



# Tackling toads



Western Australia is strengthening its arsenal to reduce the risk of 'hitchhiker' cane toads while Parks and Wildlife scientists are collecting benchmark information in an attempt to minimise the impact of cane toads on native species.

**by Corrin Everitt**



Cane toads (*Rhinella marina*, formerly *Bufo marinus*) were introduced to Australia in 1935 to reduce the impacts of cane beetles on Queensland sugar cane crops. Since then, they have become one of Australia's highest profile pests and have caused a number of significant declines in native species throughout their range. They are prolific breeders, highly adaptable and extremely invasive. Their range continues to expand about 50km per year and they have invaded parts of Queensland, the Northern Territory and, more recently, Western Australia. Currently the cane toad's range extends across northern Australia to approximately 150km west of Kununurra and to its north and south.

For several decades state and federal governments have invested in community and government research and fieldwork to try to minimise the spread and population of cane toads. The Western Australian Government began preparing years ahead of the cane toad's arrival and launched the *Cane Toad Strategy for Western Australia 2009* the same year it crossed the border. The strategy provides the framework for the Department of Parks and Wildlife's cane toad program and sets out priorities in the areas of education, biodiversity, surveillance and quarantine. An important feature of the program is its adaptability to new practices and research findings when they become available.

## SNIFFING THEM OUT

Two key objectives of the strategy are to reduce the risk of so-called 'hitchhiker' toads being accidentally transported in vehicles and establishing populations ahead of the cane toad front, particularly in the State's Pilbara and south-west regions, and to minimise the impact of cane toads on native species in the Kimberley region. Parks and Wildlife – the lead agency in the fight – has a number of different tactics to achieve this with 'Reggie,' the new detector dog, playing an important role.

Reggie – a springer spaniel – has been specially trained to sniff out cane toads. He will be based at Kununurra to inspect



freight and produce leaving the east Kimberley and will be deployed to other areas of WA when required. He also plays a central role in the campaign to raise awareness about the risk of hitchhiker toads.

Parks and Wildlife is also establishing strong links with freight operators and the trucking industry to help prevent accidental transportation of hitchhiker toads and to minimise the species' spread in WA. All freight companies and travellers are being urged to 'check your load for a cane toad'.

Another aspect of the public awareness campaign is educating people about the difference between native frogs and cane toads to avoid native frogs being harmed or killed as a result of mistaken identity. In partnership with The University of Western Australia's SPICE program (an enrichment program for secondary science teachers), Parks and Wildlife has released a smart phone application, which provides information about how to correctly identify cane toads and native frogs. The cane toad application is available free from the iTunes store. The department also provides extensive information and links on its website as well as resources such as posters, magnets, stickers and brochures, to promote correct identification and safe and humane euthanasia techniques for cane toads.

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**Main** The beautiful Bell Gorge of the Kimberley is one area at risk of invasion. *Photo – Colin Ingram/Parks and Wildlife*

**Inset bottom** The menacing cane toad. *Photo – Parks and Wildlife*

**Inset right** Parks and Wildlife project officer Jackie Ellis with Reggie the detector dog. *Photo – Peter Nicholas/Parks and Wildlife*

**Above** Local school students getting involved in on-ground learning about cane toads. *Photo – Parks and Wildlife*

With the assistance of Cane Toad Hotline volunteers, the department provides a reporting and follow-up service to the community, which is already proving valuable. In February this year, an astute member of the community accurately identified a cane toad in his backyard in East Perth and reported it immediately. Parks and Wildlife staff confirmed the identification, conducted further checks of the area, distributed information flyers to nearby residents and appropriately disposed of the animal.

In the Kimberley region, there are 21 drop-off points at local businesses and local government depots where the public can hand in live cane toads. Toads collected from the drop-off points are humanely euthanased. Since their installation in 2010, there have been more than 10,000 toads received at the drop-off points.

