



WA Cane Toad Update

November 2012

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Snapshot of cane toad movement through WA

Almost four years ago, cane toads crossed the WA-NT border and have now established breeding populations in the State's north-east.

Community and State Government efforts have continued this year with the manual removal of cane toads across the east Kimberley. However, while toad busting may offer some assistance in the short term, the only long-term hope for fighting cane toads rests with the work being undertaken by researchers trying to find biological control techniques. In this newsletter we report on some of the research being undertaken by Professor Rick Shine's group from the University of Sydney.

A serious short-term threat is that people may inadvertently transport toads from the Kimberley to other parts of WA in their vehicles or packaged goods. This is a daily risk and everyone needs to remain vigilant to look out for toads in their goods and exercise caution when travelling through toad infested areas.

In the meantime, as the search for a biological solution to control these invasive animals continues, there are measures we can take at a community level to raise awareness about cane toads, to reduce the chance of accidentally establishing new populations and to take local action to reduce cane toad abundance.

With the onset of another wet season in the State's north, here is a snapshot of the cane toad situation in WA:

Where are they?

Cane toads are established in the east Kimberley with significant breeding occurring from Parry Lagoons to the



The westward movement of the cane toad front line over the past three years.

southern extent of Lake Argyle. They have also been in the Ord Catchment area for at least two years.

The cane toad front line is now west of the Great Northern Highway, from Doon Doon to south of Warmun.

Cane toads are also present in low numbers in the north of Purnululu National Park and entry of cane toads into the upper Fitzroy River catchment is expected this wet season.

Looking ahead to the wet season

This is the fourth wet season since cane toads first crossed the WA-NT border in February 2009.

The long and cool dry season this year helped to slow the movement of cane toads to the west and south of Kununurra. However, their march will accelerate with the onset of wet season rains.

Where are toads predicted to reach by the end of the coming wet season?

The level of wet season rains will determine how far toads travel. An above average rainfall season is likely to help push them further west.





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A cane toad drop-off point.

More drop-off points established

A further two cane toad drop-off points have been rolled out in northern WA as part of the 10-year State Cane Toad Strategy.

The disposal sites have been installed at El Questro and Purnululu, taking the total number of drop-off points set up in the Kimberley region to 11.

DEC State Cane Toad Initiative program coordinator Corrin Everitt said the disposal sites had been put in place to help the community and visitors deal with the invasive species.

"With up to two-thirds of suspected cane toad sightings turning out to be native frogs, people are encouraged to transport suspected toads to a drop-off point for identification," she said.

"The toads can be placed into a chute which leads to a specially designed holding cage fitted with shade cloth and water, and are checked regularly.

"The animals that aren't cane toads are then released back into their natural habitat."

More than 2,500 cane toads have already been taken to the new drop-off points.

Cane toad detector dog update

The search for a suitable four-legged friend to help sniff out cane toads is continuing to ensure both the dog and its handler have the characteristics necessary for the job.

It was hoped that a new dog would be recruited this year; however, the task of finding the most suitable dog and dog handler has required further investigation.

The search for a new sniffer dog was sparked by the early retirement of Nifty, a female Belgian Malinois, due to poor health. Nifty was acquired by the department in 2006 as an innovative way to help reduce the risk of cane toads entering WA. However, the hot and humid Kimberley climate took its toll over the years on her health and effectiveness, leading to her retirement in 2011.

Taking up the bait

Scientists have adopted new technology to help determine which native species are tempted to eat cane toads by using specially designed baits. These are currently being trialled ahead of interactions with real toads.

Remote cameras have been set up throughout the Kimberley region near Kununurra and Warmun, and in Mitchell River National Park, to track the interest of native fauna in cane toads as part of a series of ongoing trials jointly run by DEC and the University of Sydney.

DEC research scientist David Pearson said the baits were placed in front of the cameras to capture any fauna that came up and inspected the baits, and the results had been surprising.

"The use of new generation remote or trail cameras has revolutionised the collection of data scientists are able to obtain," he said.

"Determining what fauna actually takes the baits in the field is obviously very difficult to observe, but these cameras now have activation times, memory capacities and improved night lighting, and some have video capability to permit the

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collection of thousands of quality images to identify most species and to record behaviour.

"Although this work is ongoing, it is already clear that a number of target species such as northern quolls, blue-tongue lizards and some goannas will eat the baits.

"A dingo at Mitchell River has also been videotaped picking up the bait then quickly spitting it out, presumably when it tasted the salt compound."

He said the camera recordings also captured other interesting fauna, including rare or cryptic species such as nabarlek rock wallabies, scaly-tailed possums and golden-backed tree-rats, plus some surprising behaviour from a dingo rolling happily on a smelly bait.

Dr Pearson said as the main impact of cane toads on fauna was the poisoning of a range of native predators, especially northern quolls, snakes, goannas and blue-tongue lizards, it was hoped use of the baits could train species to avoid eating toads through 'taste aversion'.

"We want to teach native predators that toads are unsuitable prey that will result in sickness and possibly death," he said.

"The small sausage baits are made by



Top main: The cryptic nabarlek rock wallaby. Northern quolls have been detected with baits. Inset: The scaly-tailed possum is a Kimberley endemic and a frequent 'capture' on Mitchell River cameras. Above: A dingo enjoys a roll-over in a smelly toad bait.

biologists by mincing less toxic parts of toads (such as the back legs). This is then injected with a harmless, but nausea-inducing salt.

"The idea is that predators that consume these baits, which smell and taste like toads, will feel ill and then not be tempted to consume real toads."

He said laboratory-based research previously undertaken by the University of Sydney's Dr Jonno Webb, Prof. Rick Shine and their fellow researchers, used captive quolls to test if such baits would improve their survival rates when released into toad-infested areas in the Northern Territory.

