



# **Code of Practice for Injured, Sick and Orphaned Wombats**

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# 1 Preface

The Code of Practice for Injured, Sick and Orphaned Wombats (the Code) is designed for everyone involved in the activity of rescuing, rehabilitating and releasing wombats. It has been developed to protect the welfare of wombats in care and to contribute to the conservation of wild wombat populations. The Code is designed to be read in conjunction with the Office of Environment and Heritage (OEH) Code of Practice for Injured, Sick and Orphaned Protected Fauna (General Code).

Compliance with the Code does not remove the need to abide by the requirements of the Biodiversity Conservation Act 2016 (BC Act), Prevention of Cruelty to Animals Act 1979, Poisons and Therapeutic Goods Act 1966, Veterinary Practice Act 2003, Local Government Act 1993, Firearms Act 1996, or any other relevant laws and regulations.

The Code contains both standards, which are enforceable, and guidelines, which describe recommended approaches for the care of wombats that are incapable of fending for themselves in their natural habitat. Compliance with the standards is a condition of licences to rehabilitate and release sick, injured and orphaned protected animals issued under the BC Act. Failure to comply with a licence condition is an offence under section 2.14 (4) of this Act.

The Code has been prepared by the NSW Wildlife Council in cooperation with member groups and observers from the International Fund for Animal Welfare and the Wombat Protection Society, NSW Wildlife Information, Rescue, and Education Service (WIRES), veterinary specialists at Taronga Zoo and the NSW National Parks and Wildlife Service.

The Code is neither a complete manual on animal husbandry, nor a static document and must be implemented by a person who has been trained in accordance with the enclosed standards. It will be periodically reviewed to take into account new knowledge in animal physiology and behaviour, technological advances, developments in standards of animal welfare and changing community attitudes and expectations about the humane treatment of wombats. OEH will consult with licence holders regarding potential changes to the Code and give written notice when the Code is superseded.

While in the past wildlife groups have focused on raising orphan wombats, the complexity of threats facing wombats now requires a more holistic, proactive approach to care practices.

Wombats are nocturnal, burrowing, herbivorous marsupials. Two of the three species of wombat occur in New South Wales:

- The bare nosed or common wombat (*Vombatus ursinus*) is classed as a protected animal in New South Wales and is abundant in some localities, but due to a variety of threats the population is contracting eastward in New South Wales.
- The Endangered southern hairy-nosed wombat (*Lasiorhinus latifrons*) was thought to be extinct in New South Wales until recently. They are present only in very small numbers in south-western New South Wales.
- The northern hairy-nosed wombat (*Lasiorhinus krefftii*) is presumed extinct in New South Wales.

Wombat populations are threatened by habitat loss, competition with domestic and invasive grazing species, collisions with cars, human–wombat conflict and disease.

## 2 Introduction

This Code sets the standards for the care and housing of wombats that are incapable of fending for themselves in their natural habitat and applies to the welfare of wombats controlled under a licence issued by OEHL to rehabilitate, sick, injured and orphaned protected animals.

The Code comprises both 'standards', which are enforceable, and 'guidelines' which describe recommended approaches to the care of wombats.

## 3 Interpretations and definitions

### 3.1 Interpretations

#### Objectives

Objectives are the intended outcome(s) for each section of the Code.

#### Standards

Standards describe the mandatory actions needed to achieve acceptable animal welfare levels and comply with this Code. These are the minimum requirements that must be met under law and are identified in the Code by the heading 'Standards' and use of the word 'must'.

#### Guidelines

Guidelines describe the best practice approach based on consideration of scientific information and accumulated experience. They also reflect society's values and expectations regarding the care of animals. A guideline will deliver a higher level of care than minimum standards, except where the standard is best practice.

Guidelines will be particularly appropriate where it is desirable to promote or encourage better care for animals than is provided by the minimum standards. Guidelines are also appropriate where it is difficult to determine an assessable standard. Guidelines are identified in the Code by the heading 'Guidelines' and use of the word 'should'.

#### Notes

Where appropriate, notes describe practical procedures to achieve the minimum standards and guidelines. They may also refer to relevant legislation.

### 3.2 Definitions

In this Code:

**Wildlife rehabilitation** means the temporary care of injured, sick or orphaned protected animal with the aim of successfully releasing it back into its natural habitat.

**Wildlife rehabilitation group** means an incorporated group that is licensed by OEHL to rehabilitate and release protected animals.

**Park** means a national park, historic site, state conservation area, regional park, nature reserve, karst conservation reserve or Aboriginal area, or any land acquired by the Minister under Part 11 of the National Parks and Wildlife Act 1974 (NPW Act).

**Protected animal** means any amphibian, reptile, bird or mammal (except dingoes) listed or referred to in Schedule 5 of the BC Act that is native to Australia or that periodically or

occasionally migrates to Australia (including their eggs and young). Wombats are protected animals in NSW.

**Experienced wildlife rehabilitator** means someone who has an extensive knowledge of current rehabilitation techniques gained through training courses and many years of successfully caring for native animals.

**Wildlife rehabilitator** means someone who is either authorised by a wildlife rehabilitation group or zoological park or is individually licensed by OEH to rehabilitate and release protected animals.

## 4 Case assessment

### Objective

To assess a wombat to determine the type of intervention required. The primary objective of rehabilitation is the successful reintegration of the wombat into a suitable wild population and all decisions are to be informed by this goal. This will mean that some individual animals may benefit from rehabilitation while for others, the most humane outcome will be euthanasia.

