

Clarence Valley Conservation in Action



Cane Toad Training & Information Manual

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1. Welcome to the CIA Landcare Group

I would like to thank you and personally welcome you to this CIA Landcare Cane Toad Training and Information Day. We hope you get a great deal out of both the training sessions and the interaction with other CIA members.

This manual is designed to complement the training sessions and will not be a comprehensive text on all things toad. Much as the CIA website only focuses on the critical and local issues, the manual aims to provide the most important points to get you out collecting safely. Should you be more interested in finding out about the spread of cane toads or the latest research, please visit the website which contains links to other pages on the internet that cover this in great detail. This is chiefly a field manual and to be used in conjunction with the training sessions and face to face support.

The Clarence Valley Conservation in Action (or CIA) was created in November 2008 by Sharon Lehman to network individuals in the Clarence Valley who wanted to be involved in local conservation issues. The cane toad section of this group became extremely popular and thus the interest and funding followed to enable this training manual and course to occur.

In October 2009, the CIA became a Clarence Landcare Group which gives the network so many benefits including experienced leaders like Julie and Debbie, a supportive network and poor Sue the incredibly patient bookkeeper! The CIA is an exciting, innovative Landcare group and thanks for coming along to support it! We are big on actually DOING SOMETHING and low on meetings, paperwork, etc so let's get started!

Cheers, Sharon Lehman, CIA Founder and Coordinator.



Our toad operations mascot, Terry the Toad.

2. Key Contacts & Links

CIA Coordinator Sharon Lehman
Home: 6647 3477
Mobile: 0411 020 394
sharon@cvcia.org.au
www.cvcia.org.au

Clarence Landcare Julie Mousley & Debbie Repschlager
Office: 6643 5009
Landcare@ceinternet.com.au
www.clarencelandcare.com.au

Area Coordinators Sharon Lehman – Mororo (as above)
Jo Vestergaard – Townsend
Mobile: 0400 110 768
vestergaard@westnet.com.au
Ant Van Haren – Warregah Island
Mobile: 0438 678 300
ant@cvcia.org.au

NPWS Website www.environment.nsw.gov.au
Follow links to pests and weeds, pest animals, cane toads.

Some Excellent Cane Toad Websites – these will keep you busy!

Prof Rick Shine UNSW www.canetoadsinoz.com

Invasive Species Council www.invasives.org.au

Kimberley Toadbusters www.canetoads.com.au

Stop The Toad Foundation www.stopthetoad.org.au

More links and information can be found on the CIA website.

3. Where Are the Toads?

Cane toads were introduced to Australia in 1935, in an unsuccessful attempt to control sugar cane beetles. From an initial release of 3000 young toads near Cairns, they are now estimated to be in their millions and cover about 1/3 Australia (from STTF Manual).

Nationally, cane toads have reached and crossed the WA border in 2009 (see Figure 1) and are rapidly approaching Lake Eyre in South Australia (see Figure 2).

