

What is the impact of invasive Burmese pythons on native species in the Florida Everglades?

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July - August 2025



Background

Where is the Everglades?

The Everglades National Park (ENP) is in south Florida, USA.



ENP is a national park made up of flooded grasslands / marshland ecosystem.

It has a subtropical/tropical climate

(Wikipedia.org)

The native wildlife of ENP

There are lots of different species in ENP.

These include:

36 threatened or endangered species e.g the American alligator and the Florida panther

Over 350 species of bird

40 species of mammal

More than 50 species of reptile

(nps.gov – National Park Service)

Invasive species

There are a number of invasive species in ENP

11 out of 15 snakes and lizards are listed as invasive species (nps.gov) and 1 species of crocodile (common caiman)

These species are competing and disrupting with native wildlife

My project is on one of these invasive species: the Burmese python because it is an apex predator

The Burmese python

They originate from southeast Asia where they are listed as “Vulnerable” on the IUCN red list (Wikipedia.org).

The wild population has declined by 30% because of “habitat loss and overharvesting” in the first decade of the 21st Century (Wikipedia.org)

Map to show native distribution of Burmese pythons



Python molurus bivittatus [Kuhl](#), 1820 Source: Wikipedia

Its diet is birds and mammals but also amphibians and reptiles.

They need a permanent source of water and they like grasslands, marshes and swamps.

The Everglades is marshlands, grasses and swamps.

The arrival of Burmese pythons in Florida

When a storm hit Miami in 1992, a reptile breeding centre was destroyed.

Escapees included hundreds of Burmese pythons.

Owners also released them into the wild probably because they were too big to keep.

They were first seen in 1979 but in the late 1990s there was enough to start reproducing.

Female pythons can lay 100 eggs a year and they now think that there are between 100,000 to 300,000 Burmese pythons in Florida.

(Source: The Guardian, 2024)

Hypothesis:

The more Burmese pythons there are in ENP, the less native species there are.

Method

To research my hypothesis I went on Wikipedia, google scholar and read some newspaper articles.

I also listened to a talk on Burmese pythons given by Dr Jake Weeks at the South Downs show.

I also watched some programs about Burmese pythons in the Everglades.

I wrote notes and highlighted things.

Results

My research suggests that my hypothesis was correct.

In 2012, Dorcas and his team showed nocturnal road surveys in ENP found the population of mammals went down a lot in the python areas.

They found a 99.3 % decrease in the racoon population, 98.9% decrease in opossums and 87.5% decrease in bobcats and failed to detect rabbits.

(Dorcas et al, 2012)



An opossum

Invasion of the Giant Pythons (nature documentary, 2020) suggests that an adult python could eat:

Animal	Amount
Deer mice	70
Cotton rats	30
Squirrels	15
Rabbits	12
Racoons	Several

The documentary showed baby pythons are at risk of predators like racoons and other snakes, for example, King snakes. But at 6 months they can fully defend themselves and by one year they can eat all predators except large alligators.

They show in the documentary the impact of pythons on Indigo snakes is competing for food and finding the best lairs.



Scarlet King snake



Indigo snake

National Geographic have a video of a Burmese Python eating an alligator whole.



(National Geographic UK, YouTube).

In a study in 2011 by Dove and their team, they cut open 343 pythons and they found 25 species of bird in 25% of them.

4 were of special concern and 1 was endangered.

It shows the negative impact of this invasive species on native bird populations.



Wood stork (endangered)

Leatherman and Leatherman found a way to project the population of Burmese pythons within 5 years

If there are 30,000 it becomes 600,000

If there are 300,000 it becomes more than 7 million

They overestimated the population growth rate because it did not take into account the limit of prey but they conclude “eradication is not possible and control is problematic” (Leatherman and Leatherman, 2024)

How to get less pythons.

They put a nationwide import ban to stop pythons coming into the country.

The Python Challenge is a competition to hunt pythons over a 10-day period.

Radio tagging pythons to track them and remove their eggs (Conservancy of south west Florida)

They want less pythons because they are eating the native species and if they do not do something the pythons will eat everything.

Conclusion

My evidence I've collected suggests that the more Burmese Pythons there are in ENP, the less native species there are.

However, it is not just Burmese pythons, it is other invasive species that have been introduced by us.

Evaluation

I could have looked at thousands of articles.

I could have gone out and studied pythons in ENP.

I could look at other invasive species if I did another project.

Thank you

I would like to thank Jake, Gary and Mum for making me do the project. I learned a lot of things from this project.

References

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