

# Charles Darwin University Animal Ethics Committee

## Standard Operating Procedure:

Animal Handling and Restraint using Soft Containment (DBCA, 11/2022)

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**Please note:** this SOP has been developed for animal use in WA. Consideration should be taken to the specific conditions of the region in which your work is being conducted, and modifications to procedures made accordingly to ensure the best welfare of the animal and safety of the project participants. Any modifications required should be outlined in the project application. Consideration should particularly be given to the weather conditions of the Northern Territory and the presence of extreme hazards such as crocodiles.

### Note:

*Section 4. Approved Soft Containment Methods Table 1. Approved soft containment methods and their uses.* With respect to holding times, animals should be released as soon as possible. The time of animal holding, and release must be specified and justified in the project application.

# Standard Operating Procedure

## ANIMAL HANDLING AND RESTRAINT USING SOFT CONTAINMENT

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Prepared for: Animal Ethics Committee

Version 1.1

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1.0	2009	Document created	Christine Freegard & Vanessa Richter	March 2009
1.1	16/05/2017	Changes to type of containment bags used and length of time animals can be held (see Table 1). Other minor revisions including clarification of procedures.	Georgina Yeatman, Georgina Anderson and Manda Page	August 2017

## Approvals

### Version 1.1

Approved by:  \_\_\_\_\_ Date: 17/08/2017

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### Version 1.0

Approved by:  \_\_\_\_\_ Date: 4.3.09

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Approved by:  \_\_\_\_\_ Date: 5-3-09

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This document has been reviewed and endorsed by the Department's Animal Ethics Committee

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This standard operating procedure was originally developed by Christine Freegard and Vanessa Richter, with contributions from Claire Stevenson, Brent Johnson, Neil Thomas, Stephanie Hill and Peter Orell.

## Contents

1 Purpose .....	5
2 Scope .....	5
3 Definitions .....	5
4 Approved Soft Containment Methods.....	5
5 Procedure Outline .....	6
5.1 Care and storage of handling bags.....	6
5.2 Transferring animals into handling bags.....	7
5.3 Handling animals in bags.....	7
5.4 Care of animals in bags .....	7
5.5 Tying and labelling bags .....	8
6 Level of Impact.....	9
7 Ethical Considerations.....	9
7.1 Handling time .....	9
7.2 Injury and unexpected deaths .....	9
7.3 Spread of disease or parasites .....	10
8 Competencies and Approvals.....	10
9 Occupational Health and Safety.....	11
9.1 Animal bites, stings and scratches .....	11
9.2 Zoonoses .....	11
9.3 Allergies.....	11
10 Further Reading.....	11
11 References.....	12

# 1 Purpose

Once an animal has been caught or trapped, it is usually transferred to some form of temporary containment such as a bag until it has been identified and processed. Soft containment aims to minimise stress to the animal whilst protecting it from injury, providing adequate ventilation and maintaining a comfortable temperature during measurement, observation and transport.

This standard operating procedure (SOP) provides advice on how to handle and care for animals using soft containment.

# 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 involving the use of soft containment for animal handling and/or restraint 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 animal handling and/or restraint 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.

# 4 Approved Soft Containment Methods

All soft containment methods are for the temporary holding of animals only. The appropriate containment method depends on the size and comfort requirements of the animal as well as its ability to escape. For example, animals with large claws need to be

contained in a bag that will not easily be torn, and animals stressed when eyes are uncovered require a bag made of a dense weave fabric that effectively blocks light. Table 1 summarises the approved methods of soft containment. If containment time must be longer than the maximum holding time specified in Table 1, this must be justified in the application to the Department's Animal Ethics Committee.

Table 1 Approved soft containment methods and their uses

Material	Dimension (length x width) (cm)	Species	Holding Time	Cautions and Notes
Clear, zip lock plastic bag	Various	Reptiles, frogs	Up to 5 min	Animals should be transferred into calico bags upon capture/removal from trap, and only placed in a zip lock bag for identification.  Keep animals out of direct sunlight while in zip lock bag.
Calico bag	Small, 30x25 (to fit opening of medium Elliott trap)	Small birds, mammals, reptiles & frogs that weigh less than 500g	Reptiles & frogs: up to 24 hours Birds: less than 1-2 hours	Take care to check bags for holes, weak seams and loose threads.  Mammals, particularly rodents, may chew through bags.
	Large, 70x50 (to fit opening of small cage trap)	Birds, mammals & frogs that weigh less than 2kg	Mammals: up to 24 hours	Bags containing frogs should be kept hydrated.
Heavy cotton, denim or synthetic (e.g. polar fleece)	70-100x55 (to fit opening of a cage trap)	Mammals	Up to 24 hours	Take care to check bags for holes, weak seams and loose threads.  Darker bags can quickly calm animals but take care to ensure animals do not overheat.