### 4.1 Standards

- 4.1.1 The decision tree in **Figure 1** must be followed when determining how to respond to a wombat encounter:
- 4.1.2 Rescuers must arrange for the wombat to be assessed by a veterinarian or experienced wildlife rehabilitator within 24 hours of rescue to ensure accurate diagnosis and prompt treatment or euthanasia. If this is not possible due to the remoteness of the location, expert advice must be sought.

### Notes

- An animal creating a nuisance for the public generally refers to an animal that has entered a person's house and/or represents a human health risk. It does not include an animal defending its territory or exhibiting other normal behaviour.
- OEH has policies in place for managing negative interactions with protected fauna species, including wombats that can impact the community, that advocate the use of non-lethal measures as the initial and first management response to nuisance animals.

## 5 Rescue

### Objective

To conduct wombat rescues so as to minimise further stress and injury to the animal.

### 5.1 Standards

- 5.1.1 Prior to a rescue attempt, the rescuer must assess and minimise the risks to the wombat, members of the public and themselves from environmental hazards and from capture. This can be achieved by careful evaluation of the environment, use of appropriate equipment and development of a rescue plan.
- 5.1.2 Rescuers must employ the correct rescue equipment for the condition and location of the wombat and be trained in its use.
- 5.1.3 The following methods must not be used to capture a wombat:
  - noosing with a rope that tightens

- a trap, unless closely monitored
- use of smoke or flooding of a burrow.

