

Key Questions

- How do cane toads differ from frogs?
- What are the key identifying features of a cane toad?
- Why is it important to be able to accurately identify cane toads?
- What is the current distribution of cane toads?
- What are the implications of cane toads in the Top End?

Classroom Activities

4.1 Frog and Toad Facts

This activity highlights the differences between frogs and toads. The Frog Cards from Section 3 could be used to assist lower primary students or to introduce the topic. Students simply cut and sort the facts and paste them onto the 'Frog and Toad Facts Table'.

Answers: Frogs – strong, long back legs for jumping and swimming; prefer moist and wet environments; a group is called an army; smooth or slimy skin; lay eggs in clusters; bulging eyes. Toads – stubby bodies and short back legs; dry, warty skin; can survive in drier environments; lay a long chains of eggs; poison glands; a group is called a knot

4.2 The Terrible Toad

The aim of this activity is to highlight the physical characteristics of cane toads. Students simply cut out the boxes and use them to label the distinguishing features.

4.3 Mistaken Identity

The main aim of this activity sheet is for students to recognise how a cane toad differs from some of the native frogs in the NT. The Frog Cards from Section 3 could be useful for this activity. Students study the pictures provided and answer the questions.

4.4 Terrible Toad Facts

This fact sheet outlines the history of cane toads in Australia, including why they were introduced, along with information about their distribution and breeding habits. It is designed to be used with the 'Terrible Toads Crossword' and is suitable as a handout for middle to upper primary students. It also provides useful background information for teachers.

4.5 Terrible Toad Crossword

The crossword is a comprehension activity to be used after students have read 'Terrible Toad Facts'. Please refer to Figure 2 for solution to crossword.

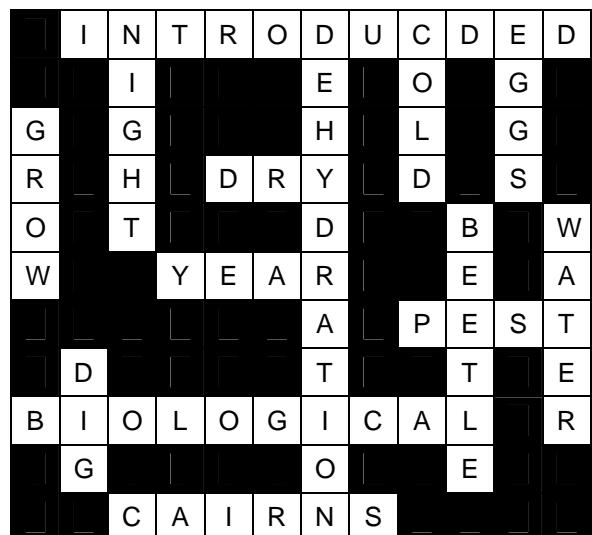


Figure 2: Solution to Terrible Toad Crossword

4.6 Advancement of the Cane Toad

This work sheet is primarily for upper primary students. It outlines facts about the distribution of cane toads and their rate of spread across Australia. Students answer questions relating to the text and map provided.

4.7 Cane Toads: The facts

This brochure produced by the NT Government could be used as a springboard for discussing cane toads and their likely impact on our lives.



4.1 Frog and Toad Facts

Do you know the difference between frogs and toads?

- ✂ Cut out the 14 frog and toad fact boxes.
- ✂ Read each fact and divide them in to two groups
 1. Facts which describe frog characteristics
 2. Facts which describe toad characteristics
- ✂ Check with your teacher to make sure you have correctly grouped the facts.
- ✂ Paste them onto the 'Frog and Toad Facts Table'.

✂ Strong, long back legs for jumping and swimming	Prefer moist and wet environments
Stubby bodies and short back legs for walking	Dry, warty skin
A group is called an army	Can survive in drier environments
Smooth or slimy skin	<i>FROG</i>
Lay a long chains of eggs	Generally lay eggs in clusters
Bulging eyes	✂ Poison glands behind their eyes
TOAD	A group is called a knot

4.1 Frog and Toad Facts Table

	
Draw a cane toad here:	Draw a green tree frog here:

4.2 The Terrible Toad

How do you tell the difference between a native Australian frog and a cane toad?

Below are some of the physical characteristics (what their body looks like) of cane toads. Cut them out and paste them around the cane toad, drawing an arrow to point out the characteristic.

