

Standard Operating Procedure

CARE OF EVICTED POUCH YOUNG

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Conservation, Department of Biodiversity, Conservation and Attractions

Prepared for: Animal Ethics Committee

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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, soft release, keeping and euthanasing.

2 Scope

This SOP has been written specifically for scientific and education purposes, and endorsed by the Department's Animal Ethics Committee. However, this SOP may also be appropriate for other situations.

This SOP applies to all fauna survey and monitoring activities undertaken across the State by Department of Biodiversity, Conservation and Attractions (hereafter Department) personnel. It may also be used to guide fauna monitoring activities undertaken by Natural Resource Management groups, consultants, researchers and any other individuals or organisations. All Department personnel involved in the fauna surveys and monitoring should be familiar with the content of this document.

Projects involving wildlife may require a licence under the provisions of the *Wildlife Conservation Act 1950* and/or the *Biodiversity Conservation Act 2016*. Personnel should consult the Department's Wildlife Licensing Section and Animal Ethics Committee Executive Officer for further guidance. In Western Australia any person using animals for scientific purposes must also be covered by a licence issued under the provisions of the *Animal Welfare Act 2002*, which is administered by the Department of Primary Industries and Regional Development. 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>).

3 Definitions

Animal handler: A person listed on an application to the Department's Animal Ethics Committee who will be responsible for handling animals during the project.

Soft release: 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 or on release. It is important to be efficient at separating the mother and young and place each in a separate bag 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 or euthanased.

4.2 Taping in joeys

Taping is the preferred option for ejected joeys and should be used wherever possible.

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). Generally woylies smaller than 200g (fully haired, eyes open) should be taped in (joeys up to 260g 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'.

4.2.2 How to tape

- (a) Joey insertion is a lot easier when the mother is not struggling and not completely stretched out. Her back should be 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 Fixomull® (adhesive surgical tape) longitudinally to close the mouth of the pouch, keeping clear of the cloaca and placed no higher than the lower edge of the mother's rib cage.

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. If the tape is too long where the ends join over the back, it will result in the death of the joey and is debilitating and potentially lethal for the mother.

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.

(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.

(g) Be patient and take the time to secure the joey.



Figure 1 A woylie joey taped into its mother's pouch Photo: Christine Freegard/DBCA.

4.3 Releasing mother and joey

There are different options for releasing the mother depending on whether the joey has been taped into the pouch and depending on the mother's stress level. The options are to either release immediately after taping the joey in, or to conduct a soft release.

4.3.1 Immediate 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, and logs and trees within at least 2m. Ensure all is quiet and people are behind the release point

(b) With the mother still in the handling bag, place her feet on the ground before carefully removing the bag. This will help ensure that the mother does not kick or scratch the tape off during release or before she has found refuge.

Alternatively, 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, and then 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.

(c) 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 and look and listen for abandoned young. If the mother has ejected the joey and the joey is found, refer to Section 4.4.

(d) Check that there is no joey in the bag. If the joey is left in the bag, refer to Section 4.4.

4.3.2 Soft release

A soft release is when the mother and joey (whether or not it is taped in) are left in an untied bag in a sheltered location, allowing them to leave the bag on their own terms.

Soft release should be considered if attempts to return the joey to the pouch have not succeeded, or if an at-heel joey is still dependent but a new born infant is also present in the pouch. Soft release should also be considered if a joey has been successfully taped in but the mother is highly stressed/agitated.

In some cases it may be necessary to leave the mother in the bag in a quiet and secure place to settle down and then re-attempt to reinsert a joey in the pouch rather than conduct a soft release.

Note: When conducting a soft release, personnel MUST be able to return to the release site the next day to check that the bag has been vacated.

(a) Find a well contained and sheltered position to leave the animals. Any sheltered depressions are ideal (e.g. under logs, rocky outcrops, dense bushes or in burnt out stumps). Consider how the shade will move during the day to ensure that the position will not be exposed to direct sunlight.

(b) Mark the location with flagging tape and label the tape with the day's date.

(c) Clearly record the location of the bag in relation to a particular trap point on the data sheet.

(d) Ensure equipment is packed away, all is quiet and all other people are at a distance.