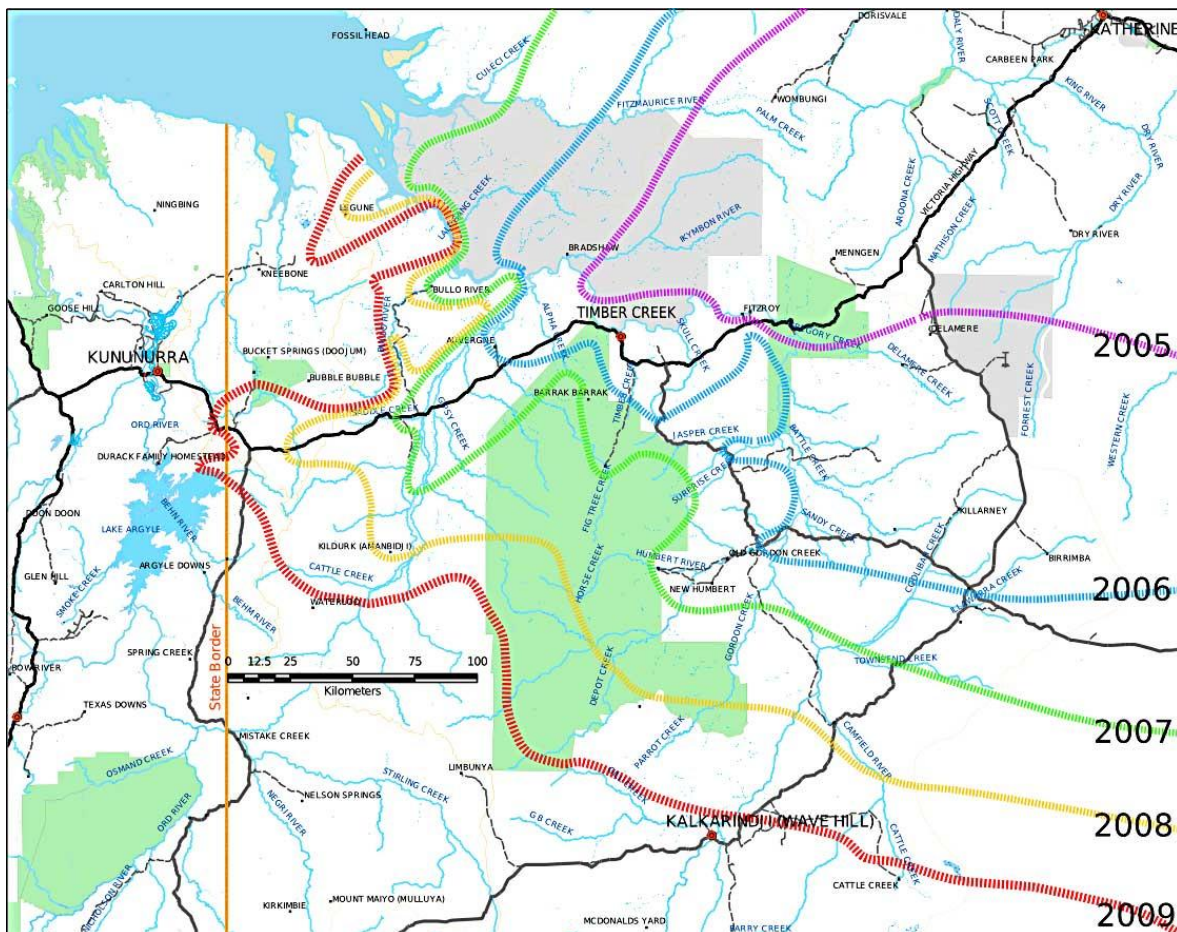


Figure 1 – toad front moving across Northern Australia (used courtesy of STTF). The red line indicates the best estimate of the current toad front.