Sits upright. Moves in short rapid hops



The Cane Toad (Bufo marinus)



Hind feet have leathery webbing between the toes

Front feet are not webbed

Large swellings (parotid glands) on each shoulder behind the ear drum (this is where the poison comes from)

Dry, warty skin, especially on their backs

Bony head with bony ridges that run above their eye and meet above their nose

4.3 Mistaken Identity

There are five native frogs that people may confuse with the Cane Toad. Look at each of the frogs below and compare them with the cane toad. After studying the frogs, answer the questions.



Cane Toad
Bufo marinus



Ornate Burrowing Frog
Limnodynastes ornatus



Giant Frog
Cyclorana australis



Northern Spadefoot Toad
Notaden melanoscaphus



Marbled Frog
Limnodynastes convexiusculus



Hidden-ear Frog
Cyclorana cryptotis

Do you think any of these frogs look like a cane toad? Which one(s)?

Which one do you think will get mistaken as a cane toad the most?

Why is it important that we can accurately identify cane toads?

What characteristics does the cane toad have that native frogs don't?



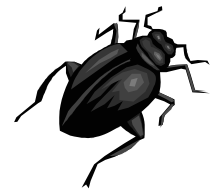
Circle the Cane Toad

Image sourced from http://www.nt.gov.au/ipe/pwcnt/index.cfm?attributes.fuseaction=open_page&page_id=1572

4.4 Terrible Toad Facts

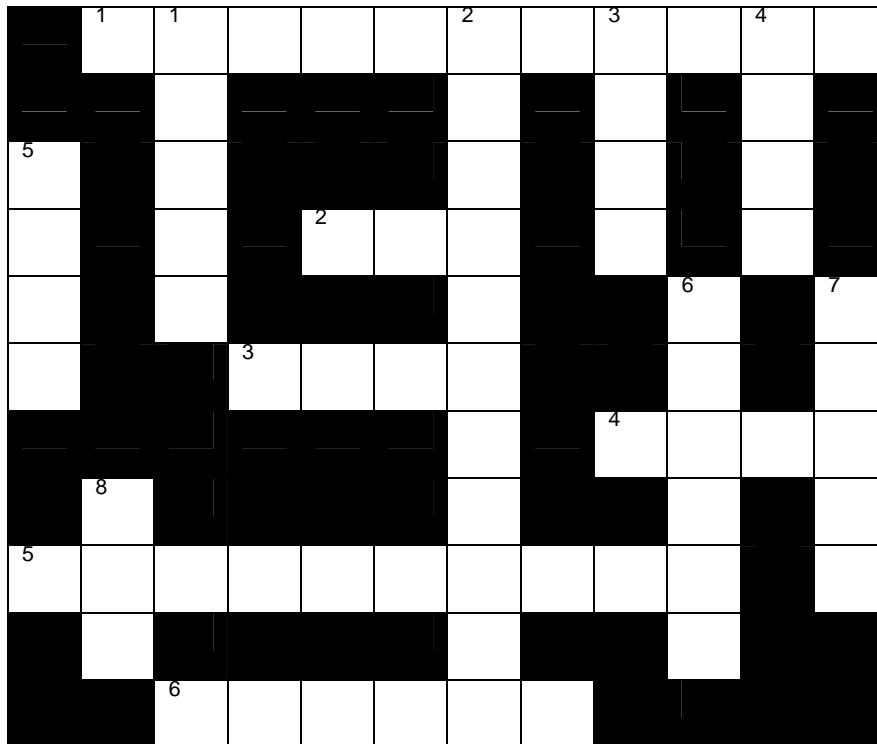


- ☛ Cane toads are not a native Australian animal. They were introduced from Central and Southern America.
- ☛ 3000 cane toads were released in sugar cane fields near Cairns in 1935.
- ☛ Cane toads were released to act as a biological control for sugar cane beetles. These beetles were stunting or killing the sugar cane in their grub stage by eating the roots of the plant.
- ☛ Cane toads did not eat the cane beetles as they were expected to. Within 10 years of their release, an insecticide was developed that effectively controlled the beetle problem.



