

Charles Darwin University Animal Ethics Committee



Standard Operating Procedure:

DPAW SOP05.2020 Care of evicted pouch

young

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NOTE: The CDU AEC approves the following SOP with the below amendments/conditions:

- *Section 4.4.2 How to care:*
 - When feeding joeys with formula or water, do not force or pour liquid into their mouth as this can result in aspiration pneumonia.
 - It is important to be mindful not to overheat all joeys (not just larger, fully haired joeys)
 - For joeys going into care, the AEC requests that researchers nominate a wildlife carer in their project application
 - As there are several types of joey formulas commercially available, it is essential that researchers communicate with the carer and use only the type or brand of formula which the carer uses. A sudden change in milk formula can cause complications including diarrhea; this can be fatal. If the correct formula is not available, feeding the joey with cooled boiled water (either plain water or mixed with Lactade®) is preferable.

- Older joeys can also be provided with grass, fruit and vegetables placed in the bag with them (beware of attracting ants)
- For joeys to be reunited with their mother within 24 hours: feed only cooled boiled water (plain or mixed with Lactade®) to prevent potential gastrointestinal issues caused by introducing formula for a short period. Grass, fruit and vegetables can be placed in the bag with older joeys.
- *Section 4.5 Euthanasing joeys:*
 - The SOP states that joeys that cannot be given appropriate care within 6 hours or for species that are not threatened or required for research or education, should be euthanased.
 - The AEC requires that researchers discuss this with the wildlife carer nominated in their project application, as the non-threatened status of a species is not considered to be adequate justification for euthanasia.



Department of
Environment and Conservation

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DEC Nature Conservation Service

Biodiversity

Standard Operating Procedure

Care of evicted pouch young

SOP No: 14.1

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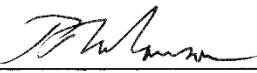
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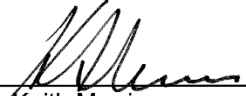
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Approvals

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1 Purpose

Ejecting pouch young is common in some members of the Macropodidae, Potoroidae and Peramelidae families (particularly woylies *Bettongia penicillata ogilbyi*, boodies *Bettongia lesueur*, and quenda *Isoodon obesulus fusciventer*). Any joey caught with an adult female should never be released by itself.

This SOP outlines procedures for four options for dealing with the situation of a joey being evicted from its mother's pouch; taping, bagging, keeping and euthanasing.

2 Scope

This SOP applies to all fauna survey and monitoring activities undertaken across the State by the Department of Environment and Conservation (DEC) that involves the capture of species that are susceptible to ejecting pouch young. All DEC personnel involved in trapping susceptible species should be familiar with the content of this document.

This SOP may also be used to guide fauna monitoring activities undertaken by NRM groups, consultants, researchers and any other individuals or organisations.

This SOP complements the *Australian code of practice for the care and use of animals for scientific purposes* (The Code). The Code contains an introduction to the ethical use of animals in wildlife studies and should be referred to for broader issues. A copy of the code may be viewed by visiting the National Health and Medical Research Council website (<http://www.nhmrc.gov.au>). In Western Australia any person using animals for scientific purposes must be covered by a licence issued under the provisions of the Animal Welfare ACT 2002, which is administered by the Department of Local Government and Regional Development.

3 Definitions

Bagging: Procedure where a furred dependent young animal is left inside a bag with its mother. The opening of the bag is left unsecured so that the animals can choose to leave at any time.

Taping: Procedure where a pouch young is returned to its mother's pouch and adhesive tape applied to the opening to temporarily prevent the mother ejecting the young.

4 Procedure Outline

4.1 What to do immediately after a joey is evicted

The most common time for pouch young to be evicted is when the mother becomes aware of someone approaching the trap. Occasionally young are ejected whilst inside a handling bag. It is important to be efficient at separating the mother and young as soon as possible to reduce the chance of the young being injured.

Ejected young should be immediately placed somewhere warm. This is usually inside someone's clothing, preferably against skin for maximum heat transfer. Human body temperature is too cool for pouch young so this is only a temporary solution. Small calico bags, beanies or specially made joey pouches can be used to contain the joey until it is reunited with its mother, handed to a carer or euthanased.

4.2 Taping in joeys

4.2.1 When to tape

Tape in small joeys that have been ejected or are likely to be ejected when their mother is released. Only tape in those joeys that are small enough to fit back into the pouch such that the opening of the pouch can be completely closed. Hairless or lightly furred joeys are never too large to reinsert into their mothers pouch (and should never be left with the mother out of the pouch in a hessian bag). Generally woylies smaller than 200grams (fully haired, eyes open) should be taped in (up to 260g joeys have been successfully taped in and released).