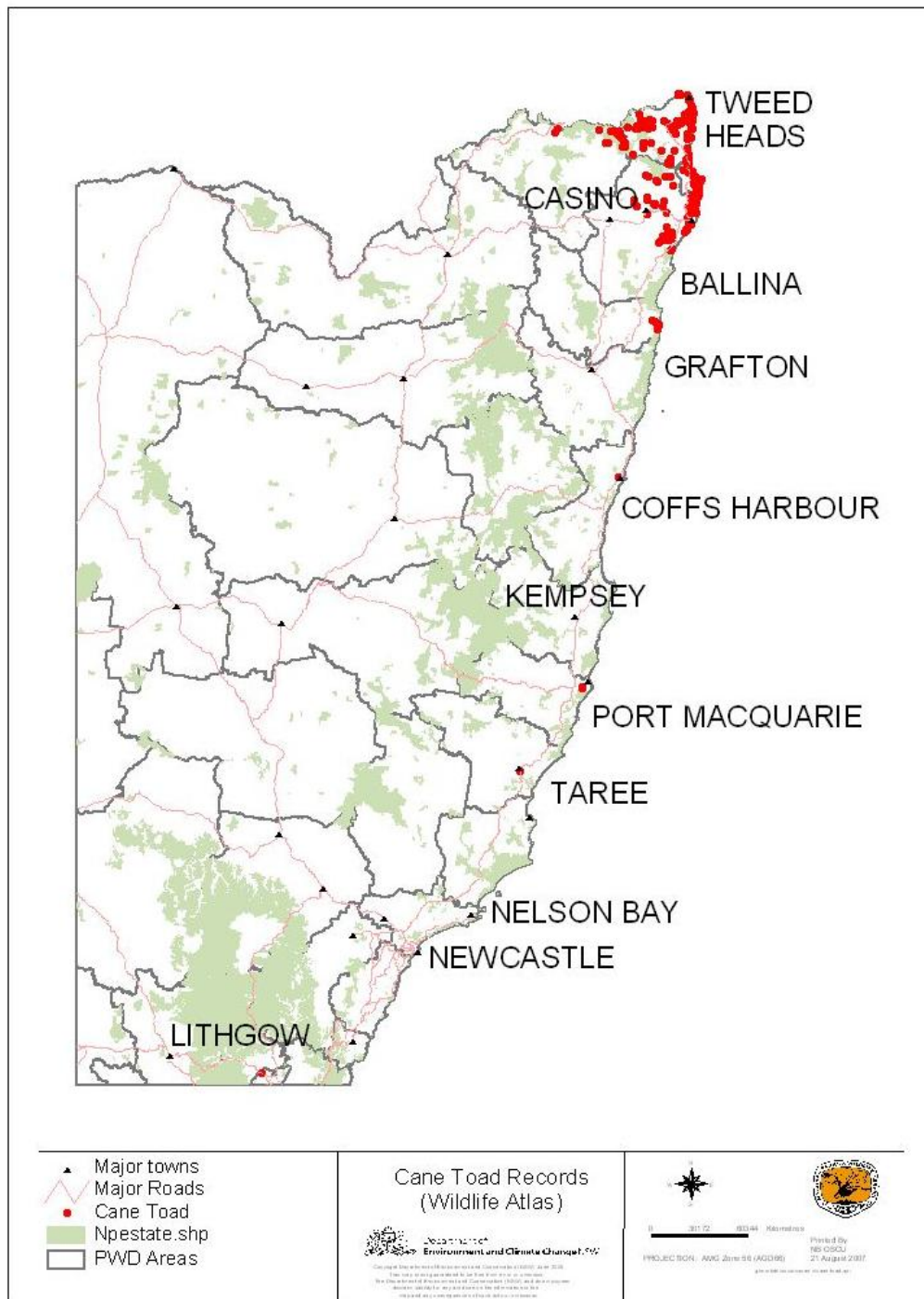


Figure 3 – Distribution of cane toads in NSW according to Atlas NSW records current to August 2007.

In the Clarence Valley, current NPWS and community efforts have focused on the Yamba Golf Course with the now internationally famous Cane Toad Roundup and areas impacting on Yuraygir National Park, eg. Brooms Head, Angourie. Russell Jago, Ecologist and contractor for NPWS has been trying to get around as many of the other affected areas in the valley as possible, but this is too big a job for the few dedicated NPWS staff and Russell. That's where the CIA comes in!

The affected areas in the Clarence Valley that we know about are shown below in Figure 4.



Figure 4 – Distribution of cane toads in the Clarence Valley current to mid-2009.

It is very plain to see from this Google Earth aerial photograph why many people are interested in trying to hold the toads where they are, if not retract their movement to keep them out of the Clarence River.

So as you can see, there is a great need for CIA toadbusting volunteers. Thank you for coming along to this training day and for showing an interest in helping to control this incredibly invasive animal.

4. Identifying Cane Toads

While many people attending this training course may feel confident identifying a cane toad, it is important to become absolutely certain about your identification skills. You will also be buddied up with more experienced cane toad collectors on your first few toad hunts to get on the job training, which is invaluable.

We will cover this section thoroughly during the training course and also in the field so here are some reminders for you to review after the course. Thank you to both the Kimberley Toadbusters (KTB) and the Stop The Toad Foundation (STTF) for allowing the use of their images and content in places.

4.1 Is it a Cane Toad?

If in doubt, leave it be - the golden rule of toading. I always say to people that if you are not sure, it is probably not a cane toad. When you see one for the first time, you will know what I mean.

