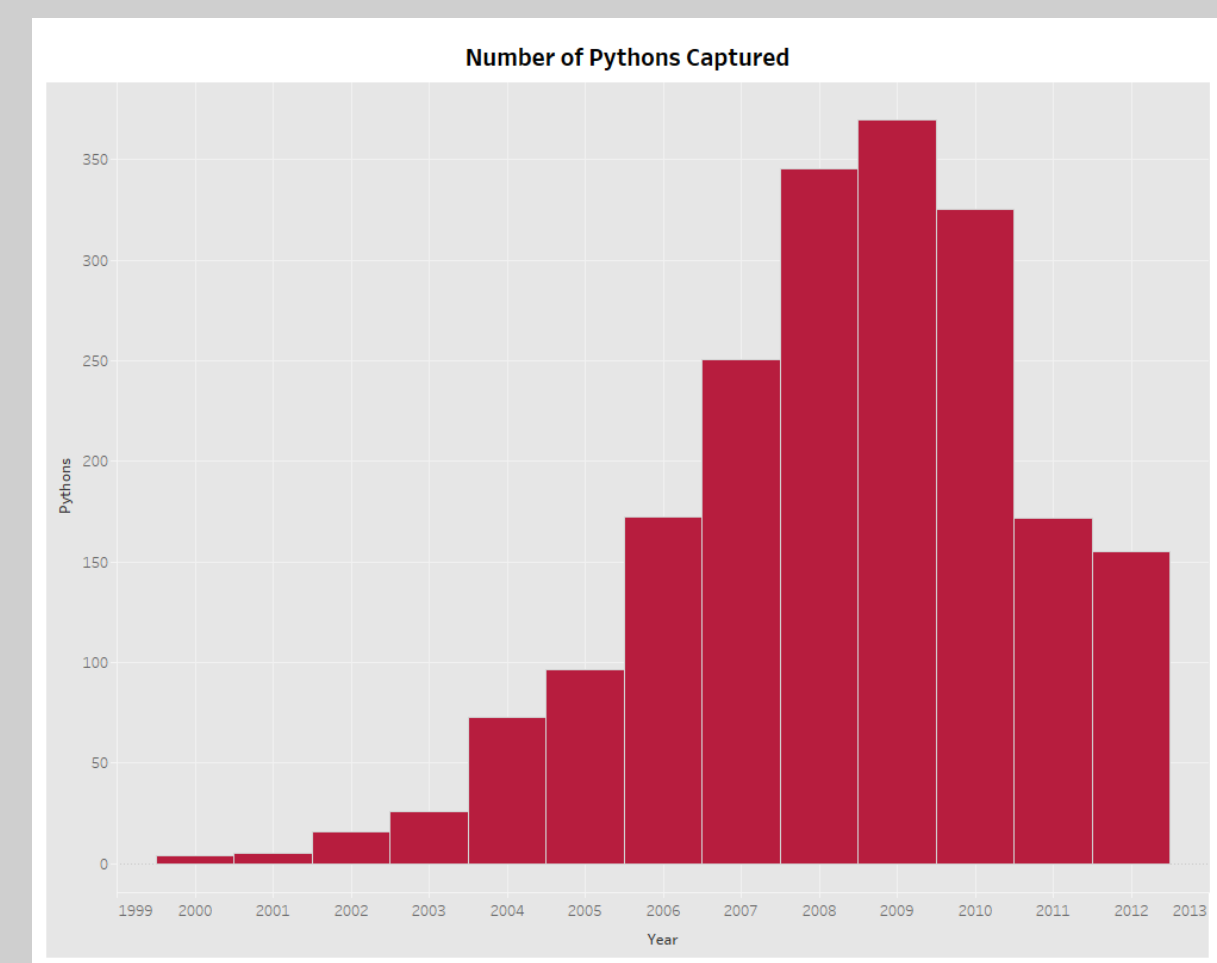


Effects of Invasive Burmese Pythons in Florida

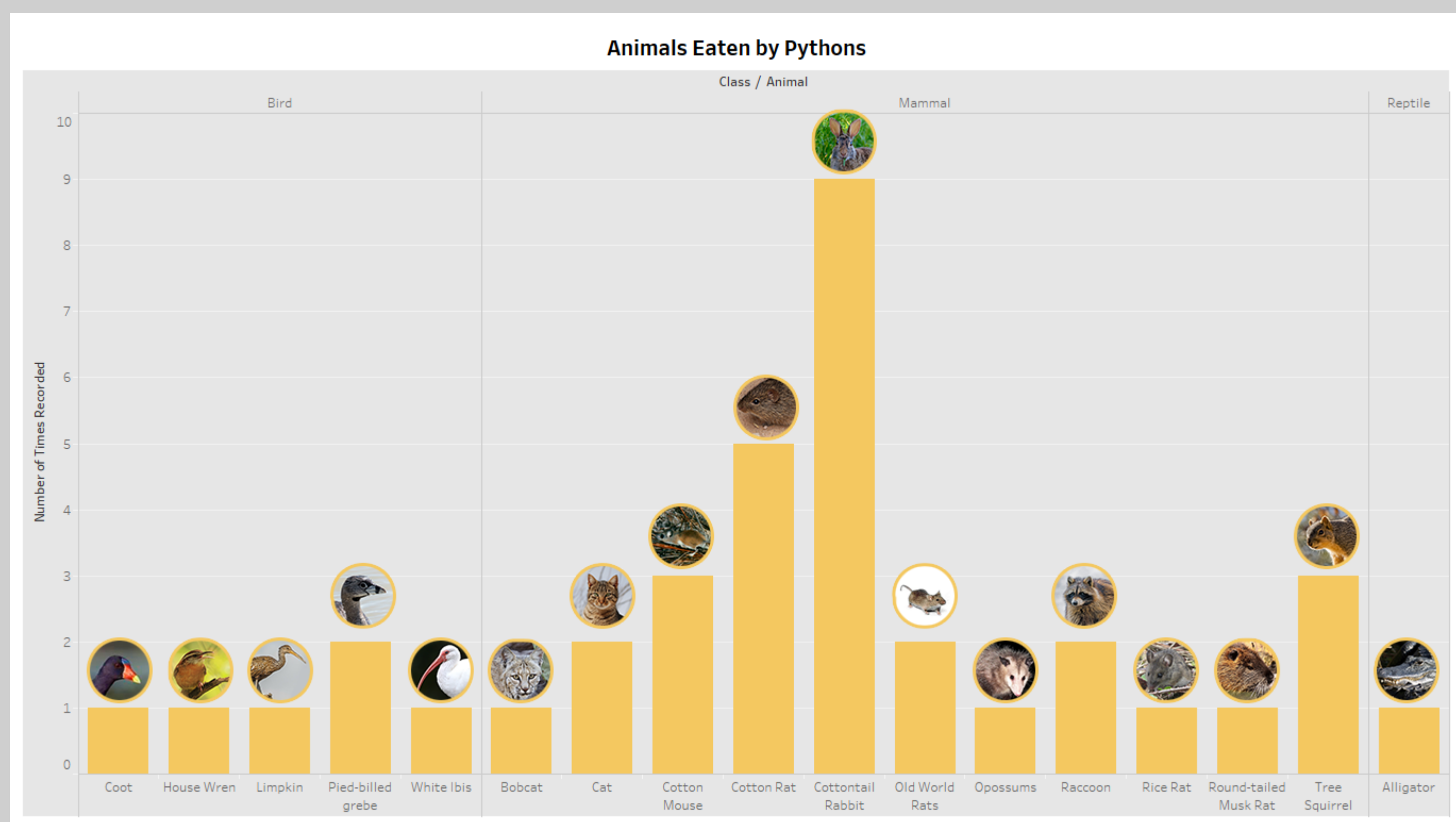


Using the number of pythons removed from Everglades National Park and surrounding areas we can estimate the population trends of Burmese pythons which shows a generally increasing trend.

Direct and Indirect Effects on Local Species

South Florida was originally home to a variety of species, but it is being threatened by this giant constrictor snake. This is due to neglectful pet owners who illegally released these snakes into their own backyards after they decided they would no longer be able to take care of them. The first recorded python in the Everglades dates back to as early as October 24, 1979. Ever since, they have found their way into the habitat of various local mammals, birds, and reptiles. Burmese pythons present a big threat to many of the native species, from rabbits to alligators. Due to the fact that they can reproduce so quickly and have no natural predators they have been multiplying at alarming rates with no natural mechanism to stop them.

To know which species are being directly affected by the python, pythons had to be captured and cut open to have their stomachs analyzed. In them were found a variety of local species pictured in this graph. As can be seen, pythons are highly adaptable and will eat almost anything that will fit into their jaws. Even when an animal is not eaten their population can still be negatively impacted indirectly, as the python can be capable of eating the animals they prey on and essentially out-compete them. This broad diet means that pythons can essentially eat their way through a variety of populations and are a huge threat to biodiversity.



Climate Change and Burmese Pythons Suitability