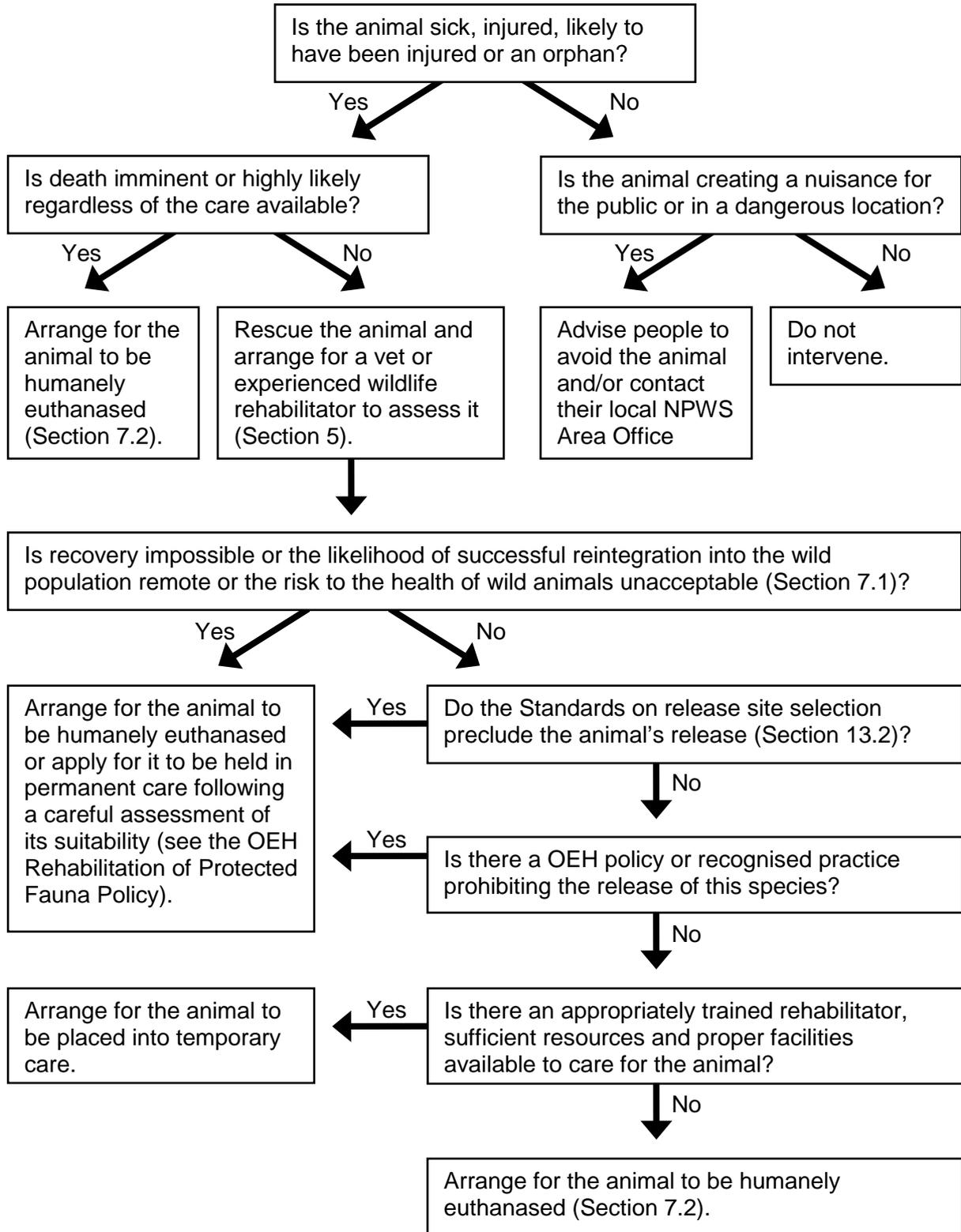


Figure 1 Decision tree for course of action when a wombat is encountered

- 5.1.4 If the wombat is an injured female with signs of having a pouch young (e.g. elongated teat, stretched pouch), the surrounding area should be searched for the young and monitored regularly (e.g. daily for at least several days) if not immediately found.
- 5.1.5 Rescuers must not move a healthy, independent wombat unless it is at immediate risk of injury (e.g. on a road). Relocations need to move the wombat a safe distance from the hazard (e.g. 20 m). Such relocations need to be planned carefully and undertaken by experienced wombat rehabilitators.
- 5.1.6 If multiple wombats need to be rescued (e.g. on a fire ground), the container each wombat is placed in must be labelled and a record taken of the capture location.
- 5.1.7 Wombats in a trap must be moved to a suitable transport container as soon as practically possible.
- 5.1.8 Rescue of joeys (pouched young):
  - If removing a live joey from a dead adult, do not pull the joey off the teat or from the pouch by a limb. If it is necessary to cut the teat or pouch of the dead adult, the teat should be cut close to the mammary gland and care must be taken to avoid harm to the joey.
  - Removing a joey from a dead mother is complex and must be done by, or in consultation with, an experienced wombat rehabilitator.
  - Do not cut the pouch or teat of a live wombat.
  - The joey must be kept warm (see Section 6.1.6) and secured during transport to an experienced wombat rehabilitator.
  - Larger pouch young will require a small, safe transport container.

## 5.2 Guidelines

- 5.2.1 The rescue of a sub-adult or adult wombat should not be attempted unless at least two trained personnel are involved.
- 5.2.2 Rescuers should take steps to protect the wombat from additional stressors, such as onlookers, loud noises, other animals and extremes of temperature, during rescue.

## Notes

- Covering a wombat's eyes with a towel, blanket or bag will often assist with calming it down.
- A wombat rescue kit should include:
  - a reliable heat source
  - a thermometer
  - a range of pouches
  - a securable transport carrier
  - disposable gloves
  - surgical scissors
  - blankets and towels
  - hand sanitiser.
- Wombat specific traps should be used.

## 6 Transport

### Objective

Minimise stress and injury to a wombat during transport. This section applies to all movements of the wombat including from the point-of-rescue to a veterinary surgery and between rehabilitation facilities and the release site.

### 6.1 Standards

- 6.1.1 Transport methods and container sizes must be appropriate for the size and condition of the wombat. For example:
- An orphaned pouch young requires an artificial pouch that is usually secured within a container (e.g. cage, box or basket). Artificial heat (e.g. a hot water bottle filled with warm tap water or heat pad) for non-furred pouch young will be required. The heat source should be placed on the outside of the pouch to prevent the animal from coming into direct contact with it.
  - An adult or sub-adult requires a well-ventilated, padded transport container.
- 6.1.2 The transport container must be designed and set up to prevent injuries to the wombat.
- 6.1.3 The transport container must be designed to prevent the wombat from escaping.
- 6.1.4 Transport containers must be constructed from material that can be easily cleaned and disinfected.
- 6.1.5 The transport container must be kept at a temperature which is appropriate for the stage of development of the wombat. For example:
- A range of 5°C to 25°C is appropriate for most sub-adults and adults during transport.
  - Wombats with any form of trauma and mange should be assumed to be suffering shock and in the short term be kept at the upper end of this range.
- 6.1.6 Pouches must be kept at a temperature which is appropriate for the stage of development of the joey. For example:
- Furred young should be kept at around 28°C and furless young kept between 28°C and 30°C.
- 6.1.7 The temperature and condition of the wombat must be constantly monitored during transport.
- 6.1.8 Transport containers must be ventilated so air can circulate around the wombat.
- 6.1.9 Transport containers must minimise light, noise and vibrations and prevent contact with young children, pets and smoke.
- 6.1.10 Wombats must not be transported in the back of an uncovered utility vehicle or in a car boot that is separate from the main cabin. Transport containers must be secured in the vehicle during transport.

### 6.2 Guidelines

- 6.2.1 A container used for transporting an adult or sub-adult should contain non-slip and absorbent floor covering to allow the wombat to grip and for the absorption of waste.
- 6.2.2 The use of medication to facilitate wombat transport should be approved and prescribed by a veterinarian.

- 6.2.3 Adult wombats should not be fed or watered during trips lasting less than a few hours. Dependent young may require feeding during shorter trips.
- 6.2.4 Wombat transport should be the sole purpose of the trip and undertaken in the shortest possible time.
- 6.2.5 Wombat transport should be done with consideration of temperature. Extremes of temperature must be avoided.

## 7 Euthanasia

### 7.1 When to euthanase

#### Objective

To humanely end a wombat's life in situations where death is imminent, or full recovery is impossible.

#### 7.1.1 Standards

7.1.1.1 A wombat must be euthanased without exception when:

- death is imminent or highly likely regardless of the treatment provided, or
- it is suffering from chronic, un-relievable pain or distress, or
- its ability to consume food unaided is permanently impaired due to an injured jaw or missing/worn/damaged teeth, or
- an experienced wildlife veterinarian makes that recommendation.

7.1.1.2 A wombat must be euthanased (unless OEH has granted permission to hold it in permanent care) when:

- there is no suitable release location, or
- its ability to reproduce is lost due to an injury, disease or procedure, or
- its ability to locomote normally is permanently impaired due to a missing or injured limb, or
- its ability to sense its environment (i.e. see, hear, smell, taste or feel) is permanently impaired due to a missing or injured organ (e.g. eye, ear or nose), or
- its advanced age renders it unable to survive in its natural habitat.

#### Notes

- The decision to euthanase should not be based on an animal's weight at rescue.
- The decision to euthanase should not be based solely on availability of carers within the rescue group. The group should liaise with other licensed groups to facilitate care if necessary.
- In certain exceptional circumstances, OEH may grant permission to hold animals in permanent care or arrange placement with an authorised animal exhibitor licensed by the NSW Department of Primary Industries (DPI). See the OEH Rehabilitation of Protected Fauna Policy (DECCW 2010) for details.

