

## **NEW WAYS TO CONTROL CANE TOADS**

### **Professor Rick Shine AM FAA**

Introduced by Geoff McWilliam, Professor Shine explained that the cane toad, a large frog, is prevalent throughout the world except, until recently, in Australia. When fully grown they have a gland behind their neck containing toxins deadly to both humans and animals.

Noted for their capacity to kill beetles they were deliberately introduced to Australian cane fields. Unexpectedly, they have since advanced at an increasing speed (now 50-60 kms/year) across the north of the continent and are expected to reach Broome within a couple of years.

Due to their toxins, cane toads kill wildlife such as snakes, quolls, goannas and freshwater crocodiles, and do so within a few months of the toads arriving. In other countries, with a long history of cane toads, animals have learned to leave the toads alone or have evolved the ability to tolerate their poisons.

Interestingly, rats, birds and large ants are not affected. Small toads cause sickness rather than death.

#### **Cane Toad Progress Across Northern & Eastern Australia**

5What to do in Australia to deal with them? An initial idea was to release small toads in advance of the large toad invasion so that wildlife ate them, got sick and learned not to approach them again! However, the public reaction to introducing small cane toads in areas where there weren't any was, perhaps not surprisingly, quite hostile! However, small scale trials confirmed that this technique was successful and, supported by a substantial PR program, the WA government approved a large scale trial that is currently underway and achieving very pleasing wildlife conservation results.

A recent study in the Kimberley region with crocodiles fed toxin free toad carcasses injected with nausea-inducing chemicals taught them to avoid cane toads, with resultant lower mortality rates.

But the question of how to control cane toads remains and Professor Shine and his team have concluded that we need to stop them breeding. It has been observed in Australia that toad tadpoles are attracted to the poison in cane toad eggs and will eat them voraciously. The challenge then is to stop tadpoles maturing into toads i.e., encourage gene-edited "Peter Pans" (eternal tadpoles) that are voracious cannibals but not dangerous.

#### **A Cane Toad Tadpole**

Professor Shine and his team have also been involved in work leading to the development and commercialisation of cane toad traps that use the toad's own alarm pheromones (extracted from adult poison glands) to lure and catch thousands of tadpoles in natural waterbodies.

In concluding he acknowledged the members of his team, expressed confidence they would achieve their aim of controlling the cane toad population and reiterated the on-going importance of bringing the Australian population along with their research.

***Alan Locke and Alec Brennan***