

This Standard Operating Procedure (SOP) is applicable to all UniSQ Research Workers who care for and use Animals for Scientific Purposes. The procedure must only be performed by those persons who have been deemed competent, and who believe they remain competent to do so. Access to supervision by suitably qualified staff whilst undertaking this procedure is encouraged, where required.

Species

- *Rhinella marina* (cane toads)

Purpose

The purpose of this SOP is to provide information to people considering handling cane toads, particularly as part of surveying and research on wildlife, specifically why they are handled and how to handle them.

Cane toads are introduced vertebrate pest species and have well-described negative impacts on Australian wildlife as competitors (e.g. to native frogs), predators (of a wide range of native species of invertebrates and vertebrates, e.g. frogs) and by killing a wide range of native species that attempt to eat cane toads and are subsequently poisoned. Furthermore, cane toads are still dispersing across Australia.

Cane toads are frequently caught in pitfall, and Elliott traps as part of surveys and research on wildlife, and because of their poison glands and skin, the risk to people involved requires an understanding of how to handle them.

Cane toads are used as live specimens for physiology teaching practicals and as dead specimens for teaching about vertebrates, specifically amphibian anatomy and physiology.

Cane toads are used as surrogates as a 'model' for research in place of native Australian frogs (e.g. the effect of climate change on frogs) and to study their diet by examination of the stomach contents of euthanised animals (e.g. to determine the invertebrate community in that location available to both cane toads and frogs).

Definitions

Not applicable.

Linked SOPs

SOP ID number	SOP title
WL005	Removing amphibians from pitfall traps
WL009	Microchipping cane toads
WL011	Euthanasia of cane toads
WL012	Dry pitfall trapping for vertebrates

Potential hazard to Research Workers

UniSQ Risk Management Plan ID number	UniSQ Management Plan title
RMP_2020_4960	Wildlife research and teaching fieldwork

Personal Protective equipment required

- Disposable examination gloves – various sizes
- Eye protection – Safety glasses

- Long sleeve shirt

Animal wellbeing considerations	
Perceived stressors	Management strategy
Disease risk	Handlers must wash hands thoroughly before and after handling toads.
Placement of cane toad into a plastic bag	This procedure must be performed by an experienced operator wearing disposable gloves.
Stress from a prolonged process	Handlers must be sufficiently trained prior to start work on cane toads so that the process is quick.

The overall perceived level of risk to an animal undergoing this procedure is:

High Medium Low

Substances to be administered			
Substance	Dose	Route	Purpose
Not applicable for this SOP			

Equipment/ materials required

- Datasheet
- Zip-lock bags
- Permanent marker pen
- Bucket – for collecting cane toads

Site specification or location requirements

At locations/ fields outlined in UniSQ AEC approved application that includes the use of this SOP.

Waste disposal

Not applicable.

Duration of the procedure

- Duration of the procedure is dependent on the reason for handling the cane toad. For example removal of a cane toad from a pitfall or Elliott trap and then recording of standard morphometrics (e.g. snout-vent and leg lengths) should take less than 1 minutes.
- The duration of time between collection of cane toads (i.e. hand collection or removal from traps) and their placement, contained in a zip-lock bag, into a refrigerator is normally within two hours. Depending on the circumstances this can be less than 30 minutes e.g. where animals are trapped and processed (i.e. weighed, measured) near facilities where there is a refrigerator. In circumstances where access to a refrigerator is more than 2 hours appropriately sized labelled cloth e.g. calico bags can be used to store cane toads prior to them being placed in a refrigerator.

Procedure

1. Put on disposable examination gloves and eye protection.
2. Capture the cane toad by holding it around the pelvis such that the pelvis and back legs are held within your hand (Photograph 1). Care should be taken to avoid touching or applying pressure to the large parotid glands on the cane toad shoulders.
3. Place the cane toad into the bucket if hand-collecting multiple specimens (no more than five toads per bucket) or into a labelled zip-lock bag and zip-lock the bag closed if the intention is to euthanise the cane toad within two hours. Do not reuse the zip-lock bag. In circumstances where access to a refrigerator is more

than 2 hours appropriately sized labelled cloth e.g. calico bags can be used to store cane toads prior to them being placed in a refrigerator.

4. Do not add water to collection buckets as cane toads will rapidly pollute this water and pose a risk to other cane toads.

Training, qualifications or competencies required

Researchers with relevant experience or qualification can only undertake this SOP to complete the procedures required.

Student researchers must receive appropriate training and supervision from UniSQ research supervisors or qualified individuals prior to undertaking procedures.

References

SHARP, T., LOTHIAN, A., MUNN, A. & SAUNDERS, G. (2011). CAN001. Methods for the field euthanasia of cane toads. <https://www.environment.gov.au/biodiversity/invasive-species/publications/can001-methods-field-euthanasia-cane-toads>.

The University of Queensland Standard Operating Procedures. Collection of cane toads by hand. SOP AHP 62(a). Revised 2016.

Licences and permits

Any required licences and/or permits to undertake the procedure(s) under this SOP must be obtained before undertaking this SOP.

SOP approval and review history

Date	Version	Review Pathway	Notes
17/12/2020	0.0	3/12/2020 UniSQ AEC "Subject to Modifications." 17/12/2020 Reviewed and approved by the UniSQ AEC Executive.	N/A
23/06/2021	0.1	23/06/2021 Added under "Licences and permits", the words: "Any required licences and/or permits to undertake the procedure(s) under this SOP must be obtained before undertaking this SOP."	N/A
28/08/2023	0.2	28/08/2023 Converted SOP to new UniSQ branding and revised all reference of 'USQ' to 'UniSQ' ('waste disposal' not included in previous version).	UniSQ 2022 Rebrand
24/10/2023	1.0	05/10/2023 UniSQ AEC provided a "Subject to Modifications" outcome with the revised submission delegated to the UniSQ AEC Executive for review and approval. 24/10/2023 UniSQ AEC Executive reviewed and "approved."	N/A



Photograph 1. Hold cane toad around pelvis such that the pelvis and back legs are held within your hand. Source: <https://www.feralscan.org.au/toadscan/>.