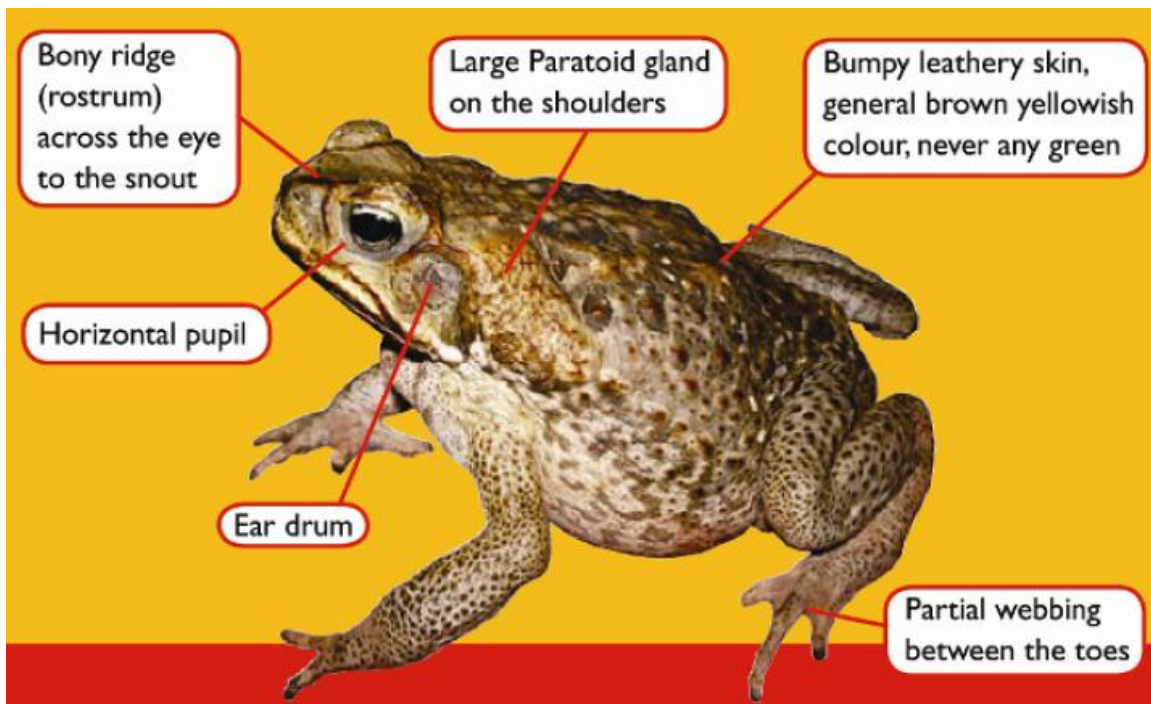


Figure 5 – the most common distinguishing features of a cane toad.
Image from the STTF Volunteer Induction Manual

Some of the most distinguishing characteristics of a cane toad when “in the hand” are shown in Figure 5 and include:

- A bony ridge that runs from the eye to the nose (see Figure 6)
- Dry, warty skin
- Large poison (paratoid) glands behind the ear
- A visible tympanum or external ear drum (but NB that some native frogs also have a visible ear drum)
- No webbing on front toes and only partial webbing on back toes
- A horizontal pupil (also not exclusive to cane toads) but the eye is not perfectly round like most native frogs (see Figure 7)



Figure 6 – Check out that bony ridge. Image from the KTB website



Figure 7 – Note the “not round” eye socket with prominent eye socket ridges. Image from the KTB website

Some field tips for distinguishing a cane toad from a native frog include:

- The posture. Cane toads generally sit quite upright in the field (see Figure 8).
- They are a lazy, cumbersome animal that cannot leap far. Unless very warm, they are quite easy to catch as they cannot jump far. An animal that hops over 1 metre in a single bound is NOT a cane toad.



Figure 8 – Note the upright posture. Image from NPWS.

The KTB website www.canetoads.com.au has an extensive area dedicated to the features of a cane toad compared to native frogs accompanied by many photos so check it out for more details (click on cane toad comparative chart).

4.2 Spawn

It is very easy to distinguish cane toad spawn from native frog spawn for the simple fact that Australia has NO native toads. The cane toad is the only toad in Australia. Most of our native frogs lay the frothy mass and dots we are used to seeing in the fish pond. Cane toads lay a very distinctive jelly-like strand of spawn with black dots (eggs) running along it.



Figure 9 – Cane toad spawn in long strands. Image from NPWS.



Figure 10 – When picked up, the spawn can be seen in jelly-like long strands. Image from KTB website.

If seen, cane toad spawn should be dragged from the water and left on the grass to dessicate. Each female can lay up to 30,000 eggs so that is a great win for the environment if spawn is removed.

4.3 Tadpoles

With practice, cane toad tadpoles are also quite easy to distinguish from our native frog tadpoles. They tend to have the following characteristics:

- They are jet black and have very few areas of translucency, like our native tadpoles
- They tend to mass together on the edges of waterbodies
- They are relatively large, about the size of your fingernail
- Some people describe them as having a pointy snout



Figure 11 – Cane toad tadpoles are jet black and relatively large. Image from NPWS.



Figure 12 – Cane toad tadpoles tend to congregate or clump together at the edge of waterbodies during the day. Image from KTB website.



Figure 13 – Cane toad tadpoles have very little translucency and are often described as having a pointy snout. Image from KTB website.

If cane toad tadpoles are found, and generally they can be observed in daylight hours, they can be scooped from the water and left to dessicate on the ground at least 2 metres from the waterbody.