## 7.2 How to euthanase

### Objective

To induce death with minimal pain and distress to the wombat.

#### 7.2.1 Standards

- 7.2.1.1 A euthanasia method must be used which produces a rapid loss of consciousness immediately followed by death.
- 7.2.1.2 Death must be confirmed prior to disposal of the carcass. The absence of a heart beat and the loss of corneal reflexes indicate death has occurred.

#### 7.2.2 Guidelines

- 7.2.2.1 Wildlife rehabilitators should arrange for a veterinarian to perform euthanasia. Intravenous barbiturate overdose should be used.
- 7.2.2.2 When a non-veterinarian is required to perform euthanasia, shooting with a rifle should be employed to ensure minimal pain and suffering. At close range (i.e. <5 metres) a .22 calibre rifle can be used as long as the shot is correctly aimed at the brain of the animal. Soft nose or hollow point ammunition which expands on impact should be used.
- 7.2.2.3 The following euthanasia methods should not be used on wombats:
  - suffocation via drowning, strangulation or chest compression
  - freezing or burning
  - carbon dioxide in any form
  - poisoning with household products
  - air embolism
  - stunning followed by decapitation and/or destruction of the brain
  - stunning followed by cervical dislocation (less than 0.5 kilograms (kg)).

### Notes

- When veterinarian intervention is unavailable a licensed shooter from a licensed rehabilitation group may be called on to euthanase by shooting.
- Rehabilitators who have a wombat euthanased may find the process stressful. In situations where grief and trauma are overwhelming, support should be available from experienced rehabilitators and external grief counsellors.

## 7.3 Disposal of carcasses and animal waste

### Objective

To dispose of waste so that the risks of disease transmission are minimised.

#### 7.3.1 Standards

- 7.3.1.1 Carcasses and organic waste suspected of disease contamination or that have been exposed to chemicals (e.g. barbiturates) must either be incinerated or buried at a depth that will prevent scavengers from reaching them.

### 7.3.2 Guidelines

- 7.3.2.1 A deceased wombat may be submitted for necropsy by a wildlife-trained veterinarian, or under such supervision, if the cause of death is uncertain. The cost of this is to be borne by the person requesting the necropsy.

#### Note

- Local councils have laws regulating the disposal of carcasses and other biological waste.

## 8 Care procedures

### 8.1 Monitoring

#### Objective

While undergoing rehabilitation, the recovery and eventual release of the wombat must always be the principal consideration. The type and frequency of monitoring will vary with the type of injury or illness and required treatment.

#### 8.1.1 Standards

- 8.1.1.1 Dependent pouch young wombats 0–600 grams (g) must be monitored every 2–3 hours and weighed once per day (see Table 1 for age comparisons).
- 8.1.1.2 Dependent pouch young wombats 600–1000 g must be monitored every 4 hours and weighed three times per week.
- 8.1.1.3 Dependent pouch young wombats 1–2 kg must be monitored after every feed and weighed twice per week.
- 8.1.1.4 Dependent pouch young wombats 2–5 kg must be monitored after every feed and weighed once per week.
- 8.1.1.5 Dependent pouch young wombats 5–10 kg must be monitored daily and weighed once per week.
- 8.1.1.6 Sub-adult wombats 10–15 kg must be monitored daily and weighed twice per month.
- 8.1.1.7 Sub-adult wombats 15–20 kg must be monitored daily and weighed when required.

**Table 1 Approximate wombat weight by age (Vogelnest and Woods 2008)**

Age	Weight (approximate)	
	Common wombat	Southern hairy-nosed wombat
90 days (3 months)	150 grams	130 grams
120 days (4 months)	390 grams	290 grams
150 days (5 months)	800 grams	530 grams
180 days (6 months)	1,430 grams	880 grams
210 days (7 months)	2,250 grams	1,350 grams
240 days (8 months)	3,350 grams	2,200 grams
270 days (9 months)	4,600 grams	3,250 grams
12–15 months	12–19 kilograms	

- 8.1.1.8 Wombats being prepared for release must be monitored every few days to determine if they are physically and behaviourally ready for release (see Section 12 Suitability for release).
- 8.1.1.9 Rehabilitators must regularly monitor the temperature within enclosures containing thermal support to ensure appropriate temperatures are maintained (e.g. blankets, hot water bottles and electric heat mats).
- 8.1.1.10 Sick and injured wombats must have a management plan developed in consultation with a wildlife-trained veterinarian. Monitoring and weighing protocols must be detailed within this plan.

### **8.1.2 Guidelines**

8.1.2.1 On admission a wombat should be checked for:

- bleeding or wounds
- bone fractures (use weight bearing assessment and gait assessment)
- rapid breathing or elevated heart rate
- erratic eye movement or sunken eyes
- pale or cold gums
- temperature
- ticks/parasites
- discharge from the eyes, nostrils, mouth or cloaca
- odd smells
- jaw alignment/broken teeth.

8.1.2.2 Monitoring a wombat should entail:

- visually assessing body condition and demeanour
- checking for signs of injury, disease and parasites
- assessing hydration by looking at the eyes (sunken eyes can suggest dehydration) and noting the quantity and quality of scats and urine
- looking for indications of activity (e.g. running, digging)
- assessing the trend in weight e.g. gain or loss.

#### **Note**

- Human contact with wombats should be limited to avoid imprinting (humanisation).

## **8.2 Controlling disease transmission between animals**

### **Objective**

To prevent the spread of diseases among animals undergoing rehabilitation and to minimise the risk of diseases being introduced into wild populations upon the release of rehabilitated wombats. Stressed animals are more susceptible to contracting and expressing infectious diseases.

