UniSQ AEC Standard Operating Procedure

Pouch checking small female marsupials

UniSQ AEC SOP ID: WL008

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

- *Sminthopsis*
- *Antechinus*
- *Planigale*
- *Phascogale*
- Other small marsupial species

Purpose

The purpose of this procedure is to provide information to people considering doing pouch checks on small adult female marsupials. Including details on how to handle the female, open her pouch to record the number and size of her pouch young and then release her.

One of the major determinants of population growth is reproduction, and under most circumstances, the number of offspring/ young a female produces (in each gestation and during her life) strongly influences the population growth of that species. For marsupials, this is the number of pouch young, and being in a pouch, it is relatively easy to determine mating/ conception by the size of the pouch young. Further to this, if the female has pouch young, she is breeding; this is important information to predict the emergence of weaned offspring. However, the number of young weaned does not necessarily represent the number of pouch young present in the pouch. Therefore, being able to record the number of pouch young can be used as a predictor of the number likely to be weaned and the number lost before weaning. All of this information is important for the reproductive management of small marsupials in captive colonies and for small free-living marsupials. For example, it might initiate supplementary feeding for females in colonies or changes in habitat management in free-living animals.

Definitions

Not applicable.

Linked SOPs	
SOP ID number	**SOP title**
WL007	Removing small mammals from pitfall traps

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 gloves – various sizes

Animal wellbeing considerations	
Perceived stressors	**Management strategy**

Holding animal by the tail	Do not ever hold an animal by its tail.
Being bitten by the animal	If bitten, handlers must not pull away, as this may cause injury to the animal or handler. Handlers should wait for the animal to release its grasp; this may be encouraged by blowing a short, sharp puff of air at the animal's face.
Disease risk	All handling bags and equipment must be kept clean to minimise the risk of disease.
Handling of animals	Animals will be handled so as to cause minimal stress and, under normal circumstances, released as soon as processing is completed.

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			

Equipment/ materials required

- Disposable examination gloves - various sizes
- Data record sheet (including writing tools)

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

Not applicable.

Procedure

This procedure can only be undertaken by a person who has been suitably trained.

Animal in a container

1. If the female is in a container, in one movement, swiftly place the palm of your hand over the animal.
2. Scoop and hold the animal in the palm of your hand.
3. Place the forefinger of the same hand under the chin to hold the head upwards (Figure 1) and use a gentle grip to allow natural breathing and not compress the chest.
4. Use the remaining fingers on the hand holding the animal to move the hind legs out of the way.
5. Use the thumb and forefinger of the opposite hand to open and check the inside of the pouch (Figure 1).
6. Record the number and size of the pouch young on the datasheet.
7. Release the animal back into the container.
8. Monitor for the next 2 minutes to ensure she is exhibiting normal behaviour, i.e. hiding.

Animal in cloth bag (i.e. calico)

1. While the animal is in the cloth bag, gently manipulate it to hold it with one hand through the bag. To do this, cup the animal through the cloth bag such that it is held in the palm of your hand with the head pointing towards your fingers. The thumb and second (middle) finger can be utilised to restrain the animals head (fingers on either side of the head), and the index finger is placed on the top of the head.
2. Once the mammal is held firmly in the cloth bag, using the three-finger hold, undo the drawstrings using your other hand, and open the cloth bag to expose the animal, but not its eyes.
3. Use the remaining fingers on the hand holding the animal to move its hind legs out of the way.
4. Use the thumb and forefinger of the opposite hand to open and gently check inside the pouch (Figure 1), ensuring the pouch young is not dislodged from the pouch.
5. Record the number and visually estimate the size of the pouch young on the datasheet.
6. If no further measurements are required, in the vicinity (ideally within a 1 to 2 metre radius) around where she was captured (typically in an Elliott or pitfall trap) find vegetation that would offer her safe refuge and untie the calico bag and release her into that vegetation. Being a small mammal, she will normally disappear into the vegetation very quickly once released. Observe her until she has moved into the vegetation and if there appears to be a problem, e.g. unstable movement, record this and any other observations in the column on the 'Trap data record sheet Mammals' labelled 'Remarks'. Unstable movement may be the result of an unobserved injury but may also be due to the animal being cold or waking up from torpor. Do not attempt to recapture the animal (unless it has become immobile) as this may cause stress and possibly injury. If she is immobile return her to the calico bag and get her assessed as soon as possible by a veterinarian.

Figure 1: Restraint hold and pouch check of a fat-tailed dunnart: Make sure the

grip around the windpipe is gentle, and the animal is breathing normally.

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

UQ Biological Resources. (2020). NEW_007 Husbandry of Fat-tailed Dunnarts. Version 1. The University of Queensland.

Jackson, S. (2007). Australian mammals - biology and captive management, CSIRO, Collingwood, Victoria.

Lambert, C., and Mills, H. (2006). 'Husbandry and breeding of the dibbler *Parantechinus apicalis* at Perth Zoo', International Zoo Yearbook, vol. 40, no. 1, pp. 290-301.

Caton, W. (2007). Husbandry Guideline: Mulgara (*Dasycercus cristicauda*), Alice Springs Desert Park, Alice Springs, NT.

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**
15 April 2021	0.0	**15/04/2021** Reviewed and approved by the UniSQ AEC.	Approved
23 June 2021	0.1	**23/06/2021** Inserted 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.	Update
18 October 2022	0.2	**18/10/2022** Converted SOP to new UniSQ branding and revised all reference of 'USQ' to 'UniSQ' ('waste disposal' and 'duration of procedure' not included in previous version)	UniSQ 2022 Rebrand
15 February 2024	1.0	**15/02/2024** UniSQ AEC reviewed the expiring SOP (3 years) and granted approval to continue.	Approved (3 year review)