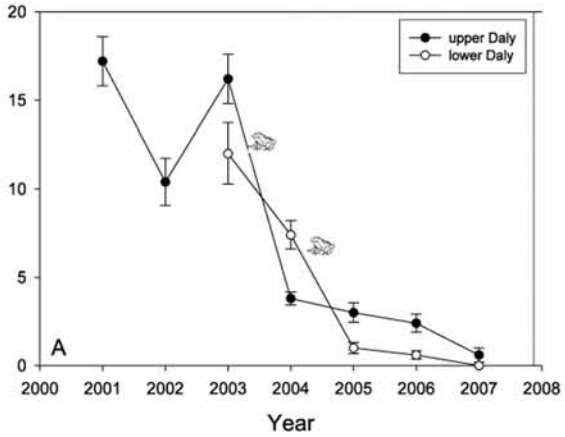
Species numbers have plunged with many animals that were seen regularly now very rare or even locally extinct.

Research has shown species like Yellow-spotted goannas, *Varanus panoptes* have declined dramatically. They are now classifed as vulnerable .

Research by Dr Sean Doody showed declines of over 90%.

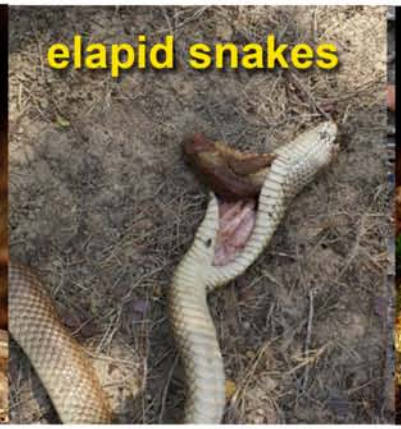


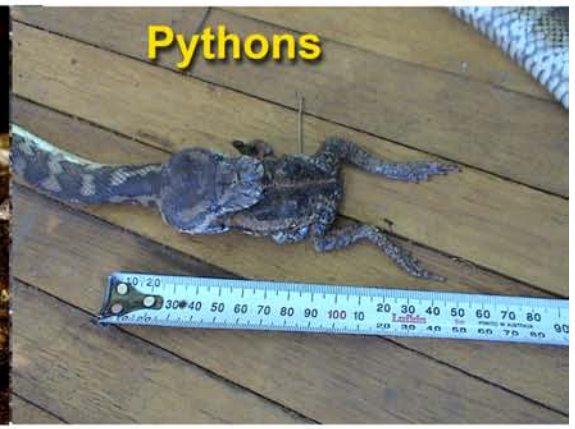
But what has happened since?

Follow up visits indicate the decline has continued with no animals seen on several trips.

Our wildlife populations are under threat like never before. They not only have to deal with the changes in our environment caused by people and the climate but now cane toads as well.

A number of species are directly and indirectly affected by toads in their environment. Many species eat frogs and they do not know that toads are poisonous and many die as a result.





We know that the impacts of toads is different in different places. Areas with small toads lose more of their wildlife, especially reptiles.

As an example our mark recapture study on East Point in Darwin has shown Frill necks and monitors remain in the area despite over 100 large toads a year being removed. We've had no toad breeding in the reserve and so no really small toads in the area. Nearby places like the Gardens have lost all their reptiles.

It also appears that in harsher drier areas the impact of toads may be worse. Evidence from the Victoria River and El Questro area is suggesting the impact of toads is greater than the wetter areas of the Top end.

Frill-necked Lizards

Mitchells Water Monitor

Spotted tree Monitor

Juvenile Black Whip Snake

We would like to know what is happening in your area and whether the decline is continuing.

Research does not have any answers yet but we do have some indicators. These broad declines are also supported by observations from a wide range of people including aboriginal people still living a semi-traditional lifestyle in Arnhemland. (Ian Morris)

In some places individual goannas 'persist' but no recovery is evident.
In areas where toads are controlled things are better!
We can make a difference with our land management.

Reptile Decline research project

The biomass of toads in an area is huge with implications for the area's food supply that we are still trying to understand. Prof Mike Tyler sees this as the major long term impact of toads: "toads will eventually crash the areas food supply impacting on a whole raft of native species do not interact directly with toads".

Results of our research into toad numbers and biomass hint at the scope of this issue.

One of the reasons Toads are listed as a key threatening process is because of what they eat and the fact they compete with native species for food and breeding spaces.

The extent of this problem can be seen from the data of one of our research projects - Over 23,000 toads were removed from the project area(approximately 110 sq kms). Based on our biomass data this represents about 2.36 tonnes of biomass that should be native wildlife!

The nutrients in this biomass of toads are no longer cycling through the food chain and are effectively removed for native wildlife. This may partially explain why the amount of native wildlife in the area has dramatically reduced.

Research is showing toad control is feasible in some locations. Research (Florance et al 2011) showed that fencing water during dry periods can eradicate all the cane toads from an area. Further reseach has shown that this can be maintained over time.

Research by Ben Feit is showing that in areas where surface water has been removed by installing tanks and troughs, toads are excluded and species like Varanids are coping better than areas where open water like turkey nest dams remain.
There are also 12-14 times more dung beetles indicating the food supply is in better shape as well.

Toad eradication fences can be temporary or permanent