### **8.2.1 Standards**

- 8.2.1.1 Newly arrived wombats must be isolated in separate areas until disease status can be determined by a veterinarian or experienced wildlife rehabilitator.

- 8.2.1.2 Animals suspected or known to be carrying an infectious disease must be kept under strict quarantine conditions throughout rehabilitation. Signs of disease may include coughing, sneezing, abnormal breath sounds, discharge from the eyes or nose and diarrhoea.
- 8.2.1.3 Dedicated cleaning equipment must be used for enclosures housing animals with a suspected or confirmed infectious disease.
- 8.2.1.4 All enclosures, transport containers, cage furniture, food containers and water containers must be thoroughly cleaned and disinfected after each occupant.
- 8.2.1.5 Wildlife undergoing rehabilitation must be prevented from coming into contact with domestic pets.
- 8.2.1.6 Wildlife rehabilitators must wash their hands thoroughly with soap or disinfectant before and after handling each animal in care.
- 8.2.1.7 If the death of a wombat is suspected to be the result of a significant disease outbreak, the wildlife rehabilitator must immediately contact their wildlife rehabilitation group to ascertain whether tissue samples or a necropsy is required.

Notification must also be given to the NPWS wildlife mailbox ([wildlife.licensing@environment.nsw.gov.au](mailto:wildlife.licensing@environment.nsw.gov.au)) and [DPI Emergency Animal Disease Hotline](#) (24 hours) (1800 675 888) for immediate assessment of emerging health threats.

## **8.2.2 Guidelines**

- 8.2.2.1 When handling multiple animals, rehabilitators should start with the youngest and healthiest and finish with the oldest and sickest to reduce the risks of disease transmission.
- 8.2.2.2 Different species undergoing rehabilitation should be kept in separate enclosures at all times.
- 8.2.2.3 When different species are housed together, care should be taken to minimise aggressive interactions.
- 8.2.2.4 Pest control is recommended for all rehabilitation facilities.

## **9 Mange**

Mange is a mite infestation that is preventable and treatable in captive wombats.

### **Objectives**

To assess, prevent and treat mange.

### **9.1 Standards**

- 9.1.1 Wombats suspected of carrying mange must be kept isolated in separate areas to avoid the spread of the disease from either one animal to another or to a human by direct contact, environmental contamination or by wildlife rehabilitators not taking proper precautions with hygiene (see 8.2.1 Standards).
- 9.1.2 Wombats suffering mange must be treated in consultation with a carer experienced in mange treatment and a veterinarian.
- 9.1.3 Outdoor enclosures suspected of infestation by mites must be cleaned using disinfectant and left vacant for a period of between two weeks and one month.

## **9.2 Guidelines**

- 9.2.1 Older wombats (over 15 kg) are best treated in situ.
- 9.2.2 If a wombat is constantly seen out during daylight hours an experienced wombat carer should be contacted for assessment to determine a plan of management which may include euthanasia. This assessment may be possible by video or email.

# **10 Husbandry**

## **10.1 Food and water**

### **Objectives**

To ensure the wombat has a feeding and watering regime that encourages rapid recovery, supports growth if it is a juvenile and assists with the development and maintenance of foraging behaviours necessary for survival in the wild.

### **10.1.1 Standards**

- 10.1.1.1 Clean, fresh drinking water must be available at all times and changed daily, except in the case of dependent pouch young.
- 10.1.1.2 Water containers must be designed and positioned so as to avoid spillage and contamination and must be appropriate for the size, age and mobility of the wombat.
- 10.1.1.3 Fresh native grass, roots and soil must be available for the wombat to eat at all times and replaced daily.
- 10.1.1.4 Stored food must not be accessible to pets, pests and wild animals and must be protected from contamination and nutritional and moisture loss.
- 10.1.1.5 A hand-reared wombat must be fed a milk formula that is appropriate for their stage of development.
- 10.1.1.6 Maintenance fluid requirements vary depending on a large number of factors. Careful attention must be paid to the total fluid intake to avoid dehydration. The amount required will depend on the stage of development, environmental conditions and the presence of illness or injury.
- 10.1.1.7 For dependent pouch young water may need to be offered between formula feeds depending on formula type, feeding frequency, health status and stage of development.
- 10.1.1.8 Wombats must be provided with a balanced and complete diet that supports growth and development and is appropriate for the species, size, age, mobility and physiological status of the animal.
- 10.1.1.9 Food that is available in the wild must form the basis of the animal's diet.

### **10.1.2 Guidelines**

- 10.1.2.1 Nutritional and fluid support is vital for adult wombats in the intensive and intermediate care stages if their appetite is depressed and/or they are dehydrated. A variety of liquidised/pureed products and commercial formulae suitable for herbivores can be used for this purpose, as advised by a veterinarian.
- 10.1.2.2 Contaminant-free dirt, bark and roots should be offered to wombats in the pre-release stage.
- 10.1.2.3 A variety of native grasses should be offered to a wombat in the intermediate and pre-release stages and should comprise the bulk of the diet.
- 10.1.2.4 If supplementary feed (e.g. a pellet) is deemed necessary for recovery it should only comprise a small proportion of the diet (e.g. less than 20%). Products that mimic the

nutrient composition of the wild diet as closely as possible are preferred (i.e. forage-based, high fibre pellets manufactured for native herbivores such as kangaroos with low–moderate protein (less than 14%) and low Vitamin D levels).

Foods such as dog biscuits, oats, muesli, sweet potato and other high energy foods should not be given as they do not mimic the wild diet and as such do not promote normal dental wear and the development of normal gastrointestinal and nutritional health.