## RESEARCH AND DEVELOPMENT

On-the-ground work is crucial but can only be successful when done in tandem with carrying out research to understand what the impacts of cane toads are and developing ways of controlling them at a landscape scale. As part of this research, the department has been conducting biodiversity surveys ahead of the cane toad front since 2009. The surveys provide a baseline inventory of fauna present in locations where there is little or no existing biodiversity information. The surveys started in the new conservation reserves formed under the Ord Final Agreement which are managed jointly by the Yoorrooyang Dawang Regional Park Council and Parks and Wildlife. These reserves include Mijing, Barrbem, Goomig, Ngamoowalem, Jemandi-Wooningim and Darram. All of the reserves were cane toad-free in 2009, with toads arriving in some areas during 2010 and 2011.

The survey program has since moved west to locations such as Carson River Station, Drysdale River, Wire Springs near Fitzroy Crossing and Cockburn Range. New locations are identified through negotiations with traditional owners as part of the *Kimberley Science and Conservation Strategy*. These surveys help provide information to determine the role of baseline surveys for the future, how monitoring can assist in understanding long-term cane toad impacts on native species and to identify management actions that may reduce this impact. They have also been successful in engaging with Aboriginal people to enhance their understanding of the biodiversity and impacts on their country. Every survey coordinated by Parks and Wildlife has the involvement of Aboriginal rangers who help with setting up and checking the 200 Elliott traps, 70-plus funnel traps and 12 pit lines spread across four different habitat types.

Through Australian Research Council linkage grants with the University of Sydney, Parks and Wildlife research scientist David Pearson and a number of PhD candidates have looked at goannas,



**Above** Reggie sniffing out a cane toad.

**Below** The cane toad caught in an East Perth backyard.

Photos – Peter Nicholas/Parks and Wildlife

blue tongue-lizards, venomous snakes, native mammals and crocodiles to establish their responses to cane toads, their biology and to trial ‘taste aversion’ therapy.

Research has already found that many species have the capacity to learn to avoid toads if they ingest a small amount of toad toxin – just enough to make them feel ill but not kill them. For some species, like the northern quoll (*Dasyurus hallucatus*) the taste aversion concept has worked very successfully. For others the idea is still being investigated, with current PhD candidate Georgia Ward-Fear, David Pearson and the local Balangarra people studying yellow spotted monitors (*Varanus panoptes*) and their responses to small ‘teacher toads’ in the remote far north.

## WHERE TO FROM HERE?

Parks and Wildlife will continue to work with researchers to identify options for minimising the impact of cane toads on native species. A progress report for the *Cane Toad Strategy for WA 2009-19* will be published during 2014 and will be the basis for a review of the strategy’s actions. It will set the department’s actions and priorities in the fight against cane toads for the next five years. In addition, a series of education manuals will be released later this year to assist teachers in educating students about cane toads, fire and the marine environment, furthering a better understanding of potential impacts on the Kimberley’s biodiversity.



**Corrin Everitt** is the program coordinator of the Department of Parks and Wildlife’s State Cane Toad Initiative. She can be contacted on (08) 9168 4200 or by email ([corrin.everitt@dpaw.wa.gov.au](mailto:corrin.everitt@dpaw.wa.gov.au)).

For more information about cane toads visit [www.dpaw.wa.gov.au/canetoads](http://www.dpaw.wa.gov.au/canetoads).

If you suspect you have found a cane toad, isolate it (with care) and immediately:

- call the Cane Toad Hotline on 1800 44 WILD (1800 449 453)
- text a photo to 0400 693 807
- email [canetoads@dpaw.wa.gov.au](mailto:canetoads@dpaw.wa.gov.au), or
- fill in the form available from [www.dpaw.wa.gov.au/canetoads](http://www.dpaw.wa.gov.au/canetoads).

Please make a note of the date, time and location where you saw the toad and, if you can, take a photo of the suspect.