"Their studies showed that trained quolls did have higher rates of survival

and there is some evidence that their offspring do as well, so this research is very encouraging," Dr Pearson said.

"An intensive program is planned this wet season to see if the baits can be made more attractive for other fauna, especially goannas, and to improve their longevity in the field by adding ant repellent.

"The hope is that these baits will be able to deter native predators from eating a large (and probably fatal) front line toad and to give them time to learn that toads are best avoided.

"This could then not only help with preserving pockets of native predators across the mainland Kimberley but could also provide some protection to island populations from rafting toads during floods."



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\$300,000 for cane toad community group

Kimberley Toad Busters (KTB) received a further \$300,000 in the 2012–13 State Budget to continue their field work in the fight against cane toads.

Environment Minister Bill Marmion said this was in addition to the State Government's 2008 election commitment to deliver \$1.2 million over four years to the Kununurra-based community group.

"On-ground action by KTB members and volunteers has been well supported

by the community, and the additional funding will help the group continue its programs against toads for a further 12 months," Mr Marmion said.

The Minister said he was pleased to see so much support from the community for the State's Cane Toad Strategy, which was being implemented by DEC with support from local volunteers.

"Cane toads are highly invasive and a key part of the long-term State strategy is to find a science-based

solution such as a biological control that doesn't impact on native species," he said.

The State Government also welcomed the activities of the Stop the Toad Foundation and continued to support its operations through cooperation from DEC.

The 10-year State Cane Toad Strategy for WA emphasises the role of partnerships between government and community-based organisations.

Mistaken identity cases on the increase

As cane toads continue on their western march, residents are being reminded to contact DEC if they find a suspected cane toad.

In recent months, the cane toad hotline has received numerous phone calls from concerned residents who believed they had come across a cane toad.

In the majority of cases, most were confirmed to be harmless native frogs despite their resemblance to cane toads.

In June, the media followed up on a reported cane toad that was found in a suburban Perth garden. The DEC cane toad hotline was flooded with calls until wildlife officers confirmed it to be a western banjo frog (*Limnodynastes dorsalis*), commonly mistaken as the invasive pest due to their similar colouring.

More recently, a suspected cane toad located in the south-west at Pinjarra was also identified by wildlife officers as a western banjo frog.

Western banjo frogs are widespread across the south-west from around Northampton through to Cape Arid, east of Esperance. They are known to survive away from water sources and spend much of the year buried in sandy soils away from breeding sites.

DEC wildlife officer Maxine Birkin said even though in both instances the animals were determined to be native frogs, calls to the department's cane toad hotline were greatly appreciated.

"The fact that the people kept the animals alive until a positive identification could be made was fantastic because



The western banjo frog that was mistaken for a cane toad in Perth.

it allowed the native frogs to be returned safely to their natural environment," she said.

People who believe they may have found a cane toad should keep the animal in a secure place and contact the DEC cane toad hotline on 1800 44 WILD (9453).

For more information on WA's native frogs and toads, visit www.dec.wa.gov.au/canetoads.



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In brief

- During the dry season, DEC has worked with KTB to facilitate access through Purnululu National Park.
- Since April 2012, the new cane toad hotline (1800 44 WILD) has received about 30 cane toad related enquiries.
- Sections 1 and 2 of the cane toad manual—an educational guide for students—have now been completed. The manual titled *Cane toads, biodiversity and amazing invertebrates* has so far been distributed to Kandiwal School and Kalumburu Remote Community School in the Kimberley. It will be rolled out to other schools in the near future.
- A DEC education officer and the regional Bush Ranger coordinator based in Kununurra visited schools throughout the Kimberley at the end of October to discuss Bush Rangers, cane toads and biodiversity with students.
- DEC's Perth-based Bush Rangers could soon be involved with the

surveillance and monitoring of hitchhiker cane toads discovered in the Perth metropolitan area.

- Researchers at the University of Sydney have developed a new approach to toad control by capturing tadpoles in traps to stop them from breeding. Field trials near Darwin have proven effective, with the traps rapidly eradicating cane toad tadpoles from natural waterbodies. This method is currently being considered for deployment by DEC in WA.

In the meantime, the nematode (lung worm) research undertaken by the university has also revealed some interesting results. Researchers have discovered that the nematodes have dramatic effects on toad growth, and could play some role in control. However, the work has also shown that at least one species of native frog, the magnificent tree frog, is potentially at risk of being killed by the toad's nematodes.

- Five biodiversity surveys were undertaken in the east and central Kimberley in 2012. From these, 20

Top left: Bunuba Rangers assisting DEC officers at Wire Springs with trapping surveys. Above: Planigale recorded during biodiversity surveys at Wire Springs. Photos courtesy Natalie Davey

different reptiles and 10 mammal species (including northern brown bandicoots) were trapped. There was a much lower capture rate of cane toads in the eastern reserves in comparison to western sites.

The Pincombe Range was surveyed again with large numbers of frogs caught after rain. Most interesting was the capture of four green tree snakes within one trap. Two female planigales with pouch young were also recorded, as was the elusive echidna.

The Bunuba Rangers assisted DEC officers Leigh Whisson, Jasper Kruse and Andre Bobojcov with the surveys. Next year, the biodiversity team will focus on the central to west Kimberley to continue surveying ahead of the cane toad front.



The cane toad e-newsletter is now being released on a biannual basis to coincide with the end of the dry season and the start of the wet season. The next e-newsletter will be released in April 2013. If you wish to subscribe click [here](#).

For more information contact the DEC cane toad team on 9168 4200 or email corrin.everitt@dec.wa.gov.au.