10.1.2.5 Food and water guidelines for dependent wombats (see Table 1 for comparative ages):

- 100–200 g should be fed every three hours
- 200–1000 g should be fed every four hours
- 1–1.5 kg should be fed every four–five hours
- 1.5–3 kg should be fed every six hours and have access to fresh water, native roots, dirt and grasses (approximately 7–8 months old)
- 3–6 kg should be fed three times a day and have access to fresh water, native roots, dirt and grasses
- greater than 6 kg should be fed twice a day and have access to fresh water, native roots, dirt and grasses.

## 10.2 Hygiene

### Objectives

To maintain clean rehabilitation facilities so diseases are prevented or contained.

### 10.2.1 Standards

10.2.1.1 Faeces and uneaten food must be removed on a daily basis and disposed of so they cannot be consumed by other animals (e.g. in closed garbage or compost bins).

10.2.1.2 Food and water containers must be cleaned on a daily basis. Cleaning involves the use of water, a detergent and the physical removal of all residues.

10.2.1.3 Enclosure furniture, bedding, weighing bags and pouches must be cleaned when soiled.

10.2.1.4 Wombats must be cleaned when soiled with faeces, urine or uneaten food.

10.2.1.5 Wildlife rehabilitators must minimise the disturbance to the wombat when cleaning.

### 10.2.2 Guidelines

10.2.2.1 Equipment used for cleaning animal enclosures, containers and furniture should be separate from those used domestically.

10.2.2.2 Wildlife rehabilitators should wash their hands and clean all food preparation surfaces and equipment prior to preparing animal food.

## **10.3 General care**

### **10.3.1 Guidelines**

- 10.3.1.1 The buddying of wombats based on weight and/or stage of development is recommended for the development of natural behaviours and to minimise stress. Wildlife groups should liaise with other groups to facilitate buddying where possible.
- 10.3.1.2 All husbandry should be covered in wombat specific training (see Section 14 Training).
- 10.3.1.3 Wombats are very prone to imprinting and humanisation. All care should be taken, particularly after weaning, to minimise social interactions with humans and natural behaviours should be allowed to develop.

## **11 Housing**

### **11.1 General requirements**

#### **Objectives**

To ensure wombats undergoing rehabilitation are housed in enclosures that keep them safe, secure and free from additional stress.

#### **11.1.1 Standards**

- 11.1.1.1 Enclosures must be escape-proof.
- 11.1.1.2 Housing must be made safe for the wombat to live in by excluding hazards that might harm it.
- 11.1.1.3 Housing must be designed and/or positioned so as to protect the wombat from physical contact with wild animals and pests.
- 11.1.1.4 Housing must be designed and/or positioned so that the wombat cannot see domestic pets.
- 11.1.1.5 Housing must be designed so rehabilitators can readily access the wombat.
- 11.1.1.6 Housing must be positioned so that the wombat is not exposed to strong vibrations, noxious smells (e.g. wood smoke) or loud noises (e.g. radios and televisions).
- 11.1.1.7 Housing must be constructed from non-toxic materials that can be easily cleaned and disinfected.
- 11.1.1.8 If multiple animals of the same species are kept within a single enclosure, there must be sufficient space for individuals to avoid undue conflict with cage-mates.

#### **Note**

- The failure to recognise pet species as predators will preclude rehabilitated wombats from being released into the wild.

## 11.2 Intensive care housing

### Objectives

Intensive care housing is designed to restrict activity for a short period of time to facilitate frequent monitoring, treatment, feeding and rehydration. It is suitable for severely injured or diseased adults and orphaned pouch young.

#### 11.2.1 Standards

- 11.2.1.1 Intensive care housing must provide sufficient space for the animal to maintain a normal posture and to stretch its body and limbs.
- 11.2.1.2 Intensive care housing must provide a controlled temperature appropriate to the age and nature of the illness or injury. If an artificial heat source is provided, wombats must be able to move to a cooler section of the enclosure.
- 11.2.1.3 The temperature in intensive care housing must be regularly monitored using a thermometer and electrical heat sources must be regulated by a thermostat.
- 11.2.1.4 Wombat care housing must be dim (no bright lights).
- 11.2.1.5 Intensive care housing must be designed and/or positioned so that visual and auditory stimuli are reduced.
- 11.2.1.6 Intensive care housing must be adequately ventilated without allowing excessive temperature extremes.
- 11.2.1.7 Substrate used in intensive care housing must be replaced daily.
- 11.2.1.8 Care enclosures for pouch young are as follows (see Table 1 for age comparisons):
  - Wombats 0–600 g must be contained in a small secure pouch, with no bindings, in a container with a heat supply appropriate to age.
  - Wombats 600–1000 g must be contained in a pouch, with no bindings, in a small container (600 millimetres (mm) x 900 mm). One or two wombats per container.
  - Wombats 1–3 kg must be contained in a pouch, with no bindings, in a secured, well ventilated enclosure (minimum 1200 mm x 1800 mm).
  - Wombats 3–5 kg must be kept inside in a secure, well-ventilated enclosure (minimum 2.4 metres (m) x 1.2 m x 1.2 m) with suitable sleeping material. Gradual adaptation to outdoor housing is achieved through this period.

## 11.3 Intermediate care housing

### Objectives

Intermediate care housing represents a transitional stage between intensive care and pre-release housing. Enclosures will be large enough to allow some physical activity while enabling the wombat to be readily caught for monitoring or treatment.