Before inserting larger joeys, check the pouch for any hairless infants. If there are any infants present in the pouch, the larger joey has already permanently emerged from the pouch (i.e. should not be taped in) but probably is still dependent on the mother and therefore should be 'bagged'.



Figure 1 Woylie joey (Photo by C. Fregard/DEC).

4.2.2 How to tape

- (a) Joey insertion is a lot easier when the mother is not struggling and not completely stretched out (i.e. back slightly curved and legs not completely stretched back). At least two people are required – one to hold the mother and the other to insert the joey.
- (b) Open the pouch and then place the joey in the pouch opening, allowing it to pull itself in while guiding it into position – head first, upside down with its back to its mother's stomach, pouch lifted out and forward.
- (c) Once the joey is in the pouch it should be allowed to settle and rest with its side flush against the body wall of the mother. Hind legs and tail should be inside the pouch and not protruding through the pouch opening.
- (d) Use a piece of adhesive tape (e.g. Fixomull ®) longitudinally to close the mouth of the pouch keeping clear of the cloaca and go no higher than the lower edge of the mother's rib cage and keep clear of the hindlegs.
- (e) Massage the tape into the fur by gently pinching and rolling the tape and fur/skin between fingers to ensure good adhesion.
- (f) If the first piece of tape is narrow and there is some doubt about the tape holding (e.g. if the joey is large), another piece of tape may be placed across the belly over the top of the existing tape covering the pouch opening. Ensure the hind legs and their ranges of movement are not impeded by the tape. The tape should extend no further than the laterals (sides) of the animal (i.e. not onto the back). Extending further than the laterals may cause the tape to remain attached to the mother longer than is desirable and threaten the survival of the joey. Having the tape so long that the ends join over the back is a death trap for the joey and debilitating and potentially lethal for the mother.
- (g) Take particular care in positioning tape on bandicoots because the pouch opening and cloaca are close together. A 'V' shape may be cut out of one end of the tape to assist placing the tape

with sufficient adherence without blocking the cloaca.

- (h) Be patient and take the time to secure the joey. Woylie joeys up to 260g have been successfully returned to the pouch. It is always the best option.



Figure 2 Woylie joey taped into mothers pouch (Photo by C. Freegard/DEC).



Figure 3 Black-flanked rock-wallaby joey taped into mother pouch (Photo by R. Groom)

4.2.3 How to release

- (a) When releasing the mother with a taped pouch, plan and ensure an exit from the bag which is clear of ALL obstructions including field kits and people, logs and trees within at least two metres.

Option 1: With the mother still in the handling bag, hold onto the hind feet. Release the mother by placing her feet on the ground before removing your grip of the hind legs. This will ensure that the mother does not kick or scratch the tape off during release or before she has found refuge.

Option 2: Place the bag on the ground and allow the animal to settle down close to the mouth of the bag in a way that will allow a clean release. Once you are sure that the tape is still firmly and properly attached, and when all is quiet and people are behind the release point, quietly fold the bag off the eyes of the animal. Allow the animal to leave on its own terms and in its own time. CAUTION: If the mother has struggled in the bag after you have released your grip she may have kicked the tape off. Check and re-tape if necessary.

- (b) Observe the animal as it runs away to make sure that the tape stays on. Keep quiet and listen out for the calls (a hissing noise) of an ejected pouch young. If in doubt trace the path of the mother looking and listening for abandoned young. Check the bag to be sure.

4.3 Bagging joeys

4.3.1 When to bag

Bagging should be considered as a last resort. Bag only if several attempts to return the joey to the pouch have not succeeded or if a new born infant is present in the pouch (i.e. joey is at heel but still dependent). In some cases it may be better or necessary to leave the mother in the bag in a quiet and secure place to settle down before re-attempting to reinsert a joey in the pouch rather than bagging.

Do not use this method if no one will be returning the next day to check that the bag has been vacated.

4.3.2 How to bag

- (a) Find a well contained and sheltered position to leave the animals - any sheltered depressions are ideal, e.g. under logs, dense bushes or in burnt out stumps.
- (b) Mark the location with flagging tape that has been labelled with the day's date.

- (c) Select a heavy weight hessian bag (i.e. with a dense weave) and secure it to a nearby branch or rock using string or flagging tape tied to a bottom corner of the bag.
- (d) Make sure all equipment is packed and at a distance with all other people.
- (e) Make sure the data sheet clearly and boldly states that there is a bag near the particular trap point (including any helpful notes on how to relocate the bag the next day).
- (f) Keep the mother in the bottom of the bag, and joey at the ready. Place the mother in position with the bag laid out and allow her to settle. Once the mother has settled, introduce the joey to the bag and place as close to the mother as possible without aggravating the mother. CAUTION: Take care to ensure that the mother does not escape when introducing the joey to the bag.