4.4 Metamorphs

When the cane toad leaves the water, it is called a metamorph. These tiny toads can be seen during the day swarming from the breeding site. The STTF manual classifies a metamorph as 10 – 38 mm in size.

Collecting metamorphs is extremely difficult as they are so numerous and small.



Figure 14 – Cane toad metamorphs are about the size of your little fingernail. Image Sharon Lehman.

4.5 Juveniles

Juveniles look like tiny cane toads in every respect and are poisonous as well. This is the time when it can be most difficult to determine a cane toad from a native frog. Remember to look for the dry, warty skin. If in doubt, leave it. Preferably, ask a more experienced toad buster.



Figure 15 – Juvenile cane toads can sometimes have small red spots on their back. Image Sharon Lehman.

It is not possible to sex juvenile cane toads as they all bear the distinctive dark markings until approximately 8 – 9 months of age. The STTF Manual classifies juveniles as 39 – 89 mm (I have not distinguished between juveniles and sub-adults).

4.6 Adult Males

The male cane toad tends to lose the blotches distinctive of a juvenile and become a solid yellow colour (see Figure 16). This is not always the case, but they are generally a more even colour. Be mindful that as amphibians, they can change their colouration slightly during breeding and when subjected to trapping or bagging. We have seen a bag of males go quite dark in the bag.



Figure 16 – A classic male cane toad – an even yellow colour on the back. Image from the West Australian.



Figure 17 – The male is on the right while the female is on the left side of the image. Image from the STTF Manual.

4.6 Adult Females

The female cane toad often has what I call a “goth” pattern on her back. Compared to the male, she is generally darker, browner and has a series of dark blotches along the back.



Figure 18 – Female colouration is similar to juvenile cane toads. Photo from STTF Manual.



Figure 19 – Note the dark blotches on the back of this female. Photo from the internet.



Figure 20 – The majority of these toads are females, but can you see a few males? Photo taken by CIA member David Cole.

4.7 Similar Looking Local Native Frogs

It is very sad when a native frog is mistakenly killed by a well meaning member of the public. Luckily, the promotion and education by NPWS in the Clarence Valley ensures that most people will bring a suspect into the office to confirm identification. Some of the common brown, blotchy frogs found in the Clarence Valley are pictured here, but this is by no means a comprehensive list.



Ornate Burrowing Frog
Opisthodon ornatus



Great Barred Frog
Mixophyes fasciolatus



Common Eastern Froglet
Crinia signifera



Spotted Marsh Frog
Limnodynastes tasmanensis



Wallum Frog
Litoria freycineti



Northern Banjo Frog
Limnodynastes terrareginae

The best way to determine the presence of cane toads is by their calls. Males call loudly during breeding season from the sides of waterbodies. Native frogs are highly variable in their colouration often making identification difficult. However, their calls are unique to species so take some time to try and learn a new one each month.

NPWS have also produced an excellent fridge card “Frog or Toad” which shows the most commonly mis-identified native frog species. These are available for CIA members to hand out to members of the public. The DECCW website also has a comparison game where you can listen to the calls of native frogs versus the cane toad call.

5. How We Collect Cane Toads

There are a number of different methods of cane toad collection both approved and employed across Australia. This section relates to the methods used by the CIA in the Clarence Valley. Humane collection, treatment and euthanasia is a top priority for CIA volunteers.

5.1 Collection Methods

In the CIA, we use the methods taught by NPWS staff in the Clarence Valley. Basically, cane toads are found using a torch, picked up by hand and placed in a Hessian sack. Gloves and shoes MUST be worn by all CIA volunteers during collection.



Figure 21 – Hand removal is the most common method employed in the Clarence Valley. Photo CIA Member Deb Parkin.

5.2 What to Bring

The Area Coordinator will bring disposable gloves, insect repellent, hand wipes, first aid kit, Hi-vis safety vests, nets, collection forms and sacks.

You should bring:

- Enclosed footwear, gumboots preferred but not essential
- Long sleeved shirt to protect against mosquitos
- Your own torch. A dolphin torch or head lamp work very well.
- Some water to drink and a snack to get you through.
- A camera, good sense of humour and some great jokes.
- Chocolate for your Area Coordinator!



Figure 22 – A well prepared CIA volunteer. Note torch, gloves, vest and most importantly, a smile. Photo Sharon Lehman.

5.3 Approaching Landholders

It will generally be up to the Area Coordinators to approach landholders in a certain toad affected area. There is quite an art to making a landholder feel at ease with the prospect of a team of volunteers entering their property at night. We also do not want to double up and bother people at their home unnecessarily if they have already been approached.