#### 11.3.1 Standards

- 11.3.1.1 Intermediate care housing must provide sufficient space for the wombat to move about freely whilst being conveniently sized for capture.
- 11.3.1.2 Intermediate care housing must contain habitat that enables the wombat to perform a range of natural behaviours. Wombats require bark, branches, rocks, stumps and dirt that mimic a natural environment.
- 11.3.1.3 Intermediate care enclosures for wombats of 5–10 kg must have floor dimensions of at least 3.6 m long x 3.6 m wide and a height of 1.2 m for one to two wombats, and there must be access to secure outdoor grazing for a minimum of four hours per day.

## 11.4 Pre-release housing

### Objectives

Pre-release housing gives wombats the opportunity to regain their physical condition, acclimatise to current weather conditions and practise natural behaviour. At this stage of rehabilitation, interactions between animals and humans should be greatly reduced.

#### 11.4.1 Standards

- 11.4.1.1 Pre-release housing must provide sufficient space for the wombat to move about freely, express a range of natural behaviours and withdraw from undue conflict with co-housed wombats.
- 11.4.1.2 Pre-release housing must provide areas where wombats can gain exposure to prevailing weather conditions and locations where they can shelter.
- 11.4.1.3 Pre-release housing must contain habitat that enables the wombat to perform a range of natural behaviours. Wombats require 'furniture' such as bark, branches, rocks, stumps and dirt that mimic a natural environment.
- 11.4.1.4 Pre-release housing must be designed and/or positioned so that exposure to humans is kept to the minimum required for monitoring, feeding and cleaning.
- 11.4.1.5 Pre-release sleeping enclosures for wombats over 10 kg must have floor dimensions of at least 7 m x 5 m x 1.5 m. They must have access to secure outdoor grazing for a minimum of six hours per day.
- 11.4.1.6 All fences should be constructed to be wombat proof:
  - They must be dug into the ground a minimum of 900 mm, or a wire skirt of at least 1 m is placed around the base so that the wombats cannot dig under the fence.
  - Perimeter fencing must be made from a solid material, e.g. Colorbond.
- 11.4.1.7 When the flooring is concrete based there must be soil at least 1.5 m deep for the wombats to practice digging (a burrow temperature of 20°C can only be achieved by digging to this depth).
- 11.4.1.8 All wombats at this stage of rehabilitation must have access to a burrow area.

#### 11.4.2 Guidelines

- 11.4.2.1 A sprinkler system should be installed and maintained for evaporative cooling for times of high ambient temperature.

### Note

- The dimensions given for housing are suitable for average-sized adults. Smaller individuals may not require the space specified and larger individuals may require more space.

## 12 Suitability for release

### Objectives

To ensure the wombat is physically fit and possesses the appropriate survival skills for its release. Preparations for a wombat's release will start at the time of rescue and continue throughout the rehabilitation process.

## 12.1 Standards

12.1.1 A wombat must not be released until it is physically ready.

This status has been achieved when the wombat:

- has recovered from any injury and/or disease (e.g. digs and eats normally and has normal mobility)
- if hand-raised has reached the age of dispersal and is in reasonable to good body condition (approximately 18 months old)
- hair cover is adequate for survival in its natural habitat
- has acclimatised to prevailing climatic conditions.

12.1.2 A wombat must not be released until it is behaviourally ready.

This status has been achieved when the wombat:

- can recognise and enter burrows unaided
- is not attracted to humans (i.e. not humanised) or to sights, sounds or smells that are specific to captivity (i.e. not imprinted)
- can navigate effectively through its natural environment.

12.1.3 A wombat's readiness for release must be assessed in consultation with an experienced rehabilitator and/or veterinarian.

12.1.4 In certain exceptional circumstances, OEH may grant permission to hold animals deemed unable to be released in permanent care (see the OEH [Rehabilitation of Protected Fauna Policy](#) (DECCW 2010)).

12.1.5 For sexually immature wombats, release should occur prior to sexual maturity, and when they would naturally disperse.

## 13 Release considerations

### 13.1 Timing of release

#### Objectives

To ensure a wombat is released as soon as it is ready and at a time that minimises stress and maximises its chances of survival in its natural habitat.

#### 13.1.1 Standards

13.1.1.1 Once a wombat is deemed ready for release, it must be released as soon as environmental conditions are suitable.

13.1.1.2 Wombats must be released when weather conditions encourage high activity levels. Release during extremes of temperature and storms must be avoided.

13.1.1.3 A wombat with any signs of infectious disease (such as mange) should not be released as it poses a risk to wild wombats.

### 13.2 Release site selection

#### Objectives

Considerations when selecting a release site include both the welfare of the rehabilitated wombat after release and the impact the release will have on the wild wombat population and the natural environment.

#### 13.2.1 Standards

13.2.1.1 If the exact burrow where the wombat was found is known and it is a suitable environment for release, it may be released there, otherwise the release site must contain a vacant burrow. This can be confirmed by monitoring the location for one week.

A suitable environment for release is one that:

- contains appropriate burrows and adequate water and food sources, and
- has an existing wombat population, and
- does not place the wombat at a high risk of injury (e.g. near roads or on properties with a known population of free-ranging dogs).

13.2.1.2 If the exact location where the wombat was found is known but it is an unsuitable environment for release, the wombat must be released in a suitable environment (as defined above), as near as possible to this location but no further than 50 kilometres away.

13.2.1.3 If only the general location where the wombat was found is known and it contains or adjoins a suitable environment for release, it must be released there without potentially transporting it across a physical boundary that it would not normally cross or further than it would normally move. If the general location where the wombat was found is larger than the distance it would normally move, it must not be released.

13.2.1.4 If there is no information about where the wombat was found, it must not be released.

13.2.1.5 A wombat can only be released in a national park or reserve if the:

- wombat was originally encountered in that location
- release has written consent from the relevant Parks and Wildlife Area Manager (issued under clause 9 of the National Parks and Wildlife Regulation 2009)
- release complies with the relevant OEH policies on translocation and environmental integrity.