Alternatively, place both the mother and joey in the bag and then lay the bag out ensuring that the mother and young remain at the bottom of the bag. This reduces the chances of escape but must only be attempted if the mother is calm enough not to trample the young.

- (g) The positioning of the bag should not hinder the exit of the mother and pouch young. Twist/fold the mouth of the bag longitudinally to allow exit from the bag with moderate ease.
- (h) Allow the two to settle sufficiently before retreating slowly being mindful to keep quiet. The animals are particularly sensitive to the crunching of leaf litter and sound of rubbing wet weather gear so tread carefully and quietly. The first couple of minutes after your retreat are the most crucial (while the mother may still be flighty).
- (i) Mother and joey will hopefully exit the bag on their own terms early in the evening.
- (j) Next day approach the bag quietly. Sometimes you may find mother and joey still in the bag. If so make sure that they are still alive (minimise disturbance as much as possible (e.g. gently prod animal for response from outside the bag), and check to make sure the exit from the bag is not too difficult. Walk away quietly.

4.3.3 What to do if only the joey is left in the bag

- (a) If it is fairly large (e.g. woylie greater than 250g), appears healthy and energetic, and the weather has not been extreme in the last 24hrs or is likely to be in the next 24hrs, leave the animal where it is and ensure reasonably easy exit from the bag. Its best chance of survival is with its mother.
- (b) If the mother is caught elsewhere on that grid or transect then it should be brought back to the bagged joey so that the two can be left in the same bag to give them another chance to reunite.
- (c) If the joey is not re-united with its mother by the following morning and if the joey is not looking lethargic or dehydrated, keep warm in joey-pouch. The joey can be cared for and accompany the trapping team to the area of original capture until such time as the mother is recaptured or until trapping is completed in that area, at which time the joey can be handed on to an experienced wildlife carer or euthanased.

4.4 Keeping joeys

4.4.1 When to keep

A decision to keep or euthanase a joey must take into consideration:

- The chances of the animal's survival – this will depend on levels of stress, injury and the stage of development and elapsed time since separation from mother. Hairless joeys have a low chance of survival and practically no chance if cold and/or severely bruised.
- The time required to reach appropriate care – if care cannot be given within 6 hours the chances of survival are significantly reduced and the amount of suffering to the animal is increased.
- The value of keeping it alive – there is a higher benefit to conservation if the animal is a

threatened species or can be used for research or educational purposes.

- The likely fate of the animal if taken into care – if the animal cannot be returned to the wild and is not required for research or educational purposes where will the animal live for the remainder of its life?

Joeys should only be kept alive if the animal has a good chance of survival, appropriate care can be given within 6 hours and the animal can either be released or is useful for research or educational purposes.

4.4.2 How to care

- (a) The first priority in caring for pouch young is to keep them warm. The joey should be placed under clothing against skin until a better arrangement can be organised. A joey placed against skin will not keep the joey sufficiently warm for extended periods because the warmth does not surround the joey as it would in a pouch. It is recommended that the joey is placed in a warm cloth or knitted pouch, on or next to a hot water bottle – be mindful not to overheat larger, fully haired joeys.
- (b) Keep the animal dry and out of the sun and begin appropriate feeding as soon as possible.
- (c) Record the date, mother's ID, and place of capture on flagging tape tied to the joey pouch. Make sure that the incident is clearly noted on the trapping data sheet (e.g. 'Joey ejected & abandoned, UNDER CARE'...). The ultimate fate of the joey is important to note for annual reporting requirements for projects approved by the DEC Animal Ethics Committee.
- (d) If the joey is haired and healthy, keep the joey with the trapping team on subsequent mornings in case the mother is recaptured and the joey can be reunited. CAUTION: Once a mother and pouch young are separated, the mother's milk supply starts reducing and by the end of a trapping session may not supply enough milk to support the pouch young and therefore the pouch young may need to be taken into care or euthanased.
- (e) An animal handler needs to be allocated responsibility for the care of the joey. If the joey cannot be reunited with its mother then they will need to arrange euthanasia or co-ordinate and ensure that a wildlife carer is notified as soon as possible and delivery arrangements organised.
- (f) Joey milk and equipment needs to be located where it is accessible and is to be used until such time as the animal is euthanased or given to a wildlife carer.