## 5 Procedure Outline

### 5.1 Care and storage of handling bags

- (a) Prior to fieldwork, check bags are disinfected, clean and dry. Also check for holes, weak seams and loose threads. Wherever possible, have the bags made with both the seams and tie-string on the outside or have the seams pipe-stitched.
- (b) After field work, wash and disinfect all used bags, discard or repair damaged bags and arrange replacement bags as required. Refer to Department SOP for *Managing Disease Risk in Wildlife Management* for further guidance on cleaning and disinfecting bags.
- (c) Bags must be stored in a clean, dry, pest free location.

## 5.2 Transferring animals into handling bags

To minimise stress, all animals should be transferred to an appropriate handling bag as soon as possible after capture. Methods used to transfer the animal into the holding bag will depend greatly on the species and the process that was used to capture the animal. Ensure that no part of the animal's body is caught or tangled in the bag when the bag is closed and tied.

## 5.3 Handling animals in bags

Always ensure the following when handling animals in bags:

- Avoid excessive noise and sudden movements.
- Smoking and eating is not acceptable immediately prior to, or when handling animals.
- Handling and restraint times should be kept to a minimum.
- Animals can bite through bags, so be aware at all times of the location of the head to minimise chances of being bitten.

General advice on hand restraint of different groups of animals can be found in the Department SOP for *Hand Restraint of Wildlife*.

(a) Soft containment of animals must only be performed by, or closely supervised by, operators who are familiar with the normal behaviour patterns of the species that is to be restrained.

(b) Once in the bag, most animals are best handled by first directing the head into a corner of the bag. Ensure that the animal can breathe and is not forced into awkward or unnatural positions that may cause injury.

Small reptiles and frogs in clear zip lock plastic bags may be manipulated from outside the bag into position where measurements can be taken and identification characteristics can be observed.

Most other animals should be handled in bags that block visibility, and be positioned so that the bag can be opened to only expose the area of interest. Eyes should be kept covered as much as possible during handling to reduce stress and the chance of escape.

(c) Where multiple animals are being collected and held in bags, processing must be undertaken methodically to ensure that no animals are forgotten.

(d) Always check the inside of a bag after releasing an animal to ensure that no young are left behind. This is particularly important for macropods and bandicoots.

## 5.4 Care of animals in bags

*Note: The following is general advice only. Depending on various factors, including species and weather, a bagged animal may need to be cared for in different ways.*

(a) It is preferable to only contain a single animal per bag. If more than one animal is contained in a bag, ensure that animal sizes and species are not mixed.

(b) Animals in bags must be placed where they will not be exposed to extreme temperatures (hot or cold), accidentally forgotten or stepped on and will not be threatened by predators or harm each other.



- Overheating can lead to death, and reptiles and frogs kept in plastic bags are extremely susceptible to high temperatures. Ensure that bags are not left in direct sunlight and keep holding time to a minimum.
- On cool days, it may be necessary to gently warm small birds and mammals inside the bag, under jumpers or clothing prior to release

(c) In hot weather, or if animals are to be retained for extended periods, bags should be checked regularly and animals kept hydrated (e.g. placing moist cotton wool inside the bag). *Note: Calico bags can wick moisture away and rapidly desiccate animals (especially reptiles and frogs), and if bags with damp sand in them are allowed to completely dry, the hardened sand can trap the animal causing harm and possibly death.*

(d) Keep bags well-ventilated.

The following is some general care advice for different animal types:

- **REPTILES:** Bags with venomous snakes must be clearly labelled and secured inside a solid container that is also clearly labelled.
- **FROGS:** Calico bags should not be used for larger frogs (i.e. *Heleioporus*, *Limnodynastes* and *Litoria* spp.) unless sufficient shelter such as damp sand or leaf litter is provided. Larger frogs are better held in small plastic containers with air holes.
- **MAMMALS:** Mammals should be held snugly in bags with enough room to stretch limbs but not enough to hop around. Certain mammals, like rodents and phascogales, should not be held in holding bags for extended periods because they may gnaw through the bag and escape. Female mammals with large pouch young that are near pouch emergence (i.e. still suckling) should be held in the same bag but particular care should be taken to minimise disturbance to reduce the risk of injury to the pouch young from trampling or crushing by the mother.
- **BIRDS:** Birds should be held loosely in bags. For further advice on the care of birds in bags, see Lowe (1989).