### **13.2.2 Guidelines**

13.2.2.1 Wombats should be released in an area that is connected to other suitable wombat habitat.

## **13.3 Release techniques**

### **Objectives**

Use release techniques that facilitate successful reintegration into the wild population.

### **13.3.1 Standards**

13.3.1.1 Wombats destined for soft release must be fed food from the release site for two weeks prior to release.

13.3.1.2 The release site must be monitored for a minimum of two weeks after release.

### **13.3.2 Guidelines**

13.3.2.1 Wombats should not be ear tagged because of their burrowing behaviour.

13.3.2.2 For identification purposes wombats may be fitted with a microchip by a registered professional prior to release. It should be noted that implanting a microchip can be difficult to achieve on an awake adult animal.

## Note

- All research involving protected animals requires a licence issued under the BC Act and an animal ethics approval issued under the *Animal Research Act 1985*.

# 14 Training

## Objectives

Wildlife rehabilitators are in possession of appropriate knowledge and skills to ensure the welfare of wombats in their care.

### 14.1.1 Standards

14.1.1.1 New wildlife rehabilitators must undertake an introductory training course and all wildlife rehabilitators must attend an advanced training course every three years and keep up-to-date with changes to this Code.

14.1.1.2 Training courses must:

- teach the standards and guidelines described in this Code
- focus on what a person will be able to do as a result of completing the course (i.e. be competency-based)
- have a written assessment component.

14.1.1.3 Wildlife rehabilitators must be assessed as competent in the relevant areas before undertaking rescue, rehabilitation or release of particular species.

14.1.1.4 Training must be accompanied by ongoing in-field support from wildlife rehabilitation groups.

14.1.1.5 A list of suitable courses that cover this Code will be provided by the NSW Wildlife Council to OEH.

### 14.1.2 Guidelines

14.1.2.1 Wildlife rehabilitators should have an understanding of:

- the objectives of wombat rehabilitation
- wildlife ecology (e.g. population dynamics, habitat selection, competition, and predator-prey interactions)
- wombat behaviour (e.g. feeding, predator avoidance and social interactions)
- the health and safety issues associated with wombat rehabilitation (e.g. disease transmission, managing hazardous chemicals and operating in dangerous locations and times)
- how to keep accurate records.

14.1.2.2 Wildlife rehabilitators should be proficient in:

- species identification
- wombat handling techniques
- first aid for injured wombats
- recognising the signs of disease
- wombat husbandry.

## 15 Record keeping

### Objectives

To maintain a database of animals that have entered rehabilitation. Records of wombat admissions represent a vital resource for wildlife rehabilitation groups, OEH and research institutions. They can be used to develop better treatments, educate rehabilitators, identify statewide trends in wombat incidents and identify threatening processes.

#### 15.1.1 Standards

15.1.1.1 Licensed wildlife rehabilitation groups, zoological parks and individuals must maintain a current register of all protected animals reported, encountered or rescued.

The register must contain the following information on each animal:

- encounter details (date, location, encounter circumstances, the animal's condition and unique ID number)
- species data (species name, sex, age, initial weight and pouch condition if a marsupial)
- care providers (name and address of the initial assessor, name and address of the wildlife rehabilitator)
- fate details (date, final disposition, location and any permanent marking).

These records must be submitted to the NPWS Wildlife team in an approved electronic format on an annual basis.

15.1.1.2 Wildlife rehabilitators must record the weight of wombats in their care so changes can be quickly identified (weighing frequency will depend on the type of care provided; see Section 8.1 Monitoring).

15.1.1.3 When an individual is transferred to another wildlife rehabilitator or organisation for any reason, copies of its records must be transferred with it.

#### 15.1.2 Guidelines

15.1.2.1 Wildlife rehabilitators should record the following additional information at the time of rescue:

- who discovered the animal (name and contact details)
- when the animal was discovered (time of day)
- any treatment or food provided prior to transport.

15.1.2.2 Wildlife rehabilitators should record the following additional information at the time of assessment by a veterinarian or experienced wildlife rehabilitator:

- estimated age of the animal (optional)
- weight
- degree of development for joey (e.g. furred, eyes open)

- details of wounds, injuries, diseases and external parasites
- details of mobility
- details of abnormal behaviour
- recommended management (e.g. euthanasia or treatment).

15.1.2.3 Wildlife rehabilitators should record the following additional information at the time of entry into a rehabilitation facility:

- standard length measurements
- identifying features if it is to be housed communally
- housing (e.g. intensive care, general) (see Section 11 Housing).

15.1.2.4 Wildlife rehabilitators should record the following daily care information:

- details regarding the type and quantity of food/liquid ingested
- details of treatment (e.g. medication, therapy)
- details of instructions from veterinarians and species coordinators
- details of changes to general fitness and behaviour
- details from enclosure cleaning (e.g. quantity and quality of faeces/urine).

15.1.2.5 Wildlife rehabilitators should record the following additional information regarding fate:

- if released, details about the type of release (hard or soft)
- if released, details about the condition of the animal (e.g. weight).

15.1.2.6 Wildlife rehabilitators should keep duplicates or backups of records to avoid information being lost.

## 16 References

DECCW 2010, *Rehabilitation of Protected Fauna Policy*, NSW Department of Environment, Climate Change and Water, Sydney NSW.

Vogelnest L. and Woods R (eds) 2008, *Medicine of Australian Mammals*, p.334, CSIRO Publishing, Collingwood VIC.