4.5 Euthanasing joeys

4.5.1 When to dispatch

- (a) Young are sometimes evicted from the pouch long before the trap is checked and these young, particularly when unfurred, lose heat rapidly which greatly reduces their chances of survival. Evicted young may also be trampled by their mother, inflicting injuries such as scratches, punctures and bruising. Joeys that are very cold and/or injured have a poor chance of survival and are more humanely dealt with by euthanasing (using approved methods see Chapman *et al.* 2008). Euthanasia should only be conducted by experienced personnel.
- (b) Euthanasia should also be applied to joeys that cannot be given appropriate care within 6 hours and for animals that are not threatened and are not required for research or education purposes, even if the chances of survival are high. This is because return to the wild after care may not be possible and the resources required once taken into care could be better utilised on cases that are more likely to lead to beneficial outcomes.

4.5.2 How to dispatch

- (a) Euthanasia methods recommended for pouch young are blunt trauma, cervical dislocation and decapitation (Chapman *et al.* 2008).

5 Level of Impact

The intention of this procedure is to have a beneficial positive impact on the welfare of animals involved. Inappropriate care of pouch young can have a high impact on the welfare of animals (e.g. if the young develop hypothermia, dehydration etc). Euthanasia is a possible end point of this procedure but only if considered the best outcome for the animal involved.

6 Ethical Considerations

6.1 Record keeping

It is important to keep track of evicted pouch young to ensure that they are returned to the correct mother and trap location. It is also important to ensure that bagged mother and young are checked.

Records need to be kept on evicted pouch young, their care and fate for annual reporting requirements of DEC Animal Ethics Committee approved projects. All trap deaths and euthanased animals also need to be reported.

7 Competencies and Approvals

DEC personnel, and other external parties covered by the DEC Animal Ethics Committee, undertaking projects involving trapping of species that may eject pouch young require approval from the committee and will need to satisfy the competency requirements detailed in Table 1. This is to ensure that personnel involved have the necessary knowledge and experience to care for evicted pouch young. Other groups, organisations or individuals using this SOP to guide their fauna monitoring activities are encouraged to also meet these competency requirements.

If a pouch young is taken into care the carer must comply with the requirements of Regulation 28 of the *Wildlife Conservation Regulations 1970*.

Table 1: Competency requirements for Animal Handlers of projects that may involve the care of evicted pouch young.

Competency Category	Competency Requirement	Competency Assessment
Wildlife licences	1.1 Licence to take fauna for scientific purposes (Reg 17) OR 1.2 Licence to take fauna for educational or public purposes (Reg 15)	Provide SC (DEC personnel only) or SF licence number Provide TF licence number
General skills/experience	5.1 Relevant knowledge of species' biology and ecology	Personnel should be familiar with the behaviour of species prone to ejecting pouch young and be aware of ways of reducing stress for these species. This knowledge may be gained by sufficient field experience and is best obtained under the supervision of more experienced personnel. Estimated total time in field: Minimum 1 year involved in similar projects.

Competency Category	Competency Requirement	Competency Assessment
Animal handling and processing skills/experience	7.1 Experience in handling terrestrial mammal fauna	Personnel should be confident in handling species prone to ejecting pouch young. This knowledge may be gained by sufficient field experience and is best obtained under the supervision of more experienced personnel. Estimated total time in field: Minimum 2-5 years involved in similar projects.
	7.10 Training and experience in caring for orphaned young	Personnel should be familiar with the needs of caring for pouch young. This knowledge may be gained by sufficient field experience and is best obtained under the supervision of more experienced personnel. Estimated total time in field: Minimum 2-5 years involved in similar projects.

8 Occupational Health and Safety

Always carry a first aid kit in your vehicle and be aware of your own safety and the safety of others as well as the animals when handling.

It is recommended that a job safety analysis is undertaken prior to undertaking monitoring at your site. This safety analysis should include the following considerations.

8.1 Animal bites and scratches

Handling animals can result in injuries to handlers from the animals inflicting bites and scratches. All injuries should be appropriately treated as soon as possible to prevent infection and promote healing. If DEC personnel or volunteers are injured an "Incident and Near Hit Notification" form must be completed and forwarded to DEC's Risk Management Section.

8.2 Zoonoses

There are a number of diseases carried by animals that can be transmitted to humans (i.e. zoonoses such as Toxoplasmosis, Leptospirosis, Salmonella etc). Advice on minimising disease risk is contained in Chapman *et al.* (2008).

9 References

Chapman, T., Sims, C. and Mawson, P. (2008). Minimising Disease Risk in Wildlife Management. Standard Operating procedures for fauna translocation, monitoring and euthanasia in the field. 2nd edition. Department of Environment and Conservation, Perth.

NHMRC (2004). Australian code of practice for the care and use of animals for scientific purposes. National Health and Medical Research Council, Commonwealth of Australia 7th Edition.