- ☛ Cane toads can survive in temperatures between 5-40 degrees.
 - ☛ When it is very hot or cold cane toads shelter by digging in the ground or hiding under logs.
 - ☛ Cane toads are active at night and in the warmer months of the year.
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- ☛ Cane toads can lose 50% of the water in their body before they will die of dehydration. This means toads tolerate dry conditions better than most frogs.
 - ☛ Cane toads need pools of water to lay their eggs in.
 - ☛ In the tropics toads grow very quickly. By the age of 1, they can produce 8000-35000 eggs each time they mate.

4.5 Terrible Toad Crossword



Across

1. Cane toads were _ _ _ _ _ from Central and South America (11).
2. Cane toads can tolerate _ _ _ conditions better than most frogs (3).
3. Cane toads are most active during the warmer months of the _ _ _ _ (4).
4. A plant or animal not native to an area that disturbs the environment is known as a _ _ _ _ species (4).
5. Cane toads were released to act as a _ _ _ _ _ control (10).
6. Cane toads were released near _ _ _ _ _ in 1935 (6).

Down

1. Cane toads are most active at _ _ _ _ _ (5).
2. Cane toads can lose more than half of the water in their body before they die from _ _ _ _ _ (11).
3. The climate is too _ _ _ _ for cane toads to live in Victoria (4)
4. Cane toads can produce between 8000-35000 _ _ _ _ each time they mate (4).
5. Cane toads _ _ _ _ quickly in the tropics (4).
6. Cane toads were originally introduced to eat the cane _ _ _ _ _ (6).
7. Cane toads need pools of _ _ _ _ _ to lay their eggs in (5).
8. If it is too hot or too cold, cane toads will _ _ _ or burrow into the ground (3).

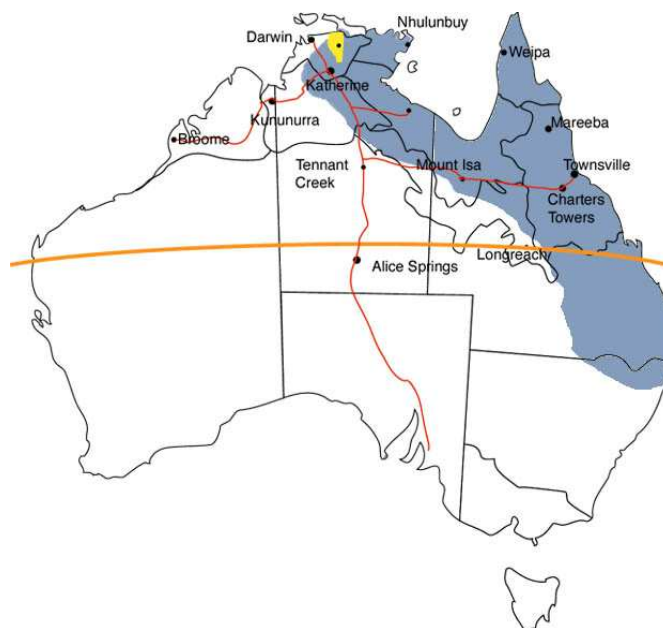


4.6 Advancement of the CANE Toad

For the past 60 years, cane toads have been expanding their territory in Australia, and are capable of colonising at least four of the mainland Australian states. Since their introduction in North Queensland, cane toads have spread rapidly, south into New South Wales, with one isolated community in Port Macquarie, and west into the Northern Territory.

The cane toad's advance is only limited by environmental factors, such as the availability of water for breeding, tolerable temperatures, suitable shelter, and an abundance of food.

The unlimited food source, suitable environment and low rates of predation allow for rapid reproduction and spread. The natural rate of spread of the Cane Toad is about 30-50 km/year in the Northern Territory and about 5 km/year in northern New South Wales. The range of the cane toad now includes coastal Queensland and associated inland areas, coastal northern New South Wales to just north of Lismore, coastal Northern Territory from the Queensland border to the south bank of the Roper River (Map 1).



Map 1: Current distribution of Cane Toads (where they are found).

On a separate sheet of paper, answer the following questions using the information on cane toad distribution and the toad map above.