(e) Select a heavy weight bag with a dense weave. Place the mother with the taped in joey into the bag. If the joey is not taped in, put the mother in the bag first and keep the joey at the ready. Alternatively, if the mother is calm enough, place both the mother and joey in the bag at the same time.

(f) Carefully lay out the bag in the sheltered position and allow the mother to settle. If the joey is not taped in, introduce the joey into 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 into the bag.

(g) Twist or fold the mouth of the bag in a way that will allow the mother and joey to exit from the bag with moderate ease. Ensure the positioning of the bag does not hinder their exit.

(h) Allow the mother and joey to settle and then retreat slowly and quietly (e.g. avoid crunching leaf litter and rubbing of wet weather gear). The first couple of minutes after your retreat are the most crucial as the mother may still be agitated.

(i) Later that afternoon, return to the release site and observe the bag from a distance to check if the animals have already left. Often both the mother and joey will still be in the bag and will likely leave in the evening. If the bag appears to be empty, approach the bag quietly as you sometimes may find that the mother has left but the joey is still in the bag. Refer to Section 4.4 for guidance on what to do if only the joey is left in the bag.

(j) If the bag appeared to have both mother and joey in it in the afternoon, you must return again the following morning to check whether the mother and joey have left. Approach the bag quietly as sometimes you may find the mother and joey are still in the bag. If just the joey is still in the bag, refer to Section 4.4. If they are both still in the bag, quietly gather the mouth of the bag in one hand and then make sure that they are still alive by softly placing a hand on the animal on the outside of the bag.

If the mother and joey are still in the bag and alive, you will need to assess the situation and make some decisions:

- If mother and joey appear to be fine, consider providing them with a bait ball/food and leaving them in the bag for another day. Check to make sure the exit from the bag is not too difficult. Repeat steps (h) to (j).
- Depending on the situation, you may need to consider taking the mother and joey into care, humanely killing the joey or humanely killing both the mother and joey.

4.4 Reuniting, keeping or euthanasing joeys

4.4.1 Reuniting joeys

If there is a possibility of the mother being recaptured on the grid or transect, then it may be possible to reunite the mother with its joey. If the joey is haired, and is not looking lethargic or dehydrated, keep it warm in a joey-pouch. The joey can be cared for and accompany the trapping team to the original capture location until such a time as the mother can be recaptured. **CAUTION:** Once a mother and pouch young are separated, the mother's milk supply starts reducing and therefore this option should only be attempted for 1-2 days.

An animal handler needs to be allocated responsibility for the care of the joey. If the mother is recaptured, conduct another soft release to give them another chance to reunite. If the mother and joey cannot be reunited, then the animal handler will need to arrange euthanasia or co-ordinate/organise rehabilitation of the joey (see Sections 4.4.2 and 4.4.3 for further guidance)

The following is general advice on temporarily caring for joeys:

(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. *Note: be mindful not to overheat larger, fully haired joeys.*

(b) Joey milk and equipment should be located where accessible.

(c) Keep the animal dry and out of the sun and begin appropriate feeding as soon as possible.

(d) 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').

4.4.2 Keeping joeys

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 joey's chances of survival are significantly reduced and the amount of suffering increases.
- The value of keeping it alive: There is a higher conservation benefit 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: Where will the animal live for the remainder of its life if it cannot be returned to the wild and is not required for research or educational purposes?

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.

It is preferable to screen and select an appropriate wildlife rehabilitator prior to the survey or monitoring activity, ensuring that they have experience with the specific species. However, the Wildcare Helpline can be reached on (08) 9474 9055, where staff can assist with locating an appropriate Department registered wildlife rehabilitator. Go to <https://www.dpaw.wa.gov.au/about-us/contact-us/wildcare-helpline> for more information.

Note: The Chief Investigator is responsible for the fate of the animal after rehabilitation, and must ensure the animal is released back to the capture site or elsewhere in consultation with the Species and Communities Branch Principal Zoologist. This is particularly important for threatened species.

Keeping track of the ultimate fate of the joey is also important for annual reporting requirements for projects approved by the Department's Animal Ethics Committee.

4.4.3 Euthanasing joeys

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 the most humane option is to euthanase.