Burmese pythons have been able to adapt so well to Florida because they thrive in warm weather. They do well in temperatures of around 85°F (30°C). This is why these pythons have not been seen expanding across the US or into other countries. As climate change induces a general increase in temperature however, the habitable range of the Burmese python will increase.

By using WorldClim, the prediction of the average max temperature estimate for 2050 was compared to the average temperature of 1970–2000 across the continental United States. This information was used to find the areas that are suitable for pythons to live in. The current temperature averages keep the python out of the majority of the US, but over time as the average temperature increases pythons will be able to live all over the country. This shows one of the well-known adverse effects of climate change, the decrease of biodiversity.

Conclusion

Pythons are a huge threat to biodiversity, and could potentially be a threat all across the US, and current eradication efforts have had limited success. Methods like putting trackers on pythons are too costly and methods like allowing citizens to hunt them or using dogs to sniff them out are not able to work on a large enough scale. Pythons reproduce in such great quantities and so fast that more effective techniques are needed. The python problem should be investigated further to find better solutions in order to control their population and minimize their effects on the local ecosystem before they come at a great cost.

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Data Sources: EDDMapS, NPS, Herpetological Bulletin, WorldClim

Image Source: macrovector (shutterstock) <https://www.freepik.com/free-photos-vectors/abstract> Abstract vector created by macrovector - www.freepik.com/ab