Please leave the door knocking to Area Coordinators and concentrate on asking EVERYONE you meet down the street whether they have seen any cane toads! You can learn so much about where the cane toads are by talking to people. You will also be able to teach them a few things during your discussion which helps improve the community's ability to report cane toad sightings.

5.4 Property Access Issues

The continued survival and success of the CIA program lies in every volunteer's hands and the way they behave on private land. The golden rules are:

- DO NOT enter anyone's property without their express permission granted for that specific occasion. If you are unsure, then DO NOT go on.
- ALWAYS leave things as you find them. If the gate was open, leave it open. If it was closed, close it behind you (there could be stock) and then close again on the way out.
- NEVER discuss anything you see on a landholder's property with anyone else.

Landowners letting CIA volunteers on to their land are being very trusting and generous. It would only take one bad incident or whisper out of turn for the entire CIA program to fall over. Please respect the privilege of access and act like a visitor.

5.5 Humane Disposal

There are a number of methods used within Australia for both euthanasia and disposal. Obviously the use of golf clubs, mallets and boots are unacceptable for CIA volunteers. In the Clarence Valley, once collected in a Hessian sack, cane toads are placed in a fridge for at least 4 hours and then a freezer for at least 2 days. The toads are then sent within the sacks to landfill.

5.6 Advising the Public

While toad hunting and discussing cane toads with members of the public you will hear many tales of toad disposal and treatment. Our motto is "every animal deserves humane treatment". Try not to be too judgmental but you may be able to gently suggest some more humane methods. It is all about education.

6. Risk Management and Safety Issues

Collecting cane toads can be a fun, yet sometimes hazardous adventure. As always, there are a number of risks involved in this activity and many things you can do to reduce the risk of harm. Some of these include:

- **Cane Toad Toxin** – these animals have poison glands behind their ears. They have even been known to squirt poison from their glands if handled roughly which could lead to blindness. Always wear gloves, do not touch your face or eyes while handling toads, change your gloves if you get “gooped” and wash your hands well at the end of toading.
- **Trips and Falls** – we are traversing across rough ground in the night looking for toads so tripping and stumbling is quite common. Try to remember to use your torch for checking the ground where you are stepping.



Figure 23 – Don't forget to watch where you are walking! Photo Deb Parkin CIA Member.

- **Snake Bite** – as we are nocturnal, there is a good chance you may come across a venomous snake while toad hunting. Do not panic, even if you are bitten. Stay calm, apply a compression bandage, do not move and call for help.
- **Highway Travel** – possibly the most dangerous part of cane toad collecting in the Clarence Valley is having to negotiate the Pacific Highway late at night when the trucks are out. Take your time when entering the highway and take the safer option and wait for that truck to go past before pulling out. The nature of traffic on the highway is very different after 10pm.

- **Fatigue** – if you have had a late night or big day, you may be better to cancel your toad busting trip than to turn up tired and run down. It can take a great deal out of you traipsing around the countryside in the middle of the night so keep an eye on yourself and always speak up if you want to go home. Better to raise it than battle on.
- **Mosquitos** – please use insect repellent and/or wear long sleeved shirts to reduce the chance of contracting a mosquito borne disease.
- **Drowning** – this is a very real risk when we are dealing with sometimes large waterbodies at night. All children must be accompanied by an adult and watched closely at all times. Waders are rarely required for toadbusting and should never be worn in deep or moving waterways.

We have devised some standard rules for CIA volunteers while toad hunting:

- It is expected that you will behave in a safe, professional and friendly manner.
- Please do not consume alcohol before attending a cane toad collection or you will be asked to leave.
- You should never go toadbusting on your own.
- Every volunteer must wear a Hi-Vis safety vest, shoes and gloves.

7. The Final Word

In conclusion, we would like to thank you for coming along to this training day and showing an interest in controlling cane toads in the Clarence Valley.

In the words of Jeff Thomas, NPWS Pest management Officer, *“if everyone in Yamba took one night a week off from watching television and went out with a bag and collected toads, we would have no cane toads in Yamba”*.

Thank you for DOING SOMETHING. Welcome and spread the word.

8. Useful Handouts

Most of these can be found on the CVCIA website at www.cvcia.org.au in the toad operations section under the CIA Resources link.

Please find attached:

1. Cane Toad Collection Sheet
2. Bulk CIA Sign-On Sheet
3. Don't Be Alarmed Flyer
4. Seen a Toad? Poster
5. Terry the Toad Business Cards