## 5.5 Tying and labelling bags

(a) A bag holding any animal must be tied securely but in such a way that the knot can be easily undone when access to the animal is needed (e.g. a firm bow). Preferably, the opening of the bag should be folded over and tied.

Snakes (particularly blind snakes), some lizards and small monitors can escape through tied bags, and it is recommended that the opening of the bag is folded twice for these species.

Always ensure the animal is below the tie.

(b) If an animal is not being processed and released immediately then its bag must be labelled. In most circumstances, it is best to write the relevant details in permanent marker on flagging tape and securely tie the tape to the bag.

(d) Generally, details should include date, location (site), species, individual identification (e.g. ear tag, if necessary/available), number of individuals in the bag, and if the animal is venomous. However, information recorded on labels depends on the purpose for holding the animals. If an animal is only being held for identification and measuring, it

may be sufficient to note only the trap number so that the animal can be released at its point of capture once it has been processed.

(e) For translocations: use different coloured flagging tape to differentiate between males and females, ideally pink for females and blue for males. This helps sort animals if a particular sex ratio is desired. It also helps to identify which animals are female, as they may require extra care, particularly for species that eject pouch young

(f) For vouchering: See the Department SOP on *Vouchering Vertebrate Fauna Specimens* for more information.

## 6 Level of Impact

Potential impacts of soft containment of animals include:

- Capture myopathy (in some species)
- Distress
- Physical injury, pain or discomfort
- Death

How an animal is handled will directly affect the level of impact on the welfare of the animal. If appropriate soft containment methods are used and appropriate care is provided then the level of impact of soft containment is low.

## 7 Ethical Considerations

To reduce the level of impact of animal handling using soft containment on the welfare of animals, there are a number of ethical considerations that should be addressed throughout projects involving these procedures. Department projects involving animal handling using soft containment will require approval from the Department's Animal Ethics Committee.

### 7.1 Handling time

To ensure minimal stress to the animals, they should only be handled for as long as required for identification, marking and measurements (usually no more than five minutes). It may be necessary to retain animals in soft containment for extended periods of time (e.g. translocation), but careful consideration should be given to the length of time because some species are easily stressed and may die in captivity.

### 7.2 Injury and unexpected deaths

If injury, unexpected deaths or euthanasia occur then it is essential to consider the possible causes and take action to prevent further deaths. 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.

### 7.3 Spread of disease or parasites

Equipment used in capturing and handling animals at multiple sites poses the risk of transporting novel diseases and parasites. Good hygiene practices should be maintained to reduce the risk of spreading pathogens between sites. Refer to the Department SOP for *Managing Disease Risk in Wildlife Management* for further advice.

## 8 Competencies and Approvals

Department personnel, and other external parties covered by the Department’s Animal Ethics Committee, undertaking monitoring projects involving soft containment of animals require approval from the committee and will need to satisfy the competency requirements detailed in Table 2. This is to ensure that personnel involved have the necessary knowledge and experience to minimise the potential impacts of soft containment on the welfare of the animals. 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.

It should be noted that details such as intensity of the study being undertaken will determine the level of competency required and Table 2 provides advice for basic monitoring only.

*Table 2 Competency requirements for Animal Handlers of projects involving the hand capture of wildlife*

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
Animal handling and capture experience	Experience in handling the target (or similar) species.	Personnel should be confident at handling the range of species expected to be captured. This experience is best obtained under supervision of more experienced personnel.  Estimated total time in field: Min 1 year involved in similar projects.

## 9 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.

### 9.1 Animal bites, stings and scratches

Handling animals using soft containment can result in injuries to handlers from the animals inflicting bites and scratches. For handling of some species, personal protective equipment such as thick gloves may be appropriate. All inflicted injuries (even superficial ones) should be appropriately treated as soon as possible to ameliorate possible allergic reaction, prevent infection and promote healing.

To improve safety, field personnel should be aware of the treatment for snakebite and carry appropriate pressure bandages. 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](http://intranet/csd/People_Services/rm/Pages/ReportingHazards,Near-MissesandIncidents.aspxZoonoses).

### 9.2 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*

### 9.3 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.

## 10 Further Reading

The following SOPs have been mentioned in this advice and it is recommended that they are consulted when proposing to handle and/contain animals using soft containment.

- Department SOP *Hand Restraint of Wildlife*
- Department SOP *Vouchering Fauna Specimens*
- Department SOP *Humane Killing of Animals under Field Conditions*
- Department SOP *Managing Disease Risk in Wildlife Management*

## 11 References

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

Lowe, K.M. (1989). *The Australian Bird Bander's Manual*. Canberra, ACT: Australian Bird and Bat Banding Schemes, Australian National Parks and Wildlife Service