Euthanasia should also be applied to joeys that cannot be given appropriate care within 6 hours, for animals that are not a threatened species, and for animals that are not required for research or education purposes, even if the chances of survival are high. This is because return to the wild after rehabilitation 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.

Euthanasia methods recommended for pouch young are blunt trauma, cervical dislocation and decapitation. Refer the Department SOP for *Humane Killing of Animals under Field Conditions* for further guidance. Euthanasia should only be conducted by experienced personnel.

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 if considered the best outcome for the animals involved.

6 Ethical Considerations

To reduce the level of impact of this procedure on the welfare of animals there are a number of ethical considerations that should be addressed.

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.

Records need to be kept on evicted pouch young, their care and fate for annual reporting requirements of projects approved by the Department's Animal Ethics Committee.

6.2 Injury, unexpected deaths and euthanasia

For projects approved by the Department's Animal Ethics Committee, adverse events such as injury, unexpected deaths or euthanasia must be reported in writing to the AEC Executive Officer on return to the office (as per 2.2.28 of The Code) by completing an *Adverse Events Form*. Guidance on field euthanasia procedures is described in the Department SOP for *Humane Killing of Animals under Field Conditions*. Where disease may be suspected, refer to the Department SOP for *Managing Disease Risk in Wildlife Management* for further guidance.

6.3 Selecting a wildlife rehabilitator

The Chief Investigator should screen and select an appropriate wildlife rehabilitator prior to the survey or monitoring activity. The wildlife rehabilitator must be registered with the Department and must be experienced with the species in question. The wildlife rehabilitator should understand that there is a possibility that the animal may need to be euthanased.

The Chief Investigator must maintain regular contact with the wildlife rehabilitator and insist on regular updates on the animal. The Chief Investigator is responsible for the fate of the animal after rehabilitation, and must ensure the animal is released back to the capture site or elsewhere in consultation with the Species and Communities Branch Principal Zoologist. This is particularly important for threatened species.

7 Competencies and Approvals

Department personnel, and other external parties covered by the Department's 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 as well as their basic animal welfare legislative obligations.

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	Licence to take fauna for scientific purposes (Reg 17) OR Licence to take fauna for educational or public purposes (Reg 15)	Provide licence number
Formal training <i>Note: Suitable levels of skills/experience can substitute for formal training requirements.</i>	Department Fauna Management Course or equivalent training	Provide course year
General skills/experience	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 to reduce the stress of 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: Min 1 year involved in similar projects.
Animal handling and processing skills/experience	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.

Competency category	Competency requirement	Competency assessment
		Estimated total time in field: Min 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.

A job safety analysis is recommended prior to undertaking any monitoring which involves hand capture. This safety analysis should include the following considerations.

8.1 Animal bites, stings and scratches

Care should be taken when handling animals to avoid bites, stings or scratches. All inflicted injuries (even superficial ones) should be appropriately treated as soon as possible to ameliorate possible allergic reaction, prevent infection and promote healing.

Personnel should also have up-to-date tetanus vaccinations.

If Department personnel or volunteers are injured, please refer to the Department's Health and Safety Section's 'Report a Hazard, near-miss or incident' intranet page, which can be found at http://intranet/csd/People_Services/rm/Pages/ReportingHazards,Near-MissesandIncidents.aspxZoonoses.

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). All personnel must take precautions to minimise the risk of disease transmission to protect themselves, their families and wildlife populations.

Advice on minimising disease risk is contained in the Department SOP for *Managing Disease Risk in Wildlife Management*

8.3 Allergies

Some personnel may develop allergies when they come in contact with animal materials such as hair and dander. Personnel known to develop allergies should wear gloves when handling animals and long sleeved pants/shirt.

People with severe allergies associated with animals, with immune deficiency diseases or on immunosuppressant therapy should not engage in the handling of wildlife.

9 Further Reading

The following SOPs have been mentioned in this advice regarding care of evicted pouch young and it is recommended that they are consulted when proposing fauna survey or monitoring projects.

- Department SOP *Managing Disease Risk in Wildlife Management*

- Department SOP *First Aid for Animals*
- Department SOP *Humane Killing of Animals under Field Conditions*

10 References

NHMRC (2004). *Australian code of practice for the care and use of animals for scientific purposes* (7th ed.). Canberra: National Health and Medical Research Council.