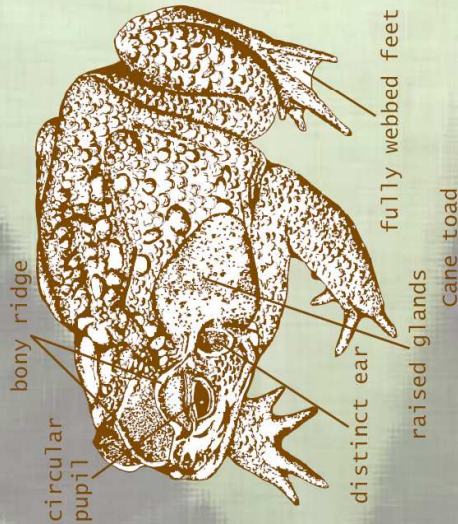
- 🐸 How many states are cane toads living in?
- 🐸 How far do you think they might travel over the next 70 years? Draw your ideas on the map.
- 🐸 Why do you think they have not moved into Victoria?
- 🐸 Have you seen any toads in the Northern Territory?

Map sourced from <http://www.frogwatch.org.au>

mistaken identity

It is easy to mistake a cane toad for some of our native frogs. Cane toads can be up to 150mm long, but most of the frogs that look similar to cane toads are smaller. Cane toads can also be identified by their distinct ears, raised poison glands and fully webbed feet.

For more information and identification advice call 8999 4536.



Giant frog - up to 100mm, distinct ear, horizontal pupils and feet not webbed.



Marble frog - up to 55mm, indistinct ear, horizontal pupils and feet partially webbed.



Northern spade foot frog - up to 55mm, indistinct ear, horizontal pupils and feet partially webbed.



ornate burrowing frog - up to 45mm, indistinct ear, circular pupils and feet partially webbed.

cane toads: the facts



Meet *Bufo marinus*, also known as the cane toad. People in Queensland and northern New South Wales have been living with these warty creatures for years - and now those of us in the Top End of the Northern Territory have to learn to live with them too.

When will cane toads be here?

Cane toads are already in Kakadu National Park, Katherine and Pine Creek. They will probably reach Darwin this wet season.

How can I recognise a cane toad?

The cane toad has warty skin, raised poison glands on its shoulders, a high bony ridge over its eyes, circular pupils and can be up to 150mm long. If it's smaller than 55mm and has no bony ridge, it could be an ornate burrowing frog, a marble frog or a northern spade foot frog. Cane toad eggs are in long strands of clear jelly, not clumps like frog eggs. If you are unsure, check with parks and wildlife.

What effect will they have?

Cane toads are prolific breeders and poison most animals that try to eat them. Many native animals will die and some species may become much rarer, possibly even extinct in their regions. We will see cane toads (dead and alive) on roads, in parks and gardens and in bodies of water like drains and swimming pools. Once their presence has peaked after a couple of years, we won't see quite so many of them.

What about my pets?

Cats are usually too cautious to attack cane toads, but dogs may try to eat them. If the dog is taken to a vet straight away, it will probably survive. Cane toads love eating pet food, but they won't poison it.

Can I keep them out of my backyard?

Installing a 500mm high barrier of fine mesh or smooth sheeting around your perimeter (including the gate) could help to keep them out. Cane toads are poor climbers, but they can burrow a bit, so you will need to sink the barrier about 150mm into the ground. You will also need to watch out for toads that enter through your gate.

Should I kill them if I see them?

You can reduce numbers of cane toads on your property by killing any that you see. The most humane way is to use a plastic shopping bag to pick the toad up, double bag it, tie it tightly and freeze it overnight. You can then bury it or put it in your wheelie bin. Make sure you really do have a cane toad first!

Is there anything else I can do?

Avoid leaving containers of water around for toads to breed in. Keep your pet's food out of reach. If you have a pond, remove any cane toad eggs you see. Be careful you don't accidentally help cane toads travel: they are great hitchhikers and will find their way into pot plants, trailers and swags.

Will our water supply be safe?

Cane toads don't poison water just by being in contact with it. Because they can't climb, they can't get to above-ground water tanks or most stock troughs.

What is the government doing about cane toads?

Unfortunately, at this time no one knows of a way to stop cane toads advancing.

The NT Government is:

- working with indigenous traditional owners to protect native species through the Island Ark program (vulnerable species like the northern quoll are moved to islands to keep them safe)
- taking steps to keep our offshore islands free of cane toads
- advising the community on living with cane toads
- researching the effects of cane toads on native animals.

The federal government is supporting CSIRO research into possible biological controls, but any solution to the cane toad issue is